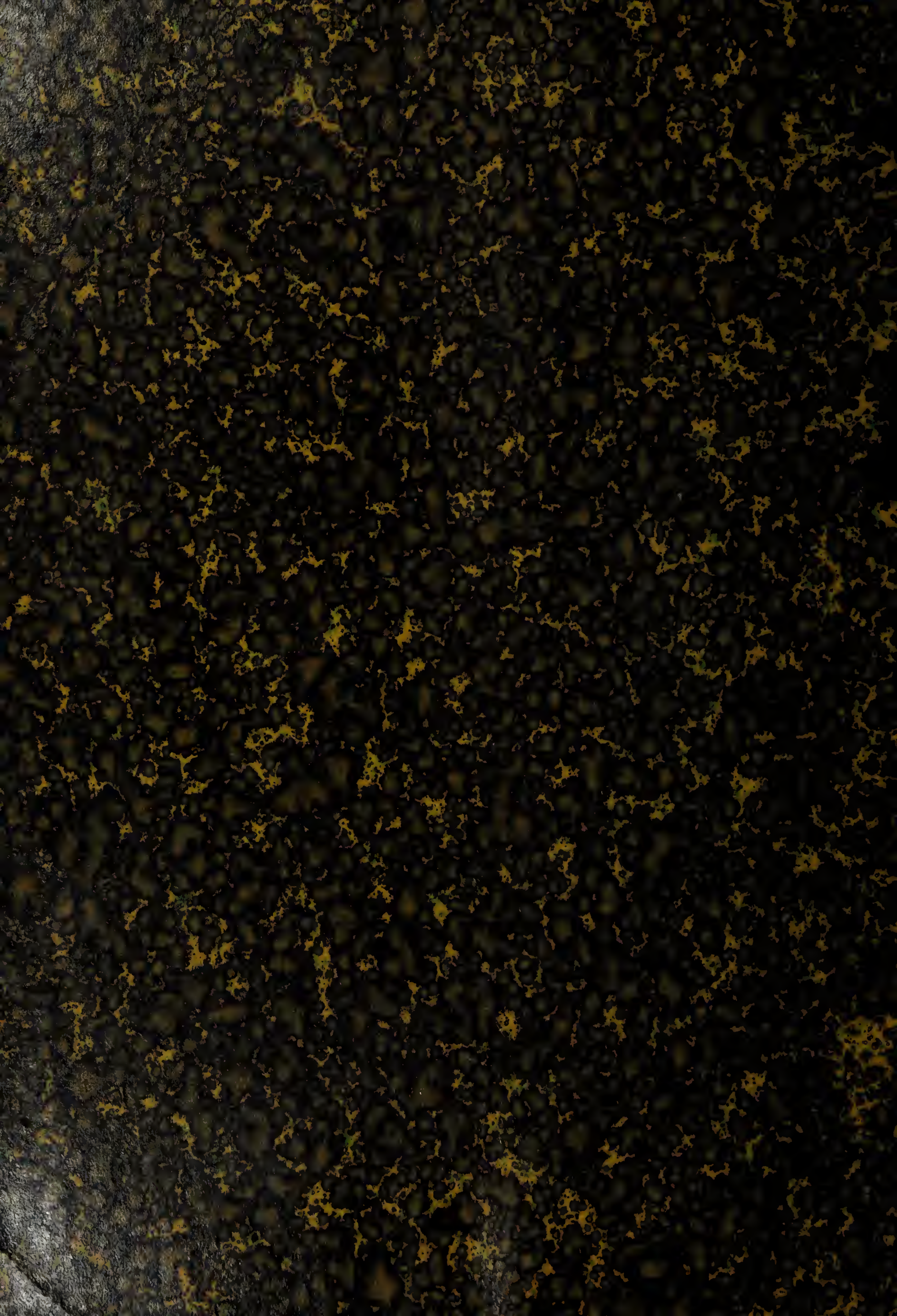
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THE

PHILADELPHIA MEDICAL JOURNAL

A WEEKLY JOURNAL OWNED AND PUBLISHED BY
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AND CONDUCTED EXCLUSIVELY IN THE INTERESTS OF THE MEDICAL PROFESSION

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VOLUME V

JANUARY–JUNE, 1900

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The Philadelphia Medical Journal

A Weekly Journal Owned and Published by The Philadelphia Medical Publishing Company and Conducted Exclusively in the Interests of the Medical Profession

GEORGE M. GOULD, M.D., *Editor*

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Scientific Articles, Clinical Memoranda, News Items, etc., of interest to the profession are solicited for publication. Reprints of Original Articles (250) will be furnished gratis to Authors making the request.

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See Advertising Pages 35, 44 and 51.

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The first of our Enlarged Special Monthly Numbers is herewith presented to our readers. Throughout the year, July and August excepted, the first issue of each month will be enlarged by about 25 pages and will be devoted in great part to original contributions by the leading investigators, clinicians, and surgeons of the profession upon some especial topic of timely and general interest. We are certain that there has nowhere been brought together such a number of striking articles upon the subject of the x-ray in medicine and surgery as in the following pages. The unique case reported by Drs. Gamble and Tiffany illustrates the marvelous tolerance of the tissues implicated to a foreign body of astounding size, and imbedded for an unprecedented period of time; the escape of vital structures; the value of the x-ray in location and diagnosis; and the splendid surgical skill shown in the extraction. It will probably be a rival in fame of the historic "American crowbar case." The x-ray demonstration by Dr. Leonard of a calculus in the ureter, the most noteworthy summary of original investigations by Dr. Williams,—indeed the work of all the contributors, convincingly demonstrate the value of this method, either in the differentiation of tissue, in medical diagnosis or in surgical usefulness, and will bring honor to American medicine. Journalists, photographers, and engravers will appreciate the great difficulties we have met, and we trust well overcome, in reproducing in the newspaper page the delicate shadings of x-ray photographs. For the generous goodwill and cooperation shown by our contributors and helpers we cannot adequately express our appreciation.



Wilhelm Konrad Röntgen.

Professor Wilhelm Konrad Röntgen was born in Holland in 1845, and in 1870 he received his doctor's degree from the University of Zurich, Switzerland, and entered upon his scientific career. As a student he showed unusual ability, was a favorite with Professor Kundt, and after graduation acted as his assistant. When Professor Kundt was called to Würzburg University, in 1873, Röntgen went with him, and later he followed him in his second promotion to Strasburg. In 1875, Röntgen was made professor of mathematics and physics in the Agricultural Academy of Hohenheim, a small town near Stuttgart, but after teaching there one year he returned to Strasburg. In 1879, he was given a professor's chair and was appointed director of the Institute of Physics at the University of Giessen. After teaching at Giessen for nine years he was called to a similar position at the University of Würzburg, the second most important university in the kingdom of Bavaria, and one of the best-known educational centers of the German Empire. Professor Röntgen has been an industrious, thorough worker in experimental physics. He has published investigations on isothermal crystals, solar calorimetry, dust-figures, aneroid barometry, the absorption of heat by vapor, etc. Of late years he has been especially interested in electricity, and his studies of the phenomena in exhaustion tubes led directly to the discovery of the x-rays. On reading of Röntgen's discovery, the German Emperor, with his characteristic interest regarding all matters concerning the progress and welfare of his people, at once sent an invitation for Röntgen to give a demonstration at the Palace at Potsdam. A supper and a conversation until mid-

night followed, and on taking his leave the scientist was decorated with the Crown Order of the second class. Since then he has received numerous honors; among others a professorship at the University of Munich, the most important university in the kingdom of Bavaria. The fame of his discovery rapidly spread and it is now in daily practical use in all parts of the globe.

How the X-Ray Discovery Came About.—The general facts are now commonly known to everyone particularly interested, but perhaps not to every busy doctor. As in the case of most discoveries, many things led up to this one. The ancestry of the Röntgen-rays may be traced through the experiments of Wiedemann, Lenard, Herz, Crookes, Hittorf, Geissler, Spottiswoode, Gassiot, Abria, Faraday, and many others, back almost to the time of alchemists and magicians, nearly a century and a half ago. At this time Abbé Nollet was amusing the dilettanti savants of France with experiments with an electric egg, an ovoid glass device in which the air was more or less rarefied, across which leaped the spark generated by a static machine. Then followed almost a century with no advance until Faraday, in 1838, again pointed out the way to further investigation and progress through his careful experiments with electrical discharges through rarefied gases, using the voltaic current. In 1842 Abria passed the induced voltaic current through the rarefied gases. Then followed Geissler's experiments of passing the induced current through various gases, thus producing beautiful color-phenomena. Geissler was also the first to use the vacuum, although his tubes were all of low vacuum. Gassiot noticed that the light-phenomena were divided into layers or striae, and his assistant, Spottiswoode, determined that these striae must be due to the vibrations of the current. Hittorf found that by applying a magnet to the outside of the tube while in circuit he was able to deflect the stream of luminosity. Crookes reduced the vacuum of the tube to about a millionth of an atmosphere, and noticed that on passing the induced current through such a vacuum the appearance of stratification disappeared and the glass became phos phorescent; there issued from the negative pole an influence which he called radiant matter. He thought that the molecules of the rarefied gas were repulsed by the negative electricity and bombarded the tube, thus producing phosphorescence. Herz found that the molecular bombardment passed through a thin aluminum screen or gold leaf. His pupil Lenard discovered that there was something besides mere molecular bombardment in the Crookes tube. He brought them out of the tube through a small aluminum window, found that they traveled in straight lines, would produce impressions on a photographic plate, discharge electrified bodies, and penetrate black paper. These rays were thought by Lenard and Wiedemann to be cathode rays from the interior of the tube. It remained for Röntgen to differentiate an invisible ray which was mixed with the visible rays that Lenard had brought out of the tube. On November 8, 1895, while experimenting with a Crookes tube covered with black cardboard perfectly impervious to light, Röntgen found that a piece of barium-platino cyanid became highly fluorescent. He knew that this change must be due to light from some source. No light could come from the tube, for it was covered with black cardboard which would not transmit the strongest light known. But further investigation showed that the light did come from within the tube; he was dealing with a heretofore undescribed electrophysical force, with rays invisible to the eye which traversed the black cardboard. The experimenter laid his hand on a photographic plate covered with black paper and Crookes tube above his hand; the rays passed through the softer tissues and a photograph appeared of the shadow of the bones. Röntgen showed that this radiation was different from the cathode ray of Crookes, Herz, and Lenard; that it could neither be reflected nor refracted, deflected by the magnet, nor polarized by any ordinary polarizing substance. The x-ray was discovered. The bone-photographs laid the foundation for its popularity and the news of the discovery spread rapidly around the world. In a preliminary paper entitled "Ueber eine neue Art von Strahlen" (A new form of radiation), read before the Würzburg Physico-Medical Society in December, 1895, Röntgen gave his discovery to the scientific world. Experiments were soon in progress in hundreds of laboratories which have entirely confirmed his results.

The rays of Becquerel, observed also independently by Thompson and experimented with by Russell, are much less heard of than the x-rays. It is found that metallic uranium and some other substances emit radiations, which, though invisible to the human eye, can penetrate opaque bodies like the x-rays, but differ from the x-rays in that they can be polarized, reflected, and refracted. These rays are of extremely ultraviolet character, *i. e.*, transverse vibrations of extremely short period and wave-length. It is now generally held that the Röntgen waves are ether-waves of the same character but still higher frequency. The absence of sensible polarization, refraction, and reflection, is exactly what would then occur. Other investigations on the phenomena of light given out by glow-worms, fire-flies, rotten wood, stale fish, etc., will be awaited with interest.

A New Year's Suggestion from Röntgen's Life.—Röntgen's great discovery illustrates in a striking way the surpassing value of quality as distinguished from quantity in work. It shows the results of the thorough, painstaking investigations of a well-trained man who did not scatter his energies over too broad a field of effort. Here in America we have too little of such

work of high qualitative value. Thorough work is not sufficiently encouraged or rewarded. The few men who desire to do scientific work and who go to the expense in time and money of fitting themselves for it, must waste their best years and energies in making a living. The few vacancies in institutions in which investigation and research are possible are too often filled by those whose chief qualifications for the positions are influence and money. Before America can take a high place among the progressive scientific nations of the world we must have more laboratories (like the Pepper Clinical Laboratory), providing opportunity for investigation. There must be more paid assistants in our laboratories and clinics, positions such as Röntgen held in his younger days, positions in which competent recent graduates can work under the direction and influence of scholarly, experienced, enthusiastic chiefs, without having to lie awake nights planning how to meet the next week's board-bill. Fellowships or money of some sort for a decent living and the prospect of promotion after showing ability and willingness to do work, are more necessary to attract studious men who will advance science than showy operating theaters and laboratories. Röntgen first had to have a living and then an opportunity. Are there any wealthy men among us who will in this way most worthily perpetuate their names?

The Plague.—The United States Government is at last face to face with the plague. The disease has appeared at Honolulu in the Hawaiian Islands, and according to late advices is being brought under control. A dispatch from Surgeon D. D. Carmichael to Surgeon-General Wyman, states that there were two cases of reported plague in Honolulu on December 20, and that two deaths had occurred on December 12. It also states that the quarantine against the infection was raised on December 19, for what reason we can hardly see, considering that there were still some suspected cases on hand. Dr. Wyman announces that the situation is not critical, to which we heartily respond, "not yet." Without intending to play the part of alarmists, we cannot view with complacency this giant stride of bubonic plague half way across the Pacific. If the pest can do this in December what may it not do in the coming summer? The germs of the disease are thought to have been brought to the Sandwich Islands from Japan on a Norwegian steamer. The whole situation, while not alarming at present, is suggestive of disagreeable possibilities. Still, we have confidence in the Government, and trust that its power in the Hawaiian Islands is complete in such an emergency as this. As in the case of yellow fever, we believe that the Marine-Hospital service can do more than local and individual enterprise. It is proper to state that some doubt seems to exist as to the genuineness of the disease at Honolulu, and even Dr. Carmichael does not dispel this doubt in his telegram. In the meantime the plague is pursuing its deadly way in Bombay. The English Government seems to have gained practically no control of it. Inoculation with Haffkine's preventive serum is mostly declined by the ignorant natives, who prefer to be let alone to die. Let our own Government take warning in time! With our new foothold in the Philippines, and with the disease already in Honolulu, we should be watchful and alert.

It is useless to convict literary antivivisectionists of falsehood, but we shall make one last attempt. We have received many marked copies of the *Journal of Zoophily* for November, containing several columns of editorial abuse of us in regard to the Dudgeon *Abolitionist* charges answered in our editorial columns July 22, 1899. We cannot spare space for the wordy denunciations of us, the hope that our "contrition will be as public as our offense," etc., but quote from the "with malice toward none and charity for all" editorial these words:

> Now we have authority for stating that the *Journal* itself is guilty of suppressing truth; that Neisser nowhere declares that *all* of his eight victims were of irregular life; that three girls were aged respectively ten years, fourteen years, and sixteen years, and were simply patients in the lower walks of society perhaps, but not of evil character.

From Neisser's original article in the *Archiv für Dermatologie und Syphilis*, 44, 1898, Festschrift, II Theil, we quote, the volume before us, from page 487, after the case-histories concerning which the dudgeonists are in high dudgeon, the paragraph with its clear *in all diesen Fällen:*

> Ist denn aber nicht die Syphilis vielleicht durch die Infusion selbst erzeugt worden? Ich glaube diese Frage deshalb verneinen zu dürfen, weil es sich in allen diesen Fällen um junge Prostituirte handelte, welche sehr leicht entweder schon kurz vor der Serum-Infusion inficirt waren oder bald nach derselben inficirt werden konnten.

We regret that the "authority for stating" and the editorial stater have neither the industry to hunt up the original text, the scholarship to translate it, nor the honesty to speak the truth about it, or about themselves.

We can assure them that we have no intention of replying to anything further, so they may misrepresent to their hearts' content, and uncontradicted. Perhaps they will tire of the pleasure in a few years.

Holiday Accidents.—Every holiday brings its large number of accident-cases to the hospitals and to physicians' offices. Most of these accidents are the result of drunkenness, for a certain proportion of our population feel that they must celebrate every holiday by getting intoxicated. But there is something distinctive in the character of accidents occurring on certain holidays: On Independence Day we expect gunshot-wounds and injuries; during Christmas week, even past New Year, there occur many burns of a peculiar origin. Those

who have read the daily papers during this festive season have no doubt noticed reports of these accidents resulting from the common custom of decorating Christmas trees with candles and cotton ornaments. The number of severe burns has been unusually great this year, and at least one child was burned to death by the catching fire of cotton used to imitate white fur. When there are young children about, the custom of decorating with candles is of decided danger and in any case some other means of ornamentation should be adopted.

"The Autobiography of a Quack," the interesting work by Dr. Mitchell, now appearing in *The Century*, should be prescribed by all physicians to most of their patients. It first appeared in a cruder form as an anonymous article so long ago as 1868, and attracted much attention. As now being published, it has been considerably enlarged and entirely rewritten, new characters being added and old ones modified. It should effectively help to put the public on its guard as to the tricks of quacks and charlatans. It is a pity that the recasting occurred prior to the appalling vogue of Christian Science and some of the very latest disgraces of our people. Dr. Mitchell, we believe, considers that his medical studies and experiences have been not a disadvantage but of positive service in his work of fiction-writing. It is at least gratifying to know that he does not forget his profession in his literary success. Indeed, in every one of his books there will be found a picture of some form of disease. It should be observed that, very unlike most attempts to unite literature and medicine, the lay reader is not asked into the dissecting-room, nor even into the hospital or clinic. The great art is to conceal the physician's knowledge beneath the artist's handiwork, to suggest without disgusting. This has been done, for instance, in *War Times*, in which there is a description of locomotor ataxia, and in *Roland Blake*, where hysteria is used. In *Far in the Forest* there is a case of delusion of persecution, and in *Hugh Wynne* the physician will recognize a history of the degenerative changes occurring in the brain of an old man. Perhaps for the first time in fiction, a case of circular insanity is set forth in *François*. The appetite of the profession will be whetted by an announcement we are able to make that the Committee of the Congress of American Physicians and Surgeons has invited Dr. Mitchell to make an address in verse at the meeting to be held in Washington next May. The title of the poem will be *The Evolution of the Physician*, and its exclusive publication in the PHILADELPHIA MEDICAL JOURNAL, the issue following the meeting, has been kindly promised us.

Suggestions to Writers, No. 53. A Question as to an adverbial terminal is asked us by an esteemed correspondent: "If *biologic*, and *scientific*, etc., instead of *biological*, *scientifical*, why, then, not *biologicly*, and *scientificly?*" We are not quite sure that the question is not asked in derision, as there is a class of people who delight to urge the ridiculousness of certain lacks of analogies, or of some philologic illogic, upon an adversary, forgetful that the beams in their own linguistic eyes are of enormous size and innumerable. That sort of sarcasm has no hurting or shaming power whatsoever. It seems a *reductio ad absurdum*, and hence "a poser"—this question—but is it so? We have not yet advised the formation of the adverb in this way, but we should not think a man fit for the Inferno who dared the awful thing. Indeed, wonderful to relate, it is done every day by the sticklers themselves, in the words *publicly*, and *scientificly*. If instead of *scientifical* and *scientifically*, of *publical* and *publically*, *scientific* and *scientificly*, *public* and *publicly* are allowed to go about thus publicly exposing themselves, something must surely be ordered to prevent it. Is it *politicly* done? Is it not, indeed, unscientifical, and positively scan'lous!

Correspondence.

SUCCESSFUL REMOVAL OF LARGE FOREIGN BODY FROM THE HEAD.

BY W. S. HALSTED,
of Baltimore, Md.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In connection with the interesting case published by Dr. Tiffany of the removal of a chisel from a man's head, the following notes from memory of a similar case upon which I operated years ago, may be of interest:

A man, about 40 years old, consulted me in 1882 or 1883 seeking to be relieved of chronic nasal catarrh, nasal voice and, I think, headache. Examination of the nose resulted in the discovery of a piece of metal very firmly engaged in the nose and imbedded apparently in the body of the axis. The patient was as much surprised at the findings as I was, and rejoiced at being able to confront his medical advisers with evidence which sustained his opinion, frequently expressed to them, that an explosion more than five years before had in some way caused his troubles. He had been, perhaps for an instant, slightly shocked by this explosion, but had felt no pain and knew that he had been injured only when blood began to trickle down his face and into his mouth. The surgeon in charge discovered a transverse wound of the skin covering the bridge of the nose which he promptly stitched, securing union by first intention. I found a fine linear scar in the skin just below the articulation between the frontal and nasal bones, and a slight deformity of the bridge of the nose. A few days after the first visit of the patient I removed by an osteoplastic operation through cheek and nose an irregularly shaped piece of steel almost as large as a dental plate for the upper jaw.

It was only after exercising a great amount of force that I was able to dislodge this piece of steel which had been imbedded for so many years, and I know that at the time I considered the operation a hard one, and was proud of the result. A short handle-like projection, bent about at right angles to the rest of the plate, was held in a way to make extraction of the entire piece particularly difficult. Contemplating the plate of steel after its removal, we were astonished to learn that such a large foreign body could have passed through a wound so short as that indicated by the scar, and have caused so little deformity; for the nasal bones, and, I think, one at least of the nasal processes of the superior maxilla must have been fractured. The man recovered promptly from the operation.

SURGEON-GENERAL STERNBERG AND THE MEDICAL CORPS OF THE ARMY.

To the Editor of The Philadelphia Medical Journal:—

My attention has been called to an article in the *Philadelphia Ledger* of December 27, in which Dr. French, of Philadelphia, attacks the Medical Corps of the Army and finds fault with the bill which I have introduced asking for an increase in the corps. I regret that Dr. French has seen fit to publish his criticisms in a newspaper instead of in a medical journal, and I cannot occupy so much of your space as would be necessary to reply properly to all of his criticisms. Dr. French is entitled to his own opinion with reference to the Medical Corps of the Army, but he should be careful not to make misstatements when such important interests are at stake. He says:

"The Surgeon-General was called upon last winter by the War Department, and by the army-committees of Congress during their preparation and consideration of the Army Reorganization bill, to declare the needs of the Medical Department, and his opinion concerning increase of force required. On that opportune occasion the head of the Medical Corps failed to stand by his former official declaration of inadequate numbers, and, exposing squarely one of the chief causes of the disaster, demand an adequate increase of force, such as every well informed army surgeon knew to be absolutely essential for an efficient medical service in an active army. On the contrary, he acquiesced fixining the numbers of the Medical Corps of the reorganized army at a ratio per army strength actually one-third lower than that existing before the war, which he himself had repeatedly and very justly officially protested against."

In reply to this I submit the following memorandum, which was transmitted by me to the Honorable the Secretary of War, November 30, 1898, and a letter addressed to the Secretary of War February 1, 1899.

Organization of Medical Department for an Army of 100,000

1 Surgeon-General with rank of Major-General.
1 Assistant Surgeon-General with rank of Brigadier-General.
1 Medical Inspector-General with rank of Brigadier-General.
20 Surgeons with rank of Colonel.
40 Surgeons with rank of Lieutenant-Colonel.
150 Surgeon with rank of Major.
309 Surgeons with rank of First Lieutenant for first five years and then with rank of Captain until promoted.
Acting Surgeons to be appointed by the Surgeon-General when services are necessary, after passing a satifactory examination as to their professional qualifications, at a compensation not to exceed $150.00 per month.

Hospital Corps.

250 Hospital Sergeants at a compensation of $60.00 per month.
100 Pharmacists at a compensation of $50.00 per month.
400 Hospital Corporals at a compensation of $30.00 per month.
4,000 Privates of the Hospital Corps at a compensation of $18.00 per month.

Trained female nurses to be appointed by the Surgeon-General when necessary for service in army hospitals at a compensation of $30.00 per month and rations.
A Chief Nurse and Superintendent of diet kitchen to be appointed when necessary for hospitals having 50 beds or more, at a compensation of $60.00 per month and rations.
A Superintendent of female nurses to be appointed by the Secretary of War upon the recommendation of the Surgeon-General at a compensation of $150.00 per month.

S. G. O., War Department,
Washington, February 1, 1899.

To the Honorable the Secretary of War:

Sir:—I have the honor to call your attention to the fact that the Army Bill as it has passed the House does not make an adequate provision for the Medical Department for an army of 50,000. While the Army is doubled the increase in the number of medical officers is only 43. As I have heretofore represented, the number of medical officers was really inadequate for an army of 25,000. Under present conditions, with a considerable proportion of the Army located in unhealthy tropical and semitropical regions, the demands upon the Medical Department will be far greater than heretofore. The amount of sickness in garrisons in the islands now occupied by our troops will no doubt be very much in excess of that at our garrisoned posts within the limits of the United States, and may be estimated for the unhealthy season at at least 30% of the strength of the commands stationed in these localities. We must also count upon a considerable number of sick medical officers, as they are exposed to the sanie conditions which cause sickness among the officers of the line and enlisted men, with the added strain of excessive work and anxiety. In administrative work the doubling of the Army does not necessarily call for double the number of staff officers, but the work of the Medical Department is largely with the troops and the number of medical officers should correspond with the number of enlisted men in the Army and the number of independent stations occupied by our troops, for a garrison of a single company calls for the services of a medical officer and in case of his sickness for another to take his place.

I therefore earnestly recommend that the Senate be requested to add to the number of medical officers allowed by the House bill at least 2 colonels, 4 lieutenant-colonels, 20 majors, and 50 assistant surgeons; making in all 10 colonels, 20 lieutenant colonels, 80 majors, and 200 assistant surgeons (first lieutenants and captains), a total of 310. This will by no means be an adequate provision of medical officers for an army of 50,000 men and will call for the employment of a considerable number of acting assistant surgeons in addition to the regular Medical Corps.

While the bill which has passed the House increases the enlisted strength of the Army 100% and gives authority to the President to still further increasc it, the addition now asked for only increases the Medical Department 60%.

I also invite attention to the fact that the number of enlisted men in the Hospital Corps provided for in the bill which has just passed the House is entirely inadequate for an army of 50,000 men, and, moreover, that no provision is made for an increase in this number corresponding with an increase in the enlisted strength of the Army which may be made by order of the President. In my opinion it would be much better to provide that the authorized number of hospital corporals should be one half of 1% of the enlisted strength of the Army, and of hospital privates 4% of the enlisted strength. The number of hospital sergeants authorized by law for our army of 25,000 men was 100, and this was scarcely sufficient for the needs of the service. In my opinion the number should be increased to at least 175.

Very respectfully,

[Signed] Geo. M. Sternberg,
Surgeon-General, U. S. A.

I would say that in the bill which I have recently submitted to the Honorable the Secretary of War, I have asked for such an addition to the Medical Corps as I consider absolutely necessary in view of present conditions with an enlisted strength of 65,000 men. If the army should be hereafter increased to 100,000, as seems probable, a further increase of the Medical Corps would be imperative. I trust that the medical profession will support me in endeavoring to secure this very necessary legislation.

With reference to a medical inspection service, it is my opinion that it is advisable to detail men especially qualified for such service rather than to have a permanent grade of medical inspectors.

It hardly seems necessary to defend the Medical Corps of the Army from the unjust and uncalled-for strictures which Dr. French has seen fit to publish. It is regarded by those who know it best as a corps d'élite, which is a credit to the army and to the country.

Medical officers of the army certainly compare favorably as regards professional attainments with their colleagues in civil life, and this could scarcely be otherwise in view of the rigid entrance examination to which they are subjected, and the fact that they again undergo severe examinations before their promotion to the grades of captain and major. In order that our senior captains who have had from 12 to 15 years' service may prepare themselves for the examination to which they are subjected before they can be promoted to the next higher grade, they are given duty for one year in one of the principal medical centers of the country. This plan was inaugurated by me immediately after I was made Surgeon-General of the Army, and no less than 30 of our medical officers have had the advantage of this detail in the cities of Boston, New York, Philadelphia, Baltimore, and Chicago. Each medical officer is required to make a report of the manner in which he avails himself of the opportunity thus afforded him. In my opinion the advantages afforded, in

the cities named, for professional advancement are greater than those at our army medical school, which is designed for the instruction of those who have been successful in passing the entrance examination as to the duties and responsibilities of a medical officer of the army.

With reference to seniority promotion, to which Dr. French objects, I would say that this is, fortunately, the method established by law, and that to adopt the alternative system of promotion by selection would at once open the way to political preferment and favoritism and would be most demoralizing to the service.

Very truly yours,
GEO. M. STERNBERG,
Surgeon-General, U. S. A.

December 28, 1899.

ROENTGEN-RAY BURNS.

BY A. CLIFFORD MERCER, M.D.,
of Syracuse, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

APPARENTLY some of your recent correspondents are not familiar with an article on "Röntgen-Ray Burns," by Elihu Thompson, published in the November, 1898, issue of *The American X-Ray Journal.* May I, by quotation, place a few thoughts from that article before those of your correspondents who claim to be opposed to the views of Elihu Thompson? I trust the quotations are such as to give the reader a clear notion of some important opinions and conclusions reached and held by Elihu Thompson, and which, I fancy, your correspondents will experience difficulty in controverting. The quotations are:

"So much difference of opinion has been manifested by various writers who have considered the now rare injuries produced in x-ray experimentation, that it seems desirable that a clear expression of the writer's experience and opinion on this subject should be made. This is particularly the case since, in a number of cases, opinions and conclusions have been attributed to him which are not, in his judgment, tenable in view of the facts. * * * * An experiment:—"This [a finger] was protected by a sheet of lead which had a window cut into it so as to limit the effect of possible burns to a small elongated spot. This window in the sheet of lead, lying close to the finger, was divided by a strip of tin-foil; and in one of the divisions so made the finger was covered by a double layer of aluminum-foil, the other division being left bare. An exposure for a short time to the rays of a special tube constructed so as to enable quite close approximation to the platinum anode target was followed in about ten days by two small burns, one on the part which had been under the aluminum-foil and the other on the bare spot. It is inconceivable that any electrostatic effect could have acted through the aluminum alone more than through the tin-foil, or more than through the sheet lead, as all three of these metal layers were in electrical contact and subject to the same conditions. Electrostatic effect, or electro discharges, was plainly ruled out. These results were widely published and should have settled the question of ozone, chemical effects, electrostatic discharges, etc., but from the persistency with which some writers attempt to clear x-rays of all kinds from blame by assuming causes instead of experimenting to find the true cause, we have been led to reiterate with emphasis the conclusion that certain kinds of x-ray radiation do cause burns, if the exposure has been sufficient." * * * * "It is now quite well known that a gradation of quality, particularly as to penetration, is possessed by x-rays; that every tube in action evolves rays of low and high penetrating powers in varying amount, according to the degree of vacuum and other conditions. This means that rays readily absorbed and those not so readily absorbed come together from the same tube." * * * * "The action on the plate and the fluorescence of the screen are due to energy absorbed and converted into chemical action in the one case or light in the other." * * * * "The injuries to the skin are in like manner due to energy absorbed; and those rays which pass through the flesh freely are doubtless incapable of doing injury." * * * *

Elihu Thompson's opinion is "*That the burns are produced chiefly by those rays of the x-ray order which are most readily absorbed by the flesh.* Such rays are sent out in large amount when the vacuum in the tube is too low, or when the tube is 'soft,' to use Professor Röntgen's recent designation. A 'hard' tube or one with a high vacuum and requiring a high potential to work it will give rays that pass freely through flesh, and, not being absorbed by the skin, can not, of course, do injury. * * * * To avoid any risk of x-ray burns even with prolonged exposures we must work the tube at such a high vacuum as to give rise almost entirely to rays of great penetrating power, or non-absorbability; or we interpose between the tube and skin-surface a screen which will cut off the more injurious rays by absorbing them."

HIGHER MEDICAL EDUCATION AND THE MEDICAL COUNCIL OF PENNSYLVANIA.

BY W. W. KEEN, M.D., LL.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I AM very much pleased with the position you have taken in reference to the recent action of the Medical Council of Pennsylvania in regard to the requirements for entering a medical school as published on page 1251 of your issue of December 30, 1899. You have viewed the resolution of the Medical Council chiefly from the point of view of its discrimination against college men who, on the whole, every one would admit must be the best educated men, and those who will naturally later become the most prominent in the profession.

There are two other objections to the resolution which you have not touched upon: First, it discriminates against the poor medical student. It requires "four full and complete years of legally required medical study devoted to the exclusive study of medicine." There are not a few young men studying medicine who eke out their slender means by teaching, nursing, bookkeeping, and other employments. So far as I can see, if they must give four years "to the exclusive study of medicine," this resolution cuts all such men off from any extra-collegiate work in self-support.

Secondly, it seems to me the resolution is distinctly illegal, since this is not the requirement of the law of Pennsylvania. The act establishing the Medical Council and Boards of Medical Examiners in Section 13 states that after the first day of July, 1895, "such applicants must have pursued *the study of medicine* for at least four years, including three regular courses of lectures in different years in some regularly incorporated medical college, etc." It does not say the "exclusive study of medicine" at all, but simply "the study of medicine." The resolution, therefore seems to me to be illegal.

Let us see how it works in the Jefferson Medical College. A student of Princeton, Harvard, Bucknell, Brown, and other colleges, of whom we have representatives at present in the College, is admitted to our second year, provided he has pursued certain studies given below. A college man then will have his four years of college education followed by three years of medical study. A non-graduate of a college will have his high-school course and four years in the Jefferson. I need hardly point out which man will be the better trained and better educated man when he graduates in medicine.

To compare his studies preparatory to medicine as required by us in his college course and the studies of the first year in the Jefferson, I have put them in tabular form:

College Studies.	*First Year in Jefferson.*
Human Anatomy.	Human Anatomy.
Histology.	Histology.
Physiology.	Physiology.
Chemistry.	General Chemistry and Toxicology.
General Biology.	Materia Medica and Pharmacy.
Mammalian Anatomy.	Bandaging.
Physics.	Bacteriology.
Zoölogy.	
Embryology.	

We require him to make up the studies of our first year (materia medica, etc.) not included in his college course.

If the studies in the college course, which enable him to enter our second year, are not "studying medicine," as the law requires, then I scarcely think I understand the English language. In fact, I believe that if, for example, the President of Brown University gave a certificate to A. B. that he had "studied medicine" for one year in Brown University, covering the subjects above enumerated, and the Dean of the Jefferson Medical College gave him a certificate that he had "studied medicine" for three years and graduated at the Jefferson, the Board of Medical Examiners would be obliged by law to admit that he was qualified. In a conversation with Dr. Beates, of the Medical Council, the other day, he agreed with me that this would necessarily be the interpretation of the law.

If this resolution of the Council stands, it will necessitate, it seems to me, the introduction into the next Announcement of the Jefferson Medical College of a paragraph, which to me, as a Pennsylvanian, would be humiliating, stating that in consequence of this decision of the Medical Council, students expecting to practise in Pennsylvania cannot have the privilege of entering the second year though they be graduates of a university and have pursued the above studies, but must take four full years in the Jefferson; but that all students, graduates of universities, expecting to practise in other States than Pennsylvania may be admitted to our second year under our present regulations.

The resolution of the Council is to my mind not only detrimental to the higher education of medical men, but also unjust to the poor student, and, what is perhaps more to the point, illegal, since it does not conform to the medical law of the State.



Congenital absence of the clavicles.[1]

Congenital Absence of the Clavicles.—Schornstein (*Archives of the Röntgen-Ray*, November, 1898) reports the case of a girl aged 14 years (see cut). On one side a small fragment of clavicle may be seen, but on the other side the bone appears to be entirely absent. The patient's shoulders can be brought together in front of the body. [M.B.T.]

[1] Cut furnished through the kindness of the Rebman Company, London, publishers of the *Archives of the Röntgen-Ray*.

Original Articles.

FOREIGN BODY, CHISEL, IMBEDDED IN THE NASOPHARYNX AND POSTERIOR PHARYNGEAL WALL.

BY CARY B. GAMBLE, JR., M.D.,

AND

L. M. TIFFANY, M.D.,

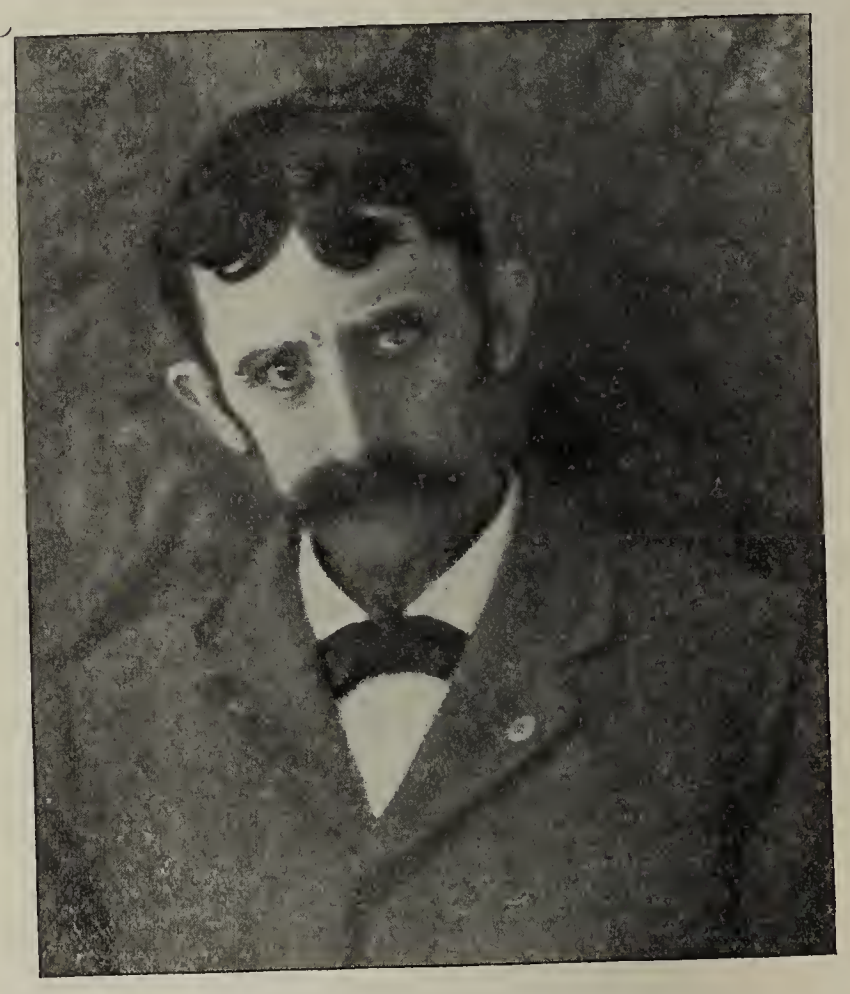
Professor of Surgery, University of Maryland; Surgeon-in-chief to St. Joseph's Hospital.

THE following case is interesting from the unique nature of the injury, and from the fact that the patient survived such an accident. Charles Baker, white, 39 years old, a woodcarver, was referred to me, October 18, 1899, by Drs. Joseph Franz and A. Barr Snively, of Waynesboro, Pa. At that time he complained of difficulty in swallowing and speaking, and of pain and loss of vision in his right eye. His history as regards these injuries was as follows: On August 9, 1899, he was working at a machine which consisted of a frame in which were fastened two chisels. The frame and chisels revolved at the rate of 3,200 times a minute, were somewhat below the level of his head, and turned in the direction of the hands of a watch. While going at this high rate of speed, something about the frame broke, and the chisels were set free. These chisels were each $4\frac{1}{2}$ inches long, 1 inch wide, and $\frac{3}{16}$ inch thick and weighed $3\frac{1}{2}$ oz. The cutting edges were razor-like in sharpness. The workman was struck by them and fell insensible. When found, he was bleeding profusely from a cut across his thyroid cartilage, and this with the cricoid and the trachea were torn. There was also noted, a cut, which extended from the inner side of the right eye upwards to the bridge of the nose, which was fractured. This last wound bled so slightly and was of so little apparent importance, that attention was turned to the injury of the throat. Here the bleeding was stopped and the neck dressed. Only one chisel was found; the other was supposed to have been lost. On recovering consciousness, 3 hours after, his voice was better than it is now, his head and neck were fixed in the same position as they are now, and the vision in the right eye was gone. From this time on he has had great difficulty in swallowing, food regurgitating through the nose, and his voice has had a muffled note. Within the past two weeks he has been subject to considerable pain in the right eye, and he has not been able to sleep on his back or left side because of the quantity of mucus, which chokes him in these positions. From the day of the accident to October 18, a period of 69 days, Mr. B. lost 37 pounds in weight.

Physical examination shows a well-built man, thin, but not emaciated. He is sitting up in a chair with neck and right eye bandaged. The head is bent slightly forward and to the right, and both the head and neck are held stiffly. Lips and mucous membranes are of good color, without cyanosis or dyspnea. The expression of the face is somewhat anxious and there is a constant expectoration of saliva, which is at times mixed with purulent matter.

Eyes.—The left eye is normal, the right lies somewhat lower in the orbit than the left, and from the corneal margin there runs a clean-cut scar which extends to the supraorbital ridge and to the bridge of the nose. This scar interferes with all the movements of the eye, especially outward rotation. The pupil is irregular towards the inner and lower portion of the iris and this is folded on itself. In this eye there is only light-perception.

Ears.—There is no discharge, and the hearing is good.



Position in which head was firmly fixed, before removal of chisel.

Nose.—From the right nostril there is considerable discharge of mucopurulent matter. This discharge is without odor, and there is no loss of the sense of smell. On inspection there is nothing abnormal in either nostril, except that on the right there is to be seen a large amount of pus. The septum is straight, the turbinated bones are normal in size and color. On passing a probe through the right nostril a hard mass can be felt in the lower meatus, 6 cm. back, which, on being struck, gives a metallic click.

Throat.—The voice is muffled and low-pitched. The mouth cannot be opened wider than 3 cm., and this in conjunction with the fact that the head is fixed in a position forwards and downwards, makes it difficult to obtain a view of the pharynx. To the right of the median line there is seen a swelling of the hard and soft palate. This swelling is not great, but is sufficient

to push the uvula to the left; it is not tender to the touch and is extremely hard. On passing the finger up behind the soft palate, a hard, metallic body can be felt, which extends up as far as the finger can reach, and which lies to the right of the median line. Downward, this body can be felt in the pharynx. The mass of steel is firmly fixed, lies nearly straight up and down, with its width almost exactly anteroposterior. Considering the sharp cutting edge of the tool, it was not thought wise to attempt to obtain a view of it by using a tongue-depressor. Externally there was nothing noted about the neck except a slight fulness on the right side and the scar over the thyroid cartilage.

On October 20 the case was turned over to Dr. Tiffany at St. Joseph's Hospital.

Report by Dr. Tiffany.—Charles Baker, the subject of the above history, was referred to me, at St. Joseph's Hospital, by Dr. Gamble. The examination of urine and blood showed as follows:

Urinalysis.—The urine is of a pale amber color, and clear, without sediment; it is acid in reaction, 1018, without sugar, albumin, diazo-reaction, or casts.

Blood-Examination.—Leukocytes 8,500.

While the history and examination already detailed showed that the lost chisel was lodged in the nasopharynx, neither the upper nor lower extremity could be defined with accuracy, so a skiagraph was taken for me by Mr. W. A. C. Hammel, of the State Normal School, Baltimore, on October 23.

This skiagraph shows well the occipital bone, the vertebral spines, the line of the lower jaw, the floor of the nose, also the commissure of the lips. The chisel is clearly defined in its entire extent with the lower end resting against, if not in, the body of probably the fifth cervical vertebra, while the upper end rises about an inch above the floor of the nose, resting against the right palate-bone. The position in which the head was stiffly fixed by the chisel is shown in the photograph.



Skiagraph showing chisel.

There seems to be no doubt that the chisel, being suddenly loosed from the wheel rapidly revolving towards the patient's face, was thrown cutting-edge forward so as to strike the right nasal bone, the right supraorbital ridge, the ball of the eye, and then went down through the upper jaw until it rested where shown in the skiagraph. The patient was bending forward over the machine when the chisel was thrown, yet it

seems probable that the chisel was deflected by the strong ridge of the frontal bone.

For a number of years it has been my habit to do bloody operations involving the face and upper air-passages with the head lower than the thorax, in order to avoid entrance of blood into the windpipe; but, inasmuch as Baker's head could not be thrown back beyond the position shown in the photograph, I deemed it wise to precede the major operation by tracheotomy. On the 24th of October, therefore, I did tracheotomy under cocain. The cricoid cartilage was divided and the ala of the nose, and then by the side of the nose nearly to the inner canthus; this incision went to the bone. The right lip and cheek were reflected about 1½ inches (4 cm.). The nose was separated from the right upper jaw, the right nasal bone was found much thickened and was separated from the upper jaw and the frontal bone, the septum of the nose and vomer were divided; this permitted the nose to be laid over upon the left cheek. The upper end of the chisel was now exposed, but could not be grasped by strong forcpes until I had chiseled away the nasal border of



Skiagraph after chisel was removed.

also the cricothyroid membrane; this gave ample room for a tube which rested without difficulty. Owing to the length of the chisel and its probable impaction in the posterior wall of the pharynx, it was manifestly impossible to take it out through the mouth and so should be removed along the same track, or nearly the same track, by which it had reached its present position. The patient having been anesthetized with chloroform and placed on the back in an inclined position of 45 degrees with the head downward, the following operation was carried out, October 25: An incision was made through the upper lip to the right of the median line, around the right upper jaw. Even now the foreign body could not be extracted, for the upper end was directed towards and impinged against the frontal bone; by somewhat rotating it, however, and keeping the end away from the eye, it was removed. A good deal of bleeding, as is usual in all face operations, accompanied these proceedings, and the tracheotomy-tube through which the patient had been anesthetized, proved most useful; after removal of the chisel the patient's head could be well extended and the tracheal opening was no longer needed. The nose was replaced in position without difficulty and sutured, the cheek and lip also. The

patient was taken to bed not greatly collapsed. On October 26 oozing had ceased; on October 27 the tracheotomy-tube was removed; on November 1 the patient was out of bed, taking soft diet; on November 7 both sides of soft palate moved equally and the patient's voice had greatly improved. Deglutition caused but little pain, the tracheotomy-wound had healed, and the stiffness of the neck had disappeared to a great extent. Another skiagraph was now taken by Mr. Hammel and the patient returned home.

Since his return home he informs me by letter that improvement continues.

X-RAY EXAMINATIONS IN DISEASES OF THE CHEST.

By FRANCIS H. WILLIAMS, M.D.,
of Boston, Mass.
Visiting Physician, Boston City Hospital.

The editor of the Philadelphia Medical Journal has recently asked me to take up in this number, x-ray examinations in diseases of the chest; and as the time is too limited in which to make a general report on this subject, and show what has been done in Europe as well as in this country, I am unfortunately obliged to confine myself to the work I have been doing in this direction at the Boston City Hospital and in my private practice. It seems hardly necessary to state that any article written now concerning x-ray examinations of the thorax is in the nature of a report of progress, and not final; but the future will show that the x-rays may be quite as serviceable to physicians as to surgeons.

My subject divides itself naturally into three parts; namely, diseases of the heart and pericardium; diseases of the lungs and pleurae; other diseases of the chest, as aneurysms and new growths. All these subjects cannot be treated fully in a paper of this length, but certain cardinal points can be considered in more or less detail, which will be illustrative of the usefulness of the x-rays in chest examinations. In discussing the heart, for example, I have chosen their value in determining the size of this organ. This portion of the article was read at the meeting of the Massachusetts Medical Society, June 13, 1899. Since that time I have examined other heart-cases and these have been included in Table B, page 115, which, like the other tables, was presented at the meeting.

PART I.

The Importance of Knowing the Size of the Heart; Inaccuracy of Percussion in Determining it as Shown by X-Ray Examinations.

In the minds of many, cardiac enlargement is chiefly associated with valvular disease, but there are other causes acting outside the heart which may give rise to an increase in the size of this organ. A murmur is to some pathognomonic of heart-disease, but this indication is not to be wholly relied upon, for we may of course have murmurs without organic cardiac disease, and cardiac disease without murmurs.

The *size* of the heart, however, is less open to question as a sign of disease, for if this organ is abnormal in size we have an indication of disease either inside or outside of the heart; on the contrary, if the size is normal it is not probable that any serious chronic lesion of the valves is present in a young person.

Let me briefly recall to your minds some of the conditions in which the size of the heart departs from that found in health, since the importance of knowing its size may be best appreciated by considering the conditions under which this occurs. I shall exclude from this category the acute changes in the size of the heart which may accompany excessive exercise, or acute diseases such as pneumonia or acute dilation of the heart. I desire to lay stress upon the importance of knowing when the heart is smaller than normal, for those persons whose hearts are not so large as the body demands should avoid pursuits and exercises beyond their strength, and to call attention to the fact that with the usual means of examination a small heart is frequently overlooked.

The chief causes of enlarged heart may be divided into two groups: first, those acting from within the heart-wall; second, those from without. In this first group, according to Howard, are valvular lesions, and of less frequent occurrence, fatty heart, tuberculosis, and aneurysm of the heart.

In the second group, causes originating outside of the heart are in the order of their frequency:

Arteriosclerosis.
Nephritis.
Pericardial adhesions.
Excessive work.
Alcoholic intemperance.
Tumors (pressing on vascular trunks).

Causes involving enlargement of the right side of the heart are obstructions in the pulmonary circulation, and these are found in various pulmonary diseases, especially emphysema.

The recognition of an enlarged heart may not only warn us of the presence of an otherwise unsuspected valvular lesion, arteriosclerosis, or chronic nephritis, but if its borders are well determined they may also assist us in recognizing the gravity of the conditions causing the enlargement, and careful determinations of the size of the right and left ventricles may aid us in prognosis.

Let us now consider the accuracy with which our present methods enable us to determine the size of the heart, and if this consideration shows that they are uncertain and misleading in a matter of such vital importance, we certainly should not rest satisfied with them if other aids can be obtained.

In a considerable number of cases which I have ex-

amined during the past 3 years, I first determined the borders of the heart by percussion and recorded these outlines on the skin with a blue pencil, and then determined the outline of the heart by an x-ray examination and drew these outlines with a black crayon. On comparison of these two sets of lines I was much struck by their frequent discrepancy in either one or more borders of the heart, and by the greater completeness of the cardiac outlines as obtained by x-ray examination.

It then occurred to me to test still further the accuracy of the determination by percussion of the right and left borders of the heart by comparing the *width* of the heart as found in the clinical record with the *weight* of the heart as determined by the postmortem examination. (It is obvious that this method of comparison may err, for a heart may be so distended during life as to give a large cardiac area to percussion, although it may not weigh much more than normal.) With this end in view I attempted to compare the size of the heart in 1,000 patients as found by percussion and given in the clinical records of the Boston City Hospital, with its weight as found in 1,000 consecutive autopsies, including both medical and surgical cases. For the use of the autopsy records I desire to thank Dr. Councilman, under whose direction the pathologic department of the hospital is conducted.

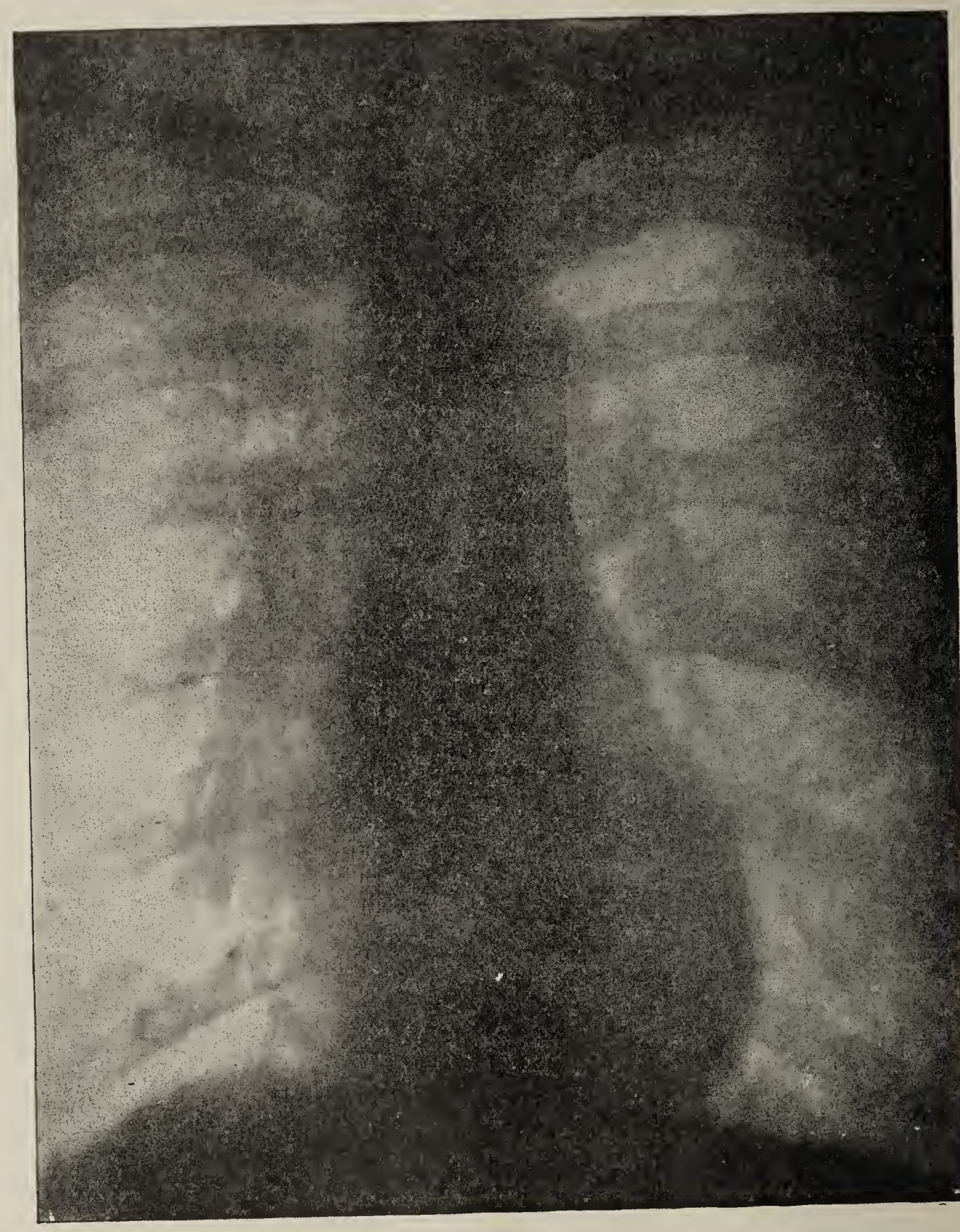


FIG. 1.—Photograph of heart of a man 47 years old taken during full inspiration and between two expirations.

Four hundred and fifty-four cases were *not* used for the following reasons :

1. The patients were under 20 years of age.
2. No heart-weights were given.
3. The records were incomplete.
4. Cases of emphysema, stoutness, etc., in which percussion is at a great disadvantage.

Five hundred and forty-six cases were used.

The average weights of hearts as determined by Dr. H. D. Arnold at the Boston City Hospital is 290 grams for men and 253 grams for women. I have divided the 546 cases (370 men and 176 women, the men and women being classed separately) into 6 groups each, according to their weight, as will be seen in the following tables, marked *A:*

A.—HEART-WEIGHTS COMPARED WITH HEART-WIDTHS.

MEN. Average weight in health 290 grams.

Group I.—Weights below 225 grams. Nine cases.
7, area normal by percussion.
1, area enlarged by percussion. Small size not recognized in 88%.

Group II.—Weights 225–349 grams. One hundred and sixty-eight cases.
11, area diminished by percussion. Error of 6%.

Group III.—Weights 350–399 grams. Seventy-four cases.
56, area normal by percussion.
6, area diminished by percussion. No enlargement recognized in 83%.

Group IV.—Weights 400–449 grams. Twenty-six cases.
15, area normal by percussion.
1, area diminished by percussion. No enlargement recognized in 61%.

Group V.—Weights 450–499 grams. Twenty-four cases.
9, area normal by percussion. No enlargement recognized in 37%.

Group VI. Weights 500 grams and over. Sixty-nine cases.
18, area normal by percussion.
1, area diminished by percussion. No enlargement recognized in 27%.

A.—HEART-WEIGHTS COMPARED WITH HEART-WIDTHS.

WOMEN. Average weight in health 253 grams.

Group I.—Weights below 200 grams. Eight cases.
7, area normal by percussion. Small size not recognized in 87%.

Group II.—Weights 200–324 grams. Ninety-nine cases.
*12, area enlarged by percussion.

Group III.—Weights 325–374 grams. Twenty-six cases.
17, area normal by percussion.
1, area diminished by percussion. No enlargement recognized in 69%.

Group IV.—Weights 375–424 grams. Fifteen cases.
5, area normal by percussion.
2, area diminished by percussion. No enlargement recognized in 46%.

Group V.—Weights 425–474 grams. Twelve cases.
4, area normal by percussion.
1, area diminished by percussion. No enlargement recognized in 41%.

Group VI.—Weights 475 grams and over. Sixteen cases.
1, area normal by percussion.
1, area diminished by percussion. No enlargement recognized in 12%.

This comparison between the *weight* of the heart as determined at the autopsy and the *width* of the heart as obtained by percussion shows that :

Group I.—Men.—In 9 men with hearts weighing below 225 grams (average weight of normal heart 290 grams) the diminished size was not recognized by percussion in 88% of the cases. The number of cases in this group is small, but in the corresponding Group I of the women the results are similar.

Group II.—In 168 men with hearts varying in weight from 225 to 349 grams, a variation which I have allowed as normal either side of the 290 grams, 6% were diminished in size by percussion. The weights of those included in this percentage were :

1	weighed	250	grams.
1	"	280	"
2	"	290	"
1	"	300	"
2	"	310	"
1	"	320	"
1	"	325	"
1	"	330	"
1	"	340	"

Group III.—In 74 men with hearts weighing from 350 to 399 grams (average weight of normal heart 290 grams) no enlargement was recognized by percussion in 83% of the cases, and 6, indeed, were even recorded as smaller by this means of examination.

Group IV.—In 26 men with hearts weighing from 400 to 449 grams (average weight of normal heart 290 grams) no enlargement was recognized by percussion in 61% of the cases, and, as in the previous group, 1 was diminished.

Group V.—In 24 men with hearts weighing from 450 to 499 grams (average weight of normal heart 290 grams) no enlargement was recognized in 37% of the cases.

Group VI.—In 69 men with hearts weighing 500 grams and over (average weight of normal heart 290 grams), no enlargement was recognized by percussion in 27% of the cases and one was recorded as diminished in size by this method.

It is not necessary to go over the table for women in detail, as it is of similar import.

In this comparison I have given the clinical record the benefit of all doubt; for example, I have excluded all cases of emphysema and stoutness.

It is worthy of notice that both these tables show that when the heart is about normal the error made by percussion is least frequent; when smaller than normal, very frequent; when somewhat enlarged, nearly as frequent; as the heart grows larger and larger, the frequency of the error made by percussion decreases, but the amount of error in a given case becomes greater.

Let us now return to group IV for a moment. In this group of 26 men with hearts weighing from 400 to 449 grams, no enlargement was found by percussion in 16 of the cases; in only 2 of these were there

* The weights of these 12 hearts were as follows: One weighed 230 grams; wo, 245; one, 250; one, 260; one, 270; one, 280; four, 300; one, 315.

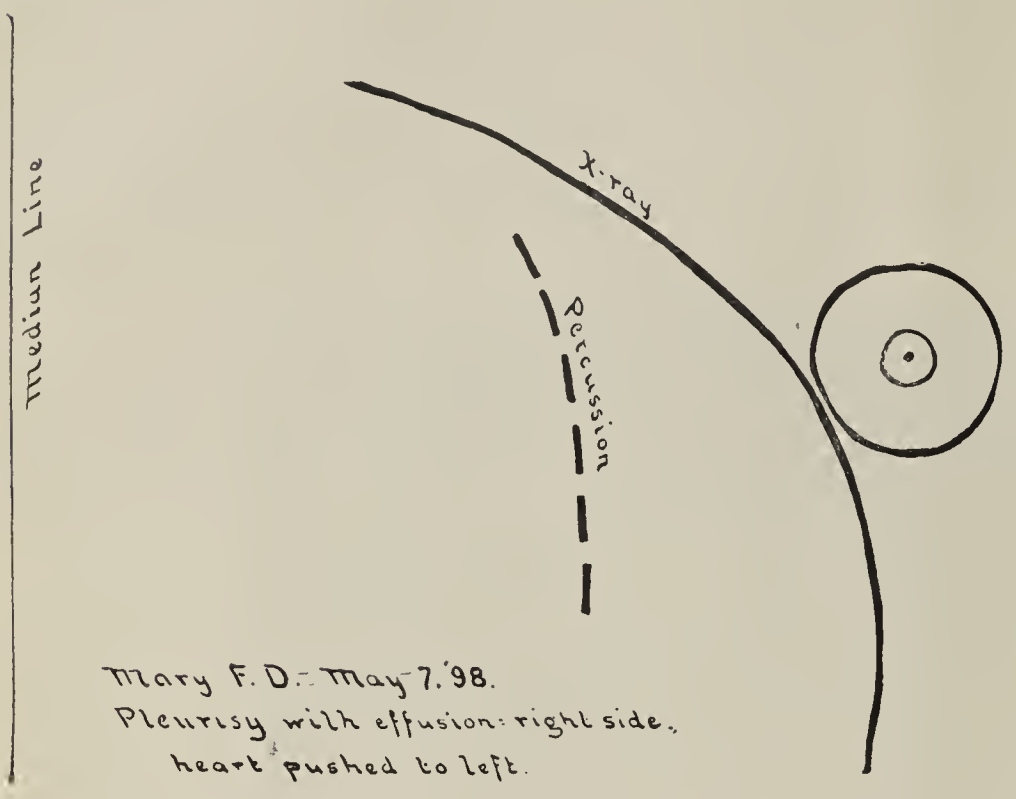


FIG. 2.

murmurs;[1] in the remaining 10, which were recognized as enlarged by percussion, 4 had murmurs.

In Group V, 24 men with hearts weighing from 450 to 499 grams, 9 hearts were given as normal by percussion; in only 2 of these were there murmurs; in the remaining 15, which were recognized as enlarged by percussion, 8 had murmurs. This may mean that when murmurs are found closer attention is given to the size of the heart.

It is evident from the comparison we have made between the size of the heart as obtained by an autopsy and by percussion that the latter method is inaccurate. Now let us return to x-ray examinations and see how percussion stands as to accuracy when compared with a method which, like percussion, is used during life. (The determination of the right and left borders of the heart was made on a level with the nipples in this comparison.) It is unnecessary to compare the two methods of determining the outlines of the heart so far as completeness goes; the x-ray examination gives much fuller and more detailed outlines.

I will ask your attention to the table marked *B* which gives the result of this comparison in 155 cases of various diseases. These cases are only a part of those that I have examined with the fluorescent screen, but are most of those in which I have employed the two methods, *percussion* and *x-ray examination*. The left border in these 155 cases was determined by its distance from the median line in both methods of examination. I have taken the left border in comparing the two methods because it is the one more easily determined by percussion. The figures give the *difference* in the distance of the left side of the heart from the median line as determined by percussion and x-ray examination in each patient. The comparison shows that percussion is in error in a certain proportion of cases (how large a proportion it is yet too early to estimate) and unfortunately we cannot determine without using the x-rays in which cases percussion is wrong. The plus mark means that percussion made the heart larger than did the x-ray examination, and the minus mark that percussion made the heart smaller.

The table consists of four double columns; in the first column the difference between the left border as determined by percussion and x-ray examination was less than one centimeter. This we will call agreement.

In the second column the difference was 1 cm. or more, and less than 2.

In the third column the difference was 2 cm. and less than 3.

In the fourth column the difference was 3 cm. or more. The table also shows that the disagreement between the two methods was about as often plus as minus in the 155 cases.

In the cases in the left hand side of each double

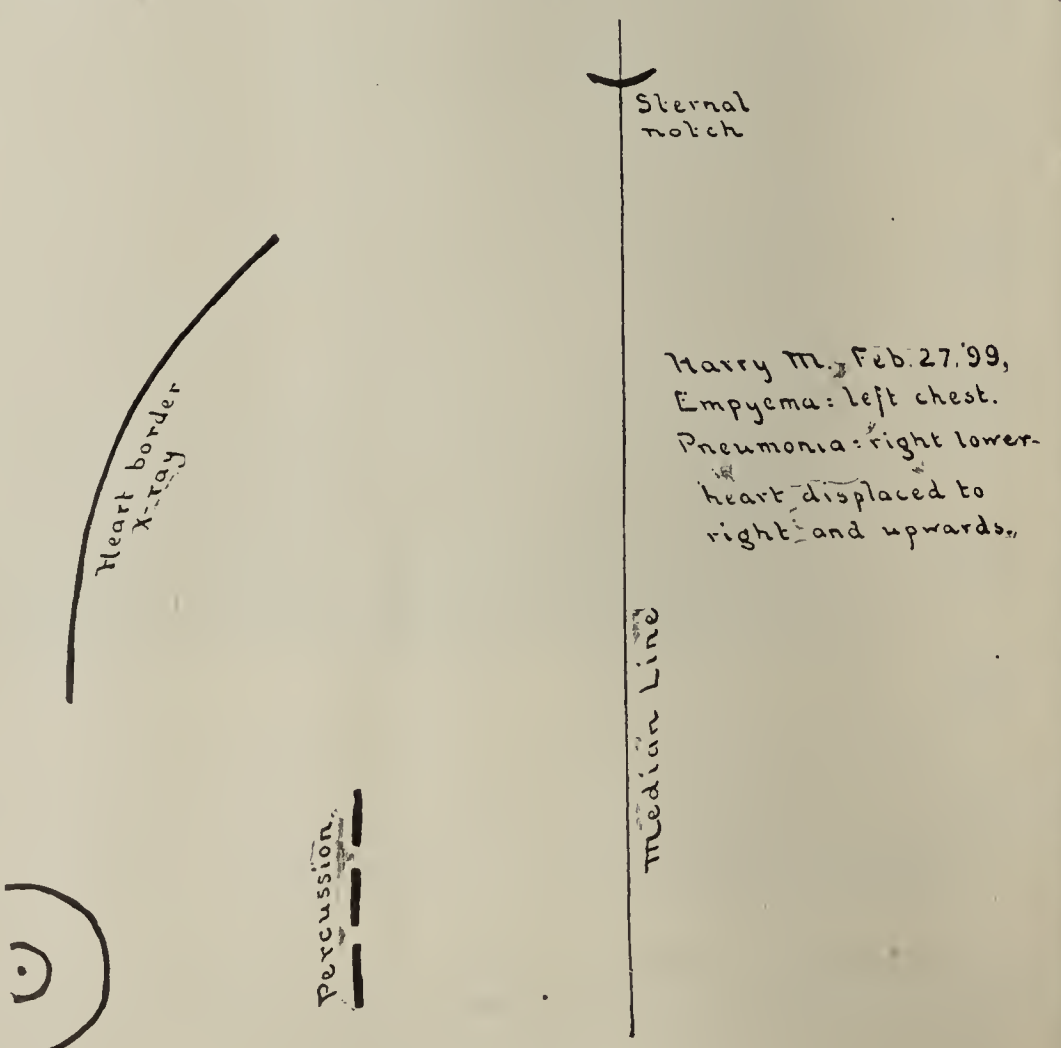


FIG. 3.

[1] At the meeting in June, 1899, tables were presented which showed that in certain of the 546 hearts under discussion murmurs were present both when the valves and weights were normal and abnormal; but these tables need a fuller discussion than the limits of this paper warrant, and I have therefore not printed them.

column the total width of the heart by an x-ray examination was less than 13 cm.; in those in the right hand side it was 13 cm. or more. (The average width of the heart in health as determined by an x-ray examination in 48 men was, from the median line to right border, 3 cm., to left border 8.6 cm., total 11.6 cm.; in 31 women the right border was 2.5 cm., left border 8.7 cm., total 11.2 cm. These cases indicate that the heart in women lies a little more to the left than in men.)

B.

DIFFERENCE OF X-RAY AND PERCUSSION DETERMINATIONS OF LEFT HEART-BORDER ON LEVEL WITH NIPPLE, DURING EXPIRATION IN 155 CASES.[2] (81 MEN, 44 WOMEN, 30 CHILDREN.)

MEN.

Less than 1 cm.	1-2 cm.	2-3 cm.	3 cm. and over.
	Aneurysm. +1.75 −1.75	Aneurysm. +2.50	
Bronchitis. .0	Bronchitis. +1.50	Bronchitis. +2.00	
Arteriosclerosis. .0	Nephritis. +1.00		New Growth. −3.25
Cardiac. .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	Cardiac. +1.25 +1.50 +1.50 −1.00 +1.00 −1.50 −1.00 +1.00	Cardiac. +2.00 +2.00 +2.00 −2.00 −2.50 −2.25	Cardiac. −3.00 +3.00
Rheumatism. .0 .0	Rheumatism. +1.50 +1.40	Rheumatism. −2.25	
Pleurisy. .0	Pleurisy. −1.50		Pleurisy, −3.00
Tuberculosis. .0 .0 .0 .0 .0	Tuberculosis. −1.50 −1.50 −1.25 +1.00	Tuberculosis. +2.00 +2.50 +2.50 +2.00	Tuberculosis. −3.25
Meningitis. .0			Pericardial Adhesions. −4.00
Pneumonia. .0 .0 .0 .0 .0	Pneumonia. −1.25 +1.25 −1.50	Pneumonia. −2.50 +2.00	
Typhoid Fever. .0	Typhoid Fever. +1.00 −1.00		
Emphysema. .0	Emphysema. +1.75	Emphysema. −2.00	
Malaria. .0	Malaria. −1.50		

WOMEN.

Bronchitis. .0			Aneurysm. +3.00
	Cardiac. +1.60 −1.50 +1.75 −1.75	Cardiac. +2.50 +2.00 −2.00 −2.00	
Anemia. .0 .0 .0		Anemia. −2.50	
Rheumatism. .0	Rheumatism. +1.00 −1.50 +1.50	Rheumatism. +2.00	
Pleurisy. .0	Pleurisy. −1.00	Pleurisy. −2.00	Pleurisy. −3.00
Tuberculosis. .0 .0 .0 .0	Tuberculosis. −1.50 +1.50 −1.50	Tuberculosis. −2.50 +2.00	Tuberculosis. +3.50
Debility. .0		Arteriosclerosis. +2.00	No Aneurysm. +3.00
Tape Worm. .0		Malaria. +2.00	Hysteria. +3.00
	Emphysema. −1.75		
Pneumonia, .0 .0		Pneumonia. −2.00	

CHILDREN.

Cardiac. .0 .0	Cardiac. +1.50 −1.00 −1.25 +1.50	Cardiac. +2.00	
Anemia. .0			
	Synovitis. −1.50		
			Rheumatism. −3.00
Tuberculosis. .0 .0 .0	Tuberculosis. −1.25		Tuberculosis. +3.00
Pneumonia. .0 .0 .0 .0		Pneumonia. −2.00 −2.00	
Typhoid Fever. .0 .0 .0	Typhoid Fever. +1.25 +1.00 +1.25 +1.50		
	Spinal Meningitis. +1.25		
Total 62 40%	Total 49 31.6%	Total 31 20%	Total 13. 8.4%

[2] + means percussion made the heart larger than the x-ray examination. − means percussion made the heart smaller than the x-ray examination.

The left-hand column in each of the four double columns contains the cases in which the heart's width was less than 13 cm.; the right side those in which it was 13 cm. and over.

It should be stated that I have taken pains, from time to time, to get other physicians to determine by percussion the size of the heart in some cases, and I then compared it with that obtained by an x-ray examination; as yet I have found no one whose percussion like mine in the same cases did not give the size of the heart incorrectly when tested by an x-ray examination.

If we consider the table (*B*) in a general way and look at the groups of diseases, it seems that percussion

is very likely to err in finding the position of the left border of the heart when it is of the most importance to have accurate information about this organ, namely, in cardiac disease when the heart is enlarged. Percussion also errs when the heart is displaced (Figs. 2 and 3), and the error under these conditions is, I think, more

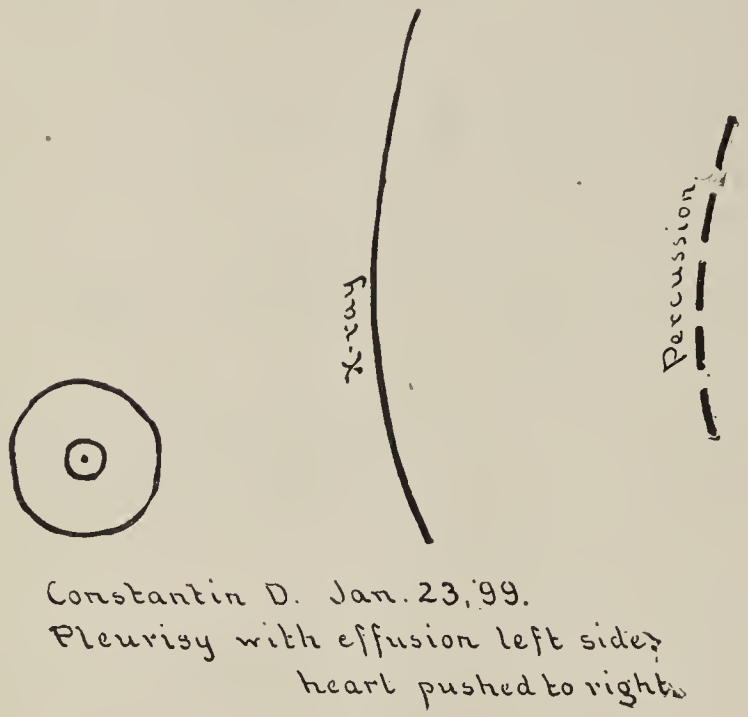


FIG. 4.

frequent and on the average greater than when the heart is enlarged.

To illustrate the advantage of an x-ray examination when the heart is not in the normal place let me refer briefly to a patient who consulted me recently for supposed cardiac disease. The left border of the heart, by percussion, as well as the apex-beat, was outside of the nipple-line; the right border was not easily defined, but seemed to be in about the usual place. Without an x-ray examination I should have considered that he had an enlarged heart; this examination showed, however, that the heart was not enlarged but simply drawn to the left. Upon inquiry I found that he had had a left-sided pneumonia 40 years before. When the heart is pushed out of place by fluid or a tumor in one or both sides of the chest or in the abdomen, the displacement, as a rule, is much more certainly recognized by an x-ray examination than by other means.

In another case in which by percussion the left border of the heart and the apex-beat were outside the nipple-line the x-ray examination showed that the organ was neither enlarged nor displaced, as percussion would lead the physician to believe, but that its axis was unusually horizontal and this brought the apex-beat further to the left than if the axis of the heart had had the usual inclination.

In the few cases in which I have had an opportunity to compare the size and position of the heart, as shown by an x-ray examination, with that found at autopsies, they have all agreed; except that after death the heart was somewhat higher than in life.

When the heart is normal in size, its border, so far as it can be obtained by percussion, can usually be obtained correctly; when it is of abnormal size, whether smaller or greater, this condition may not be indicated by percussion.

In some cases the x-rays show, for example, that by percussion the upper portion of the left border of the heart appears to be nearer the sternum than is the case. Again, when the heart is much enlarged, and approaches more nearly the side of the thorax, percussion may give dulness too far toward the axillary line. The right border of the heart is often difficult to place by this method, because it lies away from the chest-wall. The thickness of this wall is another important factor to be taken into account when considering the trustworthiness of percussion. In a word, percussion gives, as a rule, an excellent indication of what lies near the inner side of the chest-wall, but not much beyond, as is shown by its failure to determine the cardiac border in pulmonary emphysema.

The width of the heart, as determined by percussion, is the horizontal distance between the right and left borders. By x-ray examinations we see that the axis

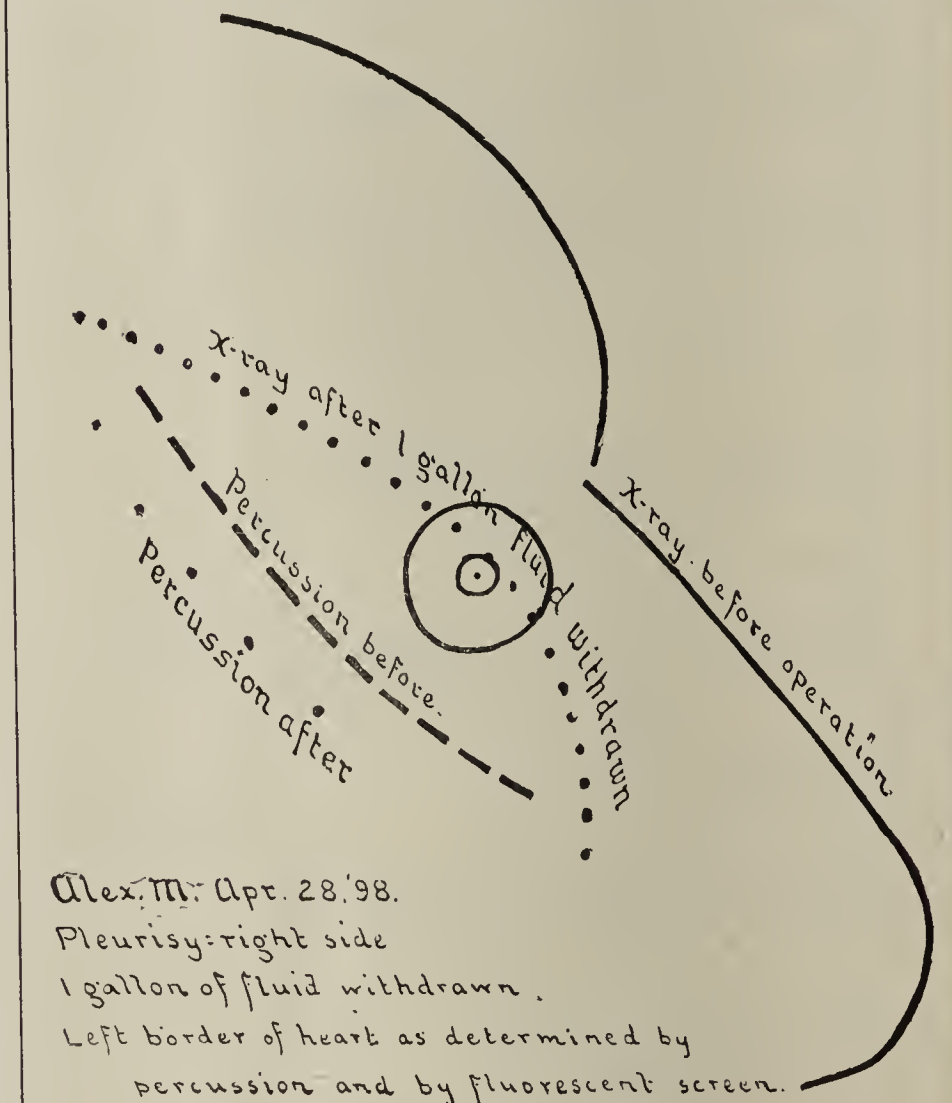


FIG. 5.

of the heart in some patients is more inclined than in others, and therefore a width of the heart taken in a horizontal line in the former cases would give too great a measurement.

Unless the thorax is too opaque to the x-rays from disease we see a portion of the left border of the heart

clearly defined during quiet breathing; we do not, however, always see the right border at this time. During a deep inspiration the whole of the left border is clearly seen, and the right border also comes into view. Therefore the best view of the heart is obtained during full inspiration; but at this time the axis of this organ is more vertical than during expiration, and the diameter of the heart and pericardium is less, owing to the traction of the diaphragm and the diminished pull of the lungs on the pericardium. Therefore it should be noted whether the diameter of the heart has been taken during full inspiration or at the beginning of inspiration, as soon as both sides came into clear view. The change in direction of the heart's axis takes place in the latter, rather than the early part of inspiration. When the heart is so enlarged that both borders

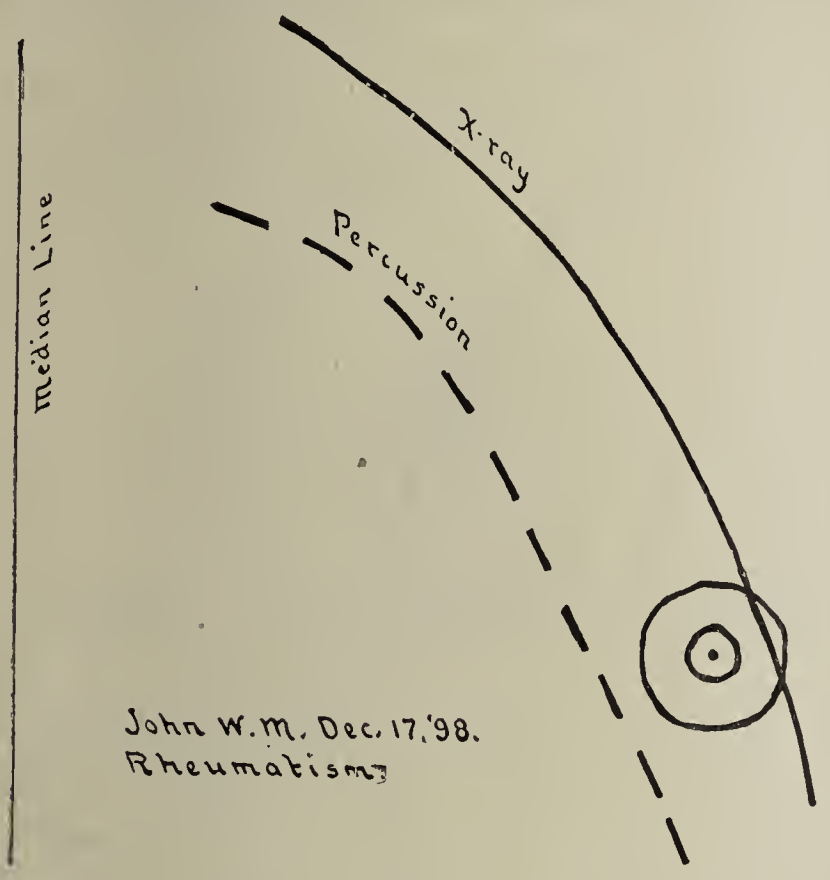


Fig. 6.

may be seen during quiet breathing its width may then be determined.

If by an x-ray examination we find in any patient (excluding acute diseases) an enlarged heart we should consider the probability of valvular lesions, arteriosclerosis (especially in middle-age and after), renal disease and emphysema (this last condition of the lungs would be very obvious by an x-ray examination).

I have thus far made some hundreds of tracings of heart-outlines in various diseases which indicate not only the size and position, but also the mobility of this organ.

Small hearts may be recognized by an x-ray examination.

An x-ray examination, when the lungs are clear, enables us to distinguish the outlines of the ventricles more exactly than percussion; a displaced heart is not mistaken for an enlarged one; the direction of the long axis can be obtained; if the heart is abnormal in size we can ascertain whether the right or the left or both ventricles are enlarged; the enlargement of the auricles, more especially that of the right, can be distinguished.

In a word, the size of the heart can be determined more accurately and more certainly by x-ray examinations than by our former methods (see Figs. 6 and 7); these examinations are of especial value in the early stages of cardiac enlargement, as then so much more can be done for the patient than when the enlargement has made great progress.

Description of Cuts.

Fig. 1. During quiet breathing only a portion of the heart's border is visible by an x-ray examination, but as I pointed out in 1896, when a full breath is taken the outlines of the heart can be seen more fully. Thus far I believe the heart has never been photographed between the respirations and during full inspiration. Fig. 1 is a reproduction of an x-ray photograph of the heart taken under these conditions. It is about one half the original size and shows, above the fourth ribs, the outer border of the superior vena cava and of the aorta; below the fourth ribs, the heart; the diaphragm is seen at the bottom of the picture.

In the photographic process of reproducing the x-ray photograph of the heart, the clearness of the original is lost; the pulsations of the heart also diminish the sharpness of its outlines. The dark areas in each side of the heart, which have in general a direction downward and outward, are the shadows of the pulmonary vessels. In the original negative there is seen on the right side, above the heart, the outline of the outer side of the superior vena cava, and within it, that of the ascending aorta. The curve of the descending aorta may be easily followed in the negative, but is lost in the half-tone; in the original nearly the whole of the outer curve of the ascending, transverse, and descending arches of the aorta may be followed.

Figs. 2 to 7 inclusive, are photographic reproductions two-thirds the size of the original tracings made on the chest-wall to show the position of the heart's border as determined by percussion (broken lines) and by x-ray examination (full lines).

I have chosen the left border of the heart for comparison because that is the easier to determine by percussion.

In Fig. 2, Mary F. D., the right chest contained fluid which pushed the heart to the left; this displacement was not recognized by percussion. It may be that displacements are sometimes not readily recognized by percussion, because the heart is pushed into the body of the lung rather than along or near the chest-wall.

Fig. 3. Mary M. This was an unusual case. There was fluid in the left chest which displaced the heart to

the right, but as she had also at the same time pneumonia in the lower part of the right lung the heart was not pushed directly to the right, but was forced upwards. Hence the right border of the heart was found to the right and above a line joining the sternal notch and the right nipple.

Fig. 4. Constantin D., shows the right nipple and the right border of the heart pushed towards it by fluid in the left chest. In this patient percussion did not recognize the right border of the heart within an inch and seven-eighths.

Fig. 5. Alex. M., had a very large pleuritic effusion in the right side which pushed the heart far to the left and much outside the left nipple. The position of the left border of the heart before the fluid was withdrawn is shown by the full line; after its withdrawal by the dotted line crossing the nipple. The position of the same border as determined by percussion before the operation is shown by the broken line; after operation by the dotted line below it.

In Fig. 6, John W. M., the x-ray line of the left border of the heart was outside of the percussion-line.

In Fig. 7, Catharine P., the position of the left border of the heart as determined by the x-ray examination was inside of the line as indicated by percussion.

By x-ray examinations we may follow the position of the heart when displaced, as illustrated by the preceding diagrams. We may also follow the changes in movement or position of the heart, due to adhesions, or to the difference in the excursion of the diaphragm on the right and left sides. I could readily illustrate this point also by tracings from my patients, but it is not desirable to multiply their number.

Changes in the outline of the heart, due to enlargement, or unusual excursions of the heart-wall, between systole and diastole, may sometimes be well seen. This is especially marked in cases of incompetency of a valve on the right side of the heart.

The diminution in width during full inspiration, as compared with quiet breathing, may aid us to distinguish a heart that is hypertrophied from one that is dilated. We may also recognize an edema or congestion of the lower portion of the lung, due to inefficient circulation in cardiac disease. If the edema does not extend too high we may recognize an enlarged heart; and, in the same patient, after the use of digitalis, see that the heart has become smaller and that the lung has become clear again. Thus, by studying the condition of the lung in some cases of cardiac disease, we may have an indication of the patient's serious condition; and we may follow carefully the result of treatment, and know better when to cease treatment, than we could without this new method of examination.

The irregular movements of the heart in some forms of cardiac disease may also be followed on the fluorescent screen. By using an instrument which I devised in 1896, and which I referred to in an article published in October of that year, it is possible to listen to the heart's sounds while the movements of the heart are followed on the screen.

Pericardial effusion may be recognized by x-ray examination; a transposed heart; and congenital malformations.

From what has been said, I think it may be readily inferred that x-ray examinations enable us to study more carefully than ever before the various changes to which the heart may be subjected, either in itself or by influence brought to bear upon it from outside.

To make x-ray examinations of the chest satisfactorily, it is essential that the physician have good apparatus and the experience derived from examining a large number of patients. At present the apparatus is both expensive and difficult to manage. I now use at the Boston City Hospital a static machine which has

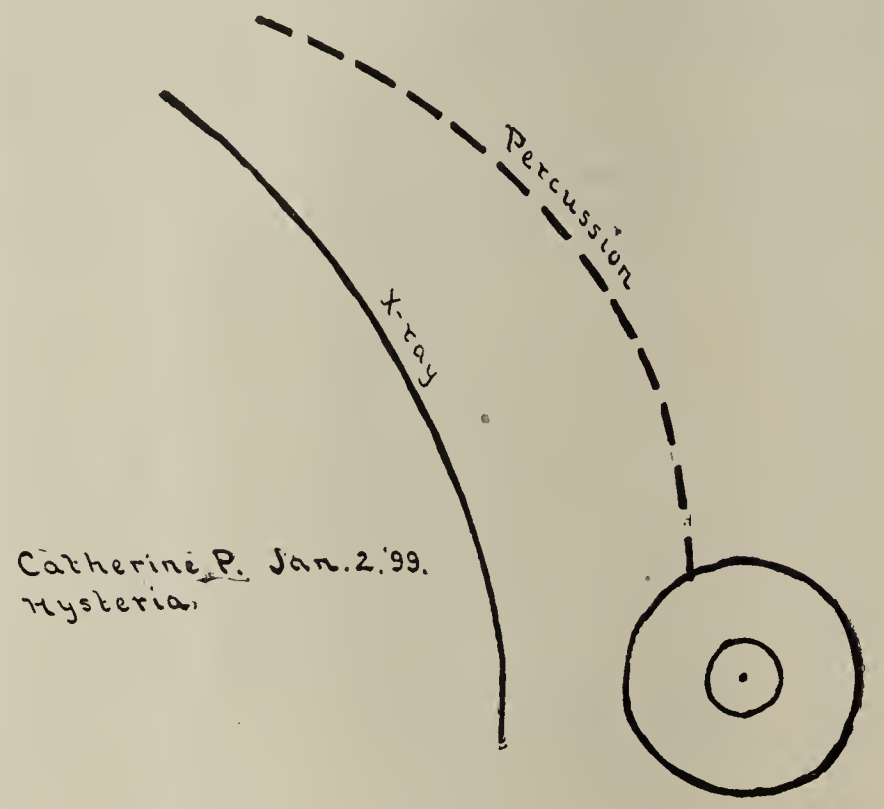


FIG. 7.

4 revolving plates 6 feet in diameter, and 4 fixed plates 6 feet 4 inches in diameter.

During an x-ray examination most of my patients lie on a narrow canvas stretcher, and the anode of the Crookes tube is placed 3 feet away when the thorax is examined, and usually under the point where the median line is crossed by a line joining the nipples. This position should be determined by plumb lines. The median line is obtained by sighting from a permanent plumb line that is fastened to the middle of the support, upon which the head of the stretcher is placed, to another fastened to the support at the foot in the same way. The other line is determined by putting a string 7 or 8 feet long, with a weight on either end, across the chest from nipple to nipple; that is to say, on a level with the fourth rib. The line hangs down on either side of the patient, and the proper point is obtained as before by sighting from weight to weight. The patient should lie flat on his back, and care should be

taken to see that one side of the body is not higher than the other. (A small level may be placed across the sternum for this purpose.) In examining the heart, for instance, and where it is desired to place the Crookes tube directly under the border to be determined, a small instrument called an indirect plumb line, which I described in a paper read in June, 1898, and published in the *American Journal of Medical Sciences*, June, 1899, page 688, may be used.

In all examinations of the heart it is important to have the light just right, so that the shadow of this organ may be brought out sharply and clearly; and in young patients it is necessary to be careful not to have too much light, as then the border of the heart is not well marked; but if the apparatus has a suitable adjustment, and a tube of proper vacuum is used, the amount of light required is readily obtained. Dr. W. H. Rollins and I, while using his apparatus, a static machine larger than mine, could plainly see the heart of a man at a distance of 30 feet. We were prevented by a partition from getting further away.

PART II.

Pulmonary Tuberculosis.[3]

It is well understood that the most important step in the cure of many diseases is their early recognition. A striking example of this is the cure of more than nine-tenths of the patients who have diphtheria, when they are properly treated in its very earliest stages. While we have no drug like antitoxin with which to treat pulmonary tuberculosis, it is universally recognized by those who have had a large experience that in a considerable proportion of patients, provided this disease is recognized in its earliest stages, success even in our climate follows suitable hygienic and dietetic treatment if intelligently and persistently carried out; therefore any method which helps us to an early diagnosis is valuable.

Hitherto we have depended for early indications of this disease upon, for example, loss in weight, a slight daily rise in temperature, anemia, a disordered digestion, a rapid pulse, etc. Only one or two of these symptoms may be present in any one case, and they may be due to other causes than tubercle-bacilli. But now we have a new method for detecting early an abnormal condition of the lung, namely, x-ray examinations. I have examined about 200, largely early, cases of pulmonary tuberculosis by the x-rays, and in making these examinations my attention was early directed to the darkened apex and the shortened excursion of the diaphragm, which were signs common to nearly all of these cases, and it seemed to me that these appearances warranted further study with reference to their usefulness in detecting pulmonary tuberculosis in the incipient stage. I will present briefly as examples of the use of x-ray examinations in this disease a few very early cases, in choosing which I have taken only those where the diagnosis was confirmed by finding the tubercle-bacilli or by reaction to the tuberculin-test. I have divided these cases, for convenience, into two groups. First, those with slight physical signs, but no rales except in Case 3. Second, those without physical signs—that is, whose lungs had been found normal by auscultation and percussion. In most of these an x-ray examination was made for the purpose of determining the size of the heart, and not because the lungs were suspected, but during the course of this examination the lungs were found to be abnormal. The patients in both groups were all hospital patients.

First group, (five cases) those with slight physical signs, but no rales, except in Case 3.

Case 1. — F. J. M., aged 24 years. Diagnosis: acute articular rheumatism, cardiac. Admitted to the Boston City Hospital, December 2, 1893. Family history negative. Personal history: Was in the hospital with acute articular rheumatism in June, 1898, for 2 weeks, and again in July and August, 1898, for 4 weeks. Lungs were then normal, temperature such as might be expected with rheumatism, not suggestive of tuberculosis. After his discharge from the hospital in August his ankle continued to trouble him, but he kept at work until the middle of November. Then both ankles were painful, and the right wrist was also affected. December 2, 1898, says he has felt feverish and slept poorly, on account of pain; no headache, no cough, appetite good. Physical examination: Well developed and well nourished man, general condition good. Pulse 76. Lungs: Resonance and respiratory sounds normal.

December 17, x-ray examination was made in order to determine the size of the heart. Heart shows some enlargement, both to the right and left. I noticed while examining this organ that the right lung, from the apex as far as the third rib, was darker than normal, and the excursion of the diaphragm was diminished on this side, being 2¼ inches on the right side and 3 inches on the left side. [Let me interpolate here that in 45 normal adults that I examined with the fluoroscope, 31 men and 14 women, the average excursion of the diaphragm on the left side was 2½ inches, on the right side about ⅛ inch more. In younger adults the average excursion was somewhat greater than among the older.]

On the same day the physical examination was made after x-ray examination: Expiration is somewhat more marked in the right apex in front. Tactile fremitus is slightly increased in the right back between the scapula and the vertebral column. Patient, when asked if he had not lost in weight during the past few months, thought that he had. Three attacks of rheumatism would account for this. December 22, one milligram of tuberculin was given; no reaction. December 27, three milligrams of tuberculin was given; no reaction. December 30, five milligrams of tuberculin was given; reaction well marked. Temperature 102.6° F., with malaise. December 30, morning and evening temperature for three weeks had been 98° to 99° F. No cough at any time.

January 2, 1899, prolonged expiration, slight increase in tactile fremitus in the right back between the scapula and spine, opposite the spine of the scapula. Discharged. His appearance at this time was that of a well man.

In March, 1899, this patient had another attack, and returned to the City Hospital. He was under Dr. V. Y. Bowditch's care. Diagnosis: rheumatism. With Dr. Bowditch's permission I insert here the note he

[3] In Parts Second and Third I have presented some questions that I first brought out at medical meetings in 1896 and published in the Medical and Surgical Reports of the Boston City Hospital, January, 1897, and elsewhere.

made of his physical examination of the lungs: "Percussion note is slightly high in pitch, and slight dulness at right apex to the third rib in front and spine of scapula behind. No change in respiratory murmur and no rales. Resonance and respiration good over balance of chest."

In March, 1899, I made another x-ray examination and found the same darkened area of the lung and shortened excursion of the diaphragm as on December 17, 1898.

CASE 2.—Michael H., aged 36. Entered the hospital March 7, 1898, with acute articular rheumatism, which began 5 weeks before entrance, with swelling in the knee, which extended to one hip, then to the other, then to the left ankle Ten days before entrance both hands became red, swollen, and painful; 5 days before, started again in the knee, right hip, right hand and shoulder. Physical examination of the lungs showed good resonance and respiration throughout. On March 10 the left wrist was red and painful. On March 18 this condition improved under salicylates. Practically well.

March 8, x-ray examination. This was made to determine the size of the heart, as I was then making x-ray examinations of this organ in all case of acute rheumatism. The apex of the right lung was found to be shaded as compared with the left lung; excursion of the diaphragm on the right side 2¼ inches; on the left side 3¼ inches.

After this examination, auscultation and percussion showed slight dulness on the right side from the apex to the second rib. Tactile fremitus increased, expiration prolonged.

March 14. Second x-ray examination pointed to the right lung as the seat of trouble, as before.

One milligram of tuberculin was given, afterward 2 milligrams, finally 4. Patient reacted to this last dose. Discharged April 7, 1898.

In May, 1899, he returned to the out-patient department, and Dr. Bartol kindly reported to me that he found no physical signs in the lungs.

Case 3 is inserted because I was able to watch its progress as it ran nearly the whole of its very acute course in four months, and largely in my service. It, as well as the other cases that I have seen, shows that in acute tuberculosis we may be warned of the rapid progress of the disease by making two or three x-ray examinations at intervals of a week or so, and thus recognize the serious character of the attack.

CASE 3.—Sarah H., aged 23 years. Entered the Boston City Hospital, April 20, 1896, with acute articular rheumatism, first in the right ankle, and then in the left ankle and right elbow. She had had cough, with bloody expectoration, for 2 weeks. The respiration and resonance in both lungs were good throughout. Heart by percussion seemed enlarged to the right.

April 24. X-ray examination made to determine the size of the heart. This showed that the heart was not enlarged to the right, but there were signs of tuberculosis on the left side, namely, the left apex was shaded and the excursion of the diaphragm on the left side was 2 inches, while on the right side the apex was clear, and the excursion of the diaphragm was 2⅝ inches.

Physical examination, after x-ray examination, showed many crackling rales over lower part of left front and axilla.

On May 6 nearly the whole of the left lung was shaded, and the excursion of the diaphragm was shortened by ½ inch and moved 1½ inches only. The apex of the right lung was now also darker than normal, and the excursion of the diaphragm was 2⅛ inches. On May 12 the left lung was still darker than it had been, and the excursion of the diaphragm was reduced to 1 inch. Patient up and about. On May 17 the excursion of the diaphragm was reduced still further, namely, to ½ inch on the left side and to 1½ inches on the right side.

The appearances seen in the x-ray examination were confirmed by finding tubercle-bacilli. Patient died in July, 1898.

CASE 4.—Tofilus K., aged 35 years. Entered the hospital January 11, 1899, with acute articular rheumatism. Physical examination: Increase of vocal resonance and fremitus, and marked whispered bronchophony in the right apex behind to an inch below the spine of the scapula. Over this area respiration was roughened and expiration much prolonged, but there were no rales and no dulness.

X-ray examination was made in order to determine the size of the heart. Upper half of the right lung was shaded: excursion of the diaphragm on this side 1½ inches; on left side 2 inches. Tuberculin was given; reaction. Temperaperature, 102° F.

CASE 5.—F. A., aged 9, entered the hospital, November 14, 1898, with slight fever, thought to be typhoid. Physical examination of the lungs showed an increase in vocal resonance and fremitus, and whispered bronchophony in the right apex front and back. Lungs otherwise normal. No change in percussion-note, no rales heard.

November 22, x-ray examination. Upper portion of the right lung is not as bright as the left. Excursion of the diaphragm shorter and higher up on the right side than on the left. 1¼ inches on the right and 2 inches on the left. Three milligrams of tuberculin was given; reaction. Temperature, 102.5° F.

February 27, 1899, second x-ray examination. Darkened right apex. Excursion of the diaphragm on the right side, 1¼ inches; on the left side, 1⅞ inches. Some dulness to percussion over right apex.

It will be noticed that 4 cases in this group had acute articular rheumatism. I have been struck with the frequent association of rheumatism and tuberculosis in these and other similar cases.

Second group (four cases), namely, those without physical signs, that is whose lungs were normal by auscultation and percussion.

CASE 1.—Mary C., aged 25. Hysteria. Says she vomited about a quart of blood about 3 days ago and again this morning. Did not raise any blood while she was in the hospital. March 20, physical examination of lungs: Resonance and respiration good.

April 1, x-ray examination. Excursion of the diaphragm on the right side 2¼ inches, on the left side 3¼ inches. Three subsequent x-ray examinations showed a shortened excursion on the right side. Patient reacted to tuberculin. Temperature 105° F.

CASE 2.—Bertha M., aged 20. February 18, 1899, physical examination of lungs: Resonance and respiration good.

Two x-ray examinations showed a darkened apex and a shortened excursion of the diaphragm on the right side. Patient reacted to 10 milligrams of tuberculin. Temperature 101.2° F.; malaise.

CASE 3.—Julia D., aged 20, entered the hospital, March 13, 1899, for what was thought might be typhoid fever. No loss in weight. Unusually well nourished and well developed. Physical examination of the lungs shows resonance good throughout, respiration clear and distinct.

X-ray examination. Right apex to about the third rib is shaded. Excursion of the diaphragm on the right side 1⅝ inches, on the left side 2¾ inches. March 25, five milligrams of tuberculin was given; reaction. Temperature 103° F.

April 14. Jerky respiration on the right, but nothing that can be considered abnormal.

CASE 4.—Joseph M., aged 19, entered the hospital, February 6, 1897. Physical examination of the lungs showed good resonance and respiration throughout.

March 12, an x-ray examination was made in order to examine the heart. Right lung darker from the apex to the third rib. Excursion of the diaphragm 2 inches on the right side, 2½ on the left side. No signs by auscultation and percussion at this time.

March 21, second x-ray examination. Whole of the right side darker than the left. Diaphragm seen only in full inspiration on the right side; excursion on left side 2½ inches.

April 19. Physical examination: Some dulness of upper

part of the right chest. Respiration diminished. No rales. Vocal and tactile fremitus very slightly increased. Resonance and respiration good over the left chest, both front and back.

April 25. Physical examination the same as on April 19.

April 27, third x-ray examination. Right side darker than normal throughout, and on the left side darker from the apex to the upper border of the fourth rib. Excursion of diaphragm not seen on the right side; on the left side it is $1\frac{3}{4}$ inches.

April 27. Physical examination: No signs on the left side at this time by auscultation and percussion.

Patient died on June 4. No tubercle-bacilli were found at any time, though frequent examinations were made, but on April 13 he reacted strongly to 5 milligrams of tuberculin; marked malaise; temperature 101.5° F.

We see in this second group (of four cases), as well as in similar cases which I have presented elsewhere, that the x-ray examination gave warning of tuberculosis before any departure from the normal was obtained by auscultation and percussion. Let me indicate one or two reasons why we may thus detect increase in density in cases where it is not found by auscultation and percussion. First, if the density is much below the surface of the lung, as in central pneumonia, its presence is not recognized by auscultation and percussion, but a shadow of the consolidated portion of the lung is cast on the fluorescent screen as surely as if the pneumonic process were near the surface. This I have observed in several cases. Second, judging from tests which I made at the hospital in 1896 with lungs taken from postmortem examinations, a shadow may be thrown on the fluorescent screen by a slighter degree of congestion than might be detected by auscultation and percussion. For these two reasons the x-ray examination may be the more delicate test under suitable conditions.

Further, the lungs are brighter in full inspiration than during expiration. If a pasteboard box containing water, $\frac{1}{2}$ an inch deep, be held over the chest of a large, healthy man, its shadow may be seen in inspiration, but not in expiration.

It is perhaps best to repeat again the statement that the diagnosis of tuberculosis is not made by an x-ray examination alone, but it does give early warning in some cases of a departure from the normal in the lung which puts us on our guard and enables us, in conjunction with the history, etc., to make the diagnosis of tuberculosis, and thus in many early cases to arrest its progress by proper care.

The following case which I have chosen from a number is suggestive:

C. B., a young man, whose father died of tuberculosis, was brought to me for consultation. He had a history of recent rapid loss of flesh, but there were no physical signs, no abnormal temperature, no cough, and the pulse was not rapid. Both his physicians suspected tuberculosis, and he was being kept under observation until more definite signs should develop. The x-ray examination showed a darkened apex of one lung and a much shortened excursion of the diaphragm on the same side. My advice was that he should be sent directly where he could have good food and lead an out-of-door life for some months. This advice was followed. Four months later his family reported him better than he had ever been at any time in his life.

I believe that we may regard the successful care of early tuberculosis as dependent largely upon maintaining the condition and well-being of the patient at as high a point as possible.

Suspicions aroused by the usual methods of examination may be converted into convictions by the additional and independent evidence afforded by another method.

Many persons dread pulmonary tuberculosis, or fear they have it on account of the family history, or because they suffer from debility, or have had a persistent cough, or other symptoms which have aroused suspicion in their minds or in the minds of their physicians. To such individuals the assurance which careful x-ray examinations can give in connection with other signs and symptoms, that the lungs are normal as seen by the fluoroscope, is a great relief.

I have seen 7 cases in which an x-ray examination prevented my taking too unfavorable a view, though the physical signs indicated beginning tuberculosis. In none of these has tuberculosis developed, and in such of them as I could test with tuberculin there was no reaction. Such a use of x-ray examinations should only be made by those who are perfectly familiar with the disease.

In doubtful cases 2 x-ray examinations should always be made at an interval of some days, in order that the second examination may verify or disprove the first, as there are various conditions, that I have referred to elsewhere, which may temporarily give signs similar to those observed in pulmonary tuberculosis.

In studying tuberculosis by the x-rays we find usually that the apex is darkened and the excursion of the diaphragm is shortened;[4] but we may find now and then only a general diminution in the clearness of the outlines of the lungs and of the ribs. This latter condition is found probably in cases where the disease is disseminated, but it is not easy to recognize this slight departure from the normal unless the physician is in constant practice with the fluoroscope. In early tuberculosis the heart is often drawn toward the affected side.

Acute miliary tuberculosis sometimes offers difficulties in diagnosis, and is confounded with some other disease, typhoid fever, for example. An x-ray examination of the lungs, by showing a marked shadow on the screen, though at the same time these organs are hyperresonant to percussion, may direct the physician to a correct diagnosis. I examined with the x-rays a lung taken from a patient who had died of miliary tuberculosis, and found that where it was 2 inches thick it cast a shadow on the screen as dark as that made by water $1\frac{1}{4}$ inches deep in an aluminum cup.

I have seen 2 patients about again who had, I think, miliary tuberculosis. The fluoroscope showed dark areas in their lungs, and they reacted strongly to tuberculin. They were too weak to feed themselves and

[4] The shortened excursion of the diaphragm may be due to changes in the lung itself or to pleuritic adhesions which prevent the lung from expanding.

feeble beyond any probable hope of recovery, but their health improved, and with it the appearances on the screen as shown by several examinations.

Other Uses which Deserve Brief Mention.—The x-ray examination enables the physician to recognize some *old* or *latent areas* of tuberculosis which might otherwise be overlooked. In some of my patients I have found well-marked evidence of former disease by means of the x-rays, and on inquiry have learned that the original trouble dated back in some cases 20 or 30 years, and in others over 40 years. The recognition of old areas of tuberculosis by the physician enables him to guard his patient against the dangers of lighting up the disease afresh.

Tuberculosis and Pleurisy with Effusion.—I have seen some cases of pleurisy with effusion in which the x-ray examination gave evidence of increased density at the apex of one lung, although this was not then detected by physical signs. The testimony of the fluorescent screen was confirmed by the finding of tubercle-bacilli or by the tuberculin-test.

Tuberculosis with Bronchitis.—Here x-ray examinations may be of much service. In several cases of bronchitis I found by an x-ray examination an increased density at the apex of one lung, which had escaped notice by physical signs. In nearly all of these cases tubercle-bacilli were found later.

Tuberculosis with Emphysema.—The increased density in the lung due to tuberculosis may be so obscured by emphysema that it is not recognized by physical signs, but this emphysematous condition offers no obstacle to the x-ray examination; and the presence of tuberculosis in some of the cases of this class that I examined was confirmed by the finding of tubercle-bacilli or by the tuberculin-test. The helpfulness of the x-ray examination where tuberculosis and emphysema are both present is twofold. It not only enables us to recognize tuberculosis where, by physical signs, it is undetected, but also to make a diagnosis of *emphysema* which had previously not been suspected by physical signs on account of the *tuberculosis* from which the patient was suffering.

To sum up[5]: *Incipient Pulmonary Tuberculosis.*—I have seen thus far 24 cases, in which there were slight or no physical signs, in which x-ray examinations showed signs of pulmonary tuberculosis. In all of these cases the x-ray examination was confirmed by finding the tubercle-bacilli or by the tuberculin-test. In 22 cases I have made the diagnosis of incipient pulmonary tuberculosis in conjunction with other indications of tuberculosis, such as one or more of the following: Hemoptysis, loss in flesh, morning cough, night-sweats, evening rise in temperature, slight physical signs. In these cases the diagnosis was not confirmed by finding the tubercle-bacilli, and the tuberculin-test was not used.

I recall 2 cases of pulmonary tuberculosis in which I found no constant signs by x-ray examinations, though there were rales, and bacilli had been found.

I have recognized by means of the x-ray examinations *tuberculosis with emphysema* in 9 cases, *tuberculosis with bronchitis* in 8 cases, and *tuberculosis with pleurisy* in 13 cases. In most, though in not all, of these 30 cases the diagnosis was confirmed by finding the tubercle-bacilli or by the tuberculin-test.

In pulmonary tuberculosis this new method of examination aids in recognizing the disease before there is cough and before there are definite signs by auscultation and percussion. In patients when the physical signs are definite we have another means of estimating the extent of the disease and by two or three examinations at intervals may watch its improvement or increase. They may also lead us to avoid the cruelty of allowing patients to take a long and unsuccessful journey in search of health.

The traces of old tuberculous lesions which were quiescent were apparent to me in a number of cases by means of x-ray examinations.

I have been assisted by the x-rays to a correct diagnosis in 3 cases of acute miliary tuberculosis.

In the majority of the remaining cases of tuberculosis in which both a physical and an x-ray examination were made the latter indicated more extensive disease than did auscultation and percussion. Sometimes only one lung was suspected by auscultation and percussion when x-ray examination showed signs in both lungs.

The reports of the Board of Health of the State of Massachusetts, as pointed out by Dr. Abbott, show that out of 1,000 persons dying in this State betwen 20 and 30 years old 597 died of tuberculosis of the lungs. This fact indicates the importance of careful x-ray examinations of persons between these ages and younger who may have any predisposition to or suspicion of this disease.

I think it will be useful to compare briefly the two methods of making x-ray examinations in diseases of the chest, namely, the one by the fluorescent screen and the other by the x-ray photographs, and the description of a case is a simple way to present the subject.

CASE 1.—C. P., aged 6 years, entered the Boston City Hospital, March 16, 1899, with croupous pneumonia. Illness began on March 13. Physical signs at entrance were as follows: Resonance and respiration good everywhere, except over a small patch in the left back, from the mid-scapula to the lower angle, where there were bronchial breathing and bronchophony.

March 17, x-ray examination by the fluorescent screen showed a darkened area, $2\frac{3}{4}$ inches wide, extending outward and upward from the left border of the heart. The excursion of the diaphragm on the left side was $\frac{1}{4}$ of an inch; on the right side 1 inch.

March 31. There were no physical signs and there had been none for 4 days. A second x-ray examination showed much improvement, but the dark area was still readily perceived, though it was not so dark as on March 17. The excursion of the diaphragm on the left side was 1 inch, on the right side $1\frac{7}{8}$ inches.

As on March 31 and the four days previous, there

[5] Since these figures were made I have seen additional cases of pulmonary tuberculosis in which x-ray examinations have been of service.

were no physical signs in the lungs of this patient, although the signs of departure from the normal were very patent on the fluorescent screen, the case seemed to me a favorable one in which to make a comparison between the signs of consolidation as recognized on the one hand by the screen, and on the other by x-ray photographs.

Three negatives were made (to see if variation in the time of exposure, or if tubes with different vacuums would bring out anything), one on March 30, and two on March 31. On March 30 the exposure was 4 minutes; on March 31, 3 minutes, and a second negative, with an exposure of 2 minutes, was taken with a different tube on this same day (the tube was in all cases 3 feet away). From these negatives I had prints made, and in none of these did I find evidence of increased density in the left lung as compared with the right.

Case 2.—E. L., a girl of 18, entered the hospital February 28. She had pneumonia involving the lower lobe on the left side, which began about one week before entrance, February 21. There was nothing unusual about the progress of the disease. Four x-ray examinations were made, March 1, 11, 23, and 30, respectively. Neither on March 20 nor afterward were there physical signs by auscultation and percussion; resonance and respiration were good throughout; but I found signs of consolidation by the fluorescent screen, as indicated by a darkened area and shortened excursion of the diaphragm when compared with the right side. An x-ray photograph taken at this time did not indicate disease, and there were no physical signs.

To sum up: On March 30, in neither of these patients were there physical signs, nor did x-ray photographs taken on this day give any indication of an abnormal condition of the lung, but well-marked signs were seen on the fluorescent screen.

Again, in a few cases of incipient tuberculosis in young women in whom the disease was recognized first by an x-ray examination with the fluorescent screen I could see no difference in the two sides by the x-ray photograph, though in others a darkened apex could be seen on the affected side. In one of the former patients I found no physical signs at the time the x-ray photographs were taken; in another, where the x-ray photograph was taken some time after the disease had been recognized on the screen and the disease had progressed there was slight increase in tactile fremitus and a prolonged expiration on the right side.

The cases above mentioned lead me to believe that in these diseases we have in the fluorescent screen a more ready, convenient and delicate method of recognizing an abnormal condition of the lung than we have in x-ray photographs, and the screen has the advantage of revealing the mobility of the diaphragm and heart.

I wish to emphasize the fact that signs may be obtained by an x-ray examination when the disease is limited not only to one side, but is just beginning even on that side, before there are physical signs in the first lung, or cough.

It is interesting to note that x-ray examinations show that the disease begins oftener in the right than in the left apex.

In concluding this part of my subject I desire to urge the adoption of a method which aids in the early detection of pulmonary tuberculosis. First, because an early diagnosis gives the best opportunity to arrest the disease; and, second, because patients may then be taught early simple precautions which will prevent them from being a source of contagion to others should cough and expectoration develop.

Pneumonia.

In certain cases of pneumonia a diagnosis can be readily made by the x-rays, without auscultation and percussion; in other cases auscultation and percussion are required, and an x-ray examination is unnecessary except to define more accurately the extent of the disease; in still other cases the signs by auscultation and percussion are doubtful, and therefore the aid given by the x-rays is of advantage; finally, there are a few cases in which the diagnosis could not be made without an x-ray examination, but can be readily made with it.

In the active stage of the disease the increase in density in the lungs is very marked on the fluorescent screen and by its means we may estimate how large an area of the lungs is involved, and by observing the patients at intervals of two or three or more days, as they improve, we may see the dark areas become lighter and lighter, and finally disappear; and we may see the excursion of the diaphragm, which has been restricted and restricted on the lower side, become gradually longer as the lungs clear up. I have examined patients while they were convalescing from pneumonia, both by auscultation and percussion and by the fluoroscope, on the same day, and while by the former I could not detect that the lungs were denser than normal, I was able to recognize the continued presence of abnormal density by means of the fluoroscope, and even when this was no longer possible I could still easily see by means of this instrument that the diaphragm did not descend to its normal limit, thus showing that the lung was still in an abnormal state. Later the normal limit was reached. This method of examination enables us to judge better than any other when the lungs have cleared up after an attack of pneumonia, and if we can obtain, by means of the fluoroscope, later evidence of the presence of a pathologic process during its subsidence than by auscultation and percussion, we may also reasonably expect to recognize its onset sooner, and I am satisfied that we can. Further, this ability to detect that the lungs are in an abnormal state weeks after a physical examination has ceased to indicate it, shows the delicacy of the test, and is an added assurance that we can in some cases of tuberculosis recognize an abnormal condition of the lungs earlier by means of the fluoroscope than by auscultation and percussion. A slight central pneumonia is at

times overlooked when its early detection by the fluoroscope might, in certain cases at least, prevent its progress to a more severe attack.

I have seen several patients in whom the diagnosis would have been difficult had not the fluoroscope led to that of central pneumonia; one of these cases was seen by three physicians, and we all failed to make the diagnosis. The examination with the fluoroscope caused me to make a diagnosis of central pneumonia, and the further progress of the case confirmed it.

The following case shows the significance of the diaphragm lines in pneumonia:

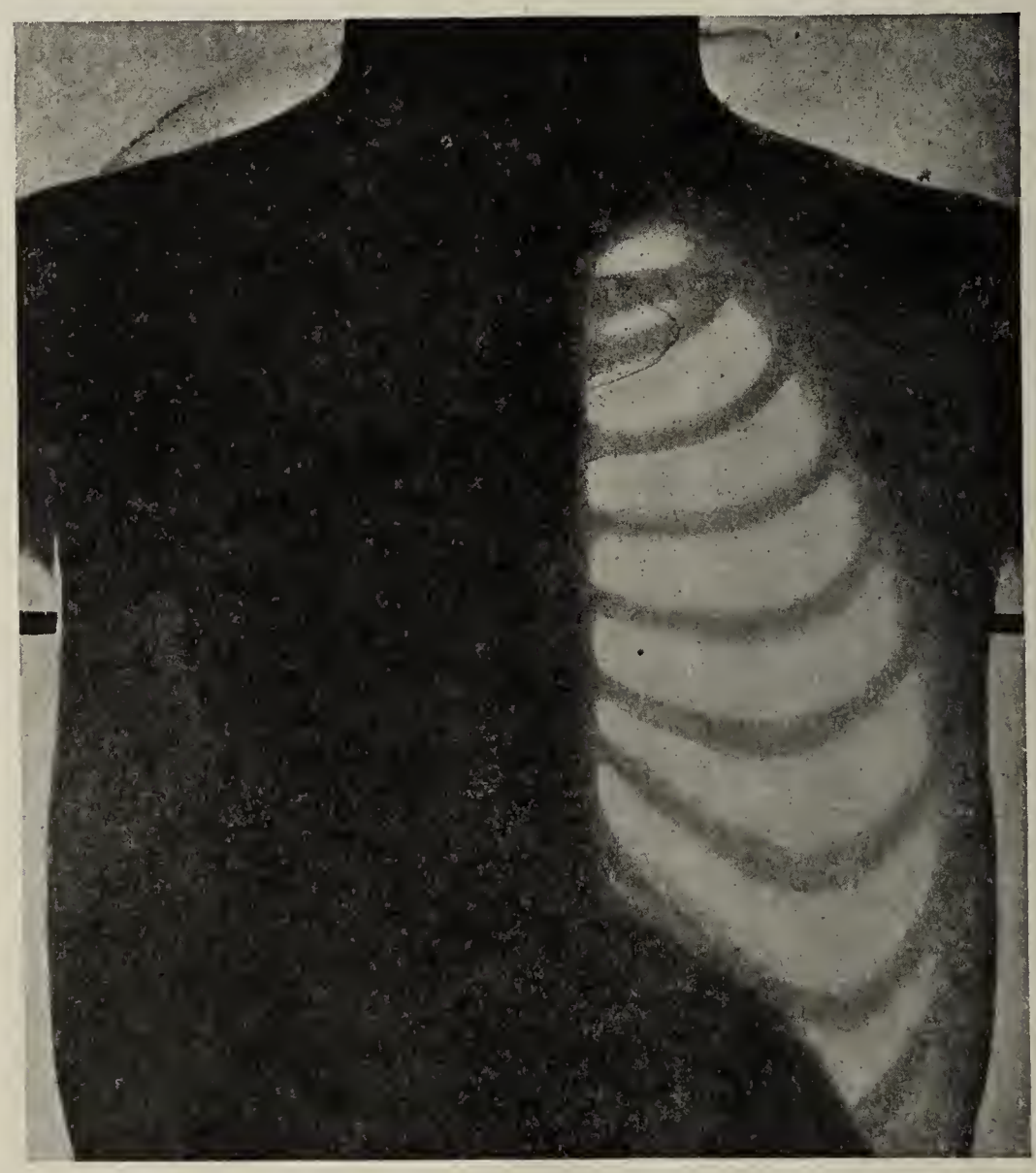


FIG. 8.—Pneumothorax, left side. Tuberculosis, right side—heart displaced to the right.

L. B., aged 19. Pneumonia. Examination with fluoroscope: On seventh day of disease, right lung dark from middle of first intercostal space to fourth rib; the upper and lower borders of this dark area were well marked; outlines in chest rather less clear than normal on both sides. Diaphragm moved ¼ inch on right side, and 1⅝ inches on left side. Fifteenth day of disease, diaphragm moved 1 inch on the right side; 2½ inches on left side. Nineteenth day of disease, diaphragm moved 2 inches on right side; 2¾ inches on left side; original dark area on right side not so bright as other portions of the lung. On the twenty-second day of the disease, diaphragm moved 2½ inches on right side and 3 inches on left side.

The abnormal condition of the lungs in tuberculosis and pneumonia may be shown not only by the obstruction which the affected parts offer to the passage of the rays, but also by the restriction of the excursion of the diaphragm. In some cases the latter is a more delicate test.

In another case of pneumonia there were signs of disease to be seen on the fluorescent screen on the thirty-second day of the disease, whereas on the seventeenth day there were no signs by auscultation and percussion. This shows that there may be conditions in the chest which are readily seen by the fluorescent screen that are not patent to auscultation and percussion.

LA GRIPPE AND PNEUMONIA.

In some cases of la grippe it may be impossible by the ordinary methods to recognize an accompanying pneumonia because the physical signs are obscure or wanting; and there may be no leukocytosis. In such cases I have sometimes found signs of pneumonia by an x-ray examination, and the diagnosis was afterwards confirmed by the physical signs or the progress of the disease.

PLEURISY.

In pleurisy with effusion we can estimate the amount of fluid in a general way by the amount of light which passes through the thorax, and can follow the subsidence of the fluid. When the effusion is large no more rays pass through it than through the liver, and the outlines of the diaphragm, ribs, and heart are obliterated on the

side of the effusion. If there is a smaller amount of fluid, the outlines of some of the upper ribs are seen, and with a small effusion the outlines low down in the thorax only are ill defined. The fluoroscope assists us to distinguish between an effusion and a thickened pleura. In some cases of effusion the fluoroscope shows us displacement of the heart, to the left when there is a large effusion on the right side and a much greater displacement to the right, and this displacement is of more frequent occurrence when the effusion is on the left side. This displacement of the heart to the right may not be recognized by percussion even when it has been pushed much beyond its normal place. In one patient the heart was seen to be displaced more than two inches to the right, but no displacement was detected by percussion. While examining some cases of pleurisy with effusion by the fluoroscope, I have found indications of tuberculosis in the lung where it was not previously suspected, and these indications were confirmed later by finding the bacilli or by the tuberculin-test.

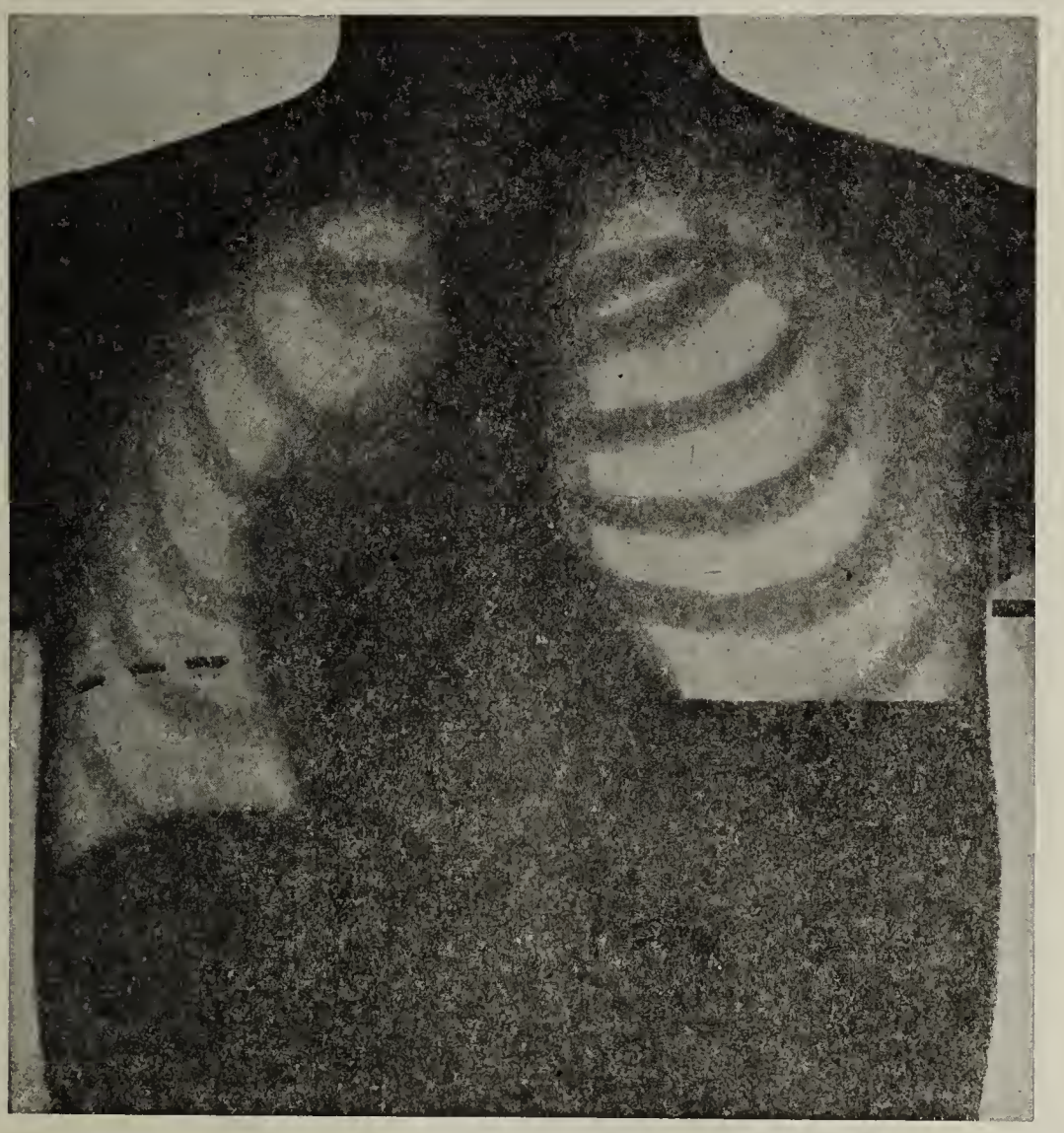


Fig. 9.—Pneumothorax, left side. The fluid changed its position as the patient bent forward or backward. When the patient was shaken the splashing of the fluid could be followed.

Emphysema.

In emphysema we see in the fluoroscope that the lungs are unnaturally clear and that their volume is increased; the dilated right auricle and pulmonary artery are observed, and the whole enlarged heart is seen more clearly than normal, although by percussion its true outline cannot be determined; it is also seen to lie lower than in health, and in the later stages in a more vertical direction. The diaphragm is seen to be lower than normal, and the excursion which it performs between deep inspiration and expiration to be less than normal. In some cases the emphysematous condition may be greater on one side than on the other. The lower position and the more limited excursion of the diaphragm give a means of making a diagnosis of this condition earlier than has hitherto been possible, or in some cases the lack of these signs enables us to exclude it.

The following case was sent to me with a diagnosis of emphysema with asthma:

B. F. Examination with fluoroscope: Diaphragm moved on the right side 2½ inches, and on the left side 3 inches. The excursion of the diaphragm being normal assures us that no serious amount of emphysema is present.

I have seen patients, both young and old, who complained of getting out of breath on exertion, and the cause in some cases would have been obscure but for the fluoroscope; this instrument showed that the dyspnea in both young and old was due in some instances to emphysema, and in others to edema of the lungs.

If some other disease is associated with emphysema, as, for instance, some form of bronchitis, the excursion

of the diaphragm is characteristic, but the abnormal clearness of the lungs may be wanting.

BRONCHITIS.

The appearances of bronchitis in the fluoroscope vary; they may differ very little from those in health, or both sides of the thorax may be less bright than normal. The respiratory movement of the diaphragm was not especially impaired in the cases I have seen.

PNEUMOTHORAX; HYDROTHORAX; PNEUMOHYDROTHORAX; PNEUMOPYOTHORAX; EDEMA OF THE LUNG.

In pneumothorax (Fig. 8) the fluoroscope shows that the affected side of the chest is lighter than normal, that the heart and vessels may be much displaced, and that the diaphragm is much lower than normal on that side, and has a characteristic curve.

In pneumohydrothorax (Fig. 9) or pneumopyothorax, when the patient is examined lying down, the whole of the affected side of the chest is seen to be dark; if examined in a sitting position the upper portion of the chest is clear and the lower dark. The appearances remind one of a tumbler half-full of ink; when the patient bends forward or backward the height of the fluid on the chest-wall changes; if the patient is shaken gently the surface of the dark fluid is seen to be agitated. In pneumohydrothorax or pneumopyothorax on the left side the surface of the fluid is seen to be disturbed by the pulsation of the heart.

In hydrothorax and edema of the lungs the fluoroscope is also of service. In these conditions, as well as in empyema, the outlines of the diaphragm are wholly or partially obliterated. Some partial edema of the lungs is, I am inclined to believe, a more frequent con-



FIG. 10.—Small aneurysm of the descending arch of the aorta in a woman 45 years old.

dition than has been supposed. On first examining a patient of this class, his condition being unknown, I was surprised to find how difficult was the passage of the rays, and when I saw that the picture of the patient's thorax in the fluoroscope was unusually dark, supposed something was wrong with my Crookes tube, but after trying another I realized that the patient's chest was denser than normal; the tube was not in fault. I have examined a number of cases which illustrate the aid the fluoroscope renders in congestion or edema of the lungs; this instrument showed that one of these conditions was present when it was not made out by physical signs, and it thus assists the physician to recognize the interference that may occur in the pulmonary circulation in cardiac or renal disease.

PART III.

Thoracic Aneurysms.

I have written so recently on aneurysms (for the *Boston Medical and Surgical Journal*, January, 1900), that I will only touch upon the subject here. The main points are these:

First, certain aneurysms may be recognized earlier by x-ray examinations than by other methods; second, their extent and position may be better obtained; third the question as to whether or not an aneurysm is increasing is also decided better, and this, of course, is of the utmost importance in prognosis; fourth, in obscure thoracic cases, when an aneurysm of a certain portion of the arch of the aorta is suspected, but does not exist, it may be excluded by an x-ray examination.

Aneurysms of the arch of the aorta are most clearly outlined when their borders are near the fluorescent screen; those on the left when examined from the back; those on the right when examined from the front.

Case I, Fig. 10, shows how impossible it may be to make a diagnosis of an aneurysm of the descending arch of the aorta by a physical examination. This cut is taken from an x-ray photograph of a patient whom I examined because she thought she had a needle in her throat. No needle was found, but the photograph showed a beginning aneurysm of the descending aorta.

The following case illustrates well how definitely we may outline an aneurysm in the chest by means of the x-rays, and shows that a considerable amount of dilation of the descending arch of the aorta may give rise to no physical signs.

James L., 33 years old. Entered the hospital June 23, 1899. Present illness: For 8 months, malaise and anorexia. Three weeks ago voice became husky, and within the first two days reached its present extent. Also began to have pain in the back, between shoulders and across front of chest; pains all over body at times, especially in thighs and upper arms. Has lost 50 pounds weight in 6 months. Stopped work 3 months ago, because of pain and weakness. Not confined to bed. Some difficulty in swallowing; food seems to stick at about second rib, and hurts there. No dyspnea nor edema.

June 24. Physical examination: Heart: For area of dulness see broken line in tracing. Fig. 11. Impulse feeble; marked pulsation in suprasternal space and of both carotids, but more in right; systolic heaving in right supraclavicular space; systolic heaving to right of sternum, nearly to mammary line in first or second spaces; no thrill. Over most of precordial space, especially at apex, a systolic murmur heard only at inspiration, undoubtedly cardiorespiratory; in second space to right of sternum, first sound is continued into a blowing murmur; second sound much louder than in corresponding space to left; in first space, to right, both sounds are distinct and continued into soft murmurs. Radial arteries thickened and tortuous, left slightly fuller than right. Lungs: Negative, except for harsh respiration at right apex. When patient lies on left side, less air enters right lung than at other positions. Distinct tracheal tug; voice hoarse. Eyes: Retinal vessels of same size in both eyes. Throat: Complete paralysis of left vocal cord.

This patient was under the care of Dr. J. L. Morse, and the diagnosis of thoracic aneurysm was made by the usual methods, but the extent was revealed only when he was brought to me for an x-ray examination,

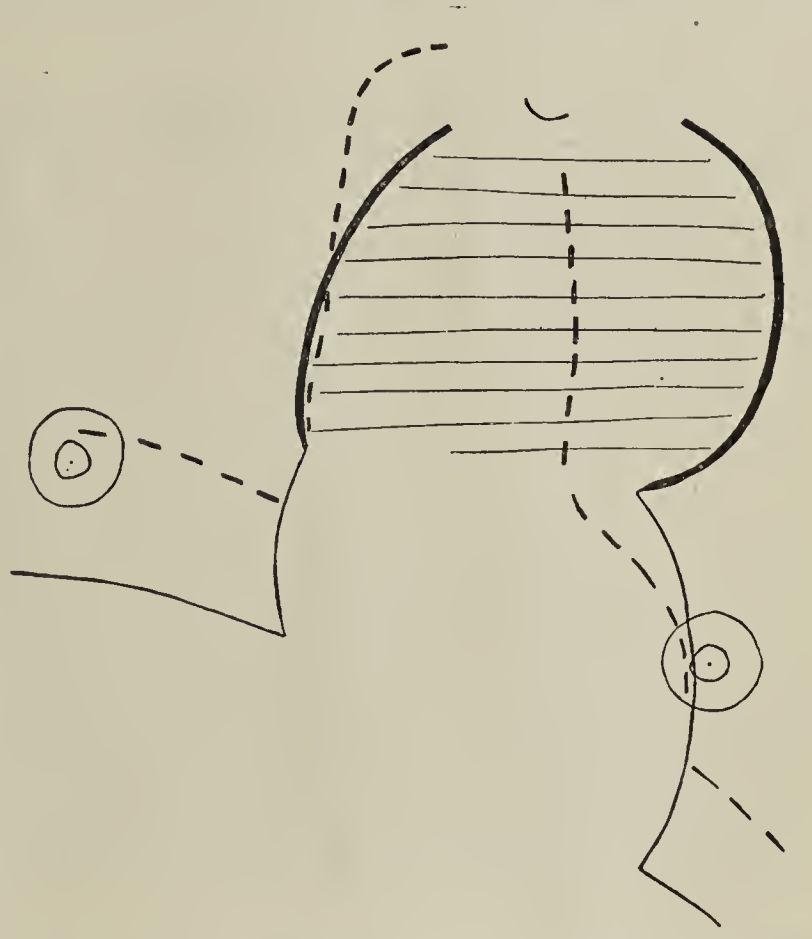


Fig. 11.—Aneurysm of aorta in James L., 33 years old. Broken line shows outline by percussion of aneurysm. Full line shows x-ray outline of aneurysm and heart. The part of the aneurysm to the left of the sternum was not indicated by percussion. The horizontal line near the nipples shows position of diaphragm in expiration (broken line) and in full inspiration (full line) by x-ray examination.

as until that was made the dilation of the aorta to the left of the sternum was unrecognized.

New Growths.

A new growth may be in such a position as to simulate very closely the appearances presented by certain aneurysms. Where an aneurysm is suspected the patient should be examined carefully by the x-rays to see if pulsation can be detected, and also to determine whether the body which casts the shadow is in the anterior or posterior portion of the chest. If it is on the right side, near the sternum, and in the anterior rather than the posterior portion of the chest, this would make for aneurysm rather than new growth. On the other hand, if the object is near the left of the sternum, in the anterior portion of the chest, it would

not be an aneurysm unless one of such size as to extend far toward the front of the thorax. In certain parts of the chest there would, of course, be no possibility of confusion between an aneurysm and a new growth. In some cases a new growth is overlooked by the ordinary methods until it has attained such dimensions as to involve the greater part of one side of the thorax, but by means of the x-rays these new growths can be recognized in their beginning. In this field x-ray examinations have already proved their superiority over other methods of examination.

In the early days of x-ray examinations cases of burns were reported, and the impression still prevails in the minds of some that there is a risk attending their employment. The experience that we have had in some thousands of x-ray examinations at the Boston City Hospital during the past $3\frac{1}{2}$ years shows that, when proper precautions are taken, no harm can result from their use. In no case at the hospital or in my private practice has any harmful result or even inconvenience occurred.

To conclude: I do not advocate giving up any other methods for making diagnosis in thoracic diseases—we need all the aids we can have,—but I do strongly urge the addition to them of careful x-ray examinations, and I desire to emphasize the value of this method as a means of indicating early certain abnormal conditions in the chest. We have two methods of examining the heart and lungs — auscultation and percussion. Each of these in suitable cases gives valuable information; they require a trained ear and experience with many patients to make them serviceable. In some cases auscultation is of the greater value, in others percussion; more frequently they are best when used together. To these we may now add a third method, which also requires special training, that of x-ray examinations. There are diseases in which each of the three methods may render the chief service, and each may in other cases be of little value. Usually, they should be used together; each supplements the other.

I desire to express again my obligation to Dr. William H. Rollins, of Boston, not only for the advances which have resulted from his studies of vacuum-tubes, by which I have been greatly aided, but also for his constant helpfulness in furthering my work.

The Treatment of Lupus by X-rays.—Albers-Schönberg (Report Congress Deutscher Naturforscher und Aerzte and in *Archives of the Röntgen-Ray*, November, 1898) reports the successful use of the x-rays in the treatment of 9 cases of lupus. The applications lasted about half an hour daily and were continued until redness appeared. The skin first shows a slight yellow tint soon followed by redness which gradually deepens. Itching and pricking sensations together with a feeling of warmth are sometimes felt. Excoriation usually follows, giving the appearance of a burn To protect the normal skin a mask of cardboard covered with tinfoil is considered more convenient than lead-protection. [M.B.T.]

I. A BULLET IN THE POPLITEAL SPACE. II. A CASE OF DILATED ESOPHAGUS.—TWO CASES SHOWING THE VALUE OF THE X-RAYS AND AT THE SAME TIME THAT IN THE FIRST CASE THEY WERE MISLEADING.

BY W. W. KEEN, M.D., LL.D.,
of Philadelphia.

Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College.

CASE 1.—W. G. S., 22 years of age, was admitted to the Jefferson Medical College Hospital October 30, 1899. On March 25, 1899, in a skirmish in Manila, a 45-caliber Remington ball passed through the right thigh, struck the inside of the left knee just above the line of the joint, and was buried in the tissues. Six weeks later he was able to be on crutches, but suffered a great deal of pain. Flexion was not limited, but the leg could not be extended to an angle of more than 45°, until lately, when the extension has somewhat increased.



FIG. 1.—Skiagraph by Dr. Ames showing the bullet *in situ*.

The patient brought with him a skiagraph (Fig. 1) taken, August 18, 1899, by E. W. Ames, A. A. Surgeon U. S. Army, at the Presidio, San Francisco. This skiagraph shows the bullet very distinctly posterior to the head of the tibia. It is not, apparently, imbedded in the bone. A skiagraph taken by Mr. Prince in the Jefferson Hospital, on his admission, confirmed this finding. Dr. Sweet, who located the ball exactly by this skiagraph, has kindly furnished me with the following description of the application of his localizing apparatus and, as will be seen, his location of the bullet was exact both as to position and depth.

The essential features of this apparatus and the method of employing it are shown in the illustration, Fig. 2.[1] An adjustable arm carries two ball-pointed rods which are at a known dis ance apart, and are parallel with each other and with the photographic plate, while the balls are perpendicular to each other and the plate.

When the skiagraphs are made, one of the indicator-balls

[1] From DaCosta's "Manual of Surgery."

rests against the skin at any point in the neighborhood of the foreign body, while the second indicator is toward the plate. The spot on the skin at which one of the indicator-balls rests is marked with silver nitrate, as the position of the foreign body is measured from this point.

Two skiagraphs are made to give different relations of the

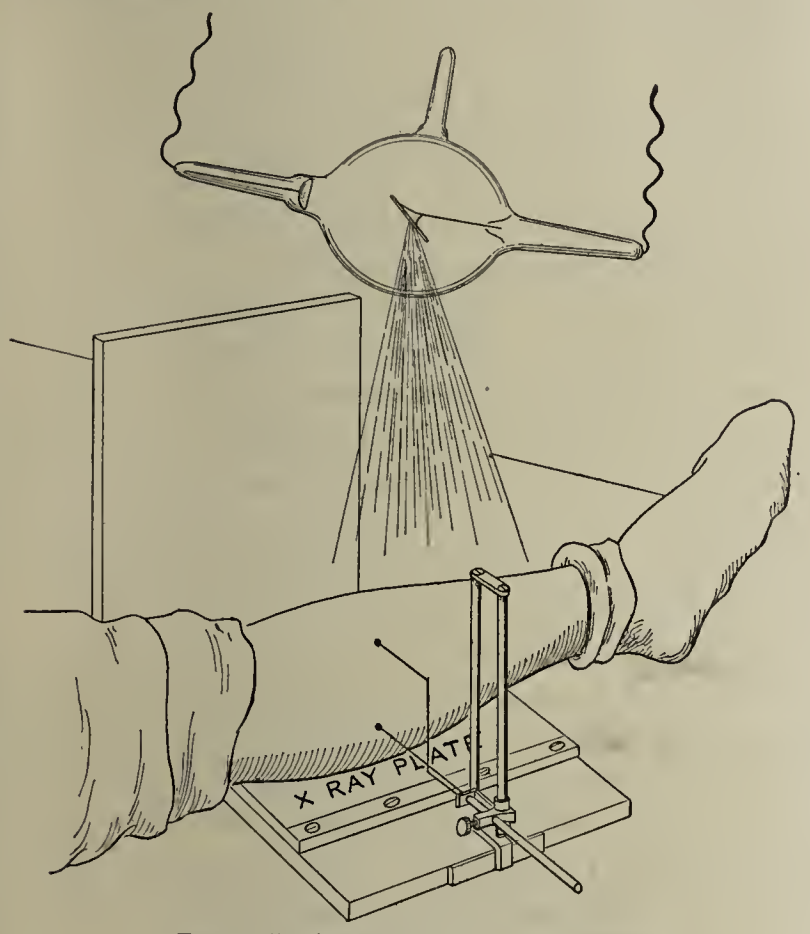


FIG. 2.—Dr. Sweet's localization apparatus.

shadows of the two indicators and the bullet, one exposure with the tube horizontal, or nearly so, with the plane of the indicators, and a second exposure with the tube at any distance above or below this plane. Since the shadow of the foreign body preserves at all times a fixed relation with respect to the shadows of the two indicator-balls in what-

A



FIG. 3.—Method of using Dr. Sweet's apparatus. Skiagraph made with tube horizontal to plane of indicators. The bullet is well seen. Opposite *A* are seen the two balls at the ends of the rods.

ever position the tube is placed, and since the situation of two balls is known, the location of the foreign body in the tissues is readily determined from a study of the planes of shadow at the two exposures.

When the skiagraphs of the case here reported were made, the anterior surface of the leg was placed upon the bottom of the right angle support of the apparatus, the plate to the inner side of the knee, one indicator-ball resting on the skin nearly in the center of the popliteal space. The skiagraph made with the tube horizontal with the plane of the indicators is shown in Fig. 3, and the second skiagraph with the tube a short distance above the first position is seen in Fig. 4. Both negatives show the leg as viewed from the outer side, with the posterior surface of the leg uppermost.

In determining the position of the bullet a spot is made upon paper to indicate the point on the skin at which one of the indicator-balls rested at the time of the exposures, a second spot being made 2 inches from the first, to represent the fixed distance between the two balls. These are shown at *A* and *B*, upper diagram, Fig. 5. The first negative is now taken. The distance the shadow of the bullet is below the shadow of each of the two indicators is measured and this distance entered below the spots representing the two balls when the exposure was made. (*C* and *D*.) A line drawn through these points indicates the plane of shadow of the bullet when the first skiagraph was made. Similar measurements are made from the second negative and marked below the spots *A* and *B*,

A *B*



FIG. 4.—Method of using Dr. Sweet's apparatus. Skiagraph made with tube above horizontal plane of indicators. The bullet is well shown. Opposite *A* and *B* are seen the two balls at the ends of the rods.

the line through the spots (*F* and *H*) giving the plane of shadow when the second negative was made. Where these two planes of shadow cross (*X*) is the position of the bullet as measured below and to the inner side of the nitrate of silver spot on the skin.

In determining the depth of the bullet in the tissues, a second diagram is made to indicate the position of the two balls, as viewed from a cross-section of the leg. Since the tube was only 24 inches away at the time of the exposure, the convergence of the rays in an object as large as the leg must be allowed for. This is done by measuring the distance the shadow of one ball is behind that of the other, entering this distance (*A K*) on the diagram, and marking on a line through this point, 24 inches from the ball resting on the skin, the situation of the tube. If we now measure the distance the shadow of the bullet on the first negative is back of that of the shadow of the ball on the skin, enter this distance in the plane of this indicator (*B M*), and draw a line from the situation of the tube through this point, we obtain the plane of the shadow of the bullet when the exposure was made. Drawing a line from the position of the bullet as previously found on the first diagram, the intersection of this line with the plane of shadow upon the second diagram gives the situation of the bullet from a cross-section view of the leg. For purposes of greater clearness, outlines of the leg have

been shown in the two diagrams, although this is unnecessary in practice, since the position of the foreign body in respect to a known point upon the integument is all that is required. The position of the bullet was shown to be 1 inch toward the inner side of the spot on the skin at which one of the indicator-balls rested, 1¼ inches below this spot, toward the ankle, and imbedded in the tissues to the depth of 1½ inches. Both skiagraphs show the bullet close to the bone, but, owing to the false projection, so common in all x-ray pictures, it is impossible to say whether the bullet was imbedded in the bone or not.

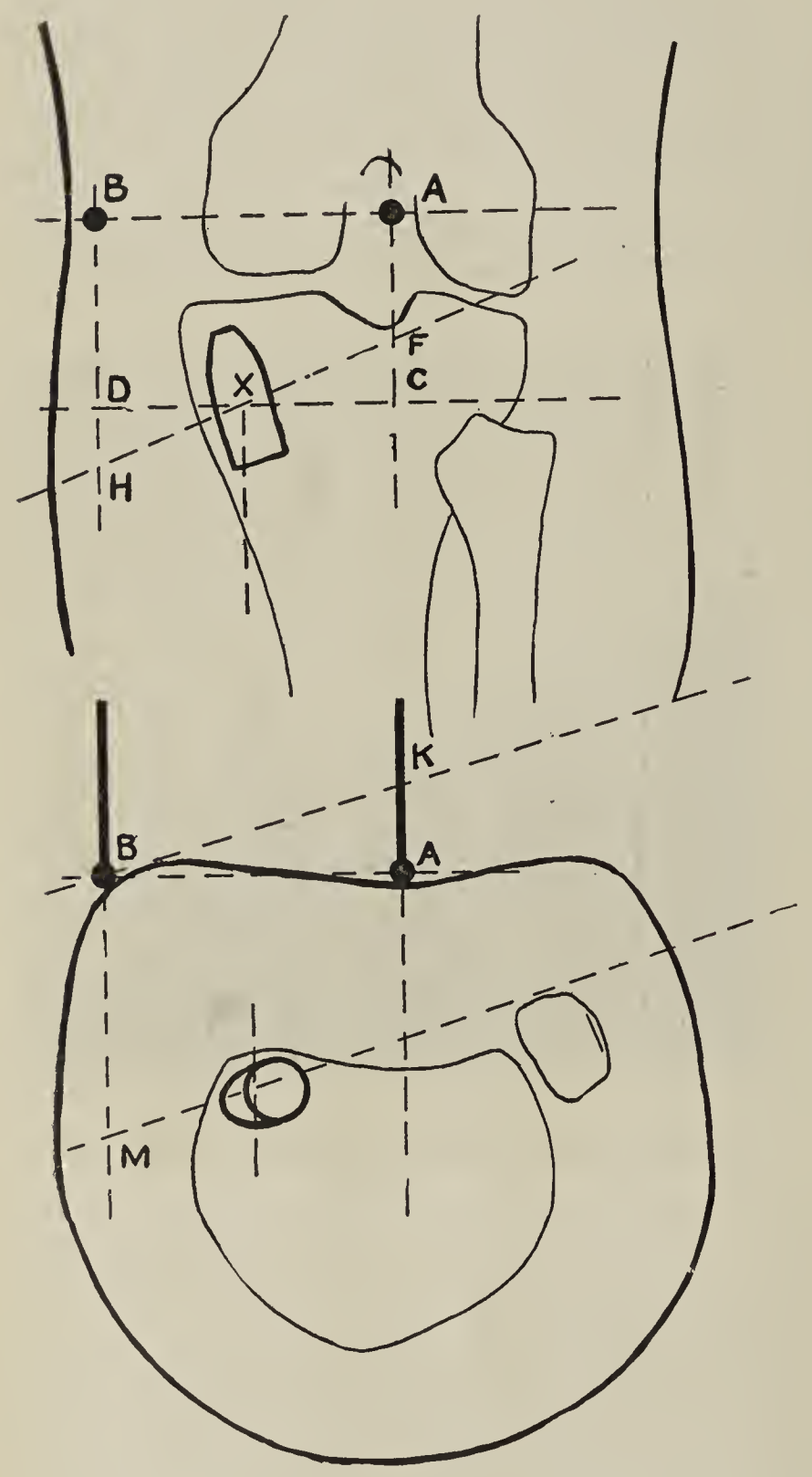


FIG. 5.—Method of indicating location of bullet. Upper diagram, posterior view of leg from above. Lower diagram, cross-section of leg, near knee-joint.

Nothing seemed easier than to cut down at a point so exactly indicated and, by introducing the finger, to detect the bullet at once and remove it with ease. On November 1 in the clinic I proceeded to operate. An incision four inches long was made over the spot indicated, but on introducing my finger no trace of such a projectile could be found on the posterior surface of the tibia. I cut down to the bone itself at 3 adjacent points and by means of retractors was able to look at its posterior surface very clearly, but no bullet was to be seen. I then explored the posterior surface of the tibia, passing my finger between the popliteal vessels and the bone, all the way to the external border of the tibia and still could not find it. After considerable search I again returned to the original place as shown in the skiagraph. The bone was covered at this point by the fibrous insertion of the semimembranous muscle. After incising this I finally came upon the ball *imbedded below the surface of the bone.* With a great deal of difficulty I was able to pry out and remove it. I then found a deep cavity in the bone, the edges of which were so sharp that I gnawed them away with the rongeur forceps. After washing out the wound with salt-solution I closed it by interrupted sutures and placed the leg on a posterior splint. His temperature only once reached 99°. Twelve days after the operation he left the hospital with the wound entirely healed.

Dr. Ames, through whose courtesy I am able to reproduce the picture, in a letter to me states that he made a fluoroscopic examination and that both that and the *x*-ray picture apparently showed the bullet in contact with the tibia and not imbedded in it. The only explanation that I could give for my failure to find the ball readily was that its presence had caused a bony formation which had covered the ball and so apparently imbedded it. Dr. Ames says that "recent bone-formation does not make a shadow upon the screen, and I am unable to say how old the formation must be before obstructing the ray. Brief exposure will show a provisional callus upon a negative, when an overexposure will obliterate the impression of the new formation." He adds: "After reading your letter I again examined the picture and I conclude that the ball is imbedded about an eighth of an inch in the wall of the tibia instead of being in contact with the bone. [The operation showed that the *entire ball* was embedded in the bone. W. W. K.] If this be so there was sufficient injury to the bone to cause new bone-cells to be thrown out, and I think the surface of a new formation might be smooth and in more than seven months could become as hard as you indicated. Another point that I should have stated is that a 'mild' ray will show a new bone-formation upon the screen which will not be shown by an intense ray, *i. e.*, a tube with a high vacuum. I have to my sorrow learned that the ray has many tricks and we cannot always believe what we see, or rather fail to see, and a picture, to tell the truth, must have the plate, the object to be photographed, and the tube in proper relation during the exposure."

This case is, I think, particularly valuable both as showing, by means of Dr. Sweet's apparatus, how accurately a foreign body can be located, and again how cautious we should be in interpreting what is apparently a perfectly plain case. We have yet to learn

the errors into which we may be led by the x-rays, especially in cases in which medico-legal proceedings may be instituted and very unwise inferences drawn from what looks like a perfectly clear case.

Case 2.—A. D. S., 31 years of age, entered the Jefferson Medical College Hospital October 19, 1899, at the instance of Dr. Reynolds, of Reynoldsville, Pa. Nothing of importance is elicited by his family or personal history until September 23, 1893. While lifting a heavy weight of coal he was suddenly seized with sharp pain in the epigastrium and beneath the lower and of the sternum. The pain was so severe that he had to quit work. The following day he felt a tickling sensation low down in his throat which caused violent coughing. In a few minutes he began to expectorate blood. In the evening he vomited what he describes as pure blood. The following day the vomiting occurred again, when about 3 pints of blood were lost. For the next three days he was very sore across the abdomen and was not able to return to his work for a period of nearly 5 months. In December, 1894, he began to experience a sensation as if his food stopped somewhere in the esophagus. In order completely to swallow an ordinary meal he was obliged to drink about a pint of water. As a rule, this water was at once vomited.

On admission, I found that when he drank about a pint of water sudden and increasing dyspnea set in until finally he was scarcely able to breathe. At the same time the veins in his neck became exceedingly prominent, the superficial veins when distended being nearly as large as the fore finger; the entire neck and face became deeply congested and in violent attacks it seemed almost as though he would choke to death. On the right side of the neck in the region of the lower end of the sterno-cleido-mastoid there was noticed a distinct swelling which extended nearly up to the cricoid. The neck on the right side was much more firm and resistant than on the left. By an effort he was able immediately to regurgitate the fluid, when all these phenomena of swelling, dyspnea and congestion disappeared. A stomach-tube was introduced many times into his stomach and never met with the slightest obstacle. The following experiment was then tried repeatedly and always with the same result. Through the stomach-tube from half a pint to a pint of milk was introduced into the stomach. The stomach-tube was then removed and he drank a pint of clear water. This water he readily regurgitated entirely unmixed with any milk. The amount of water regurgitated was somewhat less than the amount which had been swallowed.

When he entered the hospital it was with a diagnosis of a diverticulum of the esophagus. I made repeated attempts by means of the finger, esophageal probangs, catheters coudés, bent probes, etc., to find the mouth of any diverticulum, but was never successful in finding it. Professors Hearn and DaCosta, of the Hospital, Dr. Mayo, of Rochester, Minn., and Dr. Ochsner of Chicago, Ill., who were visitors at the time, made similar attempts and were similarly unsuccessful.

Dr. S. J. McGhee, to whose very intelligent care and interest I owe very much, on different occasions introduced the stomach-tube 10, 15, 20 cm. and so on, increasing the depth of its introduction each time by 5 cm. until 50 cm. of the tube was introduced. A measured quantity of water was then poured down the tube and the same amount of water was regurgitated. At 55 cm. no regurgitation took place.

In order to determine the possible existence of a diverticulum the patient was skiagraphed by Prof. A. W. Goodspeed on several occasions. Instead of swallowing plain water, a mucilaginous mixture in which were suspended from 4 to 6 drams of bismuth was swallowed and a skiagraph taken immediately. Unfortunately the dyspnea and other urgent symptoms prevented his retaining the bismuth a sufficient time to make any prolonged exposure to the *x*-ray. I was very desirous of tracing the esophagus at the same time. The rubber stomach-tube was found to be transparent to the *x*-rays, as also was the whalebone handle of an esophageal probang. Upon the suggestion of Messrs. Queen & Co., of this city, Dr. McGhee wound a copper wire spirally around a brass rod of the diameter of a lead pencil. On introducing this long spiral of copper wire into a rubber tube, but without allowing the end of the wire to project beyond the end of the tube, we had a protected flexible bougie of metal which would be impermeable to the *x*-rays. On another occasion, following the suggestion of Dr. C. L. Leonard, a number of large perforated shot were strung securely on a silk string and this was passed down into the esophagus. The pictures of the neck and chest were not quite as satisfactory as could be desired, in consequence of the short exposure, but certain things were perfectly well seen. In one picture (Fig. 6) the covered spiral wire was distinctly to the right of the median line of the chest. On the contrary, the string of shot (Fig. 7) showed distinctly to the left of the median line. This might be due either to displacement of the esophagus to right or left by pressure, or by the weight of the foreign body, or it might be due to a dilatation of the esophagus which allowed such a foreign body to be displaced to the right or the left of the median line. The dark

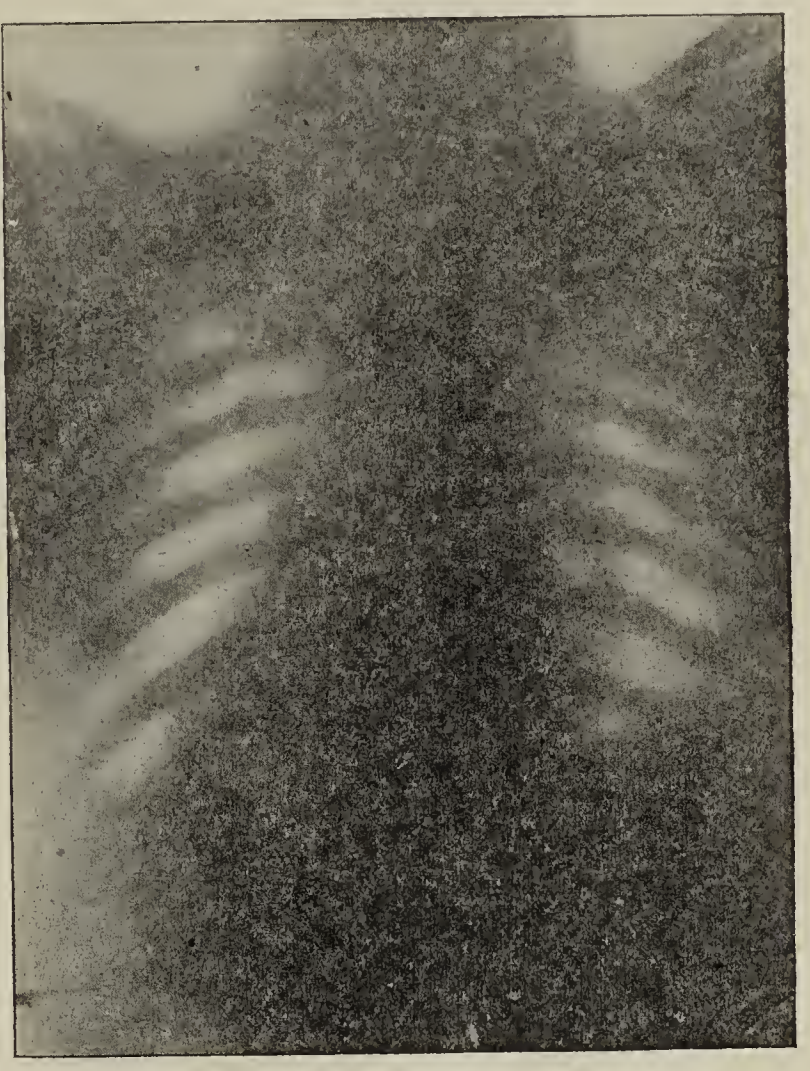


Fig. 6.—Spiral wire in esophagus. (Skiagraphed by Prof. A W. Goodspeed.

area in the middle of the skiagraph, when the bismuth was introduced, was certainly larger and, especially, wider than in a normal chest. This was partially due to the shadow of the heart. A fluoroscopic examination was then made, not from before backward through the sternum and vertebræ, but from side to side, when only the ribs would obstruct the rays. The perforated shot on the silk string were then introduced, and the shot could be seen by the fluoroscope piled up just above the opening in the diaphragm.

While there have been some few cases of a diverticulum of the esophagus observed in its thoracic portion, this is extremely rare. Diverticulums almost always open from the cervical portion of the esophagus and more commonly on the left side. The swelling on the

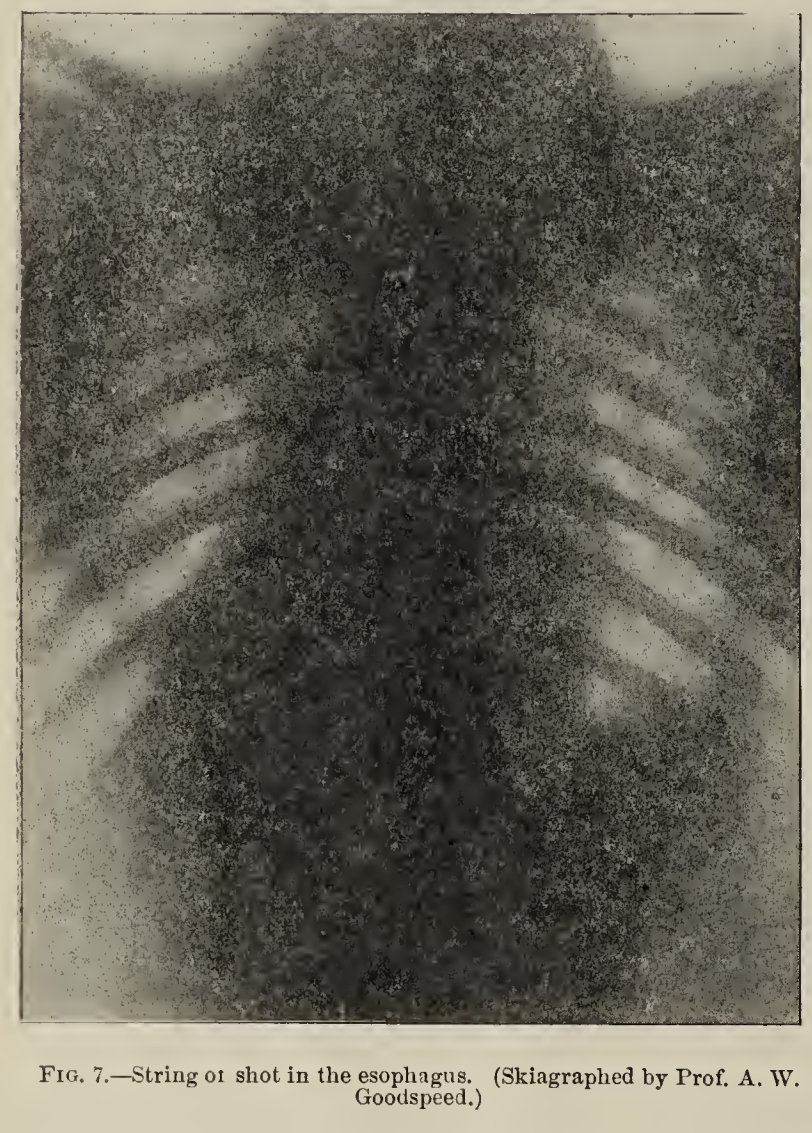


FIG. 7.—String of shot in the esophagus. (Skiagraphed by Prof. A. W. Goodspeed.)

right side and the obstruction to breathing and to the return of the blood-current seemed very much in favor of a diverticulum. This would produce the swelling in the lower right neck, would possibly either displace or press upon the trachea sufficiently to produce the dyspnea, and if it reached the thoracic cavity might press on either the superior vena cava or the two innominate veins which unite to form the cava and so account for all these phenomena.

The absence of any obstacle to the introduction of the stomach-tube seemed also to favor the idea that the water retained entirely apart from the milk in the stomach must be in a diverticulum, though the amount of water (a pint) was more than could be retained in any diverticulum with which I was acquainted. On the other hand it would be possible for a very much dilated esophagus to hold a pint of fluid, and if water reached the level of the upper portion of the esophagus it might produce all the phenomena which have been related.

In order to determine with absolute certainty whether or not there was any diverticulum, on November 22, 1899, I explored the neck by a long incision at the anterior border of the sterno-cleido-mastoid. I avoided the vessels, found the esophagus and the trachea and the recurrent laryngeal nerve, introduced by the mouth, an esophageal probang, the bulb of which was most plainly seen and felt in the wound, but no diverticulum could be found. The wound was then closed and the patient made an uninterrupted recovery, the wound being entirely well within a week. For two days he was scarcely able to swallow anything on account of the soreness of the esophagus, but on the third, fourth, and fifth days after the operation he was able to swallow with perfect ease. On the sixth day he again experienced difficulty in swallowing and this has continued to some extent, though by no means so marked as formerly, up to the present date, December 7, when he was transferred to Professor Dercum's care in the nervous ward.

My final diagnosis was that he had a nervous spasm of the esophagus just above where it passes through the diaphragm, and that all of the phenomena were to be accounted for upon this basis. Professor Dercum was not able to find the stigmata or the reversal of color fields, which so often accompany hysterical cases.

THE SKIAMETER.

BY A. W. CRANE, M.D.,
of Kalamazoo, Mich.,
Member of the Röntgen Society, London.

DIAGNOSIS is becoming less a matter of personal intuition and more a matter of scientific deduction. This change is taking place as instrumental means of examination are becoming more numerous and perfect.

The region of the body which illustrates this fact most fully and clearly is the chest. No more brilliant chapter in the history of medical diagnosis can be written than that which traces the development of percussion, auscultation, and the microscopic examination of the sputum. But this chapter is not ended. We must add the x-ray. To see a shadow-image of a consolidation, a cavity, or an effusion; to follow the rise and fall of the diaphragm, and to trace with the eye the outlines of the heart—what would Laennec have said to a prophecy of this!

As might be expected, however, skiagraphy of the chest is not yet a perfect method of examination. Skiagraphic plates are for many reasons impracticable in general daily work. A satisfactory x-ray examination

of the chest requires repeated views from many different points. The use of large plates to take in the whole of the thorax does not remove this necessity, because the x-rays, diverging from a single spot, leave much of the picture unsatisfactory. Not more than one-third of one lung can be properly skiagraphed upon one plate. Particularly in measuring the movements of the diaphragm, the Crookes tube should be placed on a level with that organ. The exposure and development of the necessary dry plates, and especially of large ones, would involve an expenditure of time, trouble, and money out of all proportion to the value of the results. Moreover, the movement of the ribs, diaphragm, and lung-tissue, and the changes in lung-density, during respiration, are not only entirely lost, but blur the picture.

For these reasons the fluoroscopic examination is indisputably the best. It may be made rapidly and over every area of the chest, front and back. The respiratory movements which are of preeminent importance no longer blur the picture, but may be observed in detail. Comparison of the two sides and of different areas of the same lung becomes easy. The entire fluoroscopic examination may be made in ten minutes.

But the fluoroscopic examination is open to certain objections. The personal equation yields a highly uncertain and variable product. There are no standards or "constants." No general method of recording fluoroscopic results is in use. The graphic method of shading in an outline drawing has its good points, but when such a record has been made, it is open to the same objection as the skiagraph, without the unimpeachable accuracy of the latter. Small differences cannot be thus represented unless the drawing is nearly or quite full size. Furthermore, the graphic record is not adapted to literary purposes. No author could present even 40 or 50 cases in this wise.

What is needed is a uniform method whereby we may accurately measure and compactly record the density, size, shape, and movements of the fluoroscopic shadows which denote infiltrations, consolidations, cavities, effusions, and the diaphragm.

This end may, I believe, be attained by the use of an instrument which I have called the skiameter and first described in the essay, "Skiascopy of the Respiratory Organs," published in the Philadelphia Monthly Medical Journal, March, 1899.

This instrument is simple, both in construction and principle. (See Fig. 1.) It is made by fastening strips of tinfoil upon strong cloth-covered pasteboard. Six strips are laid down side by side parallel with each other, and separated by equal spaces. Each strip and each space is 1 cm. wide and 25 cm. long. The first strip is one layer of tinfoil, the second strip is 2 layers, the third strip 3 layers, the fourth 4, the fifth 5, and the sixth strip 1 layer. One cm. below the sixth strip and parallel to it is fixed a metal rod the size of a large knitting needle. In each strip four holes are cut equal distances apart. The holes range in size from 1 mm. to 4 mm. square, and are arranged in like order in each strip. The right end of each strip is deeply notched, and wire figures 2, 4, 6, 8 and 10, are fixed in each interspace near the notches. A glance at Fig. 1 makes plain this description. It is seen that we have an instrument made up of 6 notched and perforated bars of tinfoil, one metallic rod, and 6 equal interspaces. A piece of thin cloth is now pasted over the front of this instrument for its protection. A handle should be added, as shown in Fig. 1, and the instrument is completed.

If now the skiameter is examined before the x-rays by holding it against the screen of the fluoroscope, we see that we have a series of partial shadows of graduated densities. The tinfoil strip of 2 layers throws a heavier

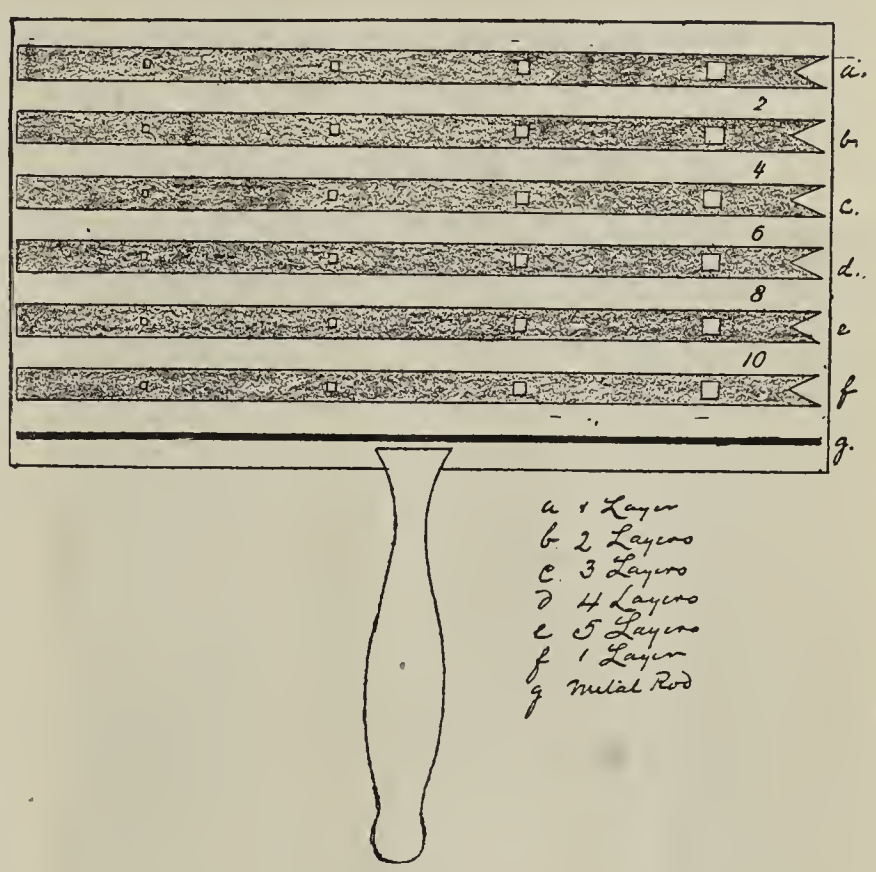


Fig. 1.

shadow upon the screen than the strip of 1 layer. Likewise, the strip of 5 layers throws a heavier shadow than the strip of 4 layers. These are partial shadows, because they do not entirely cut off the x-radiance. A knife-blade, for example, will cast a shadow upon the screen through any of the tinfoil bars, but not through the metal rod below the tinfoil, because the latter throws an absolute shadow.

If a layer of tinfoil is interposed between the skiameter and the fluoroscope the smallest hole in the first bar becomes indistinguishable. If 10 layers of the foil be interposed the entire first bar becomes obliterated. If 15 layers be interposed, the fifth bar is blotted out and only the metal rods can be discerned.

The obscuration of one partial shadow by another deeper one is a phenomenon which may be illustrated by the use of paraffin-paper and daylight. A piece of ground glass may be used in imitation of the fluoro-

scopic screen. If a piece of paraffin-paper is folded so it will present bars of from 1 to 32 layers, and is interposed between the light and the ground-glass screen, the 32 layers will of course cast a heavier shadow than the single layer. These shadow-effects should be observed upon the side of the ground glass opposite to the paraffin-paper. None of these folds will entirely cut off the light. That is to say, they cast partial shadows upon the ground glass. If now some object, such as a knitting needle, which will cast an absolute shadow, be placed between the light and the paraffin-paper, its shadow may be seen through the partial shadows, but with a lessening distinctness as the shadows become deeper. By substituting for the knitting needle some translucent substance, such as a strip of paraffin-paper, we find that its partial shadow, while it reinforces the partial shadow of the few layers, becomes indistinct and finally indiscernible across a sufficient number of layers. The diffusion and diffraction of daylight interferes somewhat with this demonstration, so that the paraffin-paper and ground-glass screen cannot be held very far apart. But x-rays suffer no appreciable refrac-

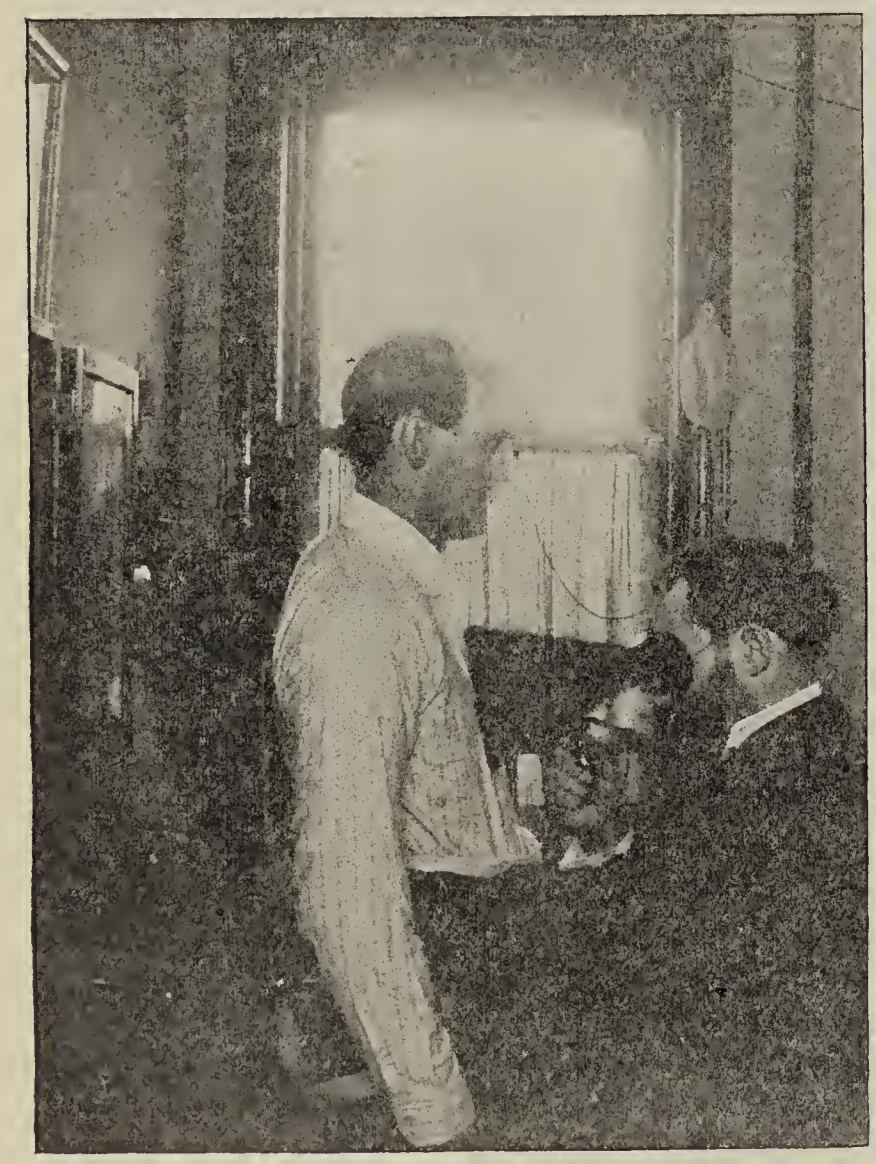


FIG. 2.—The skiameter.

tion, reflection or diffraction, and are therefore singularly adapted to this method of shadow mensuration.

It may be stated as a principle that when successively weaker partial shadows are superimposed upon any given partial shadow, a point may be reached where, to the eye, the weaker partial shadow is obliterated. When the given shadow and the superimposed shadow are of equal density the latter is reinforced at the same time that its outline is less distinct. But this reinforcement fades toward infinity as the difference in the density of the two shadows is made larger and larger. The limit of an absolute shadow must not be reached. (This

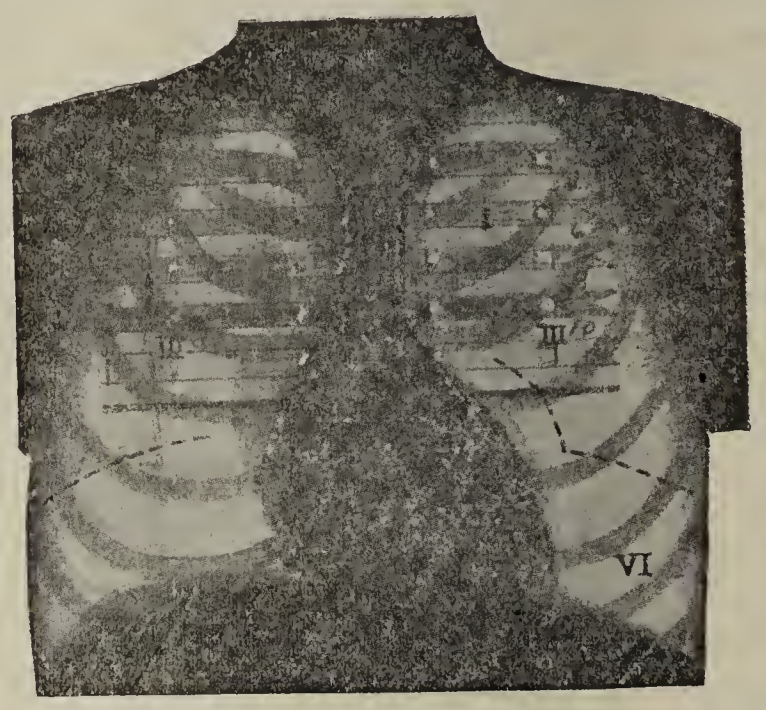


FIG. 3.—View obtained by passing the fluoroscope over the front of the chest while the skiameter is held against the back. The skiameter is seen through the chest.

principle explains why it is so difficult to see a hip-joint, or to secure a clear skiagraph of one. The shadows of dense tissues are superimposed upon the shadows of the bones, which thus are often nearly obliterated.)

We have herein a method of measuring the density of any given partial shadow by ascertaining how strong a known partial shadow it will obliterate. In the skiameter we have a series of partial shadows of known density. To measure any given pulmonary shadow, the patient is placed standing before an active Crookes tube. The fluoroscope is held against the chest as usual, while the skiameter is held against the opposite side of the body. The accompanying illustration, Fig. 2, shows the proper position of tube, skiameter, patient, fluoroscope, and examiner. The shadows of the skiametric bars are thus made to fall through the thorax upon the fluorescent screen. They are thus superimposed upon the chest shadows. (See Fig. 3.) The weakest bar and smallest hole discernible are noted. The two sides of the chest are compared. The skiameter should be passed over the thorax in every position. If it is kept slightly moving to and fro a closer reading may be made because the eye will perceive and appreciate a moving shadow better than a stationary one. The holes along the single strip are of great assistance. An infiltration which would escape the unaided eye may thus be observed and measured. The sixth single strip lying between the metal rod and the strip of five layers is in a position to facilitate comparison. In practice it is found to be the most useful bar of the skiameter.

The tinfoil bar of one layer is designed as the unit of measure. If over any given thoracic area the examiner finds that the shadow of this bar is indistinguishable, while the shadow and holes of the next heavier bar can be seen, he has encountered a chest-shadow of one degree. If the shadow which will obscure a single strip of tinfoil be taken as 1°, then the smallest hole in this strip may be taken as 0.2°, the next 0.4°, the next 0.6°, and the largest 0.8°. The strip of two layers is then 2° and so on. If a chest-shadow is found so dense that the shadow of the metal bar cannot be distinguished through it, then we have an absolute shadow.

This scale, like every other scale of measurement, is arbitrary. Some scale should be adopted, and universally used. If we use this scale, which I suggested in a former essay, then we may take a further step and define some commonly employed x-ray terms. A light reflex may be taken to mean an illumination of the screen, such that the smallest hole in the single layer of the skiameter is distinguishable. A bright reflex is an illumination appreciably brighter than the light reflex, which always adjoins or surrounds it. A light shadow ranges from 1° to 2° inclusive on the skiameter scale. A dark shadow is one of over 2° but less than 5°, and a black shadow ranges from 5° upward. A black shadow may be further measured by observing it with a skiameter placed immediately against the screen.

The boundaries of shadows can be more clearly designated by the use of the skiameter than without it. This is because superimposed shadows reinforce each other, if their densities are not too greatly at variance. The shadows of the bars should run at right angles to the border under examination. The eye can appreciate the difference in the skiametric shadows where they overlap the chest-shadow more clearly than it can the difference between the chest-shadows in disease, and the normal lung-shadow. For this reason the skiameter is of real practical service in the general detection of pulmonary shadows without an effort at mensuration. The two sides or parts of the same side may thus be rapidly compared.

In the absence of a tinfoil skiameter certain anatomic conditions may be utilized. When the patient is facing the examiner, the ribs at the back form a natural grating of partial shadows. The shoulder-blades throw fainter shadows, which are more easily obscured. Furthermore, the hand may be passed over the back in the place of the skiameter. The fingers form the bars, of which the flesh gives the fainter and the bones the stronger shadow.

It is obvious, other things being equal, that the ability of any given examiner to distinguish the shadows of the skiameter will depend upon his visual acuity. The results obtained by different observers therefore would vary. This difficulty may be overcome, practically, by the use of different grades of tinfoil, and by changing the size of the holes along the bars. Each skiascopist should make his own skiameter. It is simple. There are three grades of tinfoil, the ordinary, the tobacco, and the pure tinfoil. (Ordinary foil varies from 2,500 to 2,800 square inches to the pound. Tobacco foil varies from 1,800 to 2,600 inches to the pound.) Pure tinfoil varies from 6,000 to 7,000 square inches to the pound. He should select a grade of foil, such that the shadow of a single strip will be barely but plainly discernible just above the diaphragm during inspiration through a heavy man's chest of 9 inches thickness. Then he should cut four square holes, equidistant along the bars, of such size that the second largest in the single strip can barely be distinguished under the conditions just mentioned. It should then be seen during inspiration, but not in expiration. If the medium grade of tinfoil be used, the smallest hole should be indistinguishable through the shadow of one layer of foil.

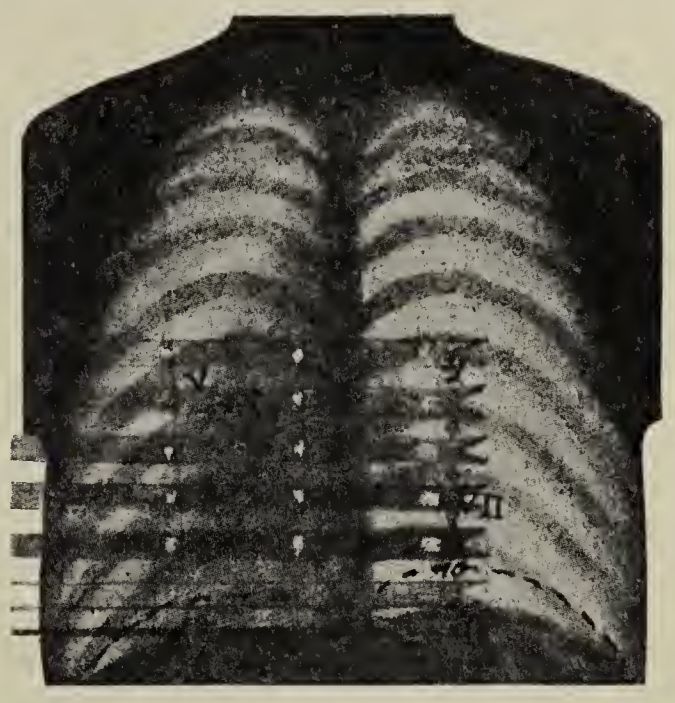


FIG. 4.—View obtained by passing the fluoroscope over the back of the chest immediately against the skiameter. This is the position for measuring the movements of the diaphragm.

Whether or not the tube is yielding exactly the same quantity and quality of x-rays in each examination by the skiameter is immaterial, because both skiametric and chest shadows are partial shadows, and diminish or increase proportionately. The same explanation applies to differences in the distances of the patient from the tube. Differences in the distance between fluoroscope and skiameter necessitated by differences in the thickness of the thoraces introduce an error which is, however, of trifling importance. It depends on the fact that the greater the distance between the skiameter and the screen, the greater is the magnification of the skiametric shadows and the more diffuse and indefinite their outlines. This trifle could be eliminated by having always a constant distance between skiameter and fluoroscope, as great as the thickest thorax to be examiued.

It is desirable to have the tube running with a constant current and a constant spark-gap, and to have

the patient so placed that there is maintained a constant distance between the tube and the fluoroscopic screen. Our power to examine the chest depends upon the strength of the current. This fact is of great importance in the use of the skiameter. If we use a tube of high vacuum and great penetration, the rays may fail to cast visible lung-shadows, and even the images of the ribs may become faint in the brilliant fluorescence of the screen. But if we use a tube of low vacuum, as represented by a 2 to 4 inch spark-gap, and attach it to a coil capable of giving a fat spark of from 8 to 12 inches, we can then send a heavy current through the tube and obtain strong and abundant x-rays which will cast the shadow of a pulmonary infiltration, or enable the observer to note the difference in lung-density during inspiration and expiration.

SAMPLE CASE-RECORD IN PULMONARY SKIAGRAPHY.

No.	Clinical Data.	Lungs.	Pleural Sac.	Diaphragm. Position in Ordinary Respiration. R.	Diaphragm. Position in Ordinary Respiration. L.	Diaphragm. Motion. Ordinary. R.	Diaphragm. Motion. Ordinary. L.	Diaphragm. Motion. Forced. R.	Diaphragm. Motion. Forced. L.
						cm.	cm.	cm.	cm.
1	Female, colored, age 18, height 5 ft. 5. A. P. diam., 16.5 cm.; pulmonary tuberculosis; 8 months' duration; tubercle-bacilli in sputum.	*Right Side:*—Dark shadow of 3° over whole excepting a large bright reflex in middle third, with indefinite borders. Its shape and size are thus: 8.2 cm. by 3.8 cm. *Left Side:*—Infiltrated and apex shaded to 1°.	No effusion	Not visible except 2 cm. at outer edge.	Upper border of sixth rib.	No motion visible.	1.5	No motion visible.	2.6
2	Male, white, age 24, height 5 ft. 8. A. P. diam., 24 cm.; pulmonary tuberculosis of 3 years' duration; tubercle-bacilli in sputum.	*Right Side:*—Apex a dark shadow of 2 4°. Shadow extends 2 cm. below clavicle. Back view clearest. *Left Side:*—Apex a light shadow of 1°, shading out into normal lung density.	No effusion	Lower border of fifth rib.	Upper border of sixth rib.	1.25	1.5	2.5	3
						Visibility normal. Patient has practised deep breathing.			

The skiameter may be used not only in the measure of density, but also in linear mensuration. Each bar and each interspace is 1 cm. wide. One end of each bar is notched, and wire figures mark each interspace. For use in linear measurements the skiameter is placed immediately against the fluoroscopic screen so that the notched ends of the bars form a centimeter scale running across the middle of the field. The apparent size of pulmonary consolidations, of cavities, of the heart, and the excursions of the diaphragm can thus be conveniently measured. The difference in the position of the diaphragm in ordinary inspiration on the two sides may be measured by placing the skiameter so that the metal bar at the bottom is at right angles to the spinal axis, and so that it marks the position of the lower diaphragm. Then the position of the other side may be read on the scale. (See Fig. 4.)

The distances measured on the fluoroscopic screen with the skiameter are of course apparent, not real distances. Unless in contact with the screen, an object or a space is magnified according to its distance from the tube, and its distance from the fluoroscope. In the case of the thorax, if the fluoroscope were always placed against the chest and at a constant distance from the tube, the apparent distances would do nearly as well for the comparison of cases as the real distances. But we need not be content with apparent distances. It is practicable and easy to calculate the real measurements in every case. (For the details of these calculations see PHILADELPHIA MONTHLY MEDICAL JOURNAL, March, 1899.)

After the skiametric measurements and calculations have been made, how shall the results be most conveniently and compactly recorded? Unless results are to be recorded so as to facilitate the comparison of cases, much of the value attaching to skiametric examinations will remain unrealized. The following form is given in hopes that it will prove adequate to these purposes.

The skiameter is an instrument designed for practical use in the fluoroscopic examination of office and hospital patients suffering from pulmonary diseases. It has no other possible employment. And inasmuch as very few physicians use the x-ray for any purpose, and still fewer use it for pulmonary examinations, the dust of years is likely to settle upon this instrument before its merits are put to proof.

THE X-RAY IN MILITARY SURGERY.

BY N. SENN, M.D., PH.D., LL.D.,
of Chicago, Ill.

Professor of Surgery, Rush Medical College; Chief of the Operating Staff with the Army in the Field during the Spanish-American War.

THE x-ray has fully answered the expectations in military surgery as a diagnostic resource. The limited experience with this diagnostic aid during the Spanish-American war has fully demonstrated its great value in military surgery. It may be relied upon in locating bullets in almost any part of the body, and in ascertaining in doubtful cases the existence, location, and nature of fractures, and in determining the exact loca-

tion of the fragments. All this may be done without pain and without subjecting the wound to additional sources of infection. No ill results followed the exposure in any of the cases. The probe, so constantly relied upon in the past in locating bullets, is an instrument of uncertain diagnostic value, and its use is always attended by more or less risk of infection. So unreliable has been the information furnished by the probe and so deceptive have often been the conclusions based on its use, and so often could infection of the wound be traced to probing, that modern military surgeons have formulated the rule which should never be ignored, *never to probe a recent bullet-wound.*

In recent cases the first-aid dressing should be applied, and any attempt made to locate the bullet postponed until this may be done safely and accurately by the use of the x-ray. All of the bullets removed on board the hospital-ship *Relief* were located by the x-ray. Dr. Gray, an expert in skiagraphy, who had charge of the scientific work of the floating hospital, was of the greatest service to the surgeons in enabling them to locate bullets and in guiding them as to the advisability of undertaking an operation for their removal. If the skiagraph locates the bullet in some inaccessible part of the body, the patient at once escapes the pain and risks of futile attempts to reach and remove it.

Every military hospital and every army in the field should be supplied with a sufficient number of x-ray machines and experts in the work to aid the surgeons in deciding what course to pursue in gunshot wounds where the bullet has become lodged in the body, and to guide them in its removal should the result of the x-ray examination justify such an attempt. The x-ray has succeeded in a few instances in locating bullets in the interior of the skull, but the results in such cases have not been sufficiently uniform to make it entirely reliable. The probe is as objectionable in the examination of a compound fracture as in exploring the track made by a bullet. The x-ray has a great future in this part of military surgery.

During the Spanish-American war the skiagraph enabled us to diagnose the existence or absence of fracture in a large number of doubtful cases in which we had to depend exclusively on this diagnostic resource. In fractures in close proximity to joints it has been of the greatest value in ascertaining whether or not the gunshot-fracture extended into the joint. In one case of gunshot-fracture at the base of the thigh in which the bullet passed in the direction of the trochanteric portion of the femur, opinions were at variance concerning the extent of the injury to the bone. Some of the surgeons made a diagnosis of fracture, while others contended that there was no fracture, but believed that the bullet had made a deep groove in the exterior portion of the bone and had possibly opened the capsule of the joint at the same time. The x-ray clearly demonstrated the absence of a complete fracture and the existence of a deep furrow with numerous fragments on each side.

The x-ray apparatus also proved of the greatest practical utility in showing the displacement of fragments in gunshot-fractures of the long bones, which enabled the surgeons to resort to hasty measures to prevent vicious union. The fluoroscope has greatly enhanced the diagnostic value of skiagraphy in military surgery.

In the light of recent experience the x-ray has become an indispensable diagnostic resource to the military surgeon in active service, and the suggestion that every chief surgeon of every Army Corps should be supplied with a portable apparatus and an expert to use it, must be considered a timely and urgent one.

AN X-RAY DEMONSTRATION OF SOME OF THE EFFECTS OF SHOES AND STOCKINGS UPON THE HUMAN FOOT.

BY H. AUGUSTUS WILSON, A.M., M.D.,
of Philadelphia.
Clinical Professor of Orthopedic Surgery in the Jefferson Medical College; Emeritus Professor of Orthopedic Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine.

I WAS impressed with the apparent foundation for the claims made by a maker of "reform shoes," and the better to test the methods and results, subjected myself to the process, and when the shoes were finished, resorted to the x-ray for accurate demonstration as to their effect upon the feet. The cordial cooperation of Dr. W. M. L. Coplin and the resources of the x-ray laboratory of the Jefferson Medical College Hospital enabled me to produce the accompanying illustrations.

The process of accurate shoe-fitting referred to consisted of making a plaster-of-paris cast of each foot, which, when symmetrically shaved down, was used as a model from which to make a last. Upon lasts so made shoes were modelled which were sold as anatomically correct. The shaving process referred to was the cause of the misfit which resulted. I was told that a shoe constructed upon a last which was the counterpart of the original plaster-of-paris cast would be entirely too large, and therefore the shoemaker shaved off such portions of the cast as in his judgment would make the last suitable for shoes, the leather of which was variously soft and yielding.

The shoes resulting from this supposedly accurate process were soon proved to be impossible, as the uneven pressure and faulty shape made their use painful and they were soon laid aside. Fig. 1 shows the above-described shoe in use, with the distortion of the phalanges, and especially that of the big toe. The action in walking with this shoe would be the final propulsion of the foot from the side and proximal end of the big toe instead of from the distal end, and its continued use would increase that faulty action.

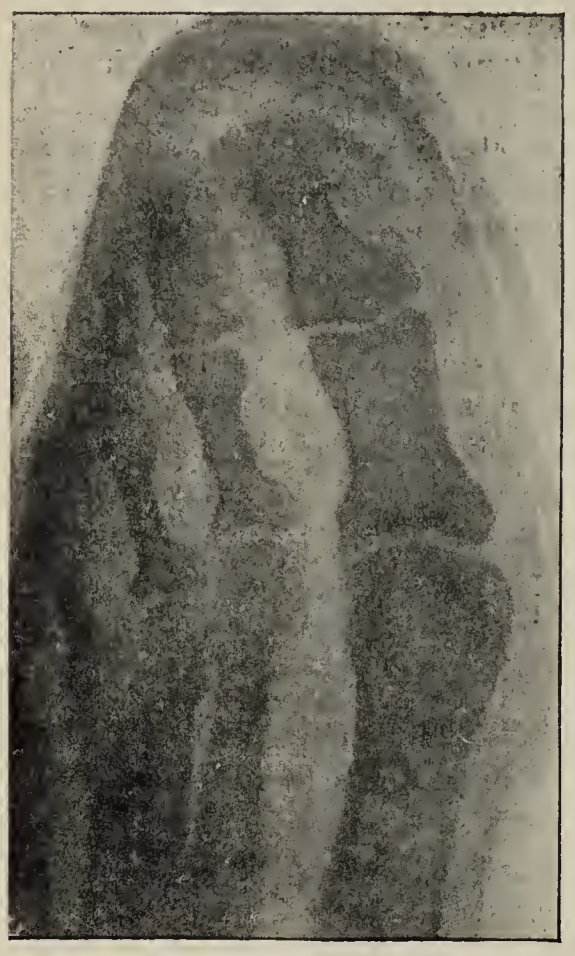


FIG. 1.—Erroneously called Reform shoe. Without stocking.



FIG. 2.—Same foot in extremely broad-toed shoe from India. Without stocking.



FIG. 3.—Same foot in ordinary pointed stocking. Without shoe.

With a desire to demonstrate, at least to my own satisfaction, that the shoe shown in Fig. 1 was the cause of the malposition of the bones, an extremely broad-toed and broad-soled shoe, such as is worn in some parts of India, was put on over the bare foot, and Fig. 2 shows that some considerable change occurred in spreading of the foot at the metatarsal phalangeal joints, as well as a separation of the toes. It is, however clearly demonstrated that much of the erroneous position of the bones of the toes was caused by something besides the shoe shown in Fig 1, and it became apparent that a permanent alteration of the position of the bones and joints had occurred, which, while modified by the nonconstricting India shoe, was still present.

Fig. 3 was taken without shoe, with only the



FIG. 4.—Same foot in broad-toed stocking called waukenhose. Without shoe.



FIG. 5.—Same foot in five-digit stocking. Without shoe.



FIG. 6.—Same foot in single digit stocking. With shoe.



FIG. 7.—Same foot in Japanese stocking. Without shoe.



FIG. 8.—Same foot in Japanese shoe and Japanese stocking.

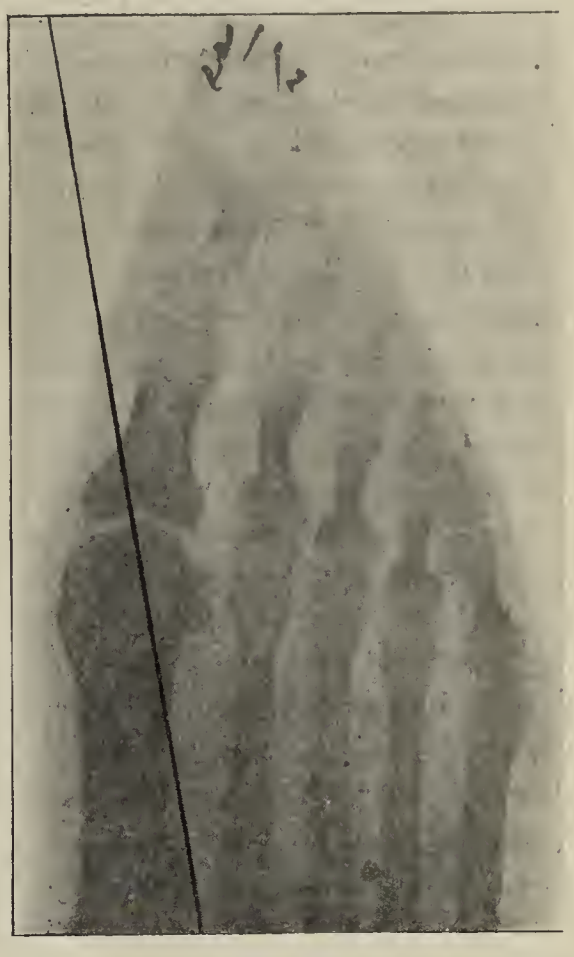


FIG. 9.—A lady's foot in ordinary pointed shoe and pointed stocking. Meyer's line shows the position the big toe should occupy.

usually-worn pointed-toed stocking, and demonstrated the potency of the stocking in producing the pointed-toe deformity characteristically shown. The articular facet of the metatarsophalangeal joint of the big toe is extended inward and the big toe therefore pointed outward, and both the little toe and the one next to it are curved inward and downward, in which position they are held by the pointed-toed stocking.

Meyer, of Zurich, first directed attention to the fact that in a normal human foot a line drawn from the center of the os calcis through the center of the metatarsophalangeal joint of the great toe, would pass through the center of the distal phalanx of that toe; and further, that a line through the center of each one of the toes should converge at the same point. This line has ever since been called Meyer's line and possesses great value



FIG. 10.—Same foot as in Fig. 9. Without shoe and stocking. Greater spread of toes is shown, and Meyer's line shows improved position of the great toe.



FIG. 11.—Another lady's foot with pointed shoe and pointed stocking. Also with French heel 2½ inches high.



FIG. 12.—Same foot as in Fig. 11. Without shoe and stocking.

in comparing the positions that feet assume with those that are normal in construction and function.

Contrast with Fig. 3 is shown when, instead of a pointed-toed stocking, a broad-toed one called the waukenhose is used (Fig. 4). The greater space between the bones as well as their more correct relative positions shows that stockings in themselves are deforming factors.

Stockings are made with separate receptacles for each toe just like gloves for the fingers, and when one of these five-digit stockings was used the x-ray (Fig. 5) showed that it produced an improved position, in marked contrast to the pointed stocking.

The single digit stocking made like the mitten (Fig. 6) shows that the absence of constriction by its use resulted in almost as good relative positions as the five digit and was even better than the waukenhose.

The Japanese stocking is in shape a single-digit stocking. It is usually made of linen and is quite stiff, therefore unyielding, causing the toes to conform to it rather than the converse as shown in Fig. 7. When the foot was encased in a Japanese stocking and also a Japanese sandal, the enormous separation of the big toe from its fellows was apparent as shown in Fig. 8. This was far more marked in this foot, unaccustomed to its use, than has ever been observed in the many Japanese feet that the writer has had opportunity of studying. The general shape, contour and action of the Japanese foot conforms more accurately with the high standards than any shoe-wearing people with whose feet I am familiar. I believe this is largely because of the absence of constriction at all times, the great muscular development made necessary by the use of sandals, and the hereditary tendencies. It has been observed that the use of "shoes of civilization," the leather casings with which we are familiar, soon produces such changes in muscular functions and joint-functions as makes the skilful use of sandals very difficult.

In confirmation of the changes produced by shoes and stockings illustrated by the foregoing skiagraphs, a lady's foot is shown in Fig. 9 with the pointed-toed stocking and pointed-toed shoe, and the same foot without any covering in Fig. 10. The alterations in the positions and therefore the functions of the parts are so apparent that description is unnecessary.

For the sake of further assurance another lady's foot under exactly similar conditions (Figs. 11 and 12) showed just the same deformities with the shoes and stockings on, and the comparative freedom therefrom when the foot was bare. Both of these ladies had from early childhood worn tight and pointed shoes with high heels and were spoken of as having very small and beautiful feet. It may be paradoxical, but the fact is apparent in Figs. 10 and 12, that both of these ladies had feet remarkably free from deformities when bare other than the slight divergence of the toes, which we have learned to regard as common, while the standard normal foot is most difficult to find among shoe-wearers.

In all the skiagraphs the position of the foot was that of standing, so as to observe the active position of the foot rather than that of rest. Ellis[1] describes the position of rest as that in which there is the least tension and the least pressure, and to which the foot naturally tends in repose, and which is instinctively sought in pain.

Ellis, in his brochure on "The Human Foot," urges the importance of the flexor longis pollicis in walking and in arising to tiptoes, to which he first called attention in 1874, as follows: "The long flexor of the great toe (1) braces up the arch at the same time that the tibialis posticus (2) turns up the inner margin of the foot, and the calf-muscle (3) lifts up the heel."

It is therefore important that the great toe should be maintained in the correct position, according to Meyer, otherwise action would be materially altered. In walking with the feet turned out, the tendency is to still further evert the great toe, thereby increasing the prominence of the bunion-joint. The powerful propulsion of the great toe is conspicuous in the footprints of the American Indians, and is often seen in trained athletes, by whom the feet are used parallel to each other rather than everted.

The careful study of the facets of the tarsal and metatarsal articulations has been made to observe the range of possible motion,[2] and emphasizes the importance of correct posture of the toes for their best use.

Bradford[3] observes that little or no separation of the toes takes place when distortion of the great toe has occurred and the bones necessarily are altered in shape. This is in marked contrast to the action of the normal foot, and shows the deforming tendency of modern shoes and stockings.

Bradford, in "The Human Foot in Art,"[4] speaks of "a mummy in the Museum of the Louvre, illustrating the care with which the straightness of the toes was preserved. Each toe, including the fifth, was separately wrapped. In the British Museum, an unwrapped mummy of an Egyptian official of the eleventh dynasty shows the straight first toe seen in the statues of the Egyptian type."

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[1] The Position of Rest in Fatigue and in Pain, *British Medical Journal*, 1878, Vol. I.

[2] Voûte Plantaire, *Thèse de Paris*, Achille Jeanne, 1897.

[3] The Flexibility of the Human Foot, Transactions American Orthopedic Association, 1898, p. 425.

[4] Transactions American Orthopedic Association, 1897, p. 149.

The Action of Röntgen-Rays on the Growth of Bacteria.—Wolfenden and Forbes-Ross (*Archives of the Röntgen-Ray*, August, 1898). Six culture-tubes of the normal growth of the Bacillus prodigiosus were allowed to incubate After 5 days' growth fresh cultures were made and all were exposed to the x-rays for an hour. Control-cultures were also kept. The difference in growth between the tubes which had been exposed to the x-rays and the control-tube was very great, showing that undoubtedly the action of the x ray tube had been decidedly stimulative. Up to the fifth generation the result of exposure for an hour to the x-rays was to produce an exuberant growth. [M.B.T.]

PRACTICAL POINTS IN THE USE OF THE X-RAY.

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The differences in the results obtained by various x-ray operators, from machines identical in construction, prove that the possession of an apparatus is not the only requirement for successful and satisfactory



Fig. 1.—Weigel tube-holder, for centering tube over any part of patient lying on table. Vertical, lateral, and horizontal adjustment.

work. It can readily be understood that however perfect a machine may be mechanically, it is an inert force until some power sets it in motion, and that even then it must be controlled and regulated. A machine is of no value unless it is properly manipulated, and it is this manipulation that enables it to do its work. As has been well said, "The best machine does the best work in the best hands," which means simply that intelligence, judgment, and experience are the important factors in bringing about results. This is essentially true in the use of the apparatus that is employed for generating that wonderful power which the discovery of Röntgen has placed in our hands.

Successful radiography involves a thorough knowledge of the apparatus used, of the proper manipulation and adaptation of tubes for special purposes, of the essential principles of photography, and careful attention to all minor details. These qualifications may be acquired by a thorough study of the subject in all its phases, together with a prolonged period of practical experience.

It is, perhaps, a matter of indifference what kind of an apparatus is employed, provided it is sufficiently powerful for the work intended, and the operator is familiar with every detail of its working under all circumstances; for it is well known that mechanical and electrical appliances are subject to erratic behavior at times when least expected. It is not the purpose of this paper to enter into a discussion of the comparative merits of induction coils and static machines. This is a question which each operator must settle for himself. I have had some experience with both, and personally prefer a static machine of large size. Aside from its greater safety, the static machine illuminates the tube with a glow as steady as an incandescent lamp, which is a great advantage in fluoroscopic examinations. For the more difficult work, a ten-plate machine like that of Van Houten and Ten Broeck is none too large. When a street-current is available, the most satisfactory means of running such a machine is a $\frac{1}{4}$ horse-power electric motor, controlled by a suitable rheostat. A smaller size is usually advised, but it is much better to have a surplus of power than to force a motor to its full working capacity.

Given a reliable and efficient apparatus, the next important thing is a tube of sufficient power to penetrate the denser portions of the body. The selection of a tube is a matter of considerable importance, as the success or failure in radiographic work largely depends upon this part of an outfit. As there is such a vast difference in the efficiency of tubes supplied by manufacturers, one must know how to test them. As Monell[1] says: "It constitutes a great economy of time as well as an unspeakable comfort to be able to step from



Fig. 2.—Trunk of infant 7 days old, born with clubhand.

guesswork to certainty in understanding the behavior of a Crookes tube; to know at a glance or by a moment's test whether it is a good tube or a poor one; whether any apparent revolt is acute or chronic; whether it is past remedy or whether it can be quickly recalled out of hopeless aberration and illuminated

[1] New York *Medical Record*, June 26, 1897.

again with the glow of its best estate. When we know at once what is the matter with a refractory tube and how to correct it, we have made a long step toward satisfactory x-ray work."[2]



FIG. 3.—Double clubfoot and dislocation of hip.

NECESSITY FOR ACCURATE WORK.

Inasmuch as a radiograph is essentially a shadow picture, it follows that great care is required to secure a correct, undistorted image. To be of value a radiograph must be thoroughly good and as accurate as it can possibly be made. Extreme accuracy should be the aim of every operator. In my opinion, many of the alleged fallacies of the x-ray may be traced to improper adjustment of apparatus and tube in their relation to the subject. Bearing in mind that the rays proceed practically from a point, it is evident that unless a sufficient distance is maintained between the source of light and the subject on the plate, exaggeration and distortion are unavoidable.

It is also necessary that the rays be projected in a parallel direction and accurately centered over the part. It is comparatively easy to avoid distortion by attention to detail, and without the various mechanical appliances described in the journals. Expensive and complicated appliances for securing accurate cross-sections of the body have a limited field of usefulness in the average daily work, although they may be valuable under certain circumstances for locating foreign bodies. A plumb-rule or plumb bob is simple and useful, and often is all the mechanical aid required.

The various tube-holders furnished with machines hardly permit of a sufficiently wide range of adjustment, particularly when it is necessary to place a patient upon an examination table. In making radiographs of the shoulders, thorax or pelvis it is often difficult to secure equal illumination of the two halves of the body, because the center of the tube falls short of the center of the subject, and cannot be readily placed over the different planes. To overcome these difficulties, the writer has devised the arrangement illustrated in Fig. 1. It consists of two uprights of tubing and a horizontal flat cross-bar, upon which slides a metal block, carrying the wooden tube-holder. One of the uprights is provided with a detachable hard rubber bar to keep the leading wires from contact with the patient. The whole device slides upon two tracks attached to the table, and enables the operator to quickly adjust the tube vertically, laterally and horizontally directly over the subject on the table, regardless of the latter's position. All parts are maintained at right angles to each other by set screws. As the center of the tube corresponds to the center of the horizontal section of the wooden carrier, a plumb line may be dropped from the latter and its center located upon the part under examination. The mechanism may also be reversed and the tube placed under the table for special fluoroscopic examination. It holds the tube securely in all positions, and cannot be accidentally upset.



FIG. 4.—Congenital dislocation of shoulder with birth-palsy of the left arm.

With reference to the space between the tube and plate it may be stated as a general rule, that better

[2] The manner of testing tubes is fully described by Monell in his work on Static Electricity, to which reference may be had.

definition and freedom from distortion are secured by having the distance as great as possible, taking into account the thickness of the part. The object itself,



Fig. 5.—Congenital dislocation of shoulder, anterior view.

however, should be as close to the plate as it can be placed. Inasmuch as the intensity of the light varies inversely as the square of the distance, it follows that the length of exposure necessarily increases with the distance. While it may be desirable in many cases to make short exposures, it is not wise to sacrifice definition and run the risk of accident by placing the tube in close proximity to the subject, especially when exposure beyond a few minutes are required. In practically all of the cases of "burns" on record, it will be found that the tube was placed at a distance that cannot be considered safe. In my own work the distance from the tube to the plate is never less than 18 inches. For the thicker portions of the body a distance of from 20 to 30 inches is advisable, so that the tube is never less than 12 inches from the surface. At these distances, a radiograph of the hand can be made in 30 seconds; of the foot and forearm in from 2 to 3 minutes; and of the thicker and denser parts in about the same ratio. Reducing time of exposure by decreasing the distance is ordinarily of no special moment to the patient, and may expose him to unnecessary risk.

When every precaution to avoid distortion has been taken, the next important desideratum is to obtain a negative showing the greatest amount of detail, and

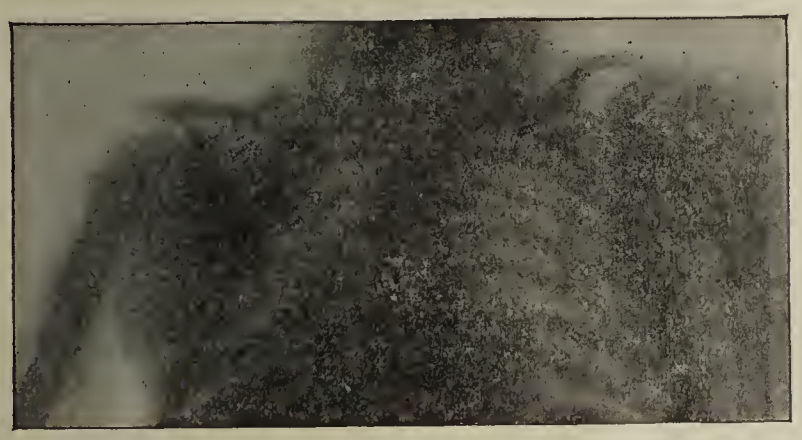


Fig. 6.—Congenital dislocation of shoulder, posterior view.

this implies that the exposure must be sufficiently prolonged to penetrate the densest portion of the part under observation. If the exposure is too short to accomplish this, a mere outline, perhaps, is obtained, which leaves entirely too much to the imagination, and is not the kind of a negative to rely upon for diagnostic purposes in an important case. Aside from lack of detail, a negative may be defective on account of blurred outlines due to movement on the part of the patient while the exposure was being made. This sort of blurring is very confusing, even to an expert, and usually necessitates another exposure. On account of the prolonged exposures necessary for certain parts, it is a difficult matter for patients to remain absolutely motionless, and particularly when they are made to assume unusual and uncomfortable postures. It is, however, quite possible to place them in easy positions by exercising a little thought and ingenuity, and the better results secured thereby certainly compensate for the little extra trouble taken. When comfortably placed, it will be found that a given posture can be maintained for from 15 to 30 minutes, without movement.



Fig. 7.—Congenital absence of radius and thumb.

Some mechanical support, which is simple and inexpensive, is often a great help in preventing movement. I have provided myself with accessory appliances for this purpose, which will be described and illustrated at some future time.

Having obtained a negative satisfactory in technic and detail, it is important to know how to interpret it correctly. It is obvious that one who is not even familiar with the appearance of an ordinary landscape or portrait negative, cannot read an x-ray negative properly and thus may mislead himself and others. A radiograph is of most value to one who understands negatives thoroughly and knows something of normal x-ray anatomy.

There are certain unavoidable chemical and mechanical defects in all photographic plates which produce spots and markings, and unless one is familiar with

them they may be a source of error and be regarded as pathologic conditions. Practical experience in photography is necessary to appreciate these possible sources of error. The above is a very good reason why

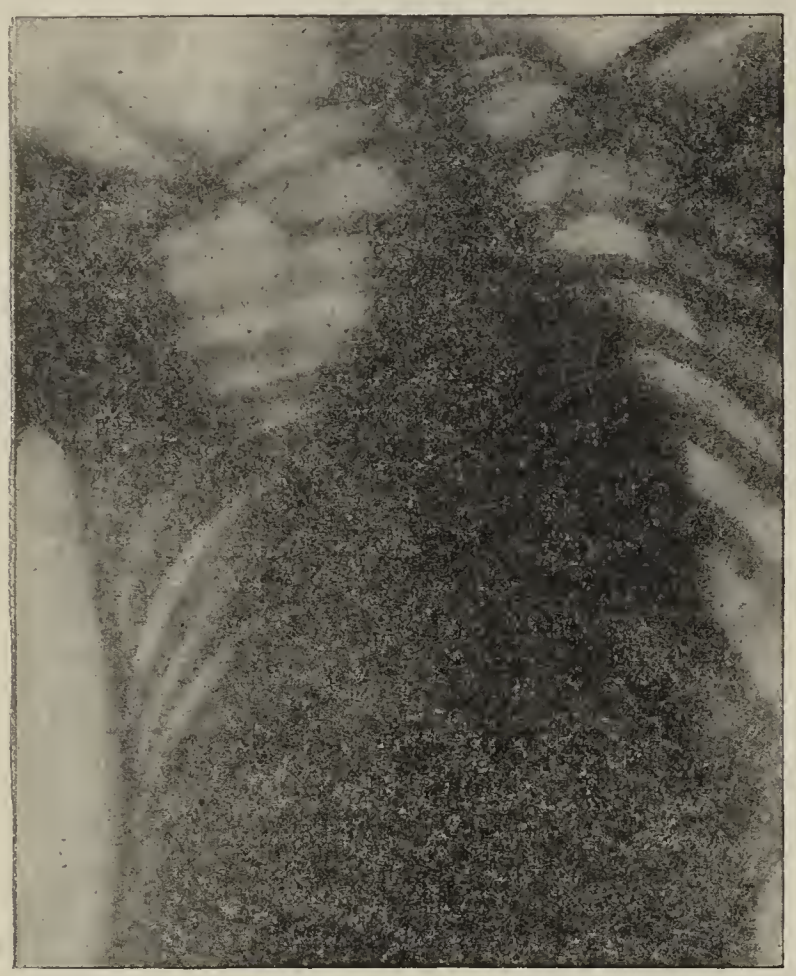


FIG. 8.—Lateral curvature of spine.

every one should learn to develop his own plates, as the average professional photographer knows nothing about anatomic structures and is not competent to interpret an x-ray negative, spots or no spots.

The point of view from which to take a plate also deserves consideration. As already stated, the part under observation should be as close to the plate as possible, because when the object is not in close contact, the rays passing through it are more or less diffused, blurring the outline and magnifying the shadow. Hence the plate, the object, and the tube should be so placed as to give the clearest and best result. In making profiles of the foot, the wrist, the elbow, the knee, etc., the plate may be placed on the inner or outer side of the joint, according to where certain suspected conditions exist. Under these circumstances care must be taken to have the tube at right angles to the plate.

It frequently happens that a plate taken from one position only does not show what may be reasonably expected to exist. In an oblique fracture of one of the long bones, for instance, in which there is little or no displacement in one direction, it is quite possible that it would not show in a radiograph, while another plate taken from a position at right angles to the first one would clearly reveal it. I have several plates to demonstrate this point. In all such cases two plates should be made, and when this is done it may be safely asserted that every fracture is susceptible of being shown in a radiograph. Neglect of this precaution is, no doubt, responsible for the statements made that a fracture or other pathologic condition may exist, and not show on a plate. The operator, and not the x-ray, should be held responsible for the alleged fallacy. As a further aid to prevent error or to clear up any doubt, it is frequently well to make a radiograph of a corresponding normal part of the same subject for comparison. It is not always easy to place a normal extremity in a posture identical with that of an injured or diseased one, but it may, with a little care, be closely approximated.

PHOTOGRAPHY.

It is a well-known fact in astronomic work that a photographic plate reveals many things that are not visible even with a telescope. In x-ray work there is also a striking difference, in the amount of detail, between the image as seen with the fluoroscope and that on an x-ray negative. While under some circumstances an examination with the fluoroscope may be satisfactory, it cannot take the place of a negative. The latter, with its clear detail, fine definition and other qualities, is vastly more reliable and furnishes a means of permanent record. How to secure a negative of the best quality is often a puzzling question, particularly to the beginner in photographic technic. The whole



FIG. 9.—Old gunshot injury of arm, showing shot and wire suture.

subject of exposure and development resolves itself largely into a question of personal experience and judgment. Those who desire to know something of the principles of photography may refer to any of the

textbooks. As there is practically no difference in the technic of development of a plate exposed to the x-ray and one exposed to sunlight, a general knowledge of development is all that is required. The reducing

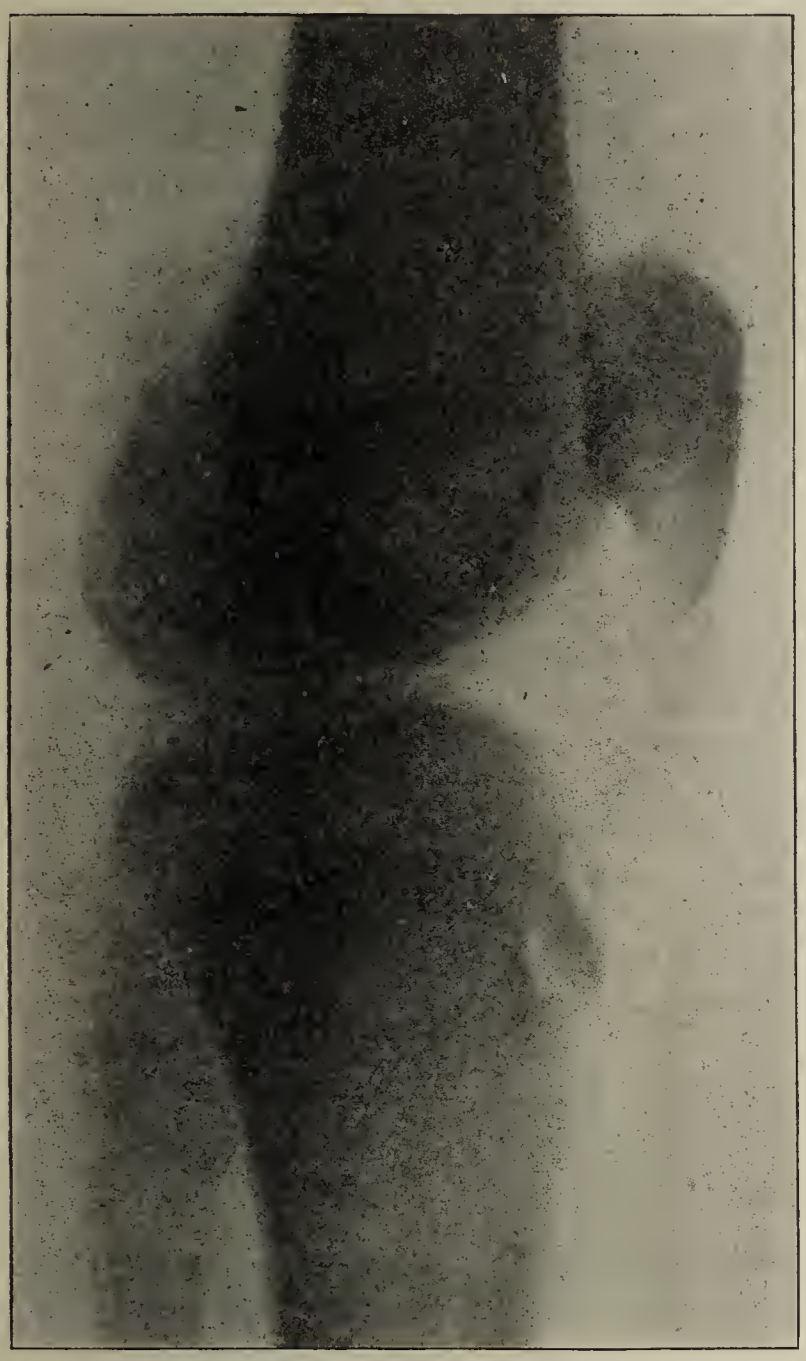


Fig. 10.—Separation of tibial tubercle, ununited four months after injury.

agent and accelerator are the same in either case. Some modification, however, is necessary to secure the desired quality as to detail and strength.

The choice of plates suitable for x-ray work is of some moment. As a rule, it will be found that those having rather a thick coating of emulsion give the best results. The double-coated ones are not especially desirable, as they are more difficult to manipulate and do not give superior results to compensate for the extra trouble. Several of the ordinary commercial plates are suitable and fully as good, if not better, than the so-called special x-ray plates. A plate of medium rapidity is less apt to become foggy and is preferable for other reasons, to the extremely rapid one. The writer, after some experimenting, has settled on the Cramer "Banner" plates, as they furnish crisp, rich negatives, full of detail, and, if properly developed, of excellent printing quality.

In the selection of a developer for this class of work, one should be chosen that gives good density and the proper amount of detail. Among the newer reducing agents, metol and hydrochinion are the best. They do not stain the fingers or the film, but it is rather difficult to secure good printing quality with them. As many negatives, however, are made for examination and record only, and are not intended for printing, there is no objection to their use. There is, however, no developing agent which so readily imparts all the desirable qualities to a negative, as pyrogallic acid. It has the slight disadvantage of staining the fingers and the film if not properly used, but even these objections may be avoided, with a little care. In every box of plates there is a formula for a developer best suited to that particular make, and this should be followed, by the beginner at least. When one has become accustomed to the use of a formula that gives satisfactory results, it should be adhered to and not discarded for another without some good reason.



Fig. 11.—Normal of same subject for comparison.

Every developer consists of three parts, the reducing agent, the accelerator and the restrainer. These are frequently combined in one solution, which is all wrong.

As no two exposures are exactly alike, it follows that no developer that does not admit of modification and control should be used. The so-called one-solution developers are especially unsuited for plates of large

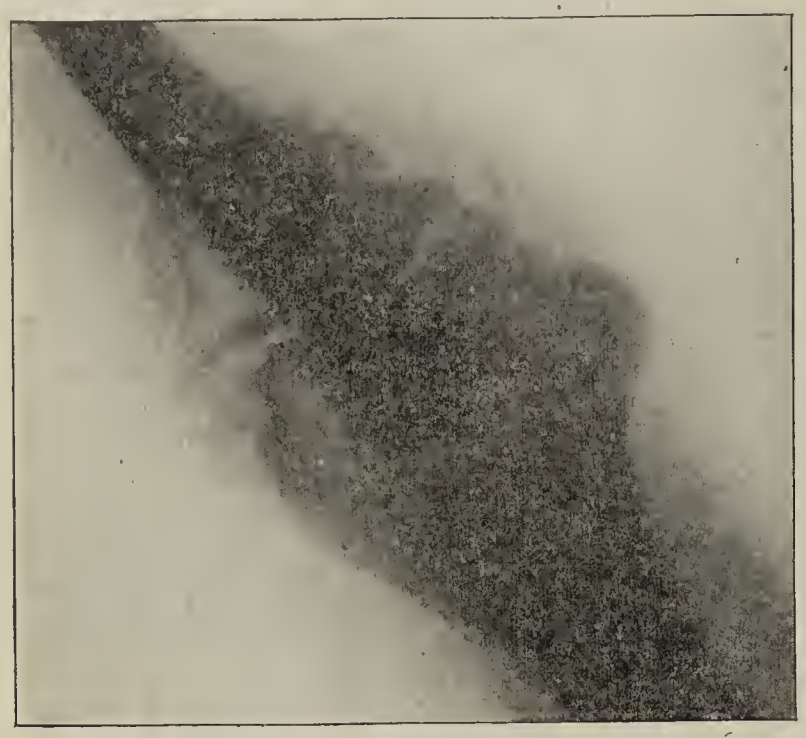


FIG. 12.—Ankylosis of elbow following fracture of radius and condyle of humerus. Vicious union prevents flexion.

size, as they are apt to produce uneven development, on account of the difficulty of flowing them smoothly and quickly on the dry plate. The best method is to flood the plate with the reducing agent first and allow it to remain long enough to moisten the film thoroughly and evenly before adding the accelerator or alkali. The latter is added slowly in small quantities, until all detail is fully out. In this manner an over-exposed plate is under control, and may be made to yield a good negative that would otherwise be ruined. In extreme over-exposures the restrainer (potassium bromid) is a useful addition to the developer. The fixing bath is of course the usual solution of hyposulphite of soda.

One of the most difficult things in x-ray photography is to determine how far to carry the development. The extent to which negatives fix out or lose in density, varies with the length of exposure, with the density of the part photographed, with the age of the subject, and the particular part of the body taken. As this is entirely a matter of personal judgment and experience, it is almost impossible to describe it. According to my experience, the thinner parts of the body, such as the hand and foot, do not require such dense development as the thicker parts. In the former, the image on the plate should be fairly visible, when examined by transmitted light, while in the latter it is frequently necessary to carry the development so far as to render the negative absolutely opaque, and without a trace of detail. Carried to this extent, the image will usually fix out to the required strength and show the desired result. Extreme "hardness," *i. e.*, excessively strong contrast between light and shade, is to be avoided. Certain parts of the body, in which there is a juxtaposition of dense and translucent tissue, tend to yield negatives of this character. As an example of such a combination, the shoulder-joint and chest may be mentioned. Under such circumstances "softness" is secured either by diluting the developer largely with water or diminishing the quantity of the reducing agent.

With reference to prints from negatives, little need be said. They do not render all the fine detail that may be seen in the negative, and are therefore inferior for study. Frequently, however, a print is desirable for the purpose of illustration, etc. With the modern so-called developing papers, good prints may be made at any time of the day or evening, as they do not require sunlight like the printing-out papers. Sensitive papers suitable for this purpose are sold under the names of "Velox," "Croughton Daylight Paper," and "x-ray paper." For rendering the fine detail of a negative, glossy surfaced paper is better than matt paper. Printing-out gelatin papers also yield good prints, but the amout of time and trouble necessary to produce them is a serious objection. In radiographs, all the parts lying in different planes are projected into one, and stereoscopic relief is absent. It may be that the perfection of stereoscopic radiography will soon be reached, and overcome this defect. For studying prints, the use of a large reading-glass is a great help, by giving a certain amount of relief to the flat picture.

I would urge every operator to become personally



FIG. 13.—Normal of same subject.

thoroughly familiar with the photographic part of the work. It should be the aim of every one to make as good a negative as possible, for a satisfactory print cannot be made from a poor one. With a good negative

the choice of a printing process is of secondary importance. A good negative will make a good print on almost any kind of paper, while a poor one is not suitable for any kind. It is not a good plan to entrust the develop-



Fig. 14.—Fusion of patella and femur, fibrous ankylosis of knee.

ment to a professional photographer, unless he has had sufficient amount of experience in this special branch to secure good results. The advantages of being able to do everything required in radiography are many. It is frequently necessary to know the result of an exposure at once, particularly when patients come from a distance. If not found correct, or there are defects in the negative, a second exposure may be made, thus saving a great deal of time, annoyance, and inconvenience.

Fluoroscopy.

The use of the fluoroscope as an aid to diagnosis has a comparatively limited field of usefulness. It is especially useful for observing the respiratory and heart-movements, and joint-action, which cannot be recorded photographically, and for testing the efficiency of tubes. For other purposes, however, it does not compare with a good radiograph. Aside from the difficulty of avoiding distortion, the lack of definition when used for examination of the denser parts is a serious drawback. Small foreign bodies, incipient changes in bone-structure, exudates in joints, etc., cannot readily be seen with this instrument, and thus lead to erroneous conclusions. It is a question whether the allegations of fallacy or unreliability of the x-ray do not emanate from operators who depend largely, if not entirely, upon the revelation of this device, and who do not appreciate the value of a photographic negative. Numerous examples might be cited in which the fluoroscope failed absolutely to show conditions that were subsequently clearly demonstrated on a plate.

Cases.

A few illustrations of the practical use of the x-ray may be of interest. The age of the subject is no bar to its use. The youngest subject exposed to the rays, by myself was an infant 7 days old. Figs. 2 and 3 are radiographs of this case and show the existence of double equinovarus, genu recurvatum, dislocation of one hip, and a clubhand. In addition to these congenital malformations, the child was unable to utter a loud sound or to use its muscles of deglutition properly. It lived to be 3 months old.

Within the past few years congenital dislocations of the shoulder have been more generally recognized. As many cases are associated with the so-called obstetric paralysis of the arm, it may readily be overlooked. The contention of some writers that in all cases of birth-palsy of the arm there is a dislocation of the shoulder, and that this is the real cause of the paralysis, is not borne out by observation. When there is any doubt as to the condition of the joint, the x-ray furnishes a ready means of making a positive diagnosis. The external appearance of this congenital condition is shown in Fig. 4. In this case the arm is paralyzed and the fingers are contracted. As there is also a hemi-



Fig. 15.—Complete bony ankylosis of knee.

atrophy of the face, it is evident that the paralytic condition of this child cannot be ascribed to the dislocation. The actual condition of the joint is shown in the anterior and posterior views. (Figs. 5 and 6.) The marked

differences in the length and circumference of the humeri are very apparent. This difference in bone-growth is also observed in cases of anterior poliomyelitis. In congenital dislocation of the hip, the relation between the femur and acetabulum, and the degree of development of the latter may also be determined with certainty.

Fig. 7 illustrates an unusual congenital defect, *i. e.*,



FIG. 16.—Multiple fracture of tibia. Recent.

absence of the radius and thumb. The left hand has four metacarpal bones and only three fingers. In the right hand the number of metacarpal bones and phalanges is equal. Aside from a lateral curvature of high degree, which may have had its inception during intra-uterine life, the child, now 13 years of age, is physically well. Mentally she is unusually bright.

In lateral curvature of the spine the x-ray enables the surgeon to note the degree of bony distortion and to determine whether a given plan of treatment has any decided corrective action upon the malformed vertebrae. A radiograph will probably be found more reliable than any system of tracings and measurements, as it shows the bones unobscured by the soft parts. Fig. 8 illustrates how perfectly a curvature may be recorded.

Fig. 9 is a radiograph of an old gunshot-injury of the humerus, a portion of which was entirely destroyed. The fragments were wired 15 years ago, and the suture is plainly seen. Some of the shot is still imbedded in the soft parts. It will be noted that the shadow of the wire loop is undistorted.

It frequently happens that slight injuries in the neighborhood of joints produce symptoms that are somewhat obscure and tend to mislead the surgeon. A radiograph affords a means of removing any question of doubt, so that appropriate treatment may be instituted. The case illustrated in Fig. 10 is that of a lad about 14 years of age, who received an injury to his right leg in a football game. He was disabled for some weeks, and when first seen by me, about two or more months after the injury, he was still suffering

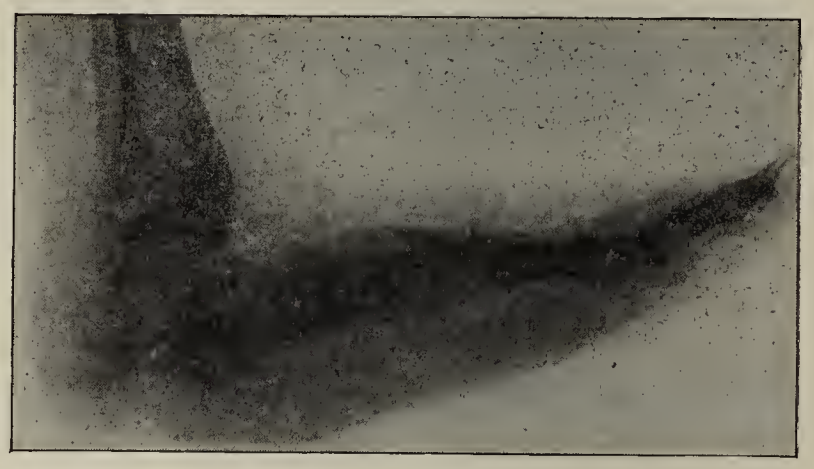


FIG. 17.—Necrosis of os calcis in a case of spina bifida. Pes calcaneus.

from pain and inability to get about without limping. A radiograph made at this time showed that the tibial tubercle had become separated and was still ununited. Under treatment, the symptoms rapidly disappeared, and a few weeks later union had taken place, as proven by another radiograph. Fig. 11 is the normal knee of the same subject. By comparing the two figures the pathologic condition may be appreciated.

The textbooks on surgery dismiss the subject of fractures of the tarsal bones, other than the os calcis and astragalus, with the statement that they can hardly occur except from crushing force. One author says: "I have never seen such a case except when the whole ankle was crushed." In the light of modern methods of examination, however, it is proved that this statement is erroneous. In a case that recently came under observation, and which had been treated as a severe sprain for four months, it was found that the patient in alighting from a "buck-board" had sustained a fracture of the scaphoid. Other similar instances might be cited.

The elbow and shoulder-joints are particularly ex-

posed to slight injuries, that end in serious disability if not in complete ankylosis. The importance of exact diagnosis cannot be overestimated, for the success or failure of treatment must depend upon it. Slight fractures into or in the neighborhood of joints cannot always be determined with any degree of accuracy even by the most skilful surgeon, as crepitus, etc., may not be elicited. A radiograph, however, may be relied upon, if the precautions referred to in a previous section are resorted to. In one case of marked disability after an injury to the shoulder, where several competent surgeons failed to determine the condition of the bony structures, a radiograph revealed a fracture of the acromion process. In another case of partial ankylosis of the elbow, an x-ray examination demonstrated an apparently insignificant fracture of the olecranon as the primary cause of the restricted joint-motion.

The condition of an elbow illustrated in Fig. 12 is of interest, as it shows the result of a severe fracture of the condyle of the humerus and of the radius and ulna, and demonstrates the cause of the existing disability.

The value of radiography in deciding upon the advisability of operative or other interference in old bone-injuries, is perhaps not sufficiently appreciated. Patients might frequently be spared the use of the knife, and the surgeon relieved of the disappointment of a useless operation, by availing himself of this aid to diagnosis. This is well illustrated in Fig. 14, which shows a fusion of the patella and femur with fibrous ankylosis in the knee-joint proper. It would have been useless to attempt *brisement forcé* for restoring motion, with the patella and femur so firmly united.

The differential diagnosis between true and false ankylosis is generally easily established by the ordinary methods of examination. When, however, the fibrous bands are very short, permitting no appreciable motion, some reliable means of differentiation becomes a necessity. A radiograph settles this question beyond any doubt.

Fig. 15 is a bony ankylosis of the knee, and Fig. 16 a multiple fracture of the tibia. They tell their own story, and require no comment.

The value of radiography is fully established; it only remains to develop it to its highest possibilities, which must be accomplished by those operators who are willing to devote sufficient time and energy to the study of the subject, and become masters of this new art.

The American Medical Association Prize-medal, of a commercial value of $100, will be awarded by the committee at the June meeting of the Association for the most meritorious scientific work. The committee for this year consists of Drs. George M. Gould of Philadelphia, E. Fletcher Ingalls of Chicago, and T. W. Huntington of Sacramento, California, to whom competing essays under the usual rules as to mottos, authors' names in sealed envelopes, etc., may be sent not later than March 1.

THE PRACTICAL USE OF THE RADIOGRAPH AND FLUOROSCOPE IN DISEASES OF THE LUNGS.

By T. MELLOR TYSON, M.D.,
of Philadelphia,
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AND
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of Philadelphia,
Registrar to St. Agnes' Hospital, Out-Physician to the Rush Hospital for the Treatment of Consumption, and Junior Physician to the House of the Good Shepherd.

The usefulness of x-rays in the diagnosis of morbid conditions of the lungs has not been generally acknowledged, and some experts still contend that it is not an accurate aid because certain normal processes may be



Fig. 1.—The size of the cavity is somewhat exaggerated, the lesion being anterior. A smaller cavity is hidden under the shadow of clavicle and the top of the large cavity, but in another skiagram made a few weeks later this shows quite distinct.

mistaken for pathologic ones. We are inclined to believe, however, that any errors thus made have been due either to too hasty observation, or want of experience by the observer in the examination of lung structure by this method. It is acknowledged that gross changes may be recognized by anyone even though unpractised, and why should not finer points become clear to those who make a thorough study of the chest? Many of the observations in this line of work have been made by men who have had but little experience, and, strange to say, mostly men who are not trained medical men—for instance, in many hospitals druggists are employed in this department. It may be that these men can operate the machine and can make better

photographs than the physician, but they can hardly be expected to recognize pathologic appearances. The tubercle-bacillus is hardly likely to be recognized by anyone unfamiliar with it. A first effort with the ophthalmoscope finds very little of the detail which the experienced observer recognizes at a glance.

As to the question which is the more useful, the radiograph or the fluoroscope, it is a great mistake to separate their use. They both have their advantages. It has been said that the fluoroscope is open to the imagination, and that its interpretation is subject to the personal equation, while the radiograph is a picture, showing conditions as they are, without any variations. The fluoroscope is certainly subject to the personal equation, but so is the interpretation of the ophthalmoscope and microscope. If, therefore, after a sufficient number of examinations by an experienced and honest observer, certain facts are demonstrated, there is no reason why they should not be accepted in good faith. At

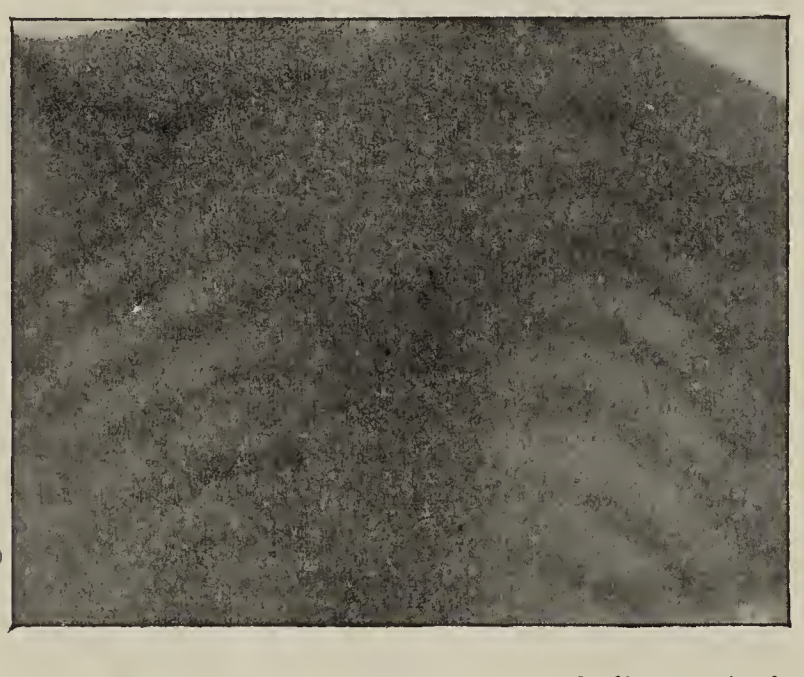


FIG. 2.—On left side in the fourth interspace midclavicular lines a cavity shows. Picture begins at second rib. On right side is an annular shadow extending from the fourth to the sixth ribs, and below this, in the sixth interspace, is another small ring. The left apex is dark down to the third rib, while the right is clearer even above the third rib.

the Rush Hospital for the Treatment of Consumption in Philadelphia, where numerous examinations have been made, the results of the x-ray have always been confirmed by the physical signs. The x-ray examination is usually made independently of physical examination, and on several occasions small cavities, or small patches of dulness, have been recognized and confirmed by further careful physical examination, or by the development of the case. These examinations, or check examinations, have been made by one or more physicians.

Again, the question has been asked, Supposing this work to be reliable, how does it add to our knowledge? The symptoms and physical signs enable us to recognize a case of consumption with tolerable ease, and therefore further aid is unnecessary. But every one knows that mistakes do occur, and this method adds, at least, to accuracy.

It will be seen by the accompanying cuts how clearly the cavities are defined. An idea of their size may be obtained by taking two pictures, one from the front and one from behind. Then, by estimating from the diameter of the pictures thus obtained, the size and location may be measured with reasonable accuracy. This method will also help in the early diagnosis of the disease when the physical signs are not definite, corroborating them and making them definite. Out of 12 cases examined, without selection, at the Rush Hospital, one was of this nature and was diagnosed only after a radiograph was made. How many such cases come before the general practitioner and for want of more accurate methods are diagnosed as chronic bronchitis, and are never seen again until the stage of softening appears with its cough, expectoration, dyspnea, night-sweats, etc.? At this late stage very little can be done towards a permanent cure; while the same person might have been treated in an earlier stage with a reasonable chance of a cure. These advanced cases, our Western friends say, are the ones sent to them to die. Sometimes they intimate even that we are not careful enough in our diagnoses to recognize them in the incipient stage, at which they claim they should be sent to them.

THE X-RAY DIAGNOSIS OF NEPHROLITHIASIS—A RESUME OF ITS DEVELOPMENT AND VALUE.

BY CHARLES LESTER LEONARD, A.M., M.D.,

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CLINICAL experience shows that other pathologic conditions often simulate calculus-nephritis so closely in their symptomatology that an absolute diagnosis cannot be made by ordinary diagnostic methods. Even in exploratory nephrotomy an expert surgeon is liable to err. This was shown in the case (No. 7) reported by Taylor and Tripp, and has lately been demonstrated by a case, as yet unpublished, in which a large calculus was not detected by an expert surgeon, who even went so far as to report the case as one in which the symptoms were most misleading, as they were typical of calculus, yet none was present. The skiagraph demonstrated the existence of the calculus.

Such difficulties as these in clinical diagnosis led to many early experiments with the x-rays in the attempt to apply them to this field of diagnosis. Although they were not very successful at first, and served to show how difficult the problem was, they stimulated experimenters to further efforts. The occasional detection of calculi was the result. It was, however, found that the Röntgen-discharge then available, and which would penetrate the lumbar region, would penetrate some of the calculi; so that at that time the positive diagnosis was the only one that had an absolute value. Exhaustive experiments by Swain, Ringel, Wagner,

Buget and Gascard, and others, determined that renal calculi have varying degrees of opacity to the x-rays corresponding with their chemical composition. The oxalates are the most opaque, the phosphates and carbonates the next, while the uric-acid calculi are the least opaque.

Many failures to detect calculi resulted from the inability of the operator to penetrate the subject, or because the quality of x-ray that had to be employed penetrated some calculi as well.

These failures were the result of a deficient technic, but they led many surgeons to discredit the method and value it only for the positive diagnosis. The method itself was not at fault; it was simply not properly employed.

This deficiency has been supplied by a development in technic. Davidson, of London, and Abbé, of New York, among others, advocate exposures so short that they will penetrate no calculi. They have been successful in detecting calculi in 6 cases, but all the calculi were oxalates, the most opaque. There is no proof, in the individual case, of the correctness of the negative diagnosis obtained by this method; nor do these negatives aid in localizing the stone in the kidney.

I stated (Philadelphia Medical Journal, August 20, 1898) that I had devised a method which had been successfully employed in a number of cases, and which assured the absolute negative, as well as the positive diagnosis in all cases of suspected calculus-disease. The absolute mathematic accuracy of this method has been attested by all the cases examined and operated upon since that time.

This method is founded on the axiom that if rays are employed that will differentiate between the shadows of tissues less dense than the least dense calculus, all calculi will be found. The absolute proof of the diagnosis is demonstrated in each negative when such differentiation is present. When no calculus is shown, and yet this differentiation is present, no calculus exists, and the diagnosis is absolute. This method has now been employed in a series of 59 cases. The complete series with the details of the technic will shortly appear in the *Annals of Surgery* in a paper now in the hands of the publisher. The method has been successfully employed by Albarran, of Paris (Case 22). After a number of unsuccessful attempts by other methods he succeeded in detecting phosphatic calculi in both kidneys of an adult male. This is the first case recorded in France.

The production of negatives having these details in the soft tissues of the lumbar and pelvic regions is the only essential to the diagnosis, and is secured by the employment of a large volume of Röntgen discharge from what Röntgen himself termed a "soft" tube. A "soft" tube is one having a low vacuum. Experience in lumbar and pelvic pictures has shown that the vacuum requisite is equivalent in resistance to from one to two inches of spark in air, as measured by a parallel spark-gap. This latitude in resistance is necessary in regulating the penetrating power of the rays to the individual patient. For the same reason the length of the exposure varies with the individual and is also dependent upon the amount of energy developed in the secondary circuit, since this influences the volume of Röntgen discharge. High wattage and not high voltage is the necessary element in the current employed to energize a tube, when differentiation is required in soft structures *en masse*, as in the loin.

The only basis upon which a diagnosis can be reasonably established is the production of a negative, in the individual case, in which a differentiation is visible between the shadows of tissues less dense than the least dense calculus. The greatest difficulty met in producing such negatives was in obtaining the necessary volume to penetrate these thicker portions of the body. The result was secured by employing a self-regulating tube. This tube is capable of maintaining itself automatically at any desired vacuum, as this is regulated by a short circuit the resistance of which is readily varied and controlled. This automatic regulation permits the required volume of electrical energy to be forced through the tube without altering its resistance, eliminating the effect of heat, which in a tube already "soft" either lowers the vacuum till it loses all penetration, or raises it rapidly till the penetration is too great. It is this inherent tendency of the self-regulating tube, that has been highly exhausted, to regain its high vacuum after it has been lowered, and its possibilities for absolute regulation, that make it superior to an already "soft" tube of low vacuum that has never been high, or "hard." The vacuum of the initially "soft" tube will not remain steady while energy sufficient to develop the required volume of Röntgen discharge for soft-tissue work is forced through it.

The effect of alterations in the vacuum of a tube, or in other words its relative resistance, upon its penetrating power, is shown in the accompanying skiagraphs (Figs. 2 and 3) of calculi removed from 7 of my 12 cases reported. The tube was the same in each exposure, as was the length of the exposure, although this was too short to show the actual contrast in diagnostic work. The plates were developed in the same bath for the same length of time. The only factor that varied was the resistance of the tube, which depends on the state of the vacuum. The equivalent resistance of the tube for one plate was 3 inches, for the other less than $1\frac{1}{2}$ inches.

The accompanying skiagraph (Fig. 1) shows, as well as a reproduction can, the detail h can be obtained in the tissues of the pelvic outlet. It is one (Case 35) of the three cases of ureteral calculus I have reported. The small calculus, just within the pelvic brim, is shown by the shadow of the bladder to lie just outside it in the ureter.

In the photographic print and in the negative the shadow of the bladder is clearly defined, as are various structures of the pelvic outlet. Undoubtedly with such definition all calculi could be detected, and had there been no calculus present, the negative diagnosis would have been as well established as is the positive by this skiagraph.

The first of the three cases of ureteral calculus was examined by me and the calculus detected in January, 1898, being the first calculus ever diagnosed in this manner. This calculus, however, was not removed. ase 10 , by Dr. Longard, was the second reported, and second plate failed to confirm the first, and a negative diagnosis, true of the condition when it was taken, had to be rendered. The calculus subsequently passed from the urethra without further colic.

The case (No. 10) reported by Longard is very similar to my third case (No. 26) of ureteral calculus. Two calculi had been detected by the skiagraph in the pelvis, apparently in the bladder. The operator was unable to crush the larger calculus with the lithotrite and a perineal lithotomy was performed, but only one calculus was found and removed. After the patient recovered, the second calculus was found by repeated skiagraphs

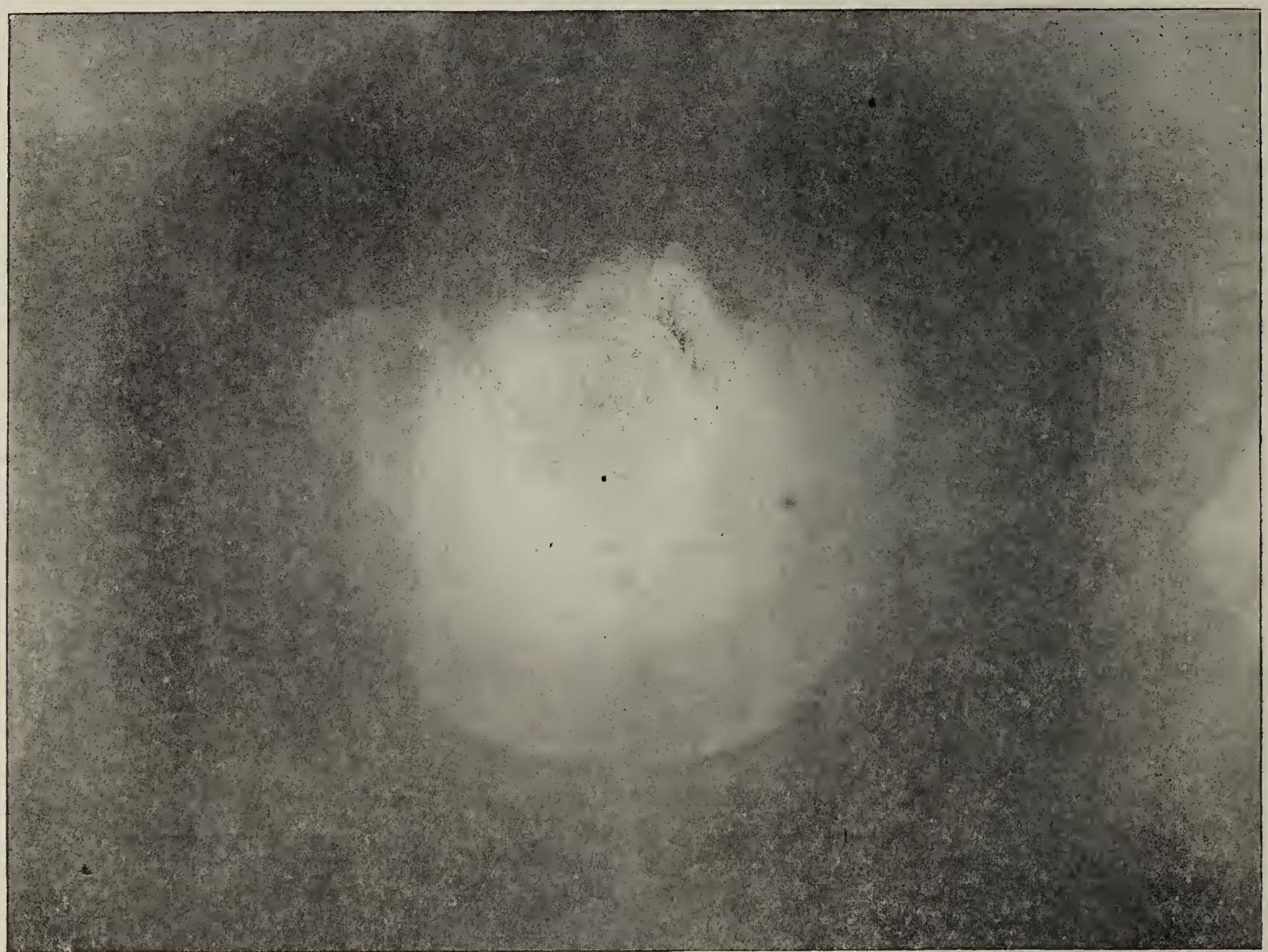


FIG. 1.—Skiagraph of ureteral calculus as seen in pelvic outlet. Position in ureter defined by circular shadow of bladder-wall. The transparency shown in the light area is due to gas in the rectum, which has less resistance to the passage of the rays than soft tissues. This permits greater penetration of the sacrum and coccyx in this region.

my other two are the only others to be found in available literature.

The absolute necessity for the examination of the ureters as a part of a complete diagnosis, is also well illustrated by this case. In the case (No. 34) in which the small (0.9 gr.) calculus was passed by the urethra, the value of two consecutive plates was made evident. The first plate showed the minute calculus lodged in the ureter, but the negative film was defective. Before a duplicate could be taken the patient had an attack of colic and the stone passed onward. The in its former position. Operation was, however, refused and the diagnosis was not confirmed. The position of the calculus when compared with later skiagraphs, shows that it must have been a ureteral calculus.

The great value of this method is its mathematic accuracy, which depends upon the mechanic method of producing the evidence upon which the diagnosis is based. Among the other advantages are the early period at which it can be made and those resulting from early operation. It is without danger, and is more accurate and definite than exploratory nephrotomy.

The localization in kidney or ureter directs operation to the seat of the lesion, prevents operation on the wrong kidney, or unwitting operation on either, when both are involved in the calculus-disease. If only suspected, calculi can be detected, whether impacted in the kidney-substance, its calices, pelvis, or any portion of the ureter. This is most valuable in partial or complete anuria. The absolute localization of the calculus and the precise knowledge of the number of calculi materially facilitates and simplifies operative procedures while rendering the operation complete. The absolute negative diagnosis renders nonoperative treatment rational, when its omission might otherwise endanger the functional activity of one or both kidneys and even the patient's life.

The negative and positive diagnosis are rendered absolute by the present technic, but the operator must be able to show in his negatives differentiations in the shadows of the less dense tissues in the lumbar and pelvic regions of each patient. One perfect negative showing such detail in the regions occupied by the kidneys and ureters is sufficient evidence upon which to base a negative diagnosis. A positive diagnosis should always be confirmed by a duplicate negative taken on the same day as the first. As in all localizations of foreign bodies operation should follow as soon possible.

These conclusions are based upon the reported cases here summarized and upon my personal experience in detecting the calculi found in the 12 cases, a resume of which follows the series of cases found in available literature. Other cases have been mentioned besides those collected and there are doubtless others also that have not been reported.

Case 1.—To Dr. MacIntyre, of Glasgow (*Lancet*, July 11, 1896), belongs the credit of the first successful application of the Röntgen method. The skiagraph showed the shadow of a calculus that was afterwards removed.

Case 2.—Dr. James Swain, of Bristol (*Bristol Medico-Chirurgical Journal*, March, 1897), reported the next case in chronologic order. The calculus was calcium oxalate and weighed 148 grains. The patient was 27 years old, and had suffered pain of a colicky character for 10 years. The urine, microscopically, showed blood, pus, and calcium oxalate. This author made the first study of the relation of chemic composition to degree of penetration.

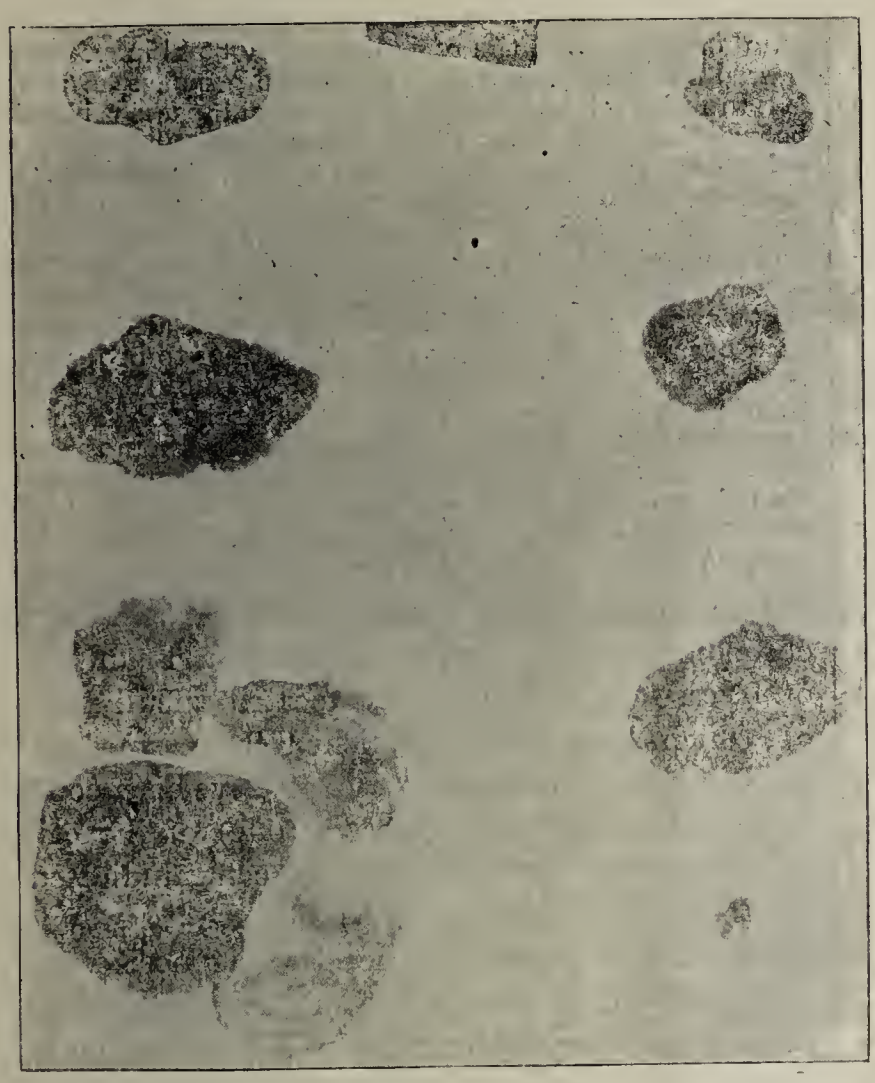


Fig. 2.

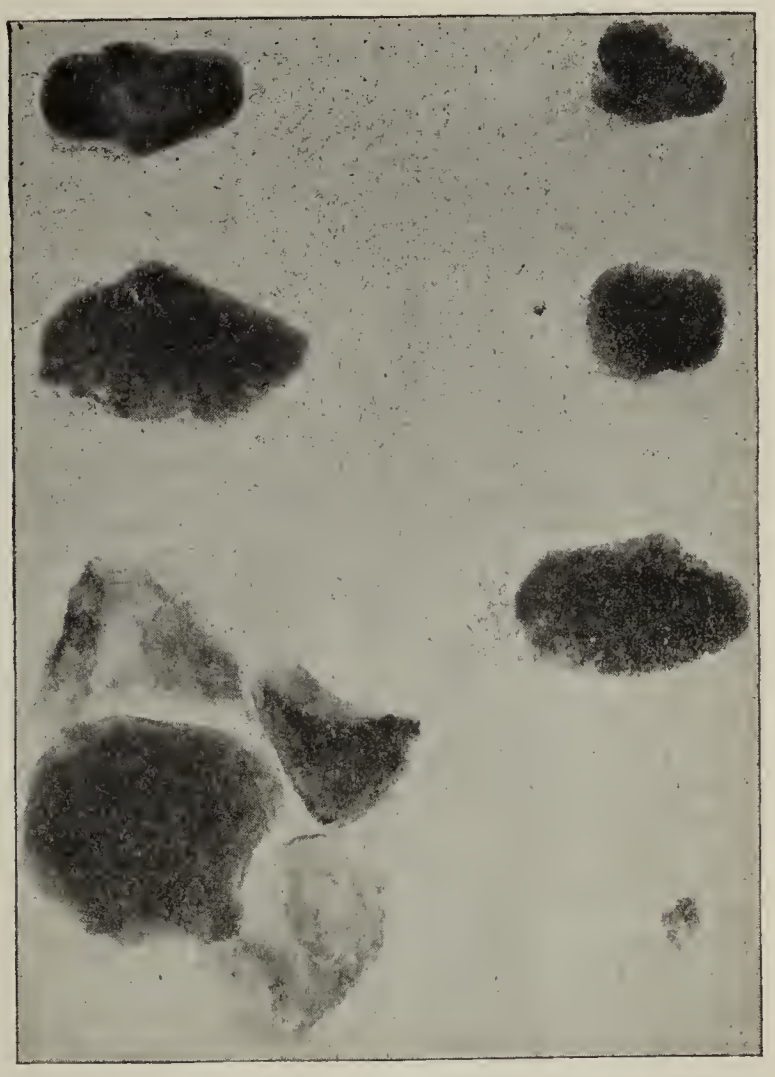


Fig. 3.

Plates showing relative penetrating power of high (Fig. 3) and low (Fig. 2) vacuum Röntgen discharges. They are the skiagraphs of calculi from 7 of my cases, and give their size very closely, as they have not been reduced in reproducing. They were, of course, not in tissue but on the plate.

Case 3.—Dr. M. B. Thyne (*Australasian Medical Gazette*, October 20, 1897) reported the next case in which the skiagraph was made by S Barbour in April. 1897. The patient, a girl of 18 years, had passed calculi and blood and had a history of colic. The urine contained pus and blood. The calculus weighed 275 grains and had a nucleus of calcium oxalate with layers of calcium phosphate about it

Case 4.—The patient of Dr. L. L. McArthur, of Chicago (*Chicago Medical Record*, February, 1898), had hydronephrosis, but without symptoms that were distinctive of calculus. The x-ray demonstrated a calculus which was found to be phosphatic in composition.

Case 5—Dr. A. D. Bevan, of Chicago (*Chicago Medical Record*, March, 1898), reports that a calculus had been removed from the right kidney. The patient did not regain complete health. The skiagraph showed a large calculus in the left kidney that was removed.

Case 6.—Görl, of Munich (*Münch. med. Woch.*, April 5, 1898), reported a successful operation by V. Heineke before

a medical society. He also exhibited the skiagraph which had confirmed the diagnosis that had been based on nearly typical symptoms. The patient had refused operation until he saw the evidence given by the skiagraph. The calculus was the size of a plum. The chemical composition was not given.

CASE 7.—Taylor and Tripp (*British Medical Journal*, April 30, 1898) report a case in a patient, 26 years old, on whom was performed a nephrolithotomy, but with failure to find the calculus. A skiagraph taken some days later showed the calculus back of the twelfth rib. The wound was opened, the rib resected, and the calculus found in a displaced and atrophied kidney. There was no hematuria.

CASE 8.—Dr. Carl Lowenstein (*Deutsche Zeitsch. für. Chir.*, Bd 50, Heft 1 and 2, 1898) detected and removed a calculus weighing 8 grams through a small incision in the lower pole of the kidney. There was a distinct history of renal colic and the patient had passed three small calculi. The urine was acid and contained some leukocytes and blood. The calculus was composed of calcium carbonate, calcium oxalate and uric acid.

CASE 9.—Dr. C. H. Morton, of Bristol (*Lancet*, June 4, 1898), reports a case of a boy of 12, who had completely recovered from all symptoms after an attack, and yet in whom the x-ray detected a calculus. This calculus was found embedded in tbe tissues of the upper pole of the kidney. It was an oxalate three-fourths of an inch long.

CASE 10.—C. Longard (*Deutsche med. Woch.*, No. 4, 1898) found by the skiagraph 5 calculi in the pelvis, four were removed by a suprapubic cystotomy from the bladder. A second x-ray showed the fifth was still there, and it was found in the ureter and removed. (Compare with Case 26.)

CASE 11.—E. H. Fenwick (*Internat. Med. Annal*, p. 338, 1898) mentions a case in which a skiagraph detected a renal calculus that was removed by operation. He also has advised (*British Medical Journal*, p. 1075, 1898) the fluoroscopic examination of the displaced kidney during operation.

CASE 12.—Dr. O. Alsberg (*Münch. med. Woch.*, December 20, 1898) reports a case in which the only subjective symptoms were pain that had been present 10 years. The urinary analysis was absolutely negative, and the patient had been examined under an anesthetic without definite results. The skiagraph showed 2 shadows at some distance from each other. The operation disclosed one large calculus and a mass of small calculi impacted in the inferior calyx. The large calculus was an oxalate and weighed 240 grains, the others were the same in character and weighed 60 grains.

CASE 13.—McBurney, of New York, reported to the Practitioners' Association the successful removal of a calculus, which had been detected by the x-rays.

CASES 14 and 15.—Dr. Hans Wagner, of Breslau, (*Cent. für Chir.*, February 5, 1899). reports 2 cases in which he secured skiagraphs of calculi which were found in the kidney. The first patient was 10 years old. Four calculi were found. One filled the pelvis of the kidney while the others were the size of peas. The chemical analysis of these calculi showed them to be made up of potassium and magnesium phosphate with a trace of ammonium phosphate.

The second patient entered the hospital in a very septic condition, with an apparent perinephritic abscess. Calculus was suspected as the cause, and the skiagraph showed its presence. The abscess was opened. The patient died from the septic intoxication before the kidney was opened, but the necropsy demonstrated the correctness of the diagnosis.

CASE 16.—Dr. M. W. Herman (*Wien. klin. Woch.*, No. 8, 1899) reports a case of calculus in a woman, 26 years old, in which a perinephritic abscess had opened and discharged a calculus. A fistula persisted from which small fragments were discharged. The skiagraph showed 3 small calculi that were removed by operation. They were made up of phosphates and carbonates.

CASES 17, 18, 19, and 20.—C. McK Davidson (*Archives of the Röntgen-Ray*, May, 1899) reports 4 cases in which he has diagnosed renal calculi that have been removed by operation. The first case was that of a boy of 18, who had had symptoms indefinite in character for 12 years. The calculus was 2 by 1.6 inches, and was uric acid with a thin covering of calcium oxalate. He has had three other cases; in one a child had 3 calculi.

CASE 21.—Braatz, of Königsberg (*Cent für Chir.*, 27, 1899) reported to the Deutsche Gesellschaft für Chirurgie that in a case in which he had detected a calculus by the x-ray method he had found that the appearance of the calculus could be entirely obliterated by too long exposure. He advised short exposures. The calculus was an oxalate and was successfully removed by operation.

CASE 22.—Albarran (*Annales des Maladies des Org. Génito-Urin.*, July, 1899) reports the first case of renal calculus to be found in France. He had accepted and studied out the clinical value and meaning of a "soft" tube, and by employing it succeeded after a number of failures by former methods. The skiagraph reproduced shows the detail in the soft structures of the lumbar region and pelvis and demonstrates the presence of calculi in both kidneys. The calculi were phosphatic in their chemical composition. The symptoms of pyelonephritis were sufficiently marked, but the exact diagnosis of calculous pyelonephritis could not be established without the x-ray examination.

CASES 23, 24.—Dr. Robert Abbé, of New York (*Annals of Surgery*, August, 1899), reported 2 cases in which he had heen able to locate minute calculi by employing short exposures. The first patient was 27 years old and had had pain for 15 years in the region of the right kidney. He had passed blood at four widely separated periods. During the last month had had pain every day and passed blood just before the examination. The skiagraph showed a small calculus. This was found at the operation imbedded in the tissue of the kidney, a small point only projecting into its pelvis. It was successfully removed, and was a mixed oxalate and urate calculus ½ inch in diameter. The second case was of a lady, 28 years of age. She had had pain for about 6 years that suggested calculus to her physician. The attack of pain became more severe and confined her to bed. She had never passed gravel or blood. The urine showed simply pyuria. A calculus was found in several skiagraphs. The operation showed the correctness of the diagnosis and its value. The operation would have been given up and concluded, as if for a simple pyonephritis, if the skiagraphic evidence had not compelled further search. This calculus was calcium oxalate.

In addition to the 24 cases which are arranged in the chronologic order of their publication I add a review of 12 cases in which I have located calculi and some of which have been published from time to time. These are the positive diagnoses; 9 have been confirmed by operation or by the passage (one) of the calculus. In 1 operative interference was contraindicated and in 2 refused. Besides these 5 have been operated upon in which an absolute negative diagnosis was given, and in all the diagnosis was confirmed by nephrectomy, nephrotomy, or nephrorrhaphy. No case has as yet been operated upon since the absolute positive and negative diagnosis was claimed to be possible (August 20, 1898), that has not confirmed the diagnosis rendered.

CASE 25.—C. S. W. was examined on March 15, 1898, and two calculi detected. His symptoms were sufficiently marked to have justified operation. The skiagraph showed two calculi. One of these would have been missed, as it was encysted, had its exact location not been determined in relation to the other calculus. The calculi were composed of uric acid and weighed respectively 32 grains and 10 grains each.

CASE 26.—C. L., aged 20. This is the case previously mentioned, in which there were vesical symptoms and two calculi were detected. The patient had previously passed a small calculus and had had symptoms referable to the right kidney with the passage of blood. One calculus was removed, the other undoubtedly was encysted in the ureter just outside the bladder as it showed in a later skiagraph.

CASE 27.—H. A. L. was examined May 17, 1898. This patient had had marked symptoms with renal colic, and had previously passed a mulberry calculus, and from time to time gravel. Two months before, the passage of gravel ceased and the pains became more aggravated. The urine was acid, specific gravity 1032; no blood, with a heavy deposit of uric-

acid crystals. The skiagraph showed a calculus high up. It was found in the superior calyx. It weighed 21 grains and was composed of oxalates with a covering of uric acid.

Case 28.—A. K. D. was examined May 23, 1898. This patient had calculi in both kidneys. The right kidney was operated upon and a large calculus removed. The patient recovered from the operation, but succumbed to the previous infection and insufficient excretion of urine. The postmortem showed that the skiagraphic diagnosis was correct and that there were three smaller calculi in the left kidney, which had been totally destroyed, although there had never been symptoms of a severe character referred to that side. The calculus removed weighed 250 grs., and had an oxalate nucleus covered with phosphate.

Case 29.—C. S. was examined on November 19, 1898. He had suffered from lumbar pains for about 12 years, that were aggravated on motion, but fluctuated in its intensity. The diagnosis was complicated by a history of serious accidental injury to the lumbar region, and calculus had not been diagnosed. He had been examined by numerous surgeons, one of whom had suggested exploratory nephrotomy. At the time he was sent for skiagraphic examination the symptoms were more marked, and a diagnosis of calculus had been made. The skiagraph showed a hydronephrotic kidney with one large and two small calculi. All the details including the exact location of the calculi were confirmed by the operation. The operation was rendered complete and the patient made a perfect recovery, and is still free from symptoms. The calculi have unfortunately been mislaid by the surgeon, and their weight and chemical character could not be obtained. The two smaller calculi would each weigh less than 1 grain, and would have been passed, except that the pelvis was filled by the large calculus; they were apparently phosphatic.

Case 30.—J. H. was examined on November 29, 1898. His symptoms were very indefinite, and he was referred rather on suspicion than with the idea that calculus was present. He had had indefinite lumbar pain for 6 years; no calculi had ever been passed, and there had been only slight trace of blood some time previously. The only symptoms were slight pain, a trace of pus and some albumin. The skiagraph showed a small calculus near the last rib. It was impossible to palpate it or touch it with a needle during the operation, but the incision into the kidney showed it at the point indicated by the skiagraph. It was an oxalate calculus and weighed 12 grains.

Case 31.—W. W., an adult male, was examined on December 6, 1898. He had acute pain in the lumbar region, but it did not have the character of true colic. Just previous to the examination he had severe pain with a chill, sweating, and a lingering ache in the back and limbs. The urine was normal in odor and color, without albumin and sugar, and acid in reaction. The microscope showed a few pus-cells, occasional red cells, some epithelium, but no casts. The skiagraph showed a calculus which was found at the operation in the superior calyx and removed. It weighed 27 grains and was composed of phosphates and oxalates.

Case 32.—H. S. was examined December 15, 1898. He had repeated attacks of renal colic of moderate degree. The attacks were, however, at long intervals and the urine showed blood and pus after the attack. The skiagraph showed a calculus to be present. The patient, however, refused operation, as the symptoms had subsided. He left the hospital. The diagnosis was, therefore, not confirmed.

Case 33.—A. D. C. was examined on March 7, 1899. His symptoms were nearly typical, and operation had been decided upon. The surgeon, however, desired the confirmation of the skiagraphic examination and the additional details afforded by the picture. The operation confirmed the accuracy of the skiagraph, as a calculus composed of calcium oxalate that weighed 48 grains was removed.

Case 34.—G. C. was examined May 30, 1899. He had had frequent attacks of renal pain that were, however, not absolutely typical. There was no pus in the urine, but blood in varying quantities with uric-acid crystals. This is the case already referred to in which the first examination showed the calculus, but the plate was defective so that the diagnosis was not made. Before the second plate was taken he had an attack of colic. This plate failed to show the calculus as it had passed from the ureter and a negative diagnosis was rendered. A calculus weighing 0.9 of a grain afterwards passed from the urethra. It corresponded in size exactly with the shadow in the negative.

Case 35.—N. C. M. was examined on several occasions, and at each a calculus was detected in the right ureter just outside the bladder. The accompanying skiagraph was made October 27, 1899. He had had slight pain and disturbance in the right side for some time, which finally became very severe. The examination of the kidneys showed them to be free from calculi, but the pelvic skiagraph demonstrated the presence of a small calculus apparently in the right ureter just outside the bladder. This was shown at each examination, and the final examination in addition clearly defined its position, as the bladder-wall can be distinctly seen in the negative, with the calculus just outside, in the position of the ureter. The examination of the urine failed to show blood, although pus had been present in varying quantities. Operative interference was deemed inadvisable by the consulting surgeon on account of the patient's general condition, and because the calculus did not, apparently, block the ureter completely.

Case 36.—J. J. M. was examined October 24, 1899. He had suffered from renal colic on previous occasions during the past 12 or 14 years, and had passed small calculi on three occasions. The last was 5 years ago. His symptoms had been so typical that operation had been determined upon, but the patient desired a confirmation of the diagnosis, as did also the surgeon. Nine months before, a perinephritic abscess had been opened, but the patient was too septic to make the exploration of the kidney advisable. A sinus persisted and had to be enlarged at a later period for drainage. The urine always contained a trace of pus, and from time to time a small amount of blood. The skiagraph showed a large calculus that conformed to the shape of the renal pelvis. The operation disclosed the correctness of the diagnosis. The calculus was, however, not of a solid character, but was made up of a mass of soft crystalline debris, which could be scraped out with the finger or washed out by irrigation. The crystalline masses were readily crushed under the finger. Their chemical composition has not at yet been determined, but is probably made up chiefly of urates with an admixture of phosphates.

The detection of this unorganized mass of a spongy character, made up of soft crystals, is a very satisfactory demonstration of the power of this method to detect even the least opaque calculi.

WHITE GANGRENE.

By GEORGE G. HOPKINS, A.M., M.D.,
of Brooklyn, N. Y.

The term, white gangrene, has been very wisely applied to the trophic disturbances, which are set up in the tissues, by the application of the x-ray to the human body.

The term burn, so often applied to these injuries, is a palpable confession of ignorance on the part of the medical profession. The definition of burn in the Century Dictionary is: (1) to injure by fire; (2) to injure by the heat of the sun, and (3) to injure by heat. As none of these conditions pertain to the application of the x-ray to the surface of the body, it is certainly an unfortunate use of a word to describe a condition that is not covered by its signification.

Burns must be caused by heat, but there is no perceptible increment of the heat of the skin at the point of impingement of the ray upon the surface. Are we to understand that the ray heats itself up after it enters the tissues? A burn is apparent almost instantaneously upon the application of the heat in whatever form.

The injury inflicted by an electric current of 60 ampères, when carried through the tissues, from discharging and receiving needles, will burn a tract ¼ inch in diameter for a distance of 20 inches in an undeviatingly straight line, from needle to needle, and cause no injury to surrounding parts, leaving the tract through which it coursed as black as charcoal. This I have seen done in two instances in the treatment of fibroids of the uterus when this unwarrantably strong current was used by an overzealous practitioner. This is the effect of electricity, and is very different from that produced by the x-ray.

The effect of the x-ray upon the tissues is never noticed instantaneously, nor does it at once, so far as we can see, leave any mark of its having done harm. Its injurious action upon the tissues is seldom manifested until weeks, sometimes not till months, after the exposure to the ray. Therefore, it seems most unfortunate that the profession, in its ignorance, should have adopted the designation *burn* for the injuries wrought upon the human organism by x-rays, when they have none of the characteristics of burns.

Tesla's theory is, that the injuries caused by the ray are due to the effect of ozone elaborated within the tissues, but he brings no proof to show that ozone is ever elaborated within the tissue, by fluorescence of the Crookes tube. If the x-ray were capable of generating ozone would not the ozone be set free and be perceptible to us as the ray passes through the air intervening between the tube and the patient? Is it reasonable to suppose that the ray gains in decomposing force as it is decreasing in penetrating force? Those of us who use static machines are enveloped in an atmosphere of ozone when the machine is in action, which is perceptible to the senses, yet it does not cause destructive action upon the tissues.

Gilchrist's theory is, that particles of platinum are carried by the cathode-ray *through the glass of the bulb in fine particles, through the air, through the skin, and into the deeper tissues of the body, after a time to set up destructive action.* This seems equally far-fetched, as we know no metal that is more innocuous to the tissues of the human body than platinum.

Elihu Thompson's theory, so-called, is, that the injuries are caused by the x-ray or *something that accompanies them.* This is certainly a self-evident fact, but it is hardly a theory.

If we adopt the designation, white gangrene, for the injuries done by the x-ray to the tissues, we can form a theory as to the cause of the gangrene, which is rational and meets all the conditions of the destruction wrought in the tissues.

In ordinary gangrene we know the cause to be either interference with the circulation or with the innervation, the destructive action never being coincident with the lesion of nerve or vessel. We have first the raising of the skin or bleb, and its necrosis, then the involving of the deeper tissues, only ceasing at the point where circulation and innervation are capable of sustaining healthy life within the tissues.

In the destructive action of the x-ray upon the system, we have degrees of diseased area. The first degree is the lesion of the epidermis. The second degree includes the involvement of the underlying tissues. When the destructive action is fully developed, the tissues will have lost all their normal anatomic appearance, and have been converted into a whitish, leathery, stringy, tough, and gangrenous mass.

Here we have a most striking analogy between what we know as gangrene and the result of injuries inflicted upon the economy by the x-ray. The nerves, we know, are, of all constituents of the body, the natural conductors of electricity. We galvanize special nerves with ease and accuracy. Our anatomic studies reveal to us the fact that the nerve-trunks are constructed on a plan upon which electricians have found it well to build their insulated wires.

From the above considerations I have elaborated a theory which has more points in its favor than any that I have yet seen stated.

The cause of white gangrene in the tissues of the human body is the destruction of the nerve-supply of the affected tissue, by that factor, electrically produced, which is known as the x-ray.

How is this accomplished? Through the destruction of the nerves of the part by the passage of an x-ray current of greater intensity than they are able to carry. Just as we destroy a copper wire by forcing into it a greater quantity of electric current than it is able to transmit.

Leonard's theory is one that is more rational than any I have seen enunciated; he says: "It is therefore probable that the x-ray burn is the result of an interference with the nutrition of the cells, produced by the static electric changes or currents, which are induced by the introduction of the patient's tissues into the high potential induction-field surrounding the tube."

The lesions of skin and tissue are produced more frequently by tubes that are energized by alternating currents than by those energized in any other way. We can only find 4 cases on record in which injury has been done to the tissues when the vacuum-tube was worked by a static machine, and these lesions were only of the minor degree. The static machine was guiltless of any such effects, until manufacturers began to increase the number of plates beyond 6, and their diameter beyond 26 inches, and to increase their velocity by the substitution of the electric motor for hand power.

The motor is desirable, and with 6 plates of 26 inches diameter a static machine will take as clear and well-defined x-ray pictures as any machine that has yet been made, and has no tissue-injuries charged against it.

The skiagraph which accompanies Leonard's article was taken with such a machine, *worked by hand.* It has

good definition and shows the outline of the scapula through the ribs, and was taken with the patient fully clothed.

In Dr. Scott's collection of 69 cases of injury caused by the x-ray, only 3 are attributed to the static machine, and those are all of minor degrees of injury, though the exposures were many times longer than would be required for practical use.

Dr. Tuttle's case of white gangrene was caused by a tube influenced by an induction-coil, but did not manifest itself until 3 weeks after the application of the x-ray. He very pertinently remarked that these injuries differ from other "*burns*" in that they begin in the depths of the tissues. This is a strong argument in support of my theory, and is founded on fact. Dr. Walsh reports the case of Dr. Weymouth Reid, of Dundee, in which there were trophic effects on the skin of the back, though the x-ray was applied over the center of the abdomen.

Despaigne has used the x-ray extensively and successfully to relieve the pains of cancer. The seat of these pains is in the nerve; as the x-ray relieves these pains, it proves its direct action upon the nerves. The depth of the injury is due to the intensity of the ray and the length of the exposure. Dr. Bannister refers to the toughness of the destroyed tissues, in a case in which there was an exposure of $11\frac{5}{8}$ hours, demonstrating its analogy to ordinary gangrene.

For the prevention of these destructive effects, various plans have been proposed, such as the intervention, between the skin and the ray, of a platinum plate, a sheet of gold leaf, etc.

It is noticeable that when the static machine has been found at fault, the exposure has been unnecessarily long, as in Jones' case, where it averaged half an hour a day, for 10 days, and then, only the epidermis and derma were affected.

Dr. Stover, of Denver, has formulated the causes of the destructive effects of the ray. They are as follows:

1. Improper apparatus.
2. Too long exposure.
3. Too small a distance between the tube and the object being skiagraphed.

If these errors are avoided and the static machine used, we need have no fear of injury to the tissues by the use of the x-ray.

THE X-RAYS AS A DIAGNOSTIC AGENT IN PULMONARY DISEASES.

BY J. EDWARD STUBBERT, M.D.,

Physician in Charge of the Loomis Sanatorium, Liberty, N. Y.; Member of the American Climatological Association, etc.

THE X-RAYS have become during the past three years an accepted diagnostic agent in pulmonary diseases. During 1896 and 1897, Bouchard, of Paris, Stubbert, of Liberty, and Williams, of Boston, published, in the order named, papers showing positively that by means of shadows and lights thrown on the fluoroscopic screen, many diseased conditions could be accurately diagnosed.

The researches in this line have been painstaking and exhaustive; the results have been eminently satisfactory, so that today no sanatorium or hospital for the treatment of lung-diseases can be considered fully equipped, without the means of utilizing this new method of diagnosis. Generally speaking, the x-rays are valuable in corroborating signs discovered by auscultation and percussion, but at times, by their aid, we can discover incipient lesions or small isolated foci of infection not recognizable by ordinary methods of examination. In addition, the fluoroscope enables us to recognize more fully and accurately the degree, position, and relation of areas of infiltration and consolidation, and also delineates plainly the limits of these areas.

Method of Examination.—A certain amount of practice and a primary knowledge of the fluoroscopic picture of a normal thorax are requisite for the successful use of the fluoroscope. The thinner the subject the more immediate and easy the diagnosis. In all subjects one has (as does the tyro with the ophthalmoscope) to look for nothing until he can see something. The patient is placed standing before or lying above the Crookes tube for examination by the fluoroscope; a better method, however, is to seat the patient in a chair without a back, with the Crookes tube held between the scapulas and the fluoroscopic screen in front of the chest. A dark cloth now being placed over the tube and the patient's shoulders concentrates all the light upon his chest, and the whole outline of the thorax appears as a picture upon the screen in front of the patient. This method was first used by Dr. Harvey, of Orange, N. J.; its advantages are that both sides of the chest are exposed simultaneously; the comparisons are, therefore, more accurate, and in demonstrating the disease before a large number of physicians and students, much less time will be consumed. It is better to use the fluoroscope in determining the finer details of a given diseased area.

The proper distance between the light and the patient is generally conceded to be about 1 inch, which would ordinarily mean a distance of 12 inches between the light and the screen; the light should be placed directly in line with the spina scapulae and the spinal column. When the fluoroscope is used, it should be applied firmly and evenly to the bared chest, and the two clavicles having been located, their relative distinctness of outline will generally indicate the side which is involved.

Having examined the apices, the fluoroscope is passed up and down the whole thoracic region in search of other foci of infection.

Normal Chest.—In about 50% of normal chests, the right apex is not quite as clear as that on the left side, the normal lung is more transparent, and the reflex is

brighter at the end of inspiration. The ribs are more clearly defined during inspiration, and in a healthy chest an evenly clear transmission of light is visible between them. Slight shadows are cast by the deltoid muscle at the outer borders of the apices. The heart and portions of the aorta are distinguished as a dark shadow, extending from the first rib to the seventh interspace, and broader below than above. A small portion of the aorta is seen as a light shadow in the first interspace slightly to the left of the sternum. The shadow of the heart is generally black, excepting on the right in the fourth and fifth interspaces, where the shadow cast is of less density; very often the cardiac impulse is distinctly visible; the apex of the heart appears to be invaginated during systole. The action of the diaphragm is well defined, and during the act of inspiration assumes a dome-like outline. In stout patients, it is much more difficult to discern the outline of the ribs than in thinner subjects, and the effort required in diagnosis is relatively greater.

Infiltration.—In cases of slight infiltration there is a haziness or fog between the light and the observer, or the clavicle may, in other instances, appear to have a gauzy veil thrown over it. This haziness, as the infiltration advances, becomes a light shadow, the ribs becoming more indistinct and the borders of the haze or shadow fade away gradually to a normal reflex. On deep inspiration this light shadow becomes slightly more gray in color. Abrams, of San Francisco, claims that the haziness of an infiltrated apex may be simulated by emphysema, and that forcible inspiration will differentiate by causing the haze to disappear. I have not been able to corroborate this statement. Occasionally a slightly thickened pleura at the apex may lead one to diagnose infiltration or, rather, the beginning of consolidation, as the pleural shadow is darker than a haze. When, however, we remember that a sharply defined pleurisy at the apex generally signifies underlying tuberculous infiltration, there is but a slight chance of error in diagnosis.

Consolidation.—When there is marked consolidation, the transmitted light is relatively less, the edges of the clavicle are indistinct or the bone may be invisible. The limits of the consolidated area are sharply defined and, ordinarily, are bordered by an area of haziness. When pathologic changes are present at both apices it is an easy matter, by comparing the two sides, to decide upon which the disease has made the more progress. Comparative shadows at the apices are generally more clearly defined from behind than in front. The light is used at the same elevation, the patient is directed to keep his chin in line with the center of the tube and to bring his shoulders well forward, thus separating widely the scapulae. Now, by placing the fluoroscope directly over the spinal column, the two apices are brought simultaneously into the field of vision, a feat impossible to obtain in front without a screen. Right here, let me say that it is very important not to remove the eyes from the instrument while sliding it over the chest, lest, by so doing, the fine points of comparison be lost by submitting the retina to a different character of light. The force of this remark will be appreciated when we remember that one has to gaze into the fluoroscope some length of time before the landmarks of the chest are seen. Ordinarily, by these simple methods a practised eye can clearly distinguish areas of the most incipient infiltration; sometimes before abnormal sounds are heard on auscultation or percussion, and very often before their presence has been suspected. Williams, of Boston, says that when examining a lung known to be diseased, he has found an unsuspected focus of infection at the opposite apex. I have found foci of disease in the lower portion of the lungs in a number of cases under treatment for apicial dis-



Diagram illustrating appearances seen in the fluoroscope in a case of tuberculosis of the lung. The apex of the lung is seen to be darker than normal, and the range of movement of the diaphragm on the right side to be less than normal. The position of the diaphragm in full inspiration is shown; broken lines give its position in expiration. (Cut furnished by the kindness of Lea Bros. & Co., the publishers of the *American Journal of the Medical Sciences.*)

ease. In some instances these spots cleared up; in others auscultatory signs subsequently developed. If it is desired to be more accurate in defining the limits of the diseased areas, and in differentiating between consolidation and infiltration, a metal rod may be placed evenly against the chest-wall in front or behind and moved up and down with the fluoroscope until the outline becomes more distinct, which will indicate that the upper and lower borders of the diseased area have been reached. If pencil-marks now be placed along these borders, and percussion subsequently practised, the area of dulness will be found between these lines. In cases of complete dulness, say to the second interspace, with relatively less dulness for one or two interspaces below, a dark shadow will be seen over the first

named region, that of consolidation, which will gradually shade off consecutively into haziness and normal reflex of light below, the area of haziness corresponding to the limits of relative dulness or infiltration.

Softening and Excavation.—As consolidation gives way to softening, flashes or spots of light come through the darkness, then we note a fairly well-defined area of light with dark spots scattered through, or dark lines or reticulums across its face; this represents disintegrating tissue, and, finally, the dark spots or lines of debris disappear and then appears the bright reflex of a formed cavity. Cavities appear as more or less well-defined areas of brightness amid shadowy tissues; when perfectly round they appear like a full moon behind a cloud. Such small regular-shaped cavities may be situated in a large area of dense shadow or merely surrounded by a ring of darkness, the limits of these shadows corresponding to the area of percussion-dulness. It is more difficult to map out or even diagnose positively, large, irregularly-shaped cavities, and very often one must have recourse to the steel rod as an aid, the shading off being too uncertain for the eye alone to determine the limits of the excavation. In cases of multiple cavities, the dense intervening fibroid tissue will be shown in the form of dark streaks winding between the spots of bright reflex. These streaks or bands differ in appearance from those seen in areas of softening, in that they throw a darker shadow, and the light does not penetrate them in spots as it does the tissue undergoing disintegration.

By means of the x-ray I have discovered cavities which have escaped detection by auscultation and percussion. Theoretically, the x-ray should determine the amount and level of fluid in a large cavity; when cavities are full, the reflex is less bright.

Miliary Tuberculosis.—Miliary tuberculosis shows itself in the form of scattered dark spots, giving the lung a mottled appearance; there is nothing regular about the arrangement or size of the spots; when cavation has occurred it is, as a rule, relatively difficult to define the outlines of the cavities.

Pleurisy.—Pleurisy with effusion presents one of the most interesting of x-ray pictures. Beginning at the base of the pleural sac we have a perfectly black shadow extending upwards to the level of the fluid. Above this line is a light shadow or heavy haze, due to the compression of the lower portion of the lung, which shadow fades away, first into a haze, and, finally, into the normal reflex in the upper portion of the lung. If the patient is shaken by the shoulders, the dark mass representing this fluid is seen to be agitated like water in a glass; the sign is pathognomonic of fluid of some character in the chest-cavity. If the amount of effusion be very great, thereby distending the pleural sac and compressing the lung well up to its root, it may be somewhat difficult to elicit the movement of the surface of the fluid. However, with an evenly dark shadow from the base of the pleural sac, with a *suspicion* of movement at the upper line, we may safely assume that fluid is present. There is a sign seen through the fluoroscope which will prove its presence: if the compressed lung on forced inspiration becomes brighter without a downward movement of the upper border of the dark shadow, it is proof positive that the shadow represents fluid and not consolidation. The heart will be seen to be displaced to right or left.

Old pleuritic thickenings throw a shadow much more intense than that shown by either consolidated lung-tissue or the normal heart. The blackness of this shadow is as pronounced as that shown by the liver.

Pneumonia.—The fluoroscopic picture in pneumonic consolidation will not differ from that of tuberculous origin. The x-ray may be of use in determining the existence of doubtful pneumonias as well as defining the extent of the pathologic process, hence influencing, to an appreciable degree, the prognosis. This might be of great importance after convalescence in determining the presence of unresolved pneumonic consolidations of small areas in central locations which, unrecognized and without treatment, would lead to the development of tuberculosis.

Emphysema.—Emphysematous lungs are much brighter in appearance than those of normal condition; the volume being increased, there is a wider spacing between the shadows cast by the ribs. The excursions of the diaphragm are less than the normal standard. The concomitant cardiac enlargement is apparent, being especially marked on the right side.

Asthma.—During an attack of asthma the affected lung presents very much the appearance described as seen in emphysema; the diaphragm, however, is more restricted in movement, and at times simply flutters instead of moving, while on the healthy side its excursions are greater than normal. This difference between the diaphragmatic action on the two sides is characteristic, and once seen is not forgotten.

Bronchitis.—The fluoroscope shows nothing of value or interest in this disease.

Pulmonary Edema.—In pulmonary edema there is a lack of transparency of the lung in the affected part and the outline of the diaphragm is either indistinct or entirely obliterated.

Pneumothorax.—In this disease the lung on the affected side is much lighter than normal.

Murphy Treatment.—When gas is introduced into the pleural cavity in administering the Murphy treatment, the lung may be seen to recede gradually before the inflowing nitrogen gas, which is represented by an absolutely shadowless reflex. It is readily appreciated, therefore, how valuable an aid the x-ray may become in this operation, determining exactly when the lung is sufficiently compressed. When the gas is introduced into a chest containing old pleuritic adhesions, it is possible to gauge the pressure to the required

degree by watching the gradual stretching of the adhesion bands.

After the introduction of nitrogen gas into the pleural cavity there is a total paralysis of the diaphragm on that side; while the excursions of this muscle on the opposite side are considerably increased. This is an *absolute* paralysis of the diaphragm, and not a partial one, as is seen in cases of asthma during the height of an attack.

RECAPITULATION.

1. The fluoroscope is an accurate agent for corroborating and extending diagnosis made by ordinary methods.

2. It is capable of demonstrating foci of tuberculous infection earlier than can be distinguished by the ear.

3. It shows either unilateral or bilateral enlargement of the heart and all displacements of that organ.

4. Emphysema, asthma, pleurisy, hydropneumothorax, pyopneumothorax, hydrothorax and pneumonia, are all easily recognized and their limits demonstrated. In the last named disease it has been claimed that a more certain prognosis may be assured by the use of the fluoroscope.

5. Thoracic aneurysms are recognizable in their early stages.

6. Cavities which have escaped detection by auscultation or percussion may be discovered.

7. The presence of fluid in the pleural sac may be positively determined.

8. It is a valuable aid in the administration of the Murphy treatment in determining exactly when the lung is sufficiently compressed.

SUMMARY OF THE DIAGNOSTIC SIGNS.

1. Slight haziness indicates the beginning of tuberculous infiltration, and may or may not be accompanied by dulness.

2. Decided shadows indicate consolidation, the extent of which is in direct relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow, dark, shadow-rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portion of the lung, indicates old pleuritic thickenings over consolidated lung-tissue.

5. Pleural effusions are shown in dark shadow, the upper level of which may be agitated by succussion.

6. There is no reason to doubt that the effusion of pericarditis would throw a like shadow which would be distinguishable from the heart-shadow above by its greater blackness.

7. Shadows thrown in the first and third stages of pneumonia probably resemble those of tuberculous infiltration. The shadow of the second stage of pneumonia is identical with that of tuberculous consolidation.

8. In emphysema and asthma the reflex is abnormally clear and the movement of the diaphragm is restricted on the affected side.

A great deal depends upon the intensity and steadiness of light and the amount of muscular and adipose tissue intervening between it and the fluoroscope.

The most satisfactory work can be accomplished by the use of a static machine with 8 or 10 plates of 30 to 40 inches diameter.

SOME ILLUSTRATIVE CASES.

CASE 1. — Consolidation right upper lobe. Crepitant and subcrepitant rales.	Sharply defined shadow right upper lobe. Ribs sharply defined until shadow is reached.
CASE 2.—Right apex to third interspace, dulness, crepitant rales, and increased vocal resonance. Occasional crepitant rales base right lung.	Shadow right apex to third interspace. Slight shadow base right lung.
CASE 3.—Dulness right and left apices. Increased vocal resonance, crepitant rales left side, first and second interspaces. Increased vocal resonance, bronchovesicular breathing and prolonged expiration right side to second interspace.	Left apex dark shadow extending down to second interspace. Right side shadow to second interspace.
CASE 4.—Dulness, increased vocal resonance, right apex to second interspace.	Very faint shadow to second interspace, right side.
CASE 5. — Dulness outer third infraclavicular space left side. Increased vocal resonance, crepitant rales from left apex to fourth rib.	Shadow to fourth rib, left side.
CASE 6. — Consolidation right upper lobe.	Distinct shadow right side to fourth interspace.
CASE 7.—Dulness right upper lobe, bronchial breathing, increased vocal resonance whole right lung	Whole right lung casts a shadow. More marked to third interspace.
CASE 8. — Consolidation right upper lobe.	Shadow distinct to third interspace, right side.
CASE 9.—Dulness, increased vocal resonance, left side, apex to fifth rib. Cracked-pot resonance second interspace left side, mucous and crepitant rales.	Circumscribed area of light surrounded by dark ring in second interspace, left side. Lung dark to fourth interspace.
CASE 10.—Both apices dull. Crepitant rales, increased respiratory murmur, and increased vocal resonance apex to base left lung.	Distinct shadow over whole of left lung more marked at apex. Shadow at right apex to second interspace.
CASE 11.—Dulness left apex to second interspace, also bronchial breathing.	Shadow left apex to second interspace.
CASE 12.—Decided dulness right side to third interspace. Cracked-pot resonance second interspace right side. Relative dulness whole right lung.	Shadow whole right lung, more marked at apex. Bright spot second and third interspace. Left lung negative.
CASE 13.—Dulness right infraclavicular space. Increased vocal resonance, amphoric breathing, and cracked-pot resonance to fourth interspace right side.	Shadow to fourth interspace right side. Bright spots second interspace right side, surrounded by dark ring.
CASE 14. — Dulness, increased vocal resonance and cog-wheel respiration both apices.	Shadow right apex to second interspace. Shadow to second interspace, left side.

Case 15.—Dulness to nipple, crepitant rales and pleuritic friction sounds apex to base right lung. Crepitant and sonorous rales, pleuritic friction sounds left side to third rib.	Shadow from apex to base right lung. Shadow left side to third interspace.
Case 16.—Infiltration whole of right lung. More marked upper lobe.	Light shadow right to nipple; haze below to base.
Case 17.—Dull left to nipple; increased vocal resonance, crepitant and subcrepitant rales, same area anterior and posterior. Bronchial respiration upper angle left scapula; slight dulness right apex.	Shadow to fourth rib, left anterior and to mid-line of scapula posterior. Haze right apex anterior and postcrior.
Case 18. — Infiltration to second interspace right.	Haze right to second interspace.
Case 19.—Increased vocal resonance right apex and bronchovesicular respiration.	Haze right apex.
Case 20.—Crepitant rales right to mid-line of scapula. Increased vocal resonance and crepitant rales same area anterior. Crepitant rales; increased vocal resonance and prolonged expiration left upper lobe.	Shadow to second interspace right anterior and to mid-line of scapula posterior. Shadow left side to third interspace anterior and lower angle of scapula posterior.
Case 21.—Dull right to third interspace and increased vocal resonance; faint crepitant rales and pleuritic grazing sounds same area. Dull left to first interspace, increased vocal resonance and crepitant rales at left apex.	Shadow right to third rib. Haze left apex.
Case 22.—Dulness to nipple left, cracked-pot resonance first rib to third. Crepitant and subcrepitant rales to nipple left, anterior and to lower angle of scapula posterior. Expiratory murmur absent whole of left side.	Spotty left lung, shadow posterior to lower angle of scapula. Circumscribed area of light from below clavicle to third rib.
Case 23.—Dull to fourth rib, left and flat below. Crepitant rales to fourth rib left. Now uses left lung below that (old pleurisy). Increased vocal resonance right upper lobe.	Shadow to fourth rib, left. Absolute shadow from there to base. Shadow right side to fourth rib.
Case 24. — Infiltration at very apex.	Haze to below clavicle.
Case 25.—Crepitant rales scattered over right lung. Whisper resonance upper right angle of scapula. Cracked-pot resonance, left, first interspace, pleuritic friction sounds over both lungs, more marked left lower lobe.	Spotty right lung. Circumscribed area of light, left, first interspace. Shadow left lower lobe.

ON THE TECHNIC OF X-RAY WORK.

By ARTHUR W. GOODSPEED, Ph.D.,
of Philadelphia.
Assistant Professor of Physics, University of Pennsylvania.

So much has been written on this subject during the last three years that one hesitates to add to the literature, already voluminous, unless with the excuse of having something startling, or at least new, to relate. I fear I have not that excuse, for if there is any special merit in much of my work, I believe it is due not to new discoveries, but to the consistent adherence to one or two features especially antiquated. I do not wish to be understood as implying that nothing which is new is good; but rather that much which is old is also excellent and under some circumstances possibly the best.

For example, visitors to my experimenting room who are at all familiar with modern x-ray apparatus nearly always exclaim at the very slow speed at which the interrupter is run, and wonder that a form of break so ancient is adhered to. When pictures are shown produced with exposures from three seconds for a hand and wrist, to a couple of minutes for a thorax; and when they see a bright fluorescent screen 10 feet away from the tube, the surprise is none the less marked, but along different lines. There is no doubt that the slow interruptions are inconvenient for fluoroscopic work on account of the unpleasant flashing; but in my opinion this method proves more efficient when pictures are required.

Difficulty is often met in adjusting the interrupter for different rates on account of the sparking which results. In this case the capacity of the condenser is probably not suited to the set of conditions that must be met. In other words the time of a complete cycle of operations, and the ratio in which this period is divided between closed and opened circuit in the primary, is of considerable importance, and is clearly related to the self-induction of the coil and the capacity of the condenser intended to take up this extra current. If the capacity be too small the condenser will be only partially effective, and sparking will result at the break.

Adjustments should be made so that the actual interruption of the primary current shall be as sudden as possible. This results in a rapid variation in the magnetic flux through the iron core, which induces in the secondary a rapidly increasing electromotive force. This act of breaking the primary, however, produces a self-induction in the coil, which in itself tends to retard the suddenness of the break by causing an arc across between the points as they recede from each other. It seems as if the current possesses a sort of momentum, on account of which it becomes most difficult to stop the flow instantly. If, however, a condenser of large capacity be connected around the break, the extra current will flow into that. The condenser evidently must be of capacity sufficient effectively to absorb all the charge that would otherwise tend to jump between the contact points. But a very important part of the phenomenon is yet to follow. The best iron core will not alone lose its magnetism except after a time which is considerable when compared with intervals of the minute order of magnitude we are contemplating. To effect this necessary result the condenser at once discharges back through the circuit, the effect being to demagnetize the core very rapidly, thereby inducing an enormous electromotive force in the secondary.

I am told by the makers that on the largest commercial x-ray coils the condenser capacities vary from 5 to 15 microfarads. A hasty measurement of the one I am using shows its capacity to be about 35 microfarads. To me this comparison suggests that the ordinary commercial coil would be much more efficient if its condenser were several times larger than usually made. If a coil with an insufficient condenser be operated slowly, it sparks badly at the break for reasons already given. If the speed be increased until the sparking is a minimum, it is so because the time of "make" has been too short to allow the direct current to attain a maximum; the extra current due to self-induction is therefore less, and the small condenser can take care of it. Obviously, though, under these conditions the coil is not operating with maximum output. The time of "make," *i. e.*, the interval during which the primary is closed, ought to be just long enough to enable the current to reach its maximum value; this time, of course, depends on the self-induction of the coil as well as on its resistance. The time of "break," *i. e.*, the interval during which the circuit is open, must be long enough to enable the condenser to be charged and discharged. If the make follow the break too soon, clearly the direct current will interfere with the discharge of the condenser.

Furthermore, it must be remembered that the coil, with all its attachments, may be in perfect adjustment to be operated as an inductorium, pouring streams of full-length sparks between the terminals of its secondary, and yet not be in the best adjustment for operating a Röntgen tube. The mutual induction between the two coils is obviously not the same in the two cases, and hence the conditions are somewhat modified.

The self-regulating heavy platinum tube invented by Sayen is the most powerful and efficient commercial tube that has yet come to my notice. I operate the tube keeping the focus at a dull red heat, the regulating gap being opened from one to four inches according to the character of the case at hand. A "soft" tube, *i. e.*, one of rather low vacuum, is necessary for the differentiation of masses differing little in density; *e. g.*, for demonstrating the presence of calculi within the kidney. A "hard" tube must be used for the examination of masses of great density, or for bringing out the bones clear of the flesh, *e. g.*, for radiographing a knee or hip-joint. The two accompanying radiograms of the wrist clearly illustrate these points. Both were taken with the same tube with different states of vacuum.

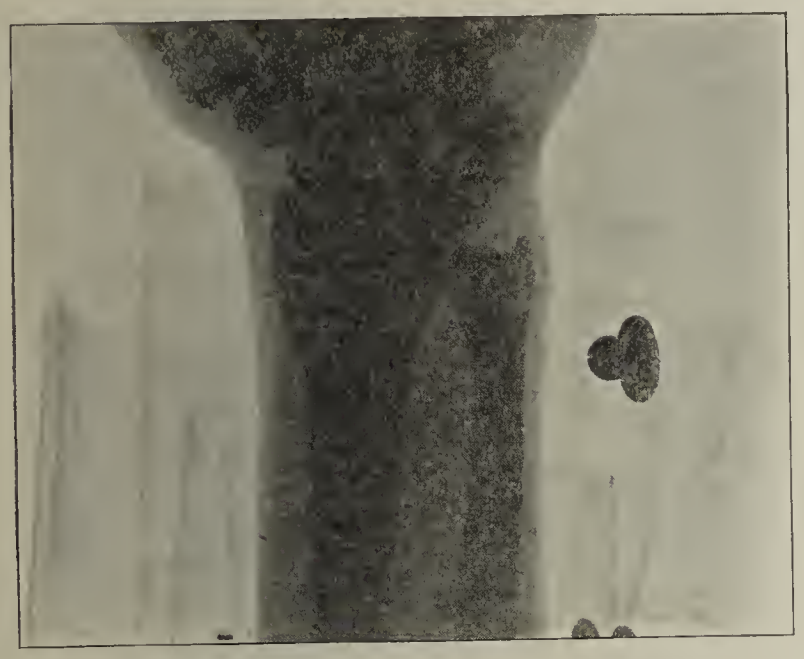
The selection of the best plates to use is a matter of great importance and of much difficulty. The make that is uniformly excellent and reliable, and much the best that I have used for all classes of work, is made by Schleussner, of Frankfort am M. Reference has long ago been made by myself to the excellence of these plates. (See *Int. Med. Mag.*, June, 1896.) They are expensive and difficult to import, but when obtained are very reliable, though they are not made especially for x-ray work. In most cases I find it an advantage to intensify the negatives before printing. An important exception to this rule occurs when it is desired to keep the superficial detail most prominent. A pleasing result may often be obtained from very dense negatives by making a positive on glass and then printing on paper from this positive. This gives the bones white on a dark ground. The radiogram of the foot illustrating this article was produced by this method.



Lateral view of a normal foot.

Another very important matter requiring great care is to keep the patient absolutely still. Different people have widely different ideas about keeping still; but it can be made clear at once to everybody that if the part move ever so little, a sharp picture showing fine detail is out of the question. It may serve its purpose, but it cannot be first-class. To bring about the desired result,

make the patient as comfortable in every particular as is possible consistent with the necessary position. Ask him to close his eyes and to pay no attention to what goes on about him. Allow nobody to approach or speak to him during the exposure. In the case of nervous



Result of using a "soft tube," showing eight superposed layers.

children it is sometimes desirable or even necessary to use ether. If practicable, remove all covering; but if anything must remain, see that it is smooth and without folds or wrinkles. The length of exposure depends



Result of using a "hard tube," showing nothing but the bones.

entirely on the part and on the apparatus. For various obvious reasons an exposure of over 15 to 20 minutes at most is undesirable, and apparatus that requires it is not efficient for such work. Half of this exposure is far better if possible. An aggravated form of dermatitis not infrequently follows an exposure either too long or too approximate. Such "x-ray burns," as they are called, do not usually appear for about a week after the exposure. They are sometimes quite serious and yield to treatment only very slowly. I fortunately have had no experience in this line, and burns will not occur if the apparatus is efficient enough to allow of short exposures with the focus of the tube not nearer than 10 or 12 inches from the flesh.

TREATMENT OF LUPUS BY X-RAYS.

By PHILIP MILLS JONES, M.D.,
of San Francisco, Cal.

Two patients have been treated by me by means of x-ray exposures for the cure of lupus.

The first patient, a man about 55 years of age, had had a troublesome lesion on the right forehead, just above the outer angle of the orbit, for some 12 years. One spot after another would become involved, break down, ulcerate, be treated, and for a time heal. Invariably, however, it would subsequently reappear, involving a little more fresh tissue with each recurrence. He had been treated by a number of men and in many ways. The actual cautery, curetting, creasote, silver nitrate, hydrogen dioxid, and many other modes of treatment had been employed. I commenced exposing him to the action of the x-rays emanating from a "soft" vacuum-tube in January, 1899. At that time the area involved was about 1½ inches long by perhaps half an inch wide. There were present 3 ulcerating points and one large, hard nodule which had not yet broken down. A sheet of lead was arranged so as to protect the whole of the head save the lupus-area; a hole cut in the lead sheet allowed the x-rays to reach all the diseased area, with the exception of one of the ulcerating points. This one small point was protected as a sort of control upon the treatment. The patient was exposed about 4 to 6 inches from the tube, 2 or 3 times a week, the exposures lasting from 2 to 5 minutes. At the end of 4 weeks the whole area, with the exception of the one ulcer protected, was healed and the nodule had disappeared. The protected ulceration had slightly increased in size. I then exposed the ulcerated area that had been previously protected by the lead plate. In 3 weeks this had quite healed. Since that time the lesion has remained healed. Previously the longest time the lesion had remained healed was 4 months. So far as I am aware this was the first case of lupus treated by x-ray exposure in this country, though the method had been used in Germany and several cases reported as cured.

The second patient, now under treatment, had had the disease for 35 years. It first appeared when she was a girl, living in Bordeaux, France. When I saw her the whole of the right side of the face, from the line of the lower eyelid to about one inch below the angle of the jaw, and extending backward to and involving the right ear, was one large lupoid ulcer. She had been treated abroad and in this country for years, but the lesion had steadily progressed. The method of treatment in her case was practically the same as in the case just mentioned. The exposures were, however, as a rule a trifle longer, averaging about 5 minutes each. Twice an acute inflammatory condition was produced by the exposures and treatment had to be suspended. As the inflammation subsided a marked improvement was noted. The ear was protected from the action of the x-rays and remained unchanged, but the side of the face constantly improved and is now quite healed. The patient states that this is the first time in some 20 years that the face has been free from ulceration. The new skin seems to be soft and smooth and is quite pliable. I am now exposing the ear, the rest of the face being protected by the lead plate. The treatment of the ear has now lasted for about 2 months, but the delay is largely due to the fact that the patient does not

come regularly, sometimes allowing a week or two to pass with no treatment whatever. The ear has decreased in size to about one-half what it was at first and all ulcerative action has ceased. The face is entirely cured, and from the appearance of the new tissue will remain so.

The treatment of lupus by exposure to x-rays is akin to the treatment by exposure to ultraviolet light (Finsen), and to the treatment by exposure to concentrated light (Abrams). In each case the action seems to be a simple one, and the explanation not far to seek. The pathologic tissue is largely composed of very complex and unstable molecules, which collectively make up the cell-structure of the lesion. As we know, comparatively little energy is required to upset these complex molecules and cause a rearrangement of their atoms, thus producing a very different cell, with a consequent modification of the cell, if not its actual death. In the action of sunlight upon the skin (burn, tan, freckles, etc.), we have excellent illustrations of the capability of radiant energy to produce these chemic rearrangements. As the rays from a soft tube, which are more easily absorbed by the skin, or any body first encountered, than are those from a "hard" tube are found to produce the so-called dermatitis Röntgenii more readily than the rays from a hard tube, so they are more efficacious in the treatment of lupus. It is simply that such rays, of comparatively long wave-length, are absorbed and part with their radiant energy, while rays of shorter wave-length, less readily absorbed, do not, to any great extent, affect the chemical arrangement of the cells in the superficial tissues. I believe, for the reasons just given, that the method of treatment by ultraviolet light (Finsen) will be found to be quicker and better than the treatment by x-rays. In comparison with the x-rays the ultraviolet rays from an arc-light have a very long wave-length and hence will part with all their energy through absorption by the molecules of the superficial cells. The action is a purely mechanical one, a transfer of energy by wave-motion (radiant energy), and is typically illustrated by the change which occurs in a photographic emulsion when exposed to light.

I have to acknowledge the courtesy of Dr. Martin Regensburger, by whom the second case reported was referred to me for experimental treatment.

TWO CASES OF SIMULTANEOUS FRACTURE OF THE PATELLAS, TREATED BY WIRING THE FRAGMENTS.

BY J. S. WIGHT, M.D., LL.D.,
of Brooklyn, N. Y.
Professor of Operative and Clinical Surgery at the Long Island College Hospital.

CASE 1.—Mr. B., a laborer, 41 years of age, married, was injured January 31, 1899, receiving the impact of two hand-trucks, one on each knee and at the same time making a strong muscular effort. The effect was a transverse fracture of each kneepan. He was admitted to the Long Island College Hospital on the day of the accident. He was put in with both lower limbs elevated on an inclined plane, so as to relax the muscle and make him comfortable. Each knee was dressed with a figure-of-eight bandage, to prevent further effusion of blood to promote absorption to prevent further displacement, or separation, of the fragments. This treatment

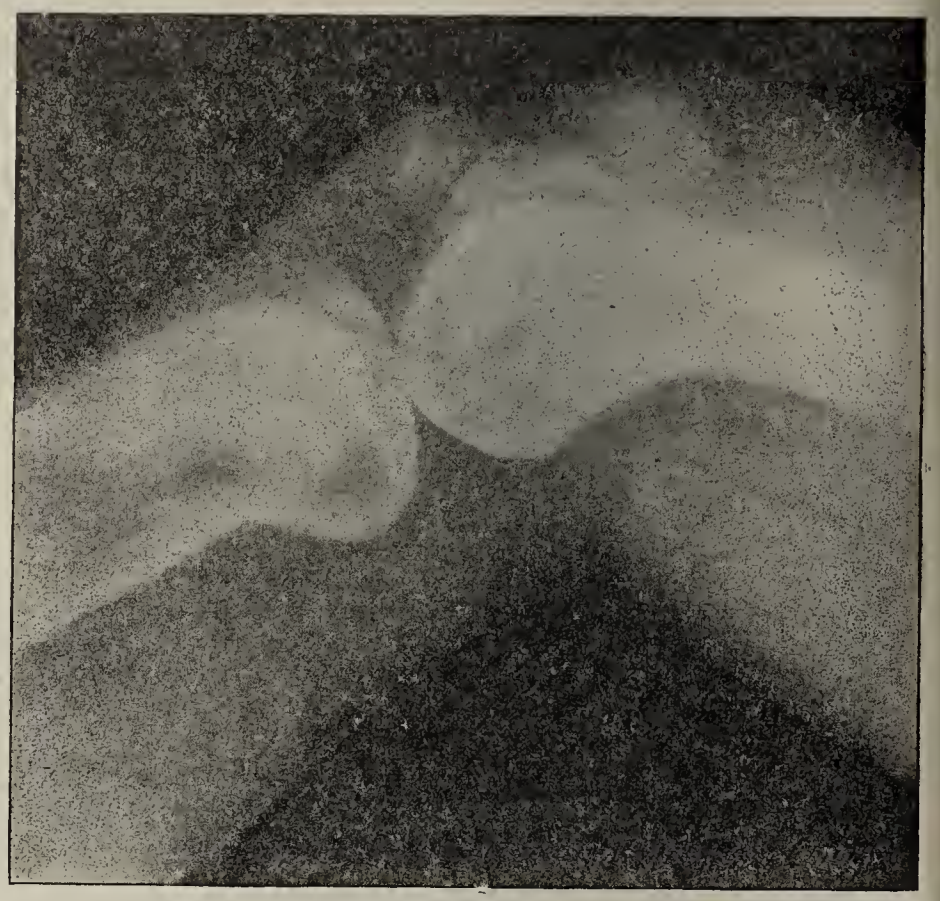


FIG. 1.—Right knee.

was continued during February. The extravasated blood had been absorbed. The bruised and lacerated tissues had been well repaired. The local condition was such as to favor an operation.

The field of operation on each limb was made aseptic, the time occupied being 4 days previous to the operation. On March 1, 1899, I operated on this case at my general clinic,



FIG. 2.—Left knee.

wiring the fragments of the left kneepan first. There was no reaction of any moment, primary union of the soft parts taking place. The union of the bony fragments was speedy, and resembled primary union of the soft parts. This patient

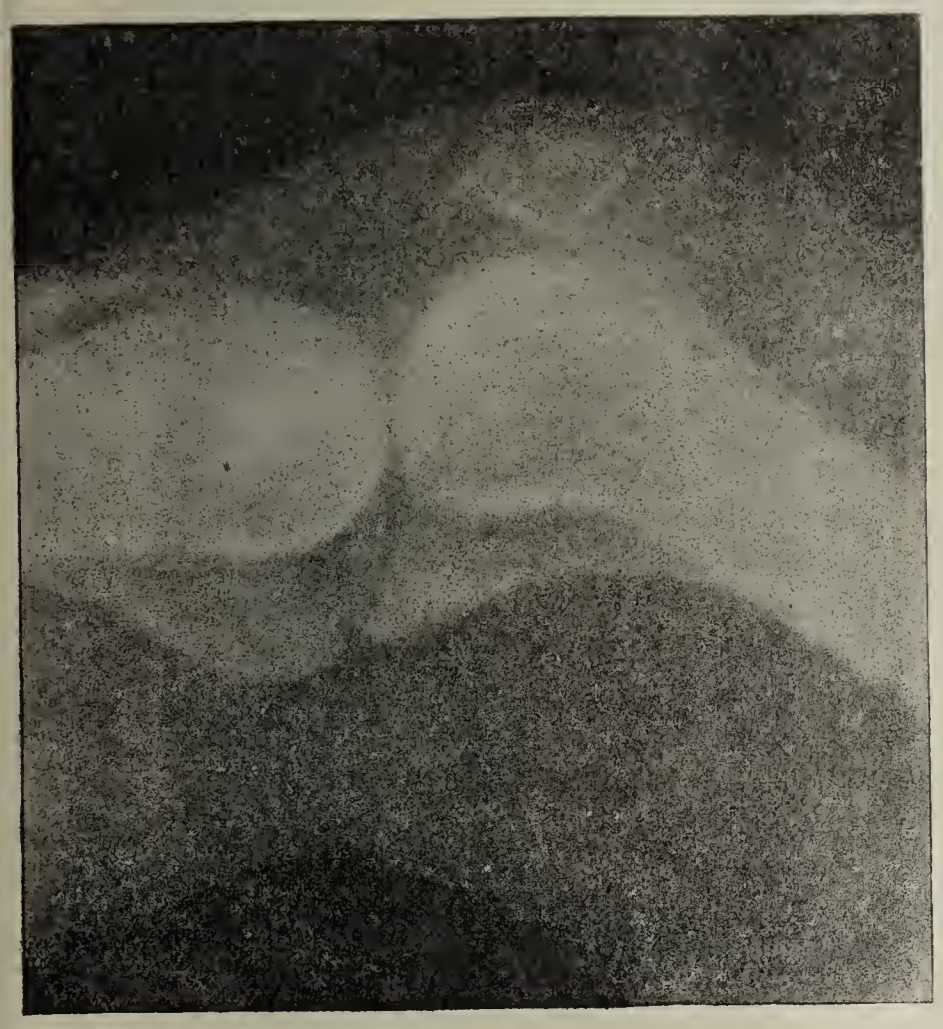


FIG. 3.—Right knee.

was up and about at the end of 4 weeks. August 27, 1899, he came to my office, being able to walk as well as ever, going up and down stairs with perfect ease and good ability.

CASE 2.—Mr. H——, a banker, about 40 years of age, getting down from a street car, fell, and struck the stone pavement with both knees. The effect was simultaneous fracture of his patellas, with severe contusion of the soft parts. The preponderating cause of the fractures was direct violence. The right patella was *refractured*, the previous injury having occurred some six years ago. I wired the fragments of the patella at that time, and obtained a very perfect result, with complete restoration of the ability of the injured joint and limb. Both knees were greatly swollen, especially the right, which was distended almost to the extent of rupture. An end of the wire, used in the previous operation, projected under the skin, and could be seen and felt. The patient was put in bed, with his lower limbs on an inclined plane, in the same manner and for the same purposes as the first patient. A delay of about 4 weeks was necessary to put the tissues of the knees in a proper condition for the operation. As in the previous case, 4 days were used for the disinfection of fields of operation.

I operated August 3, 1899, assisted by Dr. Stuart, the family physician, and Dr. Wight, Jr., and the interne of the hospital. The wire used in the previous operation had broken off at the twist in front of the united fragments and had been pulled out of the lower fragment. The twisted ends of the wire suture had become encysted, and that part of the wire in the upper fragment had so adhered to the bone that it broke off in an effort to extract it. It was left in the bone. The fragments of both patellas were wired, as in the first case. The patient had no unfavorable symptoms, and is recovering rapidly.[1]

In this case drainage-tubes were not used. In the first case they seemed to be required. On September 25, the patient was up and walking about, and will doubtless have his disability entirely removed.

In regard to wiring the fragments of a broken kneepan, the following points are noted:

1. I do not operate until 14 days after the fracture. Sometimes a longer delay is advisable. In these two cases 4 weeks passed before the operation was undertaken. The delay is important.

2. The object is to bring about absorption of the extravasated blood, and permit the tissues to regain their tone. Under such conditions the tissues behave much better during and after an operation. There is less danger of infection as well as more certainty of repair. Recently-injured tissues do not take kindly to repair, and may refuse repair altogether, as the surgeon of experience well knows.

3. By following the *rule of delay* in operating on cases of broken patellas, I have had no failures, but have had uniform success.

4. Simultaneous fracture of the patellas is very rare, and the treatment of such cases without wiring the fragments has been followed by great and serious disability.

5. It is reasonable to incur some considerable risk in an attempt to convert an almost certain nonsupporting individual into a self-supporting member of society.

6. The method I employ in operating on a case of fracture of the patella seems to be quite free from

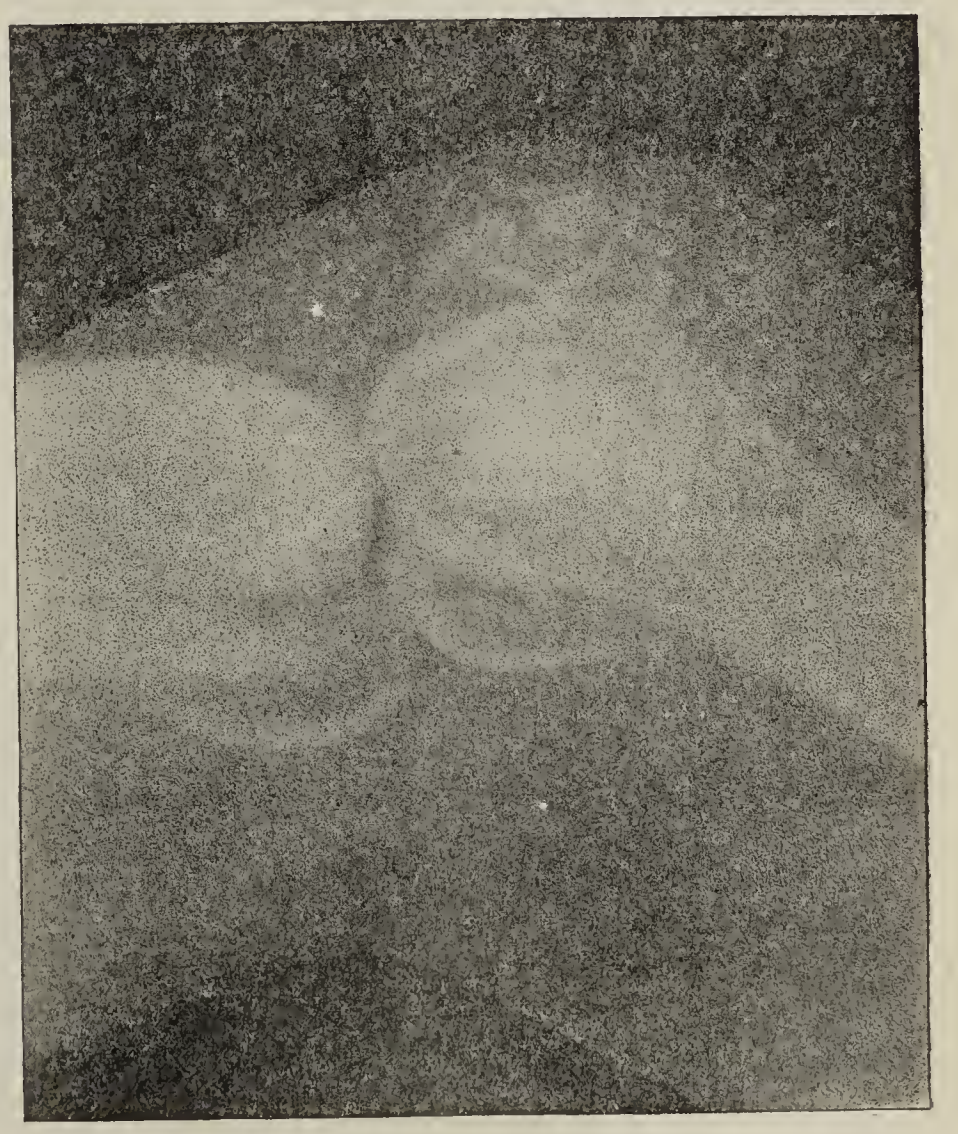


FIG. 4.—Left knee.

[1] At the present time, December 25, 1899, this patient has fully recovered.

danger to the kneejoint, the lower limb, and the life of the patient. It is not my intention at the present time to discuss the subject of unfavorable results after wiring the fragments of a broken patella.

A few words in regard to the operation are added. The preparation of the field of operation is important and requires three or four days. The incision is vertical, and is made only large enough to enable the surgeon to saw off the broken surfaces of bone and perforate the fragments for the insertion of the wire suture. The lower fragment is drilled from below in front, upward and backward; and the upper fragment is drilled from above in front, downward and backward; the drill in both instances coming out just in front of the posterior surfaces of the fragments. I have devised a special form of drill, with an eye in the point. The end of the wire suture is inserted into this eye, and when the drill is removed it pulls the wire through the drill-hole. The other end of the wire is drawn in the same manner through the other drill-hole. The wire ends are twisted and cut off, and the ends are bent down upon the apposed bony fragments. The wound is sutured, and primary union occurs, and the kneejoint is speedily closed. As a rule, drainage for two or three days is advisable. A posterior splint is applied, and the limb is laid upon an inclined plane.

THE X-RAYS IN THE STUDY OF THE HEART-REFLEX.

BY ALBERT ABRAMS, A.M., M.D.,
of San Francisco, Cal.
Consulting Physician to Mt. Zion Hospital and the French Hospital.

WHAT I have referred to as the *heart-reflex*, pertains to a curious phenomenon which is only manifest by means of the x-rays and the fluoroscope. It is a contraction of the myocardium reflexly induced by irritation of the skin in the precardial region. Before this phenomenon is taken up, I will briefly refer to cardiac skiagraphy. The illumination of the thorax by aid of the x-rays furnishes us with a comprehensive view of the *situs viscerum thoracis in vivo*, together with the functional phenomena of the viscera. Especially conspicuous is the silhouette of the heart. With the patient between the tube and the screen, the latter approximately distant about 40 cm. from the platinum plate of the tube, the heart is clearly defined and measures in the transverse diameter, in man, from 15 to 16 cm. In skiagraphic examinations the contour of the heart is sharply outlined, whereas in skiagrams, the sharpness of contour is lost owing to the heart-movements. The movements of the heart are first manifest in the left ventricle, beginning at a point about 2 cm. from the apex of the organ. The active changes observed have been likened to the opening and closing of a lid and vary in frequency and extent. In some instances, the change in form is manifested by rapidly recurring light and dark shadows. A change in the position of the apex is only rarely observed. At times one may note the isolated contractions of the muscles and ventricles and even recognize the time-interval between the contractions. A change in the form of the right ventricle is rarely observed, although in some individuals it is very apparent. A little practice soon enables one to trace the outline of the heart on the chest-wall with a dermograph in a metallic casing. The entire outline of the heart may be determined from the anterior surface of the chest, whereas the heart-view from the back shows only a portion of the organ, owing to its position in front of the vertebral column and the oblique site of the organ in the thorax.

The heart-reflex is best studied with the fluorescent screen approximating the anterior chest-wall. The reflex is especially pronounced in children, and is best seen in adults with thoraces scantily furnished with musculature and panniculus. If we irritate the skin of the thorax in the precordial region by vigorous rubbing with a blunt instrument, a contraction of the myocardium is observed. Myocardial contraction is, as a rule, more manifest in the left than in the right ventricle. The contraction thus induced reflexly is sudden and of momentary duration, and like other reflex acts soon becomes exhausted.

The degree of myocardial recession varies greatly. In some persons it is scarcely perceptible, while in other individuals it may recede fully an inch on either side upon the first application of the cutaneous irritant.

The ether-spray is unquestionably the best cutaneous irritant, but its use necessitates the employment of an assistant. Stimulation of the center for the inhibitory nerves of the heart reflexly by centripetal nerves is an adequate explanation for the heart-reflex.

It is a physiologic axiom that stimulation of the respiratory center is greater through the cutaneous nerves than through the vagus branches to the respiratory organs. Reference may be made to the "Klopfversuch" of Goltz, which demonstrates that striking of the abdomen in animals will inhibit the heart's action.

In diagnosis, the heart-reflex may serve as an index to the condition of the myocardium. Observation has taught me that when the heart-muscle is healthy, the reflex is active and vigorous, while in degeneration of the muscle it is feeble or absent. In pericardial exudates and pericardial synechiae it is likewise absent.

In the treatment of chronic heart-disease by balneotherapeutics, mechanotherapeutics (Schott treatment), I believe that the heart-reflex must be taken into account. I refer to the reduction in the area of heart-dulness after the resistance-movements and the baths to cutaneous irritation, and think that the myocardium responds to the Schott treatment irrespective of any other factor beyond reflex-contraction of a muscle following peripheral stimulation of cutaneous sensory nerves. In many of my patients I employ vigorous cutaneous frictions, in lieu of the conventional

Schott treatment, on account of its being simpler, more expeditious, and less expensive. The results have been nearly as good as with the Schott treatment. Relief of dyspnea follows, and there is marked reduction of the pulse-rate, together with an increase in volume and force.

THE USE OF THE X-RAY IN ORTHOPEDIC SURGERY.

By ROBERT W. LOVETT, M.D.,
of Boston.

It is too early in the history of the x-ray to speak definitely of its full value or of its possibilities in connection with orthopedic surgery, especially in diseases of the joints. Yet at the present time it possesses very great value, and in certain cases its use is indispensable in this branch of surgery. This condition of affairs is



Fig. 1.

so well recognized that many orthopedic surgeons make it, in certain cases, a part of their routine examination. In general, its use enables one to determine the existence and character of congenital and acquired bony deformities and malpositions. It often aids in the diagnosis of joint-disease, especially in the case of tuberculosis. It assists, when necessary, in determining the relations of the bones after operations on the joints. And it enables us to study the history of progressive destructive disease of the joints. These are perhaps its most frequent practical uses; yet nowhere must the conclusions revealed by it be accepted with greater caution than in this department of surgery, especially in connection with joint-disease. It is easy



Fig. 2.

to see too much and to draw too definite conclusions, and at times the data obtained are altogether misleading. Not only may it appear in certain cases that pathologic conditions which do not exist are present, but what is more common, an apparently normal radiograph may be obtained in joints where, for example, tuberculosis is sufficiently active to give rise to serious symptoms. In Fig. 1 is shown the radiograph of the knee of a woman of 35 suffering for many months from

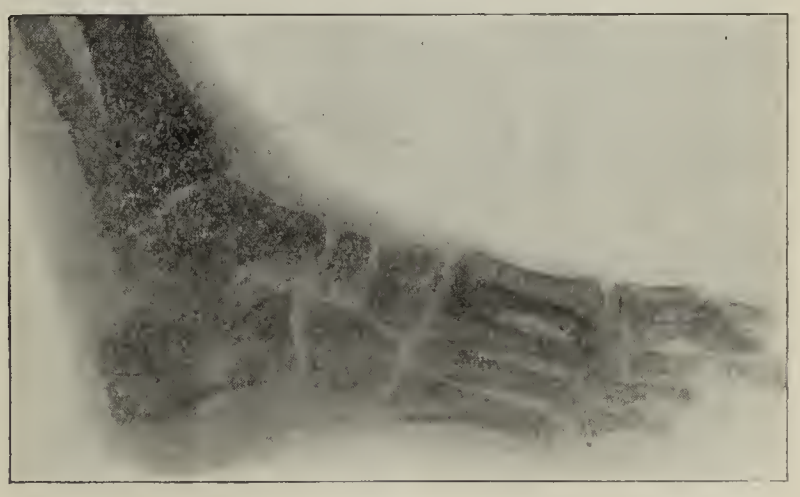


Fig. 3.

an acute, painful affection of the right knee-joint. Tumor albus with abscess had occurred in childhood, and a useful, although flexed and partly immovable knee had resulted. The question as to whether the condi-

tion existing recently was due to recurrent tuberculosis or not was most important. The radiograph showed a femur irregular from the destruction of the early disease, but apparently perfectly definite in outline and

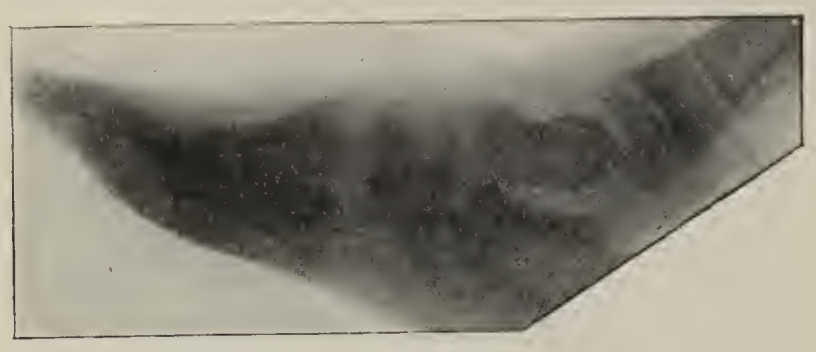


FIG. 4.

lacking those characteristics to be described as significant of active joint-tuberculosis. The symptoms demanded operative intervention, and on opening the joint it was found in an acute state of inflammation, and the lower end of the femur was extensively eroded by recent tuberculous foci.

Fig. 2 shows the same knee from in front, 2 months

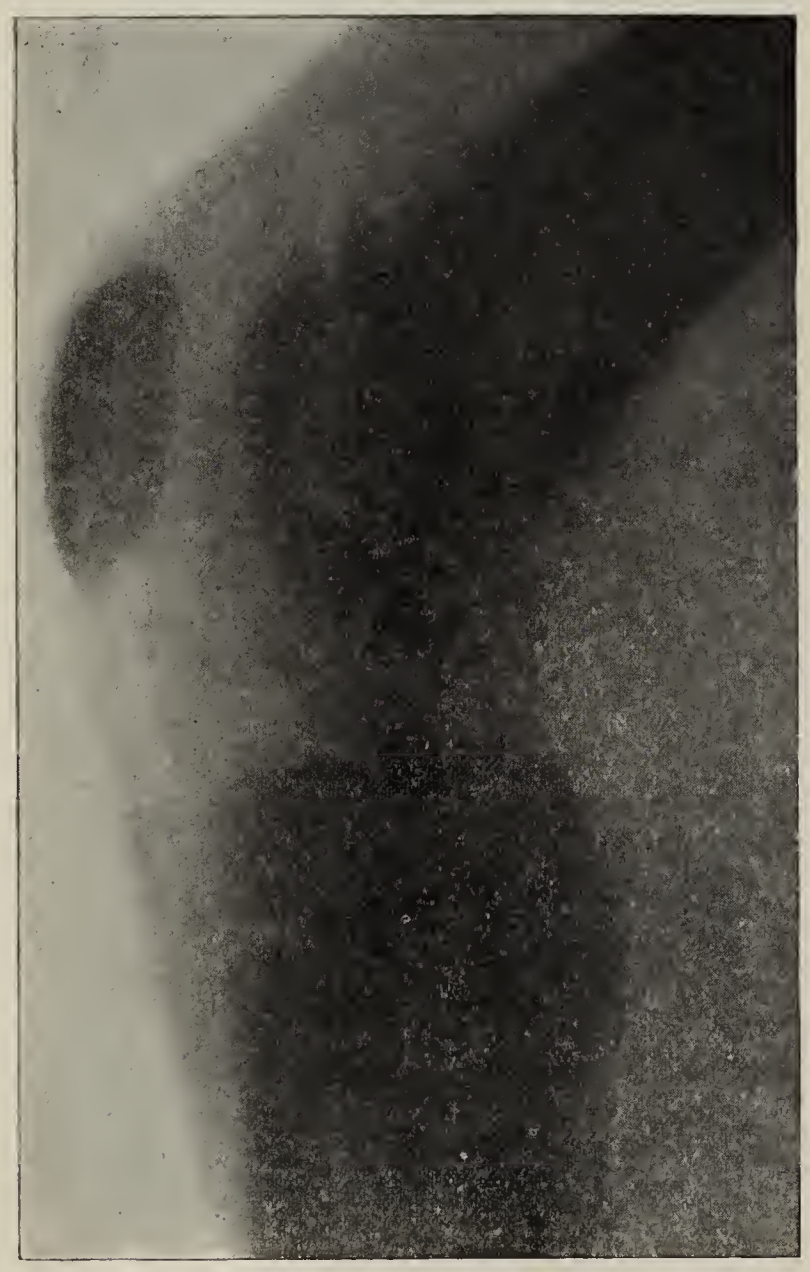


FIG. 5.

after excision, demonstrating the correct position of the bones from that point of view.

The estimation by x-rays of the relative size of bones and the relations between them must be accepted with great reservation. The data afforded by such radiographs are of value only when the relation of the tube



FIG. 6.

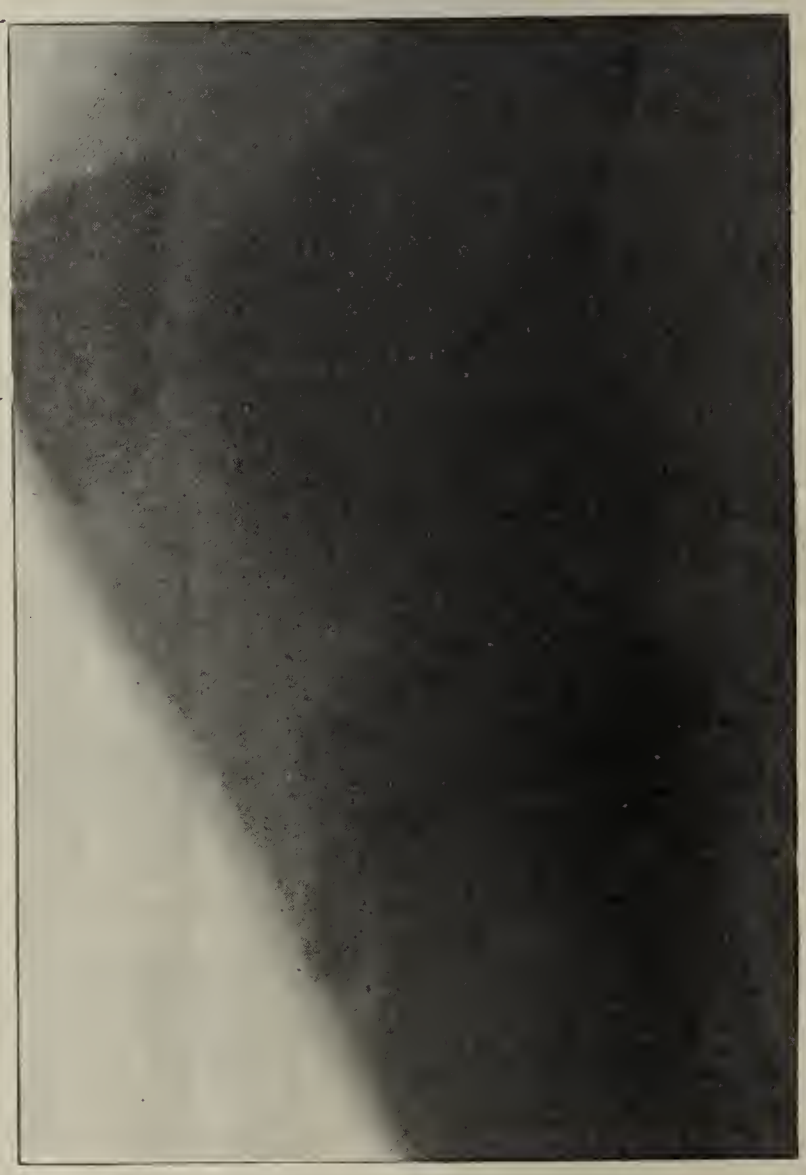


FIG. 7.

ıd plate have regulation with great accuracy. It is ısy to produce distortion of the shadows by very slight ifferences in the relation between the tube and the late, and very little inaccuracy in this respect is needed) produce considerable variation in the radiograph. .ttempts are sometimes made to demonstrate atrophy f one side of the pelvis in hip-disease, elongation of ne patellar ligament by comparison of the affected ith the well side, atrophy of one femur as compared ith the other, and the like.

My experience has been mostly with the static aachine, and most of the radiographs in the present

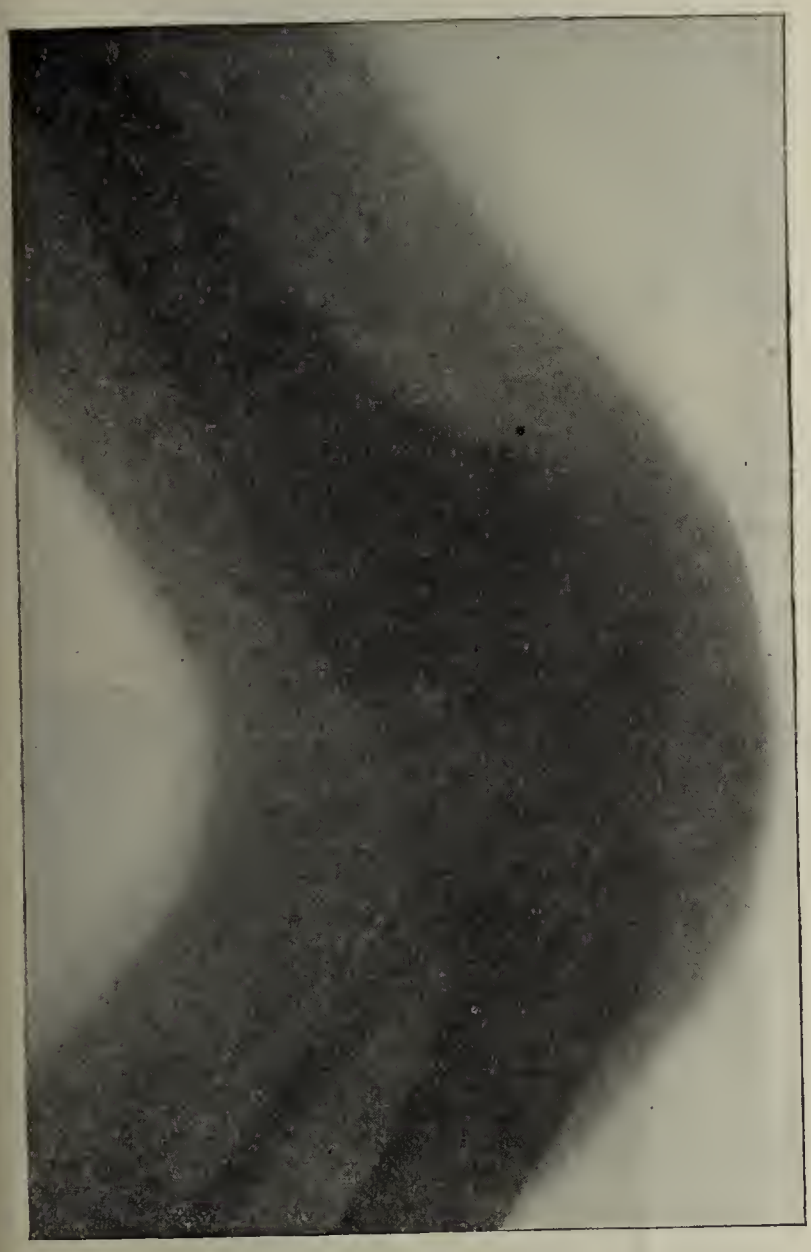


FIG. 8.

article have been made with a four-plate static machine. The rubber plates are 30 inches in diameter and are driven by an electric motor which is supplied with power from the ordinary incandescent lighting current of 110 volts.

The largest and highest tubes which can be made luminous have been used.

For the present purpose it is perhaps best to consider not so much what the most experienced observer can see with the best possible machine under the most favorable conditions, as what the surgeon may expect to see after some experience with such a machine as he might reasonably expect to have in his office.

Radiographs, as a rule, of course, give the best and most definite information, and often demonstrate conditions which are overlooked in the fluoroscopic examination. A noteworthy instance of this is found in the



FIG. 9.

exostoses of the bones of the feet where exostoses of small size are almost sure to escape detection, while in radiographs they are easily to be seen.

On the other hand, in certain cases, fluoroscopic examinations show more when it is desired for example to locate the head of a bone in more than one place, as in estimating the relation of the component parts of a joint. For instance, a fluoroscopic examination was more useful than any radiograph could have been in demonstrating the position of the head of the femur in an obscure case of anterior congenital dislocation com-



FIG. 10.

ing under the writer's observation, because it was possible to watch the head of the femur while the leg was manipulated.

To secure definition of bones in the radiograph con-

siderable distance of the tube from the part to be photographed is most important.

In the case of young children, and especially in infants, the transparency of the epiphyses is an obstacle in many instances to obtaining satisfactory information from the x-ray. The radiograph of the foot of a child



FIG. 11.

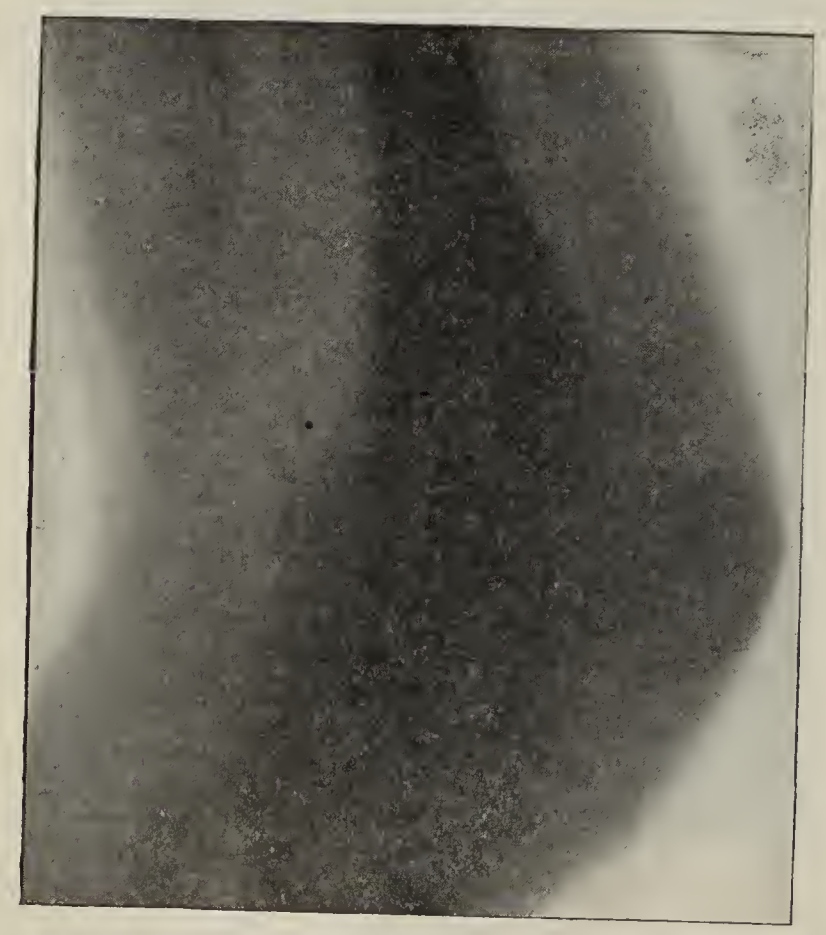


FIG. 12.

of 3 years old shows the condition at that age (Fig. 3). The radiograph of the foot of a child of 7 shows the condition at that age with regard to ossification. (Fig. 4).

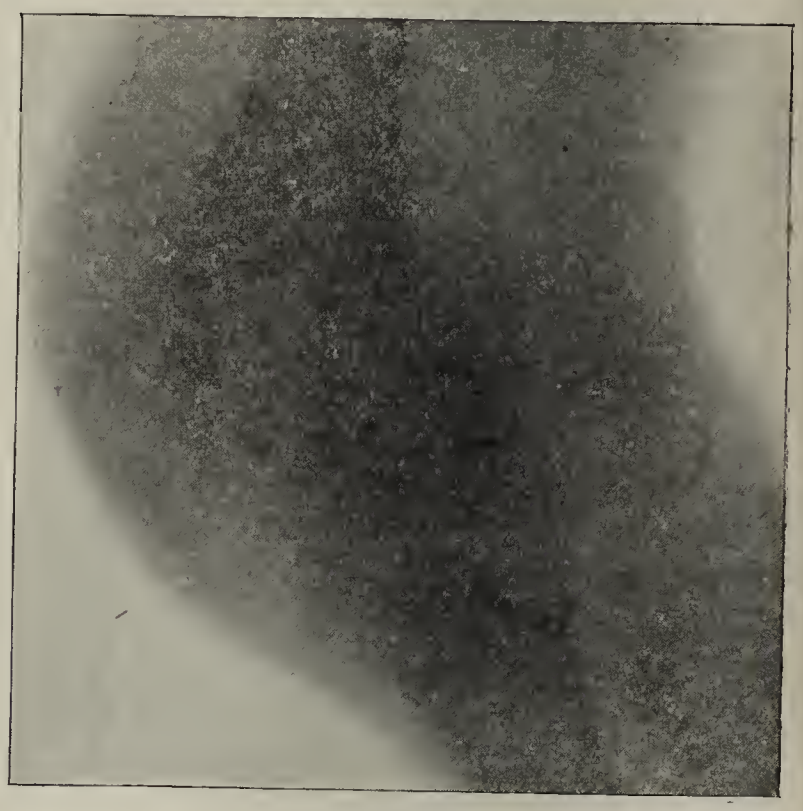


FIG. 13.

The knee of a child of 2, as shown in Fig. 5, makes it evident that very little is to be seen of the joint-surfaces at that age. In one knee may be noted a scarcely perceptible haze due to an acute traumatic effusion, an appearance to be spoken of later.

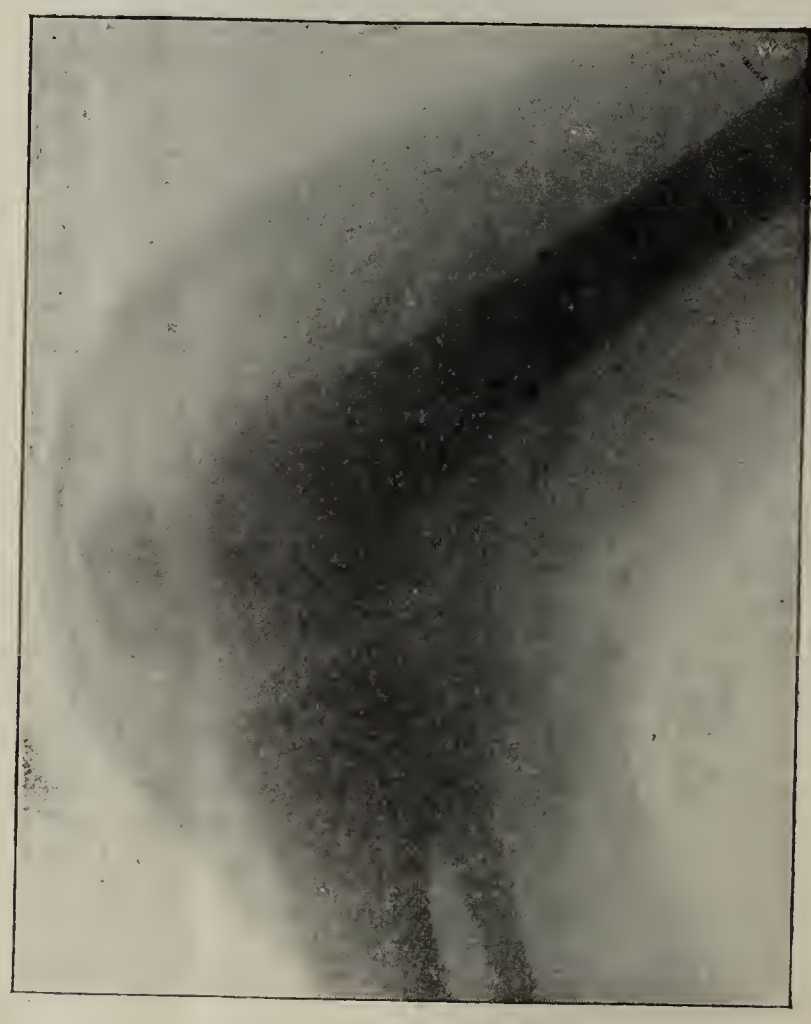


FIG. 14.

Clearly marked epiphyseal lines are seen in the healthy knee of a boy of 11 (Fig. 6); and up to the age of puberty the tubercle of the tibia may often appear

be detached, as shown in Fig. 7 in the case of a boy 13.

Separation of the epiphysis, however, when it is ified sufficiently, is easily detected by the x-ray. In g. 8 the boy, after a fall of moderate severity, devel- ed swelling and stiffness of the knee-joint, which,



FIG. 15.

en it was seen 6 weeks afterwards, was diagnosed probable tumor albus, after a careful examination. e real state of affairs was evident at once on x-ray amination. Congenital bony deformities, absence of nes, and similar conditions can, of course, in chil- en of sufficient age, be demonstrated by the x-ray. most frequent usefulness in this connection to the hopedic surgeon is in furnishing information, per- ps not definitely obtainable otherwise, in the case of ngenital dislocation of the hip. Here it is possible confirm or establish the diagnosis and after operation



FIG. 16.

demonstrate the reduction of the head of the femur. Fig. 9 is shown a congenital dislocation of both hips. Fig. 10 the radiograph shows the result of a reduc- n of a congenitally dislocated hip, the one on the ht of the picture. An osteotomy of the neck was sequently done to compensate for the twist of the neck of the femur. Both radiographs are from patients of Dr. E. H. Bradford. It is also possible in this way to differentiate in doubtful cases between fracture of the neck of the femur and chronic disease of the hip-joint.

Coxa vara may be recognized in radiographs. (Fig. 11.)



FIG. 17.

In disease of the joints the x-ray is most useful in furnishing diagnostic information often not to be obtained by other means.

Synovitis, if of sufficient degree, is made evident by an increased resistance to the passage of the rays which results in surrounding the ends of the bones in a slight haze, as seen in the radiograph. (Fig. 5.) There should be no definite loss of bony outline, but simply less dis-

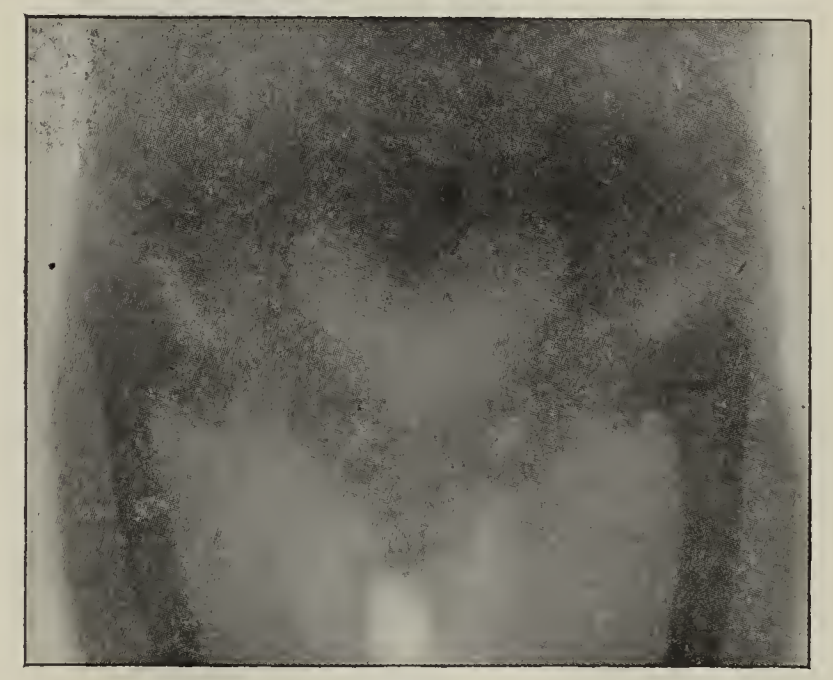


FIG. 18.

tinctness than normal. In fluoroscopic examination the bones fade in dark, clean-cut outline toward the joint-surface which should be distinct.

In tuberculosis of the joints it is generally agreed that small foci are not, as a rule, to be distinguished in

radiographs. Later (Fig. 12) in the distance, however, an appearance more or less characteristic is to be seen in the disappearance of the shadow of the articular end of one or both of the bones.

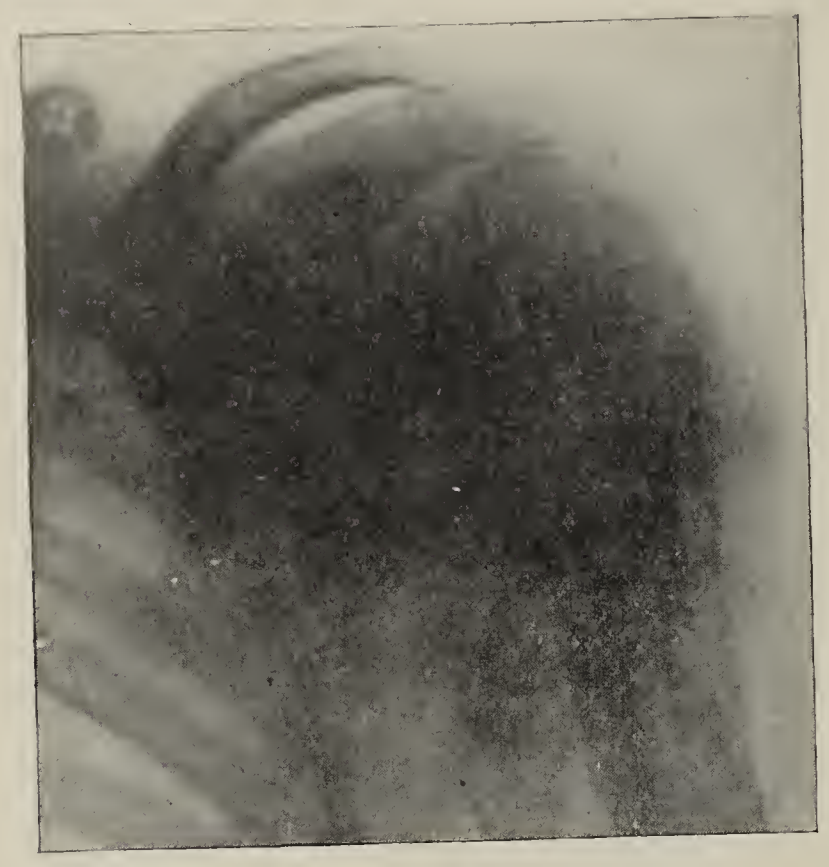


FIG. 19.

In a negative strong enough to give a definite outline of the bones forming a joint, it is very suggestive of tuberculosis or some process destructive of bone to find a place where the outline of the bone disappears

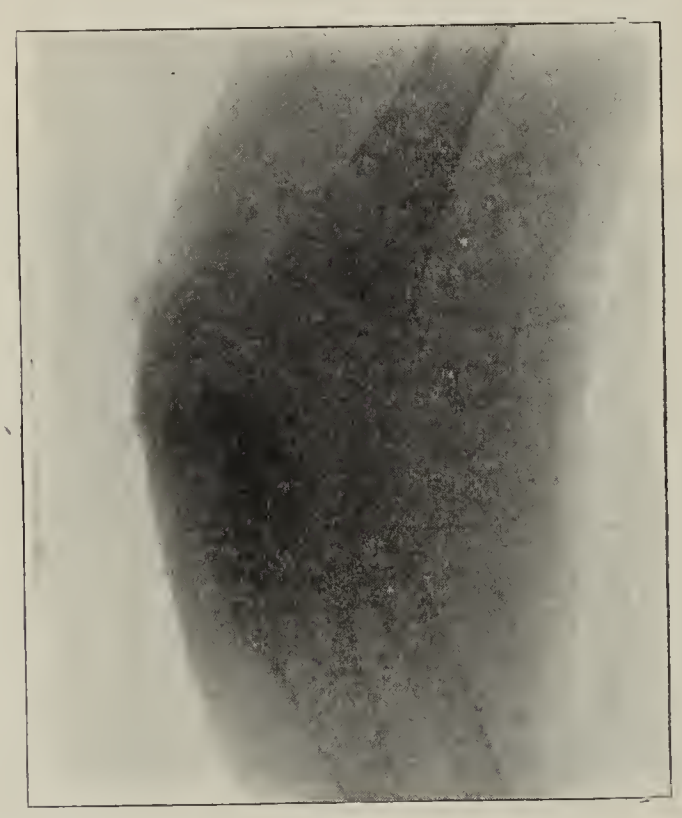


FIG. 20.

and is replaced by an indefinite cloudy appearance. In the illustrations it will be seen that the affected part of the bone is not to be distinguished definitely, but is replaced by a cloudy area presenting no definite outlines.

In the radiograph of the knee (Fig. 13) the indistinct ness of the lower end of the femur seemed to warran the conclusion that the chief destruction was at tha point. At operation one condyle of the femur wa



FIG. 21.

found to be extensively diseased, although preservi as a shell its outline, while the tibia was only supe ficially eroded.

In Fig. 14 is shown the radiograph of a case of tum



FIG. 22.

albus of 3 years' duration where exploration of joint showed no active destruction of joint-surfaces, a characteristic tuberculosis of the synovial membr and joint effusion.

In the radiograph of the hip (Fig. 15), whicl

representative of a case of average severity, the outline of the head of the femur will be seen to have disappeared with part of the neck, and to have been replaced by an indistinct cloudy area. At operation the head of the femur was extensively eroded, perhaps one-third having disappeared, but the cloudy area in the photograph extended further than the actual destruction of the bone. There was no effusion in the joint.

In Fig. 16 is shown the radiograph of a case of hip-disease 3 weeks after excision. The radiograph of the case before excision was similar to that shown in Fig. 18. Before the radiograph was taken a solution of one part of subnitrate of bismuth and two parts of glycerin was injected into the sinuses to demonstrate their course and extent. The irregular dark areas are due to this injection. This method will be found useful in demon-

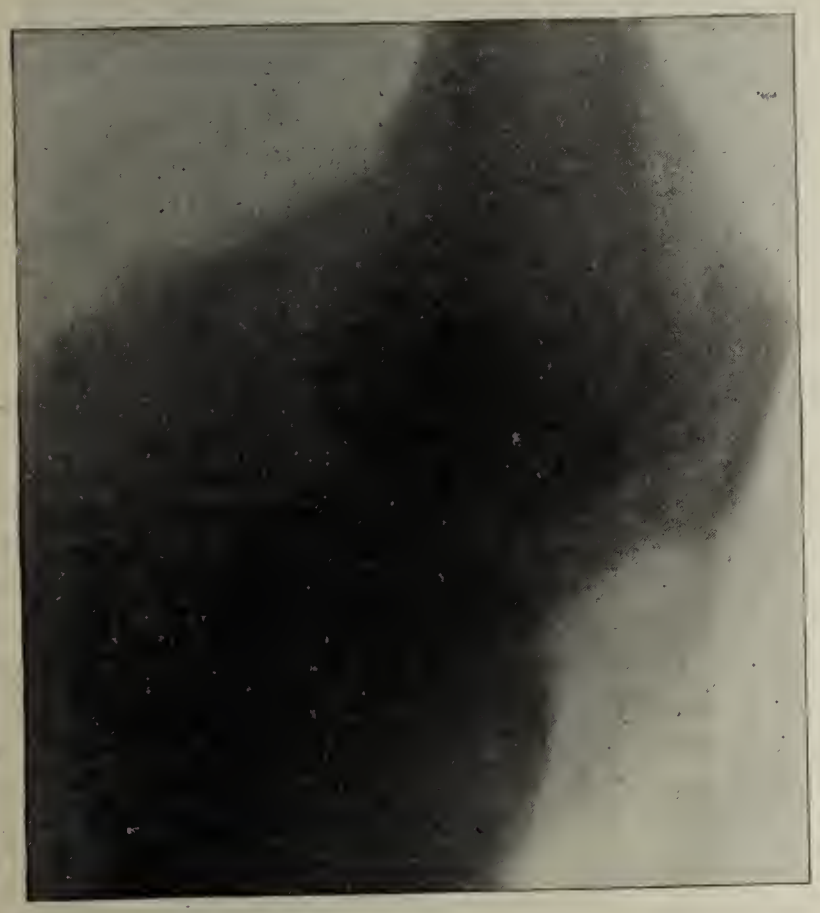


FIG. 23.

strating the course and extent of sinuses and abscess-cavities.

In acute infectious osteomyelitis the destruction of bone may be identified, and from Brun's radiographs (Figs. 17 and 18) the same cloudy appearance would seem to be present during the acute stage as in tuberculous disease. Separation of the epiphyses may be identified as well as thickening of the upper part of the femur. In the radiograph of the shoulder (Fig. 19), taken 17 weeks after the onset of the affection, the thickening of the humerus and the outline of a sequestrum may apparently be seen. This sequestrum was removed by Dr. Nichols.

In Fig. 20 is shown the elbow of a child of 2 containing a sequestrum, the result of acute infectious osteomyelitis.

In Charcot's disease (Fig. 21) bony destruction and displacement are to be identified. In the radiograph shown the diagnosis had been questioned between sarcoma of the elbow and Charcot's disease, and was only made clear by the x-ray.



FIG. 24.

In the arthritis occurring in the joints of bleeders the radiographs of two knees of patients under my care are shown (Figs. 22 and 23). In both, the joint-inflammation was active when the radiograph was taken. One shows only a dark shadow around the ends of the bones, while the other shows nothing definite.



FIG. 25.

Gocht has described, from 2 cases which he photographed, certain definite appearances, such as atrophy of the femur, irregularity of the epiphyseal line, disappear-

ance of the normal joint cleft, broadening of the intercondyloid eminence of the tibia, etc. The same dark cloud is apparent in his radiographs as that spoken of above.



FIG. 26.

In rheumatoid arthritis, exostoses are rarely identified; changes in the shape of the articular surfaces of the bones are to be seen when they are present; diminution or increase in the ends of the bones may be ap-



FIG. 27.

preciated, and atrophy and destruction of cartilage is made evident by a disappearance of the normal cartilaginous spaces, shown in the radiograph (Fig. 24), by apparently closer contact of the bones with less space between them.

Fig. 25 shows the radiograph of a case where the diagnosis was in doubt between chronic rheumatic and chronic tuberculous disease of the wrist. The radiograph showed a clear bony outline, and inoculation from the fluid of another joint in the same patient was negative as regards tuberculosis.

Fig. 26 is the radiograph of an adult patient with severe gonorrheal arthritis of the wrist, showing an in-



FIG. 28.

distinct area corresponding to the carpal bones, which should be separate.

In certain obstinate and painful cases resembling flat-foot, the x-ray serves to demonstrate the existence of spurs of bone running from the under surface of the back of the os calcis and sometimes from the back of the upper surface of the same bone. This information is not to be obtained by other means, and is most important in the matter of treatment and prognosis which is in such cases discouraging. They may be identified



FIG. 29.

when hardly larger than a big surgical needle and not over a quarter of an inch in length, and from this stage they apparently grow larger until they reach the size

shown in Figs. 27, 28, 29. They occur in connection with gonorrheal rheumatism, rheumatic gout, and in certain cases where no etiologic factor is apparent.

This paper leaves out the consideration of many conditions as important as those mentioned in this connection, but it has seemed best to the writer to dwell chiefly on those conditions in which the x-ray in his personal experience had proved most often of practical use; and conditions in which its conclusions might be open to question, or in which the necessary information might be obtained by other means, have been avoided.

It may be proper to add that none of the writer's radiographs shown have been in any way retouched or manipulated—a process always open to question.

Some of the more important articles on this division of the subject may be found in the references below.

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Calendar of Meetings of Philadelphia Medical Societies for the week ending January 13, 1900:

Monday, January 8—College of Physicians, Section on General Medicine.

Tuesday, January 9—Pediatric Society.

Wednesday, January 10—Joint Meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis, at the New Century Drawing Room, Twelfth and Sansom Streets, at 8.15 P M. Papers will be read by Dr. L. F. Flick, Dr. J. C. Wilson, Rev. Charles A. Dickey, Dr. Howard Anders, Dr. Guy Hinsdale, Hon. Judge Ashman, and Dr. E. A. Otis, of Boston, after which discussion of the care and treatment of the consumptive poor will be open to both physicians and laymen. After the meeting there will be a reception.

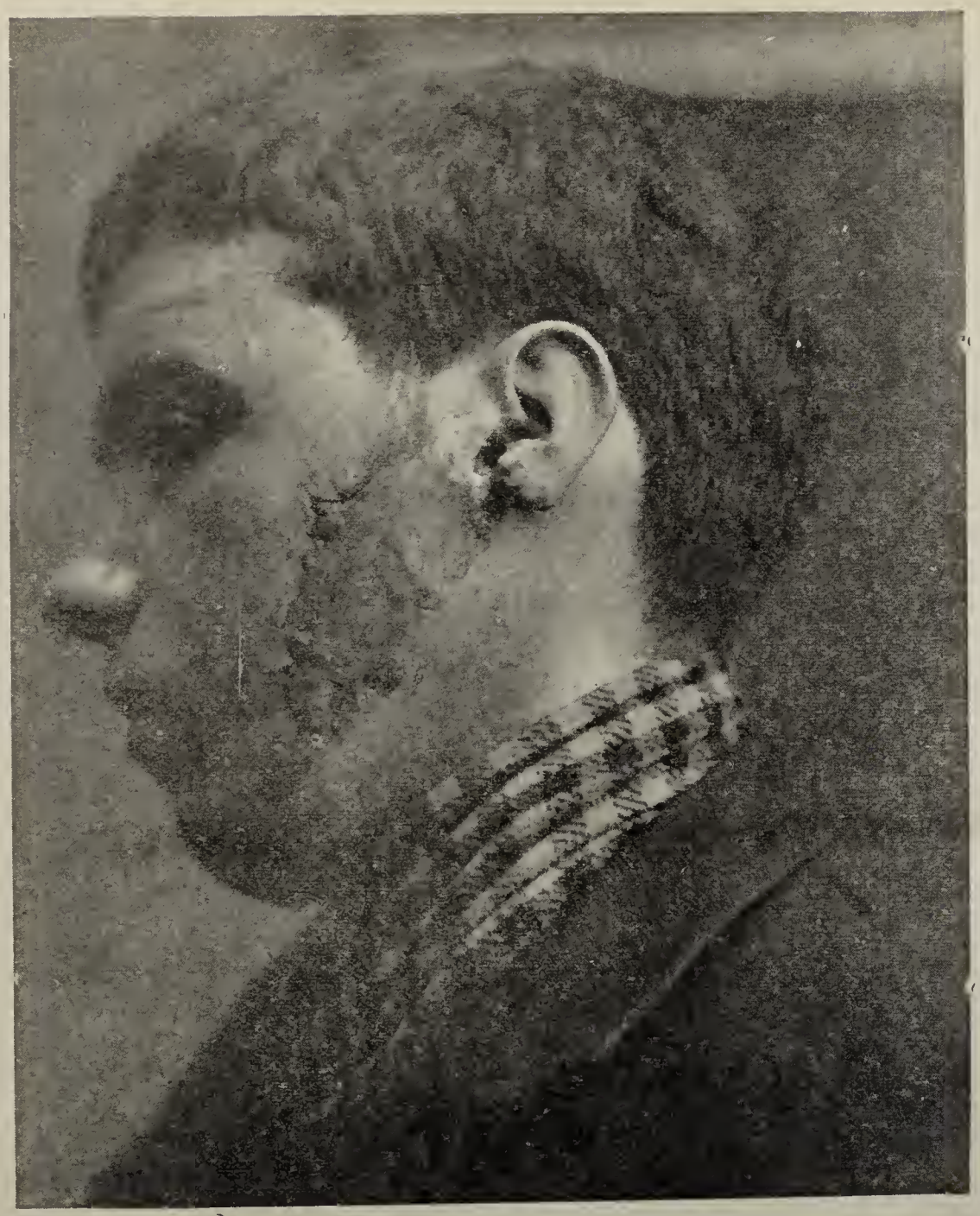
Thursday, January 11—Pathological Society.

Friday, January 12—College of Physicians, Section on Surgery.

Vital Statistics of Philadelphia for 1899.—According to the compilation just completed by the Bureau of Health, the total number of deaths in Philadelphia during the past 12 months was 23,796, a ratio per 1,000 of estimated population of 18.78. The total death-rate for 1898 was 23,790, a decrease of 6 from this year. Of the whole number of deaths in 1899 there were 4,560 under 1 year of age, 2,496 between the ages of 1 and 5, and 5,677 over 60 years. Of these 145 died from membranous croup, 849 diphtheria, 132 scarlet fever, 948 scarlet rash, 146 cerebrospinal meningitis, 2,818 consumption of the lungs, 2,424 inflammation of the lungs, 290 influenza, 1,482 heart-disease, 726 cholera infantum, and 766 old age. In typhoid fever there is an increase over last year of 209 cases, which was due to the epidemic of this disease that existed during the first 3 months of the year.

The following statement shows the ratio of deaths in the city for the past 12 years:

	Deaths.	Ratio per 1,000 Persons.
1888	20,372	20.04
1889	20,536	19.74
1890	21,730	20.76
1891	23,367	21.85
1892	24,305	22.25
1893	23,655	21.20
1894	22,680	19.90
1895	23,796	20.44
1896	23 892	20.17
1897	22,735	18.72
1898	23,790	19.18
1899	23,796	18.78



Lupus of the face before treatment.[1]



Lupus of the face after treatment.[1]

Treatment of Lupus by Röntgen-Rays.—C. T. Holland (*Archives of the Röntgen-Ray*, May, 1899) reports 3 cases in which he has used the x-rays in the treatment of lupus. A girl had had an irregular, chronic, punched-out, tuberculous ulceration of the foot for 11 years. It was very painful, and almost incapacitated her from walking. Treatment by caustics and scraping had been tried without avail. All treatment except the use of boric-acid ointment was stopped, and during 2 months the foot was exposed to the x-rays 19 times. After a month the ulcer was better and at the end of 2 months all pain had ceased In a second case (see cuts) a boy of 16 had had lupus of the left side of the face and left ear for 5 years. Caustics and scraping had been tried with but temporary benefit. All treatment except boric-acid ointment was stopped and the ulcer was exposed to the x-rays 17 times for 15 minutes during 2 months. After 11 exposures some hair began to come out and was rapidly shed until in a few days he was completely bald over the area exposed to the influence of the rays. At this time the lupus was drying up and at the date of final exposure was practically healed. There has been no recurrence, soft and healthy. In a third case the rays were used on a boy of 18 for lupus of about the same location and extent as the preceding case. The disease was of 11 years' duration and had been treated by scraping without benefit. After 18 applications during 1 month the patch ulcerated, but rapidly healed with boracic-acid ointment. There is considerable improvement to be noted, but the patient is not cured and is now undergoing further treatment with the x-rays. [M.B.T.]

[1] Cut furnished through the kindness of the Rebman Company,

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Albany's Filtration-Plant.—At a meeting of the American Society of Civil Engineers in New York City, on the 3d instant, a paper was read by Allen Hazen on the new filtration-plant of the city of Albany. The lecture was illustrated with lantern-slides. The plan of the filtration-plant was made by Mr. George I. Bailey, who was present at the meeting and discussed the paper. The chief reasons for building the plant were the sewage pollution of the Hudson River, and the large death-rate from typhoid fever in Albany. According to Mr. Bailey the average number of deaths from this disease in Albany for the 9 years ending with 1898, was 85 a year. In the 4 months that the filters have been in use only 7 deaths from typhoid fever had been reported in the city. For the corresponding months of the 9 years ending with 1898 the average number of deaths in Albany from typhoid fever had been 24. These figures are most significant, although the period of observation used for comparison is rather too limited to allow absolutely trustworthy deductions to be drawn. Still, we have no doubt that this filtration-plant in Albany will be a life-preserver on a large scale.

"Why I am not a Christian Scientist," is the title of a little booklet by Mr. Fred Erdman. Forty-five reasons are given for his declining, and these reasons are both witty and wise. We understand the author lives in Germantown, Pa. He should tell his readers how or where they might secure the book for the benefit of those only "half-seas-over." We cite a few paragraphs as specimens:

I am not a Christian Scientist because Rev. Mrs. Mary Baker G. Eddy has written a so called book entitled "Science and Health." Further reasons might seem superfluous to those who have read it; but there are others for the more fortunate.

Because of the following quotation from "Science and Health," which but thinly disguises the author's excruciating modesty—"The perusal of the author's publication heals sickness constantly. If patients sometimes seem worse from reading this book, the change may arise from the alarm of the physician or may mark the crises of the disease (!) Perseverance in its perusal has generally healed them completely."

Curing bodies which have no existence, through reading her immaterial book (price 3 fiat dollars) reminds one of the snake which slowly disappeared by swallowing his tail. Nothing but a promise of health could induce anyone to wade through this book, but, certainly, as Satan said, "All that a man hath will he give for his life."

I am not a Christian Scientist because: Mrs. Eddy says, "He who is ignorant of hygienic law is more receptive of spiritual power." This precludes a person of even average intelligence or cleanliness from becoming a great success as a Christian Scientist—but of course where ignorance is bliss and money, 't were folly to be otherwise.

Because Christian Scientists have resolved to reject the testimony of the senses, and therefore "they will not believe though one rose from the dead." This indifference to facts reminds one of the Irishman's remark about the dead snake which continued to move its tail: "He's dead, but he ain't conscious of it yet."

Imitation is the sincerest flattery, according to Colton, but we are surprised that the "Philadelphia Journal of Hypocrisy" should at last be imitated by contemptuaries who have so long been mocking and deriding us. To be forced to copy the fashions and methods of one so scorned and abused must have been a bitter experience. We will not suggest that imitating "hypocrisy" seems itself an exquisite refinement and a doubling of the sin of hypocrisy. But forced generosity may still bless the recipient, and so, at least those of our competitors who, by an irresistible stimulus, lessen their subscription-prices, enlarge their journals, increase the number of their assistants, adopt our plans of abstracting latest literature, etc., will benefit their readers. For many years the profession mourned unto the lay-publishers and they lamented not; for two years we ourselves have piped unto them and they did not dance. At last they begin to dance! It is, however, a somewhat sad sort of dance, and their smiles have the semblance of grins of doubtful and lugubrious significance. There comes to mind the story of rival shopkeepers: One put up a sign in his window, reading, *Mens conscia recti.* Not to be outdone the fellow across the street hastened to advertise, *Mens and womens conscia recti.*

The piping will continue,—and more lively than ever! The tune seems to suggest new steps and movements,—such, for example, as the abolition of reading-notices, a still greater increase in the number of pages, more decided reductions in the subscription-prices, and still greater servility in imitation! On with the dance! The profession will be the gainers. *But professional gratitude should not be misdirected.*

Native Drug Plants of the United States.—The Hon. James Wilson, Secretary of Agriculture, in his Annual Report urges the appropriation by the Government of $10,000 for the scientific investigation of our indigenous American plants.

Among the good things accomplished by the Pan-

American Medical Congress was the appointment of commissions in each country of the American Continent to classify, investigate, and report upon the indigenous drugs growing in such country. Mexico has practically completed her work upon her exceedingly rich medicinal flora, and it is earnestly hoped that the opportunity will not be allowed to slip of performing a similar, or better, service for our own equally rich republic. We append an extract from the Report of the Secretary of Agriculture, and not only warmly recommend the passage of this appropriation, but sincerely trust that every reader of this will immediately write to his Congressmen, urging the appropriation. There is no question that through such action many new and valuable plants will be discovered to enrich our materia medica.

"The collection of native drug plants in the United States, considered from a purely financial standpoint, aside from medical and humanitarian aspects, involves the expenditure of millions of dollars annually. The commercial extermination of some of the most useful species is already threatened, and doubtless others would be found in the same conditions were the facts known. The price of one native plant, ginseng, our exports of which average more than a million dollars annually, has more than quadrupled in the past thirty years, so that its cultivation, as urged four years ago by this Department, has now become profitable. It is clear from this and many similar cases that the native drug industry is capable of either decline or improvement, according to the way in which we handle it.

"The Pan-American Medical Congress has recently submitted to me a proposition to cooperate with this Department in a technical and statistical investigation and classification of our native drug plants. By accepting this proposal we shall secure, in a research of which we have long felt the need, the cordial assistance and support of an influential association of learned physicians; we shall encourage each of the other American nations, all of which are represented in the Pan-American Medical Congress, to proceed with a similar investigation of their own medical flora; we shall furnish a basis for the remunerative employment of much land and many people, and we shall stimulate the great growth and growing trade in drugs between the countries of North America and South America. I urge the appropriation of $10,000 to enable this Department to cooperate in this investigation."

The Progress of Medical Education.—In a thoughtful paper on this subject, published in a recent issue of the *Journal of the American Medical Association*, Dr. Bayard Holmes mentions causes for congratulation in the steady and even remarkable development of the past fifteen years. He also calls attention to some striking faults of the present system:

"The work of the medical school became a treadmill of lectures, recitations, laboratory work and clinical demonstrations, and the examinations became extremely burdensome to the student. . . . .

"Teachers who base their claim to efficiency on the difficulty of the questions they ask and the severity of their markings, and teachers who magnify their own departments, and require a greater proportion of the student's time than a wise supervision could allow, and teachers who deprecate the importance of one form of teaching—*e.g.*, laboratory work—and exalt that form of teaching which seems to them more practical—*e.g.*, clinical teaching—have made the life of the medical student an extremely hard one, and at the same time they have disturbed the administration by constantly 'plucking' a large proportion of students on the eve of graduation. The teachers of medicine have been paying too much attention to the subjects or else too little to the students they were teaching, and to the manner in which they were doing it. The teacher of chemistry has devoted himself to the study of chemistry, and he has paid no attention to the study of the student and the student's need of chemistry, while he has paid no attention to the method of teaching chemistry so as to make this most useful to the physician the student expects to become. Anatomy is now taught by an anatomist who does not practise medicine, and who has forgotten all but the most obvious reasons why the medical student should study the dead human body. The greater topics in anatomy, from his standpoint, are the topics the most difficult to comprehend. The sphenoid takes more time from the student then the elbow-joint. Anatomy is studied as if it were disconnected with the living human body and the practice of medicine.

"The same may be said of the teacher of pathology, and of practically every teacher in every medical faculty, except perchance that teacher happens at the same time to be the secretary or dean of the faculty, and therefore brought in contact with the student in his general relation to the college."

As a remedy for this state of affairs he suggests:

"Before any change can be made which will unify and coordinate the medical curriculum, every member of the faculty must be brought into harmonious sympathy with the idea that the medical school is to educate and not to instruct; that it is to develop the power of the student to cure the patient, and not the ability of the student to answer questions or perform academic or laboratory feats. This, it seems to me, can be brought about by a more intimate subordination of the faculty and the curriculum to a medical educator, of which class of men most faculties possess two or three, rather than to a venerable or honorable dean, whose employment and disposition leaves each teacher to a complete independence in regard to the management of his own so-called department. Medical education is not a preparation for the practice of medicine, but it is and must be the practice of medicine itself. The work done by the student must have an adequate and immediate object. This object must always be the cure of the patient. The work must be done in the best, most thorough and most artistic manner. It must be finished to the very end, and this end is to the point of making the work, research or investigation useful. All this work is to be done with the primary end in view, of curing or caring for some particular patient, but the hidden and essential end is the education of the student. And again, let me insist that the great object of any true plan of medical education will and must from the start put the student in the place of the physician. It will secure progress, will secure such an interest on the part of the student, such a concentration of purpose and such an intensity of application as will make it resemble the play of children. It will raise medical education to a plane and dignity worthy the support of private endowment and State aid, and make the medical faculties the pride of the medical profession. It will regenerate the body of the profession by infusing new blood and new spirit, and it will call forth into medicine the best educated young men in the land, who are now repelled and driven into other occupations by the unpedagogic methods of our schools."

A More Thorough Operation for Tuberculosis of the Lymph-Glands of the Neck.—In a lecture recently delivered before the Harveian Society of London, Mr. W. Watson Cheyne (*British Medical Journal* and *Lancet*, December 16, 1899) discusses the subject of cervical lymphadenitis of tuberculous origin, in a very thorough and original manner. As to the etiology of the affection the lecturer concludes that there is no proof of the theory that the infection of the glands results directly from carious teeth, the tonsils, eczema, etc. He considers it more probable that the trouble in the throat, teeth, etc., leads to a true acute inflamma-

tion of the glands, thus weakening their resisting power, and the infection is caused by a deposit of the bacilli from the blood, in the same way that joints often become affected with tuberculosis when weakened after a sprain or some other injury. If the glands remain small and hard there is usually no necessity for surgical intervention. Good hygienic conditions, with the use of ordinary medicinal means, especially arsenic, are sufficient. If there is progressive enlargement of numerous glands causing deformity, the condition may exist for some time without suppuration, but the removal of the glands is necessary. If caseation and suppuration take place some surgeons prefer scraping out the glands. Mr. Cheyne does not approve of this for the reason that smaller glands, which are also affected, are left untouched, and because tuberculous material is likely to be left behind, which infects the wound and leads to recurrence. Only in case a gland has completely broken down should it be scraped out and iodoform and glycerin emulsion injected and the wound stitched up. Tuberculous ulcers and sinuses resulting from the breaking down of glands are best treated by excision and application of undiluted carbolic acid. In the operation for removal of glands Mr. Cheyne advises more radical measures than have usually been considered necessary by most surgeons. He proceeds in much the same way that is now generally practised in operations for carcinoma of the breast in clearing out the axilla. Not merely the affected glands, but also the fat must be removed in a single entire mass, for in it are usually imbedded smaller glands which would be otherwise overlooked and would give rise to return of the affection. The key of the operation is the exposure of the jugular vein at its lower part, for the chief danger of the operation is in tearing or puncturing this vessel. This trouble is avoided, if, having turned aside the skin, the deep fascia is divided below the glandular enlargement, exposing the vein and opening its sheath. Then, beginning at the lower part, below the area of enlargement, the entire mass of tissue is removed, working upward and dividing the branches of vein after ligation, if necessary. In all cases in which there are sinuses and practically all in which suppuration is present, the vein is divided between two ligatures and taken away along with the mass of glands. No difficulty is found in preserving the descendens hypoglossi nerve. The spinal accessory nerve should be carefully located by turning back the edge of the sternomastoid and peeling off the fascia from its deeper surface to the point of entrance of the nerve. The mass of glands is usually divided into two parts by this nerve. When the nerve is found, usually at the upper part of the muscle, a probe is passed upward along it and after it is thoroughly defined, the glands are torn asunder over it. In certain cases it is necessary to divide the sternomastoid muscle at the upper part in order to expose the region thoroughly. If the operator proceeds in this methodic manner the chances of recurrence in the anterior triangle are extremely slight as all the glands are removed.

We are not aware that so thorough and extensive a method of operation for this condition has been advocated previously. All surgeons recognize the unsatisfactory results of operation for tuberculous adenitis as usually performed and that recurrence is almost the general rule. Although this condition cannot be considered so dangerous to life as carcinoma of the breast or other parts of the body, there seems to be little doubt that tuberculous infection of some other part of the body which frequently gives rise to a fatal result may, and often does, arise from diseased glands of the neck. The splendid results which have followed the modern thorough operations for carcinoma of the breast (which, by the way, owe their popularity in England in no small part to Mr. Cheyne's influence) seems to indicate that similar favorable results may be expected by the application of the same thorough methods in operations for tuberculous adenitis.

Involvement of the Motor Cortex of the Brain in Amyotrophic Lateral Sclerosis.—The disease called amyotrophic lateral sclerosis has long been known to be almost purely an affection of the motor system. Nine cases of the disease in which the degeneration has been traced to the cerebral cortex are reported in the literature of the subject. Very few of these cases, however, were studied by the Marchi method, which is probably the only method by which the extent of cortical degeneration can be determined with anything like accuracy. With this knowledge in mind Dr. William G. Spiller has undertaken to map out the extent of the motor cortex by studying the degeneration in this area in a case of this disease. A paper embodying the results of his study was recently presented to the Philadelphia Neurological Society. The degeneration in his case being primary, *i. e.*, not resulting from a focal lesion, and involving only motor fibers, Dr. Spiller thought it might be regarded as an experiment performed by nature for the determination of this area. The importance of the knowledge of the extent of the motor cortex, especially for surgical work, is great. English experimenters have been active in determining the extent of the motor cortex by experiments on animals, and their results, confirmed in numerous cases on man, especially in this country, are in the main trustworthy, and constitute the bulk of our knowledge on this subject. Lemacq has summarized these results in a monograph, in which he depends largely on the work of American investigators (Keen, Mills, Deaver, Lloyd, Dana, and others) who have made electrical experiments on man in trephining operations. Dr. Spiller thinks that it does not follow that the motor cortex of the higher apes corresponds exactly with that of man, and that it is still desirable to confirm by

minute histological research the results obtained by faradizing the human cortex. In surgical work, he thinks the cortex may be more or less distorted by tumors or other lesions, and there is always difficulty in recognizing gyri through openings in the skull. In reply to this criticism, however, it is well to say in passing that not a few of the human subjects thus far operated on were without gross lesions, and that the difficulties of recognizing gyri are much exaggerated by some critics, especially now that surgeons uncover with impunity such large areas of the cortex. Dr. Spiller undertook to map out the motor cortex in his case of amyotrophic lateral sclerosis by studying small pieces of the tissue taken from many parts of the cortex, and carefully noting the degenerated area. He claims that he has thus been able to map out for man a cortical motor area corresponding closely with the diagram given by v. Monakow in his *Gehirnpathologie*. It thus seems that Dr. Spiller's observations are simply confirmatory of the results obtained from previous experiments on animals and observations on the living human subject, and tend to prove that these experiments and observations are reliable even if the results are not yet complete. They, moreover, do not tend to establish the theorem that the motor cortex of apes differs essentially from that of man.

Dr. Spiller is the first who has resorted to this method of mapping out the motor cortex, and his paper therefore embodies the results of original work. The reliability of this method must rest, of course, upon the assumption that the whole of the motor cortex in his case was degenerated, and that the technic used by him gave unmistakable findings. On these two subjects it is perhaps premature to express a definite opinion until a group of cases have been studied and the results collated.

As a means of cerebral localization this method is, of course, only valuable in its gross results, because obviously it supplies no data for differentiating the various centers, a knowledge of which is the essential thing in practical cerebral localization.

Suggestions to Writers, No. 54. Refract as a Transitive Verb.—A critic recently took us to task, and most savagely, for using the word refract transitively. We had dared the barbarisms, "I refracted the patient," or "his eyes were refracted." Although punished we are still as refractory as ever, for we have no sort of patience with the folk who think man was made for language, instead of language for man. Why do languages, thousands of them, exist, instead of a single tongue? The test of usefulness is supreme in all such cases. From our ironic correspondent's tone one would suppose that his own letter and language, indeed all dictionaries were not filled with proofs that words acquire new meanings, and that intransitive verbs are made to serve transitive functions. The word-fetich man, the sneerers at change and progress in philology, are amusing people, at least until dogmatism and silliness reach madhouse-intensities. To refract a person, or his eyes, are terms used thousands of times every day by all oculists, and aid us so much in expressing facts that if they were as illogical and absurd as the pernickety sticklers themselves, could not be killed; nor can they be kept from the written language when so habitual in colloquial use. The ocular structures refract the rays of entering light. The oculist uses lenses to measure and correct the abnormalities of this refraction; he therefore himself refracts by means of these tools. What or whom does he refract? Only the light? Primarily of course, yes, but has the act no effect upon the eyes or upon the patient? We think it has. How then name the effect? As is done with thousands of other words, by the use of primary terms, extended so as to include the secondary effects. You do not spank a child or castigate a philologic prude. In the first instance you only spank the child's skin, as in the second you only irritate the tympanum of the egotist's ear. It is fortunate if any mental change whatever results.

Medical Sermonets, No. 12. The Lesson of a Life.—It seems that our honored colleague, Dr. Jacobi, of New York, tiring of the misrepresentations concerning the American profession by the American correspondents of German medical journals, has determined to enlighten our transatlantic confreres. We call attention to the noble letter in the *Deutsche medicinische Wochenschrift* of December 7. We wish we could translate the whole of it; we can spare space only for mention of one part, in which Dr. Jacobi splendidly meets the charge of our professional dishonor and fraud so long and widely believed, and which has gained currency by the absurd generalization from a few striking examples. We cannot do better than roughly to translate Dr. Jacobi's words, which at the present moment, because of a recent death, and as if forefelt by a prophetic *Ahnung* on the writer's part, have an astonishing pertinence:

Ignorance leads to indiscriminate acceptance of calumny and rumor, and has resulted in the dogma of American quackery. As an example of generalizing from one unfortunate instance let me allude to a single case. Some 20 years ago, in a gathering of German sceintists, conversation fell upon the subject of neurology in America, and I was asked concerning a physician whom I at once pronounced a quack, and whom, despite certain services, no American physician would credit with anything but lies, invented case-histories, and unprofessional conduct. At which there was much surprise! The life of this gifted, famous, and "successful" man has proved the truth of my psychologic diagnosis. His inethicality, his hunger for notoriety, even of the worst newspaper kind, his duplicity with patients, soon made him professionally "impossible." In this country personal advertisement, even the making known of the specialty is forbidden. Whoever sins against this law—since 1882 in New York an unwritten law—must suffer the consequences. He is shut out from medical societies, and his reputation is undermined. Even old sinners are glad, after years of silent penitence, to pass as respectable and admissible as members, and the most extreme subtlety and political cunning are required by the notoriety-seeker to avoid the rocks upon which his professional career may be shattered. After this gentleman had become one of the impossibles in New York he moved to another city in which wire-pulling, both politic and impolitic, is the order of the day, and there he established a large institution whereby success—his advertisements swarmed in the

newspapers—was sought by every kind of trickery and fraud.

And what was the result of all this so-called American quackery? Although gifted beyond ordinary men, and favored by opportunity, after the attainment of the most enviable position in early life—yet shunned and avoided in old age; after a splendid income obtained in regular practice, twice a disgraced bankrupt; despite an organizing talent and governing ability, admired and honored by all his professional brethren—now, for many, many years, left without a sign of respect, and of him there remains scarcely a remembrance. "Lost and forgotten,"—such are the prospects and the consequences of quackery in the medical profession of the United States!

Correspondence.

OBJECTIONABLE ADVERTISEMENTS IN LAY JOURNALS.

By T. H. FARRELL, M.D.,
of Utica, N. Y.

To the Editor of The Philadelphia Medical Journal:—

Apropos of your editorial on December 9, "One Great and Popular Lay Journal Our Friend," I wish to draw your attention to another lay journal (of a semireligious character) which consistently excludes all quack advertisers. In one number appeared an "ad." concerning the suction method of treating eyes, with cut of apparatus. I at once protested, and in reply was informed that the obnoxious advertisement had already been cut out and was only inserted through some inadvertence. This journal is the *Outlook*. I look through the advertising columns every week and am always pleased to find them free from objectionable advertisements.

INSTRUCTION IN MASSAGE.

By JOHN MADISON TAYLOR, M.D.,
of Philadelphia.

To the Editor of The Philadelphia Medical Journal:—

I see in your issue of December 30, 1899, an inquiry as to whether any systematic courses in instruction in massage are given in the American Colleges. It has been my privilege to lecture on this subject for 10 or 12 years, at the Orthopedic Hospital, where Dr. John K. Mitchell and myself give a full course—he in the Autumn and I in the Spring. This enables me to keep in touch with this very important subject, and so I can speak with some knowledge of what is done in Philadelphia. I do not know of any course of instruction involving systematic lectures at the hands of physicians of any prominence on this subject elsewhere. This is my impression, although I have no doubt it is possible that there is such. I hope that your inquiry will be followed by information on this subject, which will enable us to compare notes and learn something. Meanwhile, let me express my belief that much good would result from a diffusion of knowledge to practitioners of medicine, generally, on this most important branch of therapeutics. The reason why mechanical therapeutics has failed to obtain the recognition it deserves is because so few men acquire sufficiently the accurate knowledge of its possibilities. Those who possess this knowledge and are able to direct intelligently the use of these measures, will get extraordinary results, not only unobtained, but, I venture to assert, unattainable by other means. In proof of this statement I should be glad to say more than is warranted in the present communication. Let me say in illustration that one of the chief sources of difficulties lies in the fact, learned through the experience of our graduates, that, however capable they may be to do good work, they meet but very few medical practitioners who are capable of giving them cases suitable for this work, or intelligently directing the progress.

ANTIVENENE AND THE CURE OF LEPROSY.

By ALBERT S. ASHMEAD, M.D.,
of New York.

To the Editor of The Philadelphia Medical Journal:—

In Dr. Woodson's article, Philadelphia Medical Journal, December 23, page 1231: "The treatment of leprosy by injection of Calmette's serum antivenene," I read: "He (Dr. Dyer) deduced his premises from the fact that Carrean *of Jamaica*, in 1892, had reported a case of leprosy having been bitten by a serpent, in which there occurred a marked amelioration of tuberculous lesions *in the course of recovery* from the effects of the bite." (Italics mine.) Dr. Woodson here makes the same error that Dr. Dyer made, by stating that the patient of Guadeloupe (*not Jamaica*) recovered. The truth is this patient *died within 24 hours.*

Dr. Dyer's premises being false, his conclusions cannot be logical: Antivenene is therefore *not curative* for leprosy. I merely add that for a great number of years the common people of Papayan, Colombia, where there are 6,000 lepers, under the grossly mistaken impression that leprosy thickens the blood, have used various remedies to refine it, for instance, *the bile of the viper*, which *gave no results at all.* My authority for this last conclusion is Dr. A. Costa, of Colombia.

HYDROSTATIC METHOD OF LOCATING AND MEASURING THE STOMACH.

By H. W. LINCOLN, M.D.,
of Brooklyn, N. Y.

To the Editor of The Philadelphia Medical Journal:—

I read with interest in your issue of December 30, 1899, the criticism by Dr. H. L. Benedict, of the letter on the above topic by Dr. E. T. Rulison, in your issue of December 16, 1899. It is certainly just, and I substantially agree with Dr. Benedict. I have not, however, experienced the loss of 1000 cc. to 1500 cc. during lavage; never more than 200 cc. or 300 cc., and this during the employment of the funnel apparatus. It seems to me, except in cases of great pyloric relaxation, almost impossible for such large amounts to be lost. In my office, where I make use of the Leube-Rosenthal principle and always have vessels of equal capacity for supply and waste flows, I have experienced little or no loss. I would like to suggest and recommend for mopping out the stomach the method of inflation by the attachment of an ordinary atomizer-bulb to the external end of a stomach-tube. It is clinically exact, simple, disagreeable only as it is made so by the operator, rapid, and, best of all, free from danger, and controlable. It has the advantage over the sodium-bicarbonate and tartaric-acid method in that the air may be at once liberated entirely, thus relieving the patient of all unpleasantness. In many cases I do not deem it necessary to determine the exact size of the stomach—there being no evidence of stenosis, dilation, or stagnation. Hence the location may for all practical purposes be defined by the splashing and succussion sound.

HIGHER MEDICAL EDUCATION AND THE MEDICAL COUNCIL.

BY HENRY BEATES, JR., M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN an article from the pen of Prof. W. W. Keen, entitled Higher Medical Education and the Medical Council of Pennsylvania, which was published in the PHILADELPHIA MEDICAL JOURNAL of January 6, occurs the following:

"In fact I believe that, if for example, the president of Brown University gave a certificate to A. B. that he had 'studied medicine' for one year in Brown University, covering the subjects below enumerated,

College Studies	*First year in Jefferson*
Human Anatomy	Human Anatomy
Histology	Histology
Physiology	Physiology
Chemistry	General Chemistry and Toxicology
General Biology	Materia Medica and Pharmacy
Mammalian Anatomy	Bandaging
Physics	Bacteriology
Zoology	
Embryology	

and the Dean of the Jefferson Medical College gave him a certificate that he had 'studied medicine' for three years and graduated at the Jefferson, the Board of Medical Examiners would be obliged by law to admit that he was qualified. In a conversation with Dr. Beates, of the Medical Council, the other day, he agreed with me that this would necessarily be the interpretation of the law."

I beg leave to state that Dr. Keen has misunderstood my belief concerning the interpretation of the Act of Assembly which governs the practice of medicine in this Commonwealth, and when the assertion is made that I agree with him in the view of which his article is exponent, he inadvertently creates an erroneous impression.

The cited hypothetical case is precisely what the Medical Council, in the discharge of its administrative functions, believes to be prohibited by the Medical Law of Pennsylvania, and with this attitude I fully concur. Beyond all doubt, the law was enacted for the especial or specific purpose of effecting that standard of medical education which is to be a guaranty that the degree of M.D. embodies the fulfilment of those conditions which secure to the laity, safety against the evil consequences of incompetent physicians and surgeons. I firmly believe that the existence of the medical law is proof positive that such a standard of medical culture had not, prior to its enactment, been prevalent; indeed, as is well known, did not exist. As an administrator of our law, I unhesitatingly assert that the standard the Act of Assembly legally requires, is not yet established. The law demands that the Medical Council must, among other things, have proof that the candidates for examination for license to practise in Pennsylvania have "studied medicine" at least four full years, three of which shall have been pursued in a legally incorporated medical institution, *i. e.*, school or college.

The exercise of this law has developed a system which is operative, by reason of its conditions, as a process that should be recognized and named, a short cut to the medical degree. Advantage is attempted to be taken of the phraseology of the Act of Assembly, and so arrange studies of sciences that happen to be taught in the medical curriculum, as well as in literary, scientific, biologic, pharmaceutic, veterinary, medical, and dental schools, that a substitution of one or all of these can be made, and claimed to be the equivalent of the first year of medical instruction, and thus, so doing, and attending medical college only three years, candidates pose as having "studied medicine" as the law requires, four full years!

The study of the science of chemistry, the science of anatomy, the science of physiology, the science of physics and such subdivisions as embryology and histology, must not be confounded with the study of the medical aspects of these several departments of scientific culture. They constitute, only, as the literary colleges happily designate, courses of study preparatory to the study of medicine.

If there coexists an identity of work in these sciences, in the curriculum of the literary college and that of the medical school, something is radically wrong, if substitution is indiscriminately practised in such a manner as to constitute a year of work in the legal requirements of one or the other, as the occasion would render desirable. The fact is that the topics included in the left-hand column are sciences, the principles of which must first have been mastered to enable a student to differentiate and become proficient, let us say, in sculpture and painting, if anatomy be instanced, or agriculture, analytical chemistry and physiological chemistry, if the science of chemistry be used as an illustration—medical anatomy and medical chemistry, and not the science of anatomy and the science of chemistry, are what the law exacts.

The law is for the protection of the people against unfit practitioners of medicine and surgery. It has nothing to do with the medical colleges. The law exacts a certain standard of medical culture, very plainly designated, and this the Medical Council is obliged to require. My conviction is that the medical college fails to completely discharge its responsible duties, to both the profession and the laity, when it admits to its halls students whose ability to intelligently pursue medical study is determined by institutions whose function it is to educate men in other learned callings. The medical college should have an entrance examination peculiar to its especial purposes, and most certainly embody the unquestioned possession of the mastery of the principles of those general sciences, many of which contain a distinct medical individuality. This would enable the establishment of a curriculum specifically medical, and secure students who would have been so educated or prepared as to at once commence the mastery of the medical side of chemistry, anatomy, physiology, and physics. To advance a standard in any department of culture, whether literary, scientific or medical, it is essential that that particular curriculum be adequately formulated and arranged. It seems as puerile as illogical to state that learning in one career is made a property of another, simply because a well grounded medical man, for instance, takes, in addition to his degree in that science, one in philosophy, art or science, or the reverse as is generally contended. The question confronting the Medical Council is, not how many degrees and titles a medical man may have, but, legally, how high a degree of medical qualification he possesses, and in my services performed in the discharge of the trust, which it has been a privilege and honor to enact for the profession, this manifest intent and purpose of the law has determined action.

Of others, I quote a letter of the Dean of the Medical Department of the University of Michigan, because it plainly and disinterestedly sets forth the problem in which we are all interested.

DR. HENRY BEATES, JR.,

President Pennsylvania Board of Medical Examiners:

Dear Doctor:—I am very glad indeed to know that your Board intends to require four full years of actual medical study. The practice of allowing students from literary colleges and academies to enter the second-year class in the medical school, is doing great harm to medical education in this country, and tends to neutralize the good that has been done by State Boards of medical examiners. Many small colleges and academies are now giving what they call preliminary medical courses. As a rule, the work in these courses

is done in a very inferior manner. The practice is growing constantly, and I am frequently urged to grant one year's time to students who have graduated at colleges that are but little better than high schools. We have always held our students to certain definite medical work. We have given credit for certain branches taken at Cornell, Princeton, Yale, and other good schools, but we have never done as many other schools are constantly doing when they grant one or two years of time to graduates of literary colleges. I hope that your Board will be able to sustain the position that you have taken, as I believe it will be for the betterment of medical education. Please understand definitely just what our position here has been on this matter.

If a student has taken elsewhere a course in chemistry equivalent to that given to our own students, we may give him credit for such a course, but we do NOT give him credit for a *year's work* because he is a graduate of a literary school.

In 1899 I became a member of the Medical Council, and among the first duties was to pass upon the eligibility of a candidate for examination by the State Board of Examiners. The gentleman's certificate of medical education set forth the fact that he had "studied medicine" in a regularly incorporated medical college for three years, but as an equivalent for one of the four years of medical "study" required by law had substituted the degree of Ph.G. This raised the question, and after many weeks of a careful consideration and examination of the whole matter, the Medical Council adopted the resolution which sets forth the duties it is bound to discharge, under the Act of Assembly, and which compelled it to give official notification to medical as well as all colleges, literary, pharmaceutic, dental, also high schools, normal schools, etc., that had begun to "teach medicine," that the prevailing custom of allowing their work to count as one whole year of medical study could no longer prevail.

I desire each member of the profession I have the honor to represent as an administrator of its legal requirements, to know that my offices will be discharged with an eye single to the enforcement of that standard of medical education above outlined, intended by the law, and necessary to secure to each diploma and its possessor a value of real worth, and one in which the laity can repose entire confidence and trust.

May the day be speeded when the fair name of Medicine will no longer have upon its temples and disciples that stigma which is perpetuated by the existencc of medical legislation, medical councils, and State boards of medical examiners, and when the faithfully discharged duties and attached responsibilities of the medical school and college will determine the natural death of medical law.

THE FOUR YEARS' COURSE AND METHODS OF TEACHING.

By FRANCIS DICKINSON, M.D.,
of Chicago.

To the Editor of The Philadelphia Medical Journal:—

If today the proposition be well taken that four full years' time in a medical college would hang heavy on those students who have taken biology and other scientific studies in their academic course if not given one year's advanced standing, should not the established curriculum of medical colleges be changed? We believe that inorganic chemistry, the elements of biology, botany, and bacteriology should be required as well as Latin, physics and mathematics above the English common school education of every person contemplating the study of medicine before entering the medical college courses proper. Normal anatomy and physiology and psychology as well as the sciences above mentioned are being taken up so thoroughly by laymen unless medicine shall specialize itself in medical college teaching we soon shall be nowhere in the classification of education. What shall be the graded medical curriculum which shall indicate the individuality of the profession?

The methods of teaching will also bear looking into. The student at medical college needs to have every one of the four memories cultivated during professional study just as much as the child in the kindergarten. Resources for diagnosis and treatment are greater and more readily at one's command when the education of the tactile and muscle memories are thought to be just as essential as auditory and visual memories of all normal conditions as well as the pathological. The tactile memory of the normal joints, muscles, glands, tendons, arteries, veins, etc., is sadly neglected in all of the schools. Had it not been, the "osteopath" would never have made the progress he has nor found so many cases within his reach. The abnormal also, found in clinics and hospitals, escape the tactile senses of the majority of the students who are graduated. If no student was given his diploma till he had attended 6 to 12 cases of obstetrics with a teacher and written up the records and attended many other cases at the bedside and turned in records of daily and important observations, no student would find four years full time heavy on his hands. The profession would not be crowded with so many men and women whose resources for judgment are few and narrow. The hospitals would no longer be a part of medical colleges except they cease to be such big bluffs as they are today in respect to granting bedside opportunities for daily observation to each and every student of the graduating class before being given their license to practice.

Has not the time come when only those institutions should grant the degree of M.D. which guarantee to each and every student these practical requirements—this application of their knowledge before graduation? If the laity wish through examining boards to grant licenses to practise on examination only, without any practical knowledge, the profession will be helpless. It lacks the elements within itself to make a good trades-union—to agree and hold together.

RELATIVE LENGTH OF THE COLLEGE AND MEDICAL COURSES OF STUDY.

By H. C. WOOD, M.D., LL.D.,
of Philadelphia.

To the Editor of The Philadelphia Medical Journal:—

Some years ago the late Dr. William Pepper, then Provost of the University of Pennsylvania, introduced a resolution in the Medical Faculty of the University allowing graduates in Arts and Sciences, who had complied with certain prescribed conditions, to enter the second year of the medical course of the University. In the Faculty I strenuously opposed this resolution, which was, however, eventually adopted; and afterward I felt most keenly the half good-humored taunt of the then Dean of Harvard Medical School, that "the University of Pennsylvania was after all only a Three Years School." I have therefore been much pleased with the recent action of the Medical Council of Pennsylvania, and equally pained that a journal like the Philadelphia Medical Journal, which has usually stood for advancement in medical education, should throw its great influence against the continuance of real progress; and that a colleague of Professor Keen's deserved eminence should in that agree with the Journal.

It seems to me evident that Professor Keen fails to grasp

the exact meaning of the action of the Medical Council, else he would have hardly said in his letter of January 6, printed in the JOURNAL, that "their resolution discriminates against college men;" the fact being that their resolution simply puts college men on the same level as their fellows, so far as the requirements of professional education are concerned. It certainly removes discrimination in favor of college men, but this is very different from discriminating against college men.

Professor Keen raises two objections to the action of the Medical Council. "First, it discriminates against the poor medical student." The consideration of the question of the financial condition of a medical student is not a matter within the province of the Medical Council. The question which came before the Medical Council, and which it has wisely decided, was whether the period of medical study in a medical college, which should be required of medical candidates for license by the Council without regard to preliminary culture-study, should be three years or four years. The Medical Council has especially to deal with preparation for the practice of medicine, and is in no way concerned with the support of poor students or of general culture. It is certainly within its province to decide how much of general culture is necessary for the preliminary examination of the candidate, and how much of professional training is required by the law of the State. Any increase of requirements increases the expense to the student; but does or does not the action of the Council conserve the interests of the public and of the profession?—that is the proper question.

The second objection of Prof. Keen, that the resolution is distinctly illegal, I pass by, since I see no reason for believing that the opinion of a physician is more valuable than that of the surgeon upon a matter of technical law. Moreover, I do not feel justified in legally challenging the action of a Board of which the Attorney-General of the State is a member.

The objections raised in your editorial of December 30 are much more pertinent. The resolution will certainly exclude, from examination and license, college graduates who have studied medicine in a medical school only during a period of three years, but I do not believe that this is, as you say, "truly deplorable."

General culture in a physician is certainly valuable, but not so valuable that it should be carried to a high pitch at the expense of his professional training. It is not probable that the young man who has seven years to give to study after he has arrived at the point of entering a literary college, will make a better doctor, because four of these years are given to general culture, and three to medical studies and training, than if he had given three years to general culture and four to professional training.

All teachers must know that four years is really too short a period in which to acquire the technical rudiments of medicine. In Europe five or more years are everywhere required; if the American can in an already insufficient course substitute with advantage one year of general culture for one year of medical training, why can he not substitute two for two years, and so on? until he practises medicine upon general culture alone.

So far as the question of intellectual training is concerned it is about time for men who wish to be considered sensible to stop promulgating the idea that advanced English, Latin, Greek, and other of the studies in the Junior and Senior years in college, are better adapted for the final training of the intellect than are the fundamental sciences of medicine. In my own thinking a complete college course is rarely advantageous to the student of medicine; I do not believe that any one can thoroughly fit himself for the practice of medicine in less than seven years. Supposing that a young man at 18 years of age is able to pass the matriculation examination of one of our large literary colleges, and concludes that he has nine years (which will bring him to the age of 27) in which to fit himself for his practical life. As the result of 35 years of teaching and thoughtful observation, I am firmly convinced that such a man will in the end not only be a better doctor but will have more available general culture if he gives two years to general culture and seven years chiefly to thoroughly well-directed studies in medicine, than if he divides four years to general culture and five to medicine. His years of preparation for his chosen profession might be arranged as follows: Two years in college; four years in a medical school; one and a half years as a hospital resident; one and a half years in postgraduate study in the capitals of Europe. If such a student during his period of hospital residency should have taken a little private instruction in French and German, he will in the end be well acquainted with the English language, have good knowledge of Latin and mathematics; and be conversationally conversant with at least two modern languages besides his own; a linguistic proficiency which I never have seen in any college graduate who had not acquired his knowledge largely outside of his college course. The cost of study abroad is very little more than of residence at a college.

Taking another point of view: Is it going to be contended that the fundamental medical sciences are better taught in the literary colleges than in the medical schools? If so, the medical schools would better send all of their first-year students to the nonprofessional colleges. It is a fact that in almost all of the literary colleges the ten branches, which are usually required to have been studied for entrance into the second year of courses in medicine, are taught by one or two professors, with a few assistants, and with in most cases small and imperfect laboratories and equipments.

The Bachelor's Degree in Arts and Sciences is an allurement, but the statistics in the last five years of the University of Pennsylvania seem to me to show that the public is gradually finding out the unwisdom of devoting time to the full carrying out of the present college course; or of substituting general culture studies for technical professional training. During the period named there have entered the Department of Medicine of the University of Pennsylvania 217 college graduates, and of these 117 took the full four years' course, and only 100 availed themselves of the chances of shortening their period of study by entering the second-year course. During the same period there have come from the Freshman classes of colleges 70 students; from the Sophomore classes 70 students; and from the Junior classes 38 students.

It has been offered as an argument against the proposed enforcement of the law, that its continuance is necessary for the support of the scientific departments of literary colleges, especially of the State of Pennsylvania. As nearly as can be ascertained, in five years there have entered the second year of the medical course of the University of Pennsylvania from Pennsylvania colleges only 50 graduates, which is less than one student per annum from each Pennsylvania college. If it be necessary for the continuing prosperity of the scientific departments of the colleges that these student-units shall be saved to them, it seems to me it is the literary colleges and not the professional schools that should shorten their courses.

During the last decade there has been a continual pushing up of the standard of requirements for admission to the Freshman classes of literary colleges, until their requirements in course have gone much beyond what should be demanded for a foundation for professional study. Already the average age of entrance into the Freshman class of the College of the University of Pennsylvania is about 19, yet that college, and we presume other colleges also, last year gave notice to the Preparatory schools that students must be kept one year longer in those schools before they could comply with the requirements for admission to the Freshman class. If the time required for the taking of the two degrees is to be lessened it should be done by lessening the College course to three years.

I was very much interested recently in speaking to a professor in Harvard Medical School, as to how their coming requirement of a Bachelor's degree for entrance to their medical school was going to affect their classes to hear him say "Oh, all right; the smaller literary colleges are getting ready to reduce their courses to three years."

The effect of the resolution of the Medical Council, which most severely pinches many of the medical schools of Pennsylvania, is the requirement of graduates of pharmaceutical, dental, and veterinary colleges to study four full years. As Professor Keen does not speak of this matter, I suppose he, like myself, can see no reason why a pharmacist or a dentist who wishes to practise medicine should be allowed to curtail his medical course.

Whether the carrying-out of the resolution of the State Medical Council is or is not good for an individual medical school seems to me so outside of the present matter that I am very loath to make mention of it; but Professor Keen's lack of information in his explanation of the effect of the resolution upon the Jefferson Medical School is so evident that it must be pointed out. The State of Pennsylvania is not the first, but the third State to adopt the four years' requirement, so that unless the Jefferson Medical College revises its requirements its graduates will in the future not be eligible to practise medicine either in Rhode Island or New York. Can it be doubted that before long the number of States following this initial movement will grow year by year, until a revision of regulations is forced upon the faculties and trustees of every medical college which does not now require of all students four years of professional study?

Tetanus Successfully Treated by Antitetanic Serum.—Sheo N. Tiwary (*Indian Medical Record*, November 15, 1899). A boy of 16 fell, fracturing his left leg a little above the ankle and sustaining some lacerated wounds. The injured limb was bandaged with dirty rags on a bamboo splint by a village quack. Three days later the boy was taken with spasms, difficulty in swallowing, and closure of the jaw, and 5 days after the injury was brought to the hospital. There was considerable opisthotonos; the muscles of the head, neck, chest and back were distinctly rigid, and there were violent spasms every 15 or 20 minutes, lasting from 30 to 120 seconds. These convulsions were provoked by even the slightest noise. A mixture containing 20 gr. of chloral, 30 gr. of potassium bromid and 20 mm. of spirits of chloroform was administered every 3 hours during the night, but the next morning no improvement was noted. An injection of antitetanic serum of 30 drops was made into the abdomen, and 20 drop-doses were ordered to be injected every 4 hours. The next morning the spasms were less frequent, and the injections were repeated every 6 hours instead of every 3. Under this treatment improvement continued, and no convulsions occurred after the eleventh day of the attack. [M B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending January 20, 1900:

Tuesday, January 16—College of Physicians, Section on Ophthalmology.

Wednesday, January 17—County Medical Society, Business Meeting.

Thursday, January 18—College of Physicians, Section on Gynecology.

Philadelphia Hospital.—Dr. H. Augustus Wilson has been appointed orthopedic surgeon.

Rush Hospital for the Treatment of Consumption.—The position of laryngologist is vacant.

Medical Club of Philadelphia.—At the annual meeting held recently the following officers were elected: President, Dr. J. M. Anders; first vice-president, Dr. H. A. Wilson; second vice-president, Dr. W. L. Rodman; secretary, Dr. Guy Hinsdale; treasurer, Dr. F. Savary Pearce; one member of the board of governors, Dr. A. H. Hulshizer, and these members of the executive committee: Dr. Ernest La Place, Dr. G. G. Davis, Dr. T. Chalmers Fulton, Dr. J. H. Lock and Dr. L. Webster Fox.

Philadelphia Polyclinic Hospital.—At the annual meeting of the corporators a net gain of over $6,000 in the current expenses was shown, the deficit being only $423 30 as against $6,460 the preceding year. Every effort will be made during the present year to reduce the debt of the institution. The following were elected to the Board of Corporators: W. W. Gibbs, Dr. Judson Daland, Dr. Francis R. Packard, Miss Helen R. Kitchen, John I. Donovan, Mrs. Wm. F. Read. The Board of Trustees to serve during the coming year was elected as follows: William E. Donovan, president; Hon. Henry K. Boyer,vice-president; Franklin B. Kirkbride, secretary; J. E. Sterrett, treasurer; Hon. Wm. N. Ashman, George T. Lippincott, Nathaniel B. Crenshaw, William F. Read, C. S. W. Packard, Harry B. French, Nelson Z. Graves, John Scott, Jr., Cheesman A. Herrick.

Philadelphia County Medical Society.—At a meeting held December2 7, DR. M. A. BUNCE read a paper entitled **Vasomotor ataxia,** in which he detailed the manifestations of the condition, its different varieties, the conditions with which it may be associated, and those from which it is to be differentiated. He exhibited also several patients the subjects of the affection.

DR. G. BETTON MASSEY read a paper entitled **Some cases in conservative gynecology,** in which he advocated the use of electricity in various diseases of the female pelvic organs.

DR. W. J. HEARN read a paper on **Appendicitis, the proper time for operation, and its mortality.**

The president, DR. S. SOLIS COHEN, made a brief report upon the **Use of palladium chlorid internally in the treatment of tuberculosis.** This chemical had been found among the remedies useful in the treatment of tuberculosis, and its more extended use was thought advisable.

College of Physicians of Philadelphia—Section on Gynecology.—At a meeting held December 21, Dr. John B. Shober was elected chairman of the Section for 1900, and Dr. John M. Givin, clerk. DR. GEO. E. SHOEMAKER read a paper entitled, **Vaginal hysterectomy for**

small bleeding fibroids, and discussed points of technic. He stated that the chief indications for operation in these cases were hemorrhage and vesicle irritation. When these symptoms do not occur, no operation should be done. DR. B. C. HIRST said that he prefers abdominal hysterectomy in these cases. DR. H. D. BEYEA also preferred the abdominal route, because it gives the opportunity of leaving the ovaries and a large uterine stump. DR. DORLAND felt that small fibroids should be left alone. He prefers the abdominal route when necessary. Hemorrhage can often be controled by the judicious use of organotherapy. DR. J. CHALMERS DACOSTA said that bleeding fibroids are, as a rule, submucous, therefore he advises to dilate the cervix, split the capsule and remove the growth. He has often found faradic electricity useful in controling bleeding in these cases. When operation is necessary he prefers the abdominal route. DR. JOHN B. SHOBER said that desiccated mammary gland, when given in doses ranging from 6 to 12 gr. daily, *i. e.*, 3 to 6 tablets daily of a specially prepared tablet, will control the hemorrhage in the majority of these cases. He said he felt that when it comes to be more generally used, few cases of small fibroids of the uterus will require operation. DR. H. D. BEYEA reported a case of **ovarian cyst associated with diabetes,** operation relieving diabetic symptoms. (This paper will be published in the JOURNAL.) DR. HIRST reported a **cesarean section for acquired atresia of the vagina,** and a case of **anomaly of the uterine appendages.** DR. BEYEA exhibited specimens of **papillary adenocarcinoma of the ovary.**

Vital Statistics of Philadelphia from December 23, 1899, to January 6, 1900:—

Diseases.	Cases.	Deaths.
Total mortality		962
Pneumonia 171, congestion of the lungs 12		183
Pulmonary tuberculosis		110
Heart-disease 85, fatty degeneration of the heart 6, neuralgia of the heart 6, inflammation of the heart 1		98
Nephritis 52, uremia 25		77
Diphtheria 46, membranous croup 10	276	56
Marasmus 21, inanition 19, debility 16		56
Apoplexy 22, paralysis 9, softening of the brain 7		38
Carcinoma 27, tumor 5		32
Inflammation of the brain 14, congestion of the brain 2		16
Convulsions 29, epilepsy 1		30
Gastroenteritis 23, cholera infantum 3		26
Bronchitis		28
Senility		27
Peritonitis		10
Typhoid fever	56	8
Scarlet fever	132	3
Cerebrospinal meningitis		3
Casualties 13, cyanosis 6, alcoholism 7, influenza 4, intestinal obstruction 4, cirrhosis of the liver 6, hemorrhage 7, peritonitis 3, pleuritis 5, jaundice 3, septicema 4, suicide 5, asthmia 2, dropsy 6, erysipelas 2, suffocation 2, abscess of the brain 4, anemia 6, burns and scalds 3, congestion of the liver 1, congestion of the kidney 3, diabetes 4, diseases of the brain 2, diseases of the liver 1, malarial fever 1, cystitis 1, phlebitis 1, appendicitis 3, intussusception of the liver 1, pyemia 5, scrofula 1, tetanus 3, ulceration of the stomach 1, pertussis 1, inflammation of the brain 5, asthma 2, dysentery 2, epilepsy 2, laryngitis 2, measles 2, congestion of the brain 1, gangrene 1, hernia 1, indigestion 1, cystitis 1, hepatitis 1, pericarditis 1, tonsillitis 1, neuritis 1, adenitis 1, spinal sclerosis 1, ulceration of the bowels 1.		

Pathological Society of Philadelphia.—At a meeting held December 28, DR. F. R. PACKARD read a paper entitled, **The earliest autopsy records in America,** which will be published in a future number of the JOURNAL.

The president, DR. F. A. PACKARD, presented specimens of **hemorrhagic infarcts of the liver and spleen and thrombosis of the gastric veins** from a case of strangulated hernia.

DR. JOSEPH SAILER presented a specimen of **traumatic rupture of the liver.** The patient, a man, had been injured in a crowd, and was admitted to the hospital complaining of a contused chest, vomiting, pain and tenderness in the upper portion of the abdomen, and shock. Manifestations of peritonitis developed, and he died on the fifth day after the reception of the injury. Necropsy revealed extensive laceration of the hepatic tissue, particularly of the right lobe, and a fan-shaped area of necrosis. Cultures from the peritoneal exudate revealed the pneumobacillus of Friedlander. Dr. Sailer presented also the specimens from two cases of renal abscess with compensatory hypertrophy of the opposite kidney.

University of Pennsylvania.—A number of important changes in the teaching staff of the department of medicine became operative with the commencement of the present semester. The appointments already announced are the following: Dr. James Tyson, professor of the theory and practice of medicine and of clinical medicine, and in general charge of the division of medicine; Dr. John H. Musser and Dr. Alfred Stengel, professors of clinical medicine; Dr. Simon Flexner, professor of general pathology and morbid anatomy; and Dr. John G. Clark, professor of gynecology. Professor Tyson will deliver the didactic lectures in medicine and will hold one clinic a week. The instruction in clinical medicine, under the direction of Professor Musser and Professor Stengel, has been considerably revised, and will extend throughout the second, third, and fourth years of the course. Both Professor Musser and Professor Stengel will hold two clinical conferences a week to large sections of the fourth year class. In addition, the fourth year class will receive ward class instruction in clinical medicine in small sections from Professor Musser, Professor Stengel, and the following instructors in clinical medicine whose appointments have now been confirmed by the Board of Trustees: Dr. Judson Daland, Dr. David Edsall, Dr. M. H. Fussell, Dr. S. McC. Hamill, Dr. A. O. J. Kelly, and Dr. W. H. Price. Ward class instruction in clinical medicine will be given to the third year class in small sections by the following instructors in clinical medicine: Dr. David Edsall, Dr. M. H. Fussell, Dr. S. McC. Hamill, Dr. Henry D. Jump, Dr. A. O. J. Kelly, and Dr. J. Dutton Steele. The lectures on physical diagnosis to the second year class will be delivered by Dr. A. A. Stevens, and the practical instructions to sections of the class will be given by the following instructors in physical diagnosis: Dr. A. A. Stevens, Dr. B. F. Stahl, Dr. Herman B. Allyn, Dr. F. S. Pearce, and Dr. S. W. Dougherty. The importance of laboratory work has received due recognition and this work also will extend throughout the second, third, and fourth years. Instruction to sections of the second year class will be given by Dr. J. A. Scott, instructor in clinical medicine, and Dr. W. G. Elmer, assistant instructor in clinical medicine; to the third year class, by Dr. Joseph P. Walsh, instructor in clinical medicine, and Dr. William Pepper, assistant instructor in clinical medicine, and Dr. H. Smith, microscopist in the medical dispensary; and to the fourth year class, by Dr. C. Y. White, instructor in clinical medicine. In addition, instruction in history-taking will be given to members of the fourth year class, by Dr. J. M. Cruice, historian in the medical dispensary, and instruction in the methods of examining the throat and nose, under the supervision of Dr. C. P. Grayson, by Dr. W. R. Hoch, and Dr. F. R. Packard.

The instruction in pathology will be given by Professor Flexner, assisted by the following: Dr. David Riesman, demonstrator of pathologic histology; Dr. Joseph Sailer, demonstrator of pathology; Dr. Joseph P. Walsh, Dr. Howard, and Dr. Gerson, assistant demonstrators of pathologic histology.

The instruction in gynecology will be given by Professor Clark, assisted by the following: Dr. H. D. Beyea, Dr. John Girvin, Dr. W. R. Nicholson, and Dr. H. L. Williams, instructors in clinical gynecology; Dr. W. B. Small, assistant surgeon in the gynecologic dispensary; and Dr. Richard Woods, clinical anethetizer.

Philadelphia Obstetrical Society.—At the regular meeting, January 4, 1900, DR. H. C. LARGEMAN reported a case of an **anencephalic monster** and presented the specimen. The monstrosity was expelled spontaneously and evinced some slight evidence of life which soon ceased. The placenta was expelled by Credé's method, and the mother's convalescence was uneventful. The fetus weighed 4 pounds

and was 35 cm. in length and measured 11¼ cm. around the shoulders. The diagnosis of these malformations is rarely determined prior to birth. If made, a premature delivery should be advised.

DR. GEO. M. BOYD contributed notes on a case of **dystocia due to an anencephalic child.** Polyhydramnios was diagnosed and the fetus was in a transverse position. Pregnancy continued until term and the membranes ruptured, but the labor being prolonged, the physician in charge first tried podalic version and later cephalic version; but delivery not being effected the case was admitted to the hospital. Not until an anesthetic was administered was the true condition recognized. The blunt hook of the Hodge forceps was introduced into the axilla, the head was made to engage, and after considerable traction the child was delivered. The fetus weighed 8 pounds at birth. Dr. Boyd called attention to the importance of anesthesia and a thorough digital examination in all cases of dystocia. The use of the finger is too much of a lost art, being too often superseded by the employment of forceps and other instruments. In cases of this character he endorses strongly the reduction in size of the presenting part by craniotomy as better than the prolonged use of forceps and consequent injury to the maternal soft parts.

DR. W. REYNOLDS WILSON exhibited the specimen and photographs of an interesting case of **omphalocele.** The mother was a primipara, illegitimately pregnant. Abortifacients had been used unsuccessfully during the pregnancy. The child was stillborn, female, weighing 6¾ pounds. The umbilical tumor was sessile, spherical in shape, with cord attached to the inferior angle. The wall of the sac consisted of two thin layers with fluid intervening. The coils of intestines longitudinal; fissure of liver and part of that organ were in the herniated sac. The introduction of a sound into the bladder revealed a patulous urachus. The writer's pathogenesis and classification of this malformation was discussed. DR. E. E. MONTGOMERY cited a case occurring in the Philadelphia Hospital of a double autositic monstrosity in which the two male fetuses were united by a band at the umbilicus, a single cord and placenta affording the nutrition. Dissection of the band showed that the two small intestines formed one common colon, the anal opening being in the band which united the children.

The following officers were elected for the ensuing year: President, Dr. John DaCosta; vice-presidents, Drs. John M. Fisher, and Geo. M. Boyd; secretary, Dr. Frank W. Talley; treasurer, Dr. John G. Clark.

College of Physicians of Philadelphia—Section on Otology and Laryngology.—At the meeting held December 20, DR. E. B. GLEASON presented for examination a case of **nevus of the tympanum.** The only symptoms observed were gradually increasing deafness and occasional hemorrhages from the ear. The growth occupied a position under the drum-membrane and was visible through it, as a dark red tumor in the posterior portion of the tympanum. The patient said that he had about three years before undergone a course of pneumo-massage treatment of his ear for deafness, but it had not done him any good, and he did not have hemorrhage from his ear until after this massage treatment. DR. GLEASON had incised the tumor and touched it with crystallized carbolic acid, in consequence the growth had become smaller and the hearing had improved.

DR. JOSEPH GIBB presented for examination, a patient suffering with a **tumor of the larnyx.** The man had suffered with hoarseness and the stridor. About two years ago he expelled a hard fleshy mass from the throat in a fit of coughing, followed by a little bleeding. The left half of the larynx is now occupied by a light-red growth above the vocal cord. A portion removed and examined was pronounced nonmalignant.

DR. GEORGE H. STOUT had a similar case in a woman which had been referred to him as one of tuberculosis, based upon examination of the sputum, but after a course of antisyphilitic treatment, she rapidly improved.

THE CHAIRMAN advised applications of trichloracetic acid to the granulating surfaces to promote cicatrization. DR. GLEASON advocated the galvanocautery.

DR. WARMUTH, by invitation, presented specimens showing **ulceration and cicatrization, causing stenosis of the larynx, following intubation for diphtheria in young children.** He also reported two cases, one of **extreme stenosis, the other of complete occlusion of the larynx,** and invited suggestions for treatment. The communication was discussed by DRS. WOODBURY, GLEASON, STOUT, WATSON, RANDALL, and the CHAIRMAN, the general opinion being that lesions of this character following intubation are rare. When stenosis exists, dilation should be practised, DR. RANDALL suggesting examination from the tracheotomy-opening, with measurement of the extent of the cicatrix, and where an opening is found, it may possibly be traversed by a curved needle, or probe, from below. Incision into larynx and cricoid, with excision of cicatricial tissue from the larynx, was regarded by some as an extreme but practicable procedure.

DR. FRANK WOODBURY presented a brief communication on the **Treatment of a common cold,** referring particularly to the neurotic character of acute catarrh and advocating small doses of sedative agents frequently repeated. The paper was discussed by the CHAIRMAN, DR. BURNETT, DR. DONELLAN, DR. GLEASON, DR. KYLE, DR. PACKARD, DR. RANDALL, and DR. WOODBURY, the speakers generally deprecating local applications, except of the simplest and least irritating character, and advocating systemic treatment.

DR. P. S. DONELLAN also reported a similar case which the therapeutic test showed to be syphilitic. DR. WATSON thought the growth presented some appearance of malignancy. Too much weight should not be given to the report of the pathologist upon specimens taken from only a part of the growth. In a case of his own the first sections were pronounced to be inflammatory, but specimens taken from the base of the growth showed it to be epithelioma. DR. D. BRADEN KYLE canfirmed the remarks of the preceding speaker and recalled the fact that carcinoma of the mucous membrane often has upon its surface a warty structure, which is not malignant. He was inclined, however, to regard this growth as syphilitic. DR. GIBB said that he would adopt the suggestions made by an antisyphilitic treatment, but he did not anticipate much good from it, as he thought the growth carcinomatous. He spoke of the importance of early diagnosis, so that operation could be done before the neighboring glands are implicated.

DR. GIBB also read a report of a **case of papilloma of the larynx.** DR. WATSON referred to the usefulness of the galvanocautery after separating the edges of the cords. The chairman, DR. VANSANT, advocated divulsion of the cords to relieve stenosis, and subsequent removal of papillomas with the forceps, as a safer procedure than the galvanocautery except in very expert hands. DR. RANDALL suggested if the galvanocautery is used, that it should very positively be kept to one side, as there is much less tendency to reunite where a cut surface is opposed to a burned surface than where two cut surfaces or two burnt surfaces coincide.

The officers for the ensuing year are: Dr. Alexander W. MacCoy, chairman, and DR. Frank Woodbury, clerk of the section.

College of Physicians of Philadelphia.—At a meeting held January 3, DR. F. SAVARY PEARCE read a paper entitled, **The gastrointestinal tract in nervous diseases.** It was presented with the hope of gaining better recognition of a causal relation of intestinal autointoxication to nervous and mental disorder, both as a primogenesis of neural symptomatology as well as of secondary import where the disease was per se of neuronic origin, whether functional or organic.

Reference was made to the inexact knowledge of the intimate anatomicophysiologic relation of cerebrospinal to sympathetic nervous systems, and to the fact that pain not entering into semeiology in disorders of the sympathetic system, so that phenomena of disease become far advanced before recognition, if at all, is sought in the somatic inosculations of the vasomotor nerve-twigs.

Fourteen cases were recited of headache, neurasthenia, general nervousness, epilepsy, and insanity in which autointoxication of intestinal origin maintained, and in many of the cases indicanuria was an index emphasizing other toxic signs. The two most marked therapeutic results noted were those of two young women, one suffering from typical

epilepsy and the other from hebephrenia, in both of whom there was extreme constipation and indicanuria. Correction of the bowel state by means of massage, enemas, and cathartics has resulted in restoration of general health in both. The former having had no attack for 22 months, while the latter has remained entirely cured of the mental disorder (see *New York Medical Journal*, July 29, 1899), in both the bowels remaining normal in function to date.

Three classes of cases were recognized in the conclusions of the paper: (1) Primary neural, (2) primary gastrointestinal toxic, and (3) mixed.

DR. FRANCIS R. PACKARD read a **brief history of medical societies which existed in this country prior to the founding of the College of Physicians of Philadelphia in 1787**. Dr. Packard also read an account of **some old certificates in proficiency in medicine.** Both papers will appear in this JOURNAL.

DR. JOHN G. CLARK read a paper entitled: **The vascularization of the ovary and its bearing upon the differentiation of sex, origin, development, and degeneration of the Graafian follicle, inauguration of ovulation, organization of the corpus luteum, and the final cessation of ovulation (menopause).** The paper was accompanied by a lantern demonstration.

The following officers and elective committees were elected for the ensuing year: President, Dr. W. W. Keen; vice-president, Dr. Horatio C. Wood; censors, Dr. Alfred Stillé, Dr. William F. Norris, Dr. Richard A. Cleemann, Dr. Arthur V. Meigs; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. Frederick P. Henry; councillors (to serve until January, 1903), Dr. De Forest Willard, Dr. Robert G. Le Conte; committee of publication, Dr. G. G. Davis, Dr. Thompson S. Westcott, Dr. William Zentmayer; library committee, Dr. George C. Harlan, Dr. Francis X. Dercum, Dr. Charles A. Oliver, Dr. William J. Taylor, Dr. S. Weir Mitchell; committee on Mütter Museum, Dr. John H. Brinton, Dr. George McClellan, Dr. Frederick A. Packard; hall committee, Dr. William Barton Hopkins, Dr. John K. Mitchell, Dr. Caspar Morris, Dr. Thomas H. Fenton, Dr. B. Alex. Randall; committee on directory for nurses, Dr. Wharton Sinkler, Dr. James C. Wilson, Dr. James V. Ingham.

NEW YORK.

Brooklyn Society for Neurology.—At the annual meeting held recently, Dr. William Browning was elected president; Dr. R. C. F. Coombes, vice-president; and Dr. W. H. Haynes, secretary for the ensuing year.

Work-House Labor Not Wanted.—The Charities Department has abolished the old custom of using the work-house prisoners for scrubbing, cleaning, and similar duties in the city institutions, and as deck-hands on the department steamboats. Their places are to be filled by paid employees.

St. Vincent's Hospital Has a Horseless Ambulance.—The past week has been marked by an innovation in ambulances, St. Vincent's Hospital having purchased and put in service a $3,000 ambulance which is run by an electric motor and storage battery. The interior is finished in leather, and the parts usually painted have been coated with enamel.

Academy of Medicine Out of Debt.—At the meeting on January 4, the treasurer, Dr. Reginald H. Sayre, announced that the $2,000 constituting the balance of the indebtedness on the building, had just been paid off by contributions from the Fellows, and that the Academy started the new year free from debt. The building cost about $240,000.

Bovine Tuberculosis and State Inspection.—A legislative committee is now preparing a report in which, it is understood, a law will be favored, somewhat similar to that in Pennsylvania, under which inspections are made at the request of the owner of the cattle. When the animals are found to be diseased, they are to be destroyed, and, in some cases at least, an indemnity paid.

New York Neurological Society.—At the annual meeting held January 2, the following officers were elected for the ensuing year: President, Dr. Frederick Peterson; first vice-president, Dr. Joseph Collins; second vice-president, Dr. L. Stieglitz; recording secretary, Pearce Bailey; corresponding secretary, Dr. Lewis A. Conner; treasurer, Dr. Graeme M. Hammond; councillors, Dr. C. L. Dana, Dr. M. A. Starr, Dr. B. Sachs, Dr. E. D. Fisher, Dr. J. Arthur Booth.

Street-car Sanitation.—In response to many complaints from citizens regarding both overheating and underheating of cars, President Murphy, of the Board of Health, has detailed a number of inspectors to examine cars of both the surface and elevated railroads, and report upon the same. The fact that passengers are constantly compelled to transfer from cold to hot cars, and vice versa, shows plainly enough that negligence is responsible for these conditions, and not the rigors of winter.

Hospitals for Consumptives.—The committee of the State Board of Charities is now preparing a report in which it will recommend that one or more State hospitals for consumptives be established, and that they be maintained by a per capita tax on the locality from which each patient comes. In addition, there is to be a system of local hospitals. The committee consists of Harvey W. Putnam, of Buffalo; E. V. Stoddard, of Rochester, and Stephen Smith, of New York City.

A New Hospital for the Borough of Queens.—A new hospital, to be known as St. John's Hospital, has been erected in the borough of Queens, and is to be consecrated next Sunday. Accommodations have been provided for 200 patients, and, owing to its location in Long Island City in the center of a large factory district and in the vicinity of the terminus of the Long Island Railroad, it is anticipated that it will have to attend to a large accident service. It will be thrown open to the public on January 7, 1900.

Better Provision for Charity Children.—By order of Charities Commissioner Keller the children's department has been removed from the building at the foot of East Twenty-sixth Street to the old Charities Department Building at Eleventh Street and Third Avenue, the object being to get the children away from the crowds of men and women who are constantly hanging around the out-door poor department. It is also hoped that this step will be an entering wedge towards securing a regular magistrate's court for committing children.

Another Ambulance Wreck.—One of the ambulances of the Hudson Street Hospital was wrecked beyond repair in a collision with an electric car. All but the rear wheels of the ambulance had cleared the track when the car crashed into it. Dr. A. S. Sherrill, the surgeon, was hurled into the air, then fell on his back on some iron pipes, and rebounded into the trench, where he lay unconscious for some time. The driver was found wedged in between the horse and ambulance, and not very much hurt. Both men were taken in another ambulance to the hospital.

International Order of the Double Cross.—New Year's Day saw the organization of an Order styled the International Order of the Double Cross. It takes its name from the fact that the emblem of the Order is formed by com-

bining the crosses of St. George and St. Andrew, and one of its chief objects is to unite medical missions throughout the world. Dr. G. D. Dowkontt, Medical Director of the International Medical Missionary Society, was elected president. The founders numbered twenty, and represented ten nations. There were ten physicians, six medical students, and four trained nurses.

New Year Conviviality Taxes the Ambulance Service.—As a result of the efforts of weak humanity to celebrate the New Year the ambulance department of Bellevue Hospital was kept exceedingly busy, doing, in fact, the largest day's work since the terrible heated term in August, 1896. On that occasion 154 calls were answered in one day; this New Year's Day there were 56 calls answered. For once the number of women in the alcoholic wards was greater than that of the men, there being 24 women and 23 men admitted there on that day. Besides cases of pure alcoholism there were numerous fractures or sprains, most of them resulting indirectly in alcoholic indulgence.

An "Ossified Man" at St. Luke's Hospital.—One of those unfortunates whose whole articular system is undergoing progressive ossification is a patient in St. Luke's Hospital. He has a private room, and every effort is made to make his surroundings as pleasant as possible under the circumstances. It is reported that this man takes an exceedingly philosophic view of the situation, and amused himself last June by computing how long it would take for his body to become completely ossified, and the consequent time of his death. According to his calculations his life should terminate with the New Year, but it is not improbable that he may yet live for a long time.

Soldiers' and Sailors' Home at Bath.—The State Board of Charities has begun an investigation into the management of this Home, charges have been made in writing against the Commandant, Colonel Shepherd, by a majority of the trustees. It is charged that Colonel Shepherd was frequently under the influence of liquor while on duty, and treated the inmates harshly and cruelly; that he had entertained a committee of the Legislature by serving champagne from the altar in the chapel; that certain living expenses, such as for laundry and telephone, were charged to the State instead of to the Commandant personally, and that stores of provisions, chiefly chickens and eggs, had found their way from the State farm to outside friends. So far as the evidence has been presented it bears out these charges.

New York Academy of Medicine.—At the stated meeting, held January 4, DR. WILLIAM H. THOMSON presented an interesting clinical paper, entitled, **The significance of migraine in Graves' disease.** He made the assertion that Graves' disease often existed without exophthalmos, and frequently escaped notice on this account. He had clinical records of no less than 65 cases, in 32 of which there had been no exophthalmic goiter. Many of these cases had been severe, terminating fatally. While, of course, he would not be willing to make the diagnosis of Graves' disease on the tachycardia alone, he would do so if in addition to this there were muscular tremors, various paresthesiae, constipation or diarrhea, or undoubted evidence of the existence of a constitutional affection. The tachycardia had been as marked in the cases in which there had been no exophthalmic goiter as in those in which it had been present. The occurrence of migraine as a family complaint in these cases of Graves' disease had been noted in 65%.

Another Back Somersault on the Santos Coffee Question.—The past week has witnessed still another change of front on the part of the New York Health Department with reference to granting permission for the landing of the coffee from the first plague-ship, the *Taylor*. This rapid shifting of the scenes is amusing to the medical public, though the entertainment thus afforded is more than offset by the thought that such antics are not well calculated to inspire the general public with a wholesome confidence in the ability and good judgment of its health officials. Last week it was given out that, after mature consideration, the Board had decided to permit the coffee to enter the city after it had first been properly roasted under the supervision of the health department. The coffee reached this port on November 18, and has been floating around the bay on lighters most of the time since then. By a supreme effort, the Board has pulled itself together, plucked up its courage, and now boldly announces that this coffee may be landed before it has been roasted, but the roasting must be done immediately thereafter under the direct supervision of a sanitary inspector.

New York Academy of Medicine.—At the meeting on December 21, DR. R. VAN SANTVOORD presented a communication on **the clinical uses of the sphygmograph,** in which he gave the results of much personal experience and study. He stated that after an experience of 15 years he was convinced that the sphymograph was a really useful instrument, and that its employment was attended with no greater fallacies than were associated with other well known methods of investigation which no physician would be willing to discard. In using the instrument it was well to remember that the "nicking out" of the first part of the curve of the tracing almost invariably meant that the spring pressure had not been properly adjusted. The more important fallacies could be eliminated by taking, at each observation, several tracings while the spring pressure was gradually increased, and the band about the wrist was slowly tightened. The latter was most conveniently accomplished by attaching a small tourniquet, one on either side of the sphygmograph. In the discussion, DR. HENRY W. BERG stated that he had discarded the sphygmograph because he had found that, in a given case and with the same spring pressure, tracings taken only a few minutes apart would show marked variations. DR. ANDREW H. SMITH said that while we had been taught that the dicrotic notch was the result of a secondary wave produced by the closure of the aortic valves, this notch was sometimes quite marked in cases of aortic regurgitation. His own opinion was that, sometimes at least, this notch was the result of a reflux of the blood in the opposite direction. Though he had used the sphygmograph quite extensively in the past, he could not attach much importance to it as a means of record or as a diagnostic aid. DR. C. L. DANA said that in his studies on elderly persons he had found the sphygmograph a useful indication of the rigidity of the bloodvessels and the strength of the circulation. It gave in cases of apoplexy a very characteristic tracing, and some of the neuroses also yielded striking sphygmograms. The instrument should be held by the physician—not strapped to the wrist.

New York Academy of Medicine—Section on Obstetrics and Gynecology.—At the meeting held December 28, DR. H. J. GARRIGUES presented an almost unique specimen—**a solid uterus of about the normal size and shape.** He stated that while it was rare to meet with an imperforate uterus, such cases did occur, but almost without exception the uterus would exhibit an abnormal shape.

DR. RALPH WALDO reported a case of **ectopic gestation with unusual symptoms.** The chief feature of the case was the occurrence of hemorrhage so severe that on two occasions it had been necessary to tampon the uterus to save the woman's life. Moreover, there had been an entire absence of the usual tenderness so characteristic of these cases.

DR. H. J. BOLDT reported a case of **intussusception mistaken for an ectopic gestation.** This patient's last menstruation had occurred 6 weeks previously, and she

had had some abdominal pain, a slight bloody discharge, slight fever and increasing tenderness in the abdomen. Although intussusception had been suspected at first, this diagnosis had been abandoned when the vaginal examination had shown an enlarged and soft uterus with a doughy mass behind it. Laparotomy had revealed an intussusception due to a polypus, and a portion of gangrenous bowel in the pelvis.

DR. GRACE PECKHAM-MURRAY presented a second contribution to the study of **ulcerative lesions of the vulva commonly called lupus or estheomene.** Her first paper had appeared in 1887, reporting the case of a robust woman of 48 years, whose vulva was the seat of a growth, which microscopic examination had shown to be simply inflamed connective tissue. This woman had been kept under observation, and her case studied since that time, but she would not consent to a removal of any of the tissue. A careful search through the literature had resulted in the finding of only 60 cases. All of the microscopic examinations that had been reported had agreed substantially with the result in the case she had first reported. She was of the opinion that the disease might result from prolonged irritation and uncleanliness, and that the ulceration might be tuberculous, syphilitic, or nonspecific.

NEW ENGLAND.

Julius Adams, of Boston, bequeathed $25,000 to Carney Hospital, where he was a patient, and handsome sums to the doctors and nurses who attended him.

The New Haven (Conn.) County Public Health Association has been organized with a membership which includes persons in the county who are connected with public-health work. This is believed to be the beginning of a series of similar associations in each county in the State.

Boston Society of Medical Sciences.—At the December meeting DR. W. F. WHITNEY read a paper on **Malformations of the kidney,** and reported 2 unusual cases. DR. CHARLES S. MINOT described **development of the kidney** and demonstrated the probable cause of such malformations as Dr. Whitney cited.

The Increase and Infectiousness of Carcinoma.—The Massachusetts State Board of Health has instituted an inquiry regarding "Increased Infectiousness of Carcinoma." The reports show an increase in the number of deaths from cancer even when allowance is made for age and greater population. Some say this is due to the disease itself, others contend that better diagnosis and more careful registration will account for it. The Massachusetts State Board has, therefore, submitted 12 questions to the profession. They first inquire as to the fact of the proportionate increase of cases of cancer; if they have increased is it because more elderly people are patients than formerly? Has there ever been a number of cases originating at the same time to suggest an epidemic? Are there relatively more cases of internal cancer? Have cases been seen which would suggest communication by contact as in married people? Is there any location where cancer has been especially prevalent, and, if so, what was the value of the soil or geological formation? Have there been cases of seemingly hereditary transmission? Have cases been noticed in different families that have occupied the same house at different times?

An Unusual Breach of Trust Case.—According to the *Boston Medical and Surgical Journal* a claim of $5,000 has recently been brought against a Hartford, Conn., physician on the following somewhat extraordinary grounds: The doctor had agreed to take charge of a maternity case, but was not present when the child was born; a few days later the child died. The physician was then sued for breach of trust in the case and as being responsible for the death of the child. The defence demurred to the complaint, stating that the father could not have acted as the agent for the child and that the doctor did not contract with the unborn child for its delivery. As the case was brought because of the death of the child, the defence claimed that it should be quashed. The judge ruled that suit may be brought in behalf of a child unborn when its parents had made a contract to deliver and care for it after its birth, and found true cause for action on the part of the parents. The case has caused considerable interest througout the State, and is the first of the kind brought under Connecticut statutes.

Vital statistics of Massachusetts for 1898 "make clearer than ever the fact that our foreign-born population is a mainstay of the natural population increase," concedes the Springfield *Republican.* In that year the total number of living births was 73,110. The parents in no less than 35,273 cases were foreign-born, in 23,656 cases the parents were native-born, and in the remaining cases of about 14,000 the parentage was mixed. Twenty years ago the births from native-born parents slightly exceeded those from foreign-born parents. On the basis of estimated population a birth-rate is shown of 27.37 to 1,000 of population, which is higher than the rate maintained during the decade of 1881-90 and lower than the rate of about 29, which prevailed during the decade prior to the civil war. The marriage-rate was 16.58, which is lower than the average rate of about 18.50 for 10 years past, and much lower than the rate of about 22 which prevailed during the decade of 1851-60. The death-rate of 17.55 is the lowest reached in 32 years, and compares with an average rate of about 19.50 for the preceding 10 years, and an average rate of about 18.25 for the decade just prior to the civil war. There is a divorce-rate of one to every 18.7 marriages, which is higher than the average rate prevailing during the past 10 years, that rate being about 1 to every 24 marriages.

CHICAGO AND WESTERN STATES.

The death-rate of Chicago last year, based upon an estimated population of 1,850,000, was 13.78 per 1,000 inhabitants.

At the January meeting of the Chicago Society of Internal Medicine, 1900, the **treatment of typhoid fever** will be discussed.

The Chicago Laryngological and Climatological Society held a meeting December 29, when DR. JOHN A. ROBISON discussed the **home treatment of consumption,** after which a general discussion followed on the influence of climate in the treatment of laryngeal tuberculosis.

Cook County Hospital Staff.—At the annual meeting of the staff of Cook County Hospital, Chicago, held December 28, 1899, Dr. Denslow Lewis was elected president, and Dr. L. Blake Baldwin was elected secretary. The Executive Committee consists of Dr. Weller Van Hook, Drs. George F. Butler, A. I. Bouffleur, and the president and secretary, ex-officio.

Medical Inspectors for Chicago Public Schools.—The 50 medical inspectors for the public schools, appointed under a recent regulation of the Board of Education, hold their first meeting soon, when they will be addressed by Health Commissioner Reynolds and Dr. W. S. Christopher, upon the absolute necessity of preventing contagion, and they will be instructed that they are not to make use of their positions to work up private practice. They are to examine for disease-germs all children who have been absent from school four days or more, and all children whose conduct in the school-room indicates that they are ill.

Medical Inspectorships.—The Civil Service Commission recently completed the returns of the examinations for positions as medical inspectors in the schools of Chicago. Of the 250 physicians who took the examination, 93 failed to secure the required standing. It is said that many of these were old and experienced physicians. The assignments of the inspectors to their districts will be made within a few days.

State Board of Health of Illinois Examines Osteopaths.—December 29, the State Board of Health examined osteopaths for licences to practise osteopathy in Illinois. There were 34 students who took the examination, most of whom are graduates of the American School of Osteopathy, at Kirksville, Mo. They were required to pass a satisfactory examination in anatomy, physiology, chemistry, histology, pathology, and hygiene.

The University of Chicago has introduced the study of human anatomy in the curriculum, and the work of dissection has begun in the University laboratory. So far as known, the University stands alone among the schools not distinctly medical to introduce human dissection in the class room. The class is open to both men and women, and the course is taken not only by students preparing for medical schools, but by students of sociology, biology, and allied sciences.

Western Surgical and Gynecological Association.—At a meeting held at Des Moines, Iowa, December 27 and 28, the following officers were elected for the ensuing year: President, Dr. O. Beverly Gambell, of St. Joseph, Mo.; first vice-president, Dr. A. C. Bernays, of St. Louis, Mo.; second vice-president, Dr. J. R. Hollowbush, of Rock Island, Ill., ecretary-treasurer, Dr. George H. Simmons, of Chicago, Ill.; executive council, Dr. H. C. Crowell, chairman, of Kansas City, Mo.; Dr. Lewis Schooler, of Des Moines, Iowa; Dr. J. P. Lord, of Omaha, Neb.; Dr. J. E. Moore, of Minneapolis, Minn.; and Dr. M. L. Harris, of Chicago, Ill. Minneapolis, Minn., was selected as the place for holding the next annual meeting. Chairman of the Committee of Arrangements, Dr. A. W. Abbott. *The Western Medical Review* was continued as the official organ of the association.

Chicago Medical Society.—At a meeting held December 27, DR. D. A. K. STEELE reported a case of **cerebellar tumor,** upon which he had operated. The patient, a male, was 13 years of age. After numerous skiagraphs had been taken, it was thought the tumor was located in the left frontal convolution. The skiagraphs were not regarded as having any pathologic significance by specialists. As the condition of the boy was growing worse, and he was having involuntary evacuations from the bladder and bowels and racking headaches, the left frontal lobe was trephined to relieve the intracranial pressure. Two specialists, who had examined the boy, thought the data were insufficient to localize the tumor. In Dr. Steele's opinion, no operation for the removal of the supposed cerebellar tumor was justifiable, as the boy was not expected to live, and the recovery of such patients operated on for cerebellar tumor is so unsatisfactory. However, the patient was subsequently operated upon, and a cerebellar tumor found on the left side instead of the right, as diagnosed, it being situated in the left hemisphere of the cerebellum. Patient died about 40 hours after operation. It was situated close to the median line and pushed the right and middle lobes of the cerebellum to the right. Sections showed the typical structure of a glioma.

DR. JACOB FRANK made a further report on **vesicorectal anastomosis** for the relief of exstrophy of the bladder and other pathologic conditions. He presented the gross specimen with the results of the bacteriologic and microscopic examinations made for him by Dr. Herzog of the dog killed before the meeting, held November 22, 1899. The external operation-wound in the median line of the abdominal wall was completely healed. On opening the abdominal cavity the peritoneum, including the omentum and all the abdominal structures, appeared normal and free from any inflammatory change or reaction. The anastomosis between the bladder and rectum was firm and covered by smooth, normal peritoneum. Before the anastomosis was examined any further, except for inspection *in situ*, the kidneys were lifted out of their position and inoculations were made from the pelvis of each kidney into glycerin-agar tubes in the usual manner. The ureters on both sides were then resected loose down to their insertion into the bladder. The kidneys and ureters were normal in color and size. The kidney substance, on being brought to view by a median incision into the organ, was found to be normal. The anastomosed bladder and rectum on being removed were found to be normal. The bladder was very firmly contracted to its maximum. The mucous membrane of both bladder and rectum looked perfectly normal. The opening between bladder and rectum was small. The tissues which formed it were corrugated, perfectly normal in appearance. All the other organs of the animal were normal. The four test-tubes inoculated from the pelves of the kidneys were kept in the brood-oven at blood temperature for six days; they remained absolutely sterile, and no growth of any kind developed. Histologic examination of the tissue of the cortex, as well as of the medulla of both kidneys, showed it to be normal. The pelvis of the kidney on either side was lined with normal epithelium. The subepithelial tissue of the pelvis showed a moderate amount of round-cell infiltration. The cells forming this infiltration were of the type of young connective-tissue cells and lymphocytes. Polynuclear leukocytes were not seen in the subepithelial tissue. Bacteria of no kind could be demonstrated either in the pelvis, the medulla, or the cortex of the kidneys. From the results of the microscopic, histologic and bacteriologic examination, this dog was free from any infection of the kidneys and was to all appearances in perfect health.

Chicago Medical Society.—At a meeting held January 3, DR. FENTON B. TURCK discussed the various forms of **gastric dilation and motor-insufficiency.** He demonstrated the methods of diagnosis in affections of the stomach and outlined the treatment. He presented 6 cases, and showed how to use the gyromele. In the discussion, DR. JAMES B. HERRICK said he was afraid to use the gyromele on account of its liability to do harm, and narrated briefly a fatal case in which the stomach-wall had been perforated by this instrument. In rebuttal, DR. TURCK vigorously contradicted this, and gave what he considered the details of the case and the reasons for the fatal termination.

DR. GEORGE W. HALL presented two cases of **exophthalmic goiter occurring in sisters.** The first patient was 23 years of age, born in Germany, and had lived in this country for 10 years. She gave no history of any previous illness of any kind. She ceased menstruating 4 years ago for 9 months, and early in that period first noticed enlargement of the thyroid gland, and a few weeks later her sister noticed that her eyes were getting larger. She never became melancholic; has never had any diarrhea, and has noticed no symptoms of any sort. But she had all the symptoms and signs of exophthalmic goiter present, such as the tachycardia, pulse 98, large thyroid, pronounced exophthalmus, and the tremor. The sister is 22 years of age, was also born in Germany, and has resided in America for 5 years. She had rheumatism 2 years ago for a few weeks, not severe, but inflammatory in character. She stopped menstruating 10 months ago and about the same time the thyroid commenced to enlarge, followed within a short time by exophthalmus. These patients have pronounced tachycardia, which is present in almost every case. Each has enlarged goiter, pulsating, which is present in 90% of the cases. Exophthalmus is very marked in both cases, accompanied by the signs of von Graefe, Stellwag, and Moebius. The tremor is easily observed in both patients, closely resembling the tremor of fatigue. In the discussion, DR. KARL DOEPFNER said if Basedow's disease was the opposite of myxedema, then it was possible to influence the former by injecting into

patients the serum of animals upon which a thyroidectomy had been done. This had been recently done in 3 cases. Goats were operated, the thyroid gland was completely removed, and after a few weeks the serum was injected into the patients, with great improvement. DR. I. A. ABT presented a specimen of **congenital goiter and diaphragmatic hernia.**

DR. G. P. HEAD showed an interesting case of **recurrent laryngeal paralysis.** Mrs. M. J., aged 60 years, German. Family history good. Last winter she had a severe cough lasting some weeks; this finally ceased, and then for the first time she lost her voice, 8 months ago, since then being only able to whisper with great difficulty. Examination of the larynx revealed the left cord lying in the cadaveric position, and at a much lower level than the right. The left cord is motionless during respiration or attempted phonation, while the right cord during attempts at phonation crosses the median line and almost hides the left. An examination as to the possible cause of the paralysis shows a large aneurysm of the aorta, which probably presses on the recurrent laryngeal nerve, destroying its function and paralyzing all the intrinsic muscles of the larynx save the cricothyroid, which receives its supply from the superior laryngeal. The cause of paralysis of the recurrent laryngeal nerve may be anything causing pressure on it in its course, such as new growths, aortic or subclavian aneurysm, esophageal stricture, pressure from isthmus of the thyroid, etc. Aneurysm is the cause of perhaps one fourth of the cases. The cause may be central lesion, or it may be peripheral, cases having been reported of paralysis from pharyngo-laryngitis, and such acute diseases as diphtheria and typhoid fever. The prognosis and treatment depend largely on the cause. In this case the patient is receiving treatment for the aneurysm, and simple cleansing sprays for the larynx, and thinks she is being benefited. The prognosis is, of course, bad.

Cleveland (Ohio) Medical Society.—At a meeting held December 8, DR J. B. MCGEE read a paper upon **Digitalis and its aids in chronic cardiac disease.** He stated that the essential indication in the treatment of chronic heart-disease is to maintain the integrity of the cardiac muscle. Myocardial weakness implies a lack of ability to overcome valvular defects. To restore compensation when deficient the indications are to lessen the labor of the heart, to increase its power, and to improve its nutrition. The dual action of digitalis renders it of special aid when the heart-muscle is weak and the vascular tension is low. Under its use there is an absolute increase in the volume of the cardiac muscle, so that digitalis may have a really curative action. He preferred medium doses long continued, diminishing them as dropsy subsides or the pulse reaches normal. Because of the varying composition and medicinal value of digitalis a preparation of the plant itself, preferably standardized, is the best. When there is high tension it may be combined with a vasodilator such as nitroglycerin. Because strophanthus has little action on the vessels it is of especial value in the presence of high tension. He thought that diuretin acts best in children and that caffein is more effective than its soluble salts. Strychnin is an almost ideal circulatory stimulant, especially in cardiac asthenia, and it is therefore of great value in the treatment of the aged. The diuretic action of calomel should always be remembered, as it is particularly effective in cardiac dropsy with hepatic congestion.

DR. G. W. MOOREHOUSE read a paper upon **Feeding in typhoid fever,** with report of cases. He stated that during eight months 57 cases of typhoid fever were treated at Lakeside Hospital and 35 of these on return of the appetite were fed without regard to the temperature. The feeding was usually kept up during relapse unless the appetite diminished with the increase of temperature, which did not commonly occur. In the fatal cases there had been no return of the appetite and they had been fed only milk. Five died, a mortality of 8 8%, and 11 had relapses, or 19%. Well-cooked rice, soft-boiled or poached eggs on soft toast, macaroni, *blanc mange,* thickened soups, crackers with milk, scraped beef and minced chicken comprised the dietary of these patients. With this diet the majority of the patients were satisfied until their temperatures had been normal for some time and later they were fed still more liberally, but not until they would ordinarily have received full diet. The general condition of typhoid patients improved greatly under food, no hemorrhage or perforation occurred after its administration, but the percentage of relapses to the whole number of cases was rather high. There is very little material available for a statistical determination of the relative mortality under liberal and strict diet, but what there is seems rather in favor of the liberal diet and this suggests a possible prognostic value of a return of the appetite.

DR. B. O. COATES reported a case of **fibromyoma in the labium majus.** The patient was aged 21, married, and had one child. There had always been some enlargement of the left labium, but after marriage it had developed rapidly and caused pain during coitus, as well as obstruction during parturition. The growth lay in the median line, and greatly resembled a scrotum with one testicle higher than the other. This resemblance was so great that one physician had termed the case "hermaphroditic." The tumor-mass measured 17 x 8 x 6 cm. and was movable, irreducible and painless. Three separate tumors could be made out, two of which were of the consistency and size of testicles, while the third was larger and harder. Around these were a large number of smaller ones. The skin was not adherent to the tumor. After removal sections of the tumors showed clearly that they were fibromyomas.

SOUTHERN STATES.

The **bill establishing a board of examiners for osteopaths,** which was recently passed by the House of Representatives and the Senate of Georgia, has been vetoed by Governor Chandler.

The Southern Medical College Association, the membership of which is composed of reputable medical colleges south of the Mason and Dixon Line, met in New Orleans, December 5. The usual regular business of the association was transacted. The officers then serving were reelected.

Italian Hospital in New Orleans.—A movement has recently been made toward the establishment of an Italian Hospital in New Orleans. The project is the work of different Italian societies of the city. Its purposes, as outlined, are medical and surgical treatment for the Italian and Sicilian population of New Orleans and community.

The Asheville (N. C.) Public Health and Resort Association has recently been formed. It is a popular organization, consisting of physicians and laymen, for the protection of public health, the perfection of Asheville, and the surrounding country as a health and pleasure resort, and the supply of reliable information about the locality.

The Louisiana State Board of Health recently had a rather unique experience in regard to the admittance of the steamship *Willowdene.* The vessel in question while en route for New Orleans touched at Santos, a port infected with bubonic plague. A considerable amount of pressure was brought to bear by the lay element of the city against the admission of the vessel to port, out of fear of possible infection. The Board after due deliberation decided to admit her after she had undergone proper disinfection and detention.

The Southern Surgical and Gynecological Association held its twelfth annual meeting in New Orleans, December 5, 6, 7. Dr. Henry Dickson Bruns, of New Orleans, delivered the address of welcome. The meeting was presided over by Dr. Joseph Taber Johnson, of Washington. Quite a number of interesting papers were read and discussed, and the meeting was in every particular a success.

The following officers were elected for the ensuing year: Dr. A. M. Cartledge, of Louisville, Ky., president; Dr. Manning Simmons, of Charleston, S. C., and Dr. W. P. Nicholson, of Atlanta, Ga., vice-presidents; Dr. W. E. B. Davis, of Birmingham, Ala., secretary; Dr. W. D. Haggard, of Nashville, Tenn., treasurer. Atlanta, Ga., was selected for the place of the next meeting, to be held in November, 1900.

MISCELLANY.

The Cinematograph in Medicine.—An interesting and eminently practical use of the cinematograph was made last summer by Professor Doyen, the eminent French surgeon, who employed this means of illustrating some noteworthy surgical operations to a small audience of scientific men. The representation was considered eminently successful from an educational standpoint, and well suited to exhibit to large classes of students.

Medical "Gold Brick."—A New York correspondent says that a person of prepossessing appearance, who calls himself Dr. C——, and is armed with numerous letters of recommendation from Philadelphia and New York surgeons, is selling to physicians a formula for making Plafayer's "Adjustable Cloth Roller Splint." The formula is sold for $10, or if that be not forthcoming the precious secret is parted with for $5. Every one to whom the secret is confided for a consideration is required to sign a contract not to divulge the formula under forfeiture of $100. We are informed that "the stuff will not mix nor harden in 15 minutes as claimed." The printed slips seem to be numbered serially, and the number of that submitted is close to 2,000. Our correspondent fears that his signature to the forfeiture contract will turn up on a promissory note.

Obituary.—DR. GUSTAVUS STORRS WINSTON, for many years a medical director of the Mutual Life Insurance Company of New York, died of apoplexy, December 11, aged 66 years.—DR. THOMAS C. O'CALLAGHAN, Jersey City, N. J., December 27, aged 68 years.—DR. WICKLIFFE SMITH, surgeon to the 161st Indiana Regiment, was killed in a railroad accident, in Indianapolis, Ind., December 29.—DR. FRANCIS G. BONYNGE, Chicago, Ill., December 28.—DR. F. H. GEHRING, Chateaugay Lake, Pa., December 30.—DR. LEWIS ARMSTRONG, Middletown, Orange County, N. Y., December 30, aged 81 years. DR. WILLIAM A. HAMMOND, ex-Surgeon-General of the U. S. Army, Washington, D. C., January 5, aged 71 years.—DR. JOSEPH E. ARROWSMITH, Keyport, N. J., January 4, aged 77 years.—DR. WILLIAM CROMWELL MCFETRIDGE, Philadelphia, January 3, aged 35 years.—DR. ALMIRA L. FOWLER BREAKSPEAR, West Orange, N. J., aged 73 years.

Delegates to the International Medical Congress and the Congress of Hygiene and Demography.—The President has designated the following officials to represent the United States Government at the International Medical Congress, which meets in Paris in connection with the Exposition, August 2 next, and to the Congress of Hygiene and Demography, which assembles at the same place August 10: For the Army, Surgeon-General Sternberg and Surgeon Lagarde; for the Navy, Surgeon-General Van Reypen; for the Marine-Hospital Service, Surgeon-General Wyman and Passed Assistant Surgeon Rosenau. The Secretary of State has appointed as delegates from the United States the following: Dr. W. W. Keen, President of the American Medical Association; Dr. Robert F. Weir, President of the American Surgical Association, and Dr. Henry P. Bowditch, President of the Triennial Congress of American Physicians and Surgeons.

Congress of American Physicians and Surgeons.—Preliminary program of the fifth meeting to be held in Washington, D. C., May 1, 2, and 3, 1900:

The following papers will be read, viz: Adaptation of Pathogenic Bacteria to Different Species of Animals, by PROF. THEOBALD SMITH, of Boston, Mass.; The Physiological Resources of the Body in its Defense Against Bacteria and their Toxic Products, by DR. SAMUEL J. MELTZER, of New York City; Flagella and Serum Reactions, by PROF. HAROLD C. ERNST, of Boston, Mass,; Relation of Bacteriology to Clinical Medicine, by DR. RICHARD C. CABOT, of Boston, Mass.; Bacterio-Therapeutics with Especial Reference to Tuberculosis, by DR. EDWARD R. BALDWIN, of Saranac, New York; The Etiology of Malarial Fevers, by PROF. WILLIAM S. THAYER, of Baltimore, Md.; Infection by Animal Parasites, by PROF. GEORGE DOCK, Ann Arbor, Mich.; Bacteriology of Dysentery, by PROF. SIMON FLEXNER, of Philadelphia, Pa.; On Modern Therapeutics, by PROF. WILLIAM OSLER, M.D., LL.D., of Baltimore, Md.; Sociological Status of the Physician, by DR. CLARENCE J. BLAKE, of Boston, Mass.; The Evolution of the Physician, by DR. S. WEIR MITCHELL, M.D., LL.D., of Philadelphia, Pa.; The Medical School of the Future, by PROF. HENRY P. BOWDITCH, M.D., LL.D., D.Sc., Professor of Physiology in the Harvard Medical School.

Reciprocity of State License.—The following resolution was adopted by the Illinois State Board of Health, October 10, 1899:

Resolved, That applicants for a State Certificate to practise medicine and surgery in the State of Illinois, who have been examined and licensed by other State Examining Boards maintaining standards not lower than those provided for in the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, shall be granted certificates without further examination, on payment of the fees required by the Act, providing that the applicant, who must be a graduate of a medical college in good standing with this Board, shall present with his license, an affidavit from the President or Secretary of the State Examining Board showing that the requirements of said Examining Board at the time of his examination were equal to those exacted by this Board under the present law, and providing further, that the said State Examining Board will grant licenses without examination to applicants holding certificates issued by the Illinois State Board of Health under the Act now in force.

NOTE.—Under the provisions of the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, an applicant for a certificate to practise medicine and surgery in the State must present evidence of being a graduate of a medical college in good standing as may be determined by the Board, and must pass an examination in those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States.

No medical college will be considered in good standing after January 1, 1900, which does not require of all graduates receiving diplomas after that date, as a condition of graduation, an attendance upon four full courses of lectures in four separate years.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended December 29, 1899:

SMALLPOX.—UNITED STATES.

			Cases.	Deaths.
COLORADO:	Leadville	Dec. 14	1	
DISTRICT OF COLUMBIA:	Washington	Dec. 16-23	2	
ILLINOIS:	Cairo	Dec. 16-23	6	
KENTUCKY:	Louisville	Dec. 14-21	1	
MASSACHUSETTS:	Boston	Dec. 16-23	3	
"	Lowell	Dec. 16-23	1	
MICHIGAN:	Detroit	Dec. 2-9	6	
MISSOURI:	Springfield	Aug. 15-Dec. 20	350	4
NEBRASKA:	Omaha	Dec. 16-23	1	
TENNESSEE:	Nashville	Dec. 16-23	4	
VIRGINIA:	Norfolk	Dec. 16-23		1
"	(Vicinity of) Portsmouth	Dec. 16-23		1

SMALLPOX.—FOREIGN.

CANADA:	Ontario	Oct. 30-Dec. 16	122	
"	Quebec	Dec. 12-16	23	
CEYLON:	Ceylon	Nov. 4-11	1	1
CHINA:	Hongkong	Nov. 4-11		1
ENGLAND:	London	Dec. 3-21	1	
MEXICO:	Vera Cruz	Dec. 14-21		1
SPAIN:	Corunna	Nov. 22-Dec. 2	4	2

YELLOW FEVER.—FOREIGN.

			CASES.	DEATHS.
COLOMBIA:	Panama	Dec. 13–19	2	1
CUBA:	Havana	Dec. 2–16	8	9
"	Santiago	Dec. 2–9	2	
MEXICO:	Vera Cruz	Dec. 14–21		2

CHOLERA.

STRAITS SETTLEMENTS:	Singapore	Oct. 21–29		3

PLAGUE—FOREIGN.

CHINA:	Miuchwang	Nov. 2	Disease abating.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 5, 1900:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
DISTRICT OF COLUMBIA:	Washington	Dec. 28	5	
ILLINOIS:	Cairo	Dec. 23–30	12	
IND. TERRITORY:	Choctaw Nation	Dec. 18	80	in mining camps.
LOUISIANA:	New Orleans	Dec. 16–30	21	
"	Shreeveport	Dec. 16–30	9	
MASSACHUSETTS:	Chelsea	Dec. 16–30		1
"	Lowell	Dec. 23–30		1
NEBRASKA:	Omaha	Dec. 23–30	1	
NEW YORK:	Amsterdam	Dec. 16–31	1	
"	New York	Dec. 16–23	1	
OHIO:	Cincinnati	Dec. 22–29	1	
"	Cleveland	Dec. 16–30	4	
PENNSYLVANIA:	Allegheny	Dec. 16–23	3	
"	Pittsburg	Dec. 16–30	2	
S. CAROLINA:	Greenville	Dec. 7–30	4	
TENNESSEE:	Nashville	Dec. 23–30	2	
UTAH:	Salt Lake City	Dec. 16–23	1	
VIRGINIA:	Portsmouth	Dec. 23–30	10	2

SMALLPOX—FOREIGN.

BELGIUM:	Antwerp	Dec. 2–9	5	3
BRAZIL:	Rio de Janeiro	Nov. 3–17		111
GIBRALTAR:		Dec. 2–17	3	1
GREECE:	Athens	Dec. 2–9	5	1
INDIA:	Bombay	Nov. 21–28		14
RUSSIA:	Moscow	Nov. 25–Dec. 2	1	
"	Odessa	Dec. 2–9	3	1
"	Warsaw	Nov. 25–Dec. 2		8
SPAIN:	Madrid	Dec. 2–9		7
TURKEY:	Smyrna	Dec. 3–10		1

YELLOW FEVER—FOREIGN.

BRAZIL:	Rio de Janeiro	Nov. 3–17		6
COLOMBIA:	Panama	Dec. 19–26	1	
CUBA:	Matanzas	Dec. 29		1 Soldier.

PLAGUE—UNITED STATES.

HAWAII:	Honolulu	Dec. 11–18	2	2

PLAGUE—FOREIGN.

INDIA:	Bombay	Nov. 21–28		137
"	Calcutta	Nov. 4–18		77
"	Kurrachee	Nov. 18–25	3	1

CHOLERA.

INDIA:	Bombay	Nov. 21–28		4
"	Calcutta	Nov. 4–18		25

Changes in the Medical Corps of the U. S. Army

for the week ended December 30, 1899:

BROWN, Major IRA C., brigade surgeon, will report to the commanding officer, Second Brigade, First Division, Eighth Army Corps, for duty, relieving Captain E. L. Swift, assistant surgeon, of such of his duties as are those of brigade surgeon.

OLTMAN, FRANCIS L., hospital steward, will report to the surgeon in charge, Second Reserve Hospital, Manila, P. I., for duty.

KINCAID, KENNETH G., hospital steward, will report to the commanding officer, Fourth Cavalry, for duty.

RAIKES, BENJAMIN T., hospital steward, will report to the commanding officer, Seventeenth Infantry, for duty.

MCGLOIN, PATRICK M., hospital steward, will report to the medical purveyor, for duty at the medical supply depot, Manila, P. I.

O'BRIEN, PATRICK, hospital steward, will report to the surgeon in charge, Santa Mesa Hospital, for duty.

POINDEXTER, Captain J. D., assistant surgeon, on duty at the convalescent hospital, Corregidor Island, is relieved from duty in the department of the Pacific, and will proceed to San Francisco, Cal., where he will report to the commanding general, department of California, and by letter to the Surgeon-General of the Army.

DARNALL, First Lieutenant CARL R., assistant surgeon, is granted leave of absence for 10 days, with permission to visit the United States.

BROWER, THOMAS E., hospital steward, is relieved from duty at the general hospital, San Juan, P. R., and will proceed to Ponce, P. R., for duty.

HASTINGS, OLIVER H., hospital steward, is assigned to duty in the office of the chief surgeon, Quemados, Cuba.

HARTSUFF, Lieutenant-Colonel ALBERT, deputy surgeon-general, is granted leave for 15 days. December 19.

TEN EYCK, Captain BENJAMIN L., assistant surgeon, will, when his present leave shall have expired, proceed by the first available transport sailing from New York to San Juan, P. R., and report to the commanding general, department of Puerto Rico.

ARMSTRONG, Major SAMUEL T., surgeon, is relieved from further duty in the division of Cuba, and will proceed to Fort Slocum, for duty to accompany the recruits on the U. S. transport "Sumner," sailing about January 15, for Manila, P. I., where he will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

STORY, GEORGE B., acting assistant surgeon, is relieved from further duty at Fort Canby, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

TURRILL, Major HENRY S., surgeon, is granted 12 days' leave

RAYMOND, Major HENRY I., surgeon, on the expiration of his present sick leave, is relieved from further duty in the department of the Pacific and Eighth Army Corps, and will proceed to Chicago, Ill., for assignment to duty as attending surgeon and examiner of recruits in that city, relieving Major Richard W. Johnson, surgeon.

JOHNSON, Major RICHARD W., surgeon, will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

HYSELL, Major JAMES H., surgeon, leave is extended 1 month.

POINDRXTER, Captain J. D., assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio.

POINDEXTER, Captain JEFFERSON D., assistant surgeon, will proceed from San Francisco, Cal., to Fort Reno, for duty, to relieve First Lieutenant Walter Cox, assistant surgeon.

COX, First Lieutenant WALTER S., assistant surgeon, will be relieved from further duty at Fort Reno, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

EDGER, First Lieutenant BENJAMIN J., JR., assistant surgeon, is relieved from duty at Fort Monroe, and will proceed to West Point, N. Y., and report to the superintendent, U. S. Military Academy, for duty.

SILVERTHORNE, ALFRED E., hospital steward, now on furlough at Jefferson Barracks, will, on expiration of said furlough, January 4, be sent to Fort Sill to relieve Hospital Steward Joseph Meisel.

MEISEL, JOSEPH, hospital steward, will be sent to Manila, P. I., for assignment to duty.

MCHENRY, G. A., acting assistant surgeon, is granted leave for 1 month, to take effect upon the expiration of the extension of sick leave granted him on November 27.

Changes in the Medical Corps of the U. S. Navy

for the two weeks ended January 6, 1900:

AMES, H. E., surgeon, order of December 20 modified; ordered to duty in connection with fitting out the "Kearsarge," Newport News, Va.

GROW, E. J., assistant surgeon, detached from the "Massachusetts" and ordered to the "Dixie."

SIMONS, M. H., medical inspector, ordered to Cleveland, Ohio, for recruiting duty.

DUNBAR, A. W., passed assistant surgeon, ordered to duty on the "Monongahela" immediately.

SMITH, R. K., passed assistant surgeon, detached from the Naval Hospital, Mare Island, Cal., on reporting of relief, and ordered to duty on the "Pensacola."

PAYNE, J. H., assistant surgeon, detached from the "Indiana" and ordered to duty at the Naval Hospital, Mare Island, Cal.

PRICE, A. F., medical director, promoted to medical director from April 9, 1899.

PICKRELL, G. M., surgeon, promoted to surgeon from September 19, 1899.

SPEAR, R., assistant surgeon, ordered to duty in connection with the naval recruiting rendezvous, Philadelphia, Pa. January 9.

HURD, J. N., pharmacist, ordered to duty at the Key West Naval Station, January 11.

Changes in the U. S. Marine-Hospital Service

for the 14 days ended January 4, 1900:

WASDIN, EUGENE, surgeon, granted leave of absence for one month and 15 days to take effect January 15, 1900. December 20.

WHITE, J. H., surgeon, detailed under the provisions of the Act of Congress, approved March 2, 1899, as a member of a Commission to investigate the origin and prevalence of leprosy in the United States. December 15.

VAUGHAN, G. T., passed assistant surgeon, detailed under the provisions of the Act of Congress, approved March 2, 1899, as a member of a Commission to investigate the origin and prevalence of leprosy in the United States. December 15.

STONER, J. B., passed assistant surgeon, granted leave of absence for 7 days from December 23. December 16.

ROSENAU, M. J., passed assistant surgeon, detailed under the provisions of the Act of Congress approved March 2, 1899, as member of a Commission to investigate the origin and prevalence of leprosy in the United States. December 15.

TROTTER, F. E., assistant surgeon, to proceed to Tortugas Quarantine and report to medical officer in command for temporary duty. December 16.

KEYES, J. M., acting assistant surgeon, granted leave of absence for 30 days from December 16. December 15.

TUTTLE, JAY, acting assistant surgeon, granted leave of absence for 30 days to take effect on or about January 2, 1900. December 20.

COMFORT, N. C., hospital steward, relieved from duty on steamer "Wapiti," and directed to proceed to Louisville, Ky., and report to medical officer in command for duty. December 19.

SAWTELLE, H. W., surgeon, granted leave of absence for 30 days. December 28.

MCINTOSH, W. P., surgeon, granted leave of absence for 5 days. December 27.

PERRY, J. C., passed assistant surgeon, to proceed to Amoy, China, for special temporary duty. December 27.

ROSENAU, M. J., passed assistant surgeon, to proceed to Baltimore, Md., for special temporary duty. December 23.

THOMAS, A. R., passed assistant surgeon, to proceed to New York, N. Y., and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty. December 22.
To proceed to Rotterdam, Netherlands, for duty. December 22.

COFER, L. E., assistant surgeon, granted leave of absence for one month. December 23.

TABB, S. R., assistant surgeon, granted leave of absence for 15 days. December 27.

DUFFY, FRANCIS, acting assistant surgeon, granted leave of absence for 7 days. December 28.

MCINTOSH, W. P., surgeon, to proceed to Columbia, Tenn., for special temporary duty. January 2.

PERRY, J. C., passed assistant surgeon, to proceed to Manila, P. I., for temporary duty. January 4.

FRICKS, L. D., assistant surgeon, assigned to duty as assistant to the Director of the Hygienic Laboratory, Washington, D. C. January 4.

MOORE, DUNLOP, assistant surgeon, relieved from duty at San Francisco, Cal., and directed to proceed to Portland, Ore., and assume command of the Service. December 29.

CURRIE, D. H., assistant surgeon, relieved from duty at Louisville, Ky., and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for temporary duty. December 29.

Operative Treatment of Hypertrophied Prostate.—Hugh H. Young (*Virginia Medical Semi-Monthly*, December 8, 1899), before discussing the various methods which have been proposed for the treatment of hypertrophied prostate, mentions among the disadvantages of continued catheterization the fact that it is troublesome and disagreeable and certain to lead to cystitis, and in a few years there is a general breakdown in catheter-life and the patient is too weak to stand curative treatment. Castration is successful in some cases, but unsuccessful in dense sclerotic hypertrophies and large intravesical growths, and is usually acceptable to the patient only when in very bad condition and of advanced age. Bottini's galvanocautery treatment is applicable in bad cases of lateral and slight median hypertrophies, but inapplicable in large intravesical projections. The immediate results are good, but the permanent results are as yet uncertain. Young considers prostatectomy, performed early, as the operation of choice. The difference of opinion as to the operation which has existed is due, no doubt, to the lack of thoroughness and care in selecting cases. In many reported cases the operation has been very incomplete, merely snipping off the most prominent projection in the bladder or cutting a trough in the median bar, the large lateral lobes which form the principal source of trouble being left untouched. The general idea that the median lobe is the chief obstructive factor seems, from examination of pathologic specimens, to be erroneous. It is caused, usually, by the downward dislocation of the urethra by the growth of the lateral lobes. The operation is best done through a perineal incision combined with previous suprapubic cystotomy for exploration and greater freedom in manipulation. Five cases of prostatectomy are reported. All recovered from the operation, and 3 of them with excellent results. [M.B.T.]

Foreign News and Notes.

GREAT BRITAIN.

Practical Patriotism.—All over England medical men are doing what they can to alleviate the troubles of those whose husbands or sons are fighting in South Africa by giving them medical attendance gratuitously, if they can show the slightest evidence that to pay would be a difficulty.

"Adulterated food, rotten fish, and maggotty vegetables have all formed the subject of legal action in London during Christmas week," writes a frequent correspondent. "The offenders have been among others such well-known purveyors as Lipton and Hudson; and it is satisfactory to see that the vestries in waking up to their responsibilities have no fear of persons."

Sir William MacCormac, President of the Royal College of Surgeons of England, and now serving in South Africa with Sir Redvers Buller's expeditionary force as chief surgical adviser to the army, has sent to the *Lancet* a most interesting account of his experiences. He speaks in terms of high praise both of the surgical and nursing work that is being done and of the general arrangements of the chief hospital situated at Wynberg.

A serious epidemic of typhoid fever broke out in Ayr at the beginning of December. A correspondent writing on December 23, says: "Upwards of 150 cases have been reported, but the worst is now over. The source of the infection is to be sought in the milk-supply of the town. A mission church has been transformed into a hospital. Ayr, the capital of Ayrshire in Scotland, has a population of 25,000 persons only, so that the epidemic is a considerable one proportionately.

A case of **suspected plague** has occurred at Plymouth. The sick man, a member of the native crew on board a Peninsular and Oriental steamer, was taken ill two days out from Gibraltar on his way to England, and was isolated by the ship's doctor, who was quick in suspecting plague. At Plymouth the diagnosis was confirmed, and the man was placed in an isolation hospital and the ship thoroughly disinfected. Owing to early segregation of the patient, no spread of disease occurred.

Mr. W. Cadge, a well-known surgeon in Norwich, has had the grim exerience of reading his obituary notice in the *Medical Press and Circular*, which paper incorrectly reported him dead in their issue of Decemher 27. Mr. Cadge, who is 75 years of age, was well-known in the surgical world for 40 years, from 1850 onward, as an authority on lithotomy and lithotrity, having an enormous consulting and operative practice in the counties of Norfolk and Suffolk, where vesical calculus is a sadly common complaint. He has been a most bountiful supporter of the Norfolk and Norwich Hospital, with which institution he was connected for many years, on two occasions having given the hospital £10,000.

English Civilian Surgeons at the South African War.—The reverses, almost simultaneous, experienced by the columns under Lord Methuen, Sir Redvers Buller, and General Gatacre have led to great reinforcements of the British Army, and consequently to a further demand upon the depleted Royal Army Medical Corps. The War Office have requested the services of further civilian surgeons in an advisory capacity, and Sir William Stokes, Mr. Watson

Cheyne, Mr. Cheate (a colleague of Mr. Cheyne's at King's College Hospital) and Mr. Kendal Franks have been selected. Mr. Watson Cheyne, F.R.S., is the special exponent of antiseptic procedure in England; Sir William Stokes, physician in ordinary to the Queen in Ireland, is an ex-president of the Royal College of Surgeons in Ireland; Mr. Kendal Franks is a late vice-president of the same corporation, and is already resident in South Africa. Of many young house-surgeons who voluntered for the post, 16 have been selected and will start immediately.

Well-applied Charity in Scotland.—Medical charities in Scotland have just benefited largely under two wills. Mr. W. W. Pollock, writer to the signet in Glasgow, has bequeathed £10,000 to the Royal Infirmary of Glasgow, his native city; £10,000 to the Royal Infirmary of Edinburgh, in which city he lived for 7 years; £10,000 to the Victoria Infirmary, Queen's Park, Glasgow; £5,000 to the Glasgow Western Infirmary at Partick; and £5,000 to the Glasgow Blind Asylum. Mr. J. B. Thomson, also of Glasgow, has made testamentary depositions by which the city's medical charities will benefit even more profusely. He has bequeathed in trust for Glasgow and West of Scotland charitable and other public institutions his residuary estate, valued at between £70,000 and £80,000. It is understood that the University of Glasgow will receive £10,000; the Royal Infirmary of Glasgow £5,000; the Glasgow Western Infirmary £4,500; the Victoria Infirmary, Glasgow, £3,000; and the Glasgow Hospital for Sick Children, £2,000.

America's Gift to England: The Maine. *The Maine*, the hospital ship presented by the ladies of America resident in or having close relation with England to the British expeditionary forces in South Africa, was visited before the start by H. R. H. the Duke of Connaught, who, in the name of Queen Victoria, placed a Union Jack on board the vessel to fly side by side with the Stars and Stripes. It is of good omen that the two nations should pull together over a humanitarian project, and the American ladies by their graceful and generous act in no way commit the United States to an endorsement of the policy of the war. The union of the English and American flags upon the *Maine* is an emblem of one thing and one thing only, that where there is good to be done the two nations will join in doing it. Surgeon-Lieutenant-Colonel Hensman, R.A.M.C., is representing the British War-Office on board the *Maine*, and Surgeon-Major Cabell will direct the services of her medical staff, viz., Dr. G. E. Dodge, Dr. H. H. Hodman, and Dr. C. H. Weber. The *Maine* accommodates 220 patients in wards which are named respectively Britannia, Columbia, Whitelaw Reid, and Baker, and is a perfectly equipped and luxurious hospital-ship. The medical outfit has been wholly supplied by Messrs. Burroughs and Wellcome.

The Anglo-American Insurance Company, an affair which has no connection with America whatever, has just made its appearance in the police courts owing to an advance agent having obtained £100 from a Birmingham physician under very extraordinary circumstances. It seems to have been the prisoner's habit to call upon provincial medical men, exhibit a prospectus of a new undertaking bearing the title The Anglo-American Insurance Company, and invite the medical men to become physician to the company for the particular locality. He would then add that only medical men could be appointed who were willing to invest £100 or more in the company. The *Lancet* having heard of the man's procedures warned their readers against giving any money to him, and the police were communicated with. As a result the man, who gave the name of Edward Hopwood, was arrested just before Christmas day by the Birmingham police, but not, it is believed, before he had obtained a considerable sum of money by methods which he will have some difficulty in explaining. It was Hopwood's habit to use Sir William MacCormac's name as a supporter of the new company, an honor which the president of the Royal College of Surgeons of England probably owed to the fact that repudiation can only travel slowly from South Africa, where he is.

The Royal College of Surgeons of England.—At a meeting of the Council of this College, held on December 14, the momentous question of a gown to be worn by members on state occasions was settled as follows: The Member's gown shall be a black stuff gown similar in shape to the Fellow's gown, but with a plain unlooped sleeve. The gown shall have crimson satin facings, of the same color as those on the Fellow's gown, but the facings shall not extend to the back of the gown and shall not exceed 2 inches in the widest part." And the Council further decided that "the crimson facings of the Fellow's gowns shall not exceed 6 inches in length." The Council then came to the conclusion which is embodied in the following resolution: "That the Council are of opinion that there are no sufficient grounds for altering the decision at which they arrived on July 13 last respecting the introduction into the supplementary charter of some provision for the representation of members on the Council." We cannot congratulate the great English corporation on its good sense. If a section of the members of the Royal College of Surgeons of England want an official gown there is no reason why they should not have one; but the members as a body do really want, and have agitated most patiently for, a voice in the management of their affairs and the distribution of their income. To give them a form, which most of them probably do not want, even with crimson satin facings, and refuse them the suffrage that they mean to have, strikes us as childish.

The Dissemination of Plague by Rats.—Two observers, each gifted to a high degree with the necessary qualities for scientific observation, expressed themselves at the last meeting of the Epidemiological Society in very precise terms against the widely accepted theory that bubonic plague is spread mainly by rats. Dr. Armand Ruffer, President of the International Sanitary, Maritime, and Quarantine Council in Egypt, pointed out, in an excellent paper upon the precautions taken at Suez against the entrance of plague and cholera into Europe, that up to the present time no ships have arrived at Suez complaining of the presence of dead rats on board, and certainly neither in London nor in Continental ports is there evidence that the rats have suffered in any way, while there is actual evidence that in ships infected with plague no special mortality among the rats has been present. "Up to the present moment," Dr. Armand Ruffer sums up by saying, "the evidence that rats may carry plague from place to place or country to country is purely negative." Dr. Arthur Shadwell followed Dr. Ruffer with a paper entitled, The Behavior of Plague at Oporto, to which city Dr. Shadwell was sent by the *Times* as their representative to make inquiries into the first modern outbreak of oriental plague in Eastern Europe. Dr. Shadwell, in the words of the unfortunate Dr. Pestara, the distinguished Portuguese pathologist, who fell a victim to his ardor for research, said that we knew little or nothing as yet about plague. He considered it "a particularly dark and mysterious disorder, the

obscurity of which was not materially lightened by labeling it 'a filth disease' or by uttering the word rats." He thought that all the facts of the Oporto outbreak bore out our ignorance as yet of the etiology of the disease, for the principal slum-area of the city, where the original outbreak occurred, has since remained comparatively free from cases, while there was almost no evidence of dissemination by animals. Those present at the meeting of the Epidemiological Society of London, at which these remarks were made, will certainly not continue to treat plague, either when talking of it or when face to face with it, as if the disease was one whose causation and prevention are settled.

The Tar-coloring of Food.—At a recent sitting of the Departmental Committee on so-called Food-preservatives, now taking evidence at Westminster, Mr. Wynter Blyth, medical officer of health and public analyst for Marylebone, gave some interesting evidence upon modern methods of food-sophistication. Formerly, he said, it was quite rare to find aniline dyes in food, the simpler forms of colors, such as cochineal and burnt sugar, being used, but latterly it was quite rare to find natural colors. The rule and not the exception now was to use so-called tar colors. Dye was not largely used in coloring wine, as the grape gave it a sufficiently nice color. In no substance, however, which he had examined would the quantity of aniline dye, even supposing it to be poisonous, be enough to injure health; but, having regard to the many things colored in this way, it was a question whether the collective amount which a child, say, might take in a day might not have some injurious effect. Mr. Wynter Blyth's words will cause both parents and medical men some apprehension, for he does not speak as the first comer. He is the best known authority in London on food, its composition and analysis, and his views derive great importance from the fact that in addition to being a sound man of science he has under his charge an enormous sanitary district, one of the most important and populous in the metropolis.

The late Sir Richard Thorne Thorne.—In these pages we have frequently had occasion to mention Sir Richard Thorne's name, and indeed, so indefatigable an official was the late principal medical officer to the English Local Government Board that few references to progress in public sanitary matters in his country could be made without allusion to his share in the work. Sir Richard Thorne was born in 1841, and educated in Neuwied (Germany), Paris, and London. While an undergraduate at London University, he studied medicine at St. Bartholomew's Hospital, and in 1866 obtained a double first in his final examinations for the medical degree. He became a lecturer and tutor in the medical school, and was also chosen physician to one or two smaller special hospitals, but the excellence of some work of investigation done by him for the Privy Council led to his giving up his career as a medical man and becoming an official sanitarian. For Sir John Simon invited him to join the staff of the Medical Department of the Privy Council, a department which has now become the Medical Department of the Local Government Board. This was in 1870; and from that day until his death on December 18, he was associated as subordinate or chief with all the valuable work done by successive British governments to preserve the public health. The earliest thing to bring Thorne's name before the public was his excellent official report upon the Use and Influence of Hospitals for Infectious Diseases. This book was widely read and had immense influence in establishing these valuable adjuncts to public health throughout the country. Shortly after this he made his mark as the international champion of modern views with regard to quarantine. The passage along the Red Sea of the pilgrims to Mecca from all sorts of filthy Oriental abodes became a source of menace to Europe from cholera and plague, which seemed very real after the cutting of the Suez Canal. Consequently it was suggested by certain Continental nations, several of them being first-class powers, that all ships westward bound, should be inspected at Suez, and detained if they contained suspect material. Thorne pointed out that the proper way to deal with infected ships was not by the old-fashioned process of quarantine, but by providing at all ports of disembarkation proper facilities for isolating the sick. The question was fought out at International Sanitary Conferences for 15 years, Thorne representing the British Government at Venice, Rome, Dresden, Paris, and Venice again; and only as recently as 1897 did he win the great powers of Europe to his view; and, cogent as his arguments were at these polyglot council-boards, it was generally believed that the great factor in his success was his power, due to his early education, of being eloquent in German, French, and English alike. In 1892 Dr. Thorne succeeded Sir George Buchanan as principal medical officer of the Local Government Board, and in 1897, in recognition of his work at the International Sanitary Conferences, he was made a Knight of the Bath, or K. C. B. At the Local Government Board he was extraordinarily successful in winning the confidence of the public, and proved himself a model official as well as a first-class man of science. His annual summaries on the progress of national sanitation and the conditions affecting public health were masterpieces of clear statement and cogent reasoning, which his views upon the preventability of phthisis and the eventual conversion of antivaccinationists, if very optimistic, were always supported by sound knowledge both of therapeutics and human nature. He also used his official position for the good of medicine by making a very thorough study of diphtheria at a time when the teachings of physicians concerning this terrible disease were much at variance. The fruits of his work he gave to the scientific world as the Milroy Lectures of the Royal College of Physicians of London, which he delivered in 1891. In these lectures he told the story of the disease, furnishing details which had not until that time been available for the many, for they were derived from the official reports made to the medical department of the Local Goverment Board, of which he was soon to become head, and were not accessible to the general reader. In this way he codified English knowledge of a little-understood and fatal disease. We have said enough, without attempting even to summarize his labors. We know that Sir Richard Thorne was an official of great knowledge and experience, to whose work Great Britain is largely indebted for that diminution of mortality and security from epidemics, whether of foreign or domestic origin, which have become a marked feature of that country in the closing years of the century. He received many honors from the state which he served and from scientific bodies at home and abroad, and thoroughly deserved them by his career of enlightened usefulness and well-directed labor.

CONTINENTAL EUROPE.

Dr. T. Lauder Brunton, the distinguished physician of London, was knighted by the Queen, on the occasion of the distribution of the usual New Year honors.

University Appointments.—LEIPZIG: Professor Marchand, professor of pathology in the University of Marburg, has accepted a call to the chair of pathology in the University of Leipzig, to succeed the late Professor von Birch-Hirschfeld.—STRASBURG: Dr. Hermann Freund and Dr. Alfred Hoche have been appointed extraordinary professors. KLAUSENBURG: Dr. G. Rigler has been appointed extraordinary professor of hygiene. AMSTERDAM: Dr. J. K. A. Salomonson has been appointed extraordinary professor of neuropathology.—MOSCOW: Dr. Tschirwinski, professor of pharmacology in the University of Jurjew, has been appointed ordinary professor of pharmacology. BOLOGNA: Dr. Poppi has been appointed ordinary professor of surgical pathology.—BRUSSELS: Dr. Demorr has been appointed ordinary professor of general pathology.—LEMBERG: Dr. Oskar von Widman has been appointed extraordinary professor of special pathology and therapy.—LYONS: Dr. L. Bard, professor of hygiene, has been appointed professor of clinical medicine.—COPENHAGEN: Dr. T. Rovsing has been appointed professor of surgery.—GENEVA: Dr. L. Bard, professor of clinical medicine in the University of Lyons, has been called to the chair of clinical medicine, to succeed Dr. Revilliod, who has been appointed honorary professor.—GRENOBLE: Dr. Cibert has been appointed chief of the Anatomic and Histologic Institute.—MARSEILLES: Dr. Soulié has been appointed chief of the Anatomic and Histologic Institute.—BORDEAUX: Dr. Lafite-Dupont has been appointed chief of the Anatomic and Histologic Institute.

Obituary.—DR. D. R. VON HAUSCHKA, formerly professor in the defunct Medico-Chirurgical Josefs-Academy in Vienna, aged 84 years.—DR. FERRAND, member of the French Academy of Medicine and physician to the hospitals of Paris.—DR. GIOVANNI ZOIA, professor of anatomy in the University of Pavia.—DR. J. F. HODGES, professor of legal medicine in Queen's College, Belfast, Ireland.—DR. DOMINGO FREIRE, professor of chemistry in the University of Rio de Janeiro, and a well-known authority on yellow fever, died recently in Rio de Janeiro.—Sir RICHARD THORNE THORNE, K.C.B., F.R.S., M.B., F.R.C.P. London, LL.D. Edinburgh, D.Sc.R.U.I., principal medical officer of the Local Government Board, and a most distinguished sanitarian, at London, Eng., December 18, aged 58 years.—DR. LAVISÉ, professor of surgery in the University of Brussels.—DR. NASCIMBANE, editor of the *Gazetta Medica Lombarda*.—DR. AZAM, formerly professor of external pathology in the Faculty of Medicine of Bordeaux, aged 77 years.—DR. PIECHAUD, physician to the French Senate.—DR. GEORG KRUKENBERG, professor of gynecology in the University of Bonn, aged 43 years; DR. DOMINIK RITTER VON HAUSCHKA, sometime professor in the old Joseph Medico-Chirurgical Academy, aged 84 years.—DR. JOHANN MITVALSKY, privat-docent of ophthalmology in the Czech University of Prague, aged 38 years.—Sir JAMES PAGET, one of the most distinguished English surgeons of this century, in London, December 30, aged 86 years.

The Plague in Japan.—An important pathologic controversy between Dr. Kitasato and his adherents and Dr. Yersin and his followers concerning the pest, is reported to have ended in a victory for the latter.

Pathologic Investigations on Pest.—A few days ago a telegram reached the Home Office from Drs. Ogata and Nakahama, staying in Kobe, in connection with the pest affair, stating that the presence of Yersin's bacillus has been conclusively proved to be the cause of pest and that Dr. Katasato himself has been induced to accept this theory. The intelligence is too brief to be intelligible to ordinary readers, so that the account of an interview which the representative of the *Osaka Asahi* had with Drs. Ogata and Nakahama and which is published in that paper is very timely.

Dr. Kitasato, observe these doctors, held that the pest-bacillus principally propagates in bloodvessels, but this exposition has been opposed by the majority of the Japan Central Sanitary Association who endorse Dr. Yersin's opinion and maintain with equal ardor that the bacilli could only be found in lymphatic vessels. The postmortem examination made on the remains of one of the patients who died of the epidemic has corroborated Dr. Yersin's theory, for Dr. Kitasato and those who opposed his (Yersin's?) explanation could not discover even a trace of the pest-bacilli in the bloodvessels of the subject of the examination, whereas they were abundantly present in the lymphatic vessels, the result being that the veteran bacteriologist himself has been obliged to admit his error. At any rate, the definite settlement of the cause of this dreadful epidemic, as seems to have been arrived at by the Kobe investigations, must be received with satisfaction by the public at large, for it will probably help bacteriologists towards elaborating effective measures of prevention.—(From the *Japan Times* of November 26, 1899)

Dr. Kitasato's Explanation.—We noted a few days ago that Dr. Kitasato had been induced to recant in regard to the cause of the pest and to accept Dr. Yersin's theory. Dr. Kitasato has his own explanation to make in this connection, an explanation which does not coincide with that advanced by Drs. Ogata and Nakahama. "The pest patients I examined in Hongkong," Dr. Kitasato is reported to have stated, "had not been in the first stage of their disease, but several days had elapsed before they were brought to me for examination. The result was that putrefaction of the blood had already set in, and the bacilli were found in the bloodvessels. Hence I concluded that the pest-bacillus must have its origin in the bloodvessels. The examination of the patients in Kobe in the early stage of their disease has shown me, however, the unsoundness of this view; and has led me to conclude that the pest-germs first propagate in the lymphatic vessels, next cause putrefaction of the blood, followed by fever, prostration and pest lung inflammation; the presence of the pest-bacilli in the bloodvessels occurring only in the last stages of the disease. I told this discovery of mine to Drs. Ogata and Nakahama after they reached Kobe, so that the story of my having been won over by Dr. Nakahama on this great medical question is devoid of truth." Such is said to be Dr. Kitasato's explanation.—(*Japan Times*, November 28)

Central Sanitary Association.—The meeting of the Central Sanitary Association held on Friday last at the Home Department, may be said to have comprised all the foremost physicians in the country, as those present included Drs. Kitasato, Nakahama, Ogata, Aoyama-Koike, Miyake, Sasaki, Takagi, Saneyoshi, Yamane, and others. The principal business of the meeting centered in adopting a resolution to advise the government regarding the importation of a certain blood-purifier from France, and in listening to addresses from Drs. Ogata, Nakahama, and Kitasato. The first named physician spoke to the effect that as the result of examinations in Kobe, he had discovered that while the lymphatic vessels of the plague victims contained Yersin bacilli, none of them were to be found in the bloodvessels, and that he had therefore come to the conclusion that the cases in Kobe were those of bubonic plague, the same as was prevailing in India and other foreign parts, but the bacillus was not identical with the Kitasato bacillus. Dr. Nakahama, after going over the history of individual plague-cases in Kobe, claimed that rags and cotton were, in their instances, not the mediums of infection, as popularly believed. By adducing circumstantial evidence, he maintained that the introduction of pest in Kobe must have taken place some time previous to its first discovery at Hiroshima, only that it had escaped detection owing to misdiagnosing of the cases as those of brain fever, inflammation of the lungs, and of severe cold, the pest symptoms often resembling those of the diseases just named. He regretted that the discovery had not been made earlier, for then the specialists might have been enabled to stamp out the dread scourge before it had assumed the threatening position it has now attained. Dr. Kitasato, speaking last, said that he had first thought that the Kobe cases were cases of the disease of his own discovery, but he had since found out that they were those of Yersin's plague. In the last stages of the attack, however, the victims generally suffered from blood-pollution when the Kitasato bacilli made their appearance.—(*Japan Times* for December 10, 1899).

The Latest Literature.

British Medical Journal.

December 16, 1899. [No. 2033.]

1. The Surgical Treatment of Tuberculous Diseases. W. Watson Cheyne.
2. The Pharmacopeia in Its Relation to Medical Students. Nestor Tirard.
3. The Changes in the Central Nervous System of Two Cases of Negro Lethargy; Sequel to Dr. Manson's Clinical Report. Frederick W. Mott.
4. Report on an Outbreak of Typhoid Fever at Shoeburyness, Attributed to Eating Cockles. John C. Thresh and E. R. Walter.
5. Complicated Convalescence from Ovariotomy; with Remarks on the Origin of Parotitis after Abdominal Section. John D. Malcolm.
6. A Case of Myomectomy for Subperitoneal Myoma Complicating Pregnancy. H. Muir Evans.
7. The Use of Cocain in Labor. Percy T. Goodman.
8. Hemorrhage through the Lacrimal Duct after Plugging the Nares. Major A. B. Cottell.
9. A Case of Compound Dislocation of Elbow-Joint. J. McKean Harrison.
10. Scarlet Fever without Eruption. W. Gifford Nash.
11. Strychnin in Opium-Poisoning. Harry E. Smith.
12. Case of Suprahepatic Abscess; Incision; Resection of Rib; Recovery. John Watson.

1.—Treated editorially.

3.—Mott reports upon the investigation of the central nervous systems of two cases of **negro lethargy** reported by Manson in the *British Medical Journal* earlier in the year. The striking features associated with the nervous lesions and which continued progressively until the fatal termination in the first case were lethargy and a tendency to sleep the greater part of the day; slowness of speech without any tremor and without any noticeable change except that there was an unwillingness to respond to questions owing to a sense of fatigue and drowsiness. The reaction time as denoted by the time taken to frame an answer in response to a question was much prolonged. Progressive motor enfeeblement, paresis like a man who had suffered a long illness. His gait was that of weakness rather than that of paralysis or ataxy. The temperature, until just toward the end of life, was either normal or subnormal. About 3 weeks before death he began to breathe deeply; his breath was very fetid. There was fetid expectoration, which was turbid and bloodstained. Muscular tremors existed during the last hours of life and his temperature elevated to 108.6°. The necropsy showed an abscess in the left lung which contained thick pus, and microscopically showed an immature disorganized parent worm. The central nervous system showed slight thickening of the pia arachnoid. The spinal cord and spinal ganglia showed nothing abnormal to the naked eye. The second case presented the same characteristic features as regards mental and motor enfeeblement, combined with lethargy and a mournful expression. Towards the end of life this patient developed epileptiform convulsions, which occurred with marvelous frequency; contracture of the limbs; retraction of the head and neck; unconsciousness; Cheyne-Stokes breathing, but no hyperpyrexia. The embryo filaria perstans was discovered in the blood in both cases. The necropsy in the second case showed the mesenteric and bronchial glands enlarged, and a seemingly tuberculous mass with circumscribed pneumonia in the right lower lobe. There were discrete nodules, shot-like to the touch, throughout the lungs. The heart-muscles showed brown pigmentation. The nervous lesion common to both cases was a meningoencephalomyelitis. While the condition might be attributed to the filaria perstans the evidence as yet seems insufficient. Certain clinical features similar to those occurring in pellagra suggest the possibility of its being due to bad food. It is not unlikely that this condition is due to some infectious organism, for which a suitable stain has not yet been discovered. The poison seems to act especially upon the lymphatic system, and particularly that of the central nervous system. The lethargy, together with progressive motor and mental enfeeblement, can be attributed either to the action of a toxic agent circulating in the cerebrospinal fluid acting upon the vital activities of the neurons, or to an accumulation of leukocytes around all the bloodvessels interfering with the metabolic exchanges between the blood and the nervous elements, although the existence of such an abundance of mononuclear leukocytes would rather indicate the presence and prolonged action of an infectious agent which would be capable of damaging the nervous elements. The mechanical theory, however, has some support, since a similar condition of drowsy stupor, progressive dementia with epileptiform convulsions may be caused by internal hydrocephalus, occasioned by tumor of the third ventricle. The hyperpyrexia in the first case could have been caused possibly either by a fetid abscess in the lung or by the encephalomyelitis. The right-sided fits, muscular tremors, and contracture observed in the second case were doubtless due to the inflammatory changes, with irritation and destruction of the nervous elements in the cerebral cortex, especially in the left hemisphere. [S.M H.]

4.—Thresh and Walter report an **outbreak of typhoid fever** in which the evidence went to show that the infection was obtained **from eating cockles.** There was no evidence to implicate the water-supply; none tending to implicate the milk-supply. The drainage arrangements were unusually good; the subsoil was free from polluting matter. The cockles were eaten by nearly all the persons attacked, and these cockles were obtained from a source known to be polluted by sewage. Cockles gathered from this source showed when examined bacteriologically, unmistakable signs of sewage pollution. Cockles from the beach are consumed chiefly by newcomers to the district, and the residents in the infected houses were all recent arrivals in the town. [S.M.H.]

5.—Malcolm reports a **complicated convalescence from ovariotomy.** The patient was 64 years of age and had a large cavity in the right lung and an ovarian tumor which extended from the pelvis nearly to the ribs. It was decided, after consultation, that the state of the lung did not constitute a sufficient reason for altering the method of dealing with the tumor, as the pulmonary cavity evidently was of long standing. Celiotomy was performed and a cyst of the left ovary, the pedicle of which was twisted, was removed. There were no adhesions and there was nothing further of interest in connection with the operation. On the morning of the sixteenth day after operation the left side of the neck was swollen and painful. The ostium of the left Steno's duct was in contact with a decayed tooth and was obviously inflamed and very dry. The parotid gland became inflamed, and on the twenty-ninth day the capsule of the gland was incised and about 2 drams of pus evacuated. The patient went home a week after this, and the drainage-tube which had been inserted, was removed on the forty-first day. The parotitis, which every now and then follows an abdominal section, has been considered somewhat mysterious in its origin. It has been said that the inflammation is always due to some septic condition in the abdomen and it has also been attributed to a sympathetic nervous influence. It seems probable that a direct septic infection from the mouth may acount for the parotitis in some cases, and perhaps in all. [W.K.]

6.—Evans reports a **successful myomectomy** for subperitoneal myoma complicating pregnancy. The growth was about 3 inches in diameter and the pedicle was ligated in 2 portions; the stump was hollowed out to permit the peritoneum to be drawn across it and sutured with catgut. During the first 24 hours after the operation some painful uterine contractions occurred which were controled by morphine suppositories. Subsequently the convalescence and pregnancy were uninterrupted. The proper treatment of uterine fibroids complicating pregnancy is sometimes difficult to decide. The rapid growth of a tumor or excessive pain may necessitate operation. In this case the tumor was such a size and in such a position that when labor began it would probably have been forced into the pelvis, though it is open to argument whether the increasing size of the uterus and tumor would not have removed it from its dangerous proximity to the pelvic cavity. Fortunately the result justified the procedure in the case described. [W.K.]

7.—Goodman applied a 10% solution of **cocain** to the rigid os in the case of a multipara having rapid and stormy

pains, unbroken membranes and vertex presentation. With the next pain the os dilated rapidly and in a few minutes was widely dilated. The membranes were ruptured, the head came down, and labor was completed normally and speedily. [W.K]

8.—The blood from this case of **epistaxis** gave a strong reaction to the tests for Malta fever, and the patient had had other troublesome hemorrhages from trivial causes. [G B W.]

9.—In this case of **compound dislocation of the elbow-joint** the end of the humerus, freed from all attachments, protruded from a semicircular wound in front of the joint, and internal to the biceps-tendon. The brachial artery was uninjured. In 10 weeks after the accident all movements of the joint were perfectly normal. [G.B.W.]

10.—Nash observed out of a total of 9 cases of **scarlet fever** which occurred within a week 3 in which there was no sign of a rash. The symptoms were sore throat and fever, and later desquamation. Two of the cases happened in houses where well-marked scarlet fever existed. The origin of these cases was supposed to be due to the milk-supply. [S.M.H.]

11.—Smith reports a case of **opium-poisoning successfully treated** with injections of atropin and strychnia. One-eighth of a grain of atropin was used subcutaneously in 5 doses; one-tenth of a grain of strychnia was used in 6 doses. In addition to this strong coffee was siphoned into the stomach and energetic friction was applied to the whole body. [S.M.H.]

12.—This case of **suprahepatic abscess** occurred in a boy 10 years of age. The child had a history and symptoms strongly suggestive of phthisis, but on examination no lung symptoms could be found except a few sibilant rales over base of right lung and muffled breathing sounds over same area. Hepatic tenderness and pain, and an increase in the area of liver-dulness with hectic symptoms gave reason to exploratory puncture which revealed a suprahepatic abscess. Free drainage was afforded by resecting ¾ inch of the fifth rib, and the lad then made a rapid recovery.

December 23, 1899. [No. 2034.]

1. A Clinical Lecture on a Case of Scurvy-Rickets in a Boy of 12 Years. EDMUND OWEN.
2. The Surgical Treatment of Tuberculous Diseases. W. WATSON CHEYNE.
3. The "Pharmacopeia" in Its Relation to Medical Men. PROF. NESTOR TIRARD.
4. Primary Resection of Gangrenous Intestine. ARTHUR E. BARKER.
5. Fracture of the Spine in the Lower Dorsal Region; Operation 4½ Years Later; Partial Restoration of Walking-Powers. NOBLE SMITH.
6. A Case of Syphilitic Disease of the Heart and Liver; Sudden Death. PERCIVAL M. MAY.
7. Case of Poisoning with Liquor Morphinae Hydrochloridi; Recovery. HORACE C. COLEMAN.
8. Another Unusual Case of Blood-Poisoning. J. M. PEARSON.
9. A Case of Snake-Bite Treated by Dr. Calmette's Antivenene Serum. ARTHUR BEVERIDGE.
10. An Adult Infested by Oxyurides for over 12 Years. E. HAWKINS.
11. A Case of Rupture of the Heart. ALLAN KALENBERG.
12. A Case of Compound Depressed Fracture of the Skull. JOHN D. GIMLETTE.

1.—Owen says that he considers **rickets** to be the prescorbutic stage of **scurvy,** and therefore a child suffering from scurvy is also rachitic. The case reported was a boy 12½ years of age, and had been well up to 10 months ago when he had tenotomy of both achilles tendons done. Since then he began to be ill, and at present shows the usual symptoms of scurvy. His diet had been almost absolutely void of vegetables, and consisted of bacon, meat, fish, and cocoa or tea, occasionally bread and butter and a little potatoes. The patient was under treatment for 10 days and was much improved. His diet after admission to the hospital was fresh fruit and vegetables, beef-jelly, sweetened lemon-juice, milk, meat, bread and butter. As there is no hard and fast line between rickets and scurvy, the scorbutic diet is a great causative element in the etiology of rickets and vice versa; the diet indicated in scurvy is also indicated in rickets. [G.B.W.]

4.—In the treatment of **gangrenous strangulated hernia** 3 courses of procedure are open: (1) The formation of an artificial anus; (2) the primary formation of an artificial anus and a secondary resection of the intestine, and (3) the primary intestinal resection. Barker says that in the light of modern technic, in all cases where the patient is not too weak, the primary resection is to be preferred. He reports 2 cases which were treated by primary resection, and both did most favorably, obtaining perfect health. From the first case a foot of intestine was removed, and from the second 30 to 36 inches. For good results care must be scrupulously exercised in the preparation, the operation, and the after-treatment. [G.B W.]

5.—Smith reports a most interesting case of **fracture of the spine** benefited by laminectomy some 4½ years after the accident. At the operation a spicule of bone was found denting the cord, and the arches of the eleventh and twelfth dorsal vertebrae were united by callus. He began to get better about a fortnight after the operation, though improvement was of course very slow. He finally regained control of his sphincters, the bedsores healed and he could walk with the assistance of two chairs. He, however, died from uremia about 1½ years after the operation. [G B.W.]

6.—The manifestations of **syphilis** in the **heart** reported by May consisted in a hard, irregular, yellowish white mass situated in the muscle between the two ventricles and about the size of a pigeon's egg and another small nodule the size of a pea, which occupied one of the pulmonary semilunar valves. The heart was much hypertrophied. The liver was hard and showed many scar-like depressions and puckered cicatrices. Microscopic examination of the growth in the heart showed it to be a typical gumma. [G.B.W.]

7.—Coleman reports a case of **poisoning from** the administration of **liquor morphinae hydrochloridi.** The total amount of morphia taken was one grain in less than 24 hours. The symptoms of poisoning were extreme and much beyond what would ordinarily be expected from one grain given in divided doses. The author suggests as possible that an active aperient which had been taken on the previous night had resulted in the sudden absorption of three drams of liquor morphinae which had been taken on the previous day, which, acting in conjunction with the one grain taken on the day of the illness, might have given rise to the symptoms. [S.M.H.]

8.—Pearson reports a case of **puerperal septicemia** in which there was an entire absence of any symptoms indicative of a uterine source of trouble, but in which an intrauterine douche followed by curetment—notwithstanding the fact that the latter procedure revealed no evidences of infection—resulted in the rapid disappearance of all symptoms. He emphasizes the necessity of accepting as of uterine origin all cases of puerperal infection. [S M.H.]

9.—Beveridge reports a case of **cobra-bite** which was treated an hour after the subject was bitten. The wound was rapidly excised and pure nitric acid applied. The patient was then given an injection of 10 cc. of **Calmette's antivenene.** Stimulants were administered and the patient kept under observation for some hours; improvement gradually occured. Some hours later he was able to walk without assistance but staggered and complained of weakness. Four days later he returned to his work. [S.M.H.]

10.—Hawkins had under his care a man who had been a sufferer from **oxyuris vermicularis** for 12 years. All of the ordinary remedies had been often given without any permanent benefit. The patient was given a 4 grain pill of cascara sagrada every seventh night. This treatment was continued for 8 or 9 months; at the end of 18 months there had been no reappearance of the parasite. [S.M.H.]

11.—Kalenberg made an autopsy on a woman, aged 45 years, who, while carrying a box weighing 30 pounds on her head, struck her foot against a projecting stone. In trying to regain her lost balance she fell forward and to the right side. On being picked up her breathing was embarrassed; she was restless, speechless, and died almost immediately. The only previous history obtainable was that she had been in good health and had worked regularly as a tea-plucker. The autopsy showed the pericardium to be distended with 6 ounces of dark fluid blood, and a large clot. There was **rupture of the left ventricle** ½ an inch from the auricu-

oventricular septum and along the left border, longitudinal in direction and 1 inch in length, the corresponding ear on the inner surface being slightly less. The heart was fatty and the muscular wall pale and friable. The cavities were contracted and empty; the valves and orifices normal, and there was no marked atheroma of the large bloodvessels. [S M.H.]

12.—This case of depressed fracture of the skull is especially interesting because 10 days had elapsed before proper treatment was instituted. An examination at that time showed a complete motor monoplegia of the left upper and lower limb. Sensation was unimpaired. There was a ragged wound in the scalp, through which could be felt a depressed comminuted fracture of the parietal bone. The fragments were removed, a portion of the fractured bones trephined, and a small clot cleaned out. The wound healed by first intention, and 1½ months after the operation the patient returned to his work. [G.B.W.]

Lancet.

December 16, 1899. [No. 3981.]

1. The Treatment of Surgical Tuberculous Affections. W. WATSON CHEYNE.
2. Calculus in the Ureter. HENRY MORRIS.
3. Early vs. Late Operation in Cases of Inflamed Appendix. C. MANSELL MOULLIN.
4. Hemato-Chondro-Sarcoma of the Right Scrotum; Castration; Recurrent Tumors; Injection of Coley's Fluid; Death. MONTAGUE MAKUNA.
5. Neurological Fragments. No. XIX. J. HUGHLINGS JACKSON.
6. On the Surgical Treatment of the Ascites of Cirrhosis by the Artificial Protection of Peritoneal Adhesions. H. D. ROLLESTON.
7. A Rare Form of Fracture of the Lower End of the Radius. JAMES B. CLARKE.
8. Fetal Anomaly. PERCY SHELLEY.
9. A Case of Carcinoma of the Rectum; Colotomy; Death from Suppression of Urine of 21 Days' Duration. L. A. DUNN.
10. A Case of Strangulated Complete Prolapse of the Rectum Released by Abdomimal Section; Ultimate Cure of the Chronic Prolapse by Anchoring the Sigmoid to the Abdominal Wall (Colopexy). F. HAROLD CARLYON.

1.—Treated editorially.

2.—**Stones** from the kidney become **impacted in the ureter** because of their volume, irregularity of shape, or roughness of surface, spasmodic contraction of the muscular coats of the ureter, and, at a later period, inflammatory swelling. Owing to the difficulty of their progress toward the bladder, impaction may exist for a varying period, possibly many months, leaving the obstructed kidney still capable of discharging its function, provided the obstruction has not been complete. The impaction usually occurs at the smaller parts of the ureter. These are located about 5 or 7 cm. from the kidney; at its termination of the mucous surfaces of the bladder; and a slight narrowing where it crosses the brim of the bony pelvis. The calculi are composed of uric acid, urates, calcium oxalate phosphates, and they vary much in number and volume. They are often ovoid and elongated, sometimes nearly spherical, and may be angular or faceted. The diagnosis of the location of the impaction is only possible when the stone can be felt through the abdominal wall, the rectum, vagina, or bladder. The symptoms simulate those of stone in the kidney and differential diagnosis is usually impossible. Sometimes it is impossible to diagnose the condition from encysted stone in the bladder, though the stone is always situated near the opening of the ureters, while an encysted stone may be situated at any part of the bladder. From cystitis the condition may usually be distinguished from the fact that in cystitis the urine is alkaline, of ammoniacal odor and contains stringy mucus, while in calculus of the kidney or ureter the urine is usually acid. In vesical tuberculosis tubercle-bacilli will probably be found. The calculus is harder and more definitely movable than a prolapsed and adherent ovary, and an ovary would never be found on the outer side of the anterolateral slit of the vagina or inward below or in front of the cervix uteri. The symptoms are practically identical with those of renal calculus; the prognosis is unfavorable if complete obstruction exists. The kidney may become converted into a small fibrous mass and hydronephrosis, pyonephrosis and suppurative pyelonephritis often supervene. As regards life, if the other kidney becomes hypertrophied and is not decided it will perform the additional function demanded of it. The pathologic effects produced are thinning and dilation with possible rupture above the obstruction, stricture or ulceration or sloughing at the seat of impaction, while below the obstruction the ureter may be little changed. No medicinal treatment affords any hope of saving life or the integrity of the kidney. Whether the stone be extracted by operation through the groin, loin, sacral, vaginal, prerectal, or vesical route will depend on its location. It is safer to remove it by an extraperitoneal operation, for nothing should induce the surgeon to incise an ureter through the peritoneum unless he is sure of the aseptic state of the urine. The calculus should, if possible, be displaced by gentle pressure upwards and removed through an opening a little way from the point at which it has been lodged. A ureteral catheter should be passed through the wound along the duct to the bladder below and to the kidney above to make sure of its permeability. [M.B.T.]

3.—Moullin states that in England neither early operation nor operation during or after the first attack of **appendicitis** is favored. It is considered best to wait at least until the fifth day unless the symptoms are so imperative that delay is out of the question. The general mortality is estimated at from 14 to 20%, or even higher. Out of every 100 cases usually admitted into the hospitals, operation is imperative from local suppuration or diffuse peritonitis in about 28; of the remaining 72 patients, 36, or more than one-third of the whole, will suffer from relapse and incur the same risk again. The average loss of time in bed is 25 days, and even if the patient gets off with his life the chances of perfect recovery, without operation, are little better than 1 to 3. In consideration of these facts Moullin has advocated early operation for some time past in all cases which have not shown distinct signs of improvement within 36 hours. He has had no occasion to regret this course and has frequently found a gangrenous appendix before perforation and general peritonitis had set in, and has thus saved the patient from this almost invariably fatal complication. [M.B.T.]

4.—A man, 23 years old, had noticed a swelling of the right side of the scrotum 7 years previously; the tumor had increased in size and had extended upward into the inguinal canal without causing pain, until within a short time. The growth was removed and was found to be tough and cartilaginous. Suppuration followed the operation, but the patient gradually improved in health and was able to go about, but a tumor developed in the scrotum and right inguinal canal. The use of Coley's erysipelas-toxin was undertaken with marked influence on the pain and size of the tumor, but death eventually followed. Microscopic examination proved the tumor to be a **sarcoma of the testicle.** [M B.T.]

5.—Jackson reports a case of left hemiplegia with turning of the eyes to the right, slightly greater amplitude of movement of the left side of the chest in inspiration proper, and slightly less amplitude of movement of that side in voluntary expansion of the chest. [S.M.H.]

6.—Two cases of **cirrhosis of the liver** are reported in which the operation of sewing the liver and omentum together and to the parietal peritoneum, was performed, with the object of producing collateral circulation. One of the patients improved steadily after the operation; the other patient was not improved. Ascites had been present in both cases. It is thought that the favorable result came from early operation in the successful case. The operation is advocated in cases of cirrhotic liver before ascites occurs. [M.B.T.]

7.—A **fracture** of the lower extremity of **the radius** in the form of an **inverted Y** is reported. The patient had previously suffered from a Colles fracture, and it is thought that the unusual strength at the seat of the old fracture had prevented the bone giving way and the carpus had been driven upward like a wedge, splitting the radius, as was shown by a skiagraph. [M.B.T.]

9.—A woman, 49 years old, entered the hospital with malignant stricture of the colon, and for the relief of the obstruction thus caused colotomy was performed. Soon

after the operation practically complete **anuria** set in and lasted for **21 days.** At the necropsy this was found to be due to a kink in the ureter caused by an infected lymphatic gland, while the left ureter was obstructed by pressure of an enlarged gland. [M.B T.]

10.—An emaciated female child, 20 months old, was brought to the hospital with the history that she had never had a movement of the bowels since birth without the help of an enema. There was a large **prolapse of the rectum** for the reduction of which numerous attempts had been made. So much of the intestine was prolapsed that excision was impracticable. The abdomen was opened and by general traction and careful compression and manipulation the gut was returned to the abdominal cavity and the **sigmoid flexure was anchored to the abdominal wall** by 3 sutures. Eighteen hours after the operation the child had a natural unassisted action of the bowels for the first time in her life. On the fifth day a considerable part of the small intestine escaped from the abdominal cavity through the wound. The bowel was cleansed and returned; no ill effects followed the accident. The child made an uneventful recovery. She now has normal movements of the bowels and there is no return of the prolapse. [M.B T.]

December 23, 1899. [No. 3982.]

1. A Review of Surgery During the Past 100 Years. H. G. HOWSE.
2. Treatment of Surgical Tuberculous Affections. W. WATSON CHEYNE.
3. Observations Bearing on the Question of the Influence which is Exerted by the Agglutinins in the Infected Organism. A. E. WRIGHT and GEORGE LAMB.
4. Gangrene Complicated by Glycosuria. CUTHBERT S. WALLACE.
5. Removal of a Hat-Pin from the Stomach. JOHN HALLIWELL.
6. Involuntary Reduction of Dislocation of the Shoulder. E. ERVING DAY.
7. A Case of Infantile Hemiplegia Associated with Aphasia. F. W. ERNEST HUTCHINSON.
8. Lactation in a Male Infant. GEORGE M. BLAIR.
9. A Case of Ischiatic Hernia. W. A. GROGONO.
10. Three Ophthalmic Cases. SIMEON SNELL.
11. Case of very Acute Diabetes in a Boy aged 5 Years. E. LEONARD LEES.

1.—Howse gives a historical sketch of the progress of medicine during the past 100 years, confining his attention chiefly to amputations, gangrene, epidemics of anthrax-charbon, typhus and typhoid fevers, and diphtheria. [M.B.T.]

2.—Tuberculous peritonitis is usually secondary to tuberculous disease elsewhere, particularly that of intra-abdominal origin. The great majority of patients operated upon are females, whereas those examined postmortem are mostly males. Probably this comes from frequent operation under a mistaken diagnosis of pelvic disease, etc. The value of surgical treatment was found out accidentally, but now seems well established. Cheyne doubts whether improvement or cure results from operation in more than 50% of cases. Tapping the abdomen seems inefficacious, besides puncture is not free from danger of injuring the intestine, which is likely to become adherent to the abdominal wall. The abdomen is usually opened in the middle line below the umbilicus, allowing fluid to run out and removing some by means of sponges. Flushing with antiseptic solution is unnecessary and there seems to be no advantage in drainage; indeed, in some cases, a tuberculous sinus has developed at the seat of drainage. The wound may be immediately stitched up. Whether a primary focus of disease, such as a tube or appendix, should be removed depends upon the extent of the disease. If the whole peritoneum is infected no such attempt should be made, but if the peritonitis be limited to the immediate vicinity of the tube or other diseased organ, removal of the primary source is very important. No real explanation of the cause of cure has been discovered. Cheyne is of the impression that it is from much the same reason that suppuration ceases in an acute abscess after it has been opened antiseptically, An antitoxin is perhaps formed in the blood, and as the result of opening the abdomen large quantities of serum are poured out and brought in contact with bacteria, exercising a bactericidal influence. Tubercles then usually become converted into fibrous tissue. [M.B.T.]

3.—Wright and Lamb show by investigation that in 9 cases of typhoid fever examined postmortem the agglutinating power of the spleen-juice was in every case much less than that of the heart-blood. This fact is of much importance in view of its bearing on the question of the **effect exerted by the agglutinins in vivo.** The microorganisms of typhoid and Malta fever cultivate themselves in the interior of the infected organism in a medium which is relatively poor in agglutinins. When bacteria are introduced into an agglutinative medium a corresponding reduction in the agglutinating power of that medium is effected, since the agglutinins enter into chemical combination with the bacteria. When the mass effect of the agglutinins in any medium is reduced beyond a certain minimum an agglutinative effect is no longer exerted by that medium. The plasma or lymph whose agglutinative power is reduced below a certain minimum may therefore be regarded as a nonagglutinative fluid. Bearing in mind these facts mentioned, the authors take up the question of what will probably happen when a large number of bacteria are subcutaneously introduced into an organism which contains agglutinins. It will be manifest that the bacteria when subcutaneously introduced will come in contact in the first instance only with the agglutinins which are contained in that quantum of lymph which occupies the meshes of that portion of the subcutaneous tissue which is the seat of infection. If now the bacteria have been injected in sufficient quantities to abstract from the lymph practically all the agglutinins that lymph will be converted into a nonagglutinative medium. Within the nonagglutinative envelop which will thus have been formed such of the bacteria as have not been chemically affected by the agglutinins will be able to cultivate themselves perfectly unchecked, so far at least as any influence on the part of the blood is concerned. Where the bacteria have been introduced in relatively considerable quantities and where the agglutinative power of the blood is relatively low the passage of agglutinins outward from tbe blood into the lymph will not under ordinary circumstances suffice to keep up the agglutinative power of the lymph, for agglutinins will be abstracted from the lymph with the increase of the bacteria which will be taking place. [S M.H.]

4.—During 11 years there have been 26 cases of **diabetic gangrene** in St. Thomas' Hospital. The arteries were examined in 24 cases, and in all except one there was well-marked atheroma. The average age of the patients was just under 60; the proportion of male and female diabetics is as 2 to 1, but the proportion of males affected with gangrene is far greater. Notes from the histories of 13 interesting cases are given. Eleven patients submitted to operation, and of these 7 died, 13 were treated with palliative measures, 8 dying and the remaining 5 being unrelieved. Wallace concludes from a study of these cases that it remains to be proved that true gangrene occurs in diabetic patients unaccompanied by arterial disease such as would of itself produce gangrene. The glycosuria may or may not precede the gangrene, but it is not usually accompanied by other signs of diabetes. Septic wounds may produce glycosuria which vanishes when the septic process is removed, and patients suffering from septic processes are often on the border line of glycosuria. The best chance of recovery is offered by removal of the limb near the trunk, and this measure should be undertaken before the patient is reduced by septic absorption. The presence of glycosuria may be an indication instead of a counterindication for operation. [M.B T.]

5.—A woman became choked by a crust of bread lodging in the larynx, and after unsuccessfully trying to push it down with her finger, she pushed a hat-pin down, head first, hoping to dislodge it; the hat-pin slipped down her throat and after a short time caused pain in the epigastric region. After opening the abdomen the pin was removed by pressing on the head and forcing the shaft through the stomach-wall when it was nipped off. The head of the pin passed by the stools 11 days later, and there was no further trouble or discomfort. [M.B.T.]

7.—Hutchinson observed a boy aged 2 years who as the **result of a fall became paralyzed** in the right arm, leg, and lower part of the face and tongue. The angle of the mouth was drawn upward and to the sound side. There

was complete absence of speech. The patient apparently failed to comprehend what was said to him, but when articles which he previously knew well by name, but could not comprehend when spoken of, were shown to him he readily recognized them. His previous health had been good. The condition was supposed to be due to rupture of the left middle cerebral artery. At the end of six weeks he had largely recovered the use of his leg and arm, but complete aphasia existed. [S M.H.]

8.—Blair observed a male infant which had two highly-developed mammae about the size of two walnuts. On slight pressure of the right mamma a quantity of milk oozed out. This condition had persisted for some time. [S.M.H.]

9.—A woman of 22 entered the hospital complaining of pain on sitting and of a swelling in the left buttock; 15 months previously she fell from a window-ledge to the floor, alighting in the sitting posture. She felt occasional slight pain on sitting which became more constant. The left buttock became considerably harder and increased in size. On examination a spherical tumor was found in the inner side of the tuberosity of the ischium; there was slight impulse on coughing and considerable tenderness from firm pressure. The diagnosis rested between hernia, lipoma, chronic abscess and chronic bursitis. An exploratory incision was made and a large loop of small intestine was found in a thin-walled sac of peritoneum, protruding at the inner border of the gluteus maximus and resting on the muscle. The **hernia** protruded through the great **sacrosciatic foramen.** The bowel appeared perfectly normal. Radical operation was considered impracticable and the wound was closed. [M.B.T.]

10.—The following cases are reported: embolism of the central artery of the retina; post-influenzal papillitis; and chancre of the upper eyelid. The latter occurred in a girl of 7 years, and no history as to the source of infection was obtainable. [M.B.T.]

New York Medical Journal.

December 30, 1899. [Vol. lxx, No. 27.]

1. Tubercle-Germs and Giant-Cells in Human Tissue. PHILIP DAGGETT BOURLAND.
2. An Arrangement of Gastric Instruments Devised to Facilitate the Physical Examination of the Stomach and Its Treatment. CHARLES S. FISCHER.
3. Some Practical Notes upon Diseases of the Rectum. LEWIS H. ADLER.
4. Diphtheria: Remarks on Clinical Diagnosis and Treatment. HERMAN B. SHEFFIELD.
5. The Surgical Treatment of Phthisis. WALTER C. WOOD.
6. Mastoiditis: The Importance of Early Surgical Treatment. JAMES FRANCIS MCCAW.
7. Heroin in Affections of the Respiratory Organs. HENRY D. FULTON.
8. Diet in Typhoid Fever. EDWARD SPEIDEL.
9. Examinations of the Urine in Epilepsy. EDWIN G. KLEIN.

1.—Bourland in the examination of a great many giant-cells found in the human lung, liver, spleen, kidney, and lymph-glands, and from granulations from the tuberculous knee, found **tubercle-bacilli within the giant-cells** in only four instances. Three of these occurred in lung-tissue and the fourth in the liver. One lung specimen, and that from the liver, were from a case of chronic ulcerative phthisis; the other two examples were from a case of acute miliary tuberculosis. The knee granulations, though rich in giant-cells, showed no tubercle-bacilli. In his examinations he always used freshly prepared carbol-fuchsin and stained at least 15 minutes. His sections were invariably in paraffin, and cut at 10 microns. [S.M.H.]

2.—Fischer describes an arrangement of **gastric instruments devised to facilitate the examination of the stomach and its treatment.** The instrument consists of an outer or primary tube and four smaller or secondary tubes. The primary tube is an ordinary lavage tube of very soft and flexible rubber, 28 inches in length and $\frac{3}{8}$ of an inch in diameter. The gastric end of this tube is open and possesses the usual eye, the edges of both being well beveled. To the external end of the tube is attached a hard rubber double stopcock. The larger stopcock, the diameter of which corresponds to the diameter of the tube, serves the purpose of admitting fluids by attaching to it the ordinary funnel and suction-tube used in lavage. The smaller stopcock, placed at right angles to the larger one, is used for the inflation of the stomach by attaching to it a soft rubber double bulb. The arrangement of both stopcocks is such that when one is closed the other is open. The smaller or secondary tubes, to which are attached the intragastric lights, electrode, and douche, are so constructed that they may be passed through the larger opening of the primary tube without necessitating its removal from the stomach, and consequently without irritating the esophagus and gastric mucous membrane. In this manner they may be passed successively at one sitting, and may serve the purpose of diagnosis or treatment for which they are intended. This instrument possesses numerous advantages over all other gastric instruments in use. In the matter of gastric douching, for instance, one is enabled after washing out the stomach in the ordinary way to distend it sufficiently to enable the douche to reach all parts of the stomach-wall, the whole process csusing the patient no more annoyance than the ordinary operation of lavage. The instrument is simple and clean and can be rendered easily aseptic. It is simple in construction and there is no more danger attending upon its use than that attached to the ordinary lavage apparatus, and no more skill is required in its manipulation. [S.M.H.]

3.—Among the practical points emphasized with regard to the **diseases of the rectum** are the following: The necessity for digital examination in every case before positive diagnosis is made; the necessity for opening freely the affected parts in all suppurative processes; the fact that small foreign bodies, such as a spicule of bone, may frequently give rise to internal fistula, and that the internal opening of most fistulas is often between two sphincter muscles, not, as most practitioners believe, high up. Fistulas should not be operated upon if acute pulmonary tuberculosis is present. A 10-grain suppository of iodoform is preferable to opium as a local anesthetic. Stricture of the rectum often exists simultaneously with fistula and hemorrhoids, and hence the necessity for digital examination in such cases. Prolapse in children is often occasioned by mothers attempting to establish regularity of the bowels by insisting upon the child's sitting and straining for a considerable time. Hemorrhoids are sometimes a symptom of important visceral disease, such as cirrhosis of the liver, uterine displacement, etc. [M.B.T.]

4.—This article of Sheffield's contains nothing new. He recognizes the existence of **nondiphtheric membranous laryngitis** which he differentiates from membranous diphtheric laryngitis in that the latter is distinctly contagious, giving a history of contagion, while the former is noncontagious. There is early enlargement of the submaxillary glands in the latter, while, as a rule, there is no involvement in the former; diphtheric patches are found as a rule in the fauces and posterior nares in the latter, while in the former the fauces may be covered with a mucous exudation which can be easily wiped away. In the latter early treatment, including intubation, neither aborts the disease nor always prevents a fatal issue, while as a rule it does in the former. Albuminuria is usually present in the latter and absent in the former. When necessary to resort to antipyretics he says, "The stimulating coal-tar products have always answered well to reduce temperature and relieve pain." He does not recommend the use of diphtheria-antitoxin in pharyngeal diphtheria, but says he has recently begun to administer it in every case of laryngeal diphtheria and is able to report good results. He has not yet satisfied himself how much of the success can be attributed to the antitoxin and how much of it to the local and internal remedies employed in connection with it. [This article begins with something of a slur upon the amount of literature communicated at the present time on the value of bacteriology in the diagnosis and of antitoxin in the treatment of diphtheria, intimating that entirely too little attention is given to the "clinical experience with this disease." One might observe that the facts contained in this article are those which may be found in any textbook which have been thoroughly discussed and applied in the past and have in many points been found distinctly devoid of value. It would seem at least that in differentiating between membranous diphtheric laryngitis and membranous nondiphtheric laryngitis that the question of bacteriology must be given a prominent

position, as it is upon such data alone that an absolutely definite determination of the character of the infection can be reached. S.M.H.]

5.—Four methods of procedure should be considered under the subject of all **surgical treatment** of **pulmonary tuberculosis:** aspiration of cavities and direct medication, pneumonotomy or incision and drainage of cavities, pneumonectomy or excision of a tuberculous focus, and obliteration of a cavity by causing collapse of the lung. The aspiration of pulmonary cavities, as in all other septic cavities, is unsatisfactory; pneumonectomy is indicated only when general tuberculous involvement of lung-tissue is at the minimum, and the patient is suffering from secondary septic symptoms of an easily recognized cavity. The steps of the operation are first subperiosteal resection of a rib, transverse incision of the parietal pleura, and, if the lung is adherent, immediate incision; if the lung is not adherent, the visceral pleura should be sutured to the parietal pleura. Some then advise immediate incision; others believe it best to wait until adhesions have formed. Lung incision is made with the cautery if the tissue is soft and inflamed; if hard, the knife is safe. All surgeons agree that irrigation is not admissible. Iodoform-gauze is usually considered better than a tube for drainage. Part or all of a lung has been frequently removed from lower animals with complete success, but the procedure often fails if applied to man. Small portions of a tuberculous lung have been removed several times with a cautery, but the patient has lived only to suffer from other foci. Collapse of the lung by the injection of nitrogen gas into the pleural cavity is a simple and safe procedure, but the few cases thus far reported are not sufficient, either in number or in the time which has elapsed, to prove the practical value of the plan. Later papers have not appeared, either by Murphy or others, to indicate anything with regard to the utility of the operation. [M.B.T.]

7.—Fulton has found **heroin** of great value in cases of influenza in which the patient is harassed by almost incessant cough or by severe paroxysms occurring in the night. In phthisis, at any stage, its administration is followed by the most satisfactory results in the way of securing freedom from cough. It does not produce constipation, nor produce the evil effects which accompany the prolonged administration of morphin. In acute bronchitis in children it quickly ameliorates the cough and apparently lessens the severity of the attack. In chronic bronchial catarrh it has a positive curative value, improvement following in long-standing cases. A solution of heroin for hypodermic administration may be prepared by the addition of a small amount of acetic acid and will be found equally as efficacious as morphin and less objectionable in cases of spasmodic asthma. The maximum doses of the drug produce gastric disturbances similar to those caused by morphin, but to a less extent. Its good effects can usually be reached without deranging the digestion. [S.M.H.]

8.—Speidel in the **treatment of typhoid fever** recommends primary evacuation of the gastrointestinal tract and total abstinence from all food for 5 or 6 days in order to get the alimentary canal in as aseptic a condition as possible and to furnish no pabulum for the development of the typhoid bacillus. Water should be given at regular intervals during the waking hours. From the onset of the disease a daily rectal irrigation with a half-gallon of normal saline-solution will cleanse the lower bowel, and through the retention of a large part of the fluid furnish not only water to the tissues but a definite quantity of sodium chlorid. In cases of intestinal hemorrhages rectal irrigation is forbidden, and in such cases water should be administered interstitially. Buttermilk is the ideal food for these cases, and should be given in proportion to the digestive capacity as indicated by the absence of undigested food in the stools and by the temperature. Variations of milk-diet calculated to tempt the patient, and, during the decline of fever, the administration of broths of various sorts, and during convalescence the foods ordinarily recommended at this period are advised by the author. [S.M.H.]

9.—Klein examined the urine of 23 patients collected as soon after an **epileptic seizure** as possible. There was very little polyuria. Albumin was present in faint traces in 15 of the 23 cases, but in one case only in sufficient quantity to be detected by boiling and by Heller's test. This was a case of chronic nephritis. In this case the albumin was increased shortly after a convulsion. When this patient was admitted to the hospital 15 years previously he was in good physical condition, and it was believed that the nephritis was of comparatively recent origin without any obvious cause. It is suggested as possible that this case began as a functional albuminuria due to epileptic seizures. Albumose, which was found in 3 cases, was considered evidence of defective metabolism. Chlorids were in excess in 14 of 21 cases after a convulsion. In 6 of 10 examined in the interval between seizures chlorids were present in normal quantity; in the remaining 4 they were decreased. Glucose was not found in any of the cases. Although a pernicious glycosuria can be readily produced and may even be present in epileptics it is not considered to play an important role in the production of true diabetes mellitus. [S.M.H.]

January 6, 1900. [Vol. lxxi, No. 1.]

1. Injuries of the Kidney and Traumatic (Parenchymatous) Nephritis, with Clinical Report of an Illustrative Case accompanied by Hematoidinuria and Albumosuria, Terminating in Complete Recovery. THOMAS J. YARROW.
2. On a Grave Possible Error in Skiagraphy. CARL BECK.
3. Monstrum per Defectum. ALFRED MOORE.
4. Report of a Few Cases of Chronic Empyema of the Antrum of Highmore; Operation by the Caldwell-Luc Method. A. W. DE ROALDES.
5. The Therapeutic Application of Carbonic-Acid Gas. A. ROSE.
6. The Sudan III Stain for the Tubercle-Bacillus. D. MURRAY COWIE.
7. The Limitations and Value of Fluroscopic Examinations. CHARLES LESTEB LEONARD.
8. Hemorrhoids: The General Practitioner and the Ubiquitous Charlatan. A Plea for the Systematic Examination of Rectal Patients by the Family Physician. J. WM. J. DOYLE.

1.—Yarrow believes it possible that more cases of nephritis are due to **injuries of the kidney** than has heretofore been suspected. He reports the following case: A boy, aged 7 years, was run over by a coal cart, the wheels passing over the right leg and the region of the right kidney; over the latter there were signs of contusion. He was catheterized at once and two ounces of perfectly normal urine were drawn off. Two hours later he voided 12 ounces of bloody urine. There was no complaint of pain. One of the most interesting features of the case was the occurrence of hematoidinuria, which continued until the blood-clot had been removed from the contused kidney. Several blood-examinations were made, and the only point of interest was the presence of lymphocytosis, which was attributed to his debilitated condition. The urine-analysis made on the day of injury showed an acid-reaction and a specific gravity of 1022; 6.2% of albumin, and microscopically large quantities of erythrocytes, leukocytes, and blood-casts; a few calcium oxalate crystals and pale granular casts. An examination made on the third day showed microscopically more erythrocytes and leukocytes. The leukocytes contained and had adhering to them small amorphous masses of hematoidin; also needles and tufts of needles of hematoidin were present in great quantity inside and outside of the leukocytes. There were some blood-casts and a few hyalin-casts. The condition of the kidney gradually improved until about six weeks after the injury, when it was practically normal. [S.M.H.]

2.—Beck recognizes the value of the **x-rays,** particularly in fractures, but in spite of perfect technic and thorough anatomic knowledge, grave **errors of diagnosis** are by no means excluded. The case of a boy is reported who sustained an oblique fracture of the tibia; there was no shortening nor abnormal mobility, and crepitus could be produced only by rough manipulation. Two skiagraphs were made; the one with the leg on the dorsum did not show the slightest indication of a fracture; the one taken from the lateral outer aspect of the tibia showed a well-marked fracture line. This experience teaches the necessity of taking at least 2 skiagraphs in 2 different positions in all cases of suspected fracture. [M.B.T.]

6.—Cowie has been unsuccessful in staining the tubercle-bacillus with Dorset's **Sudan III stain.** He calls attention

) the fact that quite a number of different varieties of Sudan II are manufactured, and suggests that his failures may ave been in part due to a defective preparation. [S.M.H.]

7.—The **x-rays** are of much value in confirming the men- al picture formed by auscultation and percussion and elim- nate much of their error. This method will attain an equal ccuracy with those perfected by clinical experience, but not ntil sufficient time has passed for careful study. It is im- ossible to detect pathologic changes until we know the ormal. The greatest future advances will be made in distinc- ion of the less dense tissues and the study of motion by neans of skiagraphs. The skiagraphic method possesses dvantage over the fluoroscopic in mechanically recording he observation. [M.B.T.]

Medical Record.

December 30, 1899. [Vol. 56, No. 27.]

1. Etherization: The means whereby the Quantity was Reduced from 1,000 to 100 Grams per Hour; with Especial Reference to the Position of the Head as Affecting Respiration. A. ERNEST GALLANT.
2. The Treatment of Serous Effusions. CHARLES H. LEWIS.
3. Considerations upon the Prophylaxis of Glanders in Havana. ENRIQUE ACOSTA and J. N. DAVALOS.
4. A Case of Subcutaneous Craniotomy. SIDNEY F. WILCOX.
5. Jequirity in the Treatment of Trachoma. R. H. T. MANN.

1.—Gallant protests against the common and wasteful custom of drowning patients in ether. Successful anesthesia depends upon: The preparation of the patient; the administration of the anesthetic; the early recognition of, and means for, overcoming accidents during anesthesia; the after-care of the patient. In preparing the patient, the condition of the heart and kidneys should be studied, the bowels should be thoroughly evacuated, and a good night's sleep should be secured. Nitrous oxid is considered the safest and most agreeable anesthetic for diagnostic examinations and minor operations; in the hands of one familiar with its use, it may safely be continued from ½ to 1 hour. Gallant uses it entirely for curettage, circumcision, excision of cysts, reduction of dislocations and fractures, etc. After many experiments with the various forms of cones, the best results have been obtained by a modified Allis' inhaler. The inhalation of ether is made disagreeable only by those who brutally insist on the so-called "rapid" method, crowding the cone tightly over the face, and holding it there. A piece of gauze, folded 4 to 8 thicknesses, is placed over the end of the metalic frame, and loosely bunched gauze is inserted over it. This arrangement prevents the patient from vomiting into the cone, and the gauze can readily be replaced without tedious lacing of the frame. The preliminary administration of $\frac{1}{12}$ to $\frac{1}{8}$ gr. of morphin quiets respiration, stimulates the heart, and unlike larger doses, lessens post-operative nausea and vomiting. Loss of blood or shock from prolonged operation is overcome through enemas of hot (120°–130° F.) saline-solution (a dram to the pint), to which may be added 2 to 4 ounces of brandy, or by saline infusion. If there is struggling following the first inhalations of air fully charged with ether, raise the cone and allow the patient to take a full inspiration. Cyanosis and the escape of dark blood from the field of operation indicate that the patient is not inhaling enough oxygen; a condition of temporary asphyxia from accumulated mucus, foreign body in the trachea, or obstruction by the tongue, which can be readily relieved by removing the cause, and a more careful adjustment of the head, and close attention to the general condition. If there is vomiting turn the head to one side, wipe out the mouth and crowd the ether. After anesthesia hot water may be given *ad libitum* as soon as the patient is conscious. It allays gastric irritability, quenches thirst, and, if vomited, really washes out the stomach. Its early use also has a good effect on the kidneys and intestines. Intestinal distention and paresis may usually be relieved by high enemas and friction over the colon. [M.B T.]

2.—Lewis in an attempt to secure a general **deposit of fibrin on the pleural surfaces** withdraws a certain amount of serum from the pleural cavity and dissolves in this some methylene-blue and then reinjects the solution. The method he pursues is as follows: He uses a large aspirating syringe with a needle of medium caliber and fitted with asbestos piston and washers. A rubber tube is attached to the outflow tube of the syringe and extends into a glass, graduated, and with a capacity of 100 cubic centimeters or more, which holds the methylene-blue. A glass rod for mixing the blue and serum is inserted into vessel alongside the rubber tube, and the entrance is then plugged with sterilized cotton. The whole outfit is sterilized by heat before being used. If the sterilization is thorough, infection of the serum before being returned to the sac is impossible. He has used this method of treatment in 20 cases of pleurisy with effusion. His results have been most satisfactory. The shortest interval between the injection of methylene-blue and its appearance in the urine was 4 hours. In four cases paracentesis was performed a few days after injection without shortening the period of convalescence. There was no considerable reaccumulation of fluid, but the absorption of the fluid not removed was exceedingly slow. He therefore does not recommend aspiration after the injection. The injection is attended with no more pain than the ordinary aspiration and takes less time. The vast majority of cases of pleurisy are primarily tuberculous, and it would seem that the introduction of methylene-blue into the pleural cavity, even in the dilute solution employed, will be inhibitory or fatal to the tubercle-bacillus as well as to other germs. In the 20 cases experimented upon the average duration of treatment was 13.1 days. [S.M.H.]

3.—Acosta and Davalos call attention to the fact that **prophylaxis of glanders** as carried out by the present authorities in Havana is a menace to public health, and recommend that it be placed in the hands of the municipal corporation, which offers better means for its realization. [S.M.H.]

4.—A well-developed girl of 14 years was mentally backward and did not sleep well; her speech and muscular coordination were imperfect. The x-rays showed unusual thickness of the skull, and neurologists believed that the girl's condition was due to pressure of the overthick skull. A large plate of bone was loosened by the use of the Gigli saws in the manner suggested by Keen, allowing expansion of the brain. There is thought to be considerable improvement, though only a month has elapsed since the operation. [M.B.T.]

January 6, 1900. [Vol. 57, No. 1.]

1. The Diet in Typhoid Fever. MORRIS MANGES.
2. Two Cases of Tumor Pressing upon the Cauda Equina; Removal; Recovery. B. SACHS.
3. Puerperal Insanity. WILLIAM HIRSCH.

1.—Manges' paper is chiefly a review of recent writings advocating moderately free diet in typhoid fever, together with a report of 8 cases of his own which were given a freely-varied, soft diet. These cases did better than others on strict diet, and Manges, with others, considers that a free diet is indicated because typhoid fever is not a local disease but a general toxemia and plentiful nourishment is needed. Hemorrhage and perforation do not seem more common as results, nor is it proved that relapses are more likely to occur. [D L.E.]

2.—A man of 56 had suffered 18 months from severe pain in the right thigh and leg, latterly associated with sudden severe spasmodic contractions of the thigh-muscles. He had been shot in the Civil War, the bullet passing obliquely through the upper portion of both thighs. His pains were suspected to arise from these old wounds, and antineuralgic treatment had been tried without avail. The muscles of the limb were somewhat wasted, but it was not known whether from the present disease or the wound 35 years previously. The spinal column was not very sensitive at any part. Deep pressure upon the spinous processes of the second and third lumbar vertebrae produced some pain. Light pressure at about 1 inch to the left between these vertebrae was sufficient to produce pain radiating down the limb, exactly like the pain experienced at other times. The right kneejerk was absent, the left normal; both achilles-tendon reflexes were absent; there was no ankle clonus; the scrotal reflex of the left side was greatly increased; all other deep and superficial reflexes were normal. The vesical and rectal reflexes were not impaired. The presence of a **new growth** was rendered probable by the

severe spasmodic contractions of the muscles and the production of pain exactly like those of which the patient complained, from pressure near the second lumbar vertebra. In the absence of vesical and rectal disturbances, and because of the unilateral character of the symptoms, preference was given to the **cauda equina** rather than to the lumbar segments, as the site of this lesion. Dr. Wyeth operated, and on dissecting away the muscles from the median line from the third lumbar vertebra upwards a bulging mass was observed on the left between the second and third lumbar vetrebrae. Within the spinal canal this growth was adherent to the dura and to the inner surface of the bones; it was removed without damage to the soft parts. The patient made an excellent recovery, is relieved of pain and spasmodic contractions, has no sensory disturbances and walks with comfort. Microscopic examination showed the growth to be alveolar sarcoma. In a second case a man of 32 had had shooting pains in the back and legs for a year, which had increased in frequency and severity; muscular power was diminished in both lower extremities, the left being weaker; locomotion was difficult. Both kneejerks were absent. On the right side the plantar reflex was wanting; on the left side it was slightly present. Both achilles-tendon reflexes were wanting. Sensation was normal, except on the dorsal aspect of the left thigh, the left half of the perineum, scrotum, and penis. There was no absolute loss of any form of sensation, but there was distinct diminution of all. There was no marked interference with the vesical and rectal reflexes. The pupils reacted normally. Treatment with the iodids and suspension for tabes dorsalis was not followed by improvement. The gradual onset, the rapid development of lumbar deformity, the weakness of the lower extremities, the loss of the deep reflexes, and the strictly unilateral character of the sensory changes pointed to a lesion involving the lowest portion of the spinal axis. Dr. Gerster performed **laminectomy** of the second and third lumbar vertebrae. A nodular, pale, elastic, gelatinous tumor was found to occupy the space between the second and fourth lumbar vertebrae, compressing the cauda equina. The growth was removed, the wound drained and mostly closed with button sutures. Microscopic examination showed the growth to be a fibrosarcoma. The patient made a good recovery and has steadily improved since the operation, though still confined to bed. [M.B T.]

Medical News.

December 30, 1899. [Vol. lxxv, No. 27.]

1. Splenectomy, with a Report of Two Cases. J. WESLEY BOVEE.
2. The Pathology and Treatment of White Swelling of the Knee. A. B. JUDSON.
3. A Brief Report of an Epidemic of Typhoid Fever in Worthville, N. C., during 1898. CHARLES C. HUBBARD.

1.—Bovee says that the spleen is not necessary for the maintenance of life, for after its removal its functions will be taken up by the bone-marrow and lymph-glands. **Splenectomy** does not leave behind nearly so great a chain of symptoms in children as it does in man, hunger and temporary diminution in the quantity of urine being about the only symptoms. The indications for the operation are paludal, tubercular or idiopathic enlargement, malignant disease, axial rotation, wandering of the organ, echinococcus and other cysts, chronic congestion, amyloid disease, and rupture. The contraindications are: prodigious size of the organ, extensive adhesions, a proportion, of white to red cells below 1 to 50 and profound cachexia. Splenopexia, the fastening of a movable spleen to some fixed point, is an operation seldom called for, because if any diseased condition is present splenectomy is a preferable procedure. The diagnosis of an enlarged spleen is not often difficult. whereas a wandering spleen is seldom recognized before the abdomen is opened. An important point in the technic of splenectomy is the ligation and division of the gastrosplenic ligament before dealing with the larger vessels, and the vessels themselves should be ligated separately, the artery being tied first. Bovee reports 2 cases: (1) Leucythemia; weight of spleen 12 pounds and 17 ounces; death. (2) Tuberculous peritonitis and perisplenitis with movable spleen; recovery. [G.B W.]

2.—Judson says that tuberculous disease of the shoulder, elbow and wrist is comparatively rare because these joints are more easily put at rest and do not have to bear, to such a degree, the traumatic influences of active motion as the joints of the leg. Therefore treatment of **white swelling of the knee** should consist in the application of an apparatus which stops motion in the joints and also takes the weight of the body off the leg. Judson concludes his paper with the report of 11 cases. [G.B.W.]

3.—Hubbard reports an **epidemic of typhoid fever** occurring in village of 350 inhabitants. Altogether there were 63 typical cases of the disease, and several doubtful cases. The death-rate was about 10%. Thirty-two cases were apparently infected from one well. The epidemic occurred at a season when the water was extremely low and several of the wells of the town went dry. (J.S.)

Boston Medical and Surgical Journal.

December 28, 1899. [Vol. cxli, No. 26.]

1. Contributions to the Surgery of the Bile-Passages, Especially of the Common Bile-Duct. W. S. HALSTED.
2. Unlooked-for Dystocia in Certain Multiparae. E. S BOLAND.
3. A Case of Extraperitoneal Nephroureterectomy for Tuberculous Disease. EDGAR GARCEAU.
4. Notes on the Closure, by Buried Sutures, of Rents which Implicate the Anal Sphincter. A. T. CABOT.
5. X-Ray Examinations for Life-Insurance Companies. F H. WILLIAMS.

1.—Halsted says that he is much impressed with the splendid results of **operations for gallstones in the common-duct.** He reports 8 cases, each possessing some peculiarly interesting feature, and some of the more noteworthy features he summarizes briefly as follows: Case I Dilation of the first part of the duodenum caused by constricting adhesions, and as a result a "dilation ulcer" (Kocher) developed, causing a dissecting submucous abscess The abscess was punctured during the operation, and a fatal peritonitis resulted. Case II. Primary carcinoma of the duodenal papillas and diverticulum Vateri. First operation Excision of portions of the duodenum, pancreas, common bile-duct and pancreatic duct, in order to give the little growth, no larger than a pea, a wide berth; circular suture of the duodenum and transplantation of the stumps of the common duct and the pancreatic duct into the line of this suture. Second operation: Cholecystcysticoenterostomy by Halsted's method for intestinal lateral anastimosis. Case III Dynamic dilation of the first portion of the duodenum and of the pyloric portion of the stomach, corresponding to the limits of a sharply circumscribed peritonitis; gallstones in the bladder; hydrops vesicae; no adhesions. Case IV. Condition suggesting hepaticocholecystostenterostomy as a possible operation; common and cystic ducts were reduced to fibrous cords; dilated hepatic duct and gallbladder. Case V. Cholecystectomy performed twice. The gallbladder which was shrivelled at the first operation, when two stones were probably in the common duct, was large and distended at the second operation when only one stone occupied the common-duct Case VI. Very dense adhesions and extremely difficult operation. A small abscess in the midst of the adhesions; muscular coat of the duodenum converted into fibrous tissue the exposed submucosa resembled gallbladder so closely that the duodenum was aspirated and opened. Case VII. Illustrating the rapidity with which adhesions after perforation and extrusion of the stones can be absorbed. Case VIII Discharge of pus and blood by mouth and rectum during a severe gallstone attack. Two years later adhesions were so dense and so extensive that the common duct was reached by a retroperitoneal route over the right kidney. A stone in the ampulla had just ulcerated through the wall of the common duct and through its duodenal coverings. [G B.W.

2.—Boland, in a paper on **unexpected dystocia in multiparous women,** presents the following resume: (1) Certain multiparas, after one or more easy deliveries, lose the power of natural parturition. (2) This is due to failure of the expelling forces in the uterus and abdominal walls. (3) Artificial delivery is imperative in such cases as promptly as diagnosis is established. (4) Infant mortality is high in artificial delivery by the natural passages. (5) The human female is very tolerant of aseptic mechanical genital injuries

(6) Is suprapubic delivery justifiable in these cases when a positive diagnosis is established? [W.K.]

3.—Garceau reports a case of **extraperitoneal nephroureterectomy** for tuberculous disease. The nephrectomy was performed on October 25, 1897, but the ureter was not removed at the first operation, as it was hoped it would atrophy. Later local signs of deepseated inflammation at the point where the ureteral stump was situated made it evident that further operative interference was imperative. Three weeks after the nephrectomy an extensive operation was performed for the removal of the entlre ureter. The patient stood the operation fairly well, though there was extensive shock. The ureter was enlarged throughout its course to 5 times the normal size. It was hard and gristly and white in appearance. Sections of it showed characteristic tuberculous changes. [W.K.]

4.—Cabot reports a case of extensive rectovaginal fistula in which the fear of incontinence of the bowels had deterred surgeons previously consulted from operating. When the patient came under his observation she had a growth which was evidently malignant, occupying almost the whole septum between the vagina and rectum. After thorough removal, the whole peritoneum and rectovaginal septum, up to the peritoneal fold, had been removed for a distance of at least 4 inches. The parts were drawn together with difficulty by buried sutures, uniting first the rectal wall and sphincters, then the pelvic fascia, and finally, the vaginal mucous membrane. So much tissue had been removed that the tension was very great and an unusual number of stitches were required to bear the strain. The union was very satisfactory. The bowels were perfectly under control from the time of the operation. [W.K.]

5.—Williams believes that the fluorescent screen gives the most trustworthy evidence of the condition of the organs of the thorax and it could, therefore, be employed with advantage in examination for life-insurance.

January 4, 1900. [Vol. cxlii, No. 1.]

1. What Position Shall Universities Take with Regard to Investigation? THOMAS DWIGHT.
2. Epistaxis. FREDERIC C. COBB.
3. Appendicitis in a Hernial Sac. BENJAMIN TENNEY.
4. Nitrate of Silver in Hyperchlorhydria. M. P. SMITHWICK.
5. A Simple Method for the Quantitative Analysis of the Gastric Contents for Use in Clinical Work. HENRY F. HEWES.
6. Three Unusual Cases of Angioneurotic Edema in Infancy. JOHN LOVETT MORSE.

1.—Dwight sounds a note of warning against the demand for original investigation that now prevails in nearly all American teaching institutions. He calls attention to the fact that but few men have an actual taste for this kind of work, and the great majority of others will probably do it badly, while they are perfectly capable of doing excellent work in other lines. Moreover, the education of the physician has now become such an extensive subject that no demands should be made upon the student's time that are not absolutely necessary. On the other hand, he admits the value of **original work,** and believes that facilities should be placed at the disposal of those who are sufficiently zealous to undertake it. [J.S.]

2.—Epistaxis may be due to local or general causes. The usual local causes are ulcerations generally on the septum, caused by crusts or by irritation as in deflected septum, or the bleeding be due to foreign bodies or growths, such as sarcomas during operation. The general causes are plethora and anemia, the hemorrhagic diathesis, acute febrile diseases, vicarious menstruation and disease of the kidneys, syphilis, phthisis, and alcohol. *Treatment:* Cauterization of the bleeding-point on the septum, with chromic acid or galvanocautery after cocainization. Suprarenal extract may be tried. Plugging when resorted to should be done by strips of gauze introduced along the floor of the nose by means of long forceps, the eustachian prominence not to be included. Packing should be left in for 24 to 48 hours, and be withdrawn with the utmost care. [G B.W.]

3.—Tenney reports the following case of **appendicitis occurring in an hernial sac.** The patient was 79 years of age. For 2 days she had pains in groin and abdomen, constipation, and nausea, with the temperature at 101°. She had had a small femoral hernia for 6 years, but it had never troubled her. A strangulated hernia containing omentum was diagnosed, and as she grew worse operation was decided on. On cutting down, a small quantity of pus was found with an inflamed appendix in the hernia. Three inches of appendix were removed, the wound carefully washed and sewed up, gauze drains, however, being left in. She made a good recovery. [G.B.W.]

4.—Smithwick reports several cases of **hyperchlorhydria** in which he employed **silver nitrate.** He usually dissolved ¼ grain in a half an ounce of distilled water, and poured it through the stomach tube after lavage. In one case, that of a woman of 36 years, who had previously had symptoms of gastric ulcer and suffered considerably from pain in the stomach and general distress, almost complete recovery ensued. He warns against the production of argyria. [J.S.]

5.—Hewes suggests the following routine method for the **analysis of the gastric contents;** 5 ccm. of unfiltered contents are mixed with a few drops of 0.57° alcoholic solution of dimethyl-amidoazo-benzol. A decinormal solution of sodium hydrate is now added until the red color changes to orange or bright yellow. The test is made more accurate if, when the red color has almost been discharged, a drop of the mixture is evaporated with a drop of saturated alcohol of 00 tropeolin; a purple color indicating the presence of acid. As soon as the mixture is neutralized, the addition of the soda-solution is continued until congo-red paper is no longer altered. Two drops of 1% alcoholic solution of phenolphthalin is added, and the soda-solution continued until a deep red color is obtained. The first reaction gives the amount of total free HCl; the second, the additional amount of the total free organic acids plus the salts; the third, the total combined acids—that is, combined HCl; and by adding the last figure to the first, we have the total secretion of HCl. Certain modifications are necessary where there is no free HCl in order to determine the amount of combined HCl. [J.S.]

6.—Morse records 3 cases of **angioneurotic edema** occurring in children of 23, 7, and 4 months. In the first 2 the condition was brought on by exposure to cold, and in the third case it had existed at intervals from birth, and was ascribed by the mother to maternal impression. In this case the attacks were less frequent in warm weather. [J.S.]

Journal American Medical Association.

December 30, 1899. [Vol. xxxiii, No. 27.]

1. Procedure in Election in Certain Cases of Enlarged Prostate. JAMES H. DUNN.
2. Splenic Anemia, or "Banti's Disease," Complicated by Diabetes Mellitus. H. A. HARE.
3. Diagnosis of Intestinal Perforation by Means of Ether Inflation per Rectum. E. M. SUTTON.
4. Some Phases of Intranasal Surgery. G. V. WOOLEN.
5. The Work of the American Pharmaceutical Association in Relation to the Materia Medica of the Future. F. E. STEWART.
6. Do We Obey the Code of Ethics? R. G. ECCLES.

1.—Dunn limits his paper mainly to discussing the class of prostatic hypertrophies in which there is a large obstruction with few complications occurring among patients with young and relatively sound bodies. There is usually the development of nodules of a fibromyomatous character, similar to uterine fibroids. The number of patients affected in this way is estimated at about 5 or 6% of all who apply for surgical aid. He advises operation wholly by the suprapubic method with temporary drainage. Out of about 150 cases of **prostatic hypertrophy** which he has treated this operation was advised in 9 cases. Four of the patients submitted to the operation and all recovered with very satisfactory results. [M.B.T.]

2.—Hare calls attention to the present condition of a patient suffering from **Banti's disease,** who has been under his observation since 1895, and whose case has previously been reported. The patient has had a very great excess of lymphocytes, although the total number of leukocytes has been about normal. For a period of two years his leukocytes varied from 8,000 to 4,000, usually averaging about

6,000. But his lymphocytes, at an examination in 1895, were 84%; the mononuclear cells, 4%; the polynuclear cells, 8%; and the eosinophiles, 3%. The red cells varied from time to time from 1,000,000 to 2,800,000. The spleen was enormously enlarged. Examination of the urine in February, 1898, and on all previous occasions had revealed nothing abnormal. This patient again came under observation on November 13, 1898, stating that he had been suddenly attacked 2 weeks before with a profuse flow of urine and on examination of his urine it was found that he was passing 30 grains of sugar to the ounce. As it was not possible to have a blood-count made on the day of his visit an arrangement was made with him to return the next day, but this he failed to do, and he has not been seen since then. The patient stated that up to the time of the beginning of this diabetic attack he had been feeling better, he had gained weight considerably, and had been working for a number of weeks. His condition always improved very greatly when large doses of arsenic were given him, and his periods of relapse were usually precipitated by hard work, exposure, or poor food. Aside from the very curious blood-conditions which have been present in him, and which made his case decidedly unusual, the onset of such a profound degree of **diabetes mellitus** is exceedingly interesting. Hare is not aware that a similar case has been reported. [M.B.T.]

3.—A woman had received a gunshot wound of the abdomen, and in order to determine the condition that existed her bowels were inflated with the vapor of ether and the infiltration continued until she belched ether from the stomach, and the diagnosis of penetrating wound of the abdomen without intestinal perforation was made. On opening the abdomen it was found that the bullet had passed upward from its point of entrance, passing above the liver and wounding the diaphragm. Blood-clots were removed, the abdomen was closed, and recovery followed. The patient suffered no discomfort from the inflation except a slight feeling of distention. [M.B.T.]

6.—See Philadelphia Medical Journal, Vol. IV, p. 19.

January 6, 1900. [Vol. xxxiv, No. 1.]

1. Appendicitis from a Medical Standpoint. I. N. Love.
2. Observations on Asch Operation for Deviation of Cartilaginous Septum. Max Thorner.
3. Laminectomy. John C. Munro.
4. The Tuberculin-Test and the Need of a More Complete Diagnosis of Tuberculosis. Charles Denison.
5. Ophthalmia Neonatorum. Dudley S. Reynolds.
6. A Case of Chronic Inversion of the Uterus; Spontaneous Reduction after 3 Years. A. F. Jonas.
7. From Saddlebags to Pocketbooks. B. T. Whitmore.
8. Continental Views of Alcohol in Therapeutics. T. D. Crothers.
9. Modern Therapeutics. Warren B. Hill.
10. Appendicitis with Gangrene and Rupture of Appendix and Cecum; Operation; Recovery.

1.—In a discussion of the **medical treatment of appendicitis,** Love insists first on the necessity of accurate diagnosis before giving opium to relieve pain. He does not use the opium splint except in the rarest cases, but advises first thorough clearing out of the alimentary tract by high enemas and sometimes by divided doses of calomel and lavage of the stomach, thus removing irritating, fermenting material. Then efforts are made to check peristalsis and thus relieve pain; by hot local applications, a firm abdominal bandage, and withholding food for a few days. Before applying the binder, the abdomen is covered with oiled silk over which cotton is laid. Appendicitis is primarily a surgical affection, and if improvement does not follow treatment early the patient should be operated upon, provided a skilled surgeon is available. [M.B.T.]

3.—Munro reports 18 cases of **laminectomy** and believes the results furnish some encouragement in this discouraging field for intervention. In 11 cases the operation was undertaken because of injury to the spine; in 2 cases because of spinal caries; in 2 because of sarcoma, and 2 because of syringomyelia. One patient who jumped out of a window, breaking her back, is now well and earning her living. Another patient who fell from a mail-coach is living in nearly normal condition. Two patients suffering from syringomyelia showed slight temporary improvement, but one died and the other is now as bad as ever again. In 5 cases death followed soon after operation, and in the remaining cases more or less remotely. Of the advisability of operating for trauma below the mid-dorsal region there can be no doubt. Too many recoveries have been reported to warrant an expectant policy; 3 of Munro's patients were not cured by operation, but it gave them the best chance for recovery, and they were not disturbed by the interference. In chronic traumatic lesions the field is far more encouraging and we should not be deterred from operating at any level so long as there is the faintest hope of relief. Laminectomy for tumor offers brilliant results when the growth is limited and removable. Such cases are actually though not comparatively rare, but there is no reason why all offering the slightest amount of hope from operative interference should not be allowed the chance of relief or cure. In both of Munro's patients the growth was too diffuse to allow removal, although in the first much temporary benefit could have been obtained had it been realized the amount of interference the spine will tolerate. The second patient, in whom no tumor was found, probably had a diffuse growth within the cord itself, but unfortunately no autopsy was allowed to verify the supposition. Exploration in doubtful cases is justifiable. Operation is contraindicated until shock has passed, and in cases when the cord is completely crushed—a condition that cannot always be accurately foretold, however. Furthermore, interference should be withheld if rapid spontaneous recovery is taking place, although ephemeral recovery with return of paralysis, probably due to edema, may occur, and operation may be required after all in cases with a bright outlook in their early course. [M.B.T.]

4.—Denison agrees with the statements recently made in a paper by Otis as to the value of the **tuberculin-test** in the **diagnosis of tuberculosis.** He advises the use of a 1% solution of crude tuberculin in a 75% solution of carbolic acid in distilled water. The initial dose used by hypodermic injection is 1 to 2 mg.; the maximum dose may be 25 to 30 mg., according to the case. Experience has proved the comparative harmlessness of the test. [M.B.T.]

6.—A woman of 36, who had given birth to 8 children, had suffered for 3 years, since the birth of her last child, from frequent and profuse menstrual flows. Vaginal examination showed a round enlargement suggesting an intrauterine polyp, but more careful examination proved the existence of **chronic inversion of the uterus.** An attempt was made at reduction by grasping the cervix with 4 pairs of vulsellum forceps and pulling steadily downward while firm upward pressure was made on the fundus. Failing in this, an attempt was made to dilate the cervix at the constricted ring. The dilation succeeded, but efforts at reduction failed. Inasmuch as provision had not been made for an abdominal operation, the bleeding mucous surface was cureted away and the vagina was packed with iodoform gauze. Further efforts at reduction were not made and the woman went home, and it has been learned since then a normal confinement has taken place. Spontaneous reduction is probable; a comparatively rare result in such cases. [M.B.T.]

8.—See Philadelphia Medical Journal, Vol. IV, p. 19.

9.— " " " " " " "

The Practitioner.

October, 1899. [Vol. lxiii, No. 4.]

1. Incompatibility, and Some of Its Lessons. Walter G. Smith.
2. On Some Diseases of the Stomach, and their Diagnosis by Chemical Methods. Vaughan Harley.
3. Notes on the Hot-Air Treatment of Disease. F. G. Douglas Kerr.
4. Some Points on the Morbid Anatomy of Malignant Tumors. H. Campbell Thomson.

2.—Harley does not use the method of expression in **obtaining stomach-contents,** but tells the patient to bear down or contract the abdomen, which usually forces the contents up the tube. In some cases, by telling the patient to breathe deeply or cough, the same result is obtained. When the contents are thick, suction may have to be employed. For ordinary purposes of examination, he prefers the Ewald test-meal of 2 cups of weak tea and 2 slices of dry toast taken an hour before the contents are removed. To investigate the

motility, the following procedure is advised: A fasting patient receives one-quarter of a pound of freshly-minced meat and a little bread, and then, 4, 5, to 7 hours after the test-meal, the tube is passed. An ordinary individual, with this diet, has, after 5 or 6 hours, no residue in his stomach. The salol-method is unsatisfactory and inconvenient. The size of the stomach is best determined by distending the organ with gas —½ teaspoonful of tartaric acid dissolved in a wineglassful of water is given, and immediately afterwards ½ teaspoonful of sodium bicarbonate also in a wineglassful of water. Harley gives a number of tables illustrating the results of the analysis of the stomach-contents in gastric ulcer, hyperchlorhydria, carcinoma, neurotic dyspepsia, achylia gastrica, and catarrh of the stomach. Regarding **hyperchlorhydria,** he advises a diet that will diminish the amount of hydrochloric acid scereted. The diet should be plain—pepper, mustard, and other seasonings not being allowed. It is well to diminish the amount of ordinary salt in the diet. Cases of hyperacidity due to volatile acids do well on bismuth and sodium bicarbonate given some time after food. Harley does not place much reliance on lactic acid as an aid in the diagnosis of carcinoma. Regarding dyspepsia, it is the author's opinion that the majority of cases may be included under the heading of **neurotic dyspepsia.** In these cases there is generally no increase of mucus in the contents removed after an Ewald test-meal; in the majority there is a tendency to decrease in the quantity of hydrochloric acid, and the rennet and peptic ferments. Delayed motility is very characteristic. The treatment is principally hygienic. Internal faradism is very useful; in bad cases the Weir-Mitchell treatment is indicated. When hydrochloric acid is deficient, it is well to allow as much table-salt as the patients can take. A diet-table should be prepared for each individual patient, and in the more complicated cases it should be calculated out so as to give 50 calories per kilo of body-weight. The **drug-treatment** for neurotic dyspepsia is undoubtly strychnin, together with arsenic. In these cases it is necessary to give opium in small doses. When the hydrochloric acid is deficient, it is sometimes well to give sodium bicarbonate in a mixture an hour before meals. No fluid ought to be taken with the meals—the fluid should be taken 1 hour before or 3 hours after. Solitary meals should not be taken, and rest should be enjoined after meals in a room from which strong light is excluded. Cases of catarrh of the stomach, which were formerly so numerous, are becoming rare, since it is recognized that most of the derangements classed under this head belong to the neuroses. There are, of course, true cases of catarrh due to irritants. In them, diet, lavage and an alkaline mixture an hour before meals are useful. [D.R.]

3.—Kerr is a believer in the **hot-air treatment** of disease and uses the Dowsing apparatus. That and the Greville are the best known. Better results are obtained by the whole-body bath, even when the disease is in one limb or one joint, than by the local bath. The diseases in which he has used the method are: (1) **Gout.** Here it is most valuable in the acute stage. (2) In chronic **rheumatism,** in which good results have been obtained. (3) In chronic **phlebitis** the results have been very satisfactory. (4) In **sciatica** and other nerve-pains the results have been conflicting. (5) In rheumatoid arthritis the baths have proved more beneficial than any other treatment. (6) In organic **heart-disease,** when cold hands and feet existed, the treatment gave good results. The patients were undergoing a Nauheim course. In most cases one would, however, hesitate to use so powerful a form of treatment. (7) In general **debility** and **anemia,** when there was no contraindication. Even delicate patients bear the baths well. (8) In surgical affections of joints, especially those of stiffening, following the application of splints, the local baths are most valuable, and greatly hasten recovery; the increased circulation also promotes the redevelopment of muscular tissue. [D.R.]

4.—Thomson calls attention to the reduction in size of the internal organs, particularly the heart, in cases of slow-growing carcinoma that have not killed the patient, either by mechanical interference with neighboring organs or by metastasis. Three cases of carcinoma of the intestine early in life are cited—one, a cancer of the ileum in a woman of 30, a cancer of the sigmoid flexure in a man of 25, and an epithelioma of the esophagus in a woman of 31. The last perforated the aorta and the blood of the latter entered the stomach, forming a complete cast of that organ. [D.R.]

Münchener medicinische Wochenschrift.

August 15, 1899. [46. Jahrg., No. 33.]

1. Concerning the Function of the Thyroid Gland. OSWALD.
2. Neuralgia Epidemica. WILLE.
3. Two Cases of Laceration of the Intestinal Canal. HAHN.
4. Artificial Ectropion of the Lips of the Os Uteri, Caused by a Pessary. A Contribution upon the Knowledge of the Portio Vaginalis and the Vaginal Arch. SCHAEFFER.

1.—Two important questions still remain to be settled regarding the **function of the thyroid gland.** First, the manner in which the organ exercises its indispensable function; and secondly, what the nature of that function is. The iodothyrin of Baumann is qualitatively equivalent to the thyroid gland, but not quantitatively, as some of the by-products also contain iodin and are active. To obtain the iodin-containing body of the thyroid gland in its original form was the aim of the author. He succeeded by means of extraction with ammonium sulfate in obtaining two proteid bodies widely differing in their properties and action; the one resembling a globulin contained iodin to the amount of 1.6%. The author called it **thyreoglobulin;** the other contained no iodin, but instead phosphorus, and chemically is a **nucleoproteid.** From the moist thyroid almost 10% of thyreoglobulin can be obtained. The best criterion of the activity of these two substances is obtained by studying the effect on metabolism. If they have an action like that of the thyroid gland they should cause an increase in urinary nitrogen. It was found that the thyreoglobulin had the same influence on the nitrogen-elimination as the entire thyroid gland, while the nucleoproteid had no influence whatever on nitrogen excretion. It follows, therefore, that the **thyreoglobulin** is the **sole bearer of the specific properties** of the thyroid gland as regards metabolism. Further studies showed that the colloid material of the thyroid gland is a mixture of thyreoglobulin and nucleoproteid, and therefore contains the active principle of the gland. As this colloid material is found in the lymphatics also, on its way to the circulation, it may be concluded that the influence which the thyroid has on the general metabolism is not dependent solely upon processes taking place within the gland itself; the gland evidently makes a secretion that enters the blood. The function of this secretion, the author believes, is to direct the finer phenomena of metabolism, **to regulate metabolism.** When the secretion is deficient or absent, certain well-known symptoms arise which hitherto have been attributed to a poisonous substance, but which Oswald thinks are more likely to be due to products of intermediate katabolism, which are not formed at all when the thyroid gland is acting. It is probable that the thyreoglobulin is decomposed during the performance of this function, and that iodin is split off. Under normal conditions this iodin is carried back with the blood-stream to the thyroid gland, where it is stored. Therapeutically thyreoglobulin has been found **useful** in two cases of **myxedema.** Whether it is capable of holding in abeyance the symptoms following thyroidectomy in animals is still to be tested. In such experiments the thyreoglobulin ought to be given intravascularly or subcutaneously, as it might be altered in the stomach. [D.R.]

3.—Hahn reports two interesting cases of **injury to the gastrointestinal tract.** *Case I.*—A man, 18 years old, was stabbed in the left nipple line, between the seventh and eighth ribs. The wound was gaping and filled with particles of food. Operation showed a wound in the fundus of the stomach, 3 cm. long, with marked eversion of the mucous membrane. The abdominal cavity contained a large quantity of particles of food and an acid-smelling fluid. The wound in the stomach was united with two layers of sutures and a careful washing of the whole abdomen was carried out. The patient for a week or 10 days progressed most favorably, but symptoms of intestinal obstruction arose and a second operation was performed. An abscess the size of an apple was found and drained and the patient than made a good recovery. *Case II.*—A man, 23 years old, was kicked in the abdomen by a horse. There was scarcely any pain at time of injury, but it suddenly developed ¼ hour afterwards. Two hours later laparotomy was done and an oblique tear 4 cm. long was found in the intestine. There was considerable eversion of the mucous membrane. Nine cm. of the in-

testine was resected and an end-to-end anastomosis done. The intestinal loops were thoroughly cleansed and drains were left in the abdominal cavity. The patient made a good recovery. [G.B.W.]

4.—Schaeffer continues the discussion begun in the previous number. [W.K.]

August 22, 1899. [46. Jahrg., No. 34.]

1. The Relation Between the Indications of Cesarean Section, Symphysiotomy, Craniotomy, and Partus Arte Praematurus. LEOPOLD.
2. A Case of Hemophilia with Good Results Following the Use of Gelatin-Injection. HEYMANN.
3. Concerning New Implantations of the Ureters into the Bladder in Abdominal Methods of Treating Ureteral Fistula. AMANN, JR.
4. A Contribution upon the Theory of Mumps. HOPPE.
5. Neuralgia Epidemica WILLE.
6. Can a Prescription be Subject to Documentary Forgery? SCHAEFFER.

2.—In a case of **persistent bleeding after tonsillotomy,** the patient being a hemophiliac, Heymann injected subcutaneously a 2½% neutral, sterile solution of **gelatin** in physiologic salt-solution. At first 140 cc. of the solution warmed to 40° C. was introduced, but as the bleeding recurred on the removal of the tampons several days later, 240 cc. was injected in addition, and on the following day another 160 cc. As prior to the use of the gelatin everything else had failed to exert the slightest effect upon the bleeding, it must be assumed that the gelatin-injection controled it. Another interesting feature in the case was the development of a subcutaneous **emphysema** covering the neck, shoulders, chest, and back. As to the origin of this emphysema, Heymann believes that it was due to the entrance of air through the wound in the pharynx, which was easily possible, as the patient was very restless and hawked a great deal. [D.R.]

4.—Hoppe reports an epidemic of **submaxillaritis,** as he terms it, in a children's home. The patients were all boys, from 6 to 15 years of age; the girls of the institution and the attendants escaped. There were decided general symptoms: lassitude, headache, chilliness, pains on swallowing and on opening the mouth, and slight fever. The swelling of the gland occurred first on one side, in 10 cases on the left, in 6 on the right side. The parotid became involved in 6 cases. Swelling of the testicle was not observed, but 3 boys complained of testicular pain, which rapidly subsided on elevation of the scrotum. [D.R.]

Wiener klinische Wochenschrift.

July 27, 1899. [12. Jahrg., No. 30.]

1. Uterine Myoma and Pregnancy. R. CHROBAK.
2. Torsion of the Gravid Uterus Caused by Tumors. L. REINPRECHT.
3. An Abnormal Case of Sweat-Secretion, Bounded by the Upper Half of the Body. Metabolic Assimilation-Test. J. MARISCHLER.

1.—Discussing the question as to whether **myoma of the uterus** is the **cause of sterility,** Chrobak gives the statistics of several writers. Hoffmaier found that of women having myoma of the uterus, 22.7% were sterile; Winckel 32%, and Gusserow 27%. Chrobak collected from his clinic the statistics of 30,000 cases among which he found 780 reliable cases of myoma of the uterus of which 36.4% were sterile, and ⅓ had only one child each. In his private practice he selected two series of 2,000 cases each; in the first of these there were 123 instances of myoma of uterus, or 6.15%, 36.6% of which were sterile. The second series presented 174 cases of myoma, or 8.7%, of which 40.7% were sterile. The author admits that the above statistics have not much value, if the reports of Spencer, Wells, Simpson, and Grunewald are correct, as these show a general sterility of between 8% and 21%. In general, Chrobak believes that myomata of the uterus do not have a very great influence upon sterility. He reports a very interesting case. [W.K.]

2.—Reinprecht first draws attention to the distinction between torsion and twisting of the axis. After a general discussion of the reports of different authors upon the causes and results of torsion, Reinprecht reports a case of **torsion of the uterus** complicated with myoma and pregnancy observed in Chrobak's clinic, in Vienna. A cesarean operation was performed, followed by abdominal total extirpation of the uterus and the patient's recovery. [W.K.]

3.—The patient was a boy of 14 years, who since childhood had been subject to profuse **sweating of the face, chest and back.** The condition was independent of seasons, but was worse when the external temperature was low, as in winter. There was also some mental depression. Nothing else of moment was found. The urine-examination was negative in result. A study of metabolism showed that the elimination of chlorids through the urine was diminished, but that the retention was only apparent, as the balance was excreted in the sweat. The condition is evidently a neurosis characterized by an abnormal function of the sweat-centers combined, as has been often noticed before, with mental depression. [D.R.]

August 3, 1899. [12. Jahrg., No. 31.]

1. A Contribution to the Question of Paralysis of the Muscles of the Eye. SCHNABEL.
2. Comparative Tests of the Specific Gravity of the Dry Residuum and Iron in the Blood. S. JELLINCK and FR. SCHIFFER.
3. A Contribution to the Knowledge of the Cerebrospinal Fluid. T. PANZER.

2.—It has been asserted by many authors that the **specific gravity of the blood, the hemoglobin content, the dry residue, and the volume of the corpuscles,** bore a quantitative relation. It was the object of the authors to ascertain whether such a relation existed. They determined the iron-content of the blood by means of Jolles' ferrometer, and estimated the specific gravity and dry residue. They first examined the blood in three healthy persons. The dry residue varied from 22.26 to 23.94, the iron from 0.0431 to 0.0527, the specific gravity from 1,060 to 1,065. In these three persons there seemed to be a certain relationship between the different values. In the diseased persons studied a relation seemed to exist between the specific gravity and the dry residue, but when these two were compared with the iron-content no parallelism or proportionality could be discovered. [D.R.]

3.—Panzer has examined the **cerebrospinal fluid** from two hydrocephalic fetuses, with the following results:

	I. FLUID.	II. FLUID.
Quantity	Cc. 455	Cc. 180
Reaction	feebly alkaline	Feebly alkaline.
Specific gravity	1008.62	1009.17
In a 1000 parts there were:		
Water	984.035	986.180
Solids	15.965	13.810
Organic substances	7.335	4.225
Inorganic salts	8.630	9.585
Insoluble in water	0.236	0.067
Soluble in water	8.394	9.518
CO_2	0.550	
S_2O_3	0.161	
P_2O_5	0.051	
Chlorin	4.068	
Potassium oxid	0.296	
Sodium oxid	4.349	
Total nitrogen	1.404	
Total albumin	5.99	0.99
Albumins	4.85	
Globulins	1.14	

Qualitative examination showed, in the first, fluid choles terin, neutral fat and soaps, and absence of albumose, pep tones, peptic, tryptic, and diastatic ferments, and urea. Th second fluid contained glucose. [D.R.]

Berliner klinische Wochenschrift.

September 4, 1899. [36. Jahrg., No. 36.]

1. The Theory and Therapy of Kidney Insufficiency, Spe cially Regarding the Action of Curare upon the Sam A. KORANYI.
2. The Spread of Tuberculous Virus within the Huma Organisms. GABRILOWISCH.
3. Albumose in Urine, and Enterogenetic Albumosuria. J v. ADLOR.

The Theory of Enteroptosis and Nervous Dyspepsia, upon the Basis of Costal Stigmas. B. STILLER.

1.—In the proteid metabolism the large proteid molecules re decomposed into numerous small molecules which are xcreted through the kidney. If the permeability of the idney for solid molecules is diminished, retention of such nolecules occurs and leads to an **increase in the osmotic pressure** of the body fluids, which may be recogized by an increase in the depression of the freezing point f the blood. A depression of the freezing point below 0.56 egrees, and which cannot be brought back to 0.56 degrees y treating the blood with oxygen is **characteristic of enal insufficiency.** A greater force is necessary to abtract water from concentrated salt-solution than from one ess concentrated. If the water is to be separated in the orm of ice, the concentrated solution must be subjected to greater cooling (depression of the freezing point); and if the vater is to be changed into steam, the concentrated solution nust be subjected to greater heating (elevation of the boiling point). In renal disturbances in which the molecular concentration is increased, there is an attraction of water by the blood, which makes itself manifest clinically in that the patient perspires less than a normal individual. The elimination of water is lessened not only through the skin, but also through the lungs. The fluid content of the body is in health almost constant, and in regulating this content the kidneys play an important role. In localized kidney lesions the healthy portions may suffice for the elimination of water, but not for the elimination of all the solid molecules. In diffuse kidney lesions the conditions are often different, and the kidney does not possess the adaptability with regard to the fluid content of the body that is normally present. The kidney may be unable to eliminate a strongly concentrated urine, a condition the author terms **hyposthenuria**. The kidney may likewise be unable to prepare a much diluted urine when the ingestion of water is very abundant. There are cases in which the power of concentrating the urine is greatly diminished, while the permeability for solid molecules is fairly well preserved. In that condition the ordinary number of solid molecules is eliminated in a large quantity of water; there is polyuria. This is the condition of the contracted kidney in a state of compensation. When there is a lessening of the permeability for solid molecules, there is also a reduction in the elimination of water. The concentration of the blood through the retention of solid molecules leads to polydipsia which brings about a lessening of the increased osmotic pressure. The retention of fluid in these cases may lead to dropsy. The author explains renal dropsy as due to an increase in the osmotic pressure, with a deficiency of the accommodative power of the kidney regarding the elimination fluid. With respect to the relation of the increase in osmotic pressure to **uremia,** it must be remembered that the increase in pressure is the result of proteid metabolism, and that the uremic poison comes from the same metabolism. Both, therefore, have a common source; but the two classes of substances, the uremic poisons and those causing increase in osmotic pressure, are not identical. It is probable that the uremic poison consists of larger molecules than the substance causing an increase in pressure. From a therapeutic point of view, the object in renal insufficiency must be the lessening of the osmotic pressure at its source, that is through limiting the proteid metabolism. The osmotic pressure can be lessened by a **carbohydrate diet** and by certain drugs, among which **curare** seems to give the best promise. In some experiments on animals the author showed that after the removal of both kidneys the depression of the freezing point increased the more slowly, and the life of the rabbits was preserved the longer, the more curare was given to them immediately after the operation. In a future study the author will investigate the effects on human beings. [D.R.]

2.—Gabrilowisch reports an interesting case illustrating the fact that the tubercle-bacillus may attack an organ, produce distinct physical changes, disappear from that organ, or at least become dormant, and set up lesions in distant parts—all within a short period of time. In the patient, a man of 41 years, the tuberculous process began first in the apex of the right lung. After 4 months this apex was normal, and the upper portion of the lower right lobe showed signs of consolidation. After a time there was a critical decline of the temperature and a cessation of the cough. A few days later, when all the pulmonary symptoms had subsided, signs of tuberculous peritonitis presented themselves. At operation this tuberculous peritonitis was verified; after a few weeks the patient died of tuberculous meningitis. [D.R.]

3.—Most of the methods of **testing for albumose** have certain inherent fallacies, since, *e.g.*, urobilin and hematoporphyrin, respond to the same tests. Aldor has devised a new method that guards against the fallacy produced by urobilin. To from 6 to 10 cc. of urine in a test tube, he adds one or two drops of hydrochloric acid, and then phosphortungstic acid until everything precipitated by this acid has been thrown down. After centrifuging the mixture a few moments, the fluid is poured off and the sediment shaken with a few cubic centimeters of absolute alcohol. After placing again in the centrifuge and pouring off the alcohol—the process repeated 2 or 3 times—the sediment is suspended in water and a little concentrated sodium hydrate added, whereupon a more or less intense blue color appears, which disappears when the tube is shaken in the air, so that the biuret-test can then be performed upon a perfectly colorless solution. In artificial albumose urines, the test had a delicacy of .2 per 1000. The test was employed in 53 cases of various diseases. A strong connection was found between **fever and albumosuria,** the latter being present in 90% of the febrile cases. In 4 cases of carcinoma of the stomach and in one of peritoneal carcinoma in which the temperature was normal, albumosuria was found. The author's cases may then be divided into **febrile histogenic albumosuria.** He does not consider the albumosuria observed in carcinoma of the abdominal organs as enterogenic. No conclusion can be drawn from the albumosuria in carcinoma as to the seat of the growth. Whether the albumosuria is pathognomonic of carcinoma regardless of the seat, cannot be asserted as yet. Albumosuria is in the majority of cases an evidence of an anomalous metabolism. It is too early to say whether any conclusions of diagnostic value can be drawn from its presence. [D.R.]

4.—**Enteroptosis,** the author sums up, is a descent of the stomach, transverse colon, small intestine, the right kidney or both kidneys, more rarely the liver, still more rarely the spleen, in consequence of a relaxation of the suspensory ligaments of those organs. This descent begins insidiously, usually in youth, rarely in childhood. It depends upon a congenital, probably inherited, predisposition which manifests itself anatomically in a graceful so-called paralytic habitus, and pathognomonically in a **mobility of the tenth rib.** This mobility is due to a defect in the cartilaginous bridge of this rib, and its degree is more or less indicative of the degree of dyspeptic neurasthenia and of the descent of the organs. The discovery of the **costal stigma** in a child stamps the latter as doomed to be in the future an enteroptotic or dyspeptic neurasthenic. Those rare cases in which, despite the costal stigma, the disease is not fully developed, still bear evidence of a latent digestive weakness. **Enteroptosis and nervous dyspepsia are identical.** The subjective symptoms of nervous dyspepsia are not dependent upon the displacement of the viscera, but upon the underlying congenital dyspeptic neurasthenia. The basal neuropathy affects not only the spheres of sensation, but also those of motility, secretion, and even absorption of the stomach. Atony of the stomach is the earliest and often the only sign of nervous dyspepsia. The disturbance of secretion manifests itself usually as hyperacidity, which may increase to hypersecretion. The atony of the intestine leads to habitual constipation. The latter in young people is nearly always enteroptotic in nature. Enteroptosis is but little less frequent in men than in women. This proves the small importance in the production of enteroptosis of tight-lacing corsets, and pregnancy. The costal stigma is sometime, found in phthisical, chlorotic, and hysterical patients. These then, are sufferers from dyspeptic neurasthenia. [D.R.]

Two Professional Fees Compared.—For about one year's work as executors of the Pullman estate, two men receive $425,000. In one hospital known to us 137 men give their time and services each year, estimated to be worth between one and two million dollars, wholly without compensation.

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Valvular Disease in Old Age.—Robinson (*American Journal of the Medical Sciences*, December, 1899) urges the great importance of watching carefully for the first expression of cardiac inadequacy in old age. When the lower limbs become edematous and the serous cavities contain fluid in notable quantity it is seldom that any therapeutic agents can ward off the approaching fatal termination for many months. In such conditions, however, he has seen the diuretic wine of the Hôtel Dieu, or Trousseau's wine, effect temporary good results which were very remarkable. Indeed, he has known it occasionally to effect a cure which lasted several years, when the patient was seemingly before its use (and when many other remedies had failed) in a very critical condition. This wine is essentially composed of digitalis, squills, juniper berries, potassium acetate, and white wine, and it is prescribed in dessert or tablespoonful doses, repeated from three to eight times in 24 hours. He is persuaded that very many physicians err grievously in their use of the so-called cardiac tonics. Very often they are given in too large doses; again, they are given in combinations which are unintelligent, mainly because they are "shotgun" prescriptions, without a definite idea as to what they are doing; and, finally, because no proper appreciation is paid to the physiologic effects of combining remedies which possibly neutralize one another's beneficial action. Small doses, frequently repeated, simple remedies, in a thoroughly assimilable form—these should be the essential considerations in our prescribing. Whenever we endeavor too suddenly to give power to an already overtaxed heart the danger is evident that we often actually overstep the mark and cause directly a fatal termination, while with keener medical insight we should be really useful. Cardiac slowness is often an indication of intracardiac changes, but in many instances, fortunately, the gouty dyscrasia seems measurably to affect the slowness of the heart-beat, and by proper eliminative remedies we can often accomplish excellent results. Robinson contends that torpidity of the liver is often the primary factor in this slow heart-action, and when such is the case minute doses of calomel and soda, or gray powder, several times repeated in the course of a week or two, often bring about great improvement. For a long continued course of treatment it is wisdom to abandon the mercurials and institute in their place frequent doses of podophyllin, ipecac, soda, and rhubarb. After such a course we shall often see senile hearts practically rejuvenated for a time at least, and a new lease of life and its enjoyment quickly entered upon. In certain examples, where the gouty tendency is clearly defined, and where particularly symptoms of angina may be present, he insists upon the use of Contrexeville water. He believes that the profession is under obligations to D'Estrées for his advocacy of this water; he has seen several cases in which the gouty condition has been favorably modified in a very striking manner by its continued use for many weeks. The elimination of uric acid from the economy by its action seems at times exceptionally great.

Incipient Insanity.—T. Outterson Wood (*Treatment*, December 14, 1899) writes that some of the most distressing cases of uncertifiable mental disorder are those in which the patient, although perfectly sane in the ordinary sense, is yet tormented with what are called "horrid thoughts." These "horrid thoughts" frequently take the form of a suggestion to do something dreadful, to kill some one, to set the house on fire, to destroy themselves; and they recur so repeatedly that life becomes a burden. Although as a rule these cases do well, and gradually so far overcome the tendency to give way to the morbid thought as to drive it into the background till it fades out of consciousness, there is nevertheless always a lurking danger of a breakdown of mental control, and the development of an impulse which may end in disaster. As to treatment the following suggestions are offered:

In the majority of these cases there is general disorder of the bodily functions. There is dyspepsia, constipation, and monthly irregularity of the female generative organs. The appetite fails, and is capricious, the bowels act spasmodically, and the general health is impaired all round.

The first indications are to improve the general health. If there is insomnia, a dose of 20 grains of sulfonal each alternate night will procure refreshing sleep. A mixture of sodium bicarbonate, gentian, and ammonia before meals three times a day, and a pill of compound rhubarb 3 grains and blue pill 2 grains each alternate night will restore digestion, and procure healthy action of the bowels. The removal to cheerful surroundings if possible, and, if that cannot be arranged, the introduction of an outside element into the family circle, will stimulate self-control and self-confidence by the interchange of healthy thoughts and ideas, and will tend to strengthen the power of resistance to the suggestion of the morbid thought.

The following nervine tonic will produce a feeling of rest and composure, and allay nervous irritability:

℞.—Ammonium bromid.....15 grains.
Spirits of chloroform.....15 minims.
Tincture of nux vomica ..... 5 minims.
Cinnamon water ..... 1 ounce.

To be taken an hour after breakfast, after the mid-day meal, and in the evening.

The effect of treatment carried out on these lines is usually all that can be desired. In some instances he has found hypnotic suggestion of the greatest value in blocking these morbid thoughts out of the patient's mind, and producing a rapid and satisfactory condition of mental tone. The treatment should be continued daily for a week at least. Cheerfulness and self-confidence are stimulated, and the duration of the case materially shortened.

Medicinal Treatment of Phthisis.—Schnirer (*Presse Médicale*, October 4, 1899) believes that drugs, notwithstanding the importance of hygienic measures, are often of distinct value in the treatment of phthisis. He agrees with Sommerbrodt in attributing to creasote a higher rank than that of a mere palliative remedy. The difficulty of administering by the mouth a sufficient quantity of creasote to affect the bacilli in the lung, he believes, has been in a measure overcome by the introduction of thiocol (ortho-sulpho-guaiacolate), which is free from odor and taste, and which is, moreover, freely soluble in water, and therefore readily absorbed. The seventy per cent. of the amount ingested is absorbed. The writer reports 32 cases of phthisis in which thiocol gave very satisfactory results. The usual dose is 45 to 90 grains a day, but this amount can be doubled, if necessary.

Picric Acid in Herpes Zoster.—Delebecque (*Revue de Thérapeutique*, No. 20, 1899) recommends applications of an aqueous solution of picric acid (12 to 1000.) Absorbent-cotton compresses are soaked in this solution, wrung out until partly dry, applied to the affected areas, and covered with dry cotton and a bandage. To avoid maceration of the skin the dressings should be permeable. The applications should be renewed every 3 or 4 days, and removed with care. An alcoholic solution (1 to 10) or an ethereal solution (1 to 20) is more painful when first applied, but is preferred by Thiery. Picric acid acts as an antiseptic and analgesic. It speedily relieves the neuralgic pains and allays the intense itching.

Creasote Carbonate and Guaiacoal Carbonate in Phthisis.—Cornet (Nothnagel's *Special Pathology and Therapeutics*, Vol. xiv, part 3) says of late years pure creasote and guaiacol have been largely displaced by the carbonic acid combinations of these drugs, creasote carbonate (creasotal) and guaiacol carbonate (duotal). The first is a thick fluid of a slightly bitter taste (decomposing in the intestines into its constituents creasote and carbonic acid), and the latter a white, tasteless, and odorless powder. Both remedies are similar in action, and both have the great advantage over creasote and guaiacol that they are much better borne by the stomach, cause neither nausea nor irritative symptoms, often increase the appetite and the bodily strength, lessen the expectoration, and cause a general improvement in the patient's condition. Jacob and Nordt have recently reported cases with very good results from Professor von Leyden's clinic, and my own experience leads me to coincide with their favorable judgment upon these two preparations.

Creasotal is to be administered to patients 3 times daily in milk, claret, beef-tea, or capsules, a quarter of an hour after

eating. The beginning dose is 5 drops, to be increased by 2 to 5 drops, until about 30 drops are taken at a dose; and the administration is to be continued for from 6 to 8 weeks. Then the remedy should be discontinued for about a week; after which its administration may be begun again. The very large doses of from 2 to 3 teaspoonfuls which Chaumier has recommended frequently render the drug distasteful to the patient, and cause digestive disturbance. Duotal is often even better borne than creasotal, and is to be given in doses of from 0.2 to 0.5 gram (3 to 7½ grains) 3 times daily, gradually increasing up to a daily dose of from 1 to 2 grams (15 to 30 grains. It may be administered in capsules or wafers, or may be taken plain with the help of a mouthful of water. For children the beginning dose is 0.1 gram (1½ grains) increasing to 0.5 gram (7½ grains) thrice daily.

Asthma.—Jackson (*Merck's Archives*, December, 1899) writes that asthma is a disease characterized by nervous spasm and angioneurotic edema of the smaller bronchioles, which spasm and edema are caused by some irritant applied either directly to the mucous membrane or some other organ, resulting in reflex spasm and consequent swelling of the inner surface of the bronchiole. When dependent upon bronchitis and the presence of mucus, potassium iodid is especially useful, and should be given in doses of 10 grains every 2, 3, or 4 hours, according to the amount of relief afforded. One of the chief indications is to relax spasm. Chloroform gives almost instant relief, but its use must be continued in such quantities as will keep the sufferer just short of unconsciousness. Nitroglycerin and amyl nitrite relieve congestion of the bronchi by dilating the superficial capillaries. Atropin and morphin act better in combination than either does alone. Stramonium, belladonna, potassium nitrate, and lobelia may be used internally with a fair degree of success, or they may be used with greater success in the form of a powder to be burned. In this mixture there must be plenty of potassium nitrate to insure burning. The powder should be made somewhat as follows:

℞.—Powd. potassium nitrate..... 4 to 6 drams.
Powd. stramonium .....75 grains.
Powd. lobelia ....90 grains.
Powd. belladonna .....45 grains.
Powd. grindelia .....90 grains.
Powd. hydrastis canadensis .....15 grains.

Make one package. Burn one heaping teaspoonful in small closed room or under improvised tent. Inhale for a period of 10 to 20 minutes or until relieved.

Potassium bromid, taken in 10-grain alternate doses with the iodid, at an interval of one hour, will give relief. Chloral is often of much use, but must be avoided except in pure spasmodic asthma. Bromoform gives good and speedy results, but must be handled carefully. Antipyrin and acetanilid are effective, but dangerous in cases of weak heart and lungs.

A good combination for general use internally is the following, which is but slightly different from Hare's formula:

℞.—Sodium iodid..... ..... 2 grains.
Sodium bromid ..... 2 grains.
Fl. ext. euphorb. pil..... 3 drops.
Ethereal tr. lobelia..... 3 drops.
Nitroglycerin..... $\frac{1}{200}$ grain.

Take at one dose, and repeat in half hour, if needful.

Between the paroxyms potassium or sodium iodid will ward off the attacks for a time, provided the stomach tolerates the drug. Ichthyol is a good adjuvant between the attacks; it should be given in small and oft-repeated doses, not more than 1 or 2 minims every 3 or 4 hours. In so-called cardiac asthma the writer has found the following formula especially effective:

℞.—Strychnin sulfate..... 1 grain.
Morphin sulfate..... 1 grain.
Tincture of digitalis..... 4 drams.
Water to make..... 6 ounces.

A teaspoonful every 2 to 4 hours so long as needed, or until the heart acts regularly.

Mercury in Diseases of the Heart.—Beatty (*Dublin Journal of Medical Science*, October, 1899, and *Medical Review of Reviews*, November, 1899) writes that mercury is of value when there is general venous congestion due to back pressure. In such cases the pulse is weak and rapid, the right heart dilated, the liver enlarged, the cervical veins prominent, and the urine scanty and albuminous. He recommends mercury, especially in venous engorgment due to chronic primary mitral disease, to mitral incompetence secondary to aortic regugitation, to dilation of the heart with chronic nephritis, and to failure of the right heart caused by emphysema and bronchitis. Mercury is administered in these cases for both its purgative and diuretic action. Most physicians use it in purgative doses, and give it occasionally in the course of other treatment. Thus, Broadbent writes: "Digitalis is often useless, and appears only to add to the embarrassment of the heart and to produce sickness until the way has been cleared for its operation by a mercurial purge; when its good effects on the heart seemed to be expended, a fresh start will often follow a calomel and colocynth pill." Beatty recommends mercury almost exclusively for its diuretic action. He gives a pill containing ½ gr. of calomel, usually along with digitalis and squill, every 4 hours night and day, for from 10 to 14 days. If the pills should tend to cause purgation he combines opium. He commonly orders two kinds of pills—one containing calomel ½ gr. with squill and digitalis, the other containing the same together with ⅛ to ½ gr. of powdered opium. The nurse is directed to give a pill every 4 hours either with or without the opium, according to circumstances; one or two motions in the 24 hours is all he allows. It often happens that very few or even no opium pills are needed. In from 5 to 8 days there is a general improvement with a marked increase in the quantity of urine. At the end of about 14 days the gums may be a little sore; the writer then stops the mercury and orders citrate of iron and ammonia combined or not with digitalis, according to the condition of the pulse. Once the dropsy has disappeared entirely or almost entirely, the amount of urine secreted falls to or nearly to the normal. Any weakness caused by the mecurial course is rapidly relieved by the subsequent use of iron. This treatment may be repeated every now and then when recurrences of general venous congestion manifest themselves, and again and again complete relief of longer or shorter duration may be obtained.

Uremia.—Eshner (*Merck's Archives*, December, 1889) recommends the following diuretic pill in uremia:

℞.—Pilocarpin sulfate..... $\frac{1}{24}$ to $\frac{1}{16}$ grain.
Powdered digitalis..... 1 to 2 grains.
Spartein sulfate .... ⅛ to ½ grain.

Acute Alcoholism.—Douglas (*New York Medical Journal*, October 28, 1899) claims that there is one harmless remedy that will produce sleep in a few minutes, even when the patient is suffering with the wildest delirium. That remedy is apomorphin. He injects subcutaneously just enough to produce slight nausea, but not enough to cause vomiting. One-thirtieth of a grain is the average quantity required, but individual susceptibility to this drug greatly varies. In a few minutes after administering the remedy perspiration appears and the patient voluntarily lies down, when a sound and restful sleep follows. This sleep lasts at least an hour or two, and if other sedatives are previously given, it will usually last 6 or 8 hours. The writer contends that this use of apomorphin is original with him, and that there is no hypnotic in our materia medica that is at once so prompt, so safe and so sure. It is of special value in all forms of mania, regardless of the cause. It may also be given in full emetic doses in many cases of alcoholism with marked benefit. He has frequently had such patients express gratitude for the great relief afforded by this emetic. It seems to act almost as a specific in relieving the alcoholic craving.

Diphtheria.—Thornton (*Progressive Medicine*, December, 1899) has found the following combination valuable in combating sepsis in diphtheria:

℞—Tincture of iron chlorid..... 1 dram.
Quinin hydrochlorate ..... 24 grains.
Glycerin ..... 2 drams.
Water, to make ..... 3 ounces.

A teaspoonful in water every 4 hours (for a child 4 years of age).

Original Articles.

EXCRETION IN THE TREATMENT OF ACUTE INFECTIOUS DISEASES.

BY H. A. McCALLUM, M.D.,

of London, Ont.

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IN the days of a larger empiricism than obtains now purgation, diaphoresis, emesis and diuresis were accounted sheet-anchors in the treatment of all diseases. While they are by no means totally abandoned, even by the ultra-scientific physician, yet they have a much wider range of usefulness than is recognized nowadays. The history of medicine for centuries points to an unshaken faith in the efficacy of these measures, and there is still among the laity a survival of belief in this wrecked empiricism.

It is, unfortunately, too true that much of the clinical physiology of excretion needs clarifying. The amount of lymph in the human body is approximately estimated to equal three or four times that of the blood.[1] The immense importance of this primeval circulation can scarcely be overestimated in any discussion of this subject. While no full agreement can be found among physiologic authorities touching the method by which lymph is enriched and purified, yet even from such divergent standpoints as those of Ludwig and Heidenhein a few points of agreement can be framed. It will be agreed that any diminution in the quantity of blood or increase in the vascular area by diminished peripheral resistance will force lymph into the blood-current.

Increased capillary pressure drives more blood-plasma into the lymph-circulation. Certain agents which Heidenhein named lymphagogs cause a rapid interchange between blood and lymph. In one class of these we find the neutral salts, soda sulfate, magnesia sulfate, soda chlorid, potassium iodid, etc. Indeed, all salines can be classed among these agents. The interchange between lymph and blood is almost entirely effected between the lymph-spaces and the blood-capillaries. The giving up of lymph by way of thoracic duct is a very remote and fractional part of the interchange.[2] It has been found that while an animal is being bled the later portions of blood are more dilute than the first, and this is the case whether the thoracic duct is ligated or not. The increased pressure in the arterial capillary over that on the venous capillary is one powerful influence on this tissue-irrigation.

I have already expressed the view that the lymph-circulation is less dependent on the blood-stream than on the vital activity of the tissues themselves.[3] This view is practically assumed by Meltzer and Adler.[4] They look upon the tissue-spaces as a system of reservoirs anatomically independent of both blood-capillaries and lymph-capillaries, although able to interchange with both. During the last 15 years the advance of physiologic knowledge has shifted the responsibility of internal respiration from the blood-capillary to the activities of the tissues themselves. In this we find an explanation of excretion. The beginning of excretion must be an act associated with tissue-oxidation. For the sake of clearness we must speak of this as internal excretion; in other words, internal excretion takes precedence over external or glandular. In this connection Schafer, while speaking on the internal secretion of glands, says: "In one sense all the tissues and organs of the body form internal secretion, for they all pass into the blood materials which have been formed as products of metabolism."[5] One cannot, under any theory of lymph-circulation, conceive of lymph entering the blood charged with waste-products only. The tissue that leads to internal excretion gives to the lymph products that are to be of further use to the system. We shall show reason to believe that in this act or effort at tissue-excretion those defensive proteids known as antitoxins are formed. In internal excretion, therefore, a double function is performed. The lymph entering the blood laden with waste-products carries over with it antitoxins. What modern research has discovered in the action of blood-letting, emesis, cold baths, purging, etc., renders this view exceedingly probable. It is further supported by the methods of producing artificial immunity.

Now any agent that will increase the vital activities of the tissues will promote internal excretion. By internal excretion the general body tissues, and especially the central nervous system, are preserved from a developing tolerance or torpidity to bacterial toxins. The decisive battle-ground in acute infectious diseases is in the central nervous system, where the rhythmically acting vasomotor, cardiac, and respiratory centers must be preserved intact from harmful toxins. I have already pointed out that internal excretion is of double function and takes precedence over external or glandular excretion. We have experimental evidence pointing to glandular excretion having double function.

The experiments of Ribbert[6] and the more complete ones of Bradford[7] on extirpation of one kidney followed by excision of a wedge-shaped piece from the other kidney leave little doubt that the kidneys have a double function. If less than one-sixth of the total kidney-substance were left, polyuria and increased ex-

[1] "Human Physiology," Waller, Edition 1893, p. 116.

[2] See Tscherwkow, *Arch. f. d. ges. Physiol.*, 1895, Bd. lxii, s. 394; Lazarus-Barlow, *Jour. of Physiol.*, vol. xvi, p. 13; Starling, *Jour. of Physiol.*, vol. xvi, p. 312.

[3] See "Meaning of Vital Movements." *The Canadian Practitioner*, October, 1893.

[4] *Jour. Exper. Med.*, p. 529, July, 1896.

[5] Schafer "Text-book of Physiology," vol. i, p. 938.

[6] *Virchow's Archiv*, Bd. xciii, s. 169, 1883.

[7] Proc. Ray. Soc. London, 1892, vol. 11.

retion of urea resulted, the dog rapidly wasted, dying in short time of extreme emaciation. If the amount of idney-substances left amounted to one-qnarter the eight of the two kidneys the animal lived a considerble time, suffering from excretion of dilute urine, the aily amount of urea excreted being normal. There as been only one satisfactory explanation of these xperiments and it is this: The kidney forms some ubstance which inhibits the formation of waste-prolucts or acts as an antidote to their presence. These esults point to all glandular excretion as having doubtess a similar double function. A saline purge has first ction as a lymphagog or an internal excretion agent, nd secondly a purgative. In each of these acts the excretion may be the minor metabolic part. T. Lauder Brunton[8] says that purging tends to act as as a process of serum-therapeutics, and with this statement my own conclusions agree.

General metabolism is such a complicated act that our physiologic methods of investigation in physiology[9] have yielded us very meager details. As an illustration of this, Noel Paton was unable to determine whether massage or sweating had any influence on general metabolism.

The observations of Maurel[10] and Robin[11] show that blood-letting, blistering and emetics had much the same effect in icreasing oxidation and leukocytosis. These observations show especially that in revulsives a genuine leukocytosis often did not appear until the fourth day. Robin[12] further, as a result of investigations on the action of the cold bath in fever, concludes that its main action is in increasing internal respiration or oxidation and metabolic activity. Venesection, purging, emesis, diaphoresis, diuresis, etc., are ancient forms of treatment and have fallen from their abuse into disuse. To put my position briefly, I hold that the action of purging, emesis, diaphoresis, and diuresis may be considered as practically identical. I invite attention, therefore, particularly to the uses of purging in acute infectious diseases. It is important to know who, when, and how to purge. In the aged and feeble, purgatives should be used with care, but if their action is limited to the early hours of the illness they can scarcely do harm.

The time when to use purgatives in acute infectious diseases is, to my mind, the whole question of success or failure. If leukocytosis is of defensive intention in acute diseases, and if its occurrence is delayed till the fourth day on the application of revulsives as mentioned above, surely the earlier the leukocytosis the better for the patient. It is generally held that diphtheria-serum should be administered early and in full doses to obtain the best results.

Purging is a form of serum-therapy, and the vigorous use of it early is of paramount importance. I cannot help thinking that the first two days is the time for preparing one's patient for a life or death struggle against toxemia. The physician who has properly handled his patient in this time has done exceedingly well.

I shall briefly touch on the treatment of two forms of infection by purgation, in one of which the committee on papers, I believe, hopes to provoke a discussion, viz., pneumonia and typhoid fever. Before proceeding with discussion of these special diseases, pneumonia and typhoid fever, I wish to say a few words in justification of the exclusive reliance I am placing on purging to the exclusion of other forms of excretion. It may be urged that diaphoresis, diuresis, etc., are methods of excretion of equal value with purging, but the uncertainty of action of medicine and the greater variability of individuals in the action of these organs induce one to attempt the treatment of the diseases wholly by way of purging. One knows when 4 to 12 passages follow the administration of medicine that such medicine has acted efficiently and thoroughly upon the alimentary canal.

There is no method of excretion so completely under the hand of the physician as purging, and there is no method of excretion that one can so accurately estimate. Singleness of defense is quite as advantageous in medicine as in law.

A majority of cases of pneumonia and typhoid fever recover without any form of treatment, or even care. Skilled nursing will save a considerable portion of the otherwise fatal cases. There is left a considerable percentage in each of these diseases in which the well-trained and true physician can often give successful battle for the life of his patient. Among desperate cases of pneumonia the battle is lost or won in the first 48 hours. Indeed the time for decision may have lapsed before being summoned, or during delay in the diagnosis.

If the symptom-complex at the outset is very severe I give a large dose of calomel dry on the tongue, and may repeat it several times during the next 48 hours. If the toxemia is severe or temperature very high, epsom salts by the rectum may be administered, giving from 2 to 4 watery passages and immediately lowering pulse and temperature.

In the first 24 hours of the acute infection, if the case is one of great severity, I am not afraid to purge severely, viz., to the extent of 10 to 12 passages. After thorough action on the external excretion-apparatus agents are employed throughout the disease that increase internal excretion by heightening the cellular activity. In the front rank must be placed strychnin, and I begin its use at once in doses of $\frac{1}{30}$ gr. every 3

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[8] Lectures on the Action of Medicine, page 132.

[9] See, On Influence of Muscular Exercise, Sweating and Massage on the Metabolism, by J. O. Dunlop, C. Noel Paton, R. Stockman and Ivinson Maccadam, *Jour. of Physiology*, vol. xxii, page 67.

[10] *Gaz. des Hôpitaux*, August 13, 1896.

[11] *Bull. de l'Acad. de Méd.*, No. 4, 1898.

[12] *Bull. de l Acad. de Med.*, October 27, 1897.

hours. I use without fear this daily dosage of strychnin for weeks at a time in typhoid cases, and seldom have a complaint. When such arises, not caring to give the drug less frequently, I can set aside the symptoms by a small dose of morphin or bromid.

One must reserve alcohol for the last resource. I do not doubt, however, the wisdom of giving two such apparently antagonistic remedies as strychnin and alcohol at once, for they probably act alike.

While the bowels should be open, no vigorous purgation should be allowed after 48 hours. Thus thoroughly purged early, in pneumonia, even the feeble and alcoholic subject has less liability to extensive invasion of the pneumococcus, and consequently less liability to pleural, pericardial, endocardial, and meningeal complications.

In the treatment of typhoid fever by purgatives my experience is not extensive, but it indicates that if purgation is confined to the first week or 10 days, it is not only safe but life-saving.[12] With the contention of Thistle that purging freely can shorten the course of typhoid I most heartily agree, but I cannot hold that this is brought about by emptying the intestinal canal of toxins and germs. Purging, as already stated, is a form of serum-therapy. As an illustration of this I might mention the efficacy of thorough purging in sepsis, especially in puerperal. Not even curetage and douching excel this remedy in safety and effectiveness.

With a growing confidence in the cold-bath treatment of typhoid fever and the ease with which R. H. Fitz's method of cold bathing can be used in private houses, I think it very questionable if any form of treament can dispense with the usefulness of this agent. Just as in serum-therapy, the best results in cold-bath treatment are obtained by beginning its use early. It is a serious mistake to attribute the whole beneficial results of cold baths to heat-extraction and consequently regulate its employment by the thermometer.

Robin has shown that the cold baths in fevers increased oxidation and, consequently, internal excretion. I have mixed the purgative and cold-bath treatment with, apparently, happy results, but whatever is the form of treatment, I make one rule, that is: to begin the use of strychnin in good doses early. It is a tissue-arouser, especially of the nervous system, and helps to prevent the vital nerve becoming oversaturated with toxins.

If it is true that the many forms of treatment of acute infectious diseases arrive at the same result, viz., the cure of the disease (I mean those unable to obtain health without medical aid) they have very likely a concealed unity of action however discordant they appear on the surface. Viewed from whatever standpoint, one is driven to the conclusion that serums, bloodletting, cold-baths, purgation, emesis, diaphoresis, diuresis, etc., are different methods of the same treatment, and it is essential that they should be used early. The action of some of them is so transitory that they require repeated application. In this connection I have frequently been impressed with the importance attached by surgeons to the so-called preparatory treatment of patients before operation.

It would be interesting to know how far bathing, purging, etc., increased the natural defenses against septic infection, and promoted the wound-healing after the operation. If the physician could be placed in a similar position to the surgeon, and prepare his patient before exposure, the death-rate of those infected would be greatly reduced; indeed many would obtain immunity. The use of diphtheric serum in immunizing doses is an illustration.

[12] See Thistle on "Theory of Eliminative Treatment of Typhoid Fever." *New York Medical Record*, November, 1896.

CEREBRAL RHEUMATISM.*

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The purpose of this paper is to consider briefly the complication of acute articular rheumatism known as cerebral rheumatism. The term is used to designate a class of cases in which this complication occurs, characterized by a set of cerebral symptoms so severe and marked as to give their characteristic stamp to the course of the disease.

Etiology.

It is a well-known fact that high temperature in the course of almost any acute disease may give rise to marked cerebral symptoms—headache, restlessness, sleeplessness, stupor, delirium, convulsions; also, that some cases of acute articular rheumatism are complicated by hyperpyrexia, the temperature rising to 106°, 108°, or even 110°. This high temperature is accompanied by the marked cerebral disturbance which we should expect from our knowledge of the effects of high fever upon the brain. Hence it is that the mention of cerebral rheumatism usually calls up to the mind of the practitioner the thought of hyperpyrexia, and the cerebral disturbance dependent upon it.

Some of our best writers upon the subject of practice of medicine also seem to take this same view—apparently drawing no distinction, or very little distinction, between hyperpyrexia and its effects upon the brain, and cerebral rheumatism. Thus, Strümpel[1] says: "There are certain peculiar cases of acute articular rheumatism which excite the greatest interest. In these, very severe cerebral symptoms are developed, and often most acutely. They are therefore called

* Read before the Clinico-Pathological Society, January 17, 1899.

[1] Practice of Medicine, p. 852

'cerebral rheumatism'; or, as they are almost always characterized by an extraordinarily high temperature, another name is 'hyperpyretic articular rheumatism.' In these cases the disease may exhibit severe nervous symptoms from the start, particularly delirium; or it may at first run an apparently favorable course, and not change for the worse for several days, or even at a later period. The change may be quite abrupt. The temperature rises to 104°, or even 106°. There are, great uneasiness, delirium, and also, sometimes, signs of motor irritation, such as general convulsions, or tonic spasm of the extremities, or trismus. . . . With slight interruptions the temperature continues to rise and attains 107.5° to 109.5°. This great rise is most apt to occur just before death, and there may be a still further rise of temperature after death occurs. As has been implied the termination is usually unfavorable. It is only in exceptional cases that recovery takes place."

Wood and Fitz[2] say: "Cerebral complications are sometimes so conspicuous as to give rise to the term 'cerebral rheumatism.' Restlessness, delirium, convulsions, and coma may rapidly develop with the subsidence of the joint-inflammation, usually during the second week, and be associated with hyperpyrexia, and rapid pulse, the temperature even exceeding 110° F. The hyperpyrexia may prove the cause of death, and no abnormal appearances be found in the brain."

Tyson[3] says: "From the beginning there is fever, but being seldom high at this stage it is not commonly the symptom to attract attention. Later, it usually increases proportionately to the extent of joint-involvement, but only in the meningeal form is it extremely high. Occasionally there is intense hyperpyrexia when the temperature rises rapidly from 104° to 110°, or even higher. With this are associated cerebral symptoms of an alarming and dangerous kind—intense headache and delirium, symptoms otherwise rather unusual in acute rheumatism. To these are often added unconsciousness, pulselessness, cyanosis, rapidly followed by death unless the temperature is promptly reduced. . . . This combination of severe symptoms is known as the meningeal form, or rheumatism of the brain."

These authors evidently regard cerebral rheumatism as due entirely to the effects of a high temperature upon the brain—or rather, it would appear, confound the complication known as hyperpyrexia and its effects upon the brain, with cerebral rheumatism.

Osler[4] more nearly approaches the truth, when he says, under the heading of "Cerebral Complications": "These are due in part to the hyperpyrexia, and in part to the special action upon the brain of the toxic agent of the disease. They may be grouped as follows: (*a*) Delirium. This is usually associated with the hyperpyrexia, but may be independent of it. (*b*) Coma..(*c*) Convulsions..(*d*) Chorea..(*e*) Meningitis."

I believe that Pepper[5] gives the true state of the case. He says: "The extrordinarily high temperature that frequently accompanies acute rheumatism has been supposed to be the cause of the manifestations of cerebral disorder; but while it is true that an excessively high temperature is potent to produce disorder of structure and function in the cerebral tissues and other organs of the body, the cause of such cerebral disturbances in rheumatism must be explained by something different from mere elevation of bodily temperature. It is also a fact of observation that in many cases of cerebral rheumatism no such inordinate rise of temperature is observed. Only when the regulative centers are crippled is this phenomenon exhibited."

In support of this statement that true cerebral rheumatism is not primarily due to the effects of high temperature upon the brain, and that rheumatism of the brain may occur without hyperpyrexia, I present the temperature chart accompanying the following case of cerebral rheumatism:

Male. Age 29. Taken down on May 28 with an attack of acute tonsillitis, preceded by general malaise for one or two weeks. The only peculiarity about this attack was that the general constitutional disturbance was more marked in proportion to the local throat trouble than is usually observed in an ordinary case of acute tonsillitis.

While recovering from this attack a perirectal abscess developed, which was opened in due time.

A few days later, on June 10, he was suddenly taken down as with an infectious disease, with fever, great pain in the back, restlessness, sleeplessness, and general discomfort. Swelling and tenderness of the right shoulder joint appeared on June 12, and from that time the disease ran the course of an exceedingly severe case of acute articular rheumatism. The joint-inflammation spread and involved almost all of the more important articulations of the body.

About July 9, when the joint-inflammation was at its height and the temperature in the neighborhood of 102°, hallucinations developed, and these with the other brain-symptoms became the most marked features of the case; the joint-inflammation gradually subsided. At first, the mental disturbance was principally with regard to space and time, the patient imagining that he was in an Oriental country with its scenes and surroundings. Gradually, distrust as to the intentions of the physicians and nurses appeared; he came to believe that they were all secretly acting together to slowly cause his death by means of the medicines administered, one of which—sodium salycilate in vichy—he believed to be a decoction of matchheads. He exhibited little resentment at his supposed persecution, but resigned himself to his fate. Later, the hallucinations took the shapes of animals which would appear as night came on, putting their paws upon his bed waiting for him to die, and coming nearer or withdrawing, according as his condition became better or worse. When morning came they disappeared. They occasioned repulsion, and perhaps some fear, but no terror.

Accompanying these symptoms there were greatly increased mental activity with a constant tendency to talk, and insomnia. There was also great restlessness, which increased at times to jactitation, and, upon three occasions, to actual convulsions.

This train of symptoms lasted for about three weeks, and gradually subsided, the fearfulness and distrust being the last to leave him. These continued, with diminishing intensity, well into convalescence.

[2] Practice of Medicine, p. 65

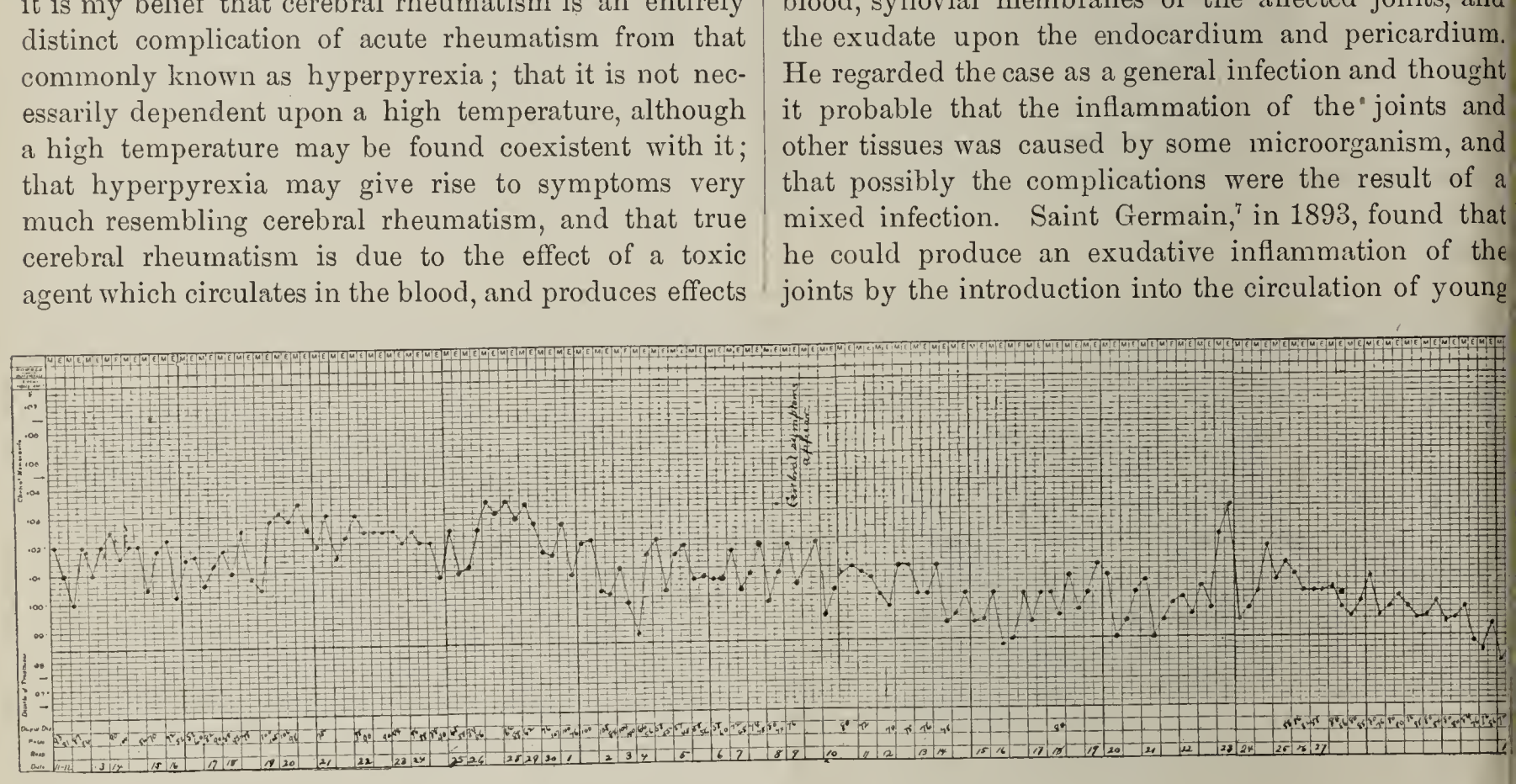
[3] Practice of Medicine, p. 117.

[4] Practice of Medicine, p. 296.

[5] American Textbook of Theory and Practice of Medicine, vol. ii, p. 159.

It will be noticed from the temperature-chart, that during the entire course of this complication, which was so severe as to threaten life itself from exhaustion following the attacks of excessive restlessness and convulsions, that the temperature on only one occasion exceeded 102°, and hyperpyrexia evidently had no part in the causation of this attack. Also, the temperature was regularly higher during the earlier weeks of the disease than during the course of this complication.

From this case, supported by the statements of Pepper and Osler, and after a careful review of the subject, it is my belief that cerebral rheumatism is an entirely distinct complication of acute rheumatism from that commonly known as hyperpyrexia; that it is not necessarily dependent upon a high temperature, although a high temperature may be found coexistent with it; that hyperpyrexia may give rise to symptoms very much resembling cerebral rheumatism, and that true cerebral rheumatism is due to the effect of a toxic agent which circulates in the blood, and produces effects upon the brain and its membranes which manifest themselves in the characteristic symptoms of this complication.



Acute articular rheumatism, complicated by cerebral rheumatism without hyperpyrexia.

Although the poison of the disease is undoubtedly present in the blood of all patients suffering from acute rheumatism, the intensity of its effects upon the cerebrum differs in different individuals, just as the toxic agent of the disease, or altered condition of the blood damages the structure of the valves of the heart—more in some patients, less in others, and in some not at all. Why this should be, we do not know in all cases, but predisposition undoubtedly plays an important part in the production of cerebral rheumatism.

The question now arises as to the nature of this toxic substance, which is capable of producing such profound effects upon the organism, and for the answer we must turn to the bacteriologist. The trend of almost all recent investigations as to the cause of acute rheumatism has been in the line of bacteriological research; and, while as yet no specific organism has been demonstrated to be the direct cause of the disease, enough progress has been made to cause most recent investigators to hold firmly to the belief that rheumatic fever is an acute infectious disease, caused by the presence and growth in the body of definite microorganisms.

Time does not allow a complete report of all that has been accomplished in this line of research, but the most important of the results obtained are worthy of our careful consideration. Sahli,[6] in 1892, reported a fatal case of rheumatic fever in which he sought to find pathogenic bacteria in the synovial fluid of the affected joints, with negative results. He obtained, however, cultures of staphylococcus pyogenes citreus from the blood, synovial membranes of the affected joints, and the exudate upon the endocardium and pericardium. He regarded the case as a general infection and thought it probable that the inflammation of the joints and other tissues was caused by some microorganism, and that possibly the complications were the result of a mixed infection. Saint Germain,[7] in 1893, found that he could produce an exudative inflammation of the joints by the introduction into the circulation of young animals of attenuated cultures of staphylococci. The serum exuded, however, was sterile. Sarcaze,[8] in 1894 reported several cases of acute rheumatism occurring in patients having hypertrophied tonsils, and one following a suppurating wound, and thought that they might indicate the possible points of entrance of the pathogenic bacteria of the disease into the system. In this connection, the perirectal abscess preceding the case of rheumatism above reported, is of interest. In September of the same year, another perirectal abscess developed in this patient, and its appearance was followed by a slight exacerbation of the disease with a return of pain in the right knee-joint. Singer,[9] in 1895, reported that in 17 cases of the disease investigated by him, he found the staphylococcus pyogenes albus in the urine in 8, and in the blood in 2; in 3 cases the streptococcu

[6] Sahli: Zur Aetiologie des Acuten Gelenkrheumatismus. *Deut. Archiv klin. Med.*, 1893, Bd. li.

[7] L. de St. Germain: Etude clinique et experimentale sur la pathogenie d rhumatisme articulair aigu. Paris. Steinheil, 1893.

[8] Sarcaze: Rôle des staphylocoques dans l'etiologie du rhumatisme articula aigu. *Archiv gen. de med.*, 1894.

[9] Gustav Singer: Aetiologie und Klinik des Acuten Gelenkrheumatismu 1895.

pyogenes was found in the urine alone, and in 2 cases in association with the staphylococcus pyogenes albus; the microorganisms were found in large numbers during the acute stage of the disease, and disappeared when convalescence was established. From this he claimed a possible relationship between the number of pathogenic bacteria—chiefly streptococci and staphylococci—in the urine, and the severity of the symptoms. Chvostek,[10] in 1895, reported that in several cases of acute and chronic rheumatism investigated by him he had failed to find bacteria in the exudate into the inflamed joints; also, that he was unable to find microorganisms in the urine in 9 out of 12 cases; one of these 3, however, contained the staphylococcus pyogenes albus. Sternberg[11] states that the symptoms and complications of acute rheumatism indicate that it is an infectious disease, and that the researches of bacteriologists give some support to this view. He further says: "If, as appears probable, acute rheumatism is due to infection by the ordinary pus cocci we may suppose that this occurs in consequence of a loss of the natural immunity which in a normal condition of health protects man from an invasion by these micrococci, which are constantly present—especially the staphylococcus pyogenes albus—upon the surface of the body and upon the mucous membranes. In my work on 'Immunity, Protective Inoculations, and Serum-Therapy,' 1895, the following conclusion is reached with reference to the explanation of natural immunity: 'The experimental evidence submitted, considered in connection with the extensive literature relating to phagocytosis, leads us to the conclusion that natural immunity is due to a germicidal substance present in the blood-serum which has its origin—chiefly at least—in the leukocytes, and is soluble only in an alkaline medium.' Now, in acute rheumatism there is an excess of acid in the system, and it seems quite probable that, as a result of this, the natural immunity against infection by these micrococci is neutralized."

Singer,[12] in a recent and very complete monograph upon the etiology of this disease, states that the bacteria found in his investigations, in the blood, urine, the synovial fluid, and the exudate of the various complications, were principally the staphylococcus pyogenes and the streptococcus pyogenes. His blood-examinations gave 15% of positive culture results; and those of the synovial fluid 9.5%. In the latter the staphylococcus pyogenes albus was twice found, and was also present in the blood and urine. He says that the symptomatology of acute rheumatism corresponds very closely to that of various affections due to infection by the pus bacteria; that a close relation exists between this disease and osteomyelitis—which he characterizes as a "sister affection"—and that both are varieties of pyemia in the broadest sense of the word; that they are constitutional infectious processes, caused by the propagation of bacteria—staphylococci and streptococci—which gain access to all parts of the body by means of the circulation; that in the majority of cases, the infection takes place through the mucous membranes of the throat, and, possibly, the tonsils—which he regards as protective organs, like the lymphatic glands; that the infection is of a milder character than that of pyemia, as the bacteria lose some of their virulence in passing through these tissues.

Osler also calls attention to the resemblance between rheumatic fever and pyemia. He says:[13] "Physicians have long been impressed with the striking similarity of the symptoms of rheumatic fever to those of septic infection. In the character of the fever the mode of involvement of the joints, the tendency to relapse, the sweats, anemia, leukocytosis, and, above all, the great liability to endocarditis and the involvement of the serous membranes, acute rheumatic fever resembles pyemia very closely, and may indeed be taken as the very type of an acute infection." Referring to inflammatory rheumatism as an infectious disease, the same author states that there is evidence that the disease occurs in epidemics which "recur without regular periodicity, at intervals of 3, 4, or 6 years; and that the curves of mortality statistics . . . . approximate very closely those of pyemia, puerperal fever, and erysipelas, diseases which are certainly associated with specific microorganisms." The occurrence of such epidemics have also been noted by Pepper, Lang of Copenhagen, and many other observers. There is also some evidence that intrauterine transmission of the disease has occurred.

These conclusions indicate the trend which present investigations upon the subject of the causation of acute rheumatism are taking, and show that there is a strong impression in the minds of recent observers that the disease is an infectious process, caused by the presence and growth in the body of the ordinary pus cocci. If this explanation be accepted tentatively,—and it is to be hoped that positive proof of its correctness will be produced in the near future,—the hyperpyrexia, and cerebral, cardiac, and other complications of the disease are easily and satisfactorily explained, being ascribed, as in case of the manifestations of other infectious diseases, to the toxic effects of products elaborated by the pathogenic bacteria, these products reaching all parts of the body through the medium of the circulation.

The limits of this paper do not allow a discussion of the only other two theories which have been advanced to account for the symptoms of this complication: First, that it is a true inflammation of the brain, the inflammatory process being identical with that occur-

[10] Chvostek: Zur Aetiologie des Gelenkrheumatismus. *Wiener klin. Woch.*, 1895.

[11] Sternberg: Textbook of Bacteriology, 1896.

[12] Gustav Singer: Aetiologie und Klinik des Acuten Gelenkrheumatismus, 1898.

[13] Osler: Practice of Medicine, p. 168.

ring in the joints, produced by a metastasis, or transference of the joint inflammation; and second, that it is due to changes in the cerebral circulation caused by cardiac weakness. The first explanation undoubtedly arose from the fact, often observed, that the local joint-inflammation appears to diminish in severity as the cerebral disturbance becomes more intense. This view, however, is indefinite in character, and leaves us, nearly as much as before, in ignorance of the cause of the trouble, the so-called metastasis of which gives rise to the cerebral disturbance. Also, in the great majority of autopsies following death from this complication, no pathologic changes whatever have been found in the brain or its membranes to indicate the presence of an inflammatory process.

The second theory has not obtained a wide following. The complication has been observed in cases in which there is no apparent weakness of the heart. Also, having accepted this view, it is difficult to understand why cardiac weakness should produce this complication in acute articular rheumatism and not in the many other diseases in which it is present.

According to Pepper, cerebral rheumatism occurs in about 3 or 4% of all cases of rheumatic fever, and with about equal frequency in males and females. It is said that patients who are peculiarly susceptible to nervous disorders, and those who have been addicted to the use of spirits, or who have suffered from lead-poisoning, are especially liable to this form of rheumatism.

Pathology.—As already stated, in the great majority of cases, no pathologic changes are found in the brain or its membranes after death from cerebral rheumatism. Occasionally, however, changes are found. The cortex is congested, and of a pink color, and there may be minute hemorrhagic effusion into its substance. The pia mater and arachnoid are congested, and their vessels are engorged with blood. The ventricles and arachnoidean spaces are distended with serum, which in some cases may be bloody, or even purulent. The dura is rarely affected. In all cases in which these marked inflammatory changes are found, there is a strong suspicion that the case was one of a complicating meningitis rather than true cerebral rheumatism.

Symptoms.—These have already been alluded to in the case reported. They usually appear when the joint-inflammation is at its height, or just as it begins to mend, usually in the second or third week of the disease. They may complicate any case of rheumatic fever, but are usually seen in the severer forms of the disease. The symptoms are usually ushered in by a mild nocturnal delirium, headache, disturbance of vision, and subsultus tendinum. Profuse perspiration, and vertigo, have also been noted immediately preceding the attack. When well developed, the most prominent symptoms are increased cerebral excitement, great restlessness deepening at times into convulsions, and coma. The last is rarely seen except in the latter stages of cases which terminate fatally.

The increased cerebral excitement shows itself in increased activity of thought—usually along lines warped by hallucinations of mind, sight, hearing, etc.—and almost constant wakefulness and delirium. The delirium is usually of a quiet, busy, talkative character, accompanied by hallucinations. Occasionally it is violent and noisy, and there are attempts to get out of bed. The hallucinations, as already mentioned, are mostly regarding space and time, and general surroundings. There may be fear of persecution and distrust as to the intentions of attendants. Disturbance of the special senses gives characteristic symptoms. Disturbance of the centers of vision causes the real appearance of all objects seen to be distorted; frequently it gives rise to the appearance of animals somewhat as in delirium tremens, but causing the patient little fright. Disturbance of the auditory apparatus also gives characteristic symptoms. For example, in the case above reported, the rumble of passing street-cars impressed upon the patient's mind the conception of passing tally-ho coaches, covered with gaily dressed young people bent upon a recklessly good time.

The motor portion of the brain also partakes of the general cerebral overactivity, and as a result there is constant restlessness, subsultus tedinum, and muscular tremors. At times these increase to choreic jactitation, and even to actual convulsions. The last appear to be but an exaggeration of the great restlessness, which is present at all times, but is worse at some times than at others. They are followed by great general exhaustion, and after such attacks the action of the heart is usually rapid and feeble. Heart-failure from pure exhaustion of the cardiac muscle, although no valvular lesion is present, is always a possible danger. The convulsions may or not be followed by coma.

Diagnosis.—The diagnosis can usually be made without difficulty, as the train of cerebral and nervous symptoms above described, occuring in the course of rheumatic fever, is very characteristic. The possibility of mistaking the complication for the effects of large or frequently repeated doses of the salicylates should be borne in mind. Wood [14] gives the symptoms of salicylic-acid poisoning as follows: "In some cases of salicylic-acid poisoning the mental disturbance has been prolonged for a week or more. It is stated that upon drunkards the acid acts very unfavorably, violent delirium being a common and early symptom of its influence. There are also some persons whose idiosyncrasies are such that mental disturbance is produced even by moderate doses of the acid. In some cases the delirium is cheerful, in others it is melancholic in type. In the mildest form it is manifested only by a tendency to dream actively and to talk during sleep. In other cases the roaring in the ears soon becomes associated

[14] H. C. Wood: Therapeutics: Its Principles and Practice, 1892, p. 629.

with disturbances of vision, which grow more marked until the patient not only sees objects in false appearances and colors but has absolute illusions. The hallucinations are apt to take the shapes of animals such as are seen in delirium tremens, but there is usually little or no terror, and the troops of images may march to beautiful music. In other cases the delirium amounts to acute mania, with restlessness, violent outcries, and even a fury of fighting."

It will be noticed that these symptoms very closely resemble those occurring in cerebral rheumatism. Many cases also have been reported in which cerebral and nervous symptoms produced by the salicylates have been very similar to those of this complication, and a few of the writers have called attention to the possibility of confounding the two. That the symptoms in these cases were caused by the remedy was proven by the fact that they disappeared when the drug was discontinued, and reappeared when it was again administered. Two of these cases, which may be considered typical, are given below.[15]

CASE 1.—Female, age 43, acute rheumatism. Admitted to the hospital September 28. Ordered 20 grs. of sodium salicylate every 2 hours.

September 29. Temperature 100° to 103°. Patient restless and excited, but quiet. Salicylate ordered every 4 hours.

September 30. Mind wandering. Suspicious.

October 1. Has been violent and noisy all night, getting out of bed, and wishing to go home. In the morning, on seeing the physician, she jumped out of bed, flung her arms around him, and begged to be "protected from those people." Became much exhausted from her struggles. Thought she was being poisoned. Salicylate stopped. By 8 P.M., she was more quiet and reasonable.

October 2. No further delirium.

CASE 2.—Male, age 31, acute rheumatism. Habitual drinker. Admitted October 15. Temperature 100.4°. Sodium salicylate 20 grs. every 3 hours ordered.

October 17. Ringing in the ears, and slight headache. At 4 P.M., he became more talkative, and wanted to get out of bed. Became more and more noisy, and the salicylate was stopped, and chloral and bromid were administered. He had illusions that there were animals in his room, crawling along the rafters, but they gave him no fear. He also thought that his friends were present.

October 18. Still noisy and delirious, especially at night, but less so. Troubled with insomnia.

October 20. No delirium.

These cases illustrate a set of symptoms which occur not infrequently after the administration of the salicylates in large, or frequent doses, and they should not be mistaken for cerebral rheumatism. The differential diagnosis can easily be made by stopping the remedy, and observing the effect upon the cerebral and nervous symptoms.

Prognosis.—The prognosis in cerebral rheumatism is grave. The complication is a dangerous one, and a large proportion of the cases terminate fatally. Some cases, however, recover unexpectedly. The occurrence of a coexistent high temperature, or coma, are particularly bad omens. In 107 cases of cerebral rheumatism, further complicated by hyperpyrexia, reports of which were collected by a committee of the Clinical Society of London, the mortality was as follows:

	Cases.	Deaths.	Recoveries.
Clinical Society Reports	67	33	34
Dr. Wilson Fox's cases	22	19	3
Other collected cases	18	5	13

This gives a total of 57 deaths, and 50 recoveries. The mortality was also found to be greatest in the first attack.

Treatment.—Treatment is entirely symptomatic. The salicylates appear to have no effect either to prevent the condition, or to remedy it, after it has once arisen. In fact, the patient having in almost every case been liberally dosed with salicylates for the week or two weeks before the cerebral symptoms appear, the appearance of symptoms of the character above described should lead to a discontinuance of the remedy, other circumstances permitting, for a few days at least, until their nature is definitely ascertained.

In the milder cases, the bromids, sulfonal, or chloral, may be employed to combat the excessive restlessness, and insomnia, and abnormal overactivity of the brain. In the severer cases, hypodermic injections of morphin at regular intervals are required to relieve these symptoms, and to lessen the tendency to convulsive attacks. Objection has been made that morphin tends to lessen the secretion and excretion from the body, and thus is somewhat antagonistic to the results desired in our treatment of the rheumatism itself, from the use of the salicylates, viz., increased activity of the excretory apparatus. While this is true to a certain extent, in the severe cases, the condition is such as to demand an agent of no less potency in relieving overactivity of the nervous system, than morphin.

The condition of the heart should be carefully watched, and any tendency to exhaustion or failure at once calls for the use of active heart-stimulants—nitroglycerin, strychnin, or a combination of these, or digitalis, depending upon the indication in each individual case.

A coexistent hyperpyrexia should be treated according to the usual methods of treating that complication. The application of an ice-bag to the head is a most useful measure in all cases. In the milder cases, cold sponging with alcohol or iced water will serve to reduce the temperature. In severer cases, cold packs may be employed. When the temperature is very high, and endangers life, we must resort to the cold bath. This should be given in the same manner as in typhoid fever.

A Prescription.—The following is an accurate copy of a prescription recently given a patient:

Leave orders in morning if possible.
℞.—Hydrarg. Omentum..... ℥ij
Ft. in two oz. boxes.
Sig. as directed. ——— ——— M.D.
Strictly not to be refilled or exhibited.

[15] Reports of University Coll. Hosp., London. *Brit. Med. Jour.*, 1881, i, 161.

DIPLOCOCCI—A CAUSE OF ERYSIPELAS.

BY G. E. PFAHLER, M.D.,
of Philadelphia.
Assistant Chief Resident Physician in the Philadelphia Hospital.

THE investigations forming the basis of this article were made upon cases in the wards of the Philadelphia Hospital under the care of Dr. Daniel E. Hughes, the chief resident physician, to whom I am indebted for the clinical observations and many suggestions.

Without reviewing in detail the bacteriologic investigations made upon erysipelas, it will suffice to say that the streptococcus described by Fehleisen, and further investigated by Rosenbach, Passet, Ganè, Achalene, Lubrinski, and others, has been the accepted cause. Dr. Musser, in the last edition of his textbook, just published, says: "The specific cause is the streptococcus erysipelatosus." It was while in search of this organism that the diplococcus under consideration was found. I shall not attempt to draw positive conclusions at present, simply giving my observations for what they are worth, with the hope that it may stimulate investigations along the same line, and I shall follow this later with further observations on a longer series of cases.

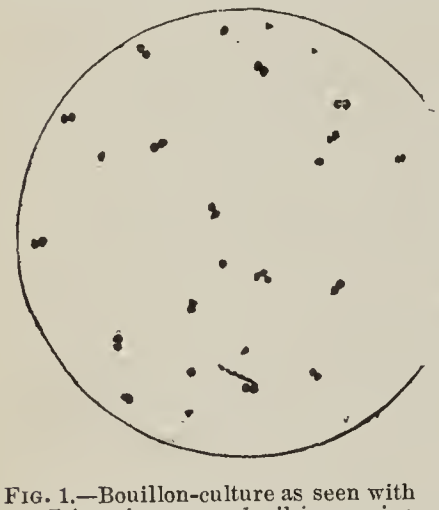


FIG. 1.—Bouillon-culture as seen with Zeiss microscope, $\frac{1}{12}$ oil-immersion lens, No. 4 eye-piece.

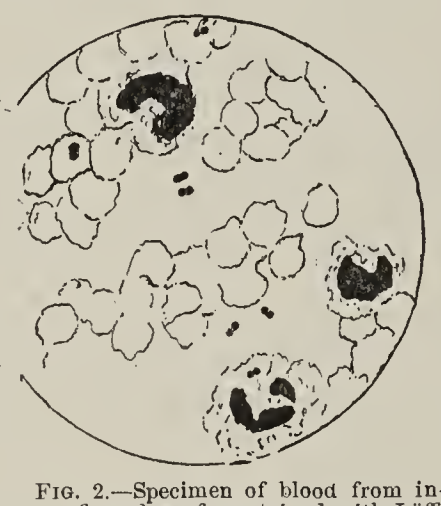


FIG. 2.—Specimen of blood from inflamed surface, stained with Löffler's alkaline solution of methylene-blue 20 m. Zeiss microscope, $\frac{1}{12}$ oil-immersion, No. 4 eye-piece.

At the request of the editor the clinical histories of the cases have been omitted because of lack of space, Dr. Hughes having confirmed the diagnosis in each case.

The diplococcus was found in 8 cases of erysipelas, all occurring at different times, 3 being in patients in the insane department. In all but one case, applications of ichthyol had been made to the inflamed surface, previous to the bacteriologic examination. This probably assisted in the elimination of foreign organisms. The ichthyol was removed and the inflamed skin and pustules cleansed by repeated swabbings with sterile cotton soaked in ether. In 4 cases in which pustules occurred, cover-glass preparations were made from the pus which showed diplococci identical in appearance with those found in the cultures made both from the pustules and the blood of the affected part. Coverglass preparations from the blood of the inflamed skin also show this same diplococcus in comparatively large numbers.

The inoculations for artificial culture were made from the pustules by piercing them with a sterile needle, then carrying a loop full of the pus into the culture-mediums. From the inflamed skin, cultures were made by passing a needle through and beneath the skin for about one-fourth inch near its progressing border, then pressing serum and blood from the tissues, and inoculating by carrying one or more loopfuls of blood into the culture-mediums. In each case inoculations were made upon the blood-serum, glycerin-agar, and bouillon. In all of the tubes of all of the cases, pure cultures of diplococci only were found.

In the seventh case, which ran a somewhat different course from the others, the first inoculation was made on the third day of the disease, which showed a pure culture of diplococci. On the thirteenth day the scalp was enormously swollen and gave distinct evidence of a collection of pus. Coverglass-preparations were now made from the blood of the scalp, posterior to the left ear, which showed both streptococci and diplococci in large numbers. The organisms occurred both outside and within the leukocytes. Cultures were made as before, which in 24 hours showed 2 distinct series of colonies on blood-serum. By inoculating from each of these series upon bouillon, I obtained from one a pure culture of diplococci, while from the other I obtained a pure culture of streptococci. Therefore, I believe that the pus in this case was due to a secondary infection by the streptococcus pyogenes. This was the only time when streptococci were found either in the cultures, or coverglass-preparations of the blood.

THE DIPLOCOCCI.

Morphology.—Spherical cocci, about the size of the pneumococcus, usually occurring in pairs, often singly, and very rarely a chain of four is seen which is probably an accidental arrangement. As observed in the pus taken directly from the pustules, in the blood of the inflamed part, and in the blood from the rabbit, it has only been seen in pairs, and is encapsulated. It is found both outside and within the leukocytes. This diplococcus stains readily with aniline gentian-violet, and by carbol-fuchsin. It does not stain well with Löffler's alkaline solution of methylene-blue, and less so with a saturated aqueous solution of methylene-blue, or with Gabet's solution of methyl-blue.

Biologic Characters.—It grows in the presence of oxygen and at the room-temperature, but better at 37° C. It is nonmotile. Cultures upon bouillon show a slight cloudiness at the end of 24 hours, which increases from day to day, there being no tendency to clear subsequently.

Glycerin-agar at the end of 24 hours shows minute opaque colonies, pinpoint in size, whitish in color, and sharply defined in outline. After from 5 to 6 days

hese colonies become about 1 mm. in diameter, and lightly raised from the surface.

Blood-serum shows a more luxuriant growth, the olonies being 3 to 4 times the size of those upon lycerin-agar, and proportionately raised above the urface. They are of a milk-white color, distinctly utlined, and under a low magnifying power appear mooth. Stroke-cultures show a beaded growth all long the line of inoculation. Gelatin is not liquefied nd there is no evidence of the production of gas. In tick-cultures, growth occurs all along the line of inoculation, but apparently ceases after from 24 to 48 hours. There seem to be no radiations and no tendency for the surface-growth to spread. A slight cupping is seen at he top of the puncture after 48 hours. Litmus-milk hows no change in reaction after being in the incubator for 15 days. It does not grow upon potato.

Inoculations made from cultures kept in the incubating oven 11 days showed no growth. After about 8 days new cultures are produced with difficulty. Inoculations were made upon 5 rabbits, each being from a 24-hour pure culture of a different case.

Rabbit No. 1.—Inoculated from a pure culture from Case 4 and studied by Dr. Boston. The injection was made at the base of the right ear. After 24 hours a perfect area of erysipelatous inflammation was seen encircling the entire base and extending one-third the distance toward the tip. After 48 hours there was a distinct progression toward the tip and a clear line of demarcation. The third day the line of demarcation was scarcely visible and there was slight fading of the redness. On the third day a small vesicle on the ear was punctured, a drop of blood obtained spread upon a cover-glass and stained. It showed numerous diplococci. After 5 days the color of the inflamed surface faded to a purplish tint, and it began to desquamate. In 8 days the only evidence of the previous inflammation was this desquamation in the form of fine scales.

Cultures made on the third day of the disease by passing a needle under the skin, and withdrawing a drop of blood, then carrying this blood into the culture-mediums, showed colonies similar in appearance and composed of diplococci identical with those described in the cultures from human cases.

Rabbit No. 2.—Inoculated by injecting beneath the skin, at the base of the ear, a pure bouillon-culture from case No. 5. At the end of 24 hours, an erysipelatous inflammation encircled the base of the ear, externally. The second day it had progressed to fully one-third the length of the ear, with a distinct inflammatory ridge. The third day showed little change. On the fourth day several small pustules could be seen, which, upon microscopic examination of the pus, showed diplococci. Cultures made from the blood of the inflamed ear, on third day, showed colonies of diplococci identical in morphology with those injected. Desquamation now began and lasted about a week.

Rabbit No. 3.—Inoculated from cultures obtained in case No. 6. At the end of 24 hours, it showed a distinct erysipelatous inflammation encircling the base of the ear. This ran its course as in the previous 2 cases in about 4 days, when desquamation began. Blood-specimens and cultures made on the third day showed the diplococcus under consideration.

Rabbit No. 4.—Inoculated by intravenous injection of about 4 cc. of a pure bouillon-culture, the fourth generation. In about 3 hours the rabbit gave distinct evidence of being sick, but was well the next day.

Rabbit No. 5.—Inoculated from case No. 7, an erysipelatous inflammation occurred at the base of the ear, and ran its course as in the first 3 cases in about 4 days, when desquamation began. Cultures and blood-specimens made on the third day showed the diplococcus described.

Inoculations upon white rats showed no effect.

In conclusion, I will say that I believe that this diplococcus is a cause of erysipelas or of a disease which in the light of our present knowledge cannot be diagnosed from erysipelas. Koch's postulates have been demonstrated with reference to this organism as follows:

1. I have found this diplococcus in the diseased tissues of 8 different cases of erysipelas.

2. I have grown this organism in pure culture upon artificial mediums in each case.

3. The disease was produced in 4 rabbits by subcutaneous inoculations.

4. The same organism was obtained from the diseased tissues of the inoculated animals.

I wish to thank Dr. L. Napoleon Boston, the bacteriologist to the Philadelphia Hospital, for his kind assistance, especially in the inoculation of the animals.

CERTAIN ESSENTIAL POINTS IN THE TECHNIC OF STAINING NERVE-CELLS.

BY STEWART PATON, M.D.,

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The Nissl Methylene-Blue Method. — There is no method in more general use than this one, and yet there is no method where the investigator frequently has vaguer ideas as to the various steps in the process than in this uncomplicated and very useful stain. Nissl deserves great credit for the care with which he has worked out the various steps in this method, and has shown conclusively that slight variations in the technic may result in leaving unstained structures that should be stained under normal conditions; or, as is more frequently the case, of staining certain of the various artefacts which are so misleading in cytologic work. Apparently comparatively few investigators are deeply impressed with the fact that to obtain results which are reliable with any given stain

the observer should familiarize himself not only with the pictures of the cell-changes under normal and abnormal conditions, but that the pictures given by any method should be compared with the pictures obtained with slight variations in the different steps of the staining. Even such a recent work as that of Goldscheider and Flatau on the Nerve Cells[1] is very indefinite as to the steps in the process of staining by the Nissl methylene-blue method. Fresh material only should be used, and it should be put at once into 96% alcohol. The alcohol should be changed at least twice during the first 24 hours, and then twice a week as long as the material remains in the fluid. Alcohol is a better fixative than formalin; in fact the latter fluid does not do for fine cytologic work. Nissl puts little faith in the results obtained after the use of formalin as a fixative. After the material is sufficiently hardened to be cut the part chosen is taken out of the alcohol, the lower surface is quickly dried on blotting or filter paper, a very small drop of gum arabic is rubbed on a cork and the specimen is quickly and gently pressed down against the surface of the cork, and the cork with the specimen adhering is immediately thrown into 96% alcohol, and in a few minutes the preparation is ready for cutting. The specimen does not adhere well to the cork if too much gum arabic is used, as is often the case. The specimens should not be embedded; and embedding is not necessary as the sections need not be cut thinner than 10μ. It is absolutely essential that the process of fastening the specimen to the cork should be done as quickly as possible to prevent the specimen from drying. The sections are stained with the Nissl methylene-blue solution and then decolorized with the anilin oil and alcohol mixture as described in the textbooks. After the section has been cleared with oil of cajeput, the next step in the process is a very important one. The oil should be removed from the section by means of a piece of blotting paper held in the left hand, so that the instant the section is uncovered a drop or two of benzine may be allowed to fall on the section from a dropper held in the right hand. Although this is an apparently trivial point in the technic, Nissl insists, and I think with reason, that if the section becomes dry, artefacts are almost immediately formed in the cell.

Any one can convince himself of the truth of this observation by experiment. Failure to observe this point often results in the production of artefacts similar to those produced by the use of heat to fix the specimen. The cells appear shrunken and the pericellular spaces unusually large. The slide is passed near, never through, the flame of an alcohol lamp to remove the excess of benzine, and the specimen is then quickly mounted in benzine-colophonium. Great care should be taken that the benzine does not ignite. If it does the specimen is worthless. In certain cases the achromatic portions of the cells in which the fibrils run hav a tendency to hold the stain, and the "chromaphilic con dition" described by a number of different authors i observed. In these cases the fibrils in the cell-body an in the substance between the cells are so deeply staine that they can be easily recognized. These are the case where it is difficult and often impossible to bleach th parts of the cell which are normally achromatic with out bleaching the chromatic tracts as well. The sig nificance of this chromaphilic condition which is me with under varying conditions is not understood. believe that two entirely distinct "chromaphilic cond tions" are commonly described under the same nam It is often seen that the cells have a deep and diffus blue stain and that the individual elements in the cell the chromatic and achromatic portions of the cell, ca not be very clearly differentiated.

Ewing[2] states that Flesch and Knoeff consider th this may be a normal characteristic of the cell, whi Nissl, on the other hand, concludes that this chrom philic condition is artificial and has no great signi cance. This latter view is probably correct. The se ond condition is one in which the stain is not so diffu and the difference between the chromatic and th achromatic parts of the cell are easily distinguishabl In this case the fibrils in the cell are more or le deeply stained. The reason that they have an appare chromaphilic tendency may be attributed to the fa that as there has been more or less destruction of t chromatic parts of the cell and therefore it is n essential that the bleaching process should be carri as far as is done when there has been little or destruction of the chromatic bodies.

Turner's[3] conclusions that the Nissl bodies und certain conditions dwindle down to mere threads m or may not be correct, but judging from the illust tions accompanying the article, it is more than sugge ive that "the chromaphilic threads" are fibrils and r attenuated Nissl bodies.

The Methods of Staining the Fibrils in the Ganglion-Ce —A. Bethe has not yet published his method in det but his specimens show that the fibrils in the ganglio cell in man are easily demonstrable. Apathy's go chlorid and hematein methods give satisfactory resu in studying the ganglion-cells in the lower vertebrat but do not give such good results in studying th same elements in the higher vertebrates. Probably t gold method will soon be adapted to meet the conditio I have succeeded in so modifying the hematein meth that the fibrils can be plainly and uniformly stair in the ganglion-cells of the vertebrates, provided material used is fresh, which is not generally case in studying the human nervous system. hope soon to publish the method with the essen modifications. The original methods are describe

[1] Normale u. pathолog. Anatomie der Nervenzellen auf Grund der neueren Forschungen, Berlin, 1898.

[2] *Archives of Neurology and Psychopathology*, vol. i, No. 3.

[3] *Brain*, Spring, 1899.

l in *Mittheil. aus der zoologischen Station zu Neapel*, l. 12, pp. 711-734. An excellent method of prepar- g material is to chloroform either a cat or dog, rapidly en the thorax, tying all the bleeding points, and ile the heart is still beating to introduce the nozzle the injection-syringe into the aorta just above the art and then to wash out the vascular system with a % sterile salt-solution to which one part of gum abic to every 1,000 parts of the solution has been lded, and just enough carbonate of potash to render e solution alkaline. Then a saturated mercuric chlorid slowly injected and left for 24 hours. The brain is en removed from the skull and placed in 96% cohol. The alcohol should be changed twice in the rst 24 hours, and after that at least twice a week until ie tissue is to be cut. Both solutions should be in- cted warm, about the temperature of the blood. I o not find that the use of iodin to remove the sub- mate from the tissues is essential, as Apathy has sug- ested. The iodin is apt to have a bad effect as far as ie subsequent staining is concerned, and unques tion- bly certain artefacts may be attributed to its use.

For the benefit of those who do not possess a copy f Apathy's monograph, a brief resume of the method f staining with the gold chlorid may be given : After he material has been fixed, if the iodin-solutions are ot to be used, the material is left for several weeks in 6% alcohol in order to thoroughly remove the sub- imate from the tissues, then small pieces may be em- edded in paraffine in the usual way, care being taken hat chloroform is always used in preference to xylol. pecimens do not stain well which are put into xylol. The sections are cut at from 7μ to 10μ in thickness, are nounted on the slides with the aid of distilled water nd carefully dried so that they will not float off the lides in the process of staining. After having been lried, the sections are washed in distilled water, then hey are placed for one minute in a 1% solution of ormic acid (specific gravity 1223), are again washed in distilled water and are then transferred to the gold solu- ion. This is a 1% solution of gold chlorid (aurum chloratum flavum, and not the aurum chloratum fuscum). The slides are left in the staining fluid for 24 hours. The dish containing the fluid should stand in the dark. When the sections are stained the slide is again quickly washed in water and then transferred to a small cylindrical tube or glass containing a 1% formic-acid solution. The slide is placed obliquely in the glass with the specimen side down, so that the gold as it is precipated falls to the bottom of the glass and is not deposited on the specimen. The glass contain- ing the slides in the solution is then placed for 6 or 8 hours in the sunlight. At the expiration of that time the slide is again quickly washed in distilled water and the sections then can be mounted in the usual way in balsam or direct in concentrated glycerin. Great care should be taken that the chloroform used is good, if it is not, the stained specimens have a distinctly brown appearance instead of a purple tinge and the fibrils are not stained.

VARICOSE VEINS OF THE VULVA.

By WILLIAM EDGAR DARNALL, A.B., M.D.,

of Atlantic City, N. J.

Physician to the Atlantic City Hospital; Fellow of the American Academy of Medicine, etc.

When a woman expecting to be confined presents herself for an examination, and an extreme case of varicose veins of the vulva is found, similar to those reported here, naturally some apprehension as to the result is likely to be felt by the attendant. The anxious imagination may easily picture a suffering woman in the throes of travail, with busy nurse, and expectant relatives; all is going well when suddenly

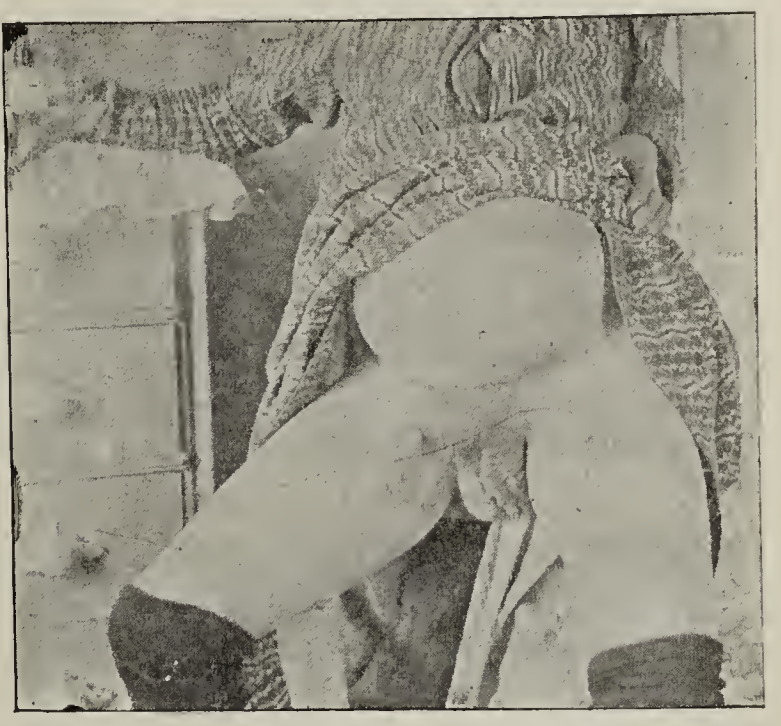


Fig. 1.

labial hematoma, vaginal or perineal laceration with profuse venous hemorrhage occurs to add to the diffi- culties of childbirth. It is well for the patient and the doctor that these cases are not always so bad as they look. The same relaxed condition of the tissues which permits such varicosities seems to safeguard the perineum, which is usually relaxed, from lacerations. These patients therefore will as a rule escape serious accidents unless the oncoming head be very large. The following case is presented:

Mrs. W., white, aged 42, of French parentage, has given birth to 11 children in nine confinements, having had trip- lets at the last confinement, 2 of which died. She has a remarkably strong constitution, healthy, and full of energy, does all of her own work. Her children are all handsome, robust and well developed, and rarely sick. She has usually remained in bed only 3 or 4 days after labor, which easily accounts for her condition. The photographs show the pendulous mass of varicose veins on each labium. Besides this there are to be seen knotted veins in each groin stand- ing out with as much prominence as hernia, while both legs are full of varicosities.

The waters broke in this case about 4 A.M. Labor, however, did not begin actively until about 8.30 and progressed very well. The head appeared at the vulva about 10.30 A.M., and was speedily delivered, sliding through the mass of knotted veins without accident to any of them. The pla-

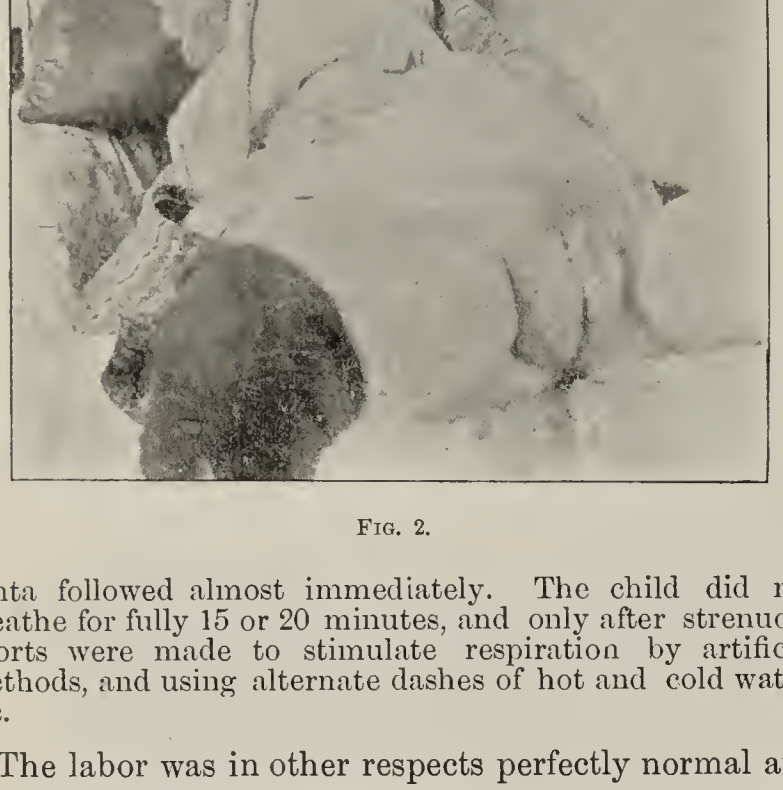


FIG. 2.

centa followed almost immediately. The child did not breathe for fully 15 or 20 minutes, and only after strenuous efforts were made to stimulate respiration by artificial methods, and using alternate dashes of hot and cold water, etc.

The labor was in other respects perfectly normal and the case is reported merely to show that a venous condition of the vulva and adjacent parts which seemed alarming to contemplate in the event of a ruptured vein, or lacerated perineum with consequent hemorrhage, may not, and usually does not, seriously complicate labor.

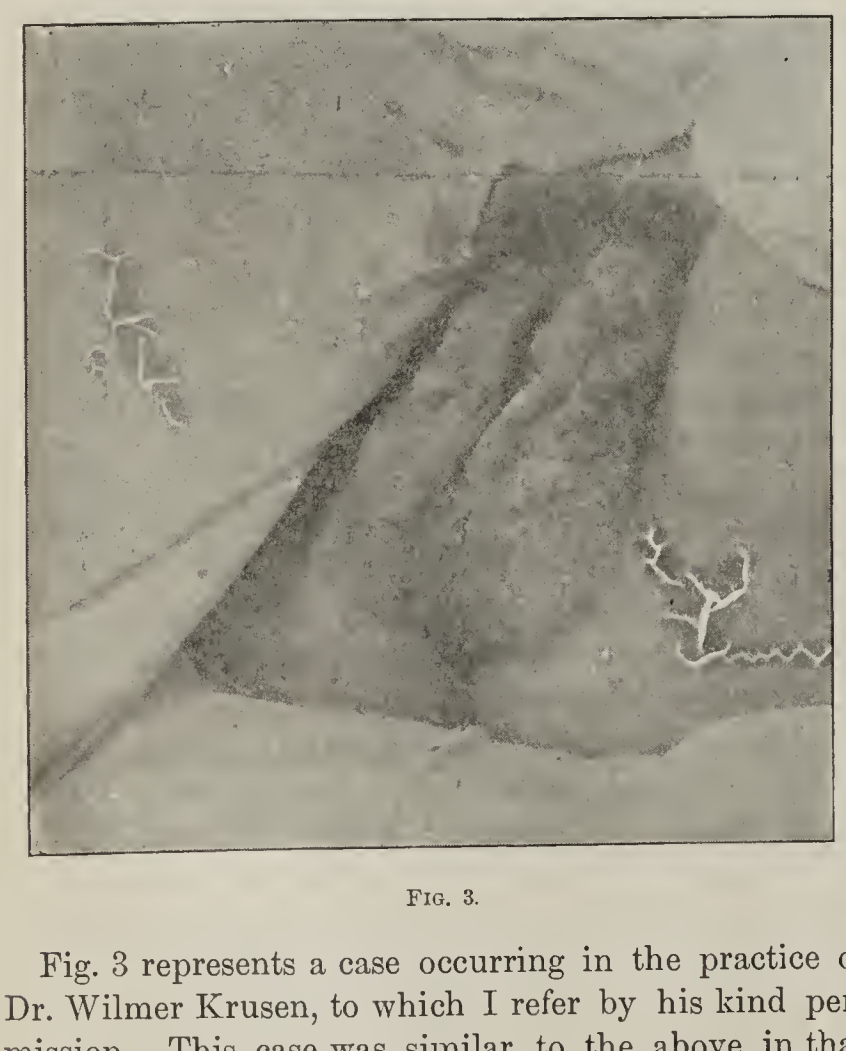


FIG. 3.

Fig. 3 represents a case occurring in the practice of Dr. Wilmer Krusen, to which I refer by his kind permission. This case was similar to the above, in that labor was normal and without accident of any kind.

THE ANATOMIC RELATIONS IN PELVIC HEMATOMA FOLLOWING LABOR.

BY W. REYNOLDS WILSON, M.D.,

of Philadelphia.

THE term puerperal hematoma is meant to include the blood-effusions, consequent to labor, in the tissues within and about the pelvis. In some instances the tumor is situated strictly within the pelvis—that is within the embrace of the bony pelvis. In other instances the effusion takes place into those tissues surrounding the genital tract which are not, properly speaking, within the pelvis. The pelvic fascia may be designated as the boundary between the intrapelvic and extrapelvic effusions. The thrombus, when situated within the pelvis, is usually limited inferiorly by this fascia; in all other directions it is free to extend, according either to the degree of pressure exerted by the mass of effused blood, or to the want of resistance offered by the tissues. Effusions into the periuterine connective tissue have been spoken of as suprafascial hematomas; infrafascial hematomas are due to hemorrhage taking place below the pelvic fascia in the region of the labia, between the fascial layers of the perineum and in the submucous tissue of the vagina. A hematoma in any of these regions may extend upward along the vagina to the periuterine connective tissue, finding an outlet into the subperitoneal or subintegumentary tissues of the abdominal wall, as in case of the suprafascial variety. Anatomically therefore the division into suprafascial and infrafascial hematomas is not tenable although for purposes of description such a designation is useful.

The anatomic aspect of the subject has to do with points: first, the distribution of the vessels from which the hemorrhage is likely to occur; second, the fascial or other limitations of the effused blood; third, the physical conditions which render the vessels liable to injury.

As to the first point we may observe, to begin with, that puerperal hematomas are due to the rupture of venous branches, in contradistinction to hemorrhage of arterial origin. The veins of the genital tract and the external genital region which are liable to rupture in labor may be divided into three chief plexiform systems:

1. The pudic or perineal system, which is formed by the labial and perineal branches of the pudic vein.

2. The uterovaginal system, which is drained by the uterine vein, or veins.

3. The uteroovarian system, which communicates with the pampiniform plexus of the broad ligament.

There exists between the two first-mentioned venous systems a free anastomosis, established by the intercommunication of the ultimate branches of each system at the bulb of the vagina, the pudic system constituting the chief efferent vessels of the bulb.

Hematomas occurring in the labial and perineal regions are due principally to the accumulation of blood from the branches of the pudic vein. Tracing the latter from its distal branches to its junction with the internal iliac we find that it drains, first, by means of the superficial and deeper perineal branches, the superficial labial region and the underlying bulb of the vagina; second, the perineal region, by means of the perineal and obturator branches; third, the anal region and posterior perineal space, by means of the inferior hemorrhoidal branch. Rupture of the labial plexus is likely to be followed by serious hemorrhage into the surrounding tissue on account of the free communication at this point with the vaginal plexus, in one direction, and with the efferent pudic branches, in the other. The resulting hematoma is due therefore to the reflux of blood from both systems of veins. Hematomas in this region may be so extensive as to involve both the labium and perineum, shutting off the vaginal outlet and forming an enormous tumor.

To return to the second important venous system, that surrounding the vagina, we find an extensive network of veins communicating above with the uterine plexus. The anastomosis thus formed establishes a venous communication between the lower vaginal portion and the upper portion of the genital tract, notwithstanding the limitation of the pelvic fascia, which anatomically separates these regions. The uterovaginal system communicates with the uterine veins which penetrating the base of the broad ligament communicate with the internal iliacs. The current of blood therefore from the vagina finds its way toward the internal iliac veins by entering the pelvis through the venous circulation of the uterovaginal tract, whereas the direction by which the return blood from the perineum and labial region enters the pelvis is through the efferent branches of the pudic vein. The latter, having entered the pelvis through the greater sacrosciatic foramen, communicates in turn with the internal iliac, returning the blood to the larger venous trunks by the same ultimate channel as in the case of the uterovaginal system.

The uteroovarian plexus is less subject to injury on account of the natural dilatability of the veins, which ramify in free anastomosis in the subovarian region and external extremity of the broad ligament. The lax attachment of the stretched ligaments toward the end of pregnancy permits a certain displacement of the veins not directly connected with the uterus, so that they are not subject to direct pressure or tension.

As to the limitation of extravasated blood, those effusions arising from rupture of the vaginal plexus are situated in the perivaginal tissue. The tumor resulting from hemorrhage in this region may become so extensive as to completely occlude the lumen of the vagina, to such an extent even as to cause retention of the lochia, and to interfere, by reason of pressure, with micturition and defecation. Effusions from rupture of the perineal branches are usually situated in the space between the layers of the superficial perineal fascia. These effusions are not apt to be so extensive as those due to rupture of the deeper branches of the pudic vein which are concerned in the labial anastomosis of the vaginal veins. Hemorrhages appearing in the anal region and the posterior perineal space, due to rupture of the inferior hemorrhoidal branches, appear as circumscribed areas of extravasation. They are limited in extent on account of the absence of anastomosis with the more intricate plexus of veins involved in perineal and labial hematomas. As a rule they cause no swelling and are therefore not to be considered as hematomas properly so-called. Hematomas arising from rupture of the uterovaginal plexus may penetrate the periuterine connective tissue, forming an extraperitoneal effusion. In rarer instances the hemorrhage may find its way into the peritoneal cavity. Extraperitoneal effusions may extend in any direction in which the subperitoneal connective tissue is found —that is, on the anterior and lateral abdominal walls, extending as high as the diaphragmatic border, or posteriorly, involving the retroperitoneal space and surrounding the kidneys. In other instances the effused blood may find its way beneath Poupart's ligament to the superficial abdominal region making its appearance in areas of extravasation which have been noted to extend as high even as the subaxillary space.

In considering the conditions predisposing to pelvic hematoma, it is of interest to note that the bleeding is apt to be multiple, showing an inherent tendency to venous rupture.

The following cases are instances of multiple hemorrhage in nontraumatic deliveries :

CASE 1.—The record of this case presents a previous history of good health in a young primipara. The delivery, which was spontaneous and of short duration, was followed by acute pain referred to the rectum and point of emergence of the left sciatic nerve. On the second day after delivery bleeding from the cervix and the passage of the frequent bloody stools occurred. Following this a resistant mass made its appearance in the left iliac region extending ultimately to the level of the umbilicus. At the same time a point of extravasation appeared at the most dependent portion of the left buttock, spreading in extent, during the course of the next few days, to a diameter of $3\frac{1}{2}$ inches. On the seventh day a rise in temperature preceded by marked rigor occurred. The latter symptoms were evidently due to an infection at the point of extravasation in the broad ligament, this extravasation being apparently responsible for the parametritis noted above. These acute manifestations were followed later by the appearance of sinuses, which extended to the region of the umbilicus and into the vagina. The patient died on the forty-fourth day as a result of her pyemic condition.

Both the clinical manifestations and the condition found postmortem showed that the patient had suffered from multiple venous rupture, occurring in the broad ligament, the result of laceration of the cervix and lower uterine segment, and in the perirectal tissues and posterior perineal space. The extent of the effusion

into the broad ligament was due partly to the larger caliber of the vessels in this region, partly to the proximity of the venous branches to the larger pelvic trunks, permitting an unchecked reflux of venous blood, and finally to the anastomosis with the utero-ovarian plexus on one hand and the vaginal plexus on the other. The area of extravasation in the region of the anus was due to rupture of the inferior hemorrhoidal branch of the pudic vein.

CASE 2.—The patient, a multiparous woman, whose previous history had been good, was delivered normally. Her labor also was followed by acute pain referred to the rectum. A point of extravasation appeared posteriorly and to the left of the anus, extending to the mucous border of the anal opening. The left labium became swollen and discolored. Internal examination revealed a large non-fluctuating tumor in the left lateral wall of the vagina, obliterating the vaginal opening and shutting off the cervix.

The evidences of extravasation in these distinct regions pointed, first, to rupture of the inferior hemorrhoidal vein, giving rise to the extravasation in the region of the anus, as in the first case; second, to rupture of one of the superficial perineal branches distributed to the labium; third, to rupture of the vaginal plexus, hemorrhage from which accounted for the extensive hematoma in the vaginal wall.

Both of these cases are instances of multiple effusion due to an individual liability to venous rupture from imperfect support offered by the perivascular tissues. Without such a tendency the degree of traumatism incident to labor in each instance was insufficient to cause rupture. The first case illustrates especially the occurrence of infrafascial hematoma coincident with effusion within the pelvis and above the pelvic fascia.

As to the physical conditions involved in pelvic hematoma the vascularity of the genital tract must be considered. The veins of the vagina are disposed in ramifying plexuses surrounded by the perivaginal connective tissue. The vagina itself is supported in the pelvis by means of its superior attachments to the broad ligaments at the uterovaginal juncture; by the layers of the pelvic fascia investing the levator ani muscle, as well as by the fibers of this muscle deflected to the muscular coat of the vagina; by the inferior attachments to the perineal septum and superficial fascia. The intervening space surrounding the vagina is filled in with the connective tissue which completes the vaginal attachment to the bladder anteriorly, the rectum posteriorly, and the lateral pelvic walls. In this connective tissue, which occupies the paravaginal space more or less incompletely on account of the requisite dilatability of the vagina during labor, the venous plexus is supported. In the same way, but to a less extent, the larger efferent vessels which course from the uterus through the broad ligaments are also lacking in support.

Not only are the veins more or less loosely supported, but the amount of blood in them is excessive on account of the erectile character of the vascular supply to the vagina and uterus. In this connection we are reminded of the great quantity of blood contained in the bulb of the vagina and subovarian plexus, not to speak of the erectile tissue of the uterus and perivaginal plexus. In the uterus, for instance, the distribution of the vessels shows an extensive superficial plexus of veins covering the plexiform muscular fibers and sending out finer branches into the minute intermuscular spaces. It is necessary also to take into consideration the increased tension in the veins of the vagina and perineum from muscular effort during labor, and from obstruction to the venous current due to advancement of the presenting part.

Such are the causes predisposing to hematoma. The actual cause is injury to the vessel-walls due to the passage of the presenting part, which in its advancement pushes forward the superficial tissues, displacing them from their underlying attachment. The birth-canal from the cervix to the vulva is thus dilated, permitting stretching of the subintegumentary tissues of the perineum, and laceration of the vessel-walls.

Hemorrhage into the periuterine tissue is of different origin. Effusions in this region are due, either to direct laceration of the tissues, or to the result of pressure-necrosis following difficult labor.

It is a question whether injury of the veins is invited by the condition of the vessel-walls themselves. Although a simple dilation, due to the effects of intra-pelvic pressure, may exist, yet a compensatory thickening of the vessel-walls is in all probability established as a safeguard against rupture. The occurrence of varices in the region of the vulva and in the lower extremities, such as are present in the latter period of gestation, is rather opposed to rupture, inasmuch as the dilation may relieve, to some extent, the pressure in the pelvic veins. In fact, the presence of varices has not been commonly observed as a precursor of hematoma.

The absence of valves in the venous branches of the pelvis accounts for the sudden effusion of blood, and for the enormous size of the resulting tumor, observed in some instances.

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The Plague in Honolulu.—It is reported that the bubonic plague has broken out at Honolulu, and that already one native and four Chinese have died from it. The Hawaiian authorities are maintaining a quarantine against suspects, and expect to suppress the disease, which is believed to have been imported in a steamer that brought 700 immigrants from Japan.

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Microbes in Holy Water.—Dr. Abba (*Lancet*, Correspondence, December 23, 1899), a distinguished bacteriologist and health-officer of Turin, Italy, has been for some time examining the holy water contained in the fonts attached to the pillars or walls of Turinese churches. Thirty-one specimens have been examined by himself and his assistants, and the results more than confirmed his anticipation that such water may be an effective conduit of disease. The water is constantly exposed to dust, and the fingers dipped into it are not always the most cleanly. The church authorities state that salt is put into the water as a hygienic measure, but it is well known to physicians that salt is not an effective disinfectant. It is stated that the sacristans are not usually even careful to keep the fonts or the pillars to which they are attached clean. Among the bacteria detected by Dr. Abba's researches were the bacillus of diphtheria and bacillus of tuberculosis. He recommends as precautionary measures that the fonts and pillars be carefully washed and disinfected, that the font itself be daily disinfected and the water be treated with some antiseptic.

There are no doubt many other sources of far greater danger in spreading infectious diseases than holy water, but when it has been shown that such a danger exists, be it ever so slight, the wisest course is to take measures to avoid it. Prejudices in such matters of hygiene are no longer so strong as formerly, and the same enlightenment that has led to the introduction of the individual communion-cup in many churches will no doubt lead to the removal of this source of infection as soon as it is recognized.

Modern tendencies in medicine seem to have for their object the shifting of the responsibility for our misfortunes and our mistakes upon our ancestors. Ever since the discovery of the neuropathic heredity, as it has been termed by the school of Charcot, it has been the effort of the majority of neurologists and alienists to discover some reason other than the most obvious one for the existence of various forms of nervous disease. Of course, in certain types, the hereditary element is so patent that there can be no dispute regarding its existence, such, for example, as in Goldflam's periodic paralysis, in Huntington's chorea, and in Thomsen's disease, whereas in others it can only be a supposition.

Näcke has recently argued that in paretic dementia a tendency to the disease must exist from birth; that is, that only those subjects develop it in whose brains a peculiar condition already exists, no matter what the secondary infection may be. He calls attention to the frequency with which it is discovered that paretic dements are the children of elderly parents, are the oldest children of the family, and the great frequency also with which they manifest abnormal or peculiar characteristics in youth. Moreover, their children frequently exhibit the stigmata of degeneration. The so-called anatomic stigmata of degeneration are frequently treacherous, chiefly because we are not yet sufficiently familiar with the normal variation; thus, in a series of investigations, involving more than 200 subjects, regarding the relation of the arm-stretch to the height of the body, it was found that the so-called degenerative excess was present more frequently in the healthy attendants than in the insane themselves. As a result of all these facts and ideas, Näcke concludes that paretic dementia usually occurs in persons whose brains are already more or less impaired, and that heredity plays a very important role.

The Metric System seems to be no nearer general adoption than when its use was first authorized by the Government. We often ridicule the Germans for using their old barbaric type and script, but they have been using the Latin letters in their scientific journals for years and the metric is now their only system, although they made the change from their old clumsy system of weights and measures at about the same time the use of the metric system was authorized by our Government. There is really no reason why the metric system should not come into general use with us. We cannot any longer lay the blame on the pharmacists, for we have the authority of their national association that they are prepared to adopt the metric system as soon as physicians do so. The reason of the commercial men, that the great part of our foreign trade is with England and that hence we must retain their system, does not hold in medicine, for an overwhelmingly large proportion of our drugs are bought in Germany. And as to the excuse that the old measures are more convenient for general use, it is useless to deny that this depends altogether upon habit. Those of us who try it find little inconvenience in using the metric system, while there

can be no doubt that to one who had been accustomed to use the metric system and no other, our old method would seem bungling in the highest degree. Indeed, the great simplicity of the metric system is undoubtedly the chief point that has commended it to the scientists of all countries, and it is the best reason that can be given why we should adopt it. Another very important reason is that all our confreres are using it and there is difficulty for us and for them in the constant necessity for reducing the figures used in medical literature into values appreciated by the reader.

It would probably be next to impossible to lead the older men in the profession to give up the old system without a legal enactment demanding it. But if the progressive teachers of therapeutics and materia medica would teach the metric system and no other, there can be no question as to what system would be used 25 years from now. Would it not be worth while for the Association of American Medical Colleges to take measures to bring this about? We Americans pride ourselves on being a progressive people. Can we afford to hold to the old, the clumsy, the bungling, in scientific matters, which are really the best criterion of a nation's progress?

The Medical Department of the German Army.—The word "business" might well be used interchangeably with "economics," and the principle it implies, including as it does division of labor, conservation of energy, discipline and fidelity to duty, applied successfully to all lines of human activity and endeavor. This is the tendency that leads to organization and it it is to a conspicuous degree exemplified in the military arm of the State, barring the pernicious and devitalizing influence of politics. Of the thoroughness of the system in vogue in the medical department of the German Army evidence is furnished by a report recently made by Dr. John McG. Woodbury, who was appointed by the United States Government to conduct an investigation into this subject. To insure the identity of soldiers in case of death or accident each has sewed in an inside coat-pocket a description of himself, written with indelible ink, on indestructible parchment. In the permanent military hospitals a civilian superintendent has charge of all medical stores and all food and clothing, and he performs generally the work of a quartermaster and a commissary combined. The duties of the medical officer are confined, so far as possible, to the medical and surgical care of the sick. The sick call is unknown in the German Army. If an enlisted man feels ill, or seems to be unfit for duty, the fact is reported to the first sergeant of his company. If on inspection the man is found to be in need of medical care, if the case be in the barracks, he is retained in quarters until the medical officer makes his daily round, morning or afternoon; if in the field, he is picked up by the lazaret-helper and taken to the field-hospital. The record is kept by the first sergeant, and the man continues to be borne on the company's strength, but as off duty. When he is returned he is simply marked for duty on the company's books; the time that he has been away is stated as "in hospital." All field-hospitals are regarded properly as field-hospitals and never as permanent hospitals. Every case that can be moved by any possibility is sent to the rear or to a base-hospital within six hours, the field-hospital being regarded as an entirely mobile unit. When the line in action advances, the field-hospital must advance with it; consequently it is regarded only as a resting-place in which better dressings can be applied and only simple operations that are imminently necessary performed. Each man's feet are carefully inspected twice, at least, each week. The entire body of every man is inspected every thirty days.

Primary Membranous Bronchitis Due to the Aspergillus Fumigatus.—At a recent meeting of the Société médicale des hôpitaux de Paris, Rénon and Devillers reported a most interesting case of chronic bronchitis affecting a woman, aged 39 years. For some time she had been occupied in sorting seed, especially corn-seed, in a damp room, wherein molds developed upon the walls and the grain-sacks. Later she dwelt in a low portion of the city where there was considerable fog. Commencing in 1894, she was frequently troubled with a moldy sensation in her mouth, which continued until 1898, when she expectorated a false membrane. Subsequently this was repeated at almost each menstruation. This membrane, which was of whitish or slightly greenish color, consisted of branching mycelia and spores, without admixture of other bacteria. When inoculated into culture-media, there developed a pure culture of the aspergillus fumigatus, which, when injected into lower animals, caused their death. It appears that there can be no question that the infection was caused by the grain-dust, but both authors believe that the unhygienic surroundings amidst which she lived and worked, and the moisture of the air, both of which factors are of considerable importance in the pathogenesis of the mycoses, were of much significance in determining the lesions. Treatment with potassium iodid, arsenic, preparations of sulphur, and inhalations of iodin, has at the time of the report produced no beneficial effects.

This case of chronic bronchitis occurring in a human being is of especial interest for several reasons. Not only does it resemble certain cases described by Lucet and others as occurring in geese and pheasants, but it is an instructive instance of the primary pathogenetic importance of the aspergillus fumigatus, to which the French have for some time been directing attention. It is well known, of course, that this organism has been found at necropsy in various diseased conditions of the lungs such as tuberculosis, hemorrhagic infarct, gangrene

arcinoma, etc. More rarely it has been found in the putum of patients affected with such diseases several ays prior to their demise. In other cases, in which heir existed the signs of infiltration of lung, examination of small necrotic particles in the sputum has evealed also this organism. The designation aspergilline tuberculosis has been applied to these cases. In his connection it is most interesting to recall the recent nvestigations of Flexner concerning pseudotuberculosis hominis streptothrica. All of these cases are of especial practical importance as indicating the pathogenetic role of certain fungi, a subject but little investigated as yet. It thus seems worthy of note that a case of chronic membranous bronchitis has been traced to the pathogenetic effect of the aspergillus fumigatus.

The Veil as a Cause of Red Nose in Women.—Few things are more annoying to a sensitive woman than persistent redness of the tip of the nose. This *erythrorhinia*, as we may call it, is particularly frequent among women with a delicate complexion, and is not often seen among the peasantry. A Berlin physician, Dr. Rosenbach, believes that he has fathomed the cause of the condition and is convinced that the veil is responsible. He found that the redness was most marked where the veil pressed most closely against the nose, and that when the wearing of the veil was abandoned the condition, in a majority of instances, disappeared. Although veils are very soft to the touch, the threads soon become rough with use, and are then capable of exerting a decided irritation upon the sensitive skin of the nose and cheek, against which the veil rubs. The evaporation from the nose is apt to moisten the veil, especially in winter, and then the veil acts almost like a moist compress. The shape of the nose is also slightly altered by the veil. The nose is depressed, flattened, and, in Rosenbach's opinion, tends to lose its graceful form. With time this alteration becomes permanent. The pressure upon the tip of the nose renders the latter somewhat anemic, and drives the blood to neighboring parts, chiefly to the regions just above the point and along the lateral wings. On entering a warm room the abnormal distribution of the blood becomes intensified unless the veil is quickly removed. When the vessels have become permanently relaxed, owing to the improper dilation, the abnormal distribution of the blood remains to a greater or less degree even after the removal of the veil. The causes for this condition, then, are the pressure of the veil and the friction produced by it. A delicate skin and a catarrhal state of the nose act as predisposing causes. It is unfortunate that the persons most liable to this *veil-erythema* are very apt to ascribe it to the influence of the air, and seek to prevent it by tying the veil as tightly as possible. But the more the nose is barricaded the more the skin will be irritated. Occasionally a similar persistent redness is seen on the cheeks, here, also, in areas against which the veil rests. That pressure by the veil is the cause is proved by the fact that the redness often ends below in a sharp, well-defined margin, corresponding to the line where the veil begins to hang loosely from the cheek.

The treatment consists primarily in the disuse of the veil. For a little while the patient should not expose herself to sharp winds or great degrees of cold. If this is impossible, she should take care not to pass from the cold directly into a warm room. It is also well on going out to cover the nose with a little lanolin, vasolin, or cold cream, and then to powder it with talcum powder or starch. A little massage—soft stroking with two fingers from the point to the root of the nose—is also advisable. If a veil must be worn during skating or riding the bicycle, it should be only half-size, so as to leave the nostrils uncovered in order that the moisture may evaporate unhindered. It is, of course, best to avoid the use of the veil altogether.

We have called attention to this matter because, in the first place, Rosenbach's view can be easily verified by observation and guarded questioning, and also because if there is any truth in it—and it seems reasonable—women will probably welcome a suggestion that will restore to their noses the natural hue.

The So-called Stellate Cells of the Liver.—Twenty-three years ago von Kupffer described peculiar stellate cells which he had found in sections of the liver impregnated with gold and which seemed to follow the branches of the portal capillaries. He interpreted them, as did also the majority of pathologists, as perivascular cells. The ordinary stains do not render these cells visible, but they become quite conspicuous in hemosiderosis of the liver. Von Kupffer has lately resumed his studies of the stellate cells, and has been led not only to modify his former interpretation, but to advance a rather novel theory as to the structure of the liver. In his newer preparations he finds that the stellate cells are not situated outside of the capillaries, but that they form an integral part of the endothelial wall of the latter. This fact suggested the likelihood that the endothelium of the portal capillaries was composed of two kinds of cells, differing in that respect from all other vascular endothelium. It had been previously observed that the endothelium of the liver contained two kinds of nuclei: spherical, projecting into the lumen, and flat nuclei, which on longitudinal section are rod-shaped and not protruding. Now the spherical nuclei represent the nuclei of the stellate cells in question. Another very interesting and pregnant observation made by von Kupffer is that the endothelium of the portal capillaries is a continuous structure; that is to say, there exist no real cell-boundaries. It is well known that in preparations of tissues impregnated with silver nitrate the cement lines of endothelial cells are distinctly shown, but von Kupffer found that while

such lines were visible in the interlobular vessels and the central veins, they did not appear in the intralobular capillaries. The endothelium of these capillaries, therefore, constitutes a *syncytium*, a delicate, continuous lamella, consisting of a fibrillar protoplasm with nuclei. This syncytial protoplasm possesses marked phagocytic properties and is capable of taking up foreign bodies from the circulation. The physiologic significance of this phagocytosis is evidenced by the fact that in the protoplasm of these capillaries red corpuscles and fragments of red corpuscles are almost constantly found. Such globuliferous cells are often seen also in the capillary lumen. The author thinks that they are derived from the syncytium of the capillary wall and are carried in the circulation to distant organs. They relieve the liver of the pigment and detritus which the cells of the capillaries have taken up. Although these globuliferous cells might be leukocytes that have taken up pigment, von Kupffer considers it more likely that, as stated, they are derivatives of the capillary endothelium.

"A Question of Fact"—and of Cant.—The *Baptist Commonwealth*, describing itself as "A National Denominational Journal," takes the *British Medical Journal* to task for saying that Mr. Moody "offered a gratifying contrast to many of his cloth, especially revivalists," as regards his antipathy to quacks. The *Baptist Commonwealth* denies the insinuation, and says that the ministers as a class have "the highest respect for the ability, sacrifice, and kindness of the medical profession,"—adding, "So far as the modern craze for the shelving of doctors is concerned, the ministers are retaining their sanity to a remarkable degree." We turn over the pages of the *Commonwealth* and groan with horror! If it is so well with the ministers, how is it with the journal that represents, instructs, and defends them, and that denies, etc., etc.? Consistency is indeed a jewel, but in this case it seems to be a very pasty one. In an editorial review of a book on osteopathy the readers of this same number of the *Commonwealth* are assured that osteopathy "has come to stay," that it is "scientific and reasonable." The rest of the pages are liberally sprinkled with reading-notices and advertisements of nostrums, quack opticians, etc., in which Swamp-root, Hoods, Jaynes, Health-for-Ten-Cents, Sure-cures, Regulate-the-liver, Consumption-cured, free-of-charge, send-stamp-for-the-recipe, etc., etc., strike the amazed eye of the scientific man and instruct the ministerial friends of the medical profession in their duties as regards quackery. The most astonishing of these reading-notices is the following:

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We wish to call the attention of every subscriber of the *Baptist Commonwealth* to the fact that Dr Blosser offers to send by mail to every sufferer a free trial-sample of his most valuable remedy for Catarrh, Bronchitis, Asthma, etc. Dr. Blosser is a man of his word, and we know he will make this offer good. If you desire the sample write to, etc., etc.

We fear our religious contemporary should look up the dictionary definitions of the words, *Fact*, *Truth*, *Cant*, etc.

Suggestions to Writers, No. 55. The Index of Books.—In neglecting to index books, English and American writers and publishers are far from being the greatest sinners; in fact, we believe that the Index Catalog of the Surgeon-General's Library and the Index Medicus have given Americans some claim to the honor of being the great medical index-makers in the world. While it is true that the very great majority of books published in the English language are provided with excellent indices, there are occasional exceptions, and still more cases in which the index provided is not adequate. If one always had a complete reference for use there would be no necessity for an index; but how often a reference is given in literature to a publication of a certain year, but without exact information as to the page, etc.; perhaps a friend mentions an article which has appeared in some journal, but he cannot tell exactly where. Only a short time ago we had occasion to look up such a reference in one of the large New York journals, and were given a great deal of trouble, all because there was no index of authors' names included in an otherwise excellent index. With regard to foreign literature, so great a number of the most valuable French and German publications appear with nothing more than a table of contents to make their information accessible, that an index seems to be the exception rather than the rule. This is greatly regretted, for material of much importance is often overlooked on this account, or is so difficult to find as to make it impracticable to consult. Unfortunately, there seems to be practically no way of remedying this evil until writers and publishers come to see that it is really for their best interests to furnish an index; but we believe that if every medical man who is given a book for review would persistently call attention to this fault, that considerable might be accompished in remedying it.

Tetanus Treated by Injection of Carbolic-Acid Solution.—D. S. Hanson reports (*Cleveland Medical Gazette* October, 1899) the case of a youth, aged 14 years, who had accidentally shot himself through the foot. A physician advised that the wound be thoroughly cleansed and disinfected, but the parents refused surgical procedures. Ten days later Dr. H. was called and found the jaws firmly closed and general muscular rigidity well marked. During paroxysms respiration was extremely difficult and the abdominal walls were "board-like." The wound was freely opened, a quantity of wadding, shot, etc., removed, and proper dressings applied. Treatment by the hypodermic injection of a 2% solution of carbolic acid was employed. During the first 9 days, 3 injections of a syringeful each of the 2% solution were given 3 times per day. The urine became smoky and the injections were reduced to 2 per day and were continued 2 weeks longer. Small doses of eserin were given with the injections. The boy made a good recovery. [M.B.T.]

Correspondence.

SYSTEMATIZING THE BUSINESS.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE following letter is being received by the physicians of New York. A half-dozen finely printed commission blanks or orders are enclosed with each:

MY DEAR SIR:

I am desirous of doubling the volume of my business, and to enable me to do so I am willing to pay well for services which will assist me in accomplishing my purpose.

I want the names of those (suffering from Piles, Fistula, or any other disease of the Rectum or Anus) who are able to pay from fifty dollars upwards, for a cure; and I will give 25% of my fee, for the information, or influence which will bring the patient to me.

Will you act as my confidential agent in your locality? filling out the enclosed blanks with the names of those you know are all right and can be persuaded to come to me for treatment; slip will be returned to you together with commission when payment is made.

Yours most respectfully,

——— ——— ———.

NATIVE AMERICAN DRUG PLANTS.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE read with care your editorial opinion on the plan of the Federal Department of Agriculture to secure an appropriation of only $10,000 for the scientific investigation of our indigenous American plants with particular reference to the botany of the Materia Medica. I trust that I may assume your endorsement of the scheme to be based on insufficient data.

The canniest man of classical antiquity is quoted as saying, "Timeo Danaos et dona ferentes." In the same line I would say that I fear the Department of Agriculture of these United States. At the present time the great seed industry of the country is entangled with the Department of Agriculture in the matter of the free distribution of seeds through the members of Congress. The results of this system are so deplorable that were you to consult the seed men they would unanimously advise you that it is unsafe to allow the Department to enter even under the plea of science on this new field.

Also at the present time the same Department is engaging in a destructive competition with manufacturing pharmacy in the matter of black-leg vaccine for anthrax. The amount of this competition has become so great that the manufacturing pharmacists are seeking relief at the hands of the Congress.

Several other similar instances might be adduced, but it would be a tax on your space. That which I wish to bring to your attention is that in every case a similar argument was presented to that which you rehearse in this matter of medicinal plants. The lesson of the past with this Department is a consistent one. Under some specious plea the Department secures its entry, but invariably in the end it occupies a position as a disturber of commerce.

I have aimed to be very brief, but I trust that you will see that the topic is worthy of your fuller inquiry.

"X."

THE ETHICS OF MEDICAL-ARTICLE ABSTRACTING.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THERE could be no better proof of the truth that the motive makes the action bad or good than some of the so-called abstracting at present offered the medical profession by certain medical journals. It is true that abstractors may make mistakes in judgment and in epitomizing,—I do not allude to such unintentional errors, but to those which are wholly intentional, and in concocting which there is no desire to state an author's essential thought, but rather to belittle it, represent it as of no value, or actually to lie about it. The motive in all such literary traduction is not to tell the reader the truth about the paper, not to be loyal to the writer (who has dared to publish his article in another journal), not to be honest in the journalistic function, but to punish the "deserting" author and the rival journal. Let me give an instance—one out of hundreds. A surgeon wished to show the influence of various styles of shoes and hose upon the position and function of the distal phalanges of the normal human foot,—a very important and practical matter—and had x-ray pictures taken of a normal foot under the influence of the various common styles of shoes, etc. The object of the paper was clearly expressed in the title and strikingly shown in the x-ray pictures. A prominent medical journal devoted two lines to the abstract of this contribution, stating simply and only that the author exhibited some pictures of "deformed feet"! And so on through the list! This is held to be journalism! The disadvantage of calling attention to the common malevolent stupidity is that the perpetrators of it may amend their ways, but as they cannot change their motives the danger is perhaps not so imminent as might at first appear. The obtuse think the world like themselves. What a blunder to suppose the medical profession can be humbugged by such "abstracting." What an insult to the intelligence of medical readers! How likely is it to win the friendship of medical writers!

Respectfully yours,

A SUBSCRIBER.

REQUIREMENTS OF THE MEDICAL COUNCIL AS TO PROFESSIONAL STUDY.

BY W. W. KEEN, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IF Prof. H. C. Wood were as well informed as I have always supposed him to be, and were as courteous as I think he should be, he would scarcely have published the reply to my letter which appeared in your JOURNAL of last week. Putting these aside, I beg to call attention to the three points as to which the recent resolution of the Medical Council is both objectionable and in my opinion illegal.

First, and foremost, it is a backward step in medical education and for this reason, above all others, I dissent from it. It discriminates against the very best class of students in our medical schools; namely, the college men. These are the only men who are admitted to advanced standing, provided they have pursued certain studies and their mental training and culture not only enable them to do more in three years than others do in four, but such culture and training are of inestimable value in a learned profession. To refuse them this advantage will result either in their leaving their college courses unfinished or passing them by entirely and will be a most serious detriment to the quality and character of the profession. That my opinion is shared by the faculties of the various Pennsylvania colleges and universities is seen by the fact that, according to the newspapers, a meeting was held last week in Harrisburg, which was attended by the presidents or other representatives of every college and university in this State, including representatives from Prof.

Wood's own University of Pennsylvania. It is stated that the representatives were unanimous in their opinion that the action of the Medical Council would be deleterious to the students in their institutions, and they called for the repeal of the resolution.

Secondly.—I regret to see that Professor Wood has so little sympathy with men who are doing, some of them, the best work in our medical schools, but who are obliged to support themselves by labor outside of their medical studies. The men who achieve success in the face of such obstacles as these are deserving of our warmest sympathy and earnest help.

Thirdly.—When the Medical Council reads into the law the word "exclusive," so that it prescribes four years devoted "exclusively to the study of medicine," when the law says "four years devoted to the study of medicine," it seems to me an illegal requirement, as it goes beyond the law.

THE FALLACIES OF X-RAY PICTURES.

BY EDWARD A. TRACY, M.D.,
of South Boston, Mass.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

YOUR x-ray number is a splendid example of enterprise in a medical weekly. It is of especial interest to those of us interested practically in x-ray work. I regret that one aspect of the subject, the fallacies of the radiograph, is not given the mention it deserves. Indeed one of your essayists appears to question their fallacy.

Dr. Weigel, in his very interesting paper on "Practical Points in the Use of the X-ray" states: "In my opinion, many of the alleged fallacies of the x-ray may be traced to improper adjustment of apparatus and tube in their relation to the subject. Bearing in mind that the rays proceed practically from a point, it is evident that unless a sufficient distance is maintained between the source of light and the subject on the plate, exaggeration and distortion are unavoidable. It is also necessary that the rays be projected in a parallel direction and accurately centered over the part."

Will Dr. Weigel explain how rays that "proceed practically from a point" can be "projected in a parallel direction?" As a matter of fact x-rays cannot be projected in a parallel direction and for that reason must give distortion in x-ray pictures.

Further on Dr. Weigel states: "It is a question whether the allegations of fallacy or unreliability of the x-ray do not emanate from operators who depend largely, if not entirely, upon the revelation of this device (the fluoroscope) and who do not appreciate the value of a photographic negative."

The *Journal of the American Medical Association* of November 6, 1897, published my paper on "The Fallacies of X-ray Pictures." In that paper it is not only alleged that x-ray pictures are fallacious, but proved so by half-tone pictures from x-ray photographic plates—the fluoroscope not being considered. As that paper is, I believe, the only one specifically devoted to the subject that has been published, and as I remember sending a reprint to Dr. Weigel by request—I think, if he desires the profession to look upon x-ray pictures as infallible, that he should controvert my position in a bold and frank manner and not under indefinite asservations of suppositive conclusions.

That my position taken in a medical journal in 1897 is correct—that x-ray pictures are fallacious—an able contributor to your journal incidentally shows. Dr. Keen, in his paper published in the same number as Dr. Weigel's, gives a copy of an x-ray picture, taken by Dr. Ames, which clearly shows a large bullet *outside* of the head of the tibia. Dr. Keen operated and found that the *entire ball* was *in* the bone. He naturally concluded that in this case the x-ray picture was misleading. He writes, "We have yet to learn the errors into which we may be led by x-rays, especially in cases in which medicolegal proceedings may be instituted and very unwise inferences drawn from what looks like a perfectly clear case." From practical work with x-rays, I learned their fallacies more than two years ago, and hastened to bring the matter to the attention of the profession in the medical journal leading at that time. The importance of a knowledge of the fact to fellow surgeons who might be sued and indicted on the evidence of such pictures, led me to publish the paper in which I do not assume, but demonstrate, the fallacies of x-ray pictures, and explain some of their causes.

The advantages of x-ray pictures in practice I fully appreciate, and use daily in office work. Their great disadvantage—their fallacy—must never be lost sight of, especially in the courts.

MEDICAL BOARD EXAMINATIONS.

An Open Letter.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DEAR SIR: Public attention has of late been called to the examinations of the Medical Boards of this State.

For some years it has been suspected that there were means of securing beforehand knowledge of the questions to be answered.

The recent exposures of facts in this direction are naturally enough calling attention to others, as important signs of failure to be and do that which the law intended.

One of the original purposes of the law was to elevate the standard of medical education in the schools. It has had no such effect. The lower medical schools remain cheap and inadequate, the higher colleges continue to teach better every year, as they were doing long before the complicated machinery of the Medical Board was set in movement.

It was also meant, as the law states, to prevent incompetent men from practising in Pennsylvania. It has had in this direction some good results. The board has done really valuable work by excluding the very worst of the graduated applicants. If, however, I may judge from the literary quality of some of the medical examination papers I have seen, a conscientiously managed preliminary test in the three R's would have done away with any need to go further. And what is this examination which is to test the ability of a man to practise medicine and surgery? It is entirely by written examinations. How comfortable these would be at the bedside of typhoid or amid the doubts and perils of a difficult labor!

Sir, I feel that to speak lightly on this subject almost demands an apology. But what then do the sad facts demand? Is it possible that these examiners do not know the absurd inadequacy of their tests, or comprehend the need for oral and practical methods? No examination can fully decide upon the moral and practical ability of men for medical practice, but we may at least approach nearer to the standards long accepted in Europe, where oral and practical tests are conscientiously employed.

The absurdity of testing by written questions alone the capacity of a man to take care of sick or wounded people must be plain to even a layman. And yet, while the

our years of our best schools are filled with incessant practical examinations in anatomy, surgery, bandaging, diagnosis, and what not, these State examinations consist of a collection of questions to answer which a year or two of home-reading in textbooks would qualify any intelligent man with a good memory. I was not surprised when recently a distinguished surgeon characterized this sad comedy as a medical kindergarten.

It would be easy to support this criticism by quotations.

I am tempted to set side by side the *first year* examination-papers in any branch, as used by our great schools, for comparison with the examination-tests for *graduates* set forth by our highest examining body. I should take up too much space. But if, sir, you desire to combine for your readers' amusement and instruction, you will annually publish the questions considered by the Medical Board to be sufficient as tests of the men who are to be set at liberty to practise medicine.

Education is becoming practical, tutorial, demonstrative, personal. It is here tested by what is relatively a shool-boy exercise.

Nor is this bad merely because the questions are often inadequate or feeble. The practically trained man is disadvantaged by contrast with the textbook-student, and has the smaller chance. Suppose that, as in Europe, the doctor were asked questions on a dissection, was expected to operate on the cadaver, was given cases for diagnosis, was asked to examine blood, analyze urine, etc. How many would survive such a trial? The Board would, I trust.

I hope, sir, to live long enough to see this whole matter reconsidered, and to learn that from beginning to end every possibility of sympathy and every chance for fraud has been eliminated. As things now are, every benevolent effort has been made to avoid disappointment. The questions are not hard—the candidate may try it over and over a half-dozen times until he slips in. Although all the questions except on practice and surgery are the same for the three sets of examiners, the inspection of the replies is confided to the examiner who is of the same school of practice as the student; but if the business be fairly conducted what need for this? Is anatomy eclectic? Is physiology homeopathic? Why this rule?

The regulations as to the preliminary examination are paternally tender. Thus a preliminary examination is required from all candidates—on arithmetic, grammar, geography, orthography, American history (why is this more valuable to a doctor than English or Spanish history?), and English composition. These papers I have not seen; but the critically curious in the use of English and on some other matters are referred to the report for 1899–1900. No foreign tongue is exacted.

Before then proceeding to his professional tests in medicine a candidate must show general knowledge as to the branches I have mentioned. I was interested to observe that they include "knowledge of the varieties in prose and poetry." I would be pleased to see the answers. The questions to be, or which have been, asked on the branches alluded to, do not appear in the Report, but why not?

It is consoling to know that the student puzzled by some of these requirements may, in lieu of them, furnish "a teacher's permanent certificate," "or the diploma of an academy, seminary," etc. I said that candidates were tenderly considered.

The law reads, or the preamble:

Whereas, The safety of the public is endangered by incompetent physicians and surgeons, and due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be allowed to practise their profession;

Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, etc.

Then comes the law as to the Board, the appointment and duties. Confident that their work would exclude all but the competent the State has left these matters in the hands of the Governor and his appointees.

Does any physician who sees how year after year they have done their work imagine that it fulfils what the law intended?

I might very well have said something as to the construction and mode of appointment of the medical board and council, but probably these are just now past remedy. Is it, however, beyond reasonable hope that the medical opinion of the State should demand of these bodies such action as will result in exacting practical evidence of fitness. A really competent examination would oblige inferior schools of medicine to teach honestly, or would soon close their doors from lack of pupils. I can have, sir, no motive in what I have here said except an earnest desire for the welfare of the profession to which I owe much of the prosperity and happiness of life; and if, sir, I have spoken strongly, it is because I feel that I am but saying what every educated physician must deeply feel.

I am yours, very truly,

S. WEIR MITCHELL.

ACADEMIC AND MEDICAL STUDY: FACTS VS. FANCIES.

BY MARTIN B. TINKER, B.S., M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN letters which appeared in the PHILADELPHIA MEDICAL JOURNAL of January 13, Professor H. C. Wood and Dr. Henry Beates, Jr., criticise the standpoint which was recently taken editorially in the JOURNAL and in a letter by Professor W. W. Keen, in regard to allowing college graduates advanced standing in medical schools. The ground had been taken that the recent action of the Medical Council in requiring four full years of exclusive medical study of all candidates for license to practise, was injustice to certain graduates from academic courses in colleges and universities. Dr. Wood objects to this on the ground that to follow such a course is to substitute general culture for medical training, and mentions advanced Latin and Greek as the usual studies of the senior and junior years in college.

I beg to call Dr. Wood's attention to the fact that no college graduate is admitted to advanced standing in our better-class medical schools unless he has taken a number of prescribed scientific studies, which may be considered a fair equivalent for the first year's work in the medical school; at least, this is what the catalogs call for, and there is no reason to believe that those in authority are lax in carrying out their rules and regulations; indeed, it would be for their selfish interest to keep the student the extra year rather than to allow him to take advanced standing. Presenting credentials for a course in histology and chemistry taken at Princeton or Yale is not substituting general culture for medical culture; it is simply offering biologic and scientific courses taken at a reliable general culture college as an equivalent for exactly the same courses taken in a medical school of not one whit higher reputation and standing, and

not one whit better prepared to give such courses in a thorough and practical manner.

To assume that Latin and Greek are the main subjects of study in our best colleges is equally far from the real facts; this was no doubt the case 50 years ago, but it is not today. I respectfully challenge Dr. Wood to point to a single one of our best institutions in which Latin and Greek make up any considerable part of the required work of the senior and junior years. In most colleges the last two years are almost entirely elective, and there is abundant opportunity for the student to choose scientific studies which will be the best possible beginning of his medical study. Students of today are crowding the scientific courses. On page 200 of the *Harvard Graduates' Magazine* for December, 1899, may be found in tabular form statistics as to the registration at ten of our leading universities; in eight out of the ten the number studying for scientific degrees in each is over 300; in five out of the ten the number is over 440. Moreover, even among the arts course students the sciences are far more popular than the classics. At Harvard, with one of the finest Faculties in the classics in the world, only 6% of the students of the senior year elect the classics.

Dr. Wood considers four years too short a period in which to acquire the technical rudiments of a medical education and states that in Europe five or more years are everywhere required. Let us refer once more to the facts. As a graduate in medicine from the University of Berlin I think I may fairly claim to know the conditions existing in Germany. Five years are required it is true, but in one of these years the student is permitted to serve his required year in the army. During this year of military service the student never pretends to do any regular work in medicine and is not expected to do so. Moreover, the German medical student is required to take courses in botany, zoology, and comparative anatomy; studies which in America are not considered part of the medical course, but may be preparatory to the study of medicine. Yet in Germany these take a large amount of time for at least one year in the regular medical course. With the year devoted to military service and the extra time required for these biologic studies which constitute a part of the work of literary colleges here, I think it is fair to say that the German five years amounts to no more than our four years which are devoted to more strictly medical studies. That the same condition of affairs prevails in Austria may be seen by reference to page 13 of the *Wiener klinische Wochenschrift*, January 4, 1900. It will be noticed, however, that besides botany and zoology the Austrian law requires physics and mineralogy in its medical courses.

The regulations in force in Great Britain are even more interesting in connection with this discussion, and should be read by Dr. Beates, who holds that branches taught in literary and scientific institutions do not bear sufficiently on the medical aspects of such studies. By reference to the educational number of the *British Medical Journal*, August 26, 1899, he will see that five years of medical study are required, but the first of these is devoted to elementary science. On page 519 of the educational number just mentioned, under Professional Education, may be found the following: "A graduate of arts or science of any university recognized by the General Medical Council, who has spent a year in the study of physics, chemistry, and biology, and has passed an examination in these subjects for the degrees in question, is held to have completed the first of the five years of medical study. . . . ." It seems that there is no trouble in England about the coexistence of identity of work in sciences in the curriculum of the literary schools and the medical schools, which Dr. Beates denounces as radically wrong. The indiscriminate admission of all graduates of all academic courses to advanced standing in medical schools would unquestionably be a great mistake, but I believe that it is injustice to shut out all college graduates because of the inadequate training of many minor so-called colleges and universities. The Medical Council of Pennsylvania would not lower the standard of medical education by granting credit for a year's medical study in equivalent branches to such graduates of Harvard, Yale, Princeton, Cornell, and many other institutions as have done work fairly equivalent to the first year's medical work. Nor is the good work limited to the larger universities; would any one question the thoroughness of the course in Histology given by Professor Bumpus of Brown or the course in Physiologic Chemistry given by Professor Atwater of Wesleyan University? Neither is all the thorough work done in the East; Leland Stanford, Chicago, Michigan, Wisconsin, Oberlin, and a dozen other institutions are giving courses that should not for a moment be compared with the courses in the same branches given as a part of the regular course at numerous third-rate medical schools whose courses have been and will continue to be accepted as satisfying the requirements of the Medical Council of Pennsylvania. The Pennsylvania Medical Council might well follow the British Medical Council in recognizing those courses in Arts and Science which are satisfactory and reliable.

A study of the facts will show: First, that our best universities are not holding their students to the study of Latin and Greek, but that they offer thorough courses in those sciences which are considered by leading educators as the best preparation for medical study; secondly, that they give in an adequate manner those borderland science studies which may be taken with profit by the general student, but which are essential to the medical student; thirdly, that foreign medical boards are not exacting more years of purely medical study than is required by our best American schools, but that they are requiring a more thorough course preparatory to medicine, a course all essentials of which are embodied in the courses of best colleges; fourthly, that British and German schools count studies taken in academic courses as satisfying the requirements in lieu of a year's medical study.

Lack of suitable preliminary training has done more than any other factor to keep the standard of scientific medicine in America so low as to make it the butt for ridicule by foreigners. There has been great progress made during the past few years, and Johns Hopkins led the way toward a higher standing by demanding a preliminary college degree. It would be a misfortune were an obstacle put in the way of true progress by those whose influence might count for much.

CERNY AND TRUNECEK'S SOLUTION OF ARSENIC.

BY LOUIS A. DUHRING, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

YOUR letter asking for information about the composition of "Czerny's" solution of arsenic is before me, recommended for the cure of carcinoma. From the tenor of the several letters from correspondents you send me, I believe the following may prove interesting to others as well as the particular inquirers referred to. In the first place, names have been confounded. The solution in question has been brought forward by Cerny and Trunecek, of Prag, and not by Czerny, of Heidelberg. The two physicians have written conjointly several articles on the subject. The solution they recommend is composed of arsenous acid 1 part, ethylic alcohol and water of each 75 parts; the strength, therefore, is 1 part of the arsenous acid to 150 parts of the menstruum. This used upon the lesion, say an ulcer, in the form of a topical application daily, until an eschar forms and is detached, after which the ulcer is treated as an ordinary wound, as with an adhesive diachylon plaster. In addition to the 1 to 150 solution referred to, stronger solutions (as 1 to 100) are also made use of, especially after the eschar has begun to form. Pain and edema accompany the applications, and injections of morphia may be required. In ordinary cases of superficial cancer (as on the lower lip or on the skin of the face), from 4 to 6 weeks are required to effect a cure.

Reviews.

A Blankbook for Autopsy-Protocols. By ALDRED SCOTT WARTHIN, M.D., PH.D., Assistant Professor in Pathology in the University of Michigan. Ann Arbor, Michigan: George Wahr, 1899.

This book is calculated to help the student in developing the qualities that go to make a systematic, observing and careful physician. It is a well-ordered arrangement to facilitate the recording of all the various macrascopic and microscopic details of portmortem examination, and is intended especially for students in class-work, although it could be used to advantage by the physician in the same direction.

Transactions of the American Climatological Association. For the year 1899. Volume XV. 8vo, pp. xxxiii, 317. Philadelphia, 1899.

This volume contains 27 interesting papers, the majority dealing with subjects related to climatology, although a considerable number discuss subjects in general medicine unrelated to climatology, and one treats of a surgical subject. The thought naturally arises whether in view of the multiplicity of medical organizations in existence it would not be well and wise to consolidate this body with some other whose field of activity is that of internal medicine. Much power is lost by this division of energy, whereas a consolidation of forces would no doubt yield more satisfactory results. The papers in this volume are of a high order and do credit alike to their writers and to the body to which they were presented.

Transactions of the State Medical Society of Wisconsin. For the year 1899. Constitution and By-Laws and List of Members. Volume XXXIII. 8vo., pp. xi, 569. Tracy, Gibbs & Co, Printers, 1899.

This Society has made a commendable departure. In order that there might be a fuller discussion of the papers read the number of these was limited to 50. The results have been so satisfactory that in addition to the President's address and those in medicine and surgery arrangements will be made for the meeting of 1900 for 25 papers by invitation and 10 volunteer papers. Volunteer papers must be submitted anonymously in advance of the meeting for rejection or acceptance. This plan should bring out the best work of the Society's members and, so far as this is possible or necessary, eliminate the undesirable. The papers in this volume deal with all the phases of medicine, general, special, ethical, and the articles are in general of excellent quality. The Society deserves to be congratulated upon the good scientific work it is doing.

Essentials of Diseases of the Skin. Arranged in the form of questions and answers prepared especially for students of medicine. By HENRY W. STELWAGON, M.D., PHD., Clinical Professor of Dermatology in the Jefferson Medical College; Physician to the Department of Skin Diseases, Howard Hospital; Dermatologist to the Philadelphia Hospital, etc. Fourth edition. Thoroughly revised. Illustrated. Philadelphia: W. B. Saunders, 1899.

This little volume discusses the essentials of dermatology by means of a series of admirable questions and answers. The book will help the beginner in the study of the science to master symptoms, diagnosis and treatment to such an extent as to render the road to fuller dermatologic knowledge comparatively easy. All necessary changes have been made in the text of previous editions to bring the present one quite up to date. Fresh matter has also been added with a like purpose. The book is enriched by a number of fresh and original illustrations. The style is wonderfully condensed and perspicuous. The work, simply considered as a compend, cannot be too highly praised.

On the Wasting Diseases of Infants and Children. By EUSTACE SMITH, M.D. Sixth edition. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street.

This little classic of 350 pages, which has been before the public in various editions for nearly 30 years, appears again in a rejuvenated form, and capable of affording as much practical information now as ever. Not only so, the book is so arranged and worded that it will prove a useful aid to the clinician, at whatsoever time in the future it may be read. Unless some very remarkable advancements are made in the care and management of children, by which the multitudinous causes of wasting diseases are eliminated, we may expect to find these conditions prevalent in much the same forms for an indefinite length of time. The careful descriptions, which was the valuable feature of the first edition of this book, placed it at once in the position of an authority; the excellent wisdom of the suggestions offered for the repair of these states holds good as well now as it did when written, and will long obtain. The book forms a basis for much that has been written since then on the subject of protracted states of disturbed nutrition. In its present form it has been entirely recast and brought up to the modern requirements of phraseology, especially pathologic. A chapter has been added on subacute tuberculosis in infants, and many other changes have been made, especially in the pages devoted to treatment. It is commended as an important addition to the library of every general practitioner, and is at all times delightful reading.

A Textbook of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico Chirurgical and Samaritan Hospitals, Philadelphia, etc. Illustrated. Third edition, revised. Pages 1292. Philadelphia: W. B. Saunders. Cloth, $5.50 net; sheep or half-morocco, $6.50 net.

It speaks well for the popularity of Dr. Anders' work that in less than a year the appearance of the second edition of the work has been found necessary. Books on practice are proverbially popular with the profession and command a good sale, yet it may be assumed from this fact that Dr. Anders has been unusually successful in striking the ideas of the profession. The present issue is the result of careful and thorough revision. This work is possibly most clearly seen in the department of infectious diseases, in which perhaps revision was more needed than in the others from the advanees in knowledge since the publication of the first edition. A few new subjects have been introduced and a number have been practically rewritten. The present edition is highly commendable in its systematic and convenient arrangement of the diagnostic and therapeutic data. The enlarged and comprehensive index, with its cross-references, is an especially praiseworthy feature. Although much of the subject-matter of the volume is derived from Dr. Anders' experience of nearly a quarter of a century, yet medical literature has been thoroughly gleaned in order to bring the book up to date. There is much new matter, but great care has been taken in condensation, and therefore the present volume is scarcely larger in size than the first.

Handbook of Optics. By W. N. SUTER, B.A., M.D., Professor of Ophthalmology at the National University, Washington, D. C. 209 pages, copiously illustrated. New York: 1899. The Macmillan Company. Price, $1.00.

This little volume treats of a subject usually slighted in the student's textbooks of ophthalmology. The optical principles necessary for a correct understanding of ophthalmology and ophthalmotherapy are more than stated, they are clearly demonstrated; and yet these demonstrations require no higher knowledge of mathematics than simple algebra and elementary geometry. After a short introduction concerning the wave theory of light, the author treats of refraction occurring at plane surfaces and gives in connection with this subject a very simple proof for the minimum of deviation of a light-ray in passing symmetrically

through a prism. Taking up then the refraction occurring at spherical surfaces and through lenses, the eye as an optical system is fully considered and the position of its cardinal points calculated from the constants of Helmholtz. The next 3 chapters (comprising about 40 pages) are devoted to the effect of lenses in emmetropia and ametropia together with an elucidation of the effect resulting from the combination of cylindrical lenses, evidently a favorite study with the author. Mention is made of the effect of tilting spherical lenses, also the influence of prismatic glasses upon retinal images. In the last two chapters the author devotes himself to the phenomena of the reflection of light and the optical principles involved in ophthalmometry, ophthalmoscopy and skiascopy. These are subjects that should have been treated more fully, especially skiascopy which is allotted but two pages. If there is to be any adverse criticism we might say that we miss a definition of the meter-angle, the prism diopter, and the centrad on page 22. The making of the book is excellent. It is a volume that can be recommended to every reader who would be led into the science of ophthalmology in an easy but thoroughly scientific manner.

The Practice of Surgery. A Treatise on Surgery for the Use of Practitioners and Students. By HENRY R. WHARTON, M.D., Demonstrator of Surgery in the University of Pennsylvania; Surgeon to the Presbyterian and the Children's Hospitals; Consulting Surgeon to the Bryn Mawr Hospital; Fellow of the American Surgical Association, and B. FARQUHAR CURTIS, M.D., Professor of Clinical Surgery and Adjunct Professor of the Principles of Surgery in the University and Bellevue Medical College of New York; Surgeon to St. Luke's Hospital, Bellevue Hospital, and the New York Cancer Hospital; Fellow of the American Surgical Association. Revised Edition. Profusely illustrated. Pp. 1244. Philadelphia: J. B. Lippincott Co.

The appearance of a second edition of this book in so short a time is evidence that it is supplying a need. The first 260 pages of the work are taken up with a consideration of the principles of surgery; the pathological aspects of the subjects treated are discussed briefly but on the whole quite satisfactorily; the chapters on wounds and antisepsis and asepsis are full and the subjects are discussed in a thoroughly practical manner. The chapters on special and operative surgery make up the rest of the book. They are of rather unequal merit; the discussion of the surgery of the osseous system, the joints, hernia, and rectal surgery seem to be particularly good. In a revised edition it would be expected to find mention at least of such topics as the intercranial injection of antitetanic serum in the treatment of tetanus, gastrectomy, tendon transplantation for paralytic deformities, and partial resection of the kidney; on the other hand the injection treatment of hemorrhoids and the charcoal and yeast poultices might have escaped with simple mention without great loss. The book is excellently printed, well bound, and the numerous illustrations are a valuable and attractive feature. We believe the authors have succeeded very well in their purpose to write a useful guide for the general practitioner and student.

Encyclopedia Medica. Vol. I, Abdomen to Bone. By many British authors. Under the general editorship of CHALMERS WATSON, M.D., M.R.C.P.E. New York: Longmans, Green & Co., Publishers, 91 Fifth Avenue. Price, $6.00 per volume.

According to the prospectus this is the first of 12 volumes to be published quarterly, constituting when completed an authoritative reference library of medicine and surgery. Apparently all branches of medical sciences but materia medica are included. A glance at the list of prospective contributors shows that nearly all the noted medical writers of Great Britain are included, and from the articles in the first volume, the claim to completeness and *ex cathedia* utterance is fully substantiated. While not as lengthy or as full in bibliography as those of some of the previous systems, the articles are sufficiently extensive to cover all points of importance. In the present volume especial mention may be made of the excellent papers on Abortion, Alcoholism, Anemia, Anesthesia, Aphasia, Appendicitis, Asthma, Diseases and Injuries of the Bladder, Blood and Diseases of the Bone.

The claim to ease of reference is not so distinctly proved. There is no index to the volume. The articles are arranged according to alphabetic headings with frequent cross-reference to other unpublished volumes. Choice in the selection of headings, is of course, to a certain extent an affair *de gustibus*, but we hazard suggestions as to a more convenient classification in some instances. In a work of alphabetic arrangement either the most common name should be used as the heading under which the subject should be treated, or disease and injury should be classified according to the part involved. While essential in many instances the latter arrangement necessitates very bulky articles and defeats the purpose of ready reference. To be more explicit, in the forelying volume Amputations are referred to such a general heading as Operations. Apoplexy, a very common term, is referred to the broad grouping, Cerebrum. All drugs are referred to Toxicology. Again, Abdominal Operations are referred to Laparotomy, when Abdominal Section is a more correct and more common heading. We believe that Suprarenal is more commonly used than Adrenal. Anthrax is more often used than malignant pustule. According to common usage the article on Balneology should be under the heading Baths, and that part relating to Mineral Waters would better have been given under Mineral Springs, Mineral Waters or Waters. Diseases of the Auditory Nerve will naturally be looked for under Ear-diseases, or Deafness.

It is intended to keep the work up to date by the issue from time to time of a supplementary volume, and along with it a simple and original device in the shape of gummed printed marginal notes. These, with a little trouble, can be placed opposite the articles affected, and show at a glance whether, and where, later information has been given.

The present volume contains 579 pages, and it is promised that each volume will extend to at least 500 pages. The size of the type pages is $8\frac{1}{8}$ inches by $4\frac{5}{8}$. The type is large, the typography is excellent, and the paper, though quite thick, is satisfactory. Economy of space forbids profuse illustrations, but all that is necessary to elucidate the text properly is promised.

Altogether this is a most important and promising work, but on account of bulk we do not believe it will be used so much for daily reference as for collateral reading. The one and two volume publications, with more frequent subdivision and less extensive articles, answer better the need for quick reference of the student and practitioner, who are becoming less and less inclined to invest in the expensive many-volume systems that are unfortunately too soon discarded.

Surgical Anatomy. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By JOHN B. DEAVER, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In three royal octavo volumes of more than 600 pages each, containing about 450 full-page plates, nearly all from dissections made for the purpose. Vol. I, pp. 1632, 151 full-page illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Price, cloth, $21.00; sheep or half morocco, $24.00.

Many members of the profession to whom Dr. Deaver is well known either personally or by reputation as a surgeon, writer, teacher, and practical anatomist, have awaited the appearance of his Surgical Anatomy with the expectation of finding in it a guide in this difficult branch of medicine of much more than ordinary practical value, and their expectations will not be disappointed. While all the structures which are taken up in this volume are adequately described from an anatomic standpoint, perhaps the most characteristic feature of the book is the discussion of the practical application of the facts under consideration. In the discussion on dislocations facts are presented which are not commonly readily found in the ordinary textbooks on either

anatomy or surgery, as to the exact relations of the bones in their abnormal position, the ligaments ruptured and put on the stretch, the tendons lacerated or displaced and the muscles concerned; and in the same plan the anatomic relations concerned in fractures, the ligation of arteries, amputations and excisions, nerve stretching and nerve injuries, trephining and other intracranial operations, etc., are clearly and concisely considered. The surface anatomy of the parts described is taken up first; the prominences, bony or other, which may serve as landmarks, the lines of arteries, veins, and nerves, the location of tendons, folds of the skin, etc., that may serve as guides, and with these facts their practical application as to incisions for ligating the arteries, nerve stretching, opening abscesses, or in placing the electrodes to test the electrical reaction of muscles, and other valuable hints for the general practitioner. Then the deeper parts and their relations are taken up in their order as they are met by the surgeon, and illustrations are given of the parts as they appear when seen through an ordinary incision and also after careful dissection. In this volume the first 350 pages are devoted to the upper extremity, taken up at such length it is needless to say that the descriptions are thorough, and in addition to the text there are 95 full-page illustrations which are as essential to an adequate anatomic description as words. Of the remainder of the book 100 pages are devoted to the back of the neck, shoulders, and trunk; 198 pages to the head and 31 pages to a good, full index, a most valuable feature in any book. The part devoted to the head is as fully illustrated as the remainder of the book and should be of special value to the various specialists. The profusion of splendidly executed full-page illustrations is one of the most prominent features of the book, for next to careful personal dissection nothing is so helpful in the study of anatomy as a good picture. These cuts are most of them taken from special dissections and will be of more than ordinary value from this reason. The necessity for full-page cuts to illustrate the incisions for dissection, etc., is hardly apparent, however; it would seem that the publishers might have spared themselves this expense and have given instead a few colored cuts, which would have added much to the helpfulness of many illustrations, particularly those depicting the course of the bloodvessels. A few mistakes in grammatical construction and omissions and errors in the subject-matter, such as in the directions for trephining for the middle meningeal artery, need correction. This volume is an elegant specimen of book-making; clearly printed, profusely illustrated, thoroughly indexed, and beautifully bound, it may well serve as a model for publishers.

System of Diseases of the Eye. By American, British, Dutch, French, German, and Spanish Authors. Edited by William F. Norris, A.M., M.D., and Charles A. Oliver, A.M., M.D., of Philadelphia. Vol. IV, Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. With 54 full-page plates and 211 text-illustrations. Philadelphia: J. B. Lippincott Company, 1900. For sale by subscription.

With this volume the first system of ophthalmology in the English language has been completed. It has been the editors' intention to produce a work that will take a place in English occupied by the "Handbuch" of Graefe and Saemisch in German, and the "Traité complet" of de Wecker and Landolt in French. In Volume I, there were considered the Embryology, Anatomy, and Physiology of the Eye, by such eminent writers as Ryder, Dwight, Baker, Piersol, Hill, Brodhun, Collins, Jackson, Cattell, Lang, Thomson, and Mays. Volume II included the Examination of the Eye, School-Hygiene, Statistics of Blindness, and Antisepsis, upon which were contributed papers by Snellen, Laquer, Gould, Jackson, Javal, Dennett, Stevens, Wilbrand, Thomson, Risley, Hays, Andrews, McFarland, and Kneass. Volume III, likely the most practical, was devoted to Local Ocular Diseases and Operations, and included papers by C. S. Bull, Harlan, Theobald, Burnett, Brailey, Stephenson, Griffith, Schnabel, Schöbl, Deyl, Priestly Smith, Gruening, Randolph, and Knapp.

The present Volume IV includes Anomalies of the Motor Apparatus, Diseases of the Cornea and Lens, Ametropia, and Medical Ophthalmology. The first article, on the Motor Anomalies, is by the well known French authority, Edward Landolt, of Paris. It is a very comprehensive monograph of 167 pages, well illustrated with lucid diagrams. Although we would like to have seen some note of injuries to external ocular muscles the article has our unqualified praise. The translation is by C. W. Culver, of Albany, N. Y., who has performed this service for the author before. Diseases of the Cornea are discussed by J. P. Nuel, of Liège, in a paper of 87 pages. The pathology is well considered, but diagnosis and treatment are somewhat brief. The excellent translation by Thomas H. Fenton, of Philadelphia, deserves notice, particularly the ingenious manner in which the French and Flemish colloquialisms have been rendered. The article on Diseases of the Lens, by the senior editor, is a very exhaustive and scholarly monograph of 143 pages, rich in bibliography, and contains many excellent photomicrographs by Dr. James Wallace, Dr. George W. Norris, and Dr. B. Alexander Randall. The diagnosis of Ametropia was fully considered in the earlier volumes; the etiology, course, and treatment are clearly and concisely treated here by the junior editor in an article of 78 pages. Ocular Lesions dependent upon Diseases of the Circulatory System are discussed in a paper of 57 pages by O. Haab, of Zurich. Several valuable colored plates are included. The translation by William Zentmayer leaves little to be desired. The most noteworthy feature of the volume is, perhaps, a magnificent article of 106 pages on Eye-Diseases and Eye-Symptoms in the relation to Organic Diseases of the Brain and Spinal Cord by the well known Irish oculist, Henry R. Swanzy, of Dublin. Little relative to the subject has been omitted, and profuse bibliographic references are given. Ocular Lesions dependent upon Disorders of the Secretory Organs occupy 41 pages, and are given over to J. B. Lawford, of London. The text and plates relative to retinitis of nephritic and diabetic origin are very satisfactory and form an excellent supplement to the exhaustive article on Diseases of the Retina. by Schöbl in Volume III. Ocular Lesions in the Infectious Fevers are discussed by J. B. Story, of Dublin; those in Influenza, Dysentery, Cholera, Malarial Fever, Dengue, and Yellow Fever, by J. Santos-Fernandez, of Havana, and those due to Grave's Disease and Herpes Zoster, by Jonathan Hutchinson, Jr., of London. M. Parinaud, of Paris, contributes a valuable paper of 43 pages upon the Ocular Manifestations of Hysteria, which has been well translated by Casey A. Wood, of Chicago, who himself has written considerably on this subject. The bibliography of this paper is particularly full. Myles Standish, of Boston, is responsible for the section on Motor Changes in the Ocular Apparatus associated with Functional Neuroses, which, although well written, is entirely too brief for such an important subject. Toxic Amblyopias have been assigned to G. E. de Schweinitz, of Philadelphia, who is undoubtedly the American authority on this subject. As would naturally be supposed, the text is largely a repetition of his previous writings upon this subject, and the present article is illustrated with his now well-known photomicrographs. Deserved prominence has been given to the work of Ward Holden. The Entozoa of the Human Eye are fully considered by M. Salzmann, of Vienna. S. Baudry, of Lille, gives a full exposition of the many ingenious tests for the detection of Malingering and Hystero-traumatic Amblyopia and Amaurosis. The translation is by Frank W. Marlow, of Syracuse, N. Y. The volume concludes with a short article on the Ocular Signs of Death, by A. Gayet, of Lyons. We note with regret a falling off in the excellence of typography and paper that characterized the earlier volumes, but our delight in seeing such a valuable and arduous undertaking brought to a successful finish, compels us to overlook all minor faults. Every ophthalmologist in the world should own this system.

Transactions of the Texas State Medical Association. Thirty-first Annual Session, Austin, Texas: Von Boeckmann, Schutze & Co., Printers. 1899.

The work of this association is done in several sections, and the product is generally commendable. There are some 27 papers, together with chairmen's addresses. Judged by its *Transactions* the Texas State Medical Association is a most active and flourishing body.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending January 27, 1900:

Monday, January 22—Neurological Society.
Wednesday, January 24—County Medical Society.
Thursday, January 25—Pathological Society.

Atlantic City (N. J.) Academy of Medicine held its annual meeting January 12, 1900 and elected the following officers: President, Dr. W. Blair Stewart; vice-president, Dr. William Edgar Darnall; secretary, Dr. Theodore Senseman; Treasurer, Dr. Walter Reynolds; Board of Governors, Dr. W. Blair Stewart, J. Addison Joy, E. C. Chew.

The Delaware County (Pa.) Medical Society, at its meeting on January 12, elected the following officers: President, Dr. McMasters, of Ridley Park; vice-president, Dr. Gallagher, of Glenolden; secretary, Dr. Leon F. Fussell, of Media; treasurer, Dr. D. W. Jefferies, of Chester; librarian, Dr. Trimble, of Lima; reporter, Dr. M. A. Neufield, of Chester; censors, Dr. D. W. Jefferies, of Chester, and Dr. Bartleson, of Clifton Heights.

The Cumberland County (Pa.) Medical Association, at its meeting on January 8, elected the following officers: President, Dr. J. C. Davis, of Carlisle; vice-presidents, Dr. M. M. Daugherty, of Mechanicsburg, and Dr. George W. Borst, of Newville; secretary, Dr. Hildegard Lonsdorff, of Carlisle; assistant secretary, Dr. J. A. Lefever, of Boiling Springs; treasurer, Dr. J. H. Bowman, of Riverton. Papers were read by Drs. J. J. Koser, C. C. Hummell, George Edward Reed, and H. G. Christman, and Majors E. J. Pilcher and J. O. Skinner, and Dr. J. C. Krall.

Alumni Association of the Medico-Chirurgical College of Philadelphia.—At the annual meeting, held January 13, the following officers were elected: President, Dr. Morton P. Dickeson; secretary, Dr. S. C. Burns; treasurer, Dr. E. S. Gans; executive committee, Dr. W. Easterly Ashton, Dr. A. E. Blackburn, Dr. L. N. Boston, Dr. A. C. Buckley, Dr. Philip R. Cleaver, Dr. J. W. Croskey, Dr. L. Webster Fox, Dr. W. H. Good, Dr. Charles H. Gubbins, Dr. H. C. F. Kellner, Dr. Howard S. Kinne, Dr. Ernest Laplace, Dr. D. W. Levy, Dr. J. A. McGlinn, Dr. John A. McKenna, Dr. A. C. Morgan, Dr. R. D. Newton, Dr. G. E. Pfahler, Dr. G. W. Pfromm, Dr. E. H. Porch, Dr. Alexander Ramsay, Dr. John V. Shoemaker, Dr. Herbert J. Smith, Dr. M. P. Warmuth, and Dr. J. B. Roxby.

Philadelphia Pediatric Society.—At a meeting held January 9, DR. S. M. HAMILL presented a patient 11 years old, with a history of a steady loss of weight in the past 4 years, with one attack of measles and several of follicular tonsillitis; dyspnea and palpitation are present, on exertion, but cyanosis has never appeared and the fingers are not clubbed. There is hypertrophy of the heart to the right, the pulmonic second sound is accentuated and there is a systolic murmur, with a thrill, in the second left interspace not transmitted in the carotids. The systolic murmur with the hypertrophy is taken to indicate the existence of **pulmonary stenosis,** the accentuation being explained probably by a patulous ductus arteriosus, the whole condition being congenital. DR. PACKARD stated that accentuation of the pulmonary second sound was held by some to be an accompaniment of pulmonary stenosis, which he agreed with Dr. Hamill, existed in the present case, but he thought that the endocarditis had been probably post-natal with the tonsillitis as the source of infection.

DR. GRIFFITH read a paper on **Miliary scarlet fever** with the notes of 4 cases; the view generally expressed in the textbooks that the appearance of miliaria in scarlatina is only in severe cases with a marked rash was combated, 2 of the cases reported being mild and with slight rashes. In the discussion DR. VAN HARLINGEN stated that care should be taken to distinguish between miliaria and sudamia. DR. SCHAMBERG stated that he had examined the skin microscopically from cases of scarlet fever and was of the opinion that the rash was an erythematovesicular dermatitis.

Vital Statistics of Philadelphia for the week ended January 13, 1900:—

Total mortality		504
Diseases.	Cases.	Deaths.
Pneumonia 82, congestion of the lungs 6		88
Pulmonary tuberculosis		55
Heart-disease 36, fatty degeneration of the heart 1, inflammation of the heart 1, neuralgia of the heart 1		39
Nephritis 23, uremia 12		35
Diphtheria 28, membranous croup 4	147	32
Debility 15, inanition 13, marasmus 3		31
Apoplexy 19, paralysis 5, softening of the brain 2		26
Convulsions		20
Senility		14
Casualties 9, burns and scalds 5		14
Inflammation of the brain 10, congestion of the brain 2, disease of the brain 1		13
Gastroenteritis		15
Peritonitis		13
Scarlet fever	78	6
Typhoid fever	32	1
Bronchitis 9, cyanosis 5, erysipelas 5, influenza 4, cystitis 4, pleuritis 4, intestinal obstruction 4, dropsy 3, pulmonary hemorrhage 3, hernia 3, poisoning 3, septicemia 3, pertussis 3, abscess of the liver 2, asthma 2, cirrhosis of the liver 2, appendicitis 2, locomotor ataxia 2, jaundice 2, suicide 2, alcoholism 1, anemia 1, carcinoma 1, diarrhea 1, disease of the liver 1, dysentery 1, eczema 1, fracture of the skull 1, gangrene 1, hemorrhage renal 1, legal execution 1, laryngitis 1, inflammation of the liver 1, intussusception 1, malformation 1, measles 1, rheumatism 1, sclerosis of the liver 1, surgical shock 1, tumor 1, ulceration of the stomach 1.		

Pittsburg (Pa.) Academy of Medicine.—At a regular meeting held December 11, DR. P. J. EATON reported a case of **dystocia due to a persistent right posterior position of the occiput.** It was impossible to secure rotation, and delivery was accomplished with forceps with occiput posterior after a labor of 48 hours. In these cases the application of reversed forceps, as advocated by Reynolds, of Harvard, should be tried, as it is a valuable procedure.

D. W. T. BURLEIGH reported a case of **ophthalmia neonatorum** which developed after the fifth day. There had been no reason to suspect the mother of having gonorrhea. In labor he frequently used morphin and thought that it was of benefit, especially in nervous primipara. Regarding the use of sedatives during labor, DR. EATON stated that he had used chloral with benefit in the early stages, but he feared to use morphin. He had seen cases in which its use had been followed by bad results. DR. T. C. CHRISTY said that he had always considered a reasonable dose of morphin during labor beneficial, as advocated by Fordyce Barker many years ago. DR. A. PETTIT said that in tedious labors with a somewhat exhausted patient, he was in the habit of giving a good dose of morphin. It secured sleep and rest for the patient, after which the pains became stronger and most effectual. DR. W. N. MERCUR was in the habit of using chloral with benefit in such cases and had never observed any bad results.

DR. E. E. MAYER reported a case with **unusual nervous symptoms simulating hysteria prior to an attack of typhoid fever.**

DR. E. B. HECKEL reported a case of **monocular diplopia with intense nervous symptoms 10 days before the onset of typhoid fever.**

At a meeting held December 18, DR. LITCHFIELD, in referring to a case of **dystocia,** spoke of a very extensive dry,

scaly eczema which had resisted treatment during entire pregnancy. Three days after delivery it had completely disappeared. DR. MCCREARY read a short paper upon an **anomalous condition of the intestine** found in an infant. He had delivered a primipara of an apparently healthy child with forceps. Five minutes after birth the child began to vomit a dark greenish fluid. Emesis continued, in spi e of various modes of treatment, for 8 days, when the child was in a dying condition. At the solicitation of the parents the abdomen was opened, the child dying during the procedure, as expected. The **intestinal canal was found to end in a blind pouch several feet from the stomach,** no trace of intestine being found along the mesentery for 5 or 6 inches. The intestine began in a similar pouch at another point, and was patulous to the anus. It was impossible to make out the relative position of the defect, owing to the wholly anomalous condition of the entire intestinal tract. The specimen was presented for inspection. DR. LITCHFIELD read a paper entitled **Some brief personal observations on the diagnosis and treatment of chronic nephritis.** He had collected 33 cases from his case records with a mortality of 6 in 10 years, showing that the condition is not incompatible with an indefinite prolongation of life and that often in a very comfortable state of health. Impaired renal excretion may give rise to a variety of symptoms and unless a careful examination of the urine is made in all cases a proper diagnosis will not be made. A case was cited in which an anemia secondary to a chronic nephritis was being treated as an essential anemia to the detriment of the patient. The amount of urine passed in 24 hours, the specific gravity and the amount of urea excreted is often sufficient to raise a strong suspicion of chronic nephritis, when careful examination fails to reveal either albumin or casts or both. There is no specific treatment, but a rational care of the general health will be satisfactorily rewarded. This includes diet, clothing, climate (giving attention to altitude, winds, fogs, etc.), the avoidance of vitiated air and mental worry, exercise (avoiding fatigue), out-door life, mechanotherapy, etc. The amount of water taken, digestion and assimilation are important matters. The tendency to anemia should be combated with iron, strychnin, arsenic, and sometimes quinin. The iodids had been used but abandoned on account of producing irritation of the kidneys The use of mercury in small doses if beneficial is due to its general tonic effects. Each case must be conducted in a rational manner, using the results of the examination of the urine as a basis. Neuralgias are common, but the use of the coal-tar derivatives should be avoided as producing pernicious effects. The use of red meat, as suggested by the late Dr. Pepper, must not be prohibited in all cases, as at times it seems to be of marked benefit. After citing a number of illustrative cases from his practice he concluded that chronic nephritis is not as fatal a disease as it is commonly supposed to be, when properly treated; that climatic and hygienic treatment is of the greatest value; that low altitudes are to be preferred; that alcoholic stimulants are decidedly injurious; that none of the drugs employed have any specific action; that treatment is usually discontinued too early, and that if any probable cause is discovered it should be eliminated if possible. Dr. Forestier, of Aix-les Baines, France, spoke of the benefits and described the method of continued massage and douching with the waters of this spa—commonly known as the Aix treatment. It is indicated in gout, rheumatism and allied disorders. Garrod, in the *Lancet* of March 4, 1889, says the value of Aix treatment far exceeds that of any known spa.

NEW YORK.

The Babies' Hospital has commemorated its eleventh anniversary with appropriate ceremonies. During the past year 394 patients have been treated, and the death-rate has been lower than in any previous year. The hospital has at present 30 beds, but negotiations are now in progress to secure additional accommodations.

Another Ambulance Wreck.—For the third time in the course of a few weeks, the St. Vincent's Hospital ambulance has been in collision with an electric car. This time the ambulance was going slowly on a transfer call, and contained two women patients. They were not injured, but the surgeon, Dr. W. D. Farrell, was badly cut about the face.

Hospital Saturday and Sunday Collection.—The association having this matter in charge is jubilant over the prospect that the amount received this year will eclipse all previous efforts. The members of the Woman's Auxiliary are straining every nerve also to have a record breaker, and they have fixed the sum of $10,000 as the goal for which they must strive.

The sixteenth annual meeting of the fifth district branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 22, 1900. It is proposed to choose Diabetes as the topic for discussion. Fellows who are particularly interested in this topic and have any clinical data to present or theories to offer will kindly correspond with the president, Dr. J. C. Bierwirth.

A New Cigaret Bill.—A bill has been introduced into the Legislature having for its object the regulation of the sale of cigarets and insuring freedom from hurtful adulteration. According to the provisions of this measure no cigarets shall be sold to persons under 18 years of age, the penalty being a fine of $50 or imprisonment for 60 days. Dealers must obtain a tax certificate, signed by five reputable citizens of the vicinity, and duly attested by the proper authorities. The fee is $50, and the dealer must take oath that the cigarets to be sold contain no injurious drugs or narcotics.

State Prisons in Wretched Condition.—A special committee of the State Prison Association has presented to Governor Roosevelt a report in which attention is called to the filthy and generally unsanitary state of the prisons at Sing Sing, Auburn, and Dannemora, and the need for better discipline and classification of the convicts. Sing Sing is said to be specially bad, and its buildings so foul and badly constructed as to require entirely new edifices before a thorough reform could be inaugurated. The committee also points out that the present law regulating prison labor results in enforced idleness for about two-thirds of the inmates, and that this tends to insanity and bad habits of life.

New York Academy of Medicine.—Surgical Section.—At the meeting held January 8, DR. WILLIAM B. COLEY presented **A cure of a recurrent spindle-celled sarcoma by mixed toxins treatment.** The man had first noticed a tumor of the parotid region in 1896, and in the course of the next six months two operations had been done. In spite of this there had been rapid recurrence, and extension to the submaxillary glands and other parts. In August of 1897 Dr. Coley had begun the treatment with the mixed toxins of erysipelas and the Bacillus prodigiosus, and had pushed the remedy vigorously for ten weeks. At the end of this time the neoplasm had disappeared. There had been no recurrence.

DR. COLEY also presented a case of **Double resection of cecum and small intestine for carcinoma.** The patient, a physician, had improved greatly since the operation, and there had been no evidence of recurrence in the 7½ months which had elapsed since the operation.

DR. J. A. WYETH, in the discussion, instanced a case in which fifteen years ago he had cured a sarcoma by injections of arsenious acid as an example of how such cases were sometimes amenable to the effect of an acute inflammatory process irrespective of the mixed toxins.

DR. J. M. T. FINNEY, of Baltimore, read a paper on the **Treatment of aortic aneurysms.** He stated that at the Johns Hopkins Hospital they had not found the gelatin

injections very useful. He then described minutely the technic of the wiring method, and spoke of the encouraging results obtained.

A Far-reaching Decision of the Court of Appeals.—A legal war has been in progress this winter at Albany, the combatants on the one side being the State Board of Charities, as represented by the Attorney-General, and on the other, Gerry's Society for the Prevention of Cruelty to Children, and its counsel, David B. Hill. The action was brought on the application of the State Board for a mandamus compelling the Gerry Society to permit the Board to inspect its books and methods, as required by law of all charitable institutions in the State. Mr. Gerry insisted that his society had a semi-police function only, and that it was not a charitable institution. The decision of the Court of Appeals, which was handed down on January 9, by Judge J. O'Brien, is the outcome of this action, and it was rendered by a vote of 4 to 3. The Court takes the ground that the State Board of Charities was empowered to deal with charitable institutions only in a limited and restricted sense, and not in the broad sense in which the word "charitable" is often employed in speaking of measures tending to promote morality, peace, cleanliness, and the general welfare of mankind. State supervision applies only to such societies as dispense charity, as such, by public pecuniary relief, governmental charity being based on public taxation. The opinion goes on to say, that the Legislature had provided that the particular society in question should be subject to visitation by the Supreme Court, thereby excluding the State Board of Charities. This last statement is remarkable, because the Supreme Court has the right to appoint visitors to all incorporated institutions and societies, whether charitable or otherwise, and such a construction of the law would practically deprive the Board of Charities of all its supervisionary powers. The Constitution declares that the State Board of Charities shall visit and inspect all institutions, whether State, county, municipal, incorporated or not incorporated, which are of a charitable eleemosynary, correctional, or reformatory character, excepting those placed under the Prison and Lunacy Commissions, and hence it is not surprising that three of the learned judges of the Court presented a minority report and a dissenting opinion. That they feel keenly their position is shown by their significant reference to the difficulties of the case and the entanglements growing out of "questions of policy and personal friendship." It may be remarked in passing that David B. Hill, counsel for Gerry's Society, is known to be a personal friend of all the judges presenting the majority report. If this decision is allowed to stand there is no longer any power in the State that can go into charitable institutions and see that the inmates, perhaps helpless orphans, are properly cared for. The decision, instead of involving only the 19 other institutions in the State like Mr. Gerry's Society, makes itself felt in several hundred institutions—hospitals, homes for the aged, orphan asylums, dispensaries, etc.—by placing them beyond the pale of State inspection. It is no longer the question of control by the State Board of Charities, but of the right of inspection. Very few of these institutions have objected to State supervision, and this gratuitous and most unfortunate interference with the whole system of State charities should be resented. So startling is the contemplation of the possible results of this opinion that it has already been suggested, in extenuation, that the judges did not themselves appreciate the scope of their action. Those who voted to sustain the society in its contention, that it is not under the jurisdiction of the State Board of Charities, are Chief Judge Parker and Judges Bartlett, Gray, and O'Brien, while those who dissented from this view are Judges Martin, Vann, and Haight. It is reassuring to learn that the Attorney-General will move for a reargument of the case.

NEW ENGLAND.

A course of lectures on the Evolution of Sex is being given before the Twentieth Century Club by Professor Patrick Geddes, of Edinburgh.

The will of Edward Austin, who left $500,000 to Harvard for scholarships, assigns $4,000 for the support of teachers engaged in medical investigations.

The late Daniel S. Ford, owner and publisher of the *Youth's Companion*, bequeathed $6,000 to the Massachusetts General Hospital, $6,000 to the Boston City Hospital, and $5,000 to the Boston Children's Hospital.

Another Religious Journal free from Nostrum Advertisements.—A correspondent writes: Noting the interest of yourself and correspondents in the (lay) religious papers which do not print quack advertisements, allow me to call your attention to the *Christian Register*, of Boston, in the last number of which there are no medicines at all advertised.

A new hospital for Jamaica Plain, now a part of Boston, is provided for by the will of Abby L. A. Faulker, wife of Dr. George Faulkner, who has a life interest in the estate. The probable size of the estate is not given, but it is a large one. Charles P. Bowditch and Alfred are designated as trustees, and they are to select three other persons, two of them women.

Thurber Medical Association, Milford, Mass.—At a meeting held January 4, a paper, written by Herbert Parker, Esq., of Worcester, ex-district attorney for Worcester County, on **Some points in medical jurisprudence,** was read by Dr. William L. Johnson, of Uxbridge. The paper consisted mainly of a report of certain medicolegal cases, involving the crimes of rape and abortion.

Health of Harvard University.—The statistics of illness of Harvard University for the year just closed show a total of 2,702 cases, of which 1,153 were due to colds, 123 to headache, and 1,217 were included under the head of miscellaneous. There were 5 cases of typhoid and 48 of measles. There were 93 instances of injury in athletic contests, but only 7 of overwork in the class-room.

The danger of overtraining was discussed at a recent meeting of the Society of College Gymnasium directors held in New Haven. Among the speakers were Dr. D. A. Sargeant, of Harvard, Dr. Edward Hitchcock, of Amherst, and Dr. W. G. Anderson, of Yale. Dr. Anderson favored a plan, which will soon be put into effect at Yale, to prevent students entering athletic contests when in an unfit condition. He recommended a careful medical examination of athletes while in training, and just before the contest was about to begin, and a cooperation between the trainers and the doctors.

The Boston Society for Medical Improvement.—At the annual meeting held January 8, the following officers were elected: President, Dr. E. H. Bradford; secretary and treasurer, Dr. A. K. Stone; prudential committee, Dr. George B. Shattuck, Dr. James G. Mumford, Dr. Herbert L. Burrell.

The topic of the evening was "Intestinal Perforation in Typhoid Fever." Dr. George B. Shattuck presented the subject in a paper embodying reports on 26 cases of perforation, which were of special value because they had all occurred either at the Massachusetts General Hospital or the Boston City Hospital, and had all come under the observation and treatment of well-known medical and surgical practitioners.

Bequest for the Study of Cancer.—Mrs. Caroline Brewer Crofts has bequeathed $100,000 to Harvard University to be used in the investigation of cancer. Mrs. Croft was a Boston woman who died abroad two years ago. She became interested in cancer through the death of a relative by that disease. The primary purpose of the gift is to aid in the discovery to the origin of cancer. The work is being organized under the supervision of the surgical department of the Harvard Medical School. Dr. Henry K. Oliver and Dr. J. Collins Warren are designated in the will to have general supervision of the work. The principal appointee will be Dr. E. H. Nicols, of the Harvard Medical School, who will go to Europe next month for the purpose of studying the methods there. It is also proposed to start a series of cultures of germs having any real or suspected connection with cancer. In this work the Massachusetts General and Boston City hospitals will cooperate with the Harvard Medical School.

Two Brigham Hospitals in Boston.—The wills of two Brighams, uncle and nephew, each provides for the immediate construction of hospitals to bear the names of their generous donors. The bequests amount in each case to about $3,000,000. Peter B. Brigham, the uncle, died 23 years ago at the age of 70, and left an estate then valued at $1,000,000 to be held in trust for 25 years and then used with its accumulations to found a hospital. The estate when turned over to the executors two years hence will amount to $3,000,000. Robert B. Brigham, the nephew, died a few days ago and left an estate worth about $5,000,000. After providing annuities of $1,000 for nearly all the hospitals and other charities in Boston, and a special bequest of $6,000 to the Massachusetts General, Boston City, and Boston Children's Hospitals, Robert Brigham leaves the residue of his estate, fully $3,000,000, to found the "Robert B. Brigham Hospital for Incurables." This hospital, by the provisions of the will, provides for "the care and support and medical and surgical treatment of those citizens of Boston" who are indigent and unable to obtain a livelihood "by reason of chronic or incurable disease or permanent physical disabilities." The will of Peter Brigham for "founding a hospital in Boston to be called the Brigham Hospital, for the care of sick persons in indigent circumstances residing in the county of Suffolk." In a word, one will provides for a general hospital, the other for a home for incurables. There is a marked similarity in the careers of the two men who have provided for these two magnificent Boston charities. Both were born in Bakersfield, Vt.; both made their fortunes as restaurant keepers, supplemented by fortunate real estate investments in the heart of Boston; neither left any issue; each left $3,000,000 to found a Brigham hospital; one died at 70, the other at 73.

Suffolk District Medical Society—Section on Obstetrics and Gynecology.—At a meeting held December 27, there was a discussion on the **conservative operative treatment of the uterine fibroids.** DR. W. L. BURRAGE, of Boston, read a paper, in which he reported 3 cases, first, **abdominal myomectomy,** removal of 11 subperitoneal nodules and the right ovary, weighing together 1½ pounds; second, **vaginal myomectomy,** removal of fibroid nodule 3 cm. by 1.5 cm. of subperitoneal evolution from the front wall of the uterus by anterior colpotomy; and the third, **morcellation of submucous nodule at fundus, and polyp with pedicle springing from fundus.** These cases illustrated the different sorts of operations which had fallen under his observation, leaving out of account splitting of the uterus to get at large nodules of intramural evolution and the morcellation of large fibroid nodules of submucous evolution, which were to be considered by the preceding and by the following papers. In contrasting myomectemy with hysterectomy, Burrage took strong ground in favor of myomectomy in young women. During the menstruating life of woman the uterus should be removed only when it is the seat of an ineradicable disease. Fibroid tumors should not be so classed unless they distort the uterus excessively or invade its tissues to such an extent that the uterine cavity cannot be preserved while at the same time the tumor is taken away. At or after the menopause hysterectomy is the preferable operation, as the uterus is of little use in the economy subsequently.

DR. RUFUS A. KINGMAN reported two cases. The first was that of a young lady blanched by prolonged and profuse menorrhagia. The cervix was dilated with laminaria tents, and digital examination revealed a small fibroid in the fundus, causing merely a slight convexity. Dr. Burrage's morcellation forceps made removal easy inside of five minutes. Rapid recovery without shock and complete restoration to health. The second case was one of **intramural fibroid** extending to umbilicus, with uniform distention of uterus. Removal by abdominal myomectomy. Enucleation was rapid, but was followed by profuse hemorrhage, which was controled by elastic tourniquet, while cavity was closed from top to bottom by catgut layer sutures. An opening into the uterine cavity the size of a half dollar was closed by mattress sutures. Both ovaries were cystic and were resected. Four months later the uterus was nearly normal in size and position, there was no pain or tenderness in any part of the pelvis and menstruation was regular, normal in amount and painless. A plea was made for more frequent digital exploration of the uterus, using tupelo or laminaria tents if necessary. If this were done, many cases of submucous and intramural fibroids would be removed by morcellation, thus sparing the uterus and preserving functional integrity.

DR. GEO. N. WASHBURN reported the case of a young woman of 26 years. Two years ago began to have frequent menstruation, and a little over a year ago she had her first hemorrhage. She was cureted by some one at that time and then went six months without any flow. In January, 1899, there was renewed hemorrhage. When first seen, in March, 1899, was blanched from loss of blood. An abdominal tumor rose nearly to umbilicus. It filled the uterus with the exception of a small canal, too small to admit finger, running up behind. Cervix dilated. After about three weeks' general tonic treatment to renew strength, the operation was performed. Abdomen opened after usual antiseptic preparation. Fundus of uterus seen on top of rounded mass (like a small hat on a large head). Uterus cut down to capsule of tumor which was then shelled out. Uterine and cervical canals opened in process. These sewed up with chromicized catgut and the uterus closed with double layer of sutures. Patient made good recovery and has been well ever since, as she reported early in December.

CHICAGO AND WESTERN STATES.

Illinois State Board of Health Favors the Establishment of a State Sanatorium.—At a meeting held January 10, the State Board of Health unanimously recommended the establishment in Illinois of a State sanatorium for consumptives.

The Milwaukee (Wis.) Medical Society.—At a recent meeting the following officers were elected: President, Dr. H. A. Sifton; first vice-president, Dr. J. A. Kahn; second vice-president, Dr. A. J. Burgess; secretary, Dr. J. S. McGovern; treasurer, Dr. U. O. B. Wingate; curator, Dr. A. J. Patak; librarian, Dr. L. Frank.

Smallpox in Illinois.—There have been reported to the State Board of Health during the past quarter over 500 cases of smallpox, the disease occurring in 17 counties. There were 5 deaths from the disease in Alexander, Lee and Williamson Counties.

Osteopaths to Fight.—The osteopaths of Illinois will make an effort to test the medical practice act passed by the last Legislature, because at the instance of the State Board of Health it is said that three arrests have been made, and the parties so arrested promise to bring suit for false imprisonment.

Medical Inspection of Chicago Schools a Success.—Reports for the first day's work of the medical inspectors of the Chicago public schools revealed more than a score of children suffering from scarlet fever in the desquamative period. These children were sent home, and to remain there until danger of contagion has passed. This revelation shows that the appointment of the inspectors was justified.

Chicago Ophthalmological and Otological Society.—At a meeting, held January 9, Dr. C. D. Westcott was elected president, Dr. Casey A. Wood, vice-president, and Dr. C. P. Pinckard, secretary-treasurer. The membership committee consists of Drs. Wilder, Ware, and Coleman. Dr. William E. Gamble showed a case of interstitial keratitis, and Dr. Oscar Dodd one of quinin amblyopia. Dr. J. E. Colburn reported a case of methyl-alcohol poisoning.

Sand Filtration.—The committee appointed by the State Board of Health to investigate the water-supplies and sewage system of cities on Lake Michigan, north of Evanston, in its report recommended that the cities adopt slow sand-filtration as a means of purifying their water-supply which is known to be polluted. The report was accompanied by an analysis of the water of Lake Michigan at Highland Park, made by Professor J. H. Long, which showed the water to be polluted.

Abolition of the State Board of Health.—It is said that the homeopaths and eclectics of Illinois are organizing to fight the medical practice act, passed by the State Legislature last year, making the State Board of Health a Medical Examining Board. Their aim is to have this act repealed during the coming session of the State Legislature, and to abolish the State Board in its present form, substituting for it a Board of Sanitation, whose members shall be chosen as are other State officials.

Chicago Pathological Society.—At a recent meeting DR. J. HOLLINGER read a paper on the **Pathology of bony fixation of the stirrup in the oval window,** in which he drew the following conclusions: (1) The fixation of the stirrup is due to abnormal growths of spongy bone in the bony capsule of the labyrinth. (2) This growth has its primary seat in the surroundings of the oval window. It may spread over other parts of the labyrinth by continuity. (3) Besides a simple enlargement of the foci, independent, circumscribed foci may be found in other parts of the labyrinth. (4) The spongy bone outgrows the normal labyrinth, forming osteophytes in the middle ear, the vestibulum, into the oval window and its niche. (5) The stirrup thus becomes fixed or even luxated, being pushed away from its normal position, and becomes ankylosed in an abnormal position. (6) Microscopically the bone corpuscles are large and clumsy. The perivascular and perineutral spaces are filled with bone. In the open spaces of the spongy tissue connective tissue is found.

Chicago Medical Society.—At a meeting held January 10, DR. D. N. EISENDRATH reported three cases. The first case was one of **congenital nevus or venous angioma,** involving all of the fingers of the right hand of a child 5 years of age. The next case was one of **gangrene of the foot** following upon a Schede operation for the relief of varicose veins combined with ligation of the internal saphenous vein. The patient was 43 years old, moderate drinker, with no history of venereal disease, but well advanced arteriosclerosis. The urine was free from albumin or sugar in a number of examinations. In December, 1898, the Schede operation was performed in one of the hospitals of the city, combined with ligation of the internal saphenous vein. Shortly afterwards patient began to have severe pain in the second toe, which became black and lifeless about four months after operation, necessitating removal of the same. The wound never healed up, and in May, 1899, the third toe had become dark bluish-red in color, and the former amputation surface black. There was also a black irregularly-shaped patch extending upward on the dorsum of the foot about 3 inches and about 1 inch wide. Palliative treatment being of no avail, it was necessary to perform a Pirogoff amputation in June, 1899. The patient presented himself to Dr. Eisendrath about two weeks ago. The amputation stump at this time was dark bluish in color and there was an ulceration at the apex of the stump, so that it looked at first as though an amputation higher up would be necessary. The limb was edematous below the level of the Schede operation. There were no traces of any varicose veins. There had never been any ulceration. The patient was not shown to throw discredit upon an operation which has given most excellent results in the majority of cases, but simply to call attention to the fact that it may be at times followed by complete venous stasis and gangrene, and that the operation is not to be advised when there is much arteriosclerosis or when the return circulation will be at all impeded. The third case was one of a patient who had been operated upon 1½ years ago on account of a unilateral **surgical kidney or pyelonephritis,** with excellent recovery. The other kidney had remained apparently normal, the urine was clear, the patient had been treated with antitoxin for diphtheria since that time, and had also undergone an operation for cystic ovary. The case was chiefly instructive on account of the fact that the general teaching is that the condition known as surgical kidney is most frequently bilateral, and such cases as the above show that nephrectomy for such conditions offers a good prognosis.

DR. A. C. KLEBS presented a patient with **exophthalmic goiter with tracheal stenosis and recurrent paralysis.** The patient was a young man, 22 years of age, in whom, of the three cardinal symptoms of Graves' disease, only the struma was well-defined. Pulse ranged from 92 to 102. Exophthalmus was not very marked. The signs of Stellwag, Graefe and Moebius were absent. There was a slight tremor of the hands, and inclination to prespiration, palpitation, nervous irritability and headaches. The struma was rather hard and pressed on the trachea, which was bulged in; there was paralysis of the left posticus, hence difficulty in respiration (stridor) and phonation. There was no distinct improvement after 5 weeks' rest. Iodids and faradism have been resorted to without much benefit. The author believes that partial extirpation of the struma is indicated.

DR. JACOB FRANK reported a case of **gunshot wound of the abdomen.** The patient was Mrs. A., mulatto, aged 23 years. She was accidentally shot with a 38-caliber revolver, and was brought to the hospital 4½ hours later. The bullet entered the abdomen in the left hypochondriac region, 2 inches below the last rib on the left axillary line. No wound of exit was found. She complained of slight pain, which was referred immediately back of the point of entrance of the ball in the region of the kidney and about the uterus. Examination showed that the bullet, after penetrating the walls of the abdomen, and perforating the walls of the small intestines, besides bruising two or three other portions, as was shown by a marked ecchymosis, had dropped in the culdesac of Douglas, whence it was extracted. A small bleeding point was found a short distance away. It was found impossible to repair the perforating wound with sutures in the gut. Resection was, therefore, made, and a 1⅛-inch Frank's coupler introduced, and the anastomosis completed in the usual way. The bruised portions were closed with Lembert sutures. A

auze-drain was introduced into the bullet-wound incision. t the upper end of the laparotomy-incision, a gauze-drain as inserted, and at the lower end a modified Mikulicz-drain as introduced into the culdesac, and removed after 36 hours.

SOUTHERN STATES.

Woman's Medical College of Baltimore, Md.—r. S. Griffith Davis, who has been for some years assistant rgeon in the Maryland Fifth Regiment, has been elected djunct professor of operative surgery.

Mr. B. F. Newcomber, a philanthropic citizen of Balmore, who a few months ago gave the Maryland Hospital for onsumptives a donation of $10,000, has offered to give them n additional $10,000 for the work of the hospital, provided similar amount is raised by the hospital management.

Maryland State Board of Health.—Dr. William H. Velch, of the Johns Hopkins University, has been elected resident of the State Board of Health to succeed Dr. S. C. e Kraft, who is a surgeon in the army in the Philippines. r. John Morris, Dr. C. Hampson Jones and Mr. J. D. Noel Vyatt have been elected members of the executive comittee.

Medical Society of the District of Columbia.—At ie meeting held January 3, the following officers were lected for the ensuing year: President, Dr. G. N. Acker; ice-presidents, Dr. S. S. Adams and Dr. W. C. Woodward; rresponding secretary, Dr. T. C. Smith; recording secreıry, F. P. Morgan; librarian, Dr. E. L. Morgan; treasurer, r. C. W. Franzoni.

At the last meeting, January 10, the society listened to a aper read by DR. JACOBI, of New York, on **Antifebriles.** r. Jacobi dealt in detail with all the antifebriles in common sage, and gave favorable results from his experience with ie silver-salts applied to the skin, after the Credé method iodified. He urged the more frequent use of antifebriles in ery high fevers of limited duration, such as pneumonia, and ie occasional use in protracted high fevers, such as typhoid. e advised very large doses of alcohol in the high fevers of inctious disease, and recommended a combination of antiyrin and quinin as, perhaps, the most safe and efficient ntipyretic for general use, and denounced in strong terms ie employment of acetanilid under any circumstances. fter Dr. Jacobi's paper the society adjourned to Dr. cker's new and recently completed residence where he ad prepared an elegant reception in Dr. Jacobi's honor.

The Johns Hopkins Hospital Medical Society held s first meeting of the year Monday, January 8. DR. CUSHG exhibited a number of surgical cases: (1) **Fracture of he skull.** A small boy falling from a height of three ories struck on his head and sustained a bad comminuted acture of the vertex of the skull, the lines of fracture runing around into the base of the skull, but not involving the iddle fossa. There was extensive subconjunctival hemorıage with partial oculomotor paralysis, but no involvement the seventh or eighth nerves. He remained in an unconious condition for three weeks, but his throat reflexes were ood and he would swallow food placed in his mouth. An ıcision was made right across the head, just like the ordiary necropsy incision and revealed a lesion of the longitunal sinus, with considerable laceration of the brain on one de. Two specially loose fragments were removed, the hers put in place as well as possible and the boy made a od recovery. (2) **Ablation of the upper exemity for sarcoma of the humerus and axilla, ith removal of the breast at the same time.** he operation was performed for the relief of pain, and the se illustrated very well the effect produced upon the pulsete when a large nerve is divided. The nerves were bound p in the tumor-mass, but under the operation the patient as doing very well until the axillary plexus was divided, hen there was an immediate condition of shock, which for a time seriously complicated the operation and the patient remained in a critical condition for 24 hours. It has been shown by experiments upon animals that if the nerve-trunk be cocainized before dividing it there is no effect produced upon the pulse-rate when the nerve is injured. Cocainizing the nerves shuts off all afferent and efferent impulses. This was illustrated by Case 3, an **amputation of the whole upper extremity,** where the brachial plexus was cocainized before the division. (4) **Removal of the Gasserian ganglion** for the cure of a very bad trifacial neuralgia. The patient seemed completely cured and the scar was barely visible, but the eye of the same side was anesthetic and the patient wore a protective pad over it.

DR. FUTCHER demonstrated some medical cases: (1) **Thrombosis of the peripheral veins in a case of pulmonary tuberculosis.** The patient, a man of 55, was admitted in October, with well-marked signs of pulmonary tuberculosis, and after a few days complained of sudden and severe pain in the region of Scarpa's triangle on the right side. The leg soon became swollen, and the superficial veins distinctly dilated. The swelling gradually diminished, and at present there is very slight thickeniug to be made out along the course of the femoral vein. Dr. Futcher called attention to a case previously discussed before the society by Dr. Welch of **thrombosis of the upper extremity associated with heart-disease.** The patient had had a mitral stenosis and cardiac hypertrophy, and developed swelling over the left side of the neck and down the back of the arm and forearm. There was marked tenderness over the sternocleido muscle and along the course of the external jugular. The swelling and pain became quite severe, but there was no special elevation of temperature during the attack. The thrombosis seemed to involve the external jugular, subclavian and axillary veins. It was pointed out that thrombosis of the peripheral veins in cardiac disease is more common in the upper than in the lower extremities, and the left side seems to be more frequently involved than the right. The third case reported was one of **thrombosis of the axillary and brachial veins occurring in the course of a malarial nephritis.** It has been claimed by French observers that malaria has at times caused a thrombosis of the peripheral veins, but Dr. Welch was inclined to believe there was really no relationship, and thought it difficult to say whether or not the nephritis was a factor in producing the thrombosis.

DR. KELLY reported a case of **renal calculus,** with special reference to diagnosis and operation. The patient was sent to the hospital with the diagnosis ef suspected tuberculous kidney. No evidence of tuberculosis could be found after the most careful examination, including inoculation of guineapigs. Then a fine renal catheter, tipped with wax was passed into the left kidney, every precaution being taken to prevent touching the speculum. Twelve cc. of fluid was then injected into the kidney and at once produced an attack of renal colic, such as the patient had been suffering from. Dr. Kelly stated that it is interesting to note in all these cases the manner in which the patients locate the point of pain when the artificial colic is brought on. The catheter was withdrawn and with a magnifying glass the waxed end of the catheter showed a number of scratches. The diagnosis of calculus was positive and an operation was performed for its removal. It was extremely small, but just of the right size and nature to block the orifice of the ureter. The operation was performed in the following manner: An incision was made laterally, 2 or 3 inches in front of the quadratus and down to the brim of the pelvis. The renal space posterior to the peritoneum was opened without placing a ligature on any vessel and without using the knife on any muscular tissue, by just pulling the muscles apart. By this means you gain sufficient room to operate in and as soon as you let go the opening the muscles drop together and you secure an entirely natural abdominal wall easily closed by 2 or 3 tiers of catgut sutures. Dr. Kelly stated that the operation was the revival of a very old one, which seemed to have been overlooked in recent years.

MISCELLANY.

Obituary.—DR. L. J. FORNEY, Cherokee, Kansas, committed suicide in his office, January 10.—DR. C. A. SIEGFRIED, medical inspector, U. S. A., in charge of Coaster's Harbor

Hospital, January 14, aged 50 years.—DR. ELIZABETH J. FRENCH, Boston, Mass., January 11, aged 78 years.—DR. J. C. MULHALL, of St. Louis, Mo., committed suicide, January 10, aged 49 years.—DR. WILLIAM A. CANTRELL, Philadelphia, January 11, aged 58 years.—DR. THOMAS HARE FRANKLIN, Rosemont, Pa., January 9.—DR. I. LEO MINGLE, Reading, Pa., January 10.—DR. THOMAS HOLMES, Brooklyn, N. Y., January 8, aged 60 years.—DR. JOHN H. COKER, New Orleans, La., January 3, aged 54 year.—DR. CHARLES L. SULLIVAN, Gadsden, Tenn., December 31.—Dr. WASHINGTON L. ATLEE, Philadelphia, January 15, aged 57 years.—DR. S. P. BARTLESON, Media, Pa., January 16, aged 69.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 12, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
GEORGIA:	Brunswick	Dec. 28–Jan. 4	6	
ILLINOIS:	Cairo	Dec. 30–Jan. 6	17	1
INDIANA:	Evansville	Dec. 22–Jan. 6	8	
LOUISIANA:	New Orleans	Dec. 28–Jan. 6	19	1
MASSACHUSETTS:	Boston	Sept. 3–Dec. 29	37	4
NEBRASKA:	Omaha	Dec. 28–Jan. 6	3	
N. CAROLINA:	Charlotte	Dec. 1–31	2	
OHIO:	Cincinnati	Dec. 28–Jan. 6	3	
"	Hamilton	Dec. 28–Jan. 6	1	
"	Youngstown	Dec. 28–Jan. 6	1	
OKLAHOMA:	Shawnee	Dec. 27	12	
"	Oklahoma City	Dec. 27	14	
"	Yukon	Dec. 27	4	
PENNSYLVANIA:	Pittsburg	Dec. 28–Jan. 6	1	
UTAH:	Salt Lake City	Dec. 22–Jan. 6	10	
VIRGINIA:	Portsmouth	Dec. 22–Jan. 6	4	4

SMALLPOX—FOREIGN.

AUSTRIA:	Budapest	Dec. 17–24	1	
BELGIUM:	Antwerp	Dec. 8–16	4	4
BOHEMIA:	Prague	Dec. 8–23	42	
BRAZIL:	Rio de Janeiro	Nov. 20–Dec. 1	133	94
EGYPT:	Cairo	Nov. 18–Dec. 2		2
ENGLAND:	London	Dec. 8–16		1
GREECE:	Athens	Dec. 8–16	5	1
INDIA:	Bombay	Nov. 26–Dec. 5		25
MEXICO:	Chihuahua	Dec. 23–30		13
"	Vera Cruz	Dec. 21–28		1
RUSSIA:	Moscow	Dec. 2–16	9	1
"	Odessa	Dec. 16–23	6	2
"	St. Petersburg	Dec. 2–16	31	5
"	Warsaw	Nov. 30–Dec. 6		2
SPAIN:	Corunna	Dec. 8–23	3	1
"	Madrid	Dec. 8–16		3
STRAITS SETTLEMENTS:	Singapore	Nov. 4–18		4
TURKEY:	Constantinople	Dec. 18–25		1
"	Smyrna	Dec. 10–17	2	

YELLOW FEVER—FOREIGN.

BRAZIL:	Rio de Janeiro	Nov. 17–Dec. 1		10
CUBA:	Havana	Dec. 22–30	18	3

CHOLERA.

BRAZIL:	Rio de Janeiro	Nov. 17–Dec. 1		10
CUBA:	Havana	Dec. 22–30	18	3

PLAGUE—UNITED STATES.

HAWAII:	Honolulu	Dec. 25	3	2

PLAGUE—FOREIGN.

BRAZIL:	Santos	Oct. 15–Dec. 9	37	11
CHINA:	Hongkong	Nov. 18–25	12	12
INDIA:	Bombay	Nov. 28–Dec. 12		305
"	Kurrachee	Nov. 25–Dec. 9	6	4
JAPAN:	Formosa, Tamsui	Oct. 17–Nov. 28	36	6
"	Kobe	Dec. 7		1
"	Osaka and Hiogo	Nov. 25–Dec. 2	3	2
MADAGASCAR:	Tamatave	Nov. 11–Dec. 3	10	7

Changes in the Medical Corps of the U. S. Army

for the week ended January 13, 1900:

DARNALL, First Lieutenant CARL R., assistant surgeon, leave granted is extended 15 days.

MCLEAN, ALLEN D., acting assistant surgeon, is relieved from further duty in the department of the Lakes and will proceed from Fort Wayne to San Francisco, Cal., and report to the commanding general department of California, for assignment to duty.

HEFFLEFINGER, MARION L., acting assistant surgeon, will proceed from San Francisco, Cal., to Huntsville, Ala., for annulment of his contract.

THOMAS, JOHN W., acting assistant surgeon, is relieved from temporary duty at Fort McPherson and will proceed to Washington, D. C., for annulment of his contract.

KIDD, WILLIAM S., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for duty.

SEALE, ROBERT A., acting assistant surgeon, will proceed from Holly Springs, Miss., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

SMITH, BAT, acting assistant surgeon, leave granted is extended one month. January 3.

MEISEL, JOSEPH, hospital steward, so much of S. O. 300, December 27, this office, as directs him to be sent to Manila, P. I., is revoked. Steward Meisel will be directed to report at the Presidio, for duty in the post hospital to relieve Gustav Knapp, hospital steward.

GUSTAV KNAPP, hospital steward, is directed by the Assistant Secretary of War to be sent to Manila, P. I., for assignment to duty.

SHEWENKENBERG, JOHN, hospital steward, Jackson Barracks, will be sent to Fort Sam Houston, for assignment to duty.

TEMPLE, HARRY P., hospital steward, Fort Niagara, will be sent to Jefferson Barracks to accompany a detachment of the hospital corps to Angel Island, Cal. He will report to the commanding general, department of California, who will furnish him transportation to Manila, P. I., for assignment to duty.

MORRIS, Major EDWARD R., surgeon, U. S. volunteers (Captain and Assistant Surgeon U. S. Army), is honorably discharged from the volunteer service, upon tender of his resignation, to take effect from December 31.

THOMPSON, LOUIS A., acting assistant surgeon, now at the U. S. General Hospital, Presidio, will proceed to Seattle, Wash., and report on the transport "Port Albert" for duty during the voyage of that vessel to the Philippine Islands.

HAMLIN, WILLIAM F., acting assistant surgeon, will proceed from Rowell Barracks, Cuba, to New York City, reporting by telegraph to the Adjutant-General of the Army for orders.

FARMER, CHARLES, acting assistant surgeon, will proceed from Placetas Barracks, Cuba, to New York City, reporting by telegraph to the Adjutant-General of the Army for orders.

MOOR, DANIEL C., acting assistant surgeon, will proceed from Caibarien Barracks, Cuba, to New York City, reporting by telegraph to the Adjutant-General of the Army for orders.

REYNOLDS, Captain FREDERICK P., assistant surgeon, orders are amended so as to direct him to proceed to Fort Slocum for duty, and to accompany recruits on the U. S. transport "Sumner" to Manila, P. I.

MCANDREW, PATRICK H., acting assistant surgeon, is relieved from duty in the department of Puerto Rico, and at the expiration of his present leave will proceeed from Scranton, Pa., to Fort Slocum, for duty with recruits to sail on the U. S. transport "Sumner," for Manila, P. I., where he will report in person to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

BLACK, ALLEN J., acting assistant surgeon, will proceed from East Radford, Va., to Fort Slocum, for duty with recuits to sail on the U. S. transport "Sumner," to Manila, P. I., where he will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

GILMAN, LOUIS L., acting assistant surgeon, will proceed from Rochester, N. H., to Fort Slocum, for duty with recruits to sail on the U. S. transport "Sumner," to Manila, P. I., where he will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

STUEBER, LOUIS J., acting assistant surgeon, will proceed from Lima, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for duty.

JOHNSON, DAVID J., acting assistant surgeon, now at Fort Slocum, will proceed to Fort Warren for temporary duty to relieve Acting Assistant Surgeon John Ryan Devereux.

DEVEREUX, JOHN RYAN, acting assistant surgeon, when relieved by Acting Assistant Surgeon David J. Johnson, will proceed to Washington, D. C., and report to the Surgeon-General of the Army for annulment of his contract.

CLEARY, Lieutenant-Colonel PETER J. A., deputy surgeon-general, on the expiration of his present leave is relieved from further duty at Fort McPherson, and will proced to Vancouver Barracks, Wash., and report to the commanding officer at that post for duty as surgeon, and to the commanding general, department of the Columbia for duty as chief surgeon of that department.

WAKEMAN, Captain WILLIAM J., assistant surgeon, is relieved from duty as attending surgeon and examiner of recruits at Philadelphia, Pa., and will proceed to Fort Thomas, for duty.

MACREADY, JOHN H., acting assistant surgeon, is relieved from further duty in the division of Cuba, and at the expiration of his present leave will proceed from Cincinnati, Ohio, to San Francisco for assignment to duty at the U. S. general hospital, Presidio.

MOOR, DANIEL C., acting assistant surgeon, will proceed from New York City to Toledo, Ohio, and report by letter to the Surgeon-General of the Army for annulment of his contract.

PATTISON, FRED L., hospital steward, is discharged from the service of the United States.

ISON, Major RICHARD W., surgeon, is granted leave of absence for one month, to take effect after his relief from duty at Chicago, Ill.
FIELD, WILLIAM F., hospital steward, now on furlough at Banning, Cal., will upon expiration of the furlough granted him from Fort Yellowstone, report at Fort Logan for duty.
BOURNE, Major HENRY S., surgeon, now on duty in New York City as medical superintendent of transports, is relieved from station at Madison Barracks.
NEY, ELMER S., acting assistant surgeon, will proceed from Winchester, N. H., to Fort Douglas for duty, to relieve Acting Assistant Surgeon Hugh L. Taylor.
LOR, HUGH L., acting assistant surgeon, will proceed to his home, Waco, Tex., and will report by letter to the Surgeon-General of the Army for annulment of his contract.

hanges in the Medical Corps of the U. S. Navy he week ended January 13, 1900:

MMER, R. W., assistant surgeon, detached from the "New Orleans" and ordered to the "Petrel" and also to the Cavite Naval Station.
BE, D. G., assistant surgeon, detached from the "Bennington" and ordered to the "Petrel."

hanges in the U. S. Marine-Hospital Service for 7 days ended January 11, 1900:

TIN, H. W., surgeon, to report at Washington, D. C., for special temporary duty. January 6.
To rejoin station at Philadelphia, Pa. January 11,
LIAMS, L. L., surgeon, granted leave of absence for ten days. January 11.
GHAN, G. T., passed assistant surgeon, detailed to represent the Service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900. January 11.
DINGS, H. D., passed assistant surgeon, detailed to represent the Service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900. January 11.
ENAU, M. J., passed assistant surgeon, detailed as delegate to the thirteenth session of the International Congress of Medicine to be held in Paris, France, August 2-9, 1900. January 10.
Detailed to represent the Service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900. January 11.
KER, H. B., assistant surgeon, granted leave of absence for 30 days. January 8.
CKS, L. D., assistant surgeon, detailed to represent the Service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900. January 11.
LINGS, W. C., assistant surgeon, detailed to represent the Service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900. January 11.
MAN, J. C., acting assistant surgeon, granted leave of absence for 4 days. January 11.

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upture of a Hydronephrotic Kidney.—J. C. ton (*Cincinnati Lancet-Clinic*, November 18, 1899). A n, 35 years of age, came under observation, complaining evere pain in the region of the left kidney, which had ed 2 days. He had been injured in this region 18 years viously by a kick from a horse. The injury did not con- him to bed, but he passed bloody urine for several days had had severe attacks of pain in the injured region sev- times since then. Examination of the urine showed a mal condition. Urine, mixed with blood, was passed 12 s later, following an attack of violent pain like that of al colic. The pain was controled by opiates, but the ent soon showed symptoms of severe shock and internal norrhage. He gradually rallied from the shock, but still tinued very ill and began to show signs of sepsis. The ne showed no evidence of blood. A tumor formed in the lumbar region, and on aspiration blood and pus were ndrawn. An incision was made and a large amount of nsive broken-down blood-clot, mixed with urine, was harged. Continuous hemorrhage followed the incision , in spite of the patient's low conditon, nephrectomy was formed, but the patient did not recover from the condi- on of severe shock and died 91 hours later. On examin- n of the kidney it was found that it had become enor- usly dilated, the condition of hydronephrosis resulting bably from the wound 17 years before, which had given to a deposit of cicatricial tissue about the upper end of ter. The organ had burst probably as the result of over- ention after an attack of acute inflammation. [M.B.T.]

Foreign News and Notes.

GREAT BRITAIN.

The oldest member of the medical profession in England, Dr. Swinson by name, who, though qualified, had never practised, *because of his delicate health*, died on New Year's day, a few weeks before completing the hundredth year of his age.

Dr. Baccelli, the distinguished Italian physician who is also Minister of Public Instruction in the Italian Cabinet, has expressed a hope that he will be present at a conference to be held some time this summer, in London, upon tropical disease.

English Medical Men and the War.—The requests from medical men to be allowed to join the army are now so numerous that the reserve list of those anxious to proceed at once to South Africa contain over 400 names. All want to go to the front.

Surgeon-General A. H. Fraser, has been appointed Honorary Physician to the Queen, in place of the late Surgeon-General Sir C. A. Gordon. He served in the Royal Army Medical Corps for 40 years, and was the first licentiate of the Faculty of Physicians and Surgeons in Glasgow to obtain a commission.

An interesting ceremony took place on Thursday, December 28, 1899, when Professor J. M. Purser, at a banquet at the Shelbourne Hotel, Dublin, was presented with a medal in commemoration of the twenty-fifth anniversary of his appointment as professor of medicine in Trinity College. The medal is to be an annual award, and will be known as the Purser Medal.

The Edinburgh Royal Infirmary is not far from being the most important hospital in the United Kingdom. It is one of the largest, is splendily managed, and ministers to the educational wants of a highly distinguished medical school. It is sad, therefore, to see that by the last report the total ordinary and extraordinary income fell short of the expenditure by £1,256 19s. 5d. The ordinary receipts amounted to £30,739 10s. 7d., and the extraordinary receipts to £68,000. Colonel Wurberton, M.D., C.S.I., has been selected superintendent, in place of the late Surgeon-Major General Lithgow, deceased.

The Medical Aspects of the South African War.—The reports from South Africa having reference to the medical aspect of the war are all such as redound credit to the Royal Army Medical Corps. The wounded have been quickly and adequately treated, and the loss among them has been very small. All the surgeons, civil and military, express their amazement at the way in which the bullet-wounds, by Mauser or Mark II bullets, heal by first attention, many cases now having been reported of men, who, although shot through joint, or through the abdomen in such places that the injury of important viscera (*e.g.*, the bladder, the stomach, and the colon) must have occurred, have recovered almost without symptoms. Up to the end of the year 1899 the total casualties have been given as: Officers, 82 killed, 258 wounded, and 98 missing; men, 886 killed, 3,266 wounded, and 2,223 missing. A large proportion of the missing may be prisoners, but some are certain to have been killed. The whole history of the war from the point of view of men lost can be summed up in a sentence—whoever attacks loses heavily. So far circumstances have compelled the English always to attack—at least so their generals have thought.

The Ignominious End.—We have told in our columns already the story of the Leicester Guardians who set out so bravely last summer to defy the law by refusing to appoint a vaccination officer. They were told that they would be made to obey, at which they smiled. Then an action was brought against them, and they still smiled, perhaps not quite so readily, while their views became less unanimous. Then the time for sentence was reached when more than half recanted, and appointed as a vaccination officer a notorious antivaccinationist. This impudence, the judge told them, would not be considered obedience to the law, and they were ordered to appoint a fit person or go to prison. The end has now come. They have submitted entirely, and have appointed an officer with a written assurance that he will carry out his duties.

Influenza in London.—Influenza is once more rampant in London. It is of course an exceedingly difficult disease to give a name to, and in filling out medical certificates physicians are apt to give full play to their idiosyncrasies. Some, for example, dub every feverish catarrh, accompanied or not by vague muscular discomforts, influenza; others, possibly angry at the amount of malingering that is always coincident with an epidemic of influenza, deny the existence of any condition exactly warranting the name. Hence death-certificates are equally likely to include under the heading of influenza deaths that should not be there, and to be shut under the same heading of deaths that have been wrongly omitted; so that the total of their death-certificates will be approximately correct. In London during the last week of December the deaths due to influenza were returned as 193, which is the most alarming figure published since the great English epidemic of 9 and 10 years ago. The weather in London during the same week was atrocious, the temperature fluctuating from mild to several degrees below zero, and the fog and rain being almost persistent. A great number of deaths among the aged occurred, this and the influenza accounting for the heavy death-rate of 35 per 1,000 for the week, or nearly double the usual rate.

Sir James Paget, whose death occurred at his house in London on December 30, was a really distinguished man. He was the seventh child of Mr. Samuel Paget, a surgeon at Great Yarmouth, Norwich, and a younger brother of the late Sir George Paget, President of the General Medical Council and Professor of Medicine in Cambridge University. He was born in 1814. He received his medical education at St. Bartholomew's Hospital, upon the surgical staff of which institution he was elected in May, 1846, after three years probation in junior offices. For the next twenty-five years he was regarded as St. Bartholomew's incarnate, for as lecturer on general anatomy and physiology, as warden of the hospital college, as curator of the anatomical museum, as assistant surgeon, surgeon, and lecturer on surgery, he spent the most valuable hours of a valuable life laboring for the advancement of his science within the walls of his hospital. Wide fame and pecuniary success did not come to him immediately, but when they came he stepped into the very front rank of his profession at a step, filling the position both in medical and popular esteem that had been previously filled by Sir William Lawrence and Sir Benjamin Brodie. But the temptation to become enormously wealthy by retiring from his unpaid labors and devoting himself to private practice had no influence over him, and while every minute of his day could have been employed in coining gold he remained for years laboriously executing hospital and official duties until in 1871 a severe attack of pyemia, from which made a slow and imperfect recovery, led to his resignation his post as surgeon to St. Bartholomew's Hospital. As ea in his career as 1843, when but 29 years old, he was elect one of the original fellows of the Royal College of Surgeo of England, he was then appointed curator of the pathol ical museum, from 1847 to 1852 he was professor of anatom and in 1865 he was elected upon the Council or governi body. In 1875 he was elected President of the College, a in the following year was appointed its representative up the General Medical Council. Sir James Paget's scienti position was enormously high, although he belonged to school of surgery into whose tenets a knowledge of antise tics did not enter. Both his theory and practice were found upon hard work intelligently done. While still a boy 19 he made some observations with regard to certain c careous granules found in the muscles of a corpse in the po mortem room, which amounted to the independent discove of the pathology of *trichina spiralis*. His physiologic lectu to the students at St. Bartholomew's hospital were afterwa published under his superintendence by Mr. Kirkes, and c stituted the first edition of Kirkes' Physiology, the treat upon the subject that is to this day most popular with E lish students. His pathologic work in the postmort room at St. Bartholomew's Hospital and as curator of t museum both of that hospital and of the Royal College Surgeons of England had its outcome in his unrivalled l tures on surgical pathology. These clear, accurate, schola writings, founded on intimate familiarity with the subject a illuminated by wide general surgical and anatomical kno edge, gave him a preeminent position as an observer in t surgery of fifty years ago; while as a consultant he v always enabled by the masses of codefying and classify that he had done to fall back upon past experiences eithe his own or of his colleagues to guide him in the diagnosis any particular case, or in the operation to be perform For Paget was a thoroughly good practical man, and if pathologic learning rather hid his operative skill from juniors it was only because that learning was so extensi Sir James Paget died full of honors as of years. He h been a baronet for nearly a quarter of a century, he wa doctor *honori causa* of a dozen universities, he was a p president of the English College of Surgeons, Vice-chance of London University, and the holder of two or three co appointments. And he fully merited every distinction that received, for his lifework was conducted from start to fir in a blameless Christian manner. He possessed a truly nc character. His intellectual gifts left him without pride, moral gifts included great charity. Able, simple, and sinc he was the most widely respected member of the medi profession in England and the most beloved, though th never was a man who took less trouble than Sir James Pa to receive the favor of men.

CONTINENTAL EUROPE.

Tuberculosis Prize.—Seventy-seven papers have b submitted for the prize offered by the Tuberculosis Cong last spring.

Institute for Tropical Diseases in Hamburg The Imperial government has voted an annual grant 20,500 marks to the institute for tropical and nautical eases to be opened next October in Hamburg. In ret the government has the right to appoint certain investiga there.

The French Society of Surgery has elected Dr. Richelot president, Dr. Reches, vice-president, and Dr. Segond, secretary, for the year 1900.

The Prussian Bill for Professional Courts of Honor has received the king's sanction. The plan is similar to that of the Bavarian bill, recently outlined in these columns.

Chemical Institute at Lyons.—On January 7, 1900, M. Leygues, Minister of Public Instruction, will inaugurate the Chemical Institute at Lyons, and unveil the bust of Professor Raulin, founder of the Institute.

A Pasteur Institute was opened in Lyons January 2, 1900. This is the eighth in France, as Algiers, Tunis, Montpellier, Bordeaux, and Lille already have one. That in Lille has just received 200,000 francs from the Minister of Commerce.

A tablet to Pasteur is to be placed upon the house 3 Rue des Veaux, Strasburg, where Pasteur lived when professor in the University of Strasburg, in 1853. It has been executed by Auguste Patay, and represents Pasteur with the inscription, "Pasteur, 1822–1895."

Restricting the Sale of Drugs in Germany.—The Imperial government is seeking to restrict further the number of drugs sold in the open market. The movement is combated as furnishing the apothecary too great a monopoly and making medicines too dear for the people.

The University of Lyons has just received a legacy of 50,000 francs, the income to be used for a quinquennial prize for a native of Lyons, who shall, by his work, discoveries or teaching, have rendered real service to hygiene, public health or medicine, especially helpful to the protection of childhood.

Medical Inspectors of Schools in Berlin.—Twenty to twenty-four school physicians are to be appointed in Berlin, each to have the charge of not more than 4 schools, at a yearly salary of 500 marks a school. The matter is to be made an experimental test of two years' duration. The authorities fear friction between teachers and doctors, and parents and doctors, so they are going slow.

Accommodations During the Congress.—For the Medical Congress in August, 1900, the Rector of the Academy of Paris has arranged to have 800 beds placed in the different Lycées (as the public schools are called), for the week which the Congress is to last. He hopes to have 200 more, which will place 1,000 beds at the committee's disposal, at 1.10 daily, including coffee in the morning.

The Heidelberg Medical Faculty, induced by government influence, has voted to admit women students. This is noteworthy, since Heidelberg is extremely conservative. It is believed that the movement is due to the influence of the Grand Duchess of Baden, who is such an active worker for the social welfare of her subjects and of her sex. Only last semester, the feeling in Heidelberg was strong against admitting women.

New Rules for Examinations in Medicine in Vienna.—It is reported that within the next few days the new rules for the qualifying examinations in medicine will be issued. The principal changes will be that the so-called preliminary examinations in zoology, botany, and mineralogy will be abandoned. The first examination will include biology, anatomy, physiology, natural philosophy, chemistry, and histology. Mental diseases, diseases of the ear, hygiene, and dermatology have now been added to the list of subjects comprised in the two final examinations.

A Congress on Tuberculosis in Naples.—A Congress on Tuberculosis, which is intended to be to some extent a continuation of that held in Berlin last May, will take place at Naples in the spring of 1900. The congress, in connection with which there will be a great hygienic exhibition, is under the patronage of the Queen of Italy. Professor Baccelli, Minister of Public Instruction, will preside. A German committee has already been formed to assist in making arrangements for the congress, and a large number of representative German physicians have intimated their intention to take part in the proceedings.

Retardation of Old Age.—There is reported to have been much talk recently under Metchnikoff, at the Pasteur Institute, upon the possibility of prolonging life and combating old age. One of his pupils, Bredet, inoculated a rabbit with a serum extracted from the blood of a guineapig, already intoxicated by blood from another. In 3 days, the red blood-corpuscles of the rabbit had increased from 3,000,000 to 8,000,000 to the cubic millimeter. This remedy against anemia started researches for specific serum for the different organs. Only a few days ago, that of the kidney was found. It is reported that Metschnikoff says that, while publicity is premature, he has hopes of finding means of checking senile atrophy; in fact, all the changes due to age.

Midwives in Berlin.—The midwives of Berlin are very strictly controled by the medical officers to the Berlin police. According to the *Lancet*, not long ago a qualified midwife was prosecuted and fined because she had contradicted a medical man in presence of a parturient woman, this being regarded as a misdemeanor because the patient was thereby induced to believe that the medical man in charge was incompetent. The medical department of the Berlin Police has also issued an order to the qualified midwives informing them that it is illegal to recommend individual medical practitioners to women in their confinements, because a law passed in 1725 provides that the patient must be at full liberty to consult any medical man she desires. It is especially against the law for midwives to have an agreement with a medical man and to be paid by him for recommendations to patients.

The study of the growth of the finger-nails received some attention recently in Paris. Dufour says that for a nail to reach its full length of one centimeter and a half, takes from 121 to 138 days. Beau says they grow one millimeter weekly—which would take only 105 days. But one observer tells of a man of 21 years, in whom it took 126 days; of a man of 31 years, in 159 days; of another of 32 years, in 88 days. At 55 years it took 110 days; at 67 years, 144 days. The most rapid growth was noted in a tubercular subject, with hemoptysis. Salt air helps the growth rapidly; but grief can stop the growth almost wholly. As a sign of differential diagnosis between hysteria, and organic palsies, the growth of the nails in the former is considered a reliable aid, while in the latter the nails cease growing.

Is the Sufferer from Malaria a Source of Danger to his Healthy Neighbors?—According to the *Lancet* the question came before the last meeting (on December 27) of the Società Piemontese d'Igiene, and was answered in the affirmative by Dr. Pio Foà, professor of pathological anatomy in the University of Turin. On the strength of recent discoveries, checked by still later experience, Professor Foà maintained that malaria could be indirectly communicated, and his view, strongly supported by the president of the society, Dr. Luigi Pagliani, professor of hygiene in the same university, was unanimously approved by the meeting. There is thus, according to Professor Foà, a fresh prophylactic reason for curing malarious subjects, and accordingly

he proposed an "order of the day" by which the Government was invited to make provision for the sale of quinin to the fever-stricken poor at cost price. Professor Pagliani, in seconding the proposal, which was ultimately carried, was of opinion that the Società d'Igiene, as it had already interested itself in the various methods devised to combat tuberculosis, should also assume a similar attitude toward malaria and invite the profession and the Congregazioni di Carità to join in the movement indicated.

Actinomycosis of the Kidney.—A very rare specimen, according to the *Lancet*, was recently shown to the Berlin Medical Society by Professor Israel. It was the kidney of an army officer who in 1892, without any obvious cause, was seized with hematuria and severe pain in the left lumbar region. In 1894 a surgeon performed nephrotomy on the supposition of the presence of a renal calculus. The kidney proved to be normal, no calculus was detected, but there were firm adhesions to the surrounding parts so that the kidney had to remain *in situ* and was not brought through the wound for inspection. The wound healed without complication, but the urine became opaque and contained blood, the patient had night-sweats, and his weight decreased considerably. In 1898 a fistula formed and discharged a small quantity of seropurulent fluid. In August the fistula was incised without any improvement resulting. Not long ago the patient came under the care of Professor Israel. He was very weak, there were several fistulas at the old cicatrix discharging pus with granules which proved to be actinomyces, and actinomyces was present in the sediment of the urine. By cystoscopy the mucous membrane of the bladder was found to be normal. Nephrectomy was therefore performed. The lower part of the kidney did not show any alterations; in the upper part there was a yellow tumor consisting of fat with actinomyces; growths of the same kind were also present between the capsule and the kidney. In the pelvis of the kidney there was a calculus consisting of masses of calcified actinomyces. This is the first case of operation for actinomycosis of the kidney.

Société de Biologie and Claude Bernard.—On Wednesday, December 27, 1899, the Société de Biologie celebrated the fiftieth anniversary of its foundation, by a meeting held at the Sorbonne, at 2 o'clock. Before this a tablet to Claude Bernard was unveiled upon the wall of the College de France. It is a simple black stone, highly polished, with the following inscription, in gold:

In this Laboratory,
From 1847 to 1878, worked
CLAUDE BERNARD,
Professor of Medicine in the College de France.

After the unveiling of the tablet, orations were delivered inside the laboratory by the successor of Claude Bernard, Dr. d'Arsonval, and by M. Gaston Paris, administrator of the College de France.

The Minister of Public Instruction, M. George Leygues, assisted by Drs. Bouchard (president of the Société de Biologie), and Gleg (secretary), presided over the meeting in the Sorbonne. After addresses by the latter, M. Leygues distributed to three members of the Society, appointments to the Légion d'Honneur. Later, the members of the Society, with guests invited from the corresponding societies of Berlin, London, Brussels, Geneva, etc., ended the celebration with an elaborate banquet.

New Hospital in Paris.—The government of the city of Paris, realizing the need of new, up-to-date hospitals, intends to use the force of workmen, who, it is supposed, will be without work after the Exhibition, to build a number of hospitals to take the places of the very oldest ones yet in use. The Hospital Trousseau is already being vacated in preparation for its demolition, to make place for a new hospital.

Dr. Moulozgnek, professor of pathology, has been appointed director of the medical school of Amiens for 3 years, to take the place of Dr. Pengniez, made honorary director.

Dr. Duplant has been appointed chief of the medical clinic at the Lyons Medical School.

Since June last, M. Broco has been experimenting upon horses, ducks, chickens, and guineapigs, feeding all with food soaked with alcohol, and using serum drawn from the horse, "antiethyline," and claims marvelous effect. Later he tried injections on drunkards, who, he says, now will not touch anything containing alcohol. The alcoholic loses his taste for strong liquor, while still able to drink light wine, and recovers his good general health, under this treatment. Dr. Broco created a sensation with his paper, read at the Academy of Medicine December 27, 1899. As yet, this "antiethyline" seems powerless in its effect upon the organic changes produced by the indulgence in alcohol. A San Francisco physician is credited with having used a similar serum, but without success.

Heredity in Chronic Nephritis.—Pel, of Amsterdam, has recently prepared a table, showing the heredity of chronic nephritis, or a tendency to it, as it occurred in 3 generations in 18 members of one family. A diamond worker, aged 74, died of uremia, having for some few years previous shown signs of chronic nephritis. His wife died, at 78, of apoplexy. They left two sons and six daughters. The elder son, after suffering from chronic nephritis, died at 60, with uremia, after 5 days of anuria. He left no children. The younger son died at 50 of the same cause; he left two sons, now both over 40, both with chronic nephritis. The eldest daughter also died of chronic nephritis with uremia. She left seven children, one of whom, a girl, now aged 45, has chronic nephritis. The second daughter also died of chronic nephritis. Of her four children, a son has diabetes, without albuminuria, and two daughters have chronic nephritis. The third daughter did not have nephritis, dying, at 30, of cholera. Her son has diabetes. The fourth daughter died with chronic nephritis. She left seven children, who are all well. The fifth and her children are also all well. But the sixth died, at 52, of chronic nephritis, and of her five children, one son and one daughter have nephritis. The daughter has four children, the last of whom, at 18 months, had an acute nephritis after smallpox. Besides, the grandfather, the beginning of the series, had two sisters and two brothers. One of the brothers died of uremia at 70, one of his sons died of chronic nephritis and two others have it. Their children have no nephritis, but one has diabetes. Two of his daughters also have nephritis. Thus 18 cases in the 3 generations.

MISCELLANY.

University Appointments.—ALGIERS: M. Malosse has been appointed, for a period of 9 years, chief of the department of physics and chemistry.

Specifics for the Earache in Antiquity.—According to the *British Medical Journal* among the curiosities of the Oxyrhnchus papyri, which have been edited, with translations and notes, by Messrs. Grenfell and Hunt for the Egyptian Exploration Fund (Part II, London, Henry Froude, 25s.) is a list of specifics for the earache. They date from about the end of the second century, and are as follows:

Heat an equal quantity of beaver musk and poppy juice upon a potsherd, if possible one of Attic make, but failing that of. .; soften by diluting with raisin wine, warm, and drop in. Dilute some gum with balsam of lilies, and add honey and rose extract. Twist some wool with the oil in it round a probe, warm, and drop in. Pound some closed calices of pomegranates, drop on saffron water, and when it becomes discolored draw the liquor off. When required dilute as much as the bulk of a pea with raisin wine, warm, and drop in. Pound some Egyptian alum and insert into the ear an amount equal to the size of a pea. Anoint a persea leaf and insert. Thoroughly moisten a flock of wool with the gall of an ox, roll up and insert. Pound myrrh and alum in equal quantities and insert. Dilute frankincense with very sweet wine and syringe the ear; or use for this purpose the injections described above. Rinse with warm onion juice. Syringe with gall of a bull or goat or sheep, or other similar kind of gall warmed. The sap of a pine tree, warmed, to be used in the same way.

The first specific must have been something not very unlike the old vinum opii, which not very many years ago was largely used as a local application in various painful affections, especially of the eyes; while "warm onion juice" is a popular remedy, the use of which has by no means died out at the present day. The "sap of a pine tree warmed" shows perhaps some dim striving after antisepsis.

Society Report.

NEW YORK NEUROLOGICAL SOCIETY.

Annual Meeting, January 2, 1900.

Facial and Retrobulbar Neuritis.—Periostitis of Optic Canal.—DR. WILLIAM M. LESZYNSKY presented a woman, 38 years of age, who had come to him first on October 11, 1898, with a complete facial paralysis of the left side, which had existed for five weeks. There had been a loss of taste, but the eyes had remained normal. The facial paralysis had been preceded by severe pain and tinnitus in the left ear, lasting several days. She had then become totally blind in the left eye. Within a week a well-marked papillitis could be detected in the left eye. The vision in the right eye was normal. Under treatment by mercurial inunctions and the internal use of potassium iodid the vision had improved somewhat. She now had optic atrophy, and the vision had decreased. The faradic irritability had returned, but was still below the normal. A diagnosis had been made of facial neuritis and a retrobulbar neuritis arising from periostitis in the optic canal. The patient was present. Dr. De Schweinitz, of Philadelphia, had recently reported two or three cases, but in them the retrobulbar paralysis had developed nearly a year and a half after the neuritis. The case also showed that a return of faradic irritability did not necessarily mean a return of motility.

Syringomyelia.—DR. JOSEPH COLLINS presented a man whom he had been asked to see a few weeks ago by Dr. Powell. The latter had removed a small lipoma from the lumbar region, having no connection with the spinal cord or membranes, contrary to the opinion that had obtained before operation. The patient had contracted syphilis nearly five years ago. Since that time he had been under almost constant treatment. He had complained of weakness in the right leg, pain in the back, and slight numbness in the left lower extremity. While still a boy he had experienced difficulty in keeping the right leg in the stirrup when riding horseback, and had noted in that foot what had really been a clonus. The kneejerk was exaggerated on the right side, and on that side there was also ankle-clonus. There was absolute thermoanesthesia from the fourth intercostal space on the left side down to the tip of the toe.

Tumor of the Aqueduct of Sylvius or of the Cerebellum; Double Joints.—DR. COLLINS presented a boy of 18, exhibiting all of the cardinal symptoms of tumor of the aqueduct of Sylvius or of the cerebellum. About 3 years ago, it had been first noticed that he was lethargic. Fourteen months ago, while climbing into a window, he had fallen, and shortly after this he began to vomit and to suffer from periodical headaches. These had been followed by increasing sleepiness, and by a disturbance of the gait. His limbs could be thrown around, and the joints bent backward in a remarkable way. The kneejerks were feeble. There was no nystagmus, and no true cranial nerve palsies or ocular palsies. Both eyes showed choked disk, and slight pigmentation.

A Case of Hemorrhagic Encephalitis and Myelitis.—DR. CHARLES L. DANA and DR. M. G. SCHLAPP presented this report, which was read by Dr. Dana. The subject was a man of 67, who had come under observation last June. There was no clear history of intemperance. His previous health had been good. During the last 7 years of his life he had been somewhat of an invalid. On June 4, 1899, he had complained of headache, and after taking two cups of tea he had gone to bed. He had fallen out of bed a few hours later, and had then been discovered to have a left hemiplegia. He had been removed to Bellevue Hospital. At that time his temperature had been 104° F., but the temperature had quickly fallen. On examination he could not protrude the tongue, and it was almost immobile. He was paralyzed almost completely on the left side. The lips were markedly affected. The abdomen was somewhat rigid. The patellar reflexes were normal, and ankle-clonus was absent. Sensation to heat and cold was normal. The urine showed nothing abnormal. Four days after admission he had had a chill, and the temperature had risen to 105.5° F., and examination of the blood had shown the malarial plasmodium. After having been in the hospital for one week it had been noted that there was no paralysis of the right arm or leg, and the most notable feature was the paralysis of the tongue and lips. He was unable to make any distinct articulate sounds. He could swallow and cough, and understood perfectly what had been said to him. Death had taken place on June 25. At the autopsy made by Dr. Dana, only the brain and cord had been examined. There were also slight edema and congestion of the arachnoid. The vessels of the base were not atheromatous. In the right hemisphere was an area of capillary hemorrhage and softening in the lower portion of the posterior central convolution, and superior part of its marginal gyrus. It involved mainly the deep part of the upper lobe of the fissure of Sylvius. In the centrum ovale were two or three smaller areas of hemorrhage. There was no evidence of hemorrhage or softening in any other part of the cerebrum, cerebellum, or pons. The spinal cord showed two foci of softening, one in the upper dorsal and the other in the lower. The brain had been hardened in formalin, and then stained by various methods. The microscopic examination had shown in the affected area much dilation of the bloodvessels, small extravasations of blood, a great proliferation of cells, showing an irritative reaction to the hemorrhage—in other words, the evidence of an encephalitis, apparently secondary to the disease of the bloodvessels. There were also small areas of softening of the brain in the neighborhood of these hemorrhages, also the result of the breaking and obliteration of the vessels. The walls of the latter were somewhat thickened, but gave no evidence of a syphilitic process. Sections and drawings were exhibited. The examination of the rest of the brain had failed to show any evidence of sclerosis. The medulla showed no evidence of softening or of inflammation. Examination of the spinal cord had not yet been completed. The cord showed a small center of poliomyelitis in the dorsal region. Below this was a more extensive poliomyelitis, involving both the anterior and posterior horns. The appearances presented very closely resembled those described by other writers on encephalitis hemorrhagica. Regarding the occurrence of speech disturbance in a case of this kind, Dr. Dana said that in the great majority of cases of this form of hemiplegia there was no speech disturbance except a few days after the attack, which might easily be ascribed to shock. In another class of cases of hemiplegia there was a slight uncertainty in speech, lasting for several months. In still another class the hemiplegia was associated with some difficulty of speech, and sometimes true aphasia. He had never observed any sensory aphasia in these cases. When the lesion was well below, the cortex involved the motor neuraxons, and the collaterals going to the opposite hemisphere, there would be some hesitation in speech; when the lesion was still lower down, there would be no disturbance of speech at all. There was a very general opinion prevailing to the effect that bulbar palsies of cerebral origin are due to lesions in the lenticular nucleus, but it seemed to him that our present knowledge of the anatomy of the brain made such a view untenable. Concerning the disturbance of the tongue, the speaker said that Dr. Collins, who had given a critical description of this subject, placed the tongue center in the anterior and upper part of the foot of the anterior central convolution. Some of the centers of the movement of the tongue were probably deep in the fissure of Sylvius, and not subject to experimental stimulation. In the case under discussion it was interesting to note that mastication and deglutition were not impaired. The case also brought up the subject of nonsuppurative encephalitis. It seemed to be established that there was an infectious hemorrhagic encephalitis in infants; also that there was a hemorrhagic poliomyelitis in adults; also an acute hemorrhagic encephalitis of adults due to some acute infection such as influenza. In the case presented there was a distinct history of malarial infection and of alcoholism, and this combination, it was reasonable to suppose, was responsible for the lesions discovered. Such a case might be classified under the name of degenerative hemorrhagic encephalitis. An examination of the autopsy-records of 67 cases of apoplexy showed that 42 of them were hemorrhagic, 11 embolic, 11 thrombic, and 3 encephalitic.

Report of an Unusual Case of Lead-Paralysis with Autopsy.—DR. B. ONUF reported this case. The patient was 37, having a good family and good personal history. He had been a painter for many years, and had had one attack of lead-colic some years ago. A short time ago

he had a severe fall, and for some days afterward had appeared dazed. From March until August he had done no painting; then he had begun painting again with colors containing a large percentage of lead. He had kept this up during the month of August, but during this time had suffered frequently and severely from colic. At the end of August he had become quite ill, and in 3 or 4 days had become almost helpless in the lower extremities and in the left arm. On admission to St. Catharine's Hospital, in September, 1899, there had been complete flaccid paralysis of both lower extremities; absence of both kneejerks; marked tenderness of the nerve-trunks and muscles of the lower limbs. There was also paralysis of the flexor muscles of the left arm and of the extensors of the fingers. The gum showed a "lead line." Under diaphoretic treatment the spontaneous pain had ceased. On October 4 he had had an attack of severe dyspnea, and on the following morning had died in a second and similar attack. The extensors and flexors of the right arm were found at autopsy wasted, as were also the peroneal muscles and the flexors of the thigh. The left lung was the seat of a bronchopneumonia. Microscopic examination had shown what appeared to be a poliomyelitis of the anterior horns. The parts examined so far had been the second and fifth lumbar, and here there was an enormous infiltration of the walls of the bloodvessels with round cells. This infiltration of cells had been so extensive as to lead to very general distention of the nerve-cells. The anterior roots were markedly affected, but the posterior roots of the lumbar were normal. The plantar-nerve showed increase of connective tissue and endarteritis obliterans. The liver had been examined by Dr. Bookman for lead, but none had been found. As 5 weeks had elapsed, such evidence was not of much importance.

Fracture of the Hyoid Bone and of the Laryngeal Cartilages.—J. E. Platt (*Manchester Medical Chronicle*, December, 1899) reports the case of a man, aged 58, who was injured in a cab accident. It was probable that the wheel of the cab passed over the upper part of the neck and part of the face. The face and neck were much contused, the jaw was fractured in two places; there was some shock, but no special difficulty in respiration. Shortly after admission to the hospital the patient's breathing became bad and tracheotomy was performed without delay. The operation was difficult, owing to infiltration of the tissues with venous blood. The patient rallied from the operation, but died three days later from bronchopneumonia. Postmortem examination showed that the hyoid bone and thyroid cartilage were fractured in addition to the lower jaw, these injuries not having been diagnosed during the patient's life. There was incomplete fracture at the junction of the body with the greater cornu of the hyoid bone and an extensive vertical fracture of the thyroid cartilage starting from its lower border immediately to the right of the middle line running upward slightly to the left of the pomum adami and ending near the upper border to the left of the median notch. Several cracks ran for a short distance each side of the main fracture. The mucous membrane of the larynx was greatly congested and there was considerable extravasation of fluid into the submucous tissue. Fractures of the laryngeal cartilages have always been attended by heavy mortality, estimated by various writers at from 76% to 80%. The fracture usually results from direct violence, but 3 or 4 cases are reported in which it was due to muscular action. The symptoms are local pain and tenderness, and swelling of the surrounding parts, with interference of respiration, articulation, mastication, and deglutition. Interference with respiration is more marked when the larynx is involved than when the hyoid bone alone is fractured. If the mucous membrane is injured blood will be coughed up. It is often impossible to recognize the positive signs of crepitus, mobility of the fragments and displacements. [No doubt the mortality would be greatly diminished by resort to early tracheotomy. If the operation be delayed until respiration has become seriously embarrassed the patient's chances are greatly diminished. If fragments of the fractured hyoid bone are displaced inward an attempt may be made to reduce them by the finger in the throat. The use of the tracheal tampon has been suggested to overcome the difficulty in maintaining the position of the fragments of fractured laryngeal cartilage. If the patient cannot swallow, nutrient enemas will be necessary for a few days. M.B.T.]

The Latest Literature.

British Medical Journal.

December 30, 1899. [No. 2035.]

1. The Surgical Treatment of Tuberculous Diseases. W. Watson Cheyne.
2. The "Pharmacopeia" in Its Relation to Pharmacists. Nestor Tirard.
3. The Essential Toxic Symptoms of Diphtheria. John Biernacki.
4. The Treatment of Diphtheria. A. Jefferis Turner.
5. A Case of Malignant Pustule: Necropsy, with Bacteriological Investigations. George H. Temple.
6. A Case of Membranous Conjunctivitis Treated by Antidiphtheric Serum. A. D. McQueen.
7. Piperazin in Gout. William Fearnley.
8. Poisoning by the Application of Glycerin in Belladonna. H. P. Joseph.
9. A Case of Interstitial Myoma of the Uterus. Thomas Alph. Buck.

3.—Biernacki considers the first **specific signs of diphtheria** to be undue pallor, moderate compressibility of the pulse, and lassitude. In three or four days the pallor becomes more intense, the pulse more compressible, and the pyrexia less. Later the pulse is irregular, the urine less in quantity, the extremities are cold. There may be oppressive pain referred to the cardiac region or epigastrium, and toward the end the surface of the body is blanched and cold, the temperature subnormal and the radial pulse disappears. Jactitation, and dimness of vision may occur. The patient's mind continues clear. Six cases were examined for the determination of the blood-pressure, and it was found that in all the pressure was slight at the outset, that it suddenly became more marked and was then maintained at a high level to the end. In the two most severe cases the final drop only occupied 48 hours. In another case it was prolonged to 6 days. The incidence and subsequent intensity of the toxic symptoms bear an evident relation to the fall in blood-pressure. [S M H.]

4.—Turner, in studying the **treatment of diphtheria,** says that the whole matter can be summed up in the statement that the treatment of diphtheria consists in the administration of antitoxin early and in sufficient doses. There need be no fear of administering an overdose. The only objection to giving an unnecessarily large dose is its cost. With the necessary qualifications it may be said that no child ought to die of diphtheria. Some cases complicated by pneumonia at a very early stage, others at a distance from medical aid, some few in which the early diagnosis is extremely obscure, are liable to a fatal termination. [S.M.H.]

3.—Temple had brought to his attention a girl, aged 17 years, who was in a moribund state. She had a pustule at the angle of the mouth, swelling and redness of the cheek and general cyanosis and insensibility which was of very rapid onset. Eight days previously she had been at a country village; 3 days later she developed the pustule which rapidly became worse and caused death within 5 days of its appearance. She did not dress meat, handle hides or wool, and had nothing to do with animals. The postmortem showed the center of the pustule to be black and about the size of a threepenny piece. It had no vesicles surrounding it. Inside the cheek there were many small purulent points. The lungs had many petechiae scattered over the surface and several points of pus. There was no pneumonia. The pleural cavity contained a small amount of fluid. The peritoneum showed many small hemorrhages. There were no bacilli in the pustule nor any of the organs. Potato-cultures were made from a clot on the pulmonary artery from which a sufficient growth occurred to confirm a diagnosis of anthrax. These specimens were typical. Inquiry showed that in the village which she had visited no fewer than five animals had died under somewhat suspicious circumstances 2 days before her visit. She had walked through a yard where some dead meat had been thrown to a dog and had immediately afterwards picked off some dirt from her heel. The carcasses of the animals had been sold to a dealer in food for fowls and dogs. Some freshly applied lime was taken from the stalls of these dealers' places of business and a small piece of red

r with some specimens of mold, grass, etc., from the ious places where it was ascertained that she had been. m the specimen of hair numbers of bacilli of different ids were grown, and after 5 selected inoculations a fairly re culture was obtained on blood-serum presenting the ial microscopic features of **anthrax-bacilli and their ores.** [S.M.H.]

5.—An infant, 8 months old, had a **membrane** on the pebral **conjunctivae** of both eyes. After removal it urred, and when examined was found to contain the diph-ria-bacillus. The case was cured by 3 injections of anti-htheric serum. [G.B.W.]

6.—In the severest cases of **gout** Fernley recommends sulphur baths of Harrogate, the unloading of the colon the use of its sulphur water and the addition of piperazin. is treatment has proved successful in his hands. [S.M.H.]

7.—Joseph reports a case in which **toxic symptoms** veloped a few hours after the application of **glycerin d belladonna** to the breast. The patient became delir-is with hallucinations; had difficulty in swallowing, and ated pupils. Her recovery was slow and her vision imper-t for several days. [S.M.H.]

8.—Buck reports a case of interstitial myoma of the rus in a patient, aged 30, who for more than a year had fered from irregular uterine hemorrhages. The myoma, er being enucleated by the hand from the whole inner sur-e of the uterus, had to be vigorously delivered with for-ps and a powerful vulsella. On account of frequent rests d changing hands from fatigue, the operation took over 2 urs. The patient died from shock about 3 hours after the eration. The tumor was a dense myoma, 9 inches in gth and 12 in circumference. The growth appeared to ve begun near the fundus uteri, and after filling the uterine vity had extended about half its length into the vagina. .K.]

Lancet.

December 30, 1899. [No. 3983.]

Treatment of Surgical Tuberculous Affections. W. WATSON CHEYNE.

Our Position and Outlook. JAMES ALEXANDER LINDSAY.

Measures Taken at Tor and Suez against Ships coming from the Red Sea and the Far East. MARC ARMAND RUFFER.

Some Notes on Serotherapy. H. W. MILLS.

Extensive Mediastinal Emphysema in a Fatal Case of Laryngeal Diphtheria; with Remarks on the Early and the Late Variety of Emphysema observed in the Case after Tracheotomy. WILLIAM EWART.

Anatomical and Age Distribution of the Tinae of Southern Assam. S. ARTHUR POWELL.

Two Cases of Tumor of the Vagina. A. H. N. LEWERS.

A Case of Tuberculous Disease of the Right Knee and Right Epididymis; Death under Chloroform. WILLIAM BERRY.

1.—Of **tuberculous diseases of the male genera-e organs** epididymitis is the most common. The disease ely remains localized, but spreads into the testicles, the iculae seminalis and the prostate. The chronic form is re common; in a considerable number of cases the uble becomes quiescent without or after suppuration, and ckening may for a time almost entirely disappear. It is easy to predict in any case whether the disease is likely become quiescent. There is a great tendency for the dis-e to spread to other parts of the genitourinary system. noperative treatment may be employed, either when the ease is chronic with a tendency to recover, or when other rts are already seriously affected. Good hygienic condi-ns, with the use of tonic and supporting drugs, are the entials; ointments of mercury or potassium-iodid, which frequently employed, are considered of doubtful value. there is much pain or tenderness, belladonna-ointment y be used; injections of iodoform emulsion generally ap-ar to do no good. The operative treatment consists in aping, epididymectomy, or castration. When performed ly, epididymectomy may be classed as a radical opera-n. It is a much cleaner and more satisfactory opera-n than scraping. In operating the vas deferens should removed as high as possible, the incision commencing from the external abdominal ring; the epididymus is carefully separated from the testicle, taking care to avoid division of the vessels which supply it. These enter the testicle chiefly on the inner side of the epididymis; on that side, therefore, the substance of the cord should be pushed off with the handle of the knife. On the other side the incision is made through the tunica albuginea close to the margin of the epididymis, and then the connection between the globus major and the hilum is divided. The vas deferens is then brought over the other structures of the cord up to the external ring, pulled down and divided as high as possible. It is important to stop all bleeding in order that healing be not delayed by distention of the scrotum, and if there be much oozing a drainage-tube may be left in for 24 to 48 hours. Castration is advisable in cases of acute tuberculosis and at an early period may possibly check the disease. It is also necessary if there is great pain, especially in suppuration, or if in advanced cases the patient's health is giving way. The tendency to disease of the second testicle, however, renders the operation a very serious one. There is usually great mental depression following, the patients become lazy, irritable, and morose, and a considerable portion have ultimately committed suicide. Apart from the generative function of the testicle it is generally admitted that they have an internal secretion which exercises an important influence on the well-being of the patient, and with the operation of epididymectomy the internal secretion remains. The latter operation is counterindicated when the whole body of the testicle is diseased, or if there be a deposit in the center of the organ, advanced lesions of the vesiculae and prostate, or if the patient be suffering from advanced pulmonary tuberculosis.

Tuberculosis of the bladder is usually secondary to disease of the kidney or of the genital system, but is most common in young male adults. The superficial layers of the mucous membrane are first affected and ulceration soon takes place. The wall of the bladder may become much thickened and reduced in size by chronic inflammation. Treatment may be medical or surgical and by neither method is there certainty of cure. The essentials of medical treatment are good hygiene and the use of tonic and sedative remedies. A warm boric-acid solution 3 to 4% may be used for washing out the bladder. The results from the use of iodoform and glycerin have been disappointing, and injections of silver-nitrate solution almost always do harm. Operative intervention is limited generally to opening and draining the bladder and is often followed by marked improvement. Sometimes the ulcers are scraped, touched with an electric cautery and rubbed with iodoform. Cheyne has treated 5 patients, with improvement in 4 and complete cure in one case.

Tuberculosis of the kidney is very common. Before proceeding to surgical measures it is important to ascertain whether the disease is situated in the kidney, which kidney is affected, whether other genitourinary organs are diseased, the extent of disease, and whether unilateral or not. Nephrotomy may be regarded as a temporary expedient. It is frequently followed by improvement in the general condition and is often performed as a preliminary to nephrectomy. In order to justify nephrectomy one must make certain that the other kidney is intact and that the bladder is free from disease. Opening the abdominal cavity to ascertain the condition of the other kidney by palpation is not approved of; very often a smooth kidney of normal size is tuberculous, and a healthy kidney may be enlarged by undergoing compensatory hypertrophy in doing the work of the other kidney. It is best in the first place to cut down on the kidney supposed to be diseased and open it to determine whether nephrectomy be advisable. The operation is justifiable if the disease is unilateral, and if there are no lesions of other organs. Good results have been obtained in some cases by partial nephrectomy, especially when performed early in the disease. [M.B.T.]

4.—Mills treated one case of tetanus with antitetanic serum, one case of puerperal fever with antistreptococcic serum, 27 cases of diphtheria with antidiphtheric serum, and has used 49 prophylactic injections in persons exposed to diphtheria. The case of tetanus received two subcutaneous injections of 10 and 20 cc., respectively, with some apparent good effect. The patient finally died in convulsions. The case of puerperal fever received 140 cc. of antistreptococcic serum given in the course of 5 days. The treatment

seemed to benefit the patient; she practically recovered, but died of syncope, the result of sudden unnecessary exertion. The 27 consecutive cases of diphtheria all recovered; 24 of these were moderate cases; the remaining three were very severe, one requiring tracheotomy; 1,500 units were given if the case was seen on the first day, and from 3,000 to 6,000 if injected on subsequent days. The tracheotomy case was injected on the third day. Six of the cases showed postdiphtheric paralysis; 5 antitoxin rashes, urticarial and scarlatiniform, occurring from the seventh to the thirteenth day after inoculation. Following the 49 prophylactic injections no case of diphtheria developed. All of these cases had been exposed, some of them having slept in the same room and in the same bed with those suffering from diphtheria, and the majority of them lived in small cottages. Mills believes that the prophylactic use of antidiphtheric serum affords complete immunity for a certain period of time, the length of which is as yet undetermined. [S.M.H.]

5.—A case of **diphtheria** is reported occurring in a girl, 5 years of age. She was brought to the hospital in a state of suffocation, and it was believed by the parents that she had been suffering from a bad cold for several days. **Tracheotomy** was immediately performed, and 4,000 units of antitoxin were injected. The patient was relieved, but during a violent fit of coughing **emphysema** developed, which spread all over the face, forehead, neck and chest. The breathing became bad, and in spite of all efforts and the administration of oxygen the patient died. [M.B.T.]

7.—Lewers reports 2 cases of **tumors of the vagina.** In the first case the neoplasm, which was a unilocular cyst about the size of a small egg, was attached to the posterior vaginal wall. The second case was a fibroid which lay entirely under the posterior vaginal wall, and had to be dissected from it. Though clinically and practically a case of vaginal fibroid, the tumor had originally sprung from the vaginal portion of the cervix and grown downward beneath the vaginal wall. [W.K.]

8.—A death under chloroform-anesthesia is reported occurring in a patient who was to be operated upon for excision of the testicle and erasion of the knee-joint. He had been previously anesthetized on 2 occasions without dangerous symptoms. During the first stage of anesthesia the patient was nervous, but took the anesthetic quietly; during the second stage he struggled a little and about 3 minutes from the beginning of the administration his struggles suddenly ceased. Slow and stertorous breathing continued for a short time, but this ceased and death followed in spite of artificial respiration, which was continued half an hour, and all other efforts at resuscitation. [M.B.T.]

New York Medical Journal.

January 13, 1900. [Vol. lxxi, No. 2.]

1. The President's Address before the Society of Alumni of Bellevue Hopital. CHARLES E. QUIMBY.
2. Taking Cold. GREEN V. WOOLLEN.
3. The Therapeutic Application of Carbonic-Acid Gas. A. ROSE.
4. The Anesthetic Properties of Nirvanin. A Contribution to the Study of the Infiltration Method of Local Anesthesia. CHARLES A. ELSBERG.
5. A Second Report on the Therapeutics of Heroin. MORRIS MANGES.
6. Echinaceo Angustifolia: A New and Successful Aphrodisiac for Impotence, Pseudoimpotence, Etc. J. COPLIN STINSON.
7. The Lung Reflex. ALBERT ABRAMS.

3.—Rose briefly reviews the literature relating to the use of **carbonic-acid gas as a therapeutic agent,** and then relates his own results. He has found the measure useful in the treatment of some cases of anemia; in pertussis, in some of the severest cases presenting epistaxis and edema, the administration of carbonic-acid gas caused the condition to disappear entirely within 10 days. A large number of cases, for some reason or other, are not influenced by the treatment. Dysentery is much benefited by this treatment. The characteristic tensions is promptly relieved by it, and the ulcers of the rectum healed within a short time. He includes in this statement the specific tropical form of dysentery. Vomiting in pregnancy can often be controled by carbonic-acid gas inflation of the rectum. Carbonic-acid gas bat are effective in very many cases of impotency, especially neurasthenia sexualis, and nervous impotency, and in imp tentia senilis praecox. The former difficulties in the admi istration of this gas have been overcome, to a large exte by the invention by Sterne of a container for gas under hi pressure, which is certain in its action, safe, portable, and reasonable cost. [S.M.H.]

4.—Elsberg concludes an article on the **anesthetic pro erties of nirvanin** as follows: (1) Nirvanin has distin and valuable anesthetic properties when injected into t tissues according to the infiltration-method. (2) Nirvanin ten times less poisonous than cocain, and more than thr times less poisonous than eucain. (3) It has distinct an septic properties. A solution of 1% or more can be kept a stock solution and will remain sterile. (4) It is a stab compound and can be boiled a number of times witho diminishing to any degree its anesthetic properties. [S M.H

5.—Manges reviews the literature relating to the use **heroin,** which seems to be universally favorable. T initial dose should never exceed $\frac{1}{12}$ of a grain, and in we individuals or the aged, $\frac{1}{18}$ to $\frac{1}{24}$ is preferable. The ma mum daily dose should not exceed $\frac{1}{3}$ to $\frac{1}{4}$ of a grain. T same precautions should be taken in administering it to ch dren, as is customary in the administration of morph Where prompt effects are needed the hydrochlorid should used hypodermically. Thus far the only incompatibili reported has been the combination with apomorphin. A kalies should not be employed in solutions of the hyd chlorid. [S.M.H.]

6.—According to Stinson, **echinacea angustifol** should be used internally in doses of from 5 minims to dram, well diluted with water. Locally on the skin and m cous membrane it can be used freely in 25% solution in wat or undiluted. He refers in his communication especially the local action of echinacea used freely and undiluted as local aphrodisiac. Thus used it has proved of great value the treatment of all grades and varieties of impotence. [S.M.H

7.—Abrams has found the **lung reflex** especially va able as an aid to diagnosis in children. When the skin irritated by means of cold, by friction, or by a stro faradic current, lung dilation will ensue. The degree dilation is dependent on the character of the irritant a the severity of its application. The dilation is alwa greatest in that part of the lung contiguous to the sou of cutaneous irritation. Such dilation may be recogniz by (1) diminished respiratory excursions of the lu borders; (2) extension of the pulmonary friction note a obliteration of the cardiac and splenic areas of dulness; hyperresonance of the lungs; (4) obliteration of the ap beat. In lungs showing diminished resonance, the latter c always be increased by rubbing the skin vigorously over t lung percussed. To this sign Abrams has given the na **lung reflex,** and has found it useful in all doubtful ca of lung dulness and for the purpose of testing the resilien of the pulmonary structure. The x-rays furnish distin evidence in the recognition of acute lung dilation. In amination of the lungs with the x-rays the fluoroscopic p ture presents a uniformly light area. The lungs app brighter during inspiration than expiration. If the skin the thorax is irritated contiguous to the seat of irritation t brightness of the lung will become intensified. This is es cially manifest in situations corresponding to the comp mentary spaces. By gradually applying an irritant to t different parts of the skin of the thorax it will be obser that eventually the entire lung may be made to yield a m intense luminosity. This increased brightness lasts about minutes in the average individual, after which the lu resume their normal appearance. In diagnosis the lu reflex establishes a clue to the nature of lung dulne whether due to consolidation or to atelectasis. If the latt vigorous cutaneous irritation will dissipate the dulness. the development of the lungs vigorous cutaneous irritati by friction or by the use of cold water is invaluable. bronchopneumonia when lung atelectasis deprives the tient of extensive areas of respiration, the application to t chest of cutaneous stimuli is invaluable in maintaining lu dilation. In the bronchopneumonias of children the ap cation of the lung-reflex test has led the author to the c clusion that in the majority of instances percussional duln is dependent on a complicating atelectasis. [S.M.H.]

Medical Record.

[*January 13, 1900.* [Vol. 57, No. 2.]

1. The Relative Intensity of the Second Sounds at the Base of the Heart; a Study of One Thousand Cases. SARAH ROBINSON CREIGHTON.
2. Acquired Nonmalignant Stricture of the Rectum; Causes, Symptoms, and Treatment. W. DUFF BULLARD.
3. Postpartum Hemorrhage, Its Prevention and Treatment, with the Report of an Unusual Case. EDWARD P. DAVIS.
4. The Question of Legal Control of Prostitution in America. S. LUSTGARTEN.

1.—Creighton notes the lack of attention usually given to the **relative intensity of the pulmonary and aortic second sounds,** and the differences of opinion that are evident in the teachings of different authors concerning this point. She has investigated 1,000 cases seen in an out-patient clinic, and has obtained the following results: the pulmonic second sound was louder in 291 cases, the aortic second sound was more intense in 486 cases, while the two were of equal loudness in 223 cases. It was found that in young patients the pulmonic second sound was accentuated in most of the cases. Up to 30 years of age over 50% of the persons examined showed an accentuated second pulmonary sound, while after 30, 50% showed accentuated second aortic sound. From early life up to 30 the frequency of accentuated second pulmonary sound gradually decreased, being in the first decade over 90%, at 30 years about 53%. From the fourth to the eighth decade the frequency of accentuation of the second aortic sound increased from about 55% to 94%. The tentative explanation given for the frequency of accentuated second pulmonary sound in early life is that the right ventricle is relatively much thicker in very young children, and also the lungs are not fully expanded up to about 10 years of age. The accentuation of the second pulmonary from this period on is not easy to explain. Concerning the practical side of the question Creighton says that when one speaks of accentuation of the second pulmonary sound in diagnosis one must be careful to ascertain that the sound is increased beyond the intensity of the sound which is normal at the age of the individual patient. A comparison of the second pulmonary sound with the second aortic is not sufficient to settle the diagnosis. The same is true of the second aortic sound. [D.L.E.]

2.—Bullard believes that the majority of **strictures of the rectum** are not of syphilitic origin, for the lesions do not yield to antispecific treatment in the way that other syphilitic lesions do. Syphilis may be a predisposing cause, the endarteritis caused by it lowering the vitality of the tissues. Trauma is the chief immediate causative factor; it may arise from foreign bodies passing through the intestinal canal, surgical operations, direct injuries, etc. A case is mentioned in which stricture was found in a woman who had been operated upon, at a large hospital, for hemorrhoids, probably by Whitehead's method. In a second case the condition resulted from sloughing following the injection treatment of hemorrhoids by a so-called rectal specialist. When ulceration has occurred, a stimulating, cauterizing, protective treatment will often heal the ulcer, and after the irritation is overcome a large amount of partly organized material will disappear. Bullard believes that most patients may be made comfortable without resort to operation. When disease has progressed to such an extent that the stricture is of very narrow caliber, the patient greatly reduced and suffering from chronic obstruction, radical treatment is at once demanded. Posterior prostotomy is considered the most generally useful operation. [M.B.T.]

3.—Davis discusses the prevention and treatment of **postpartum hemorrhage,** and reports a case of unusual interest. The patient, a multipara, during her pregnancy, became anemic and reduced in strength through hard work and the pressure of a macerated fetus within the uterus. The endometrium decidua became extensively altered, very probably through syphilis of the ovum, and the bloodvessels were in an unusually friable condition. The expulsion of the macerated fetus was followed by relaxation of the womb and hemorrhage at varying intervals in spite of the persistent administration of tonics and stimulants, strychnin and ergot being given in large doses during the first 10 days of the patient's puerperal period. During this time she had 4 hemorrhages without apparent cause, each being controled by the methods described. Her convalescence covered a period of between 2 and 3 months, her gain in hemoglobin being practically 1% daily during the time of her most rapid recovery. She had a rise of temperature after delivery indicating sapremic absorption, but this rapidly declined. [W.K.]

Medical News.

January 6, 1900. [Vol. lxxvi, No. 1.]

1. The Principles of the Treatment of Fractures by Systematic Movements and Massage without Apparatus for Immobilization. DR. LUCAS-CHAMPIONNIERE.
2. Some of the Causes of Failure to Relieve Asthenopia and Allied Symptoms. F. W. MARLOW.
3. Latent Infection and Subinfection and the Etiology of Hemochromatosis and Pernicious Anemia. J. GEORGE ADAMI.
4. Aseptic Catheterism. CARL BECK.
5. A Series of Cases of Pistol-Shot Wounds of the Head. CHARLES PHELPS.
6. A Case of Polydactylism. A. L. BENEDICT.

1.—Lucas-Championniere advocates massage and the doing away with immobilizing apparatus in the **treatment of fractures.** He says that moderate movement favors the repair of fragments of bone, the callus being larger, firmer, and more quickly thrown out. A large amount of movement, however, does inhibit the process of repair. The larger majority of cases of fractures of the wrist, of the radius, and of the clavicle and all fractures of the humerus above the insertion of the deltoid, of the elbow, and other such may be treated without any immobilizing apparatus whatever. The massage should never give pain and, indeed, should have for its primary object the relief of all pain, thus tending to reduce muscular spasm, which is so great a factor in the dislocation of the fragments. [G.B.W.]

2.—Asthenopia may be divided into two classes of cases, the curable and the incurable. In the former curable class, that asthenopia should exist, may be either the fault of the patient or the oculist, or may be due to an extreme latency of some of the errors of refraction and equilibrium. In many of the incurable cases it is only after repeated trials and examinations that the true condition can be determined, but when the incurableness is once established the patient should be advised to change his occupation to suit his eyes. Marlow reports a number of cases which tend to show how difficult it is sometimes to relieve the asthenopia, and time often will alone avail to clear up the case. [G.B.W.]

3.—Adami, after a brief discussion of the existence of **microorganisms in tissues during life,** mentions some experiments recently performed by Nichols and Ford at McGill University that in the main were a repetition of experiments of Neisser, which yielded, however, very different results. They found that in the livers and kidneys of animals aseptically removed immediately after death and placed in agar and kept at the body temperature, relatively large numbers of bacteria were present. He concludes from this that normal leukocytes pass through the mucous membranes, particularly those of the alimentary tract, and may carry with them bacteria, and find their way into the lymphatic channels or the venules of the portal system. In either place they have a tendency to undergo degeneration and digestion. As it has been shown that in the healthy liver of the rabbit a certain number of microorganisms are present, it is possible that these may pass into the circulatory system, or before they reach the liver, they pass into the thoracic duct, and thus get into the general blood-current; in either case they are probably eliminated by the kidneys. This condition corresponds probably to the **latent infection** of the French. Under ordinary circumstances, these microorganisms do not tend to proliferate nor to cause any form of disease, but it is conceivable that conditions may exist. Intermediate between actual and latent infection that may be termed subinfection, that is, a sort of chronic inflammatory disturbance in which the greater number of bacteria, as for instance those inhabiting the gastrointestinal tract, may get into the blood, and require excessive action on the part of the cells, of the lymphatic glands, kidneys, etc., in order to destroy them. This condition of subinfec-

tion may be associated with certain morbid conditions with which we are already familiar. Adami then calls attention to the fact that in hepatic cirrhosis he has been able to find small diplococcoid bodies that he believes are possibly forms of the colon-bacillus. As certain forms of cirrhosis are associated with an excessive production of pigment due to destruction of the blood, and as this also occurs in pernicious anemia, Adami was led to examine the livers of the latter condition with the result of finding the same diplococcoid bodies, and he suspects that in pernicious anemia, therefore, we have the condition of subinfection. [J.S.]

4.—Beck, in regard to **aseptic catheterism,** advocates as a prophylactic the injection into the urethra of a 5% emulsion of iodoform in glycerin before the introduction of an instrument. If there happens to be an abrasion of the mucous membrane the wound-serum sets iodin free, and during this liberation the bacteria are destroyed. Of course the sterilizing of hands and instruments must be conscientiously carried out. [G.B.W.]

5.—Phelps reports 9 cases of **pistol-wounds of the head,** 5 of which were fatal, and in two of the cases which recovered the ball failed to penetrate the brain. He says that all pistol-wounds of the cranium and all those involving the cranial cavity should be carefully explored, and that so far as practicable not only the bullets but all the fragments of bone should be removed. [G.B.W.]

6.—In Benedict's case of **polydactylism** the little finger and the little toe are the members duplicated. [G.B.W.]

January 13, 1900. [Vol. lxxvi, No. 2.]

1. Gonorrhea; Its Dangers to Society. ALBERT NEISSER.
2. Experimental Tests at Vera Cruz, Mexico, of the Doty-Fitzpatrick Serum for the Prevention and Cure of Yellow Fever. A. MATIENZO.
3. Report of a Case of Scorbutus in an Infant. WALTER LESTER CARR.
4. Myomectomy per Vaginam Combined with Shortening the Round Ligaments for Retroversion, Etc. J. RIDDLE GOFFE.

1.—Neisser contributes an article upon the **social dangers of gonorrhea,** considers it the most frequent of all contagious diseases next to measles, and serious on account of the occurrence in the majority of cases of serious complications. These may lead to mechanical disturbances, to general infection, or by the invasion of the remoter portions of the genitourinary tract to sterility. [The paper is unfinished. J.S.]

2.—Matienzo has carried out a series of experiments upon guineapigs and human beings with the **yellow fever antitoxin serum,** prepared in the bacteriologic laboratories of the New York Health Department. The animals were immunized by filtered cultures, which were introduced into the jugular vein. The series of experiments proved that the injection of the serum obtained from the immunized horse would prevent death from a lethal dose of the culture in guineapigs, or if given at the same time as the culture, would have a curative effect. The serum was also given to 6 patients suffering from yellow fever. The first case, a man, received 15 cc. on the third day of the disease, 20 cc. on the fourth, and 60 cc. on the sixth day. Another injection was made, but on the eighth day of the disease the condition of the patient was so unfavorable that no injection was given. Nevertheless, he was convalescent 3 days later. The second patient, a man, received 20 cc. on the second day of the disease, and repeated injections on the following days. He died on the ninth day. The third case, a man, received his first injection on the third day, and in 2 days was given 180 cm. and died on the fifth. The fourth case, a man, received 120 cc. of serum on the fourth day, and was convalescent on the seventh. The fifth patient, a man, received 135 cc. on the second day, and 100 cc. on the third day. The convalescence was established on the fourth day. The sixth case, a man, received 46 cc. intravenously, and the second day there was an intense reaction, but in spite of repeated injections, death occurred on the fifth day. Two patients submitted themselves for preventive inoculation. The first patient received injections on different days, having a slight reaction after each. The day after the last injection, his condition was normal; the second subject received 4 injections with slight reaction. Apparently this reaction corresponded closely to the amount injected, and was not dependent upon the order of the injection. Six cases who had had yellow fever received injections, and practically all of them reacted. The following conclusions were drawn: Intravenous and subcutaneous injections produce general reaction; no effect is produced upon the disease nor even upon the individual symptoms; the reactions obtained in convalescence prove that the antitoxic substance does not cause the cure. [J.S.]

3.—Carr reports the case of a baby who seemed to do badly on all kinds of food, and finally developed a pseudo-paresis of the lower limbs, evidently due to pain, with slight swelling in the left thigh and somewhat less in the right, and also some swelling at the ankles. The gums were dark and swollen, but there was no hemorrhage. The diagnosis of scurvy was made, the patient put upon beef-juice, orange-juice, and fresh milk, and rapidly recovered. [J.S.]

4.—Goffe reports a case of **myomectomy** performed through a vaginal incision, combined with a shortening of the round ligaments for retroversion. A fibroid about the size of a hen's egg was removed from the posterior wall of the uterus, and the uterine incision closed with a buried catgut suture. The round ligaments were also shortened through the vaginal incision. [W.K.]

Boston Medical and Surgical Journal.

January 11, 1900. [Vol. cxiii, No. 2.]

1. A Case of Perforating Gastric Ulcer; Operation; Recovery; with Remarks on the Surgery of Gastric Ulcer. F. B. LUND.
2. The Case Method of Teaching Systematic Medicine. W. B. CANNON.
3. A Case of Relapsing Fever. GEORGE O. WARD.
4. On the Treatment of Pain in Tabes Dorsalis; Report of a Case. ALFRED H. LINDSTRÖM.
5. A Pistol-Wound of the Abdomen. C. A. ATWOOD.

1.—Lund reports a case of **perforating gastric ulcer** which he operated on with an absolute recovery following. The ulcer was situated on the anterior aspect of the stomach, ¾ of an inch to the left of the pylorus. The operation took place about 16 hours after perforation, general peritonitis had already set in, and there was a thin deposit of fibrin over the anterior surface of the stomach and small intestine. Cultures made from the peritoneal fluid showed the presence of the streptococcus pyogenes, and the bacillus coli communis. The ulcer was treated by inverting the edges and folding in the gastric wall over the ulcer and finally suturing the duodenum to the stomach over the suture-line. Statistics collected by Dennis, Cobb and the author show that recovery takes place in 45% of the cases of perforating gastric ulcer. The improvement in the number of recoveries has been very marked in the last few years. Cases operated on within 12 hours of the perforation give as high as 79% recoveries, and within 24 hours as high as 65%. Later than this after the perforation, operative procedures for gastric ulcer may be called for in abscess formed by adhesions, shutting off the general peritoneal cavity, in scar contraction near the pylorus. [G.B.W.]

2.—Cannon, after a discussion of the inadequacy of didactic teaching, as commonly employed, and the loss of interest on the part of the students which it entails, suggests, as a compromise, the adoption of the methods employed in the Harvard Law School, the use of printed records of cases. These are to be given to the students, and should include history and symptoms, the students being required to make a diagnosis and to suggest treatment. By this method he believes that the greatest degree of interest may be aroused, the students becoming acquainted with the symptoms as they actually exist in disease, not as they are presented formerly in the textbooks or didactic lecture; and as the records of any hospital contain descriptions of practically all excepting the rarest forms of disease, material need never be lacking. Of course, as the system is developed, more records from a greater number of hospitals will become available. After the students have been given the records, and have had an opportunity of studying them, they are brought together in the class-room for clinical conferences, in which the diagnoses are read and criticised. Cannon regards as the most important aspect of this system its great value in drilling the mind of the student to meet intelligently the difficulties of practice. [J.S.]

3.—Ward reports the case of an Armenian immigrant, 18 rs of age, who came to this country in August direct from atic Turkey. When admitted to the hospital, his temperre was 104°. There was no eruption; the liver and spleen re slightly enlarged; and the diazo-reaction was absent. e following day the Widal reaction was also absent, and larial parasites were not found. The temperature conued very high until the 13th, when it fell from 104.8° to 2° with corresponding diminution in the rate of the pulse. e patient improved considerably until the 21st of August, en the temperature suddenly rose from 97.8° to 105.5° asiated with increase in the number of leukocytes. It conued higher until the 23d, when it fell to rise again on the h. From this time convalescence was steady and rapid. e spirillum of Obermeyer was not found, but unfortunately s not looked for until the relapse. [J.S.]

4.—Lindström reports a case of **tabes dorsalis** in a man, years of age, who had had pains in the legs for 10 years. out a year previously he developed other symptoms of omotor ataxia; the pains by this time had become so inse that they required active treatment. The sciatic nerves re, therefore, stretched posturely; that is, flexion of the gh and extension of the leg and foot for 2 minutes. The ins remained absent through the night, and the next afternon another stretching was performed, relieving the pain a prolonged period. A third precautionary stretching s performed the following day, and after this period no ere pains recurred. He was given iodides and a laxative ter, and showed considerable improvement. The only mediate disagreeable result was some numbness in the s. [J.S.]

5.—Atwood reports a case of **perforating pistolound of the abdomen.** Immediate laparotomy was rformed, and the intestinal wounds closed, but the patient d from shock the same day. At the autopsy all the perations were found closed, and the ball resting against the im. [G.B.W.]

Journal American Medical Association.

January 13, 1900. [Vol. xxxiv, No. 2.]

Medicine and Law. DUNCAN EVE.
Practical Use of Radiograph and Fluoroscope in Diseases of the Lungs. T. MELLOR TYSON and WILLIAM S. NEWCOMET.
Chalicosis Pulmonum or Chronic Interstitial Pneumonia Induced by Stone Dust. WM. WINTHROP BETTS.
Notes on Catelectrolysis (Electrosis) in the Treatment of Skin Diseases. FRED J. LEVISEUR.
Case History and Photograph. B. MERRILL RICKETTS.
Contagiosa Bullosa. JOHN S. WINDISCH.
Formaldehyd Disinfection. W. K. JACQUES.
Poliomyelitis Anterior Acuta Adultorum. HERMAN H. HOPPE.
Case of Spinal Anterior Subacute General Paralysis. C. EUGENE RIGGS.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. iv, page 700.

2.—Twelve cases are reported in which the radiograph d **fluoroscope** were used in the **diagnosis of diseases the lung.** The method is considered a great help in the rly recognition of tuberculous disease, and it is thought at a fluoroscopic examination should be made if there is e least doubt as to the diagnosis. The disease may thus be cognized at a stage in which proper treatment might be pected to produce a cure. In other cases the diagnosis of vities and idea of their size can be obtained by this method en other methods fail to give positive evidence. It is often und possible to recognize disease with the fluoroscope when decided disease is shown by the radiograph. [M.B.T.]

3.—Betts has carefully studied and tabulated a report of cases of **chalicosis pulmonus** resulting from the **inhation of dust** in a quartz-crushing mill. He states that ost of the men who have worked in this mill for from 7 to months are dead, and the others are sick, and this is not unusual result of such employment. Every man who rks in the mills 2 or 3 weeks is subject to acute bronchitis sulting from the irritation of the dust and inability to resist ght exposure. The mucous membrane of the nose, throat, d conjunctiva, then become acutely inflamed, soreness of e trachea and bronchial tubes develops, and there is shortness of breath and loss of weight. The condition becomes progressively worse and, in many cases, the temperature rises later in the disease to 102 or 104. The men affected were all young and vigorous and without unfavorable family histories; the average time of employment was 14 months, and the average time survived was 10 months. Postmortem examination showed the lungs to be cirrhotic, infiltrated with mucopurulent secretion and mottled by hepatization. The fibrous process developed throughout, but was more marked in the lower lobes. In some cases there were multiple abscesses and much broken-down tissue. No treatment is of any avail, though much can be done to prolong life by improving the hygienic conditions and stimulating general nutrition. Betts states that there are no mechanical difficulties to prevent ventilation of mills and the distribution of hoods, fans or dust-collectors in such a way as to free the mills from dust, thus making them comparatively safe. Corporations are regardless of the sacrifice of lives. [M.B.T.]

4.—There are such radical differences between the electricity from the negative and positive poles that it is suggested that the operations performed with instruments connected with the negative pole be termed **catelectrolysis** instead of electrolysis. This method is indicated wherever the avoidance of scars is of importance; it is superior to the galvanocautery or the Paquelin and all chemical caustics and wherever a limited local action is desired. It is not of great value in the treatment of malignant new growths and all those benign tumors which tend to spread rapidly. The needle is introduced into the hair follicle or the tissue, the current is started by the patient closing the hand on a sponge electrode devised by the author, and 20 to 30 minutes, exposure to a current of 2 to 5 milliamperes is sufficient. The operation may be rendered painless by freezing with the ethyl-chlorid spray. [M.B.T.]

5.—A man of 31 had a small congenital mole 2 inches below the right nipple which began to increase in size. It was excised, and there was no recurrence for over a year; the growth then returned and extended rapidly, covering the area from the axilla nearly to the umbilicus. It consisted of red elevated nodules resembling a bunch of grapes and was considered some form of **sarcoma,** though the patient would not allow excision of any part of the growth for microscopic examination. He insisted on treatment by exposure to the x-rays and for a time the growth seemed checked, but it began to grow again and death followed. [M.B T]

7.—**Formalin** is highly recommended **as a disinfecting material.** The gas is most satisfactorily and cheaply obtained by evaporation of a 40% solution. It does the work in the shortest possible time and does not subject tenants to much inconvenience, a matter of importance in the crowded quarters of the poor, to whom the giving up of a room for a day is often a great hardship. It destroys odors, does not attack and injure metals and there is no danger of fire. As a disinfectant it has no equal. [M.B.T.]

8.—See PHILADELPHIA MEDICAL JOURNAL, Vol. iii, page 1397.

American Journal of Medical Science.

November, 1899. [Vol. cxviii, No. 5.]

1. Paralysis Agitans and Sarcoma. CHARLES L. DANA.
2. A Study of a Case of Family Periodic Paralysis. JOHN K. MITCHELL.
3. Kraurosis Vulvae. J. M. BALDY and H. L. WILLIAMS.
4. The Immediate and Remote Effects of Athletics upon the Heart and Circulation. ALFRED STENGEL.
5. A Short Umbilical Cord as a Cause of Dystocia. SAMUEL M. BRICKNER.
6. An Experimental Study of the Absorption of Strychnin in the Different Sections of the Alimentary Canal of Dogs. S. J. MELTZER.
7. A Critical Summary of the Literature of Splenic Pseudoleukemia (Anemia Splenica; Splenomegalie Primitive). BERTRAM W. SIPPY.

1.—Dana reports a typical case of **paralysis agitans** with careful **postmortem examination.** The result of the latter is given in the following summary: Some general atrophy of the cord, moderate increase in connective tissue, and dilation of perivascular spaces; no special thickening of the bloodvessels, either veins or arteries; no meningeal

thickening; pronounced changes in the anterior cornual cells, pigmentation and vacuolization, loss of dendrites, diminution in the richness of the plexus formed by the dendritic processes; the process most marked in the upper cervical and lower dorsal region; Clarke's column was not markedly affected; the brain-cortex showed slight degeneration of cells; the olivary nerve-cells degenerated; the peripheral nerves normal; the muscles and end-plates showing some fatty degeneration. Regarding the **pathology** and **pathogenesis** of paralysis agitans, the author is strongly convinced that the condition is not merely a premature senility; the symptoms of rigidity and palsy are not those of premature senility, nor are the vasomotor disturbances, the hitching of the voice, and the tremor like the analogous symptoms seen in old age. The clinical facts and pathologic examinations in cases of paralysis agitans lead to the conclusion that the lesions involved the dendrites of the cells of the anterior horns of the spinal cord or the end brushes of the neuraxons that come from the voluntary motor tract and the cortical motor centers of the brain. Dana thinks that we might in the latter case establish even a sort of analogy between paralysis agitans and locomotor ataxia. Thus, while in locomotor ataxia the effect of the pathogenic poison is to produce a degeneration of the axis-cylinder of the posterior spinal ganglion-cells, this degeneration, often apparently beginning in the periphery, and not closely involving the cell-body at first, in paralysis agitans the special poisons affect the end-brushes of the axis-cylinders of the cortical cells of the brain, producing a destruction of them, but not involving the main trunk of the axis-cylinder. It is probable that there is in paralysis agitans an early functional disturbance, and later a degeneration and destruction of the dendrites of the anterior horn-cells, which lead to interference with the even flow of motor impulses and finally to motor weakness and rigidity, owing to the fact that the cell is practically cut off from the brain. The pathogenesis of paralysis agitans is still unknown, but Dana believes that the disease depends upon some injury to the nervous mechanism at an early epoch in life. This injury may be due to some infection, perhaps to a poison allied to that of rheumatism, for no other disease is mentioned so frequently in the anamnesis as rheumatism; there are, moreover, many facts in the clinical history of the disease which suggest a relationship between paralysis agitans and that form of rheumatic manifestation which is known as a rheumatoid arthritis. Believing that the disease might possibly be due to some defect in glandular secretion, Dana has tried the various gland-extracts, but without any benefit. [The reviewer has been struck with the similarity between some of the symptoms of paralysis agitans and those of exophthalmic goiter. In both we have tremor, a tendency to sweating and hot flushes, and to serous diarrhea. He is not surprised to learn, therefore, that cases of paralysis agitans are made worse by thyroid extract. D.R.]

2.—See PHILADELPHIA MEDICAL JOURNAL, Vol. III, p, 1037.
3.— " " " " " III, p. 1201.
4.— " " " " " III, p. 1035.

5.—Shortening of the umbilical cord may be relative or accidental, as from winding the cord about the fetus, or natural or absolute. The cord may vary in length from two inches to many feet. To be a factor in the delay of labor, the cord must actually be so short that the fetus cannot be born without one of several accidents happening. These accidents may be rupture of the cord, detachment of the placenta, inversion of the uterus, and umbilical hernia in the child. The first two are the most common; the last two the rarest. The limit of safety in the length of a cord is about 10 inches. Cords shorter than 10 inches are very rare. Brickner has seen one case of absolute shortening of the cord, the length being 10½ inches. The mother, an elderly primipara, during the second stage of the labor complained of pain over the left side of the uterus, the location of the placental site. She urinated frequently during the beginning of the second stage between pains. The child was born after a labor lasting 33½ hours. It was somewhat asphyxiated, but was easily resuscitated. The placenta was the seat of extensive calcareous infiltration. The child had a marked protrusion of the umbilicus, which after the dropping of the cord presented a granulated surface. It proved to be an umbilical hernia, and is attributed by the author to he tremendous tension upon the cord and its attachments at both ends during the labor. The most marked sympto of short cord are, in the order of their importance, following: (1) Recession of the head in the interv of pains. (2) Arterial bleeding during and between uteri contractions. (3) Urination in small quantities in the int vals of pain after the establishment of the second stage. Pain over the placental site, especially during a uterine c traction or during the application of forceps. (5) A des of the patient to sit up. (6) Uterine inertia. From t standpoint of **treatment,** it is unfortunate that the di nosis of an absolutely short cord can rarely be made w certainty before the birth of the child as far as the umbilic When a short cord is suspected the labor should be term ated as soon as possible. By pressing the fetus down, t placental insertion of the cord is brought nearer its umb cal insertion, and the danger of rupture somewhat avert Postural methods may be tried by having the mother assu a squatting or kneeling position. If the child presents the breech, the cord should be tied as soon as the umbilic is born. The use of the forceps is contraindicated in th cases; it would be almost certain to end disastrously for t child. [D.R.]

6.—A careful series of experiments with dogs lead Melt to the following conclusions: (1) The absorption of stry nin in the stomach is incomparably slower than in any oth section of the alimentary canal, and, furthermore, the sorbent power of the fundus seems to be even lower than th of the entire stomach. (2) The power of absorption in t esophagus is somewhat better than in the stomach, but still considerably inferior to the absorption within the oth parts of the alimentary canal. (3) The power of absorpti in the other parts of the canal—*i. e.*, the small intestin colon, and rectum—seems to be equal. The differen which were observed are too small and the method not ex enough to justify the assumption of an actual difference the absorbing power of these parts. However, the expe ments brought out the following remarkable facts: That t isolated rectum absorbs at least as well as the small int tines; that in some experiments the effects appeared earl when the rectum was isolated than when it had free conn tion with the balance of the gut; that from no part of t canal were such short intervals between the injection of t strychnin and the appearance of the tetanus observed as we frequently seen when it was injected into the rectum—in t latter case the interval was sometimes only 2 or 3 minute finally, impaction of the rectum proved to be no hindran to the prompt absorption of the poison therefrom. [D.R.]

7.—Sippy gives a valuable resume of the literature **splenic pseudoleukemia.** The diagnosis of this con tion depends upon the presence of idiopathic splenic hyp trophy, a progressive anemia without a leukocytosis prese ing the characteristics found in leukemia and the absence marked lymphatic enlargement. The course of the dise is distinctly progressive. The average duration appears be about 2 years. Death results from progressive marasm and intercurrent disease. Medical treatment seems to be no positive value. The removal of the spleen has arrest the process in a number of cases. Without surgical interf ence, the prognosis is unfavorable. The cause of the dise is unknown. [D.R.]

Berliner klinische Wochenschri t.

August 14, 1899. [36. Jahrg., No. 33.]

1. Early Operation in Purulent or Gangrenous Appendicit RIEDEL.
2. Normal Formation and Pathologic Changes of the Nerv Cell. H. ROSIN.
3. The Removal of the Crystalline Lens for High Degrees Myopia. RAU.
4. Concerning Primary Retroperitoneal Abdominal Echin coccus. F. KAREWSKY.
5. Concerning "Validol," a New Menthol Preparatic VERTUN.

2.—This is a somewhat popular discussion of the **neuro theory,** in which the principal facts are epitomized. O point may be noted, and that is the author's atudies on t pigment of nerve-cells. This pigment, which stains bla

osmic acid, is found in every normal cell of adults. The ules are probably fatty in nature and are related to the ns. They have never been found in the ganglion-cells nimals or in the human subject in the first months of [D.R.]

—Karewsky reports two cases of **retroperitoneal inococcus,** one of 25 years' standing. In both cases symptoms were very obscure and various diagnoses, as eria, lumbago, etc., had been made. He believes it well scure cases with these symptoms to make an exploratory ture with a long, strong needle, and thinks a radical ation the only proper treatment. Case I: Frau F., aged uffered for a long time with pain in the left lumbar on; a careful examination revealed great resistance and lging outward of that side over the kidney; the urine found to contain a small amount of pus and albumin. eving there was suppuration of the kidney, an opening imon's method was made. The capsule was sound, but erior to and below the kidney a thick shining skin was d revealing the probable cause of the trouble seated in etroperitoneal tissue. The opening was extended to the of the pelvis, the thick skin incised and thick pus and echinococcic cyst were removed. The membranous th extended down in front of the colon and the sigmoid re so that it was necessary to make an incision under anterior superior spine of the ileum and drain. The alescence was very simple. In 16 days fresh granula- had formed, and in 46 days the patient had completely vered. [W.K.]

—**Validol** is a fluid substance having a faint mint odor, is chemically the **valerianate of menthol,** contain- about 30% of the latter. The author has used it as a e-sedative in neurasthenia, hysteria, migraine, vomiting regnancy, irritable bladder, and chordee, giving 10 or 15 s 3 times a day. The results were very good. The urine the administration of validol has a peculiar odor, that rier-wood, and contains glycuronic acid. [D.R.]

August 21, 1899. [36. Jahrg., No. 34.]

o what Extent can we Sterilize our Hands? G. GOTTSTEIN and M. BLUMBERG.

. Preliminary Communication upon a New Method of Applying Strong, Long-Continued Galvanic Currents. FRANKENHÄUSER.

he Theory of Enteroptosis and Nervous Dyspepsia upon the Basis of Costal Stigmata. B. STILLER.

oncerning the Treatment of Severe Neurasthenia with Sperminum-Poehl. M. SALOMON.

arly Operation in Purulent or Gangrenous Appendicitis. RIEDEL.

—During the past 3 years a series of experiments have carried out in Mikulicz' clinic to determine in how t is possible to **sterilize the hands.** In 150 cases the lization was carried out as follows: the hands were ed for three minutes with warm water and soft soap, for or two minutes with 96% alcohol and for about the same th of time with 1:1000 mercuric chlorid solution, using a h. Of these cases there was found to be infection in not than 61.3% and in 14.3% of the cases the staphylococcus us was discovered. The tests were made by pressing fingers upon agar-agar which was contained in culture es. By prolonging the time of disinfection to 8 or 10 utes' washing with soap and water, 3 minutes with hol and 2 or 3 minutes with mercuric chlorid solu- or lysol, the hands were found to be free from ns in 53% of the cases. It is interesting to note that r operations undertaken in those cases in which it was rwards found that the hands were not free from germs r disinfection, the recovery was not influenced in most s. But it must be remembered that the gravity of in- on depends as well upon the virulence of the bacteria pon their presence, and is influenced by the resist- e of the individual that is operated upon. It is defily proved that the finger nails may be rendered sterile n germs may be found on other parts of the hand. es were observed in which the finger nails were germ- , but numerous cultures resulted from areas in which e were superficial defects in the epithelial layer of the . The reason for this is, probably, that unintentionally e wounded places are not as thoroughly scrubbed and owing to their irregularity of surface it is perhaps impossible to make them clean mechanically. It is not to be questioned that after the disinfection the results obtained are much too favorable. By scratching the fingers a little or by testing the hands afterwards in operations in which they have been protected by gloves, numerous germs were very often found, hence our investigators conclude that it is impossible to render the hands completely free from germs, and in the Mikulicz clinic gloves are always used. The tricot gloves are preferred to rubber gloves for the reason that they do not interfere with the sense of touch so much and are not as likely to become injured and consequently useless. It is recognized that they are not impenetrable by germs, but they act as a filter through which the germs from the hands do not escape provided they are frequently changed. [M.B.T.]

2.—The study of the **therapeutic application of the galvanic current** in the human subject has been retarded by the fact that the current acts more powerfully at the point of entrance than in the interior of the body, often producing cauterizing effects at the former. To obviate these obstacles the author advises the employment of such solutions about the electrodes as will, when decomposed, not give rise to any caustic action. By constant irrigation of the electrodes with physiologic salt-solution the decomposition products are removed, and to prevent, if possible, the formation of these products the anode is moistened with a sodium salt and the cathode with a hydrochloric-acid solution, both solutions being equimolecular to the physiologic salt-solution. Even when employing the current for hours, the author has not seen any deleterious effect. Caution, of course, is always necessary. [D.R.]

4.—Solomon has used Poehl's **spermin** with good results in the treatment of 2 grave cases of **neurasthenia.** Spermin has the peculiar property of increasing the intraorganic oxidation and of preventing the formation of toxic intermediate products of metabolism. It is given either by the mouth as the hydrochlorate of spermin and sodium, in doses of 20 to 30 drops of a 4% alcoholic solution, 2 or 3 times daily, or subcutaneously in a 2% solution. [D.R.]

5.—Riedel states that at the last German Surgical Congress most of the members expressed themselves as in favor of delaying the operation in appendicitis until the abcess-wall had become firmly adherent to the abdominal wall, although this adhesion very often does not occur. He opposes this position on the ground of investigations which he has carried out. From information obtained from practising physicians, with regard to 554 cases, he concludes that in about 50% of the cases the disease is so light in character that operation is not necessary, for life is not in danger. But in 166 cases he has performed the **early operation in appendicitis** and only 20% of this number suffered from purulent appendicitis. If acute fever and a rapid pulse are present, together with tumor, immediate operation is always indicated; this is also the case if there are particularly severe general symptoms even if a tumor can not be demonstrated. Early operation has the following advantages: The incision need not be large, all organs are easily recognized, the adhesions are slight, and if pus is formed it is in very small quantities. The abdominal wall may be closed with double catgut sutures, leaving only a small opening for gauze drainage, and the whole operation is entirely easy. Operation is indicated as much in these cases of purulent or gangrenous appendicitis as in strangulated hernia. Many excellent suggestions are given with regard to the operative technic. As before stated, Riedel recognizes that operation is necessary in about 50% of the cases; only the purulent and gangrenous cases demand immediate intervention. [M.B.T.]

August 28, 1899. [36. Jahrg., No. 35.]

1. Concerning Placenta Praevia, especially Placenta Praevia Cervicalis. E. PONFICK.
2. Concerning the Evidence of Albumose in Urine, and upon Enterogenetic Albumosuria. L. v. ALDOR.
3. Primary Sarcoma of the Small Intestine. E. SIGEL.
4. The Theory of Enteroptosis and Nervous Dyspepsia, upon the Basis of Costal Stigmas. B. STILLER.

1.—Ponfick reports 3 cases of placenta praevia cervicalis and describes the 3 specimens which came into his possession. [W.K.]

3.—A boy, 3 years and 9 months old, was taken with severe abdominal pain, distention and tenesmus. After 8 days the condition improved, but there continued to be more or less pain; there were frequent periods of constipation alternating with diarrhea and the child sank into a very low stage. With the belief that a chronic obstruction of the intestine was present which could only be relieved by operative interference, the abdomen was opened by an incision along the outer border of the rectus muscle. **A nodular tumor** was found among the coils of the jejunum, and in this region the mesenteric glands were swollen, some of them almost to the size of a hen's egg. The tumor was resected with a triangular piece of the mesentery, and the ends were united with double sutures. The omentum was sutured and the abdomen closed with drainage. The resected piece of intestine measured 30 cm. in length and a diagnosis of sarcoma of the small intestine was made. There were no signs of peritonitis after the operation, but the child's condition gradually became worse and he died 17 days after the operation. The lumen of the intestine was found to be perfect; there was a small incapsulated sac of pus, but no other sign of peritonitis. The omentum, retroperitoneal glands, the greater curvature of the stomach, the pancreas, and kidneys were found infiltrated by metastasis to a greater or less extent. [M.B.T.]

4.—Stiller several years ago pointed out that in the vast majority of cases of **enteroptosis the tenth rib was movable,** just as the eleventh and twelfth are normally. He found this costa fluctuans, or the costal stigma, as he called it, not only in enteroptosis, but also in Reichmann's disease (hypersecretio acida). It is probable that acid hypersecretion is related to enteroptosis and generally depends, like the latter, on a congenital predisposition. He also found that the majority of cases of nervous dyspepsia were accompanied by some degree of enteroptosis, or rather that the dyspepsia of enteroptosis was the basal factor in all cases of nervous dyspepsia. In contradistinction to Glénard's views, Stiller maintains that enteroptosis depends on a congenital malformation and is not due to a traumatic mobilization of the colon. He has found several degrees of movability of the tenth rib; the highest is that in which the tenth rib corresponds fully to the movable eleventh and twelfth ribs; a milder degree is that in which the tenth rib is movable, but in which the cartilaginous band uniting it with the rib above is preserved or is only slightly shortened. The majority of cases of congenital enteroptosis present the costal stigma, but there are some in which this is absent. The presence of the stigma is positive proof of the congenital origin of the enteroptosis; its absence does not disprove such an origin. The chief part of the present article, however, is taken up with a polemic against Glénard and others who differ from the author. [D.R.]

Wiener klinische Wochensehrift.

August 10, 1899. [12. Jahrg., No. 32.]

1. Examinations of Transplanted Skin-Patches in Regard to Sensation. E. STRAUSKY.
2. Fibroma Molluscum (Virchow). P. MERKEN.
3. Congenital Kidney-Insufficiency on Both Sides without Other Noteworthy Malformation. R. BAYER.

3.—Bayer, in a male infant that died immediately after birth, found that the **kidneys were entirely absent;** the adrenals were present, but were twice as large as in infants of the same size; the bladder was present; ureters were not found; the urethra ended blindly at the end of the penis; the amniotic fluid was apparently normal in amount. [D.R.]

August 17, 1899. [12. Jahrg., No. 33.]

1. Concerning great Cortical Irritation after Pyramid Section or Other Parts of the Central Nervous System, with Special Consideration of Cortical Epilepsy. H. E. HERING.
2. Examination of Transplanted Skin Patches in Regard to Sensibility. E. STRANSKY.
3. Fibroma Molluscum (Virchow). (*Continued.*) P. MERKEN.

1.—Hering has studied the effects of **stimulation of the cerebral cortex after section of the pyramids or other parts of the central nervous system.** The experiments were made on 27 dogs and 20 monkeys. results are as follows: *A.—In dogs.* I. After section of pyramids it is possible to produce by stimulation of the centers of the cortex: (*a*) Movement of the contralatera tremities; (*b*) isolated movement of either the anteric the posterior limb; (*c*) isolated movements of the poste extremity; (*d*) an existing extensor spasm of the poste extremity can be inhibited by weaker currents than or the anterior extremity; (*e*) with an increase in the stimu movements of all extremities can be produced; (*f*) after division of the pyramids, clonic spasm (cortical lepsy) of the extremity can be produced. II. After s section of the medulla oblognata, contralateral movem can be produced from the right as well as from the left of the cortex; the impulse in this case is conveyed from one cortex through the pyramidal tract, from the o through a **second corticofugal** pathway. These ex ments also show that the second corticofugal tract de sates above the medulla. III. After division of the p mids, movements of the contralateral extremities car excited by stimulation of the cortex, as well as of the inte capsule. IV. Divisions of the cord have shown that the ond contralateral corticofugal tract runs like the pyram tract in the lateral column of the cord. V. After sion of the pyramids and semisection of the medulla, m ments limited to the homolateral extremity, as well as hc lateral clonic spasms (cortical epilepsy), can be obser VI. As the pyramidal tract, the second corticofugal cor lateral tract, and the homolateral tract may take part in production of clonic convulsions, it follows that all cor fugal tracts which serve as pathways for the productio motion in the extremities serve also as pathways for production of clonic spasms—that is for the pro tion of cortical epilepsy. B. *The results in monkeys a follows:*—I. After division of the pyramids it is not poss to produce either isolated movements of the contralat extremity or the inhibition of a tonic spasm in the isol extremity. II. It is possible, however, to produce (*a*) a m ment of the homolateral extremities, and (*b*) a movemei the contralateral extremities. III. While after divisio the pyramids it is not possible to produce isolated m ment of the contralateral extremities, movements of eyes and facial nervous territory can be produced. Movements of the head are also obtained through ne which leave the spinal cord caudad from the point of sion of the pyramids. V. After division of a pyramid, monkeys are seen to make spontaneous movem of the extremity situated on the side of the div pyramid. VI. The experiments also prove that movements of closing and opening the hand stu by the author are connected with the pyramids. Regarding the function of the pyramidal tracts the auth experiments on monkeys show that these tracts concerned in coordinated muscle-contraction as well a coordinated muscle-relaxation, and especially in the pro tion of isolated movements in the contralateral extren With regard to **cortical epilepsy,** the results may be s marized as follows: (1) Just as it is possible to produce molateral movements, homolateral clonic spasms car produced which remain localized on the homolateral If the contralateral extremities participate, the convuls in them are less marked. (2) If only one pyramid is div and the cortex belonging to the intact pyramid is stimula light clonic convulsions of the contralateral extremitie produced. The extremities situated homolaterally to cortex stimulated and to the intact pyramid almost n participate.

General Results in Dogs and Monkeys.—I. All tracts w produce muscular contraction can also produce musc relaxation. Specific inhibitory pathways or inhibitory ters cannot be demonstrated. It is possible to explain inhibitory processes without specific pathways on the th that they depend upon differently conditioned states of nervous system and muscles. II. Specific pathways fo production of clonic convulsions (cortical epilepsy) are demonstrable. III. The difference between dogs and r keys with respect to the function of the corticofugal t consists in (*a*) that in monkeys the pyramidal tracts pl greater part in the production of isolated movements of contralateral extremities than in the dog (in man they even a greater role than in the monkey). The dog, on

other hand, possesses a contralateral tract concerned in isolated movements. (*b*) That in the monkey the homolateral tract possesses a more specialized function and is more easily stimulated than in the dog. In the dog, as well as in the monkey, all the tracts, except the pyramidal tract, which mediate in the production of movements in the contralateral or homolateral extremities, pass through the dorsal portion of the pons. [D.R.]

2.—A careful study of **sensation on transplanted portions of skin** leads Stransky to draw some valuable conclusions: First, pain-sensation is distinct from the tactile sense, and is to be considered as a sensation *sui generis;* there is also no definite topographic connection between the pain and the temperature-sense. Secondly, the development of sensation in transplanted sections of skin proceeds from the periphery, tactile sensation appearing first, later pain, and finally temperature-sensation. There are some limitations to this rule, however. Thirdly, the degree of sensation developing in the flap depends upon the size of the flap, inasmuch as in large flaps portions remain for a long time, or even permanently, hypostatic; it is also influenced by the nutrition and the reparative processes; it does not seem to be connected with the degree of vascularization. Qualitative and quantitative ratios of sensation of transplanted flaps also depend upon the place whence the flap was taken, *i. e.*, the flap seems to carry with it the specific sensibilities, especially as regards the tactile sensation, of its native seat; in other words, the original end-organs remain intact and are transported to the new soil and become connected with the ingrowing nerves, for which they serve as end-organs. Several reasons are given for believing that the tactile corpuscles are preserved. Whether the richness in the nerves of the new environment had anything to do with the degree of sensibility of a flap, could not be definitely determined. The author is inclined to believe, to some extent at least, in specific sense-organs. The peripheral end-organs have more than a mere conducting function and possess some degree of selective power. This does not diminish the important role of the central organs in giving color to the sensations. [D.R.]

Revue de Médecine.

October 10, 1899. [19me Année, No. 10.]

1. Angina Pectoris not of Coronary Origin. Moral Lavalette.
2. Sexual Instinct. Generalities. Its Evolution. Ch. Féré.
3. Rhizomelic Spondylosis. Leri.
4. Chronic Tuberculosis of the Auricles. C. Cabannes.
5. Hystero-traumatism Consecutive to the Fall from a Horse. Bassompierre and Schneider.

1.—The article criticises strongly the tendency to call all cases of **angina pectoris** not conforming to the so-called "true" type pseudoanginas. The strongest basis of the argument that the pseudoanginas or hysterical anginas are dangerous cases, is furnished by the account of a personal case in a hysterical woman. She had grip and afterward had chronic bilateral pleurisy. She had attacks of intercostal neuralgia, the brachial plexus became involved, then the cervical plexus, the phrenic nerves and finally the cardiac plexus, and she developed attacks of angina pectoris of the so-called neuropathic type, with hysterical excitement. These became associated with marked vascular spasm and chills, pallor, syncope and nausea occurring. She had such attacks for two years, but had improved under treatment and seemed in a fair way to recover. Morel Lavalette thinks that such cases and similar ones, of which examples are detailed, in which so-called pseudoangina follows pleurisy or the signs of neuritis or neuralgia of the brachial or other nearby nerves, are now properly considered instances of ultimate involvement of the nerves of the heart—a true neuralgia (or at times, a neuritis) of the heart. In one such case the element of danger in pseudoangina was demonstrated by the ultimate dilation of the heart and death from asystole. [An emphasis of the fact that an easy-going diagnosis of a simulation of disease is always dangerous. D.L.E.]

2.—Féré's article is an argument for the repression of brutal instincts in men and an insistence that they should not, even in marital relations, impose dangers upon women. He offers proof that the frequent teaching that sexual indulgence is necessary is not true and is pernicious; that the **sexual instinct** is acquired through precept and example, not inborn; and that the real instinct that is being produced by evolution is parental and not the indulgence of impulse. He reviews the progress of evolution from the low forms of life in which the organism loses its life in the accomplishment of sexual congress; through the brutal form of instinct given animals for the purpose of propagation of the species; the slight advance seen in those savages who commit infanticide in order to overcome the results of indulgence and those who further the same end by abortion; and ends by insisting that universal chastity, marital and extramarital, together with the production of fewer children who will be able to have all the adantages of education and high ideals, will be the crown of evolution. [D.L.E.]

3.—Leri discribes the interesting results obtained in several cases of **rhizomelic spondylosis** by x-ray examination. In the most typical case the vertebrae appeared as fainter shadows than normal in the dorso-lumbar region; they were ill-defined and seemed rarefied. In parts, particularly along the sides, they seemed so transparent that the spinal column had a moniliform aspect. Along the median line, and to a lesser extent toward the sides, one could see dark bands which were evidently the ossified supraspinous and lateral ligaments. The other cases were similar, and in one there was evident ossification of the sacroiliac ligaments, and in another there was ossification of the articulations of the inferior maxillary. The joints especially affected in the spinal column and elsewhere were those that have a cap de meniscus about the joints. As to the etiology of the disease the most satisfactory explanation is that it arises in an infection; several cases had gonorrhea shortly before it began, and other infectious diseases had been seen in other cases, and grip, tonsillitis and other mild infections are so frequent that this seems the most likely cause. The disease begins with pain, afterward ankylosis appears. The first symptoms occur in the lower spinal region and there is then ascension. The pains are most marked before ankylosis becomes complete and grow less as the ankylosis progresses. The pains are the result of the pressure of the bony formations about the joints of the acute inflammation and of pressure upon nerves. Muscular atrophy is not marked and is of variable location. There are no constant changes in sensation or motor power. The typical attitude is a double inclination in the form of a Z. The disease proceeds chronically with paraoxysms of advance. It may be arrested, but is likely to grow worse constantly, not even causing death itself, but aiding in producing death through intercurrent diseases. The diagnosis from Pott's disease is readily made, as is that from hereditary or traumatic kyphosis—the latter kyphosis is curvilinear, which is an immediate distinction. Chronic rheumatism affects other joints as well and particularly the small joints, which are usually free in spondylosis. Paget's disease is one of later life, while this occurs in young adults; the cranium is enlarged and the diaphyses of the long bones increase in size. Myositis ossificans does not affect the spinal column and hips so exclusively and it shows areas of ossification in the muscles, particularly about the ankylosed joints. In osteomalacia there is not ankylosis or the peculiar pain. In the early stages massage would probably be the most satisfactory treatment, or perhaps immobilization in order to allow of ankylosis in a good position. Suspension and gymnastic exercises should be useful. Salol is probably the best medication; one case in particular seemed to improve markedly under it. [D.L.E.]

4.—Abstracts of previously reported cases. [D.L.E.]

5.—The case was that of a soldier who was thrown from his horse, but remounted and seemed to have no pain. Soon afterward, however, he had severe pains in the left iliac fossa, vomiting, and suffocative dyspnea. He could not speak and presented generalized anesthesia. The pupils and eye-movements were normal. The man could not swallow. There were no signs of fracture or of other serious injury. If he attempted to walk without crutches he fell immediately and the limbs showed severe tremor, the latter ceasing when he assumed the horizontal position. Because of the association of the symptoms described—mutism, astasia-abasia and anesthesia including anesthesia of the pharynx—and the suddenness of the onset, the case is believed to be one of **hysteria.** The color-fields were normal and there were no local hysterical stigmata, but the symptoms are believed to be sufficient for the diagnosis. Treatment had caused no distinct improvement in the motor symptoms. [D.L.E.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Alcohol as an Antidote for Carbolic Acid.—In an editorial on "Carbolic Acid and its Antidotes," appearing in *Merck's Archives* for December, 1899, the writer states that of all antidotes for carbolic acid the best-lauded one for promptness in results is alcohol, which was first suggested by Phelps and Powell. Phelps declared that he could state positively that alcohol is an absolutely safe and sure specific against the escharotic action of concentrated carbolic acid. The writer has taken pains to look up a large number of reported cases of carbolic-acid poisoning that have occurred in the past, and finds that where no alcohol was given, in cases that were known or reasonably believed to have retained 60 grains or upwards of absolute carbolic acid, the termination in nearly every one was fatal. On the other hand, in all cases where alcohol was given, under the same conditions, the patients survived, although the physicians in attendance had no idea that alcohol possessed any specific antidotal action.

So far as the evidence goes the writer believes that by the prompt use of whisky or alcohol, followed immediately by lavage of the stomach and the subsequent administration of sodium sulfate, we have a line of treatment that will give the best possible results in our present state of knowledge of the subject. It is difficult and sometimes impossible to get emetics to act in carbolic-acid poisoning. Nothing is superior to the rubber tube for washing out the stomach. By its use water can be introduced again and again, and then syphoned off with the utmost facility, so that every particle of poison present that is soluble can be washed out. If the water that is used contains a soluble sulfate, the amount that remains in the stomach or that passes down into the intestines can do good work by aiding in the elimination of as much of the poison as entered the blood.

The Treatment of Mucous or Membranous Colitis.—According to the *Journal des Praticiens*, December 9, 1899, Matthieu recommends the following combination for internal use:

Menthol	3 grains.
Alcohol	sufficient to make a solution.
Sirup	6 drams.
Water	3 ounces.

Or—

Extract of cannabis indica	½ grain.
Gum julep	4 ounces.

To be taken 3 or 4 times a day.

In the more chronic forms Charrin recommends injections of a solution of silver nitrate, beginning with 3 grains to the quart, and gradually increasing the strength of the solution until it reaches 15 grains to the quart.

Revilliod recommends the following injection:

Mucilage of quince-seed	16 ounces.
Subnitrate of bismuth Salicylate of bismuth	of each 2½ drams.

This solution may be administered at intervals of a few days.

Fatal Poisoning by Injections of Calomel.—Gaucher and Noel (*Progrès Médical*, November 25, 1899) report the case of a man, aged 50, with paraplegia, who had been given at intervals of 5 days, three injections of calomel, each containing ¾ of a grain, and who about 4 months later developed the following symptoms: a general erythematous rash, enlargement of the liver, lassitude, feeble pulse, swelling of the tongue, sponginess of the gums, fetor of breath, and persistent vomiting and purging of bloody material. The case terminated fatally. Notwithstanding the long interval between the administration of the calomel and the outbreak of the fatal illness, the authors have no hesitation in attributing the symptoms to poisoning by the calomel, which they claim may remain, like other insoluble preparations of mercury, indefinitely in the tissues, and then being dissolved, may excite grave symptoms of mercurial poisoning.

Treatment of Experimental Tuberculosis by an Exclusive Meat-Diet.—Richet (*Journal des Praticiens*, December 9, 1899) at a recent meeting of the Academy of Medicine, reported the results of certain experiments upon dogs, carried on in collaboration with Hericourt, to determine the effect upon tuberculosis of an exclusive meat-diet. When a certain amount of a bouillon-culture of tubercle-bacilli was injected into the veins the animals died of tuberculosis of the lungs, or, more rarely, of the liver and kidneys, generally within 30 days, or in exceptional cases within 50 days. On the other hand, animals inoculated in the same way with bouillon-culture of tubercle-bacilli, and subsequently fed on an exclusive meat-diet, often survived for a period of over 500 days, and in some instances the animals entirely recovered.

Intractable Aphthae.—According to the *Louisville Medical Monthly* the following application is very useful:

℞.—Salicylic acid	30 grains.
Alcohol	130 minims.
Glycerin to make	1 ounce.

Resuscitation of Animals Poisoned with Illuminating Gas. An Experimental Study.—Darrah (*Proceedings of the Pathological Society*, December, 1899) concludes from a series of experiments performed upon dogs that injections of hydrogen dioxid in small quantities (10 to 60 cc.) have no effect. Large quantities of hydrogen dioxid have an oxidizing effect on the blood, and after their use death results from gas accumulating in the chambers of the heart, Saline solutions are not of much use. Life may be somewhat prolonged. Transfusion abolishes almost immediately the poisonous effects of the gas. It may be possible that the use of saline solution charged with oxygen might be more efficient than saline alone. The animals die because the CO. hemoglobin cannot carry oxygen to the tissues; hence it is not logical to conclude that the most efficient treatment would be to renew the blood. In cases in which the poisoning has not been profound saline solution with oxygen might be used to tide over until new hemoglobin is formed. By first bleeding the animal a portion of the CO-hemoglobin is removed. Dogs from which blood was taken invariably recovered.

The Treatment of Malignant Edema by Injections of Carbolic Acid.—Amadori (*Gazzetta deg. Osped. e della Clin.*, No. 67, 1899, and *American Journal of Medical Sciences*) reports a case in which the edema was seated in the left upper eyelid, later spreading over the head and closing the right eye. Seven injections of ½ grain each were made into the swelling, and on the next day six injections of ⅓ of a grain each. This treatment was followed by a rapid fall of pulse-rate and temperature, and relief of pain and swelling, the last completely disappearing in 5 days. The discoloration of the urine was not found later than 36 hours after the last injection. The tolerance of the patient toward the remedy is explained by the severity of the infection.

Uremia.

℞.—Calcium chlorid	0.1 gram.
Potassium chlorid	0.75 gram.
Normal salt-solution (.75%)	1000 ccm.

For subcutaneaus injection. —EDES.

Hydrotherapy in Sciatica.—The Paris correspondent of the *Therapeutic Gazette* attributes the following treatment of sciatica to Siegrist, of Zurich. The patient is placed on his side so that the region affected is quite uncovered, and on the latter a cloth dipped in hot water (50° to 60° c.) and slightly wrung out is placed, and covered over with a piece of flannel and several layers of paper. After ten to fifteen minutes the cloth is changed, and this is done for an hour or two. This treatment is followed out 3 or 4 times daily. A complete recovery is sometimes obtained in 3 to 4 days.

[In 1896 Borischpolski (*Neurol. Centralbl.*) strongly advocated the Scottish douche (hot water followed by cold water) in the treatment of sciatica, holding the view that sciatica is due to disturbances of the circulation followed by the accumulation of the products of metabolism in the affected nerve. He reported 32 cases, of which 23 were cured, 7 were improved, and 2 were unimproved. Bechterew also found these douches of great service, especially in long-standing cases of sciatica.]

Perforated Gastric Ulcer Treated by Operation.—Barker (*Lancet*, December 16, 1899), at a recent meeting of the Clinical Society of London, reported 12 consecutive cases of perforated gastric ulcer on which he had operated during the last few years. Five out of the 12 were saved. Two of the fatal cases lived for 15 and 14 days respectively, the first dying from subphrenic abscess and consequent pleuropneumonia, the second from bleeding into the stomach from the ulcer. The second case suggested the propriety of excision of the ulcer in certain cases as the only means of preventing subsequent hemorrhage. In all the 12 cases mopping out of the abdominal cavity was preferred to flushing. Thorough sponging beneath the diaphragm was important. Drainage was only employed in one case and was then shown to have been unnecessary. A vertical incision was made in all cases which was enlarged laterally in one. Sutures of hard silk were used. Free gas was almost always present in the abdominal cavity. Several of these cases had complained of nothing more than vague dyspepsia. In 3 there was a history of vomiting. In only 2 was there definite hematemesis. Nothing seemed to affect the issue of the case more than the time which intervened between the perforation and the operation. The average length of time in the 5 successful cases was 11¾ hours (the shortest 6½ hours, the longest 18 hours), that in the 7 fatal cases 30½ hours (the shortest 28, the longest 18 hours). Collapse was absent in 6 of the 12 cases. Epigastric pain was common to all. Liver-dulness was present in 6 of the cases, and absolutely normal in one.

In the discussion of Barker's paper Bidwell stated that he had collected 55 cases of perforation, in 33 of which the time which elapsed before operation was mentioned. One-third of the recoveries had been operated on within 6 hours and 5 others within 12 hours. All the cases which had been operated on within 12 hours had been successful, and half of those operated on between 12 and 24 hours. Mr. Comte had collected notes of 65 cases with 19 recoveries, 11 of these having been operated on within the first 10 hours.

Malaria.—Baccelli (*Riforma Medica*) recommends the following combination of quinin and arsenic for hypodermic use in malaria:

℞.—Quinin sulfate ..... 4 grams.
Iron and potassium tartrate.....10 grams.
Arsenous acid .....6 grams, 10 centigrams.
Distilled water .....300 grams.

Shake before using.

Gonorrheal Rheumatism.—Christopher Heath (*Lancet*, November 25, 1899) states that he has been teaching for years that gonorrheal rheumatism is a mild form of pyemia due to the purulent secretion within the urethra, and that the distinguishing feature of the disorder is that it attacks a single joint in a young adult. He, allows, however, that if the affection is not promptly treated other joints will become affected. The treatment of gonorrheal rheumatism by the usual methods, he admits is notoriously tedious and unsatisfactory, but he has found that by applying belladonna and glycerin freely to the affected joint (usually the knee) and by giving quinin in 5-grain doses every 6 hours, at the same time paying no attention to the urethral discharge and carefully avoiding the use of splints, he is able to get his patients up in a fortnight and out in 3 weeks, with perfectly movable joints supported by an ordinary bandage.

Treatment of Myocarditis.—Mendelsohn (*Deutsche Praxis*, No. 17, 1899, and *British Medical Journal*) believes that whatever the cause of myocarditis, be it diphtheria or other infectious diseases, alcohol, phosphorus, or syphilis, the clinical symptoms are always those of a weak heart, and require the same treatment; in any case they depend on an inability of the heart to meet the demands made upon it. Thus, supposing the demands to be excessive, they may produce symptoms of myocarditis in a heart previously healthy. In slight cases the symptoms occur only when unusual bodily or mental exertion has been made. In the later stages they are permanent. The physical signs vary, but generally consist in hypertrophy of the left ventricle, with accentuated sounds if compensation is present, or in dilation with weak sounds if it is not. In the treatment all excessive bodily or mental exertion must be avoided, as well as the habitual use of coffee, tea, and tobacco. Oertel's treatment, which consists in systematically increasing the power of the heart by exercises, and reducing corpulency by restricting the fluid drink, acts well in obese but otherwise healthy patients; but since it is impossible to eat much without drinking it is not suitable for debilitated patients, where, especially at the beginning of the complaint, absolute rest in bed is the chief remedy, and restores compensation. Later, each patient must aim at keeping his heart exercised by bodily and mental work while avoiding overexertion. Other important factors are life in an even temperature and pure air, regulation of the bowels, and frequent, though small, meals. Acute attacks of vertigo, palpitation, dyspnea, and cyanosis are best treated with ether and caffein. In chronic cases drugs must be given with caution, and digitalis should be reserved for those where compensation fails; in others caffein, convallaria majalis, adonis vernalis, sodium nitrate or potassium nitrate may be tried. Occasionally ergot acts well by its tonic action on the muscles of the smaller vessels.

Cocainization of the Spinal Cord.—Tuffier (*Journal des Praticiens*, December 23, 1899) at a recent meeting of the Surgical Society of Paris presented a woman in whom he had operated successfully for the radical cure of an inguinal hernia, after he had injected into the subarachnoid space of the spinal cord, in the lumbar region, ¼ of a grain of cocain. The resulting analgesia was absolute.

Epilepsy.—According to the *Therapist* for December 15, 1899, the following combination is efficient:

℞.—Lithium bromid, Potassium bromid, Sodium bromid, Calcium bromid ..... of each 1 dram.
Sirup of orange ..... 1 ounce.
Water to make..... 3 ounces.

A teaspoonful in water after meals to prevent recurrence of convulsive seizure.

Chloral in Nervous Dyspepsia.—Rosenbach (*Therapeutische Monatshefte*, No. 9, 1899) speaks highly of chloral in the treatment of nervous dyspepsia. He recommends from 2 to 3 grains of the drug, well diluted, from one to two hours after meals; this dose being repeated or increased, if necessary. He finds that chloral employed in this way promptly relieves many of the gastric symptoms complained of by neurotic patients, provided the symptoms are not dependent upon organic disease. The remedy is especially valuable in relieving headache, palpitation, flatulence, and the sense of fulness coming on immediately after meals, and the more distressing phenomena appearing several hours after eating.

Thyroid Extract in Delayed Union of Fractures.—Trouchet, of Rochelle (*Journal des Praticiens*, December 9, 1899), according to Potherat, is convinced that the thyroid glands exerts a trophic influence on the osseous system, and that the injection of thyroid extract renders more active the proces of bone-formation. He confirms the favorable reports of Gauthier and others, concerning the action of thyroidin in delayed union of fractures. He reports a case of a man, aged 50 years, who had an ununited fracture of the leg, that had resisted treatment for 80 days. He was given daily, at first 5 and then 6 tablets, each containing 1½ grains of thyroid extract. Complete union resulted within 15 days.

Psoriasis Vulgaris.—Unna (*Monatsch. f. pract. Dermat. and Therapie*) has succeeded in curing an obstinate case of psoriasis that resisted all treatment by the following ointment:

℞.—Salicylic acid, Pyrogallic acid, Ammonium sulpho-ichthyolate ...of each 16 grains.
Olive oil..... 2½ drams.
Lanolin..... 4 ounces.

By the acid of the salicylic acid and of the ichthyol the effect of the pyrogallic acid was greatly enhanced. In this form the salve may be applied also to the face, without producing any irritation or discoloration of the skin.

Original Articles.

CASE OF TUBERCULOSIS OF THE KIDNEY WITHOUT MARKED GENERAL SYMPTOMS.[1]

BY J. M. DA COSTA, M.D., LL.D.,
of Philadelphia.

THE case is one of considerable interest. The patient is able to walk into the room and has the appearance of a well man. He has been in the hospital for some time. He is 23 years of age, and is a colored laborer. He walks in as if nothing were the matter with him. Let us hear his previous history: There is no disease in the family so far as he knows, and he declares that he has not been ill before the present illness for which he came into the hospital. The only thing for which he ever sought medical advice was a disposition to coughs and colds; but he has had no night-sweats nor loss of flesh. He is a moderate drinker. He had no disease of childhood that he remembers. He came to the hospital on account of a sudden pain in the back. This was first noticed a week before admission, which was on October 27. The pain was high up in the back, in the region of the kidneys; it was very sharp and sudden in its onset; the pain was transmitted to the right scapula. He states that the pain was so severe that he was delirious for a time; we have not observed any delirium since he has been here. The pain was the only symptom for which he sought relief. There was no urinary symptom whatever. The frequency of micturition was normal; the quantity was not measured, but there was no decided increase. Examination of the urine, at the time of admission, showed no casts and no sugar, but there was a slight ring of albumin by Heller's test, with cold nitric acid. There was no blood in the urine. The temperature ranged between 102° and 103°.

Now, from these notes, we learn that the patient, when apparently in good health, was suddenly seized with a pain in his back over the kidneys, that the pain was persistent, that it was accompanied by albumin in the urine, and that he was delirious for a time. The subsequent history of the case is that he got over the pain completely in about two weeks, except that there was for a time a slight gnawing sensation under the angle of the right scapula, not severe but constant. Now, this also has disappeared, he says, after a blister. During all this time he has had no disturbance in micturition. Several examinations of the urine were made, but without showing anything abnormal. When the pain left him at the end of two weeks, as he was weak and gave the history of occasionally recurring cough, we put him on codliver-oil, although there were no physical signs of disease in the lungs. He improved under this treatment distinctly; he gained flesh; the pain in the back did not return. So marked was the improvement that he gained five pounds in weight in seven days. But he still felt weak.

You will ask, Is this all; is this the whole case? No; the strange part remains to be told. Finding no evident cause for the man's weakness, we had the urine very carefully examined. The examination made on November 21, in our clinical laboratory, throws light upon the case. Dr. Cattell reported that the specimen "shows bacilli, which have the characteristic staining of tubercle-bacilli." In other words, tubercle-bacilli were found in the urine. I confess that I was very much surprised at this result. Knowing that some other bacilli resemble tubercle-bacilli—the smegma-bacillus, for example—I had the urine reexamined, with the result that it was positively determined that tubercle-bacilli were present in the urine. Under all the circumstances this could only be interpreted as an evidence of tuberculous lesion in the kidneys.

While he is here I will briefly go over his case. On percussion and auscultation I find nothing wrong with the lungs. I observe that there is a slightly higher pitch on percussing over the right apex; but there is nothing corresponding to it on auscultation. His tongue is clean. His sputum was examined several times for tubercle-bacilli with negative results. He says he has noticed for the last week or two that he has passed water more frequently than before, but the urine shows nothing abnormal whatever, except the tubercle-bacilli—not even the trace of albumin, which we found in the earlier examinations.

What about the temperature? His temperature was between 102° and 103° on admission. It then came down gradually, and, assuming an irregular course, became normal on the sixth day. Since then it has been either normal or subnormal. There was nothing in the temperature-record which suggested malaria.

This case is interesting and instructive from a double point of view. In the first place, it is so on account of the latency of the symptoms, or the absence of symptoms, of grave organic disease of the kidneys; and, in the second place, the discovery of the character of the disease by finding tubercle-bacilli in the urine, though the symptoms were so latent. Let me add that the case also illustrates the advantage of availing ourselves of laboratory methods of diagnosis, which are indeed of recent introduction. This disease would not have been recognized 10 or 15 years ago, and the diagnosis could not have been made. That the man has tuberculosis or scrofulosis of the kidneys cannot be doubted. These tubercle-bacilli certainly came from the urinary passages, and as there is no symptom of bladder-lesion, we are justified in the conclusion that they come from the kidneys.

Now, with this evidence of tuberculous or scrofulous kidney before us let us ask, What are the usual symptoms of tuberculosis of the kidneys? The first symp-

[1] A clinical lecture given at the Pennsylvania Hospital, December 2, 1899.

is pain, which pain is sometimes so severe as to ulate renal calculus. The second is that there is uently some blood in the urine, but only a slight unt of blood-streaked mucus, rather than the posi- amounts which we have in the passage of renal uli. A third symptom of tuberculosis of the kid- is found in the fact that the pain comes on sud- ly apparently without cause, and after continuing a e disappears, though not completely; in other words, s very irregular in its onset and duration. In this pect, also, it differs from the pain of renal calculus, ich intermits and is less constant. Then again, in erculosis of the kidney, we usually find pus in the ne; in other words, there is coexisting tuberculous elitis.

This man had only the symptom of pain. You have rd how absolutely negative was the examination— thing in the heart and nothing in the lungs. Noth- was found in the urine, at first, except the slight g of albumin, which soon disappeared. This case ves that you may have a grave disease of the kid- ys—tuberculosis, in fact—with scarcely a symptom. is case also shows the importance of careful system- c examination of the urine. Ordinary examination th chemical reagents is not sufficient; a microscopic amination is necessary, and by one who is able to stinguish between the different kinds of microorgan- ns.

As regards the prognosis, it is not so favorable as one ight be led to think from his present appearance and s relief from the treatment. The lesions in the kid- ys are not of a character which afford much hope of mplete recovery.

With reference to the treatment, he is now taking dide of iron and codliver-oil, and these shall be con- nued. It is very important to put him on diet that ill not irritate the kidneys; plenty of milk and vege- bles, with comparatively little meat. As regards the ygienic management, you should treat such a case as ou would one of early tuberculosis of the lungs.

ANTERN DEMONSTRATION OF THE ORIGIN, DEVELOPMENT, AND DEGENERATION OF THE BLOOD-VESSELS OF THE OVARY.[1]

[Abstract.]

By JOHN G. CLARK, M.D.,

of Philadelphia.

Professor of Gynecology at the University of Pennsylvania.

This lantern demonstration is given with a view of illustrating the chief points in a research which I have been conducting for the last four years upon the vascularization of the ovary and its bearing upon the differentiation of sex; origin, development, and degeneration of the Graafian follicle; inauguration of ovulation; organization and retrogression of the corpus luteum; and the final cessation of ovulation.

This investigation was originally begun in the thought that it would be comparatively simple to determine the normal distribution of the arteries and veins of the ovary and their relationship to each other. In the course of the study of serial sections of a few injected adult ovaries, I was at once convinced of the futility of attempting to draw any conclusion from this source, for the close crowding together of the parallel vessels of the medullary portion, and the markedly irregular course of those in the cortex or follicle-bearing zone, rendered impossible any accurate observations concerning the relative number and distribution of the veins and arteries, and the exact course followed by each system.

With a view, therefore, of securing ovaries possessing a simpler scheme, a study was made of lower animals, such as the dog, rabbit, guineapig, sheep, and pig, but with unsatisfactory results, and only after the injection of the generative organs of a monkey was a suggestive clue secured. Beyond this point, however, it was difficult to proceed, and only after the injection of a very large series of ovaries from individuals, ranging in age from a six-months fetus to a woman many years beyond the menopause, were final conclusions reached.

In the search for this normal scheme through an extensive number of serial sections, various questions directly dependent upon the circulation presented themselves for solution, which widened the scope of this work until it developed into a composite anatomic and physiologic research.

Thus the various vital phenomena have been considered which transpire within the follicle from its embryologic origin and progressive growth to the time of its disappearance either through an obliterative process or through its rupture, organization as a corpus lutem and final retrogression as a corpus fibrosum. In this connection theories have been advanced as to the cause of ovulation, the synchronism of ovulation and menstruation, the mechanism of the rupture of the mature follicle and the final cessation of ovulation, which have been based upon observations made in the study of a very large number of sections.

Soon after beginning this work the difficulty of arriving at a definite knowledge of the scheme, and also of determining the age at which this scheme may be taken as a standard for comparison, became very apparent.

This is certainly not possible after active ovulation is established, for the constant changes in the vascular system induced through the maturation, rupture and organization of the follicle, introduce an element of variability into the circulation of this organ which occurs in no other.

Failing to reach any satisfactory starting-point in the adult, the ovary of a girl approaching puberty was next

[1] Given before the College of Physicians, Philadelphia, January 3, 1900.

studied, but with little less success, for it was found that almost as constant variations occur in the follicular circulation before as after the inauguration of ovulation. In the hope of finally reaching a period in the life of the female individual at which a definite standard for comparison might be found, numerous specimens from children of various ages were injected and closely studied. Finally the ovary of a six-months fetus was obtained, which furnished a definite clue as to the arrangement of the vessels, but as the follicular apparatus was still in process of development a newborn child in which the tunica albuginea was well formed was selected as the standard. Even here the solution of the question was not easy, for in order to trace the ramifications of the vessels from the point of their entrance into the ovary to their ultimate terminal twigs the study of serial sections of many ovaries was necessary.

In the embryologic consideration of this subject an explanation of the origin of the spermatic vessels as an independent system from the primitive circulation of the Wolffian body was offered. As is well known among embryologists the Wolffian and Müllerian ducts are well formed and the germinal eminence is of considerable size before visible signs of the differentiation of sex become manifest. Up to this point the embryo is said to be of the hermaphroditic or indifferent type.

In retracing the steps of development from the well-formed embryo back to this period some very interesting points concerning the differentiation of sex have been secured. Attention is especially called to the fact that the radical differences existing between the vascular system of the testicle and ovary furnish a valuable sign for determining the gender of very young embryos before the external differential marks are established.

The fact to which attention is directed especially is that the testicular circulation is peripheral, the main artery of which courses over the dorsal aspect of the organ, giving off in its course rib-like branches which in turn send penetrating branches into the gland. Between the arteries are situated the collecting veins which unite at the base of the testicle to form the spermatic plexus.

In the ovary this scheme is exactly reversed, the arteries with their accompanying veins entering the center of the organ, where they branch tree-like and terminate as a fine capillary anastomosis in the tunica albuginea.

Upon the peculiarities of each circulation the differential signs of sex are based—a visible dorsal vessel always indicating a male; an alabaster-like non-vascular white cortex a female embryo.

In microscopic sections the presence of large peripheral vessels also indicates the male, whereas large central vessels indicate the female sex.

The significance of the vascular arrangements in the testicle and ovary was also discussed from the physiologic standpoint, and to the radical differences exi ing between them were ascribed the persistence of t testicular function in the male to old age, and the co paratively early abrogation of ovulation in the fema In the testicle the production of sperm is a more less fixed and constant function, like that of the pa creas, the parotid and other secreting glands, con quently the circulation is not subject to variations a is only interrupted through disease or through sen changes; whereas, in the ovary, there is a constant va ation in the circulation incident to the obliteration disappearance of follicles and the compensatory p duction of connective tissue which sooner or la begins to limit the peripheral circulation, and this turn leads through secondary influences to a fi cessation of ovulation.

These wide differences in the circulation leds me the conclusion that the origins of the ovary and testic are not, as generally belived, the same, but are total different, and that the expressions "asexual perio "hermaphroditic stage of the embryo," etc., mere serve to mask our inability to discern the differenti features of the sexes back of this point.

In view of the fact that the common progenitor the ovary and testicle is the Wolffian body, and th the atrophy or degeneration of the latter is coincide with the active growth of the former, I have endeavore to discover the explanation of this apparent parado According to my observations upon this point, it lies the fact that the vascular system of the sexual glan originates entirely independently of that of the Wolf ian body, consequently the synchronous developme and degeneration of the two sets of organs is possibl

Having traced the development of the circulation i the ovary and testicle from the so-called asexual perio to the point where they have formed systems diame rically opposite in their distribution and ultimate a rangement, the further consideration of the testicle wa dropped and the study of the ovary along the line o its development and progression to its ultimate histor was pursued.

In considering the development of the Graafian foll cle, my study has led me to reject the Valentine-Pflüg theory concerning the origin of the follicle and to a cept, with some reservation, the general scheme o development as suggested by Waldeyer. So far as th genesis of the "egg nests" and their ultimate subd vision into follicles are concerned, I am in accord wit the latter investigator, but as to the origin of the so called follicle-epithelium, or membrana granulosa, feel that the evidence in hand is sufficient to pu me at variance with Waldeyer's conception and t incline me towards that of Foulis, who believes tha the germinal epithelium only forms ova, and that th lining membrane of the follicle is derived from th conective-tissue stroma.

With the completion of the fibrous covering of th

ry (tunica albuginea) shortly after birth, the vascular tem becomes fully developed, and this period, there-, is taken to represent the typical scheme, for up to s point there has been no derangement of its central peripheral branch which will occur later through progressive development and degeneration of fol-es.

The secondary branches of the circulatory tree oc-y a comparatively small medullary area, its tertiary nches being given directly off into the follicle-bear- zone. The follicles are, as a rule, still in their nitive state, only a few of the many thousands as showing progressive development.

Even at this early period, however, isolated follicles dergoing progressive changes may be noted. These nges, according to my opinion, are closely analogous f not identical with those occurring in the ovaries lder children and in women after ovulation is in-urated.

Each follicle is provided with a vascular wreath, ch is formed by the terminal twigs of the cortical nches.

The development of this wreath and its final oblitera-, along with the disappearance of the corpus luteum, s not affect the scheme, for it merely represents one ll terminal system, the destruction of which, so far ts effect upon the general system is concerned, is the lopping off of an ultimate twig of the branch large tree.

For this reason, the changes in the ovarian circula- incident to the progressive development and de-eration of the follicles, even in early womanhood, local and not general. It is only in the later ods of the ovulating life of the female that the r effect is noted. Beyond the follicular zone the inal vessels break up into capillaries which form a parallel running anastomosis in the tunica albugi-, which hitherto has not been described.

The extensive anastomosis throughout the ovary lers easy the shifting of the circulation from one of vessels to another, consequently the destruction he function of the ovary is almost an impossibility re its final cessation through natural causes.

In the same way the persistence of the function in tiny bits of the ovary, which are occasionally left an ovariotomy, may be explained.

In order to conform to the new method of classifica- recently decided upon by anatomists, I have pted a system of nomenclature which is based upon regional distribution of the vessels.

In order to follow the progressive changes in the y from birth to the climacteric, illustrative speci-s from my collection representing the following are shown on the screen: Child of 2 years, girls and 12 years, and of 14 years, just after the estab-ment of ovulation; young woman of 24 years, mid-aged woman of 35 years, woman approaching the menopause at 42 years, and finally an old woman of 66 years, long after the menopause.

In these specimens not only are the changes incident to the circulatory system, but also the other progressive histologic transformations are explained. The comparison of this ascending series has suggested certain hypotheses concerning the physiology of the ovary which I believe have been strongly sustained, if not confirmed, by the specimens in hand.

In the six-months fetus the main branches of the ovarian artery may be compared with the fasciculi of a widely spread folding-fan, the divisions between the arteries being filled with primitive follicles.

As the ovary grows in age the vessels with the connective tissue septae, which form these divisions, change from a gently curved to a perpendicular course, the branches occupying the medullary portion being crowded into parallel lines (arteriae parallelae ovarii).

In the child of two years, through the development and retrogression of numerous follicles from birth up to this time, the medullary area comprises a much larger portion of the ovary than that noted in the newborn.

As there is no increase in the number of follicles after birth the obliteration of each primitive or partially developed one naturally decreases the total original number, which results in an increase in the medullary portion of the ovary at the expense of the follicle-bearing or cortical zone.

The law of development in the follicle is from within outward; that is, the primitive follicles lying nearest the central circulatory tree are the first to undergo development.

In the young child the developing follicles, instead of moving toward the periphery, as occurs in the girl approaching puberty or in the adult, tend to maintain their primitive position, their enlargement being simply centripetal without any attempt at mobilization.

Having reached a certain stage in their development, a retrogressive change following the degeneration of the ovum is inaugurated, and the original site occupied by the follicle is replaced by a very minute addition of connective tissue to the stroma of the organ, which naturally builds up through successive accumulations the central area.

Follicles in various stages of development and retrogression are noted in all ages after birth, and according to my observations the same principle involved in the obliteration of the unruptured follicles before puberty governs the organization of the corpus luteum after ovulation is inaugurated.

These changes consist in an increase in the vascular wreath around the primitive follicle and a coincident or dependent hyperplasia of the membrana propria and an accumulation of liquor folliculi.

What determines the cessation of these progressive changes and the beginning of the retrogressive or oblit-

erative process so far has not been explained. The fact remains, however, that with the degeneration of the ovum the liquor folliculi is absorbed and the cavity is filled in with large embryonic connective-tissue cells arising from the theca interna.

Through the gradual diminution in the blood supplied by the follicular wreath the excess of connective tissue undergoes hyalin changes and absorption until finally only a mere trace of the new growth remains.

In this way the size of the ovary is maintained within reasonable bounds. Were each mature or large follicle to be replaced by permanent connective tissue, the ovary would very early in life assume the proportions of a new growth, which sooner or later would constitute fibromas of no mean dimensions.

In tracing the progressive growth of the ovary, I have found that the obliterative changes just referred to continue until the follicle-bearing area, reduced by many thousands in its number of primitive follicles, becomes a narrow zone compared with its width in the newborn child.

The crowding together in more or less parallel lines of the secondary and tertiary branches of the ovarian vessels is, to return to my analogy, simulated by the partial closure of the fasciculi of the fan. According to my investigations the increase in the internal resistance through the building up of a denser medullary center and the closer crowding together of the parallel vessels, sooner or later breaks the equilibrium of forces, and consequently the follicles no longer maintain their primitive position while enlarging, but undergo mobilization towards the tunica albuginea, that being the direction of least resistance.

The actual rupture of the follicle, I believe, is due to the influx of blood during the menstrual cycle into the medullary bloodvessels, which has a double action, first to push the mature follicle towards the surface, and second, through the increased pressure, to close the parallel running anastomosis in the tunica albuginea, and thus permit a physiologic necrosis and rupture of the follicle.

Concerning the question of ovulation and menstruation, I have offered further evidence to prove that the rule of synchronism is the normal, and that deviations from this rule are probably due to modifications in habits of life incident to changes in environment and to departures from primitive methods of living and laws governing sexual congress.

Concerning the processes through which the mature but unruptured follicles undergo obliteration. I assume that it is not a pathologic condition, but is merely Nature's method of getting rid of a functionless cavity. In my description of the organization of the vascular system of the corpus luteum and its retrogressive changes and final disappearance, I take the position that little or nothing of the follicular vascular system remains when the resorption of the corp fibrosa is complete.

As a conclusion to this study the cessation of ovu tion is ascribed to the gradual impairment of vascular systems, through first, densification of ovarian stroma, and, second, through the retroact effect of imperfectly removed corpora lutea, which an end-result diminishes the blood-supply to the tical area to such an extent that the growth of primitive follicles is retarded and finally complet inhibited. These final retrogressive changes lead up and constitute the menopause or climacterium.

THE ABSORPTION OF IRON FROM THE GAST INTESTINAL TRACT, AND THE DIETETICS ANEMIA.

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THE iron that is taken in in the food is deposite all internal organs, but the principal quantity in fo of hemoglobin of the blood. A man weighing 70 ki or 140 pounds, according to Bunge, contains 3.1 to gm. of iron, about 46.5 to 49.5 grains. Of this, 2. 2.7 gm., about 36.0 to 40.5 grains, are contained in blood. A human being excretes 0.5 to 1.5 mg. of i in the urine daily (Hamburger). A more abunc excretion of iron occurs in the intestine; no ma whether the iron-compounds have been taken in food or injected subcutaneously; this will occur, eve the organism takes in no food of any kind, ei through the normal digestive canal, or subcutaneou It will occur in a condition of starvation. The e minimum amount of iron upon which an adult child may exist has not been accurately determi A nursing infant takes in daily 0.0033 gm. of iron. the food the iron is contained largely in the form organic combinations, and it is not probable that other but organic compounds of iron are absor normally (Bunge).

For a long time two physiologic observations see opposed to the common acceptance that iron is sorbed from the gastrointestinal tract. The firs these was the conviction expressed by Bunge[1] that given as medication was not all absorbed, but excr in its entirety by the gastrointestinal tract. This st ing, and one might say, paradoxic deduction, wh seemed to have trustworthy experimental foundat was received by the medical world with such a prising applause, as can only be explained by the ness and sensational character of this view. A l number of physicians and experimental pharma gists accepted Bunge's view, although the evid given in support of it was by no means satisfactory

Bunge had, as was very clearly demonstrated later n by Quincke and Hochhaus, evidently gone too far hen he asserted that iron was not at all absorbed rom the gastrointestinal tract, and was later compelled o modify his views as a result of his own research. Ie then explained that the inorganic combinations of ron produced their favorable effect, for instance in hlorosis, by protecting the organic iron-compounds in he food and preventing their decomposition by the ulfids contained in the intestinal canal.

The widespread applause which Bunge's first denial reated may be looked upon as an expression of a sychologic character still more or less prevailing in the nedical profession, and this is the surprising spirit of essimism that expresses itself whenever a remedy or method or an operation, which has for many years een considered useful, is suddenly asserted to be worthess. The lesson to be drawn from Bunge's first experinents is that the profession should not allow its head o be turned by sensational reports, even if they come rom high and apparently capable sources.

Heraclitus says (Heraclitus of Ephesus "On Nature." Aphorism xiviii): Μὴ ἐικῆ περί των μεγίστων συμβαλώμεθα "Let us not draw conclusions rashly about the most mportant things."

The second observation, seemingly opposing the value of iron, employed therapeutically, was by Lehmann nd Fr. Müller,[2] who demonstrated that iron is excreted y the intestines, and at the same time denied the view eld before their time that iron was principally excreted y the bile.[3]

The ordinary preparations of iron are only absorbble to a very small degree. It has been shown[4] that ood poor in iron can undoubtedly depress the percentge of hemoglobin in the blood, and in chlorotic subects the introduction of iron has been proved[5] to cause n increase of the red blood-corpuscles, and of their ercentage of iron. Quincke and Hochhaus[6] simulaneously with W. Hall succeeded in demonstrating by nicrochemical methods that iron is actually absorbed rom the cells of the small intestine. The execretion f iron takes place, it is thought, not in the small inestine, but in the cecum and colon. The question of ow iron is transformed in the body has not as yet een satisfactorily investigated.

Deficiency of iron in the system, or anemia, when t does not occur as a surgical condition, that is, when he loss of hemoglobin is not directly traceable to emorrhages, may be conveniently classed under the ollowing three conditions:

First, when too little food is ingested, or when the ood is deficient in iron-bearing compounds; *i. e.*, ucleoalbumins.

Second, the presence of excess of sulphur-compounds n the digestive tract. These may either be introduced n the food or they may be formed in abnormal quantiies through disease of the digestive tract. These sulphur-compounds having a strong chemical affinity for the iron in the nucleoalbumins, form an insoluble and unabsorbable sulfid of iron. In either case the natural supply of iron from nucleoalbumin is destroyed, and prevented from gaining access to the circulation.

Third, this condition is due to a disturbance of metabolism, preventing the foodstuffs (nucleoalbumins) from being oxidized and utilized in the body. This will occur even if there is no diminution of foodstuffs, and no excess of sulphur-compounds in the alimentary canal. The third condition occurs in all infections and septic conditions, also in acute and chronic diseases of the liver, kidneys, circulatory and respiratory systems. It has been encountered in neurasthenia, rheumatism, diabetes, pernicious anemia, uric-acid and oxalic-acid conditions.

Cases belonging to the first class simply require a proper amount of healthy, particularly albuminous food. These cases may be cured by diet alone, exclusive of medicines, provided the food contains beef, mutton, eggs, milk, bread and butter.

The treatment of the second group of cases, those due to excess of sulphur-compounds in the gastrointestinal tract, can also to a certain extent be influenced by the diet, but whilst the first condition can hardly be called a disease, it is simply a deficiency of hemoglobin due to lack of food; the second condition is always to be classified under one or another form of anemia.

As regards the general condition of nutrition, anemic patients may be separated into two large groups. Those are the fat and the thin anemic patients. In one group the sufferers appear well nourished, their weight remains unchanged permanently or at least for a long time. In the other group they emaciate; fat and musculature are gradually lost. Careful investigation has shown that simple anemia as such, that is, impoverishment of the blood in erythrocytes, or rather deficiency of erythrocytes in hemoglobin, does not affect the nutrition injuriously. The first group of which I have spoken, the fat anemic patients, are those in whom the anemia is the primary or essential condition; and the second group are those in whom the anemia is only a secondary symptom. With regard to the nutritional and metabolic processes, the primary anemic condition may be classified as follows: (*a*) chlorosis; (*b*) simple anemia from hemorrhages; (*c*) pernicious anemia; (*d*) leukemia; and, perhaps, (*e*) pseudoleukemia. I shall restrict my remarks to the consideration of chlorosis and simple anemia. The anemias due to digestive disturbances producing sulphur-compounds or other chemical bodies, which combining with the iron of ingested nucleoalbumin to form an unabsorbable sulfid of iron, can be benefited by diet alone, but cannot be cured in that manner. They cannot even be cured when food is given that is rich in iron. An absolute cure is only possible, in my experience,

when iron is introduced into the treatment. An exclusive dietetic treatment may effect an insignificant improvement—there may be an increase in the hemoglobin amounting to a few degrees in the percentage scale, but this improvement will not go any further even if considerable food is introduced in excess of the caloric requirements. As soon as iron is introduced, however, the percentage of hemoglobin will immediately and rapidly rise, and continue to increase even though the ingested food may not be especially rich in iron. These observations of Von Ziemssen, Immermann, Reinert, have been repeatedly confirmed, among others by Nothnagel. There is no special diet to be recommended for anemia and chlorosis, and whenever the appetite is good, these cases will, as a rule, progress satisfactorily, provided iron is given with the diet, but inasmuch as most chlorotics have some form of digestive trouble, I generally advise that the food shall be given in a very finely divided condition in all cases in which it requires chewing. Naturally such food as fish, eggs, and sweetbreads, do not need mechanical subdivision before they are put on the table; but beef, mutton, lamb, and even chicken and turkey, should be run through the meat-grinder. The most frequent digestive disturbances that have in my experience occurred in connection with anemia, are exalted or depressed states of the secretion and peristalsis of the stomach; subacidity, as well as hyperacidity; hypermotility as well as gastric atony. Hyperacidity is most common in chlorosis. I have analyzed the gastric contents after test-meals in 32 cases of chlorosis; of these, 24 had marked hyperacidity; in 6 the amount of free HCl was normal, and in 2 it was subnormal. (Hemmeter, "Diseases of the Stomach." Second edition, p. 491.) The prevalence of hyperacidity in chlorosis suggests a diet which has a marked binding power for HCl, this diet would consist of beef, mutton, lamb; in short, the red meats. But although the meat-diet would be richest in iron, it has been found by careful observation of the metabolism of chlorotic and anemic patients, that they do not progress as well on an exclusive meat-diet as they do when fats and carbohydrates are contained in their daily rations.

Personally, I lay great stress upon a substantial and abundant breakfast in such cases. If there is no gastric disease, the breakfast recommended consists usually of a dish of oatmeal, rice, farina or cracked breakfast wheat eaten with milk and sugar, two soft-boiled eggs, toast, butter, a baked apple, and a cup of half coffee half cream. In place of the eggs, and for the sake of a change, I permit broiled trout, sweetbreads, or ham-omelet for breakfast occasionally. For dinner, roast beef very finely cut, or preferably Hamburg steak, croquettes made of minced lamb or beef, puree of potatoes, spinach, or puree of peas, boiled or baked bluefish, plain macaroni, roast or boiled chicken. For dessert, rice-pudding, cup-custard, or gelatins made with wine. The supper consists of either scraped raw ham eaten with German rye bread, or one of the following meat-foods: beef-tongue, chafing-dish of oysters, finely scraped raw beef, lamb chops, in addition to bread butter and a cup of chocolate, if the latter agrees well if not, a cup of half cream and half coffee.

In connection with the simultaneous occurrence of digestive diseases, and anemia, it is in my experience often very difficult to know which is the primary disease and which is the result or secondary disease, and I have often seen what is sometimes termed a vicious circle, where the anemia was causing a digestive trouble and vice versa, and where one disease, although by no means irremediable, was keeping up the other. One of the first conditions for a successful treatment of these cases, is to break through the vicious circle in some place, and remove either the digestive or the blood cause of this doubly abnormal condition.

In an essay on "How Nature Utilizes the Iron Contained in the Blaud Pill,"[7] Dr. William Henry Porter states that "So far as the possibility of the absorption of iron is concerned, it does not make any difference which one of the salts is introduced into the stomach as none of them is absorbed. If they act at all it is by their being acted upon in the stomach by the hydrochloric acid, and there converted into a chlorid of iron. This is true alike of all the inorganic and the many so-called organic preparations, excepting, possibly, a part of the nucleoalbumin, which then follows the same course as that of the foodstuffs.

"After the iron-bearing compound has been converted into a chlorid, owing to the strong affinity existing between the iron and the sulphur, the iron is quickly attacked by the sulphur-compounds with the formation of an insoluble sulfid of iron (FeS.). With this explanation, the iron administered to the patient, instead of entering into the blood, in some mysterious and inexplicable manner, and in defiance of all the well established chemic laws, now obeys the accurate laws of chemistry and appears in the feces in the same quantity in which it was administered, but as a black sulfid of iron. Hence, the black stools following the exhibition of any and all preparations of iron that are of any value as therapeutic agents.

"This quick satisfaction of the sulphur-compound by the action of the active chlorid of iron prevents the destruction of the iron-bearing compounds—nucleoalbumin—contained in the foodstuffs."

This is as clear a statement as any of one theory of how iron, given therapeutically, acts. It also throws light upon the original mistake of Bunge, in assuming in his first experiment, that no iron was absorbed in the gastrointestinal tract. The facts as observed are simply these. All the iron that is taken by the mouth may appear again in the feces, but it has offered itself up to the chemical affinity of the sulphur-compounds, thus permitting the iron in the nucleoalbumins of the food to be

absorbed, protecting them from being converted into sulfids. Thus far I can agree with Dr. Porter, but his statements are capable of the interpretation that no iron can be absorbed from the stomach or intestines unless it is taken in the form of chlorid of iron, or unless it is converted into the chlorid by the HCl of the gastric juice. This would of necessity permit the deduction that all persons who have no gastric juice (achylia gastrica), or at least all who contain no HCl in their gastric secretions, will inevitably suffer from anemia, because, according to the theory just expounded, no iron can be absorbed except it be converted into a chlorid. As a matter of fact, experience with chronic gastritis, in which no HCl was found after test-meals, as well as many cases of nervous anacidity, and of achylia gastrica, have convinced me that there must be a flaw in the theory somewhere, since these cases suffer from anemia only exceptionally. Evidently they must be able in some way to utilize the iron of the food and the iron of medicines, although they are not capable of converting it into a chlorid. Just in what way they accomplish this I am unable to say, having not as yet made any experiments on this subject. What brought me to question the adequacy of the HCl theory of iron-absorption, was the observation of two cases of anemia who could not tolerate iron by the stomach in any form, and who were cured by injecting iron by hydrogen in form of enemas. Another argument against this theory is that the anemia occurs only exceptionally in persons that have no HCl in their gastric juice. Very intense anemia, and even pernicious anemia, occurs together with atrophy of the stomach, particularly if there is a simultaneous intestinal atrophy. But the occurrence of anemia with uncomplicated chronic gastritis, that has led to loss of HCl secretion, is the exception and not the rule. I have had 3 cases of chronic gastritis under observation since 1898, and though I have made very many titrations for HCl after test-meals, at various times in the last 10 years, I have at no time been able to discover free HCl in their gastric secretions. These cases, it is true, have at times, for periods extending not over two months, taken HCl internally, which undeniably improved their appetite and gastric digestion, but there have been periods extending over several years, when they took no HCl. Their bloodcounts are normal. More striking than these cases is the absence of anemia in so-called achylia gastrica, which means a total absence of gastric secretions, not only of HCl, but also of pepsin and chymosin (rennin). Most of these patients at one time of their life are digestive sufferers, but there are many who are in no way diseased, and I have seen very many in whom the bloodcounts showed a normal number of red blood-cells and in whom the percentage of hemoglobin was normal. This condition constitutes a powerful argument against the HCl theory of iron-absorption, because some cases of achylia gastrica are undoubtedly congenital. That any of such patients should be exempt from anemia does not speak in favor of the view that HCl is indispensable for the proper absorption of iron. In making experiments upon this subject, the plan suggested itself to treat anemia patients with iron in combination with sufficient of alkaline substances to neutralize the gastric juice. This plan was not feasible, nor justifiable. In the first place it constitutes an unwarrantable interference with the gastric chemistry, which is not justifiable for the sake of experiment only; and in the second place the complete neutralization of the gastric juice requires so much alkali that diarrhea would inevitably be produced.

W. S. Hall,[8] in his experiments to demonstrate the absorption or nonabsorption of iron by the tissues of the gastrointestinal tract, gave his animals (white mice) iron, and after certain time killed them, and cutting small pieces out of the intestine and stomach, he hardened them in a solution of the following composition: 25 parts of water, 70 parts absolute alcohol, and 5 parts sulfid of ammonia. Gastrointestinal tissues that have remained in this solution for 24 hours assume a green or black color, if iron is contained in them, but the subsequent hardening in alcohol causes this hue to become much paler, the paling being due to the oxidation of the sulfid of iron which is transformed into ferric hydroxid. This salt can no longer be extracted from the tissues, and after the sections are completed it can be changed back by ammonia sulfid into black or green sulfid of iron. It can also be changed by solutions of potassium ferrocyanid and HCl into so-called Berlin blue, or ferric ferrocyanid. In this way iron, should it be absorbed, may be readily recognized in the tissues. In order to bring about the Berlin-blue reaction, he used a 1.5% solution of the yellow potassium ferrocyanid and a 0.5% solution of HCl. Paul Hari[9] has considerably improved this method. Both of these observers, as well as F. A. Hoffman, A. B. Macallum, and Gaule, could demonstrate that iron was absorbed by the tissues of the gastrointestinal canal. As most of them used animals that normally secrete HCl, and even in some cases added HCl to the iron which they poured into the animals' stomach with a stomach-tube, the assertion that iron is not absorbed except it be previously converted into chlorid, cannot be met by any of these experiments.

In March, 1899, there was a patient in the public ward of the University of Maryland Hospital suffering from chronic hyperplastic gastritis and complete atrophy of the stomach mucous membrane. The mucosa secreted neither HCl, pepsin nor rennin. The chronic hyperplastic gastritis had brought on a tremendous hyperplasia of the pyloric ring, almost occluding the normal pyloric orifice. For this benign pyloric stenosis, Dr. Tiffany undertook an operation, during which the diagnosis was confirmed through microscopic examination of a small piece of gastric tissue which had been ex-

cised. The patient had suffered from a long and severe attack of syphilis, and being very much run down from inanition due to the pyloric obstruction, he had been taking the carbonate of iron in pill-form. At the autopsy, portions of the duodenum of this patient were hardened according to the method described by Hall (*l.c.*) and Hari (*l.c.*), and the presence of iron could be demonstrated in the epithelial cells. Here was a case that had not been taking chlorid of iron and in whose stomach HCl was no longer secreted, owing to the gastric atrophy; nevertheless, there was unmistakable evidence that the carbonate of iron had been absorbed. We could not demonstrate that it had been absorbed as carbonate of iron; all that the method mentioned will show is the presence of iron in the intestinal epithelium. This is another reason for doubting the statement that iron cannot be absorbed except it be converted into a chlorid.

In my opinion the object to be accomplished in the administration of iron-preparations is not to get *as much* iron into the system *as possible;* I think there can be no doubt that the true object of rational therapeutics is to have *only the right* quantity absorbed. W. S. Hall (*l.c.*) demonstrated that very easily absorbable iron-compounds may cause the iron-percentage in the animal to be doubled. Indeed the iron was increased in some of them to such an extent that it acted as a poison. Practitioners should bear in mind that easily absorbable preparations of iron cannot be given in any desirable quantity lest by overfilling certain organs with iron deposits these may act in a detrimental manner. It is not even demonstrated that the readily absorbable iron mixtures accomplish anything more therapeutically than the inorganic compounds of iron which are not so readily absorbed. After all, the most rational way to introduce iron into the circulation is not by the administration of hypothetic mixtures of organic forms of iron, but by securing to the economy that iron which is normally contained in the food, there being as a rule an excess of what is required for the needs of the organism contained in every daily diet. To accomplish this object the Blaud pill and the chlorid of iron is as effective, if not more so—in offering itself up to the sulphur-compounds in the intestine, and thereby protecting the iron in the nucleoalbumins of the food—than the organic iron-compounds. By comparative blood-counts, and hemoglobin-tests, with digestive patients affected with anemia, this truth has impressed itself forcibly upon my mind. The only other objection to the Blaud pill and the chlorid of iron has been that they do not agree so well with the stomach. As a general rule, my experience has been that wherever the Blaud pill disagrees, the organic iron-compounds disagree also. For in these cases it is not the form of iron *per se* that gives the digestive distress, but the diseased condition of either the stomach or the intestines, which will then require the special attention of the therapeutist. Kobert has shown that carbonate and citrate of iron in no way changes the amount of excretion-iron in the urine, but when hematin and hemoglobin were given, 10 to 17% of the administered dose were found in the urine. When Hemogaelol was given 21.6% were excreted. This shows that the organic forms are absorbed much more readily, but they are also excreted much more readily, and therefore therapeutically they accomplish nothing more than the inorganic salts of iron.

A. Lazarus, in the new treatise "Die Anaemie," by Professor P. Ehrlich,[10] claims that it must be conceded that some of the newer organic combinations of iron do not irritate the stomach and the intestines of the patient as much as the inorganic preparations, but he asserts that there is no difference between the kind and degree of definite action between the two classes of iron preparations. While a number of the newer organic combinations of iron find their main reason for existence in the claim that they avoid irritation of the digestive apparatus, it must not be overlooked that the digestive difficulties caused by the administration of iron are by no means understood etiologically. They consist of gastric distress, a sensation of pressure, fulness, and weight in the stomach, and, in extreme cases, nausea and pain. In my experience such results of iron medication are very rare, and, as previously stated, have been found to be due to a preexisting diseased state of the gastric or intestinal mucosa. Glaevecke[11] treated anemia by injecting ferric citrate subcutaneously. The injections were made in the subcutaneous tissue of the back, causing but very slight burning pain, and sensitiveness to pressure at the point of injection, lasting for 24 hours. The case was cured and the results were at least just as good, according to a number of clinicians who observed this method, as in other cases where the iron had been given by the stomach. A curious and important circumstance, however, in connection with this method of iron administration was emphasized by L. Lewin,[12] viz., that the gastric and dyspeptic distress in general was observed occasionally even after subcutaneous administration of the iron. As no iron reaches the stomach directly by this method, we must assume that the digestive distress was caused reflexly, or perhaps by the excretion of iron through the intestinal canal; so that even the much praised organic combinations of iron cannot in all cases prevent digestive disturbances if they will occur even when iron is administered subcutaneously. The proper course to pursue in severe anemias in which the inorganic forms of iron bring on dyspepsia, is to seek the cause of this symptom by analysis of stomach-contents and urine, and to prevent it by treatment directed to the real cause. If then the dyspepsia still continues on the use of inorganic iron, a trial with the more expensive organic iron combinations will be

ogical. In my experience, however, they will in these ases accomplish little more than the inorganic. The ustom seems to be for practitioners to resort at once to hese expensive organic iron combinations without aving tried the Blaud pill or the ethereal tincture of erric chlorid, and without having taken precautions o give small doses and only after meals.

The amount of iron which it is desirable to give in 24 hours in simple anemia, is stated as equal to 0.1 gram. According to Quincke, and v. Noorden, 0.1 gram ron is contained in the following amounts of iron prep-arations:

0.33 Carniferrin,
1.54 Ferratin,
0.10 Ferrum reductum,
0.16 Ferri sulphas,
2.80 Tincture ferri chloridi,
7.00 Tincture ferri pomata,
25.00 Liquor ferri albuminatis, (Pharm. Germ.)
3—4 Pilul. ferr. aloët.,
5 Pilul. Blaudii.

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AN OUTLINE OF THE PRINCIPLES OF MALPRACTICE AS RELATED TO MEDICINE AND SURGERY.[1]

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THE physician of today is so busy trying to keep abreast of the latest advances of the science and art of medicine, and, I might add, to collect enough of his fees to maintain himself and his family, that he has ordinarily but little time to study his legal relations with his patients and with the community as a whole. If allowed to follow the normal course of practice he is apt to regard the former as summed up in their treatment by him when they are sick or hurt and in the payment by them of his charge at the close of his attendance, without inquiring with any degree of accuracy as to the nature and extent of the mutual obligations, or as to the result of failure to perform them; and relations to the community appear to him to be completely defined by the ordinary statutory requirements—the procuring of a license to practise, and the reporting of births, deaths, and certain contagious diseases as specifically set forth. Most of us will pass thus through our entire professional careers. Occasionally, however, one is reminded that interwoven with his work there are certain other obligations, and when by the sudden and possibly unexpected service of summons in a malpractice suit he is thrown into the tangled mesh of law and medicine, these things assume a more definite shape.

The term "malpractice" is not necessarily limited in its application to conditions which exist with reference to physician and patient, but may be used with equal propriety to describe analogous circumstances when they relate to other professional men and those whom they serve, as, for instance, attorney and client. As most commonly employed, however, it has reference to malpractice as related to medicine and surgery. The essential principles underlying the condition are the same in all cases. As medical men, however, we need consider the subject only so far as relates to our own profession. But in any case whatsoever in which malpractice exists it is based upon two facts: First, breach of duty; second, injury resulting from such breach.

In determining what constitutes a breach of duty it is necessary to consider separately the obligations of a physician to his patient, and to the community, and we will consider them in this order. Out of the former grows civil malpractice and damages; out of the latter, criminal malpractice and punishment. In order to simplify the discussion, however, and so as not to draw it out to too great length, it will be necessary to omit from consideration those who cannot be regarded as free agents, either by reason of mental condition, or of imprisonment, or of obligations which they have assumed by entering the military and naval services. And the term "medicine," wherever used, means all branches of that art, unless otherwise indicated by the context, and "physician" will likewise include all practitioners of medicine, whether their practice be limited to special fields or not.

The mutual obligations of physician and patient grow out of the relation which exists between them. The creation of the relation is the voluntary act of the parties. There is no requirement of law by which any one is bound to attend as a physician any particular individual or class of individuals; when one has voluntarily assumed that relation he has no just cause for complaint if he finds his difficulties and his responsibilities great. No one is bound to employ any particular person as his physician; if, as the result of having done so, he finds himself injured, he cannot properly complain because his remedy appears to him inadequate. From one point of view the relation of physician and patient is that of parties to a contract, each agreeing, either in fact or by implication, to do something for the other in consideration of certain benefits to be bestowed. But the liability for damages for malpractice

[1] Read before the Medical Society, District of Columbia, October 11, 1899.

does not necessarily grow out of the contractual relation, and is referred to here only to point out that physicians in the employ of corporations, even though they be charitable institutions and the service be rendered without compensation either from the institution or from the patient, are liable for any injury which may result from malpractice on their part, and to note in passing that a physician cannot by any express agreement relieve himself from liability for want of ordinary knowledge and skill and due diligence, which, as we shall see later, he is required by law to have and to exercise.

The duties which the law exacts of every medical practitioner are comprehensive, but they are not sufficiently rigid to give any just ground for complaint, especially when we remember that one is always at liberty to avoid responsibility in any case by declining to treat it in the first instance. These duties may be summarized as follows: The physician must possess at least ordinary knowledge and skill, and must exercise at least due care. Whether his duty to maintain inviolable the secrets of his patient can be properly considered in connection with malpractice is possibly open to question, but as this duty grows out of the relation which he sustains to his patients, a few words on the subject may not be out of place. Thus expressed the subject seems simple enough. The practical application of these rules will depend, however, upon their interpretation, and in any doubtful case this will be effected by processes of law, which are by no means simple. The question as to whether any given act or series of acts does or does not prove malpractice is a composite of law and fact, and as such it must be determined by the jury. In determining it, however, the jury is guided by the principles of law as laid down by the presiding judge. While, therefore, we cannot estimate the weight which a jury will attach to any particular evidence in a given case, we can form some idea of the probable outcome by applying the principles of law as they have been laid down in adjudicated cases, and as they will, therefore, until altered by statute, be laid down in such cases as may occur hereafter. Before doing so, however, two points of practical importance may be considered with advantage. The physician is neither bound to cure his patient nor to be infallible in his judgment. If he has used ordinary knowledge and skill and due diligence in the formation of his judgment as to the nature of the disease or injury, and in determining the course of treatment, he is not guilty of malpractice even though it should be discovered later that such judgment has been erroneous and that the patient has been injured as the result of the error. Nor if the diagnosis and treatment be correct, and ordinary knowledge and skill and due diligence have been used in the methods adopted in connection therewith, is the physician liable, although injury and even death have resulted from the measures adopted. It has been deemed best to make this statement at the present juncture because it serves to emphasize the importance of definite principles of law by which the jury shall be guided in determining what is ordinary knowledge and skill, and what due care, in any particular case.

The terms "ordinary knowledge and skill" and "due care" have been judicially construed to mean not such knowledge, skill, and care as are possessed and exercised by the most thoroughly educated, nor yet that exercised by the moderately educated, nor merely by the well educated, but the average of the thorough, the well, and the moderate. This is the gauge by which methods of practice in any particular case will be measured to determine their quality, whether good or bad. It is not, however, an absolute guide, but shifts its standard with time and place, and with the nature of the case under consideration. The practitioner must keep abreast of recognized advances in medical practice and make use of them as soon as they may be regarded as having been established. He who first adopts a new method of diagnosis or treatment does so at his own peril, and if made defendant in a malpractice suit must be prepared to show that the injury complained of did not result from his departure from established rules, or to justify the judgment which led him to make such departure. He who pursues a course which has been generally abandoned may have to prove that harm has not come from it, or that his judgment, though defective, was formed neither ignorantly nor carelessly. And the rule is the same whether applied to a charity-case or to one to which service is rendered for a consideration. The standard of knowledge, skill, and care varies, too, with the locality. The work of a practitioner in an isolated mountain town in the West would be judged by the average practice adopted in other communities similarly situated, and not by the average of New York, Chicago, Philadelphia, or Washington City. It differs also with the nature of the case under treatment; the more grave the disease or injury, the greater the knowledge, skill, and care which must be exercised by the medical attendant.

The duty of the physician extends to every detail of the case. He must make visits as frequently and at such hours as may be necessary for its proper supervision, and he must determine when he can safely discontinue them. He must make such examinations, perform such operations, and prescribe such drugs and other remedial agencies as he deems proper. He must give such directions that his patient may know what is expected of him—that is, instructions as to rest, exercise, diet, bathing, and sleep—and such instructions must cover the duration of the illness after the physician has discontinued his visits as well as the period of actual attendance. If he undertakes an operation it is his duty to see that the instruments which he uses are such as are suited to the purpose, and that they are in proper

ondition for the use to which they are to be put. If he upplies drugs he must know that they are suited for he purpose for which they are used. He is bound to ee that by bringing into the sick-room contagious dis-ase or infection of any sort, he himself is not the me-lium of injury to his patient. And in all of these hings he must exercise ordinary knowledge and skill nd due care. The law does not, however, favor any articular system of medicine, and a practitioner must e judged by the standard of that system which he pro-esses to practise. If the physician provides his own ssistants, either medical men or nurses, he is respon-ible for their acts, and if he is practising as a partner in firm he is liable for any injury which may happen hrough the shortcomings of any of the partners.

The liability of the physician is involved, too, in the natter of professional confidences. It may be said enerally that he has no right to disclose matters which ave come to his knowledge in the course of his pro-essional employment. The only exceptions to this rule rise when he is specifically required by law to make uch disclosures. He is liable for any injury which has esulted from violation of professional good faith except uch as are thus required, whether the unwarrantable lisclosures be made in words or by the unauthorized ntroduction of others into the sick-room.

But the obligations of physician and patient are nutual. The physician, as we have seen, must make all ecessary examinations; the patient must permit such xaminations to be made. The physician must pre-cribe remedies; the patient must take such remedies. he physician must give directions as to diet and cer-ain other particulars; the patient must follow such lirections. Neglect on the part of the patient to co-perate to the best of his ability with all reasonable equirements of the physician may wholly or in part elieve the doctor from responsibility for any bad result vhich may ensue even though he has not been en-irely free from blame.

We saw at the beginning that the elements of mal-ractice were breach of duty, and injury resulting there-rom. The former we have considered. The latter rom a legal standpoint is not less important. From medical point of view a given line of treatment may e bad, although by chance or by subsequent good nanagement the patient has escaped injury. It is evi-lent, however, that unless the patient has suffered lamage he has no claim which can properly come be-ore a court of law, and that legally an action for mal-ractice cannot arise in the absence of injury growing ut of the bad treatment. Injury of which the law will ake cognizance may be: "(1) Loss of time and labor rising from the injury sustained by the malpractice; 2) the reasonable expenses incurred for surgical, medi-al, and other attendance; (3) diminished capacity to vork at the trade or business of the injured partly in onsequence thereof; and (4) bodily pain and mental anguish in consequence thereof."[2] One or more of these the patient must prove in order to sustain his claim. Future suffering and disability may be considered in estimating the amount of the damage sustained, and if there is evidence of malice, fraud, or gross neglect or ignorance the jury may award punitive damages—that is, gives damages in excess of the estimated injury as a sort of punishment.

When the case has come to trial the plaintiff must prove by preponderance of evidence that the physician-defendant has through ignorant, unskilful, or negligent treatment caused him some definite injury. Not until he has made out a prima facie case is it necessary for the physician to offer any defence. But should such a case be shown, the defendant must disprove it. This he may do either by showing that the treatment which he employed was right and proper; or that the patient has not been injured; or that such injury as has been received did not result from any default on the part of the physician or the part of his assistants, but was the inevitable outcome of the disease or injury, or resulted from some act or acts on the part of the patient or on the part of nurses or others called in by the patient to assist in the management of the case. If the physician can show that the injury complained of resulted from the neglect of the patient, he is relieved from responsibility. If though some injury has arisen from such neglect, it can be separated from that for which the physician is responsible, the medical attendant may be held liable for such injury as he has caused, but if it cannot be so separated the patient himself must bear the entire loss. The physician is not allowed to introduce evidence to show his professional standing, nor to prove what his success has been in other similar cases, for the question to be determined is not what was done with reference to some one else, but whether he has exercised ordinary care and skill, and due diligence in the treatment of the case under consideration. Expert testimony may be admitted.

Thus far, we have considered only civil malpractice, the breach of the duty which the physician owes to his patient. But the State has an interest in the welfare of every citizen, and when the ignorance or neglect of the physician has passed a certain point, and the character of the resulting injury has reached a certain degree of severity, the community as such demands the punishment of the offending party. So long as the injury has grown out of some more or less inadvertent omission of duty the criminal law will not intervene. But when by reason of gross ignorance or gross neglect a citizen suffers death or even severe injury, the physician, or he who has assumed to act as such, is amenable to the criminal law; if death has resulted he may be punished for manslaughter; if the injury has not caused death he may be punished for a misdemeanor. And if the death result from some unlawful act on the part of a

[2] Hamilton's System of Legal Medicine, Vol. II, page 582.

physician, as by inducing an abortion under circumstances under which the law will not justify it, he may be punished for manslaughter without reference to the degree of knowledge, skill, or care which he has used. If a person assume to act as a physician in violation of law, and death result from his treatment of any particular case, he, too, is liable to be punished for manslaughter without reference to the degree of care or skill which he employed. The good intention of the physician or of the person who has assumed to so act will afford no excuse. On the other hand, if it can be shown that there was intent that death should result, or if circumstances were such that an intent could be properly inferred, the guilty party may even have to suffer the penalty for murder. The aim of the law with reference to criminal malpractice is punishment; its aim with reference to civil malpractice is compensation. There is no reason why both should not exist together, and accordingly we find that a conviction of criminal malpractice and even punishment therefor will not prevent the recovery of damages in a civil action, nor vice versa.

What redress has the physician who has been made the defendant in a malpractice suit, civil or criminal, and who has made a successful defence? He has lost reputation and patients, time and money; he has suffered incalculable annoyance and worry; in a civil case he is liable for certain court charges, and in any case he has his attorney's fees to pay; in a criminal case he has been compelled to give bail or to remain in prison. Has he no remedy? If we answer "No," we shall be not far from right in a practical way; whatever the theory of the law may be. In civil proceedings judgment in favor of the defendant will relieve him, in most cases, of liability for the court charges, and nothing more. If he has been acquitted upon a criminal charge he may institute suit for malicious prosecution, against the party or parties who originated the proceedings against him, but in order to maintain his claim he must show that such proceedings were begun without probable cause, and that the motive therefor was malice; and the chances are all in favor of the defendant. Even if the physician succeeds in establishing his case, he is only too likely to find that the party against whom he has secured judgment has no property with which it can be satisfied, and that he has only added the trouble and expense of his suit to the sum total of his loss. If the proceedings against him have been civil instead of criminal, it is doubtful whether even this remedy, if remedy it can be called, suit for malicious prosecution, is open to him.

To sum up: Malpractice from a medical standpoint means such practice on the part of the physician as does not conform to certain standards and which results in the injury of the patient. It may be either civil malpractice or criminal malpractice. Civil malpractice may be the result of ordinary ignorance or neglect; criminal malpractice is the result of intent, or of gross ignorance or neglect. The minimum of knowledge, skill, and care allowed by law is the average knowledge, skill, and care employed by physicians generally, at the same time, and in the same and similar localities. For civil malpractice the physician must answer in damages, to the patient. He will not be liable unless the plaintiff shows that he has been injured by the alleged malpractice, and after a prima facie case has been made out against him, the defendant may show that the treatment which he adopted was proper or that the alleged injury did not result from it. If the injury complained of be due to the failure of the patient to follow the instructions of the physician, the latter will be relieved, in whole or in part, of liability. For criminal malpractice the responsible party is liable to the State for punishment by fine or imprisonment, or both, and good intent is no defence. If the physician be acquitted of a charge of criminal malpractice he may, in an action for malicious prosecution, recover damages from the responsible party if he can show that the charge was made without probable cause and through malice. If in a civil proceeding judgment be rendered in his favor, he will be relieved from liability for the court charges, but whether he can maintain an action for malicious prosecution is doubtful.

ATHETOSIS AND KINDRED AFFECTIONS.[1]

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The following is the history of a case of athetosis that recently came under my observation:

The patient, aged 12, a native of California, was presented by his parents on August 17, 1898. He had measles at the age of 3, and whooping-cough a year later. Otherwise he was well until 6 months preceding the date mentioned. At that time he had a fever that lasted about a week. Several days after the beginning of the fever, there appeared an eruption upon the face and body, consisting of a general bright redness of the skin. This was associated with a tonsillitis that lasted for several days. The eruption remained for 24 hours and then disappeared, the fever persisting for a day or two after, when it also subsided. Since then, however, the patient has not seemed well; that is, he is easily fatigued upon slight exertion. The exanthem described may have been that of scarlet fever.

A month after the occurrence of the symptoms noted, he began to have fever again; and a week later there developed a pain in the joints, especially the ankles, the wrists, and the knees. The joints were not markedly swollen, but were sensitive to pressure, and were the seat likewise of spontaneous pain. At the end of 4 weeks this condition had gradually disappeared. During this period of what was clearly an attack of acute articular rheumatism, there developed a pain in the chest, associated with evidences of circulatory disturbances. The attending physician diagnosed a pericarditis.

Immediately after the patient's recovery from the rheumatism it was noticed that he was using his left hand in preference to the right, and that he was making unusual movements with the right hand, apparently involuntarily. At about the same time he appeared to have lost to some

[1] Read before the San Francisco Medico-Chirurgical Society.

extent and in a similar manner the voluntary control of the right lower extremity. These troubles grew worse for 2 weeks, and then remained stationary until 3 weeks ago. At that time the movements of the hand and leg became more pronounced, and there developed likewise a difficulty in articulation. About a week ago the left hand became slightly affected; and since the same date there have been involuntary movements of the head. For the past 6 months there have been frontal headaches at times. For several months there has been occasional vertigo, and for several weeks occasional nausea.

The following record of the results of the physical examination was made at the time. The patient is rather pale,—more so, it is stated, than he has been formerly. There is no paresis about the face. The tongue is protruded straight, but there are slow involuntary movements made by it while kept protruded. The pupils are equal and react to light and accommodation. There is no disturbance of the special senses. On the dynamometer the pressure with the two hands is found equal. The kneejerk is well marked on both sides. There is a slight unsteadiness in the gait. In the hands, especially the right, there is an almost constant, slow, rhythmical movement, wavy in character, involving the wrists, the metacarpophalangeal joints, and the joints of the fingers. The fingers wind over and under one another with a slow, wavy, regularly-repeated movement, very unlike the spasmodic, purposeless, irregular movements of chorea. All of these movements become aggravated upon concentration of the attention. During the examination there are slight involuntary movements of the head as a whole, and likewise of the left lower extremity. Examination of the eyes discloses a normal fundus. Examination of the chest is negative, except that there is heard over the heart a slight friction-murmur, synchronous with systole. The patient had been taking from 2 to 3 drops of Fowler's solution 3 times a day for some months before this time. This dose was given generally very slightly diluted, and to this, in lieu of any other discoverable cause, it seemed justifiable to ascribe the nausea of which he complained. He was ordered to take 10 minims of Fowler's solution, well diluted, 3 times a day.

He was not presented for a considerable time after this examination; but, about a week later, his condition was reported as very much improved. The note says, "There was hardly any movement in his hand as he held it out—only a little in the first finger." The other movements had ceased. The improvement continued rapidly, and, a month later, he appeared and felt perfectly well.

There are several points in the case that are worthy of comment. In the first place, with regard to the diagnosis, it may be said that the disease should never be mistaken for anything else. The only error that could be made in this respect would be to classify it as chorea. But the movements are so characteristic and so different from choreatic movements, that, after once having seen them, it is impossible to fail to recognize them. As distinguished from chorea, in the first place, they are slow and apparently deliberate, whereas choreatic movements are rapid and apparently purposeless. Secondly, the movements of athetosis are sinuous. When they involve the hands, the fingers wind over and under one another. The movements of chorea are jerky. Thirdly, athetotic movements are regular and rhythmical, the same movements being constantly repeated, so that having once seen them in the given case, one can predict their form in that case. Choreatic movements are irregular, and from one moment to the next it is impossible to predict when they will occur or what form they will assume.

Another point of interest in the present case is the efficacy of the treatment that was instituted. When arsenic was prescribed, it was not with the expectation that the improvement, if any, would be as rapid as it proved to be. This was in view of the fact that the prognosis, as usually given, is unfavorable. It may be contended that the improvement had nothing to do with the medication and was merely coincidental therewith. But the fact that, within a week after the administration of the larger dose, the improvement was so marked that the athetotic movements had almost disappeared—this fact would rather point to the medication as the cause. In addition to this it should be remembered that just before the change of dose the malady had been growing progressively worse. The movements had become more pronounced in the limbs already affected, and had begun to involve one of the extremities of the other side of the body. Further than this, they had involved the head as a whole, and also the tongue, so that articulation was interfered with. The fact that this rapid progress of the disease for three weeks prior to the institution of treatment was followed within a week by an almost entire abolition of the symptoms described, would point to the treatment rather as a cause than as a coincidence.

If the use of the arsenic was instrumental in producing the rapid improvement, we are naturally led to inquire whether there is not some relationship between this disease and that other in which arsenic is peculiarly effective, namely, chorea. May not the genesis of the two diseases be the same? It has already been observed that the movements in the two conditions respectively denominated athetosis and chorea are each so characteristic that it would be unpardonable to mistake the one for the other. But while the outer manifestation of underlying pathologic conditions may be entirely unlike in each of two cases, it is nevertheless possible that their pathologies may resemble each other, and that the locality of their lesions, if there be a localized lesion in each, may be the same. In confirmation of this hypothesis there is another point that is worthy of note. It is the history of the case just previous to the occurrence of the troubles described. It will be recalled that the patient had had an attack of acute articular rheumatism; this was followed by a cardiac affection, and this, in turn, by the athetotic movements. One cannot fail to be struck by the similarity between this history and that of the common history of chorea. That trinity of affections—rheumatism, heart disease, and chorea—has long since established its right to recognition as in some way associated with one another, either as cause and effect or as the results of a common cause. The similar history in the present case would point to a like possibility with regard to athetosis.

In seeking for the explanation of these phenomena of the abnormal involuntary movements of the athetosis and chorea, it is well to consider at the same time the whole group of spasmodic, involuntary movements. This would, of course, include those of epi-

lepsy. All of these can probably be traced, to a certain extent, to the same or to similar causes. That this is so is rendered probable by the fact that in patients affected with one of these troubles, one of the others will frequently supervene. For example, Hammond's original case of athetosis occurred in an individual who had for many years been subject to epileptic convulsions. Similarly, Trowbridge[2] believes that there exists a relationship between chorea and epilepsy. He gives a table of 15 cases in which these diseases were associated at different times in the same individual. Powers[3] likewise cites 20 cases in which epilepsy and chorea were associated. In 12 the chorea occurred first; in 4 the epileptic seizures began at the same time as the chorea and persisted afterwards. He gives the history of one case in which the chorea and the epilepsy were synchronous; that is, there were occasions, in the course of the chorea, in which the choreatic movements assumed a convulsive character. There occurred "loss of consciousness and spasm of a tonic character preceding and accompanying the choroid convulsion." In this case the two disorders were so intimately blended that, as he says, the convulsion must be ascribed to the same morbid process as that which was the cause of the chorea.

All of these involuntary movements must be produced, in some way, by means of the same mechanism that produces normal physiologic movement. Now, muscular contraction, and consequently movement of a part of the body, may be normally produced in a number of ways. First it may be produced by an irritation of the muscle itself. Secondly, it may be produced by an irritation of the motor nerve that supplies the muscle. Third, it may be produced by an irritation of the nerve-centers from which the nerve originates. Fourth, it may be produced reflexly by an irritation of a sensory nerve or tract, communicating by connecting fibers with the motor tract.

Epilepsy, chorea, athetosis, and similar affections are very clearly affections involving in some way the cerebral nerve-centers. Hence, we may disregard the first two methods mentioned as to the mechanism whereby movements are produced. The other two methods are the application of a stimulus to the motor centers directly, and the application of a stimulus to the sensory tracts, and thence reflexly to the motor centers.

Now, it is possible that the involuntary movements of athetosis are primarily due to a disturbance of the sensory tract that serves in some way to irritate the motor cortex. As a matter of fact, the findings of autopsies go rather to confirm than to confute this theory, although this explanation seems never to have been offered. The disease was originally described by Hammond. And in his first case there was found, after death, a degeneration involving the posterior third of the thalamus and the posterior third of the internal capsule. The motor tract was not implicated. Sinkler[4] says that in many cases the thalamus and the posterior portion of the internal capsule are involved. The morbid changes that have been found have by no means been invariable, either in their character or in their location. But it may safely be said that in the majority of cases in which a lesion has been discovered *postmortem*, it has been located in the posterior extremity of the internal capsule or the posterior extremity of the optic thalamus or both. Now, the posterior third of the posterior limb of the internal capsule is, as is well-known, the location of the sensory tract. It contains the fibers of common sensation, and of special sense, all gathered into a small compass on their road from the periphery to the cerebral centers of sensation. As for the optic thalamus, it is believed that it is exclusively a sense-organ. Mills,[5] after having thoroughly discussed the subject of sensory localization, concludes that the weight of evidence, both from experiment and disease, connects the thalamus with various forms of sensation. Such being the case, the question presents itself, How can an affection of these sensory organs produce motor disturbances? The only explanation that has hitherto been suggested is that the lesion in the sensory tract and in the thalamus acts as an irritant to the neighboring motor tract and that to this irritation are due the involuntary movements. But to this theory there are certain objections that are hard to overcome. If the lesion, by virtue of its position, produces an irritation of the neighboring pyramidal tract, it would necessarily affect first that portion of the pyramidal tract which is nearest the site of the lesion. As a matter of fact, the motor fibers in the internal capsule are arranged as follows. They occupy the elbow and the anterior two-thirds of the posterior limb. The fibers for the face occupy the elbow of the capsule; posterior to these are the fibers for the arm; and next come the fibers for the leg. Finally, back of all these, in the posterior third of the posterior segment of the internal capsule are located the fibers of common sensation and of special sense. The arrangement is such that if a lesion in the region of the sensory tract or the neighboring portion of the thalamus opticus were to cause any direct disturbance of the motor tract, it would first affect the fibers distributed to the leg, then those distributed to the arm, then those distributed to the face. If this were the true explanation of athetosis we should expect the disease to occur more often in the lower extremity than in the upper. The fact is, however, that the reverse of this is the case. Sinkler says, "In most cases . . . the whole arm is involved. The leg is seldom affected, but the feet and toes are occasionally the seat of athetoid movements." Gowers says that the arm is always involved in greater degree than the leg. This fact, recorded by all clinicians, renders it improbable that the movements of athetosis are due to a direct irritation of the motor tract. If the lesion is located in the sensory tract and cannot pro-

duce directly the symptoms that occur, then there remains but one possible explanation. It produces them indirectly or reflexly, the impulse being transmitted to the motor centers by association fibers. This would make athetosis a reflex disorder, due primarily to sensory disturbances.

REFERENCES.

2 Nervous Diseases, by American Authors, p. 232.
3 Epilepsy and other Chronic Convulsive Diseases, p. 152.
4 Nervous Diseases, by American Authors, p. 267.
5 Nervous Diseases, by American Authors, p. 420.
6 *Op. cit.*, p. 265.
7 Diseases of the Brain and Spinal Cord, p. 52.

(To be continued.)

A PNEUMATIC SIGMOIDOSCOPE.[1]

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FROM a preliminary report to appear in the PHILADELPHIA MEDICAL JOURNAL, October 7, 1899, I quote :

Having been especially interested in the study of rectal diseases for several years, I have frequently felt the need of some means by which the upper rectum and sigmoid colon could be examined thoroughly, and at the same time with safety. The instruments in established use have in my hands proved very unsatisfactory. Not being able to eliminate the element of danger incidental to the introduction of the long sigmoidoscopes, I have been very chary in the use of them. Such instruments are dangerous in any but expert hands, and even then accidents have been reported, especially when there is coexisting disease of the upper bowel.

To overcome the objections to the long iustruments, I have devised a pneumatic sigmoidoscope, which I believe is unique in several respects. It consists of a tubular speculum, 7 inches in length, with a screw-cap fitted with plate glass over the proximal end; two electrodes run through the handle of the instrument, so as to connect a 5-candle-power electric light, which is placed a short distance from the end of and within the tube; just in front of the glass cap there is a small opening in the tube, so arranged that the rubber tubing of a double air-bulb may be attached. It is also furnished with an obturator.

The obturator being placed in position, the instrument is introduced into the rectum for 2 or 3 inches; the obturator is now removed, and the electric lamp put into place; the glass cap is tightened, and then by gradually pumping in air by means of the bulb, the whole upper part of the rectum and sigmoid flexure will be inflated; now, by turning on the electric current, the interior of the bowel is illuminated, and can be thoroughly examined.

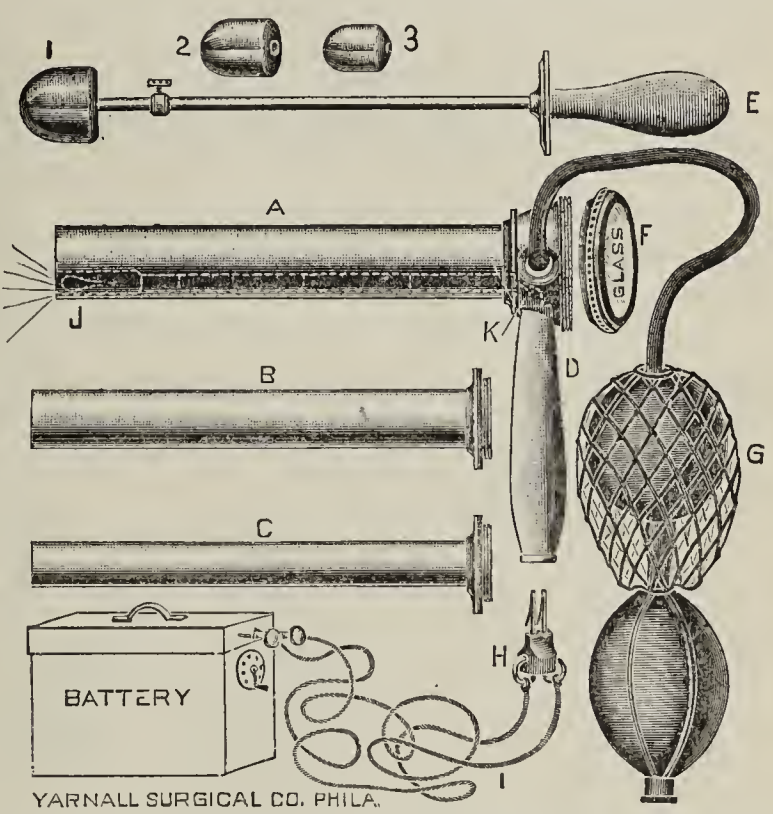
If the lower part of the rectum is to be examined, a finger-cot may be slipped over the end of the tube, and held in place by means of a ring; when the finger-cot is inflated, it becomes transparent, and, at the same time, dilates the rectum, so that every part of it may be seen.

The hand-piece which contains the electrical connections is made interchangeable, so that any size or length tube may be used. The practical set consists of three tubes, 20, 25, 30 mm. in diameter, respectively, and 18 cm. in length, yet a much shorter, or a tube as long as 36 cm., may be attached if found necessary. The obturator handle is made so that any size tip may be screwed on, and by means of a telescopic arrangement it may be adapted to fit any of the various tubes described.

A special screw-cap with a smaller glass window, and an air-tight valve-arrangement, which will allow a curet, a probe for making local applications, an electric cautery snare, a spray-apparatus, etc., to be used while the bowel remains inflated and perfectly illuminated, is another one of the possibilities of the instrument.

I have also devised an air-tight telescoping connection, by means of which an ordinary camera may be attached to the instrument, so that a photograph of any growth or lesion of the rectum or sigmoid flexure may be made in situ.

The patient should be placed in the knee-chest position in order to facilitate the dilation of the parts. It is not necessary to give an anesthetic, as the use of the instrument does not cause much pain. A pad of cotton



A, B, C, detachable tubes, 20, 25, 30 mm. in diameter, 18 cm. long; D, hand-piece containing electrodes K; F, screw-cap, fitted with plate glass; G, double air-bulb; H, I, connection and cords of battery; E, extension obturator; 1, 2, 3, different size tips for obturator; J, 5-candle-power electric light.

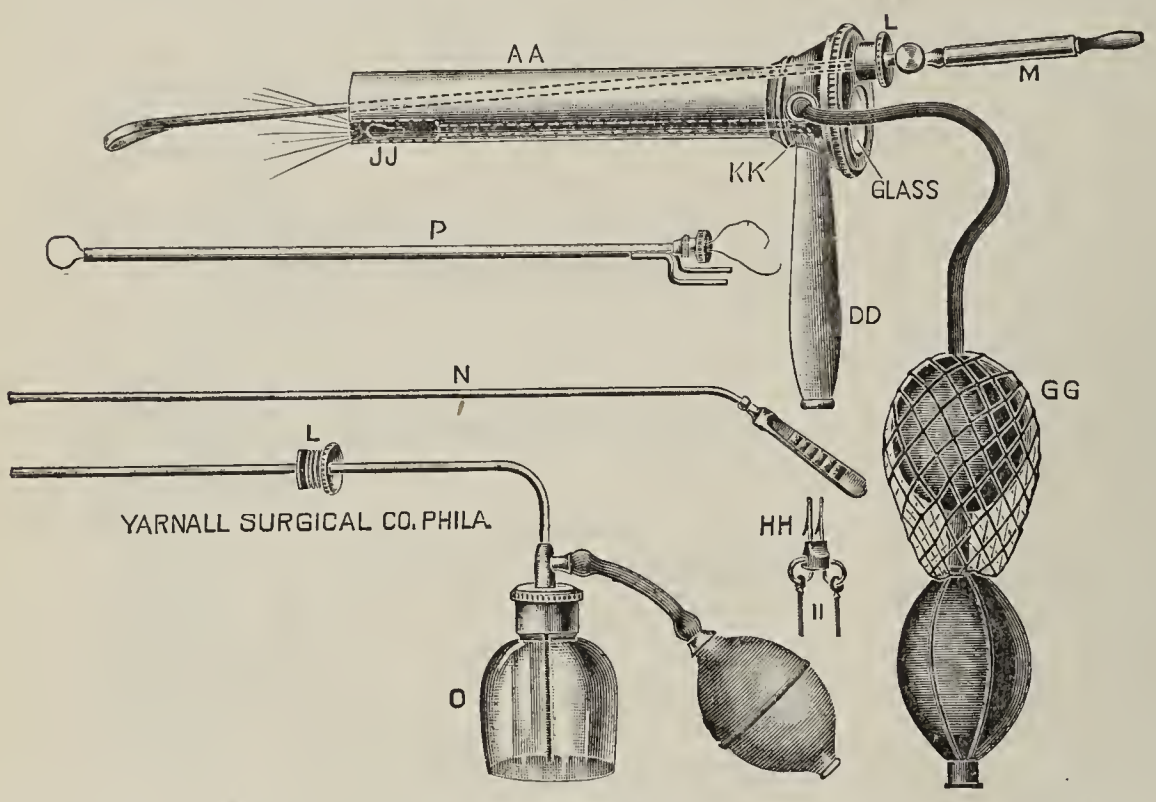
wrung out of water, held closely around the tube, and against the anus by an assistant, will keep the air confined in the rectum, or an inflated rubber pessary slipped over the tube will answer the purpose as well.

I noticed in last Saturday's issue of the *Journal of the American Medical Association* an article by J. Rawson Pennington, M.D., describing an inflating rectal speculum that is similar to my unimproved sigmoidoscope, consisting of the tubular speculum, glass cap and inflating bulb. I have had that much of my instrument with the addition of the electric-light attachment in use at the Medico-Chirurgical Hospital, Philadelphia, for nearly a year, not being willing to give it to the profession in an incomplete state. I now wish to show clearly that I have been using practically the same instrument described and published by Dr. Pennington nearly a year before the September 30, 1899, issue of the *Journal*

[1] Read at the Twenty-fifth Annual Meeting of the Mississippi Valley Medical Association, Chicago, Ill., October 3-6, 1899.

of the American Medical Association. I can prove it by various persons connected with the Medico-Chirurgical College and Hospital, and will now mention the names of two gentlemen well known to the members of the Mississippi Valley Medical Association and the profession of the country at large. I refer to Prof. Joseph M. Mathews, of Louisville, Ky., who, on account of illness in his family passed several weeks in Philadelphia during February, 1899, and was frequently in my office during that time, and knew of the different steps I had taken in perfecting the instrument. All of this is even better known by my office associate, Prof. Wm. L. Rodman. Before either of these gentlemen saw the instrument, it was seen and examined by Major David C. Peyton, of the United States Army, who was stationed in Philadelphia at that time, and was living at 1703 Walnut St., where I also resided. All of these gentlemen, who are warm personal friends of mine, did not hesitate to speak of my unreported instrument, as they believe it fulfilled a distinct want in rectal surgery. Prof. Mathews is very positive that he spoke of it to quite a number of members of the profession at the June meeting of the American Medical Association, over which he presided. I made no secret of what I was doing, nor did any of my friends who saw the instrument. I feel that I can very well dismiss the question of Dr. Pennington's priority, inasmuch as his instrument at the most is inferior to my crude instrument, which I was unwilling to give to the profession; his instrument has no electric light; mine had from the first, and by reason of it I saw possibilities in the direction of photography and treatment of neoplasms and lesions of the bowel in situ; therefore my instrument is not only of value for diagnostic, but therapeutic purposes as well.

I feel, to conclude, that the unfortunate delay in publishing the results of my first labors in this direction has been more than atoned for by the betterment of my instrument in every way. In its present, and I trust perfect, state, it has already proved of great value to Prof. Rodman and myself in ward-class demonstrations to the students of the Medico-Chirurgical College. We have shown tumors of the sigmoid with perfect distinction as to size, shape, and color, general appearance, etc., and I am, therefore, led to hope that it may have a fair trial by those doing rectal surgery.



AA, tube, 30 mm. diameter, 18 cm. long; JJ and KK, electric lamp and electrodes; L, air-tight valve; DD, hand-piece; GG, air-bulbs; HH, electrical connection; P, electric cautery snare; N, probe; M, curet; O, spray-apparatus.

CREOLIN-POISONING.

BY E. W. PRESSLY, M.D.,
of Clover, S. C.

IN view of the supposed innocuous character of this drug I think it worth while to put upon record the following case of creolin-poisoning:

Mrs. L. C., white, age 33, wife of a physician, was being treated for amebic dysentery with irrigation of the colon with solution of creolin 2%.

From 1 to 2 quarts was injected at each irrigation. After 3 such irrigations at intervals of 8 hours the creolin was reduced to 1% and the same amount of fluid was used.

About one hour after the fourth injection of the latter strength she was suddenly seized with symptoms of profound collapse, vomiting, cold perspiration, sighing respiration, pulse 140 per minute, small and thready. The urine passed for the following 24 hours smelled of creolin and the same odor was noticed on the breath.

This condition was not recovered from till after the lapse of 18 hours.

Why the poisoning should have occurred after the 1% injection, when 2% had been used without any manifestation of unpleasant symptoms, I am unable to say, unless it is an instance of cumulative action.

Strangulated Internal Hernia Through an Omental Slit.—W. L. Brown (*Medical Standard*, November, 1899). Six days before admission to the hospital the patient was suddenly taken with severe pain in the left thigh and cutting pains in the abdomen. He soon began to vomit and had had no movement of the bowels in spite of the use of cathartics. There was no history of similar attacks and the hernial rings were found normal. The patient's general condition was very bad, not justifying operative intervention, and death followed about two hours after admission. A necropsy was performed and on opening the abdomen gas and fluid escaped; the omentum was displaced to the right and firmly adherent around the cecum, the small intestines were lying in front of it instead of being covered by it. On the under side of the omentum, near the sacral promontory, was a slit which did not completely perforate the omentum, but formed a thin band, and through this the small intestine passed. The proximal end was strangulated, and below the obstruction all the intestine was collapsed except the cecum. All the intestine above the obstruction was greatly distended with gas and dark brown fluid of fecal odor. [M.B.T.]

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Unenviable Abstracting by Envious Journals.—e last week published a letter from a correspondent io was justly indignant at the style of abstracting edical articles which is becoming prevalent with veral American journals. For reasons of envy or lousy a rival journals by its method of abstracting ll belittle and ridicule the articles appearing in other journal. Two American medical journals ve recently imitated the method started by us of stematically abstracting journals, forgetting to men- n their indebtedness to us, or to thank us for origi- ting the plan. In order to make their ingratitude ll more manifest they either omit mention alto- ther of articles published in our journal, or make eir abstracts untruthful, laughably short, and wholly ly. We could cite many instances of this practice. it what are the results? The authors of original icles are made indignant; the contributions of nerican physicians are belittled by unpatriotic nericans; American journalism is disgraced; the tuse editor hastens to write himself down—ludi- ous, and does not even humbug his own readers; d the punished journal gains strength and friends! ie policy and the morals of the scheme are alike d.

Medical College Requirements.—Every medical llege has a public announcement of its requirements. many cities where more than one college exists the arge is more or less openly made that this or that ool does not live up to the requirements as officially nounced. The Push-em-Through College is said to ore the preliminary examinations,—and the literary oductions of its graduates seem to sustain the charge. ie Padded-List University puts in its published ster of students the names of those who have simply clared their intention to study, but who have not tually matriculated; the majority of those who pay s simply give ten dollars on account and a note ever intended to be collected) for the remainder of e ostensible school fees. The Punch-Bowl Hospital hool of Medicine has a clientele made up almost ex- sively of the barbers, coachmen and drug-clerk quaintances of the members of the "Faculty." Prof. ard-up, of the Jayville College, requires each student present 20 mounted specimens of pathologic tissue for e final examination; privately he offers to sell to students 20 suitable slides for $20. Bluffville College announces a course in practical bacteriology, but has no microscopes, no incubator, no laboratory. Hold-on-to-the-Dollars Clinical School of Medicine has a dissecting-room in which there is neither water nor light, and the "Professor" of Anatomy says all of the dissecting is done at night. The Insulated University claims to illustrate materia medica instruction by the practical study of a magnificent crude drug collection, but the students never see nor handle a single specimen.

Are these *sub-rosa* charges true?

Not always. But some of them are partially true and a few of them are wholly correct. There is enough fire back of the smoke to justify the existence of a salaried Executive Board representing the American Medical College Association, which shall annually inspect and report upon the actually possessed facilities and actually practised methods of each medical college in the United States. Let the whole profession know whether they live up to their advertised standards.

Some Families of the Genus Anti.—In the field of politics, religion, and social life, the antis are so numerous that histories in volumes would be required to describe them. But it is in medicine that the anti grows most luxuriously and finds his most typical development. If one will take up any book or periodical devoted to medical crankery and faddism he will be astonished at the virulence of the all-controling hatred of whatever thing scientific, hygienic, or medical, has secured any dignity or continuance. The antivivs pour out their torrents of hate of (medical) men in the name of love of animals. The antivacs would condemn us all to burn forever in cauldrons of vaccine virus, for the sake of their pet fad. The antidrugs would rather see the human race perish than be saved by any "drug-poisoning." The antimeds or Christian scientists, detesting science and caricaturing Christianity, are positively sulphurous when our profession crosses their line of vision. The antirabs would let us all die of hydrophobia rather than permit a Pasteur institute on our sacred soil. There are probably a thousand clearly differentiated types or sects, all moved by antiism, all filling the country with their lurid literature and well-paid traveling agents. This spirit of mad individualism is also finding its way into the profession itself. Medical colleges are hating each other, cities take on civic

rivalries, the commission men are against the whole profession for the benefit of private pocketbook or personal clique,—and so the riot and the rout go on! There is more than one city of our country in which it has reached such a silly extreme that any movement looking to civic or professional progress, and *not* officered or instigated by the jealous antis, — will be pounced upon sooner or later by the whole body united by a common hatred.

Statistics of Medical Education.—A more suitable display for the Paris Exposition could hardly be imagined than that which has been prepared by the United States Commission, Department of Education. The 19 monographs on education in the United States, edited by Nicholas Murray Butler, are of permanent pedagogic value. Number 10, "Professional Education," prepared by James Russell Parsons, Jr., of the University of the State of New York, is the most complete and exhaustive epitome of the history and condition of medical and other professional education which has ever appeared, and it must remain for a long time a handbook for every student and writer on this subject. The style of the monograph is beautiful and it is illustrated by a number of charts, diagrams, and tables which put forth the information in the most striking manner. It is the greatest advantage to consider professional education of various kinds together. In this manner we learn that the number of theological schools exceeds, and has ever exceeded, since their establishment some twenty years after the establishment of the first medical school, the number of schools of law, pharmacy, dentistry, veterinary medicine, and library methods. The number of medical students, however, greatly exceeds the number of students of theology, and in 1899 was very nearly one-half all the professional students in the United States. There are now a total of 55,669 professional students of all kinds, of which 24,119 are students of medicine; 11,883 are students of law; and 8,093 are students of theology. These students are distributed throughout the United States very unequally. Illinois has the greatest number, 7,231. New York, Pennsylvania, Missouri, Ohio, and Massachusetts follow with 6,777, 5,988, 3,846, 3,550, and 3,061 respectively. Eight States and Territories are credited with having no professional schools, while the lately acquired island possessions of the United States are not included in the statistics. From the table showing the duration of the course of study in the various professional schools it is easy to notice the rapid advance of the time-requirement in the schools of medicine since 1875. Even as late as 1885 over 95% of the medical schools, practically all the schools of law, dentistry and pharmacy required only two years for graduation. Since that time the schools of medicine have rapidly and steadily advanced their time-requirements, until now less than one-fourth the medical colleges lag behind th four-years requirement. The same progress, however has not been made by the schools of law, dentistry pharmacy, and veterinary medicine. The endowment of the various professional schools make a most lament able picture. Three richest theological schools hav each over a $1,250,000; the three richest schools of law have $400,000, $135,000, and $100,000 respectively while the three richest medical schools—Columbia Johns Hopkins, and the Woman's Medical College o Pennsylvania—have $480,000, $427,000, and $297,00 endowments.

Trees and Malaria.—In a late number of *The Foreste* the effect of planting eucalyptus trees as a remedy fo malaria is discussed. Australia, the home of the tree is said to "possess, in a very high degree, an immunity from fever-maladies, the fevers of the large towns bein due to unsanitary conditions."

The tree has been extensively planted in Italy becaus of its supposed virtue in this direction, and in Californi it has found great favor on account of the rapidity wit which it makes wood. It is probable that the tw qualities are interdependent; that is, that to support th rapid growth the tree makes great demands upon soil moisture, and finding that it energetically sets about it normal activities; being in effect a great pump whic is constantly at work sucking the water out of th soil, converting the contained elements into wood and discharging oxygen and healthy vapors int the air.

It matters not that in California the water is supplie largely from irrigation-canals with the object of produc ing wood, and that in Italy and elsewhere the trees ar planted on swampy, unhealthy ground with th primary purpose of making the vicinity more fit fo human kind; in each case the result sought is attaine and the thought comes, if the eucalyptus has so high value in freshening the atmosphere, why may not othe trees, suited to different localities, have the same influ ence in a measure? That trees of all kinds do have tempering, equalizing effect on climate is well know and the fact is one of the strongest arguments for fores preservation. If each community would consider th question of preserving its trees, or of planting suitab species with this point in mind, we should have at on an increased local healthfulness, and a decided gain t the forestry movement, which in this country needs th active support of every physician.

Suggestions to Writers, No. 56. Anatomic Term to be Preferred.—During the last ten years the Ass ciation of American Anatomists, the American Neur logical Association, the American Association for th Advancement of Science, and the Anatomische Gese schaft have adopted and published reports of speci committees on Anatomic Nomenclature. The extent

greement already reached may be seen from the reorts of the Anatomists for 1897 and 1898; the second as printed in full in the PHILADELPHIA MEDICAL JOURAL for February 25, 1899. From these two reports are elected the names of some parts not infrequently menoned which are recommended for use in place of the ss convenient and usually longer synonyms. When ne distinctively Latin form differs from the English ne latter is given; *e. g.*, precuneus for *praecuneus*, cenal fissure for *fissura centralis*, gyre for *gyrus*, peduncle or *pedunculus*, mesocele for *mesocoelia*, metapore for *etaporus*, etc.; but in all these cases the national Engsh form at once suggests the international Latin. The sk of ambiguity in a few cases is obviated by the conext. The Anatomists have as yet passed only upon ne bones, the muscles, and the central nervous system, ncluding the bloodvessels of the brain. The cranial erves have not yet been included, but there can be ttle doubt that *vagus* will be recommended rather than neumogastric.

USE	INSTEAD OF
lba	Substantia alba, or White matter
rbor	Arbor vitæ
xis	Second cervical vertebra, or Epistropheus
iceps	Biceps brachii
alcar	Calcar avis, or Hippocampus minor
allosal Fissure	Fissure of the corpus callosum
allosum	Corpus callosum
audatum	Corpus caudatum
entral fissure	Fissure of Rolando
hiasma	Optic chiasma
inerea	Substantia grisea, or Gray matter
irculus	Circle of Willis
lava	Processus clavatus
occyx	Os coccygis
orona	Corona radiata
ortex	Substantia corticalis
rus	Crus cerebri
entatum	Corpus dentatum
iencephalon*	Thalamencephalon, or 'Tweenbrain
orsal (horn, or cornu, and nerve-root)	Posterior
ura	Dura mater
ndyma	Ependyma
pencephalon*	Hindbrain
piphysis	Conarium, Pineal body, or Pineal gland
alcial sinus	Inferior longitudinal
alx	Falx cerebri
imbria	Fimbria hippocampi, or Corpus fimbriatum
issure	Sulcus
oramen magnum	Foramen occipitale magnum
yre, or Gyrus	Convolution
abena	Habenula
emicerebrum	Cerebral hemisphere
emiseptum	Lamina septipellucidi
ippocamp, or hippocampus	Hippocampus major, or Ammon's horn
ippocampal fissure	Dentate
ypophysis	Hypophysis cerebri, Pituitary body, or Pituitary gland
lium	Os ilium
nsula	Island of Reil
ntercalatum	Substantia nigra
ntercerebral fissure	F. longitudinalis cerebri
schium	Os ischii
sthmus	Transition convolution
ateral sinus	Transverse
atissimus	Latissimus dorsi
emniscus	Fillet
enticula	Nucleus lentiformis
ongitudinal sinus	Superior longitudinal

* After the analogy of *angel* and *organ* from *angelus* and *organum* these five names may be regularly anglicised as mesencephal, etc. The sanction of these compounds is no reason why on ordinary occasions *brain* should not be used instead of encephalon.

USE	INSTEAD OF
Malar bone	Zygomatic bone
Medicerebral artery	Middle cerebral
Medicommissure	Middle or Gray commissure, or Massa intermedia
Meditemporal gyre	Middle or Second temporal
Mesencephalon*	Midbrain
Mesocele, Mesocœle or Mesocœlia	Aqueduct of Sylvius or Iter e tertio ad ventriculum quartum
Metaplexus	Choroid plexus of the fourth ventricle
Metapore	Foramen of Magendie, or Apertura medialis ventriculi quarti
Metatela	Tela choroidea ventriculi quarti
Metencephalon*	Afterbrain
Myel, or Myelon	Spinal cord, or Medulla spinalis
Oblongata	Medulla oblongata
Occipital fissure	Parieto-occipital, or occipitoparietal
Oliva	Olivary body
Paracentral fissure	Marginal portion of Callosomarginal
Paracentral gyre	Paracentral or Oval lobule
Parietal fissure	Parietal division of the intraparietal
Parietal gyre	Superior parietal lobule
Paroccipital fissure	Occipital portion of the intraparietal
Pia	Pia mater
Pons	Pons Varolii
Porta	Foramen of Monro
Postcentral gyre	Posterior central, or Ascending parietal
Postcerebral artery	Posterior cerebral artery
Postcommissure	Posterior commissure
Postcribrum	Posterior perforated space
Postgeminum	Posterior geminal body, or Posterior optic lobes
Postgeniculum	Posterior or Internal geniculate body
Postpeduncle, Medipeduncle, Prepeduncle	The three Peduncles of the cerebellum
Precentral gyre	Anterior central, or ascending frontal
Precerebral artery	Anterior cerebral
Precommissure	Anterior commissure
Precornu, Medicornu, Postcornu	The three "horns" of the "lateral ventricle"
Precribrum	Anterior perforated space
Precuneus	Quadrate lobule
Pregeminum	Anterior geminal body, or Anterior optic lobes
Pregeniculum	Anterior or External geniculate body
Presylvian fissure	Anterior ascending branch of the Sylvian
Prosencephalon*	Forebrain
Pseudocele or pseudocœlia	Ventriculus septi pellucidi, or Fifth ventricle
Quadrigeminum	Corpus quadrigeminum
Restis	Restiform body
Sacrum	Os sacrum
Septum lucidum	Septum pellucidum
Splenium, genu, and rostrum	Without the "Corporis collosi"
Sternomastoid	Sternocleidomastoid
Striatum	Corpus striatum
Subcalcarine gyre	Lingual
Subcollateral gyre	Fusiform
Subfrontal gyre	Inferior, or Third frontal, or Broca's convolution
Subparietal gyre	Inferior parietal lobule
Subtemporal gyre	Inferior, or Third temporal
Supercallosal fissure	Frontal portion of Callosomarginal
Supertemporal gyre	Superior, or First temporal
Tentorial sinus	Sinus rectus
Tentorium	Tentorium cerebelli
Terma	Lamina terminalis, or lamina cinerea
Thalamus	Optic thalamus
Thoracic vertebræ	Dorsal
Torcular	Torcular Herophili, or Confluens sinuum
Trapezium	Corpus trapezoideum
Triceps	Triceps brachii
Tuber	Tuber cinereum
Tuber ischii	Tuber ischiadicum
Vadum	Gyrus profundus
Vallis	Vallecula cerebelli
Valvula	Velum medullare anterius
Ventral (horn, or cornu, and nerve-root)	Anterior
Zygoma	Zygomatic arch

Excerpts from Examination Papers.—There is a sad sort of amusement and instruction in looking over some of the examination papers of the "physicians" who failed to pass in the recent examinations by the State Board of Pennsylvania. There is such a lesson taught by these papers, a lesson in pedagogics, in legislation, and in medical sociology, that we have asked permission to publish a few selections from them in order that it may bring conviction to all. According to the law governing the Board those permitted to take the examinations must present proofs of preliminary educational qualifications and fitness, a degrec in science or arts, or somc other testimonial assuring the fact.

It is self-evident that the scientific education must be poor that is without a common-school education; but when the common school and the professional training are what is revealed by these and many more papers not quoted, it demonstrates that many men are seeking the right to practice medicine with opera bouffe qualifications; that the legal demands as to preliminary training are ludicrously inadequate; that some persons or some institutions are falsely certifying that their proteges have attainments of which they in reality have not a trace. Abundant proof is to be gleaned from the following excerpts:

When there is cardiac lesions the heart may undergo fatty Degeneration of the heart or Hypertropy or atropy of the heart in cardiac lesion on percaution there is a dul sounds heard on the left side of the heart which is Effected on auscultation on the effect side of the heart beet is feebly noticed also noticed a resinous sounds or murmur which is du to Diletations of the heart and blood vessels also noticed palpitation of the heart, Pathologically the heart is Enlarged Dilated of the blood vessels you found ether Hypertropy or atropied or you may found in a fatty degcneration

Morbid condition of the Blood
Morbid condition " " Liver
Morbid " " " Lungs

in disease of the blood the temporature is higher than normal because when the blood is Diseased the whole organs of the human body is Effected the first is the patient is in feeble condition he is animic jundice which is due to either liver or the white blood corpuscles is Encreased therefore it produces a higher temporature in the condition of liver there is a high temporature which is due to of inflamation of the liver or any other cause of the liver as in regard to fatty degeneration of the liver which is encrease of the white blood corpuscles in lung trouble also high temporature on account of Germ of Bacteria which produces the Disease the Blood Disease liver and lungs' are produced by Germs.

in Diphtheritic membrane there is a false membranous of a grays white patches when removed the false Membrane it blceds freely and a new Membrane is taking placc

Microscopically it appears there is present the Baccteria of the poisonous cnbelance or you may call the infectous enbetance of the Germ of Diphtheria Baccilous

Thrombosis is an obstruction of a bloodvessel a blood clott it takes place in any vessel just as vell as in a cercbral vessel you will notice there is in the cerebral vessel a blood clott, an Embolism is a blood clott an obstruction of a vessel, the changes in an Embolism in surrounding brain tissue where the clott is formed it produces enporation pus formation and Effusion of serum in a Thrombosis in surrounding brain tissue it also forms enporation pus formation and Effusion of serum.

An obstruction of the biliary duct is probably when the liver undergoes of Diseased condition it may be fatty degeneration of the liver which will produce an obstruction of the Biliary calculi or it may be in jundies or icterus where there will be an obstruction any inflammation of the liver will form an obstruction or it may be in any disease of the blood as in anemia or in Leucaemia blood Disease will produce obstruction of the liver in all Disease of the liver as inflammation or cirossis of the liver there is jundiese as the physiologist say that the red blood corpuscles arises from the spleen and liver and when there is inflation of the liver ger eraly the spleen may effect consequently then we hav Disease of the blood which produces Icterus (jundice) whic there is an Encrease of the white blood corpuscles the bloo Channels bile e ters the economy and occasion icterus as have mentioned above the physiologically and Patholo ically.

Describe the pathological changes in senile gangrenc.
senile gangrene is due to the obstruction of venous bloo supply to that particular part

In senile gangrene the tissue undergo changes by the ex travasation of leucycites and cellerlar tissue change, whic causes death to the part.

We get change in structure it self from obliteration of th blood supply.

1st may have a fever running up to 102° or 103 lasting fo several days.

The part is generally inflamed and swollen for the 1s stage gradually subsiding and reach to the tissue with breal ing down 1st destruction of capilaries and tissue causin desquomatic n.

Describe the pathological changes in acute Yello Atrophy.

In acute Yellow Atrophy there is fatty degeneration an escapement of cellular elements.

The cells become some what contracted the cell substanc is pushed aside

We get a breaking down of the cell substance replaced b fat. We get a cheesy appearance and cells obliterated i cutting gives a priable appearance.

Liver is much enlarged.

Give a general description of plasmodium malarial.

It is the germ which causes malaria which is found in th blood.

Hyaline body in capsuled containing pigament and abou $\frac{1}{2000}$ inch in diameter resembling white corpustle and

Describe the pathological characteristics of common hep atic cirrhosis.

The parinchamy of the liver becomes contracted the con nective tissue contracts and obstructs the circulation th connective tissue left in elevations and depressions.

The liver is hard and nodulated contracted studded wit greyish white mas:es in all parts of the organ.

Describe the process of inflammation.

The part becomes swolen and engorged with blood whic is not carried a way as fast as it is received

Pain redness swe ling heat above that of the temp of th body.

Engorged capilaries some what dilated.

2nd stage we get the above symptoms aggregated mor intense pain and swelling with elevation of the temp abov of the body.

3rd stage get the symptoms subsiding with a breakin down of the part and surrounding tissue formation of pu in cooit due septic material injory may be due to pus form ing micrococi getting in the blood.

1 stage. Pain heat swelling redness the blood vesse become distended extravasation in the celluar tissue.

2 stage. The swelling and effusion becomes liquedfie new corpuscelar elements are given off and reestablemer begins.

3 stage. The general circulation with the lymphatic syster establishes resolution.

Name each anatomical structure involoved and describ the changes occurring in tubercular arthritis.

In tubercular arthritis the joints are the parts involve Thc changes that are produced are there is a deposit of th urate of soda about the joints which makes their nodular an sometime ankylosis them you will see that they will stan out prominently the tendons will degenerate and tubercl will be formed about the joints. You will find tubercul nodules all over the body. Thc spleen, Liver, & Kidney wi show tubercular nodules. The person feet will show nodul also the hands the joints will be very much enlarged & som time distorted.

The lungs become involved when the tubercle is contracte it involves the spleen becomes congested, the liver being in flamed.

Name and describe the various forms of white cells of the lood; methods of differentiation, and their pathological gnificance.

I know of but one kind of cell white blood cell although ney change their form very much and afterwards assume neir round shape again unless distroyed by the function hich they have had to perform. Their pathological signifiance might be determined by the aid of the microscope for s their function is to act as guardiens and scavingers it nigh be determined finding out what they may be trying to ispose of. If they are trying to take within themselves acteria they must first flatten and elongate, or may dip own on all sides.

The method of differentiation of their functions and there-y determine their pathological significance is by means of a nicroscope.

The various forms of white cells of the blood are the eucleated and non-neucleated. The are differented by the nicroscope the one will a white cell while the other will be a hite cell with a small round dot either in the center or at he sides which can be distinctly made out. The pathological ignificance of the white cells they are the scavengers of the ody and they will try to kill bacteria which enter the body or instance if you have a wound they will flock there and attle with the bacteria and die and raise a monument and he monument will be the scab. P.S. These cells are called he leucocytes Microcytes.

Describe the pathological condition present in peritonitis.

There is hyperaemia of the serious membrane the capilaries distended and occasional extravasation of blood from he rupture, the normal secretion is arrested, the shinney nembrane becomes dull and opaque from exudation of pure ibrin which is adhesive glueing the parts together this is adnesive peritonitis if it goses on the effusion of serious fluid s poured into peritoneal cavity it is called exudative.

Define sapremia, septicemia and pyemia and state what onstitute the specific characteristics of each.

Saperima means congestion of blood in a part or of tissue t may be due to infections;

Septiceamia, means an absorption of blood poison without us

Pyemia, means an absorption of blood poison with pus hey are both due to infection and both have the same symptoms but the only difference is in their character as ne is with pus and the other is without pus as stated bove.

Describe in detail the change that occurs in an artery the eat of enteritis of obliterans?

ther they are five events in an artery & the seat of enteritis viz (1) retraction (2) contraction (3) blood cloth outside (4) blood cloth inside (5) and resolution; during the time when the artery is efected & etentes inflamation of the joint there is rednes sweling pain heat there is the joint is stif

Give the nature and location of the Morbid of the position that occurs in articular Rheumatism?

the patient complains of pain between the joints or between the articular processes it is a kind of drawing pain they cannot raise the arm if it occurs or if in the lower extremity he or she cannot move the leg when you will examin you can not notice anything except the patient tells you he or she has much of pain Moist when the weather changable

Give the Pathological charecter in the 2nd. Stage of crupus Pneumonia

there is red hepatiization upon the lungs & lobes of the lungs the lungs is feeled with mucus

I mean the air cells there is dificult in breathing, there is also gray hepatization the troath is inflamed and prevents to enter air in the air cells and inflamation rednes pain heat (crupal breathing)

Describe the Pathological characteristic and Evacuated substances of Ulcerations of colitis?

this is an inflammation of the colon of the large intestine the glands is involved when ulceration occurs and the pus evacuates consequently this pus Will Might Escape in the peritoneal cavites and peritonitis may set up; the colon will appear when pus escaped it will form a hole might in the intestine Inflamation rednes pain heat and the glands evolved

The function is the Hemiglobin of the red blood corpuscles which comes in contact with the oxygen of the air forms oxyhemyglobin and give nutrition to the tissues of the body

as according the physiologist the red blood corpuscles comes from the liver and spleen the white blood comes from the Lymphatics are called the Lecocites.

The characteristig is due to their various animals of blood or you may say Every Animal has a different characteristic of blood.

source the red blood corpuscles as according to the Physiologist comes from the spleen and liver the white blood corpuscles comes from the Lymphatics they are called the Leycosites they are very small in number.

the function of the White Blood blood corpuscles are they form probably red blood corpuscles and the white one's are that way probably Destroyed the Function of the red blood corpuscles are the Hemoglobin which contains in the red blood corpuscles combine's with the oxygen from the air forms oxyhemiglobin and gives nutrition to all the tissues of the body.

the kidneys which they are the function for the Urinary they secret the Urine and they hold back until there is collected Enough of Urine to pass the Urine is filtered trough the renal tubels

the blood at first when removed from a blood vessel it is at first of a thin fluid and then becomes a clott which is due to of present of the fibrin factors, the Blood plasma which contains the fibrin factors forms a clott a serum will not form a clott because it has no fibrin factors it has the fibrinoxgen.

Describe the position of the vocal cords during phonation and name the factors concerned.

Position of cords during phonation is at right angles and are elevated by muscles of pharynx.

The vocal chords become dense and constricted and are in the position of V.

The factors concerned am the 3 sets of cartilages of the Larynx

Describe the functions of the capillaries.

They carry the air and blood through the tissue and *organs.*

Give the origins of normal fat in the human body, and name examples of the types of food from which it is elaborated.

1 Due to imgration of fat cells and blood corpuscules

2 Meats, Sugar Starches.

Describe a complete physiological revoloution of the Heart.

The air entering the lungs causes the action of capillaries to propell the blood through the veins, to the heart, through the ventricle to the auricle.

Describe the process of respiration.

The air entering through the mouth Throat and lungs causes the Diaphragn to contract and expand.

Describe the function of capillaries.

Carry nutrition oxygen carry away waste products assist in radiation.

They give a rich blood supply to the parts.

They carry red and white corpuscles to build up injuries carry of waist products and is in generaling the temperature of body by their power of contractility.

Give origins of normal fat in the human body and name examples of the types of food from which it is elaborated.

In liver fat is found normally of long bones from meat Hydrocarbons and carbo-hydrates.

Fat and oils from liver substance its self.

Describe a complete physiological revolution of the heart.

Heart is made up of Right Auricle, Right Ventricle, Left Ventricle, Left Auricle.

We get the Dyostole systole murmurs.

Blood flowing through the right auricle right ventricle when forced by hearts action to left ventricle thence to left auricle to the aorta and carried through general circulation.

Describe process of respiration.

Process of respiration is carried on by elasticity of lungs compression of the outside air by action of muscles.

Diaphragm Internal Intercostal muscles abdominal muscles.

Expiration is carried on by relaxation of muscles by action of diaphragm.

Abdominal muscles Intercostal muscles.

Inspiration is carried on by electricity of lungs and relaxation of muscles unless forced which brings muscles into play.

Describe the principle Phenomeno that occurs when Muscles is Physiological action?

they preform the function when impulses from the cord send to the brain which such nerve acts upon each muscle to preform their duty and also the circulating of the blood which it stimulates the Muscle and Acts upon as an example as the livator paloebra Muscle acts upon the lid of the eye and lifts up the lid or it makes its movement so in this case all the Muscles of the body preforms each duty

State in brief the functions of the connective tissue naming three varieties of this tissues?

Function they protect the lower tissues also they protect the Muscles as of which they hold them together that should be in position they also cover the veins arteries in the place where they are situated varieties viz (1) connective tissue (2) Embryonic tissues (3) and simple tissue.

Give the present view entertaining of the Physiology of the Cunes?

. . . . . .

Explain how absorption occurs of the Lymphatic and state what factors are operated in the process?

the obsorption occurs by food which is simulated it is operated by the stomach when food is entered in the Mouth during Mastication it forms in starch then when enters in the stomach converts into peptons. the fluid which is in the stomach keeps on all the time its movement and consequently it acts like a Mill and does its work as I have stated above

Where and how do the varies type of food when digested enters in the blood?

by the action of its strength which the food gives to the human beings and tones up the system and the circulation is going on and an increase of the red blood corpuscles by this action, it enters by stimulating the system and an increase of the red blood corpuscles which it gives a nutrition to the body, oxygen from the air combines with the hemiglobin and oxyhemiglobin forms

Name the special types of food essential for the supply and maintainence of heat force and bodily weight, and give the physiological reasons for each.

Bread and butter, beaf-steak, eggs, potatoes, fish and all of the fatty articles of food which enter into making blood and muscle.

Summarize the function of sweating and explain the office of each physiological factor concerned.

The function of sweating are, the Kidneys which carry of the sweat that is not gotten rid of through the skin the pores are also means of getting rid of the sweat and it is also absorbed by the hair follicles.

Describe metabolism.

Is change in blood peristasis.

Describe metabolism.

Metabolism is a system of waste and repair it is constructuve and distructive, it influences heat, light, moisture and electricity.

Besides the lessons to lawmakers and to our profession to which we have alluded, there are many others to be drawn, among them the fact that syntax and punctuation have never been heard of by these graduates of schools and colleges and medical institutions. But above all these it is more than evident that without the requisite preliminary training and mental endowment it is nothing less than criminal to attempt to secure a comprehension of medical science. It is literally horrible to behold these vapid and chaotic minds agonizingly and blindly cudgeling their wits in an attempt to use the tools and ideas of a science of which they have not grasped the merest rudiments. Out of very pity such cruelty should not be permitted. At the bottom of one paper these words are written:

"I have been so bad rattled in this examination that I can hardly spell my own name and I am at your mercy."

Correspondence.

FLUOROSCOPE VS. SKIAGRAPH IN FRACTURES.

BY NORMAN ROBERTS, A.B., M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DR. BECK, in the *New York Medical Journal* of January 6, quoted in the PHILADELPHIA MEDICAL JOURNAL of January 13, says that *at least two* skiagraphs of suspected fractures should be taken, or the fracture may not be apparent. But even this may be insufficient. Four good, clear skiagraphs were taken of an imperfectly united tibia, before the line of separation, due to a band of fibrous tissue, was evident. A boy exhibited signs of recent fracture of the tibia. On fluoroscopic examination, a long, oblique fracture was visible, but only when the leg and tube were held in just a certain position. A deflection of 10° in any direction completely hid the line of separation from view. Apparently the periosteum, intact in places, held the fragments close together. In most fractures that have come under our observation, the fluoroscope is better as a means of diagnosis than the plate. The relative position of tube, patient, and fluoroscope can be easily and rapidly changed, securing in 10 minutes a view from every possible angle, an absolute necessity in some cases, as in those cited above. It is impossible to say offhand which angle will show the condition the best, and an experienced fluoroscopist can derive fresh information from every position of the tube. To secure the same thoroughness by plates would require hours instead of minutes, and dollars instead of cents. Bone being so much denser than the surrounding structures, the superior delicacy of the plate is usually not needed, excepting about the pelvis. In these and a few other cases skiagraphs are necessary, but in ninety-nine out of a hundred fractures the fluoroscope not only is easier, quicker and cheaper than the plate, but it gives far more definite information.

STRENGTHEN THE FOUNDATIONS OF MEDICAL STUDY.

BY GEORGE G. HOPKINS, A.M., M.D.,
of Brooklyn, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE read with great interest and hearty approval, Dr. Tinker's criticism of the stand taken by Prof. H. C. Wood and Dr. Beates, Jr. Medical education has become topheavy from too much attention being given to the superstructure and not enough to the foundation.

I have long desired to see *one* school at least in this country where the prerequisite to entrance upon its course of medical studies must be the holding of an academic degree.

I labored long and persistently with the authorities of the University of Chicago, to have them take this advanced stand. But the desire for full departments and large numbers overcame their better judgment, and they gathered into their fold a heterogeneous mass of medical instructors difficult of assimilation. This is all the more unfortunate as they seem to be receiving money in greater proportion than any other institution in the country.

Medical colleges have usually put a premium on illiteracy, since the college-bred man has always been at a disadvantage in these institutions. Better prepared as he is for the assimi-

lation of the medical curriculum, than those who have not had his preparation; usually of more mature age, and having a thoroughly disciplined mind, he is compelled to take a seat with beginners in subjects which he has thoroughly mastered, and fritter away precious time over subjects which should never be taught in medical schools.

The profession is in need of men thoroughly grounded in academic institutions. A number of our schools within the last few years have accorded to men with degrees in arts an advanced standing; still they should not be content, but keep on working until the United States can boast of so raising the standard of the profession that the holding of a college degree shall be a necessary qualification for pursuing the study of medicine.

I had hoped that my Alma Mater (one of whose faculty Professor Wood is) might be among the first of American colleges to adopt such a standard.

X-RAY BURNS.

BY WILLIAM ALLEN PUSEY, M.D.,
of Chicago.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DR. GEORGE G. HOPKINS, in writing upon the theory of x-ray injuries in the JOURNAL of January 6, makes the statement that "Its (x-ray) injurious action upon the tissues is seldom manifested until weeks, sometimes not till months, after the exposure to the rays." The question of the length of time which may elapse after exposure before the development of x-ray injuries is of some importance, and I therefore venture to ask upon what facts he makes this statement. In the reported cases, so far as I have examined them, most of the injuries appear within a week, many within 2 days, after exposure. In Gilchrist's table of cases, the longest time that elapsed between exposure and the development of injury was 3 weeks, and I have not found any case in the literature in which the interval between exposure and the development of injury was longer. Can Dr. Hopkins cite any reported case in which the interval was over 3 weeks?

Referring to an entirely different matter, that is his theory of the cause of x-ray injuries, it would seem that there are elementary objections to its acceptance. His theory is that "The cause of white gangrene (his name for x-ray injuries) in the tissues of the human body is the destruction of the nerve-supply of the affected tissue by that factor, electrically produced, which is known as the x-ray." He explains that this is accomplished "through the destruction of the nerves of the part by the passage of an x-ray current of greater intensity than they are able to carry. Just as we destroy a copper wire by forcing into it a greater quantity of electric current than it is able to transmit." Assuming for the moment that the form of radiant energy known as x-rays is electricity or something like it that can be transmitted in currents through conductors—which is a pretty violent assumption—there is very little ground for believing that the nerves of the part involved have any more to do with transmitting this current than the other tissues. There is nothing to indicate that nerve-fibers are any better conductors of electricity than any other tissues. Further, in the histologic examination of tissues injured by x-rays, evidence of greater involvement of the nerves is not forthcoming. Kibbe and Gilchrist, both of whom have made careful examinations of tissues from x-ray injuries, do not mention changes in the nerves, and Oudin, Barthelemy and Darrier in their examination of tissues from areas from which the hair had been removed by x-rays in guineapigs, specifically state that changes in the nerve-fibers were not found.

X-RAY DERMATITIS.

BY PHILIP MILLS JONES, M.D.,
of San Francisco, Cal.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE controversy in regard to the probable cause of x ray dermatitis seems to be in some danger of becoming personal, therefore I simply ask that you will propound some questions which occur to me as being pertinent and impersonal. The situation, so far as it is clear to me, is as follows: A number of men, all physicians, have declared a belief that the dermatitis mentioned is, in some way, due to an electrical action upon the body-tissues, caused by electrical induction from the excited x-ray tube; and that the burn is in no way due to the radiant energy coming from the tube. Assuming this to be the case, I should like to ask the following questions:

1. Why is not a dermatitis produced by exposure near to the conductors conveying electricity to the tube? Or exposure near to the ball terminal of the influence machine? Or exposure near to the plates of such machine? Or exposure near to an induction-coil or the conductors leading from it? In all of these cases the electrical action may be fully as great as in the case when the body is exposed near to a tube. Indeed, the tube may be justly considered as simply a part of the circuit, and if the electrical induction from this part of the circuit will produce dermatitis, why will not induction from some other part of the circuit produce a similar dermatitis?

2. We know that a patient may be placed upon an insulating stand and charged to a high potential; he may then be completely or partially discharged, either connectively or disruptively. Oscillating currents of high potential are thus set up in the body of the patient. Now we know that this procedure may be repeated daily for a long time; we know also that the electrical condition of the patient is greatly in excess of any electrical condition that can result simply from induction by an excited tube or induction from some other portion of a high-tension circuit; yet dermatitis does not seem to be produced. How is it, that if the dermatitis R is due to electrical action, no dermatitis R is produced or can be produced in the manner just mentioned?

3. A person may be placed in the center of a large solinoid of wire through which is passed the high potential discharge of a condenser or pair of condensers (what is known as the "D'Arsonval current"). High potential, high frequency currents will be induced in the body of the person so placed, yet no dermatitis has thus far resulted from these currents. If dermatitis R is produced by electrical action, the result of induction by the excited tube, how is it that dermatitis R does not follow the use of these currents of high frequency and high potential?

There are many more of these inconsistencies, but it is scarcely worth the time to go over them. Unless they can be explained away one is not justified in considering the theory of electrical causes of the dermatitis.

It is also a noteworthy fact that the believers in the electrical cause of x-ray dermatitis are found to be exclusively physicians; no physicist or electrician has gone on record in behalf of the theory; several eminent men, scientists, but not physicians, have recorded views opposed to the suggested explanation.

MEDICAL AND ACADEMIC COURSES.

BY HORATIO C. WOOD, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE reiteration of an argument does not increase its strength, although it may increase the impression which it makes. As the first portion of Dr. Keen's letter in your letter of January 20 is only a reiteration of what he said before, it does not seem to require any answer. It is natural that college presidents and college professors should oppose any change that gives to their institutions less importance or encourages students to look elsewhere for their education.

For personal reasons I feel somewhat deeply the charge that I have little sympathy with the medical student who is struggling to get an education in the face of difficulties, and feel somewhat surprised that in a public discussion Dr. Keen should make such a personal charge; possibly if any time during the last 25 years he had been a member of the medical class of the University of Pennsylvania he would have been less free in making the assertion. It was the same charge, made about 30 years ago in a public lecture by a professor of the University of Pennsylvania, which brought me face to face with a crowded amphitheater of hostile students; the charge being made then as now, because I stood for progress in medical education. Every advance in medical education makes the labor and expense required of the students greater. About 30 years ago a cooper, out of work, passed the Medical Department of the University of Pennsylvania and heard the bell ring for a medical lecture; went in, suddenly made up his mind to study medicine, and graduated in about 16 months. It was this incident that finally led me to make in *Lippincott's Magazine* the bitter attack on the methods of the University, which started the present era of reformation in medical education. During these 30 years the philanthropic yearning of medical schools and professors after the "poor medical students" has in the monotony of its public proclamation, and in the paucity of its results in the obtaining of free education, become very tiresome. The poor medical student has been continually held aloft by every conservative who wishes to shield his own deficiencies and those of the system he is defending, but the student has paid his fees all the same, and I suppose will continue to do it.

It was no kindness to the cooper to spoil him as a cooper in order to make him a bad physician, whose life has been a failure. It is no kindness upon the part of a trustee of Brown University, or of any other university, to urge a man who has only so many years of his early life to give, and who is straining every nerve to keep in the race—to waste two years in higher college instruction and to shorten correspondingly the time of training for his life-work. It is a kindness to say to such a man, Get all necessary foundation; pass through a high school or take one or two years in a college; and then enter your professional studies.

The truth is, however, that the "poor medical student" has not had any proper position in the argument and it is getting time to drop him. The claim of ardent and superior love for him has always reminded me of the pleadings of the wolf for the lamb.

I am not going to be betrayed into the false position of giving a public opinion in matters of technical law, but I may point out in the words of Dr. Keen "that the law says four years *devoted* to the study of medicine;" and further that Webster's Dictionary says that to *devote* is "*to give up solely.*"

THE COLLEGE-BRED MAN IN MEDICINE.

BY JAMES TYSON, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE no desire to prolong needlessly the discussion of the merits of the college curriculum as a substitute for one year in a four years' course of medical study, but it appears to me to have reached a stage at which the views of any one who has had considerable experience as a teacher of medicine should be stated.

To be consistent with the first clause of my communication, I will present no argument, but will simply state my convictions. I *believe firmly* that with the medical curriculum as at present arranged in the better class of medical schools, a graduate who has received the A.B. or B.S. degree of a reputable college and has included in his course the scientific studies which have heretofore been required, and has spent three years in one of the medical schools of the grade mentioned, will make a more accomplished physician, a physician more likely to pursue a successful scientific career, as well as be a more acceptable visitor to his patients, than one who spends four years in the medical school without such a preliminary training. By which I mean that given 10 men of each class, a larger number of physicians so accomplished will be found among the first class than the second. It goes without saying that there may be individual instances which will reverse this proposition.

As I have stated, these are my convictions, growing out of many years' observation and some knowledge of medical men, to give further reasons for which it appears to me would be a waste of your space and my time. I think, however, many of them are well stated in the letter of Dr. Tinker, in your issue of January 20. I believe therefore, that the Medical Council has taken a step backward in its action.

Now a word for the Medical Council. I can scarcely agree with my friend Dr. Mitchell in his severe denunciation of the Medical Council and its methods. Certainly the Medical Council has not adopted ideal methods in determining the qualifications of the candidates for license, but the question, it appears to me, is not so much what a properly constituted Medical Council should do, but what it *can* do, and we must not lose sight of the fact that it has many difficulties to cope with. The *practical* examination combined with the oral and written, as referred to by Dr. Mitchell, is certainly the ideal examination. It is that of the Conjoint Examining Board in England, which is, perhaps, the best adapted in the world for determining the qualifications essential to a sufficiently educated physician. For this purpose laboratories with materials, as well as hospitals with patients, must be placed at the disposal of the examiners. Where are these to be obtained? The former, it is needless to say, do not exist in any shape to be available. And as to hospitals, it is true they exist, but what hospital of all those in Philadelphia would today offer its wards for a practical examination of 100 to 200 candidates for the license? The hospitals attached to the medical schools might be willing to do so if it were in their power, but their material, altogether insufficient for their own purposes, has been used over and over again in their teaching and examinations. The trustees of all other hospitals resent at once any attempt to use their wards for teaching the students who study in Philadelphia, much more for those who have not even this small claim upon them. That some members of the Pennsylvania State Examining Board are looking forward to its realization I know, because they have said as much to me.

The next step to this ideal method would be a combination of the written and oral examinations. Here again anyone who has had to do with examining medical students for the degree, knows how much labor and time are required to carry out even this method. And while I understand the members of the State Examining Board receive some compensation, it can hardly be expected to be sufficient to justify demanding of them the additional labor and time lost from practice involved in such a course. The members of the British Conjoint Examining Board, by the way, are handsomely paid, and the examination fees are high.

As to the question between an oral and a written examination, there is room for difference of opinion. Certainly, there is more chance to cheat in the written examination. Some may feel better able to test the qualifications of the candidate and mark fairly by an oral examination; others by a written. I, for one, feel I can mark much more fairly from a written examination with the same questions to each member of the class, with time to weigh the answers, as contrasted with an oral where each candidate has a separate set of questions.

As to what has been accomplished by State Examining Boards in improving the standard of medical education, I also think in this respect they have accomplished more than is admitted by Dr. Mitchell. He admits that they have been useful in excluding, at least, the very worst of the graduated applicants. I think most who have looked into the matter will concede that the compulsory four years' course is largely due to the Medical Council. So far as I know, only one Medical School in the State of Pennsylvania had determined upon a four years' course when the Council decreed that the curriculum in the Medical Colleges should be four years. I believe the Medical Council has done the best it could do up to the present time, and it was in an effort to do better that it made the last mistake in discriminating against the best class of students—the College men.

THE MEDICAL CURRICULUM OF THE UNITED STATES; WHAT IT IS, AS PROVED BY THE APPLICATION OF THE MEDICAL LAW OF PENNSYLVANIA.

BY HENRY BEATES, JR., M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IT may be superfluous to explain that since July 1, 1895, the Act of Assembly governing practice in Pennsylvania requires that candidates who apply for examination for license "must have pursued the study of medicine for at least 4 years, including 3 regular courses of lectures, in different years, in some legally incorporated medical college or colleges prior to the granting of said diploma or foreign license. Such proof shall be made, if required, upon affidavit."

What was the course of medical study, the curriculum, that prevailed prior to and at the time of the adoption of our Medical Law? Two so-called years of didactic lectures in 7 branches, with the second year's work being almost entirely a mere repetition of the first. These years, again, were not years, but the time included between October 1, and February 15 (including Sundays and holidays).

Thus scarcely 10 months in all was the study-time making a "Doctor." Absence of laboratory work and instruction, many important branches not even included in the lectures or textbook requirements; complex subjects didactically presented in their entirety, instead of by proper subdivision; no personal doing of that which is essential for acquiring practical knowledge; almost no clinical teaching of real worth and, worse than all, an "entrance examination" which proved that the prospective student possessed adequate preliminary training, consisted of paying $5 for the privilege of matriculating, and $20 for each of the 7 professors' tickets! Is it any wonder that nearly the existence of 100 of these "doctor mills" of the United States, annually grinding out hordes of incompetent physicians, resulted in Commonwealths enacting laws that had for their purpose protection against such evil?

To enact a law even reasonably protective was extremely difficult. The profitable business of making "doctors" when threatened with a just corrective restraint, precipitated upon lawmakers potent opposing influence, not, it is feared, conspicuous for conscientiousness or moral principle. Repeated effort in the various States ultimately proved partially successful and, one by one, the column grew and salutary medical law became general.

Reference to Section 13 of the Pennsylvania law will demonstrate how the great shock to "doctor-making" was rendered less severe by the gradual enforcement of its full intents and purposes. One year, three years' study was required, then three years and some preliminary qualifications until July 1, 1895, was reached, when four years of study and adequate preparatory training became necessary. Why, when this four years' requirement is so plainly expressed that none can misconstrue its purport, all sorts of methods are in vogue by which modifications of systems of study are resorted to, in order to enable a student to obtain a medical college diploma in three years, constitutes a very interesting inquiry.

The Medical Council is obliged to exact four years of medical study. This, legal exaction and conscientious discharge of duty render imperative. When administering the Act of Assembly, a question presented that necessitated careful investigation. It discovered a prevailing custom by which individuals substituted for one of the required four years of medical study such various pursuits as pharmacy, dentistry, veterinary medicine, and biology, and claiming that these constituted the study of medicine, and, being therefore admitted to the second year of the medical college course, they thus fulfilled only that part of the medical law which exacts three years of work in a medical school. Medical colleges admitting such students to the second year of their course, assume that the law has been observed, or its exactions met.

Unfortunately the short-cut process to the medical degree was not fully recognized until it had acquired a lusty but rank growth, and hanging thereon were all sorts of abuses or circumvention of the law's purposes. Medical college students' lists bristled with these "substitutors," so that a large percentage comprised pharmacists, dentists, veterinary doctors, and biologists, of various grades and types, technically identical, but, alas, practically of different values. For such a bizarre condition of things, explanation is attempted to the effect that the first year's work which this group of students had not pursued is, in some manner, "made up." Can any one cognizant of the exactions of a proper medical curriculum doubt that to make up a year's partial or entire loss of work is absolutely impossible? The law requires medical colleges to admit only such students as possess a "competent common-school education," and thus a curriculum is legal which embodies such instructions as render its gradu-

ates fit to safely engage in the practice of medicine. Preliminary education, adequate to the undertaking as well as mastery of an all-sufficient curriculum, and the possession of a diploma which should be proof that all of those conditions have been fulfilled, are essential to the legal life of a medical school.

What do the State Board Medical Examinations demonstrate? Perusal of the papers of the candidates who apply for license would best answer the question.

First, a large percentage discloses an utter want of adequate preparatory training and a considerable number illiteracy and even dense ignorance! This is so prominent a fact as to force the conclusion that very many are not capable of grasping the slightest hint of medical knowledge; it is as far beyond their undeveloped intellect as is the higher mathematics from the child in "simple addition." A few quotations representing a type of no small percentage of the candidates could easily be here introduced, but the assertion is deemed sufficient as the proofs are accessible to all.

We next find a type representing students of a slightly higher degree of attainment who, either from defective study or the consequences of lax or inferior instruction, barely manage to "scrape through," and, until opportunity is had of cultivating the practical side, are really not fit to engage in practice.

Another, but smaller group, comprises the fairly well educated, in both the preliminary standard and medical. They constitute the majority of those who pass. Lastly are those few who are properly cultured and able to pursue medical study in an ideal manner. These engage in a mere form, when passing a State examination, but are those who preserve to the value of the diploma and license that dignity and honor inseparable from the finished physician. Because a curriculum is operative that confers the degree of medicine alike upon the densely ignorant, unfit, and cultured, medical law as yet is demonstrated to have not fulfilled its intents and purposes! Another fact is also evident, and that is that, with few exceptions, the medical college does not discharge its duty to either the law, profession or laity. It makes apparent that there is a vital necessity for the Medical Council to exact to the letter the fulfilment of the law which was enacted for the specific purpose of terminating such evils.

The Examining Board has done all, therefore, which the law and the universal customs of our county render practicable. It has refused license to almost the entire host of incompetents applying for examination, and by the prescribed methods of examining, detected and arrested in their career those who possess diplomas but can in no sense honestly lay claim to them.

That four years of medical study is the minimum time in which a cultured student can master a curriculum which supplies these conditions, rendering safe practice possible, can not be denied by any educated physician or layman who gives the subject serious and unbiased attention; and when such a curriculum, with all of its complicated mechanism, will have been established and operative, proper methods of instruction will be supplied and competent physicians licensed. Until then, medical law will have failed in its purpose and examining boards will be compelled to separate the utterly unfit from those who have made the best of the inadequate curriculum still too generally prevalent. When the law's purpose and included conditions are an established fact, practical examinations, both in the colleges and by the Boards of Examiners, will be possible, but until such time the "medical kindergarten" must, as a general rule, have full sway. The action of the Medical Council of Pennsylvania, whereby it will administer the law as it was and is intended it should be, deals a death-blow to the wretched methods now prevailing, and it is trusted that no member of the profession will do aught to discourage this faithful discharge of duty. Of the nearly 140 "medical colleges" of the United States, it would be interesting to positively know how many really supply to their students an adequate course of study and instruction. Judging from the papers on file at Harrisburg, it would be difficult to find 20. Seeing only the results of the application of law to such a condition of things, is it strange that the question was asked by that scholarly physician, famous alike in medicine, science and letters, the mention of whose name would be superfluous:—"Does any physician who sees how year after year they have done their work, imagine that it fulfils what the law intended?"

Medical boards can only do the best with the best supplied, and now that our medical law is about to be administered to the full, the advocates of the prevailing curriculum, that curriculum which confers upon the densely ignorant and cultured alike the same diploma, cry halt, or if not that, indulge in the arguments of dreams. Can the mastery of such a curriculum by a student of culture add to the curriculum one iota of that culture? There is but one way by which a course of medical study can "fit" a student to be a doctor, *i. e.*, in the sense of the medical law; it is to have such a curriculum and its conditions mastered! This means first, students adequately educated to engage in proper medical study, and all others from now on refused admission to the colleges.

Second, ample time to learn the science and cultivate its art. This is the law's intent, the Medical Council's duty to require, the Examining Board's responsible office to secure, and the fulfilment of all by all means only those adequately educated to so do, or what may be stated as the establishment of a proper medical curriculum.

Gastrostomy for Traumatic Stricture of Esophagus.—George Ben Johnson (*Medical Register*, October, 1899) reports a case of traumatic stricture of the esophagus, occurring in a youth, admitted to hospital July 23, 1899. The patient's previous health had been good. When about 3 years old he swallowed concentrated lye. He remembers no suffering at the time, but since then has swallowed with difficulty, having to press on the esophagus to complete the act. One week before coming to the hospital the esophagus seemed to close, so that he could swallow only with great difficulty. When admitted he could take only milk, and that in very small quantities. Esophageal bougies of various sizes, descending to the urethral filiform, were tried in vain. Efforts were again made 3 and 5 days later with the same result. Gastrostomy was decided upon. The Ssabanajew-Frank method was selected. By this method two incisions are made; the first along the left costal border. A pouch of the stomach is drawn out of this opening and fastened in the wound by stitches. A second incision is made through the skin an inch or two to the left of the first. The tip of the gastric fold is brought beneath the intervening strip of skin and fastened into the second incision. The fistula is made at this point, and the first incision closed. This method is inapplicable in contracted stomach. The stomach in this case was found normal in size. Tube-feeding was begun a few hours after the operation. At first the patient was given only peptonized milk, later broths and soft-boiled eggs. He was encouraged to masticate chewing-gum, and swallow the saliva. At the end of 10 days dilation was again attempted with some success. It has been continued until now a No. 12 bougie will pass. The patient swallows with considerable ease, takes promiscuous food, and has a ravenous appetite. His progress after the operation was good, and in the 86 days subsequent he has gained 45 pounds. [M.B.T.]

Reviews.

Introduction to the Outlines of the Principles of Differential Diagnosis, with Clinical Memoranda. By FRED. J. SMITH, M.A., M.D.Oxon., F.R.C.P., London. Physician (with care of out patients) and Senior Pathologist to the London Hospital. 8vo, pp. ix, 353. New York, London: The Macmillan Company, Ltd., 1899. From John Wanamaker's. Price, $2.00.

In this work physiologic data and pathologic-anatomic facts have been utilized in explanation of the fundamental meanings and relationships of the phenomena of disease, and we have presented a sort of semeiologic differential diagnosis. The method of presentation is unusual and should be conducive to an intelligent mastery of the large and important subjects with which it deals. It aims at a systematic and orderly arrangement of knowledge rather than the mere recital of more or less well (or ill) connected facts. The book may be commended for careful study. The typography is satisfactory, but a better quality of paper might have been advantageously used.

Essentials of Physical Diagnosis of the Thorax. By ARTHUR M. CORWIN, A.M., M.D., Instructor of Physical Diagnosis in Rush Medical College; Attending Physician to the Central Free Dispensary, Department Rhinology, Larynology, and Diseases of the Chest. Third edition, revised and enlarged. 8vo, pp. 220. Philadelphia: W. B. Saunders, 1899. Price, $1.25 net.

This is the sort of book that while not to be commended for use alone is capable of rendering valuable service to those who have mastered the details or require aid to this end. There is, of course, but one correct way of acquiring the theory and practice of physical diagnosis, and this demands a knowledge of physics, of anatomic structure and relation, and of physiologic action, and the patient, persistent and intelligent exercise of this knowledge. In the volume before us the essential facts are arranged in a systematic and comprehensive manner that should facilitate their retention and collocation. It is not a royal road to learning, but for those who know the way it will prove a short cut; although it will scarcely be a sufficient guide for those to whom the ground is new and unfamiliar.

Surgical Nursing.—A compilation of the lectures upon abdominal surgery, gynecology and general surgical conditions and procedures delivered to the classes in the Training School for Nurses connected with the Woman's Hospital of Philadelphia. By ANNA M. FULLERTON, M.D., Clinical Professor of Gynecology in the Woman's Medical College of Pennsylvania, Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia. Third edition, revised and enlarged. With 69 illustrations. 8vo, pp. 294. Philadelphia: P. Blakiston's Son & Company, 1899. Price, $1.00.

Originally published under the title of "Nursing in Abdominal Surgery," the scope of this little manual has been enlarged to include as well a consideration of nursing requirements in general. The book should prove of service to both students of medicine and nurses, for it contains, clearly and concisely expressed, the elementary and fundamental facts of a most important and practical subject. The following topics are considered consecutively: The surgical nurse, the germ-theory of disease, asepsis and antisepsis, abdominal section, the preparation of the room, the preparation of the sponges, the sterilization of the instruments, etc., preparation of the patient, preparation of operator and assistant, the nurse's duties during operation, the nurse's duties after operation and during convalescence, management of complications, the pelvic organs in women, diseases of women, general nursing in pelvic diseases, preparations for gynecologic examinations, preparations for gynecologic operations, preparation of patient, operator and assistant, duties of nurse during operation, special nursing in gynecologic operations. In the appendix are considered general surgical conditions, diet for the sick, and weights and measures.

The Diagnosis and Treatment of Diseases of the Nose, Throat, Nasopharynx and Trachea. For the use of students and practitioners. By CORNELIUS G. COAKLEY, M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York. In one 12mo volume of 536 pages with 92 engravings and 2 colored plates. Philadelphia and New York: Lea Brothers & Co. Cloth, $2.75 net.

Dr. Coakley should be congratulated upon having put so much that is true in so small a space. If he has erred, it has been in saying too little, rather than too much. It may be regretted that such a disease as nasal hydrorrhea has been entirely omitted, especially when one of our English confreres has recently published a small volume on cerebrospinal hydrorrhea. Not much has been left out, however, and the author has given in clear and concise language the etiology, pathology and symptomatology of the various diseases of the throat and nose, with a short paragraph on the best methods of examination in each disease; and his directions for operative procedures are well advised and in accord with the experience of the best authorities on these subjects. The book will appeal more particularly to students and general practitioners, but even the specialist will read it with pleasure and profit.

Refraction, and How to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, etc. By JAMES THORINGTON, A.M, M.D. Two hundred illustrations, 13 of which are colored. 301 pages. Philadelphia: P. Blakiston's Son & Co. Price, $1.50 net.

Although "Philadelphia refraction" has long stood for all that is careful, painstaking, judicious—for all that is at once bold yet rigorously scientific, it has been a long time since the appearance of a *monograph* that might be said to expound the gospel of refraction as it is done in Philadelphia. There is necessarily something of a handicap about such a task in the present instance because of the natural limits of a work intended for beginners, but Dr. Thorington has reflected pretty well the Philadelphia standpoint notwithstanding the conciseness of his book, which only adds to the ease with which it is read. That the volume was built for the novice is shown by the way all lesser things (even grammar and construction in one or two instances) are subordinated in order that the basic facts may stand out all the more clearly. By some this might be viewed as a weakness, but we cannot but deem it something of a virtue in a beginner's book. From the opening chapter on optics the student is led by easy stages through the difficulties of ophthalmoscopy, ophthalmometry, retinoscopy, and refraction at the test-box, so that he comes to the study of asthenopia and applied refraction well equipped for its manifold perplexities. Of all medicine, the most puzzling and disheartening branch to all beginners (undergraduate or postgraduate) is refraction. To this class Thorington's work should be a valuable and safe guide, a "very present help in time of trouble" Of course it is impossible to agree with the author at all points, *e. g.*, the relation between accommodation and convergence might be much more insisted on, likewise the profound influence of eyestrain on mental development and physical comfort. Moreover, not every one will assent to all that is said about homatropin and scopolamin—but these are largely matters of personal opinion. No little thanks are due the author for his adoption of modern spelling as also for the chapter on the fitting of spectacles and eyeglasses, which is timely and will be of great service to most of the readers of the volume. The index is good. Credit should have been given to other workers, discoverers, and inventors in this field, but we have been assured this will be done in future editions—they certainly will be many.

A Textbook of Anatomy. By American authors. Edited by FREDERIC H. GERRISH, M.D., Professor of Anatomy in the Medical School of Maine at Bowdoin College. In one magnificent imperial octavo volume of 915 pages with 950 engravings in black and colors. Lea Brothers & Co., Publishers, Philadelphia and New York. Cloth, $6.50, net; flexible waterproof binding for the dissecting-table, $7.00, net; full leather, $7.50, net.

It can no longer be said that America is without a representative, authoritative, modern textbook on anatomy. America has always been more productive in distinctively practical lines of work and thought, in medicine as in all things else, but the most excellent textbook before us gives evidence that our teachers are aware that progress is being made in anatomy and that they are well abreast of the times. In general arrangement and the manner of discussing the various subjects the older standard textbooks have been closely followed for the most part, but several new and original features deserve special mention. The short introductory chapter by Dr. Gerrish will be of great help to the beginner in the study of anatomy, for the student's usually imperfect knowledge of Latin is generally not sufficient to be of much help in the first struggle with anatomic nomenclature. The insertion of the etymologic meaning in parenthesis, as new terms are introduced throughout the book,will also be very helpful in this particular. In the section dealing with the muscles Dr. Gerrish has introduced an original feature which seems to be of decided value; beside the cuts illustrating the muscles are outline sketches of the bones with the areas of muscular attachment colored red and with the outline of the body of the muscle in fine red lines. The fascia and synovial sheaths are given more of the attention which their practical importance demands, than is usual in English texts. The bloodvessels are somewhat briefly described, but a large amount of space is devoted to ligations and their surgical anatomy. The introduction of cuts of cross-sections of the extremities and cuts showing the relations in short incisions such as are made for ligations are also valuable helps. The descriptions of the viscera are concise and accurate and include much that has passed unnoticed in most texts in the English language except in a few of the latest editions; in this highly practical part of anatomy we have in the past been far behind the Germans and French. The chapter on practical anatomy gives many valuable and highly important hints, and with the tables of the structures as they are met in dissection, with page references, a special book on practical anatomy will be unnecessary. The numerous fine illustrations add immensely to the value of the book; most of them are in colors, and they are none the less valuable from the fact that many of them are copied after those of other standard works. The diagrams of complex structures and relations, the clear type and the flexible waterproof binding are other features which students will appreciate. Such a moderate-sized yet reliable textbook has long been needed and is certain to be welcomed by teachers of anatomy. As a scientific work the book is well deserving of a place with those of Leidy, McClellan, and Harrison Allen.

A System of Medicine. Edited by THOMAS CLIFFORD ALLBUTT, M A., M.D. Vols. VI. and VIII. New York: The Macmillan Co., 1899.

There is certainly some mistake about this Vol. VIII. of Allbutt's system. It is marked Volume VIII. on the cover and title-page, but in the preface it is spoken of as Volume VII., and to be followed by Volume VIII., concluding the diseases of the nervous system and the mind. It contains sections on diseases of the spinal cord, diseases of the brain, and on "Other Diseases of the Nervous System," under which unsatisfactory heading are included epilepsy, chorea, puerperal eclampsia, and a variety of neuroses. In the true Volume VIII, yet to appear, the diseases of the nervous system will be concluded and mental diseases will be described

We think the publishers' plan of including Playfair's gynecology when ordered, and running it in as Volume II., thus pushing the other volumes forward a number, is an unfortunate one, and calculated to create confusion in future references to the work.

These volumes of Allbutt's System contain in themselves a complete and valuable treatise on diseases of the nervous system, written by many neurologists, most of whom are British and all of whom are known to fame. Hence, they are important additions to the neurologist's library, quite as much so, of course, as though they were published as a separate work on nervous diseases. We are not willing to slight such an important work by merely giving a full list of its contributors and titles, and yet we have not space, unfortunately, to give a complete review of it. In general, it impresses us most favorably as a textbook not only for general practitioners, but even for specialists. Its articles are well written and well up-to-date, with just enough of bibliographic lore to make us feel that the writers knew thoroughly the region traversed, and have given the readers the pick of the best authorities. Hence the work is not prolix, and, being written by men of acknowledged repute, is sufficiently authoritative.

What guarantee is needed for a work in which Bevan Lewis writes on the General Pathology of the Nervous System; Sherrington and Sharkey on Tremor; Bury, Head and Aldren Turner on Diseases of the Nerves; Brudenell Carter on Medical Ophthalmology; Horsley on the Spine; Ormerod and Mott on Tabes Dorsalis; Grainger Stewart on Diseases of the Cord; Starr on Acute Anterior Poliomyelitis; Leonard Hill on the Cerebral Circulation; Ferrier on Cranial Localization; Bastian on Aphasia; Bramwell on Brain Tumors; and Gowers on Epilepsy? Surely this is a goodly array of names, and what falls from their pens needs no sponsor.

Beevor has a most satisfactory article on amyotrophic lateral sclerosis, in which he calls special attention to the fact that the motor cortex may be involved in this disease just as Charcot pointed out in 1885. It is evident that the extent of involvement of this cortical area varies widely in different cases. Beevor thinks the motor neurons of the cerebral cortex may become diseased first in the more distal parts of their neuraxons, and hence there may be a true ascending degeneration in them.

Turner has written a thoroughly scientific article on diseases of the cranial nerves. It is replete with knowledge of this rather difficult subject.

Ferrier's article on cranial localization is what we should expect from such a master hand. It does full justice to the work of American surgeons and neurologists who have followed him so closely in faradizing the cortex in the living human subject, and who have been foremost in the past in utilizing his own experiments on animals for the practical purposes of brain-surgery.

Starr, who is one of the very few American contributors, has written an excellent article on acute anterior poliomyelitis, in which he emphasizes the probably infectious nature of this disease as shown in its occasional epidemic range, as in the well known epidemic at Rutland, Vermont, and its occasional occurrence after diphtheria and other infectious diseases.

Bramwell's article on brain-tumors is especially noteworthy. It is founded on extensive clinical observation as well as on a fairly rich knowledge of the literature of the subject. Brain-tumors have come to be too common in literature for an author to utilize all that have been reported, but Bramwell has covered the ground for all practical descriptive purposes.

Savage, a good authority, has written a very full paper on general paresis.

In the article on tabes dorsalis the authors, Ormerod and Mott, recognize the etiologic importance of syphilis, but are rather conservative in their estimate of its activity. From the statistical standpoint they see that syphilis is in close affiliation with locomotor ataxia, but they hesitate to call tabes a true syphilitic disease from the standpoint of its morbid anatomy. Here, doubtless, many will concur with them.

We wish we had time and space to do full justice to this splendid work, but we have attempted merely to indicate some of its many points of excellence Those papers and authors whom we have not mentioned by name are equally deserving with those whom we have, and the volumes may be accepted as a most valuable addition to neurologic literature.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical ocieties for the week ending February 3, 1900:
Tuesday, January 30—Medicolegal Society.
Thursday, February 1—Obstetrical Society.

At a meeting of the Barton Cooke Hirst Medical ociety of the University of Pennsylvania, Dr. A. '. A. King, of Washington, D. C., delivered an address, after hich a reception at the University Club followed.

At a meeting of the William Pepper Medical Soiety of the University of Pennsylvania, held January 19, Dr. William Osler, of Baltimore, delivered an address on John Locke as a physician and philosopher. Afterard a reception was given him at the University Club.

Pennsylvania State Board of Medical Examiners.—Governor Stone has reappointed Dr. Henry Beates, Jr., of hiladelphia, a member of the Board, and has appointed r. Hiram S. McConnell, of New Brighton, and Dr. D. W. amsay, of Chambersburg, to succeed Dr. Joseph K. Weaver, f Norristown, and Dr. Samuel W. Latta, of Philadelphia.

Philadelphia County Medical Society.—At the nnual business meeting, held January 17, the following fficers were elected for the ensuing year: President, Dr. ohn H. Musser; first vice-president, Dr. George Erety hoemaker; second vice-president, Dr. Francis M. Perkins; ecretary, Dr. Ellwood R. Kirby; assistant secretary, Dr. Villiam S. Wray; treasurer, Dr. Collier L. Bower; censor, r. Thomas H. Fenton.

Burlington County (N. J.) Medical Society.—At he annual meeting, held January 16 the following officers vere elected: President, Dr. Francis S. Janney; vice-presilent, Dr. W. P. Mulcher; secretary, Dr. A. W. Taylor; treasrer, Dr. Enoch Hollingshead; censor, Dr. J. W. Hollingshead; chairman of medical section, Dr. V. H. Shipps; hairman of surgical section, Dr. A. Small; diseases of vomen and children, Dr. Emma Weeks.

Pennsylvania State Board of Health.—Since the ast report of the Secretary, November 4, 1899, smallpox has been reported in Pennsylvania, as follows:

County.		Cases.	Deaths.
ALLEGHANY	Pittsburg	4	0
	McKee's Rocks	1	0
WESTMORELAND	Larimer Mines	1	0
	Ludwick	1	0
	Mutual Mines	1	0
JEFFERSON	Punxsutawney	1	0
	Bell Township	5	0
INDIANA	Blairsville	24	2
BLAIR	Altoona	1	0
TIOGA	Arnot	1	0
PHILADELPHIA	Philadelphia	5	0
ADAMS	Mount Pleasant	1	0
WASHINGTON	Amity	1	0
BEAVER	Monaca	4	0

During the same period cerebrospinal meningitis has been reported as follows: Philadelphia, 5 cases, 0 deaths. Typhoid fever: Philadelphia, 390 cases, 43 deaths.

The Franklin County (Pa.) Medical Society met in their library room in the courthouse in Chambersburg, January 16, 1900. The following officers were installed: President, Dr. H. C. Devilbiss, Chambersburg; vice-presidents, Dr. D. J. C. Greenwalt, Chambersburg, Dr. A. Barr Snively, Waynesboro; recording secretary, Dr. J. J. Coffman, Scotland; corresponding secretary, Dr. H. V. Bonebrake, Chambersburg; treasurer, Dr. D. Maclay, Chambersburg; censor, Dr. R. W. Ramsey, Chambersburg.

Dr. J. O. Skinner, Chambersburg, was elected a member of the Society.

A committee was appointed to arrange with the authorities for the arrest and conviction of itinerant practitioners (?) coming into the county.

A committee of five were appointed to cooperate with a similar committee already appointed from the Cumberland County (Pa.) Medical Society for the purpose of securing analysis (qualitative and quantitative) of springs in Franklin, Cumberland and adjoining counties, supposed or reported to contain medical virtues.

The Alumni Association of the Jefferson Medical College held its fourteenth annual meeting January 20. Dr. A. H. Hulshizer presided, and Dr. George M. Gould delivered an address upon the story of an unknown hero's life. The following officers were elected: President, Dr. J. K. Weaver, Norristown, Pa.; first vice-president, Dr. G. B. Dunmier; second vice-president, Dr. J. Van Buskirk; third vice-president, Dr. W. S. Stewart; fourth vice-president, Dr. T. E. Conrad; corresponding secretary, Dr. Thomas G. Ashton; recording secretary, Dr. Wilmer Krusen; treasurer, Dr. W. M. Sweet; executive committee, Dr. Orville Horwitz, Dr. A. H. Hulshizer, Dr. A. K. Minnich, Dr. W. H. Warder, Dr. E. E. Montgomery, Dr. Charles S. Barnes, Dr. J. M. Fisher, Dr. F. H. Morier, Dr. C. W. Hoopes, Dr. John M. Phillips, Dr. Wilson Buckley, Dr. W. B. Atkinson, Dr. H. A. Hare, Dr. G. E. de Schweinitz, Dr. Oscar Allis, Dr. Henry Morris, Dr. Charles R. Holden, Dr. Frank Royer, Dr. E. Q. Thornton, Dr. M. B. Trike, Dr. James Thorington, Dr. Geo. M. Gould, Dr. John Strobel, Dr. J. P. Stritt, Dr. Harry Jarrett.

Vital Statistics of Philadelphia for the week ended January 20, 1900:—

Total mortality 525

Diseases.	Cases.	Deaths
Pneumonia 86, congestion of the lungs 5		91
Pulmonary tuberculosis		56
Heart-disease 39, fatty degeneration of the heart 5, inflammation of the heart 1, neuralgia of the heart 1, rupture of the heart 1		47
Marasmus 18, debility 14, inanition 8,		40
Diphtheria 26, membranous croup 12	159	38
Nephritis 27, uremia 6, congestion of the kidneys 1		34
Apoplexy 12, paralysis 7, softening of the brain 7		26
Convulsions 19, epilepsy 1		20
Bronchitis		19
Carcinoma 16, tumor 1		17
Gastroenteritis		17
Casualties 12, burns and scalds 3		15
Inflammation of the brain 11, congestion of the brain 1, disease of the brain 2		14
Senility		11
Typhoid fever	35	8
Scarlet fever	102	4
Abscess 4, cirrhosis of the liver 4, influenza 4, peritonitis 4, cyanosis 3, dropsy 3, hernia 3, rheumatism 3, sclerosis 3, suicide 3, anemia 2, disease of the liver 2, erysipelas 2, cystitis 2, pleuritis 2, spondylitis 2, suffocation by gas 2, ulceration of the stomach 2, pertussis 2, dysentery 2, asthma 1, diabetes 1, drowned 1, fracture of the skull 1, epistaxis 1, hemorrhage from the stomach 1, jaundice 1, laryngitis 1, osteitis 1, appendicitis 1, measles 1, intestinal obstruction 1, edema of the larynx 1, poisoning 1, retention of urine 1, septicemia 1, sore mouth 1, tabes mesenterica 1.		

Berks County (Pa.) Medical Society.—At the annual meeting, held January 9, the following officers were elected: President, Dr. F. W. Frankhauser; vice-presidents, Drs. A. A. Stamm and H. S. Reeser; secretary, Dr. James W. Keiser; treasurer, Dr. A. S. Raudenbush; curator, Dr. W. M. Weidman; corresponding secretary, Dr. Banks Taylor; Dr.

Longaker; censors, Dr. J. K. Seaman, Dr. O. Thompson; committee on scientific entertainment, Dr. A. H. Hartman, Dr. H. Bucher, Dr. L. Thompson; publication committee, Drs. J. K. Seaman, J. H. Hartman, O. Thompson; committee on law, Drs. W. M. Weidman, Dr. C. W. Buchanan, Dr. J. W. Keiser; delegates to the American Medical Association, Dr. O. Thompson, Dr. L. Thompson, Dr. A. Wolf, Dr. James Keiser, Dr. E. O. Cleaver, Dr. Mary McShick, Dr. J. M. Bertolette, Dr. F. W. Frankhauser. In the evening the annual banquet was held at the Mansion House, when 57 members and guests were present. Dr. Israel Cleaver was toastmaster. The following toasts were responded to: Retiring President, Dr. A. A. Stamm; Our New President, Dr. F. W. Frankhauser; The American Medical Association, Dr. W. W. Keen; The Future of Medicine, Dr. J. H. Musser; The Bacilli of the Future, Dr. Alfred Stengel; The Progress of Gynecology, Dr. Charles P. Noble; How to Help Medical Students, Dr. John B. Deaver; Blue Grass versus Quaker Oats, Dr. W. L. Rodman; Medical Journalism, Dr. Charles McIntire: The Medical Society of Pennsylvania, Dr. George W. Guthrie.

College of Physicians of Philadelphia, Section on Ophthalmology.—At a meeting held January 16, DR. S. LEWIS ZEIGLER exhibited a card for daily office use, on which was printed a **compact arrangement of the Jaeger test-types** together with a bar of notes for musicians and a symbol representing the needle's eye for the seamstress. Dr. Zeigler also presented a patient in whom useful vision had been preserved after an injury that had ruptured the cornea and produced prolapse of the iris and ciliary body. The recovery was attributed to a scleral suture, introduced soon after the accident, by which the edges of the ruptured cornea were approximated after the prolapsed uvea had been cut away.

DR. A. G. THOMPSON exhibited a case of **persistent pupillary membranes** in a girl, aged 14, associated with nebulous corneas and high myopia and nystagmus. The membranes were dense, opaque, dark brown, and connected with the anterior surface of the iris by filaments, the remains of the arteries of intrauterine life. They were irregularly round in shape and occupied nearly the entire pupillary space. The unanimous opinion of the Fellows who discussed the operative treatment was that the best results could be obtained by discission of the lens and the extraction of the opaque membranes.

DR. DE SCHWEINITZ reported a case of **blindness from sympathetic ophthalmitis** that had existed for 20 months with restoration of vision by Critchett's operation after a previous iridectomy and iridocystectomy had been unsuccessful. (The operation consisted in drilling through a favorable pupillary area into the lens substance and expressing the broken-up lens into the anterior chamber.) DR. C. A. OLIVER stated that he had successfully employed this method in 2 cases that had been considered irremedially blind. In one case he had used Knapp's knife-needle for the discission, while the drilling into the capsule with the evacuation of the lens-material and the fixation of the capsule were done by an ordinary stop-needle.

DR. DE SCHWEINITZ read the clinical histories of a **series of complicated cataracts** that had been extracted, and gave the visual results. Among the chief complications recorded were chronic granular lids, glaucoma, chronic blepharospasm, lateral nystagmus, retinal detachment, myopic choroiditis and calcareous semiluxated lenses. DR. HANSELL called attention to the omission from the usual enumeration of constitutional and local causes for complicated cataracts of the mention of secondary and tertiary syphilis, and believed that it was essential to a good result that a syphilitic subject should undergo a course of mercury and iodids before the extraction was made, otherwise the operation might be followed by iritis, gummata and closure of the pupil and of the coloboma. DR. ZEIGLER had operated for cataract in patients suffering with granular lids, and dacryocystitis with good results by treating the eyes as he would open wounds, namely, without bandages, and with ice-compresses. DR. HARLAN stated that authors differ as to what are really complications, and said that if all constitutional causes are excluded the published reports are only of selected cases.

DR. C. A. VEASEY reported a case of **right oculomotor paresis** following a severe blow on the **left** temple. The visual acuity remained normal. The accommodation returned, but the other symptoms improved but little under treatment.

DR. G. C. HARLAN reported a case of **transient real blindness** in a delicate and nervous woman of 23 years. In the left eye vision was reduced to counting figures at a few inches. The media were clear, and the fundus normal, but various prism and confusion-tests failed to reveal any higher degree of vision than she admitted. Three days after the examination the left eye was absolutely blind. Dr. Harlan was particularly interested in this case because in a considerable experience with hysterical blindness he had met with only one other case in which he was unable to demonstrate that the blindness was not real.

DR. B. A. RANDALL reported a cast of **double optic atrophy from thrombosis of the otitic sinus** in a child of 10 months. The affection of the optic nerves had been attributed to meningitis, but the history showed that no nausea, convulsions or paresis had been present, but that pain, tenderness and swelling had been marked about the left suppurating ear. Thrombosis so commonly follows involvement of the cerebral sinuses with uniformly fatal results that it seemed important to record this case, since it bore out Dr. Randall's claim that such affections, even if desperate, were not necessarily hopeless.

NEW YORK.

Consulting-staffs for Hospitals for the Insane.—A bill is before the Legislature, seeking to amend the insanity laws by providing for the appointment of a staff of consulting physicians for the insane.

Long Island College Hospital.—It is purposed, in the near future, to replace the old central section of the Long Island College Hospital with a modern fireproof structure, four stories high, costing about $150,000.

A Case of Triplets.—At the Gouverneur Hospital triplets were born to the wife of a very poor cloakmaker. The trio consists of one girl and two boys, and their aggregate weight is 10 pounds and 6 ounces. Mother and babies are doing well.

Price of Carbolic Acid Goes Up.—It is announced in the daily press that wholesale druggists here have received word from their London agents that the British government has forbidden the further export of carbolic acid, on the ground that the entire output is needed for home-use in the manufacture of lyddite shells. The immediate effect of this news was to double the price of the acid in this city.

Grafting with Egg-membrane Instead of Skin.—It having been found necessary at the Seney Hospital to graft such a large granulating area that it did not seem wise even to accept the offers of relatives, resort was had to an old, but not very generally known method, *i. e.*, grafting with pieces of the lining membrane of the hen's egg. This, of course, acts like sponge-grafts, by stimulating the growth of epithelium.

To Prevent Use of Old Canned Goods.—A bill has been introduced into the New York Legislature, having for its object the prevention of the sale of old canned goods. It provides that the manufacturers of cans shall imprint upon the bottom and sides of the cans the year in which the cans are made. A penalty of 10 cents a can is imposed upon every person exposing for sale or selling cans not bearing this imprint.

Kings County Medical Society.—At the annual election a strong opposition was developed to the party that had long been in control. The latter is said to consist chiefly of graduates of the Long Island College Hospital. Against

e were arrayed the younger element of Brooklyn, and e who believed that the monthly publication of the So-y, the *Brooklyn Medical Journal*, should be run on broader s. The opposition was successful, electing Dr. Lewis S. her for president, and Dr. Henry A. Fairbairn for vice-sident.

Brooklyn Protests Against Contamination of ater-Supply.—At the meeting of the Kings County dical Society a resolution was adopted, protesting in the erest of the public health against the use of the water n Baisley's and the Springfield Ponds, and calling upon the partment of Health to prevent by all means in its power readmission of the water from these ponds into the city er-supply. This action was called forth by the proposal neet the present scarcity of water by using the water from se sources. It was stated that careful examinations dur- a year had shown in the water from these ponds the pres-e of an enormous number of bacteria, notably of the on bacilli, and a significantly large quantity of nitrates, ites and albuminoid ammonia.

Bellevue Hospital Employes Poisoned. — After ner the other day the physicians of Bellevue Hospital l an unexpectedly busy time caring for no less than 180 ployes who had suddenly developed symptoms of acute soning shortly after the noonday meal. As the latter was nd, on investigation, to have consisted only of fresh and olsome fish, beef and vegetables, suspicion at once fell on coffee. This is kept in large metal urns, and the conclu-n was reached that through some neglect in the kitchen se urns had not been properly cleansed, and the action he coffee on the metal had given rise to the symptoms of stinal irritation presented by the men. All recovered mptly except one, and he remained seriously ill for a e, and had to be sent to the ward.

The New Automobile Ambulance.—The first auto-bile ambulance in New York City, possessed by St. Vin-t's Hospital, is now reported to have been the gift of Mr. ward Kelly, and that the makers were given carte blanche build the best possible ambulance of its kind. With its rage-batteries, it weighs 4,000 pounds, and when these are y charged, it is capable of maintaining a speed of 9 miles hour for 14 hours, at an estimated cost of two cents per e. By a new device, the gearing is made as noiseless as sible. A very practical feature is the use of the newly ented "pedestal gear," which is so constructed as to hold running gear of the vehicle rigid in the direction of driv-, yet allow it to yield readily to the slightest lift or jolt. cleverly-contrived windows and doors, the ambulance can quickly converted into a close carriage. It is lighted by tricity, and is provided with a powerful brake which, it laimed, will stop the ambulance within its own length.

Inquiry into the Status of the Gerry Society.—a result of the recent decision of the Court of Appeals t the Society for the Prevention of Cruelty to Children, niliarly known as the "Gerry Society," is not a charitable titution, and, therefore, amenable to the supervision of the te Board of Charities, resolutions and bills are being in-duced into the Legislature, having for their general object secure a better understanding of the nature of this so-y and its financial status. Mr. Harburger has intro-ed a bill cutting off the annual appropriation of $30,000 the city, claiming that this sum has been given under the ief that the society used it for charitable work and that as not simply a sort of subpolice department. The same Assemblyman also offered a resolution, calling for the appointment of 5 members of the Assembly, resident in Greater New York, to investigate the affairs of the society, and to report back to the Legislature before its adjournment.

Misconduct of Hospital Internes.—There has been friction for some time past between the medical superintendent of the Homeopathic City Hospital on Blackwell's Island, now known as the Metropolitan Hospital, and the house staff. The internes finally took umbrage at a recent order of the superintendent forbidding them to eat in the diet kitchen, and to show their dislike they betook themselves to the mortuary and, making an effigy of straw and rags, labelled it with the superintendent's name and hung it from the ceiling. It was reported to the medical board and to the Department of Charities that the young men had used the dead body of a patient for the effigy, and much indignation was expressed on all sides at this outrageous conduct. Commissioner John W. Keller acted promptly on the report by discharging all of the 12 internes. When informed subsequently that the effigy was of straw, the Commissioner replied that while this lessened the offense the affair was still too insubordinate to be tolerated, and the maintenance of proper discipline in the institution forbade that he should reinstate them.

Operation on a Pin-swallower.—The surgeons of St. John's Hospital, Brooklyn, have had an opportunity of performing an interesting operation on a pin-swallower. A young man, who had followed this singular vocation for a period of 14 weeks, became so ill from indigestion that he sought relief. An x-ray examination revealed the presence of a number of detached metallic articles and a particularly large black mass. Accordingly an incision was made into his stomach, and through this the following varied assortment of indigestible and undigested articles was removed: Two nickle watch-chains, 1 brass watch-chain, 2 latch-keys, 6 hair-pins, 10 iron nails, each $2\frac{1}{2}$ inches in length; 1 ring with a stone set in it, and 128 common pins. The very large black mass disclosed by the x-rays proved to be a collection of some of the metallic articles already mentioned which had become entangled in the chains. It was thought that this tangling up of the bodies swallowed was the determining cause of the attack of illness which had led to the operation being undertaken. At last account, the man was recovering rapidly, but evinced a desire to change his occupation.

Certifying to Deaths.—It has long been a common practice among physicians to sign certificates of death on the statement of relatives or friends, and without any personal inspection—indeed, more than one instance is related in which the physician has been obliging enough to leave a death certificate already signed at his last visit, believing the patient to be moribund, and has had the mortification to learn that the individual in question has recovered and has kept the certificate as a cherished souvenir of "close call." Every thinking person will at once say that all this is wrong, yet habit and custom are tyrannical masters. The attention of the public has been directed to this old subject in a rather novel and striking way through the efforts of the "Committee on Apparent Death," appointed recently by the Society of Medical Jurisprudence. Dr. H. J. Garrigues, its chairman, it will be remembered, not long ago presented a paper to one of the sections of the Academy of Medicine on the subject of "Premature Burial," and it is with this cry that he hopes to arouse sufficient interest among the public

officials to secure a change in the present mode of certifying to deaths. He has sent a communication from his committee to the Sanitary Committee of the Board of Health, setting forth the evils of the present practice, and suggesting that new blank death-certificates be used, in which will be required to indicate by writing the words "Yes" or "No." It is asserted that if the Sanitary Code were simply amended so as to compel the physician to personally inspect the body before filling out a certificate of death, such inspection might easily be so perfunctory as to accomplish no good purpose. It is also very properly suggested that the Board shall make it illegal, by ordinance, for the officious undertaker to subject a body to cold or to embalming fluids until the death of said person has been properly certified to by the legally qualified physician who has been in attendance.

NEW ENGLAND.

Norfolk District Medical Society.—At the last meeting Dr. John Lovett Morse read a valuable paper on **Rickettsi,** which will appear with illustrations in a subsequent issue of the JOURNAL.

Newport (R. I.) Medical Society.—At the annual meeting held last week the following officers were elected: President, Dr. Henry Ecroyd; vice-president, Dr. William S. Sherman; secretary, Dr. Mary E. Baldwin; treasurer and bacteriologist, Dr. Charles W. Stewart; librarian, Dr. Douglass P. A. Jacoby; curator, Dr. T. A. Kenefick.

Suffolk District Medical Society.—Section for Clinic, Medicine, Pathology and Hygiene.—At a meeting held January 17, Dr. E. W. Taylor reported **an unusual complication of epilepsy.** Dr. H. F. Heues read a paper entitled **Some observations upon diseases of the stomach,** which was discussed by Dr. E. G. Cutler and Dr. E. P. Joslin.

Connecticut River Valley Medical Association.—The midwinter meeting was held at Bellows Falls, Vt., January 16, Dr. W. H. Aldrich, president, and the following papers were read and discussed: Skiascopy in Internal Medicine, by Dr. Crane, Rutland, Vt.; Observations on Typhoid Fever, by Dr. W. N. Bryant, Ludlow, Vt.; Notes on the Surgery of the Gallbladder with Report of Cases, by Dr. Ira. J. Prantz Keene, N. H.; Antitoxin and Clinical Diphtheria, by Dr. E. R. Lynch, Brattleboro, Vt.

Death-rate in Boston in 1899.—The death-rate in Boston last year was substantially the same as in 1898—20.12 per 1,000 inhabitants. The deaths were 11,167 as against 10,886 in 1898, but this was equalized by an advance in population from 541,827 to 555,057. The deaths from zymotic diseases were 1,444 as against 1,470 in 1899. There was an increase in the number of deaths from alcoholism, croup, diphtheria, influenza, measles, scarlitina, smallpox, whooping cough, Bright's disease, bronchitis, heart disease, and pneumonia—a decrease in deaths from cholera infantum, cerebrospinal meningitis, rheumatism, typhoid fever, cancer, and consumption.

CHICAGO AND WESTERN STATES.

Funds to Prosecute the Work of the Chicago Health Department.—Dr. Reynolds, the Health Commissioner, has asked the Council for $256,894 to keep this deparment during the year. The largest amount requested is $60,034 for maintenance, supplies, and contingent expenses.

Wesley Hospital, Chicago.—Of the $250,000 for erection of the new Wesley Hospital building, $150,000 already been subscribed.

Medical Inspection of Chicago Schools.—This resulted in the examination of 3,054 pupils during the week, of whom 323 were excluded from schools becaus the danger of infecting the other pupils.

Emergency Hospitals.—The Chicago City Cou will be asked to authorize the appointment of a hosp commission of 7 members to consider the establishmen various parts of the city of hospitals for the treatment injured persons that are cared for by the police and em gency ambulances.

Illinois State Sanatorium.—The State Board of Hea of Illinois has recommended the establishment of a St sanatorium for the care and cure of consumptives, and i now assured that the next Legislature will provide funds build the institution. The board's recommendation was result of 6 months' investigation by a committee appoin by Governor Tanner, at the instance of the Legislature. result of the committee's work will be handed over to governor and by him presented to the Legislature. If plans of the Illinois Society for the Prevention of Consur tion are carried out, the Legislature will authorize an penditure of $50,000 for the purchase of a site for the sa torium and the erection of buildings.

School Hygiene.—Out in Oakland, Cal., the Boar Health has taken a step which, whether it be wise or not necessary or not, is certainly worthy of thoughtful consid tion in all parts of the country. What the Board of He did was to advise the Board of Education to exclude fr the public schools of the city any teacher or pupil now fering from tubercular consumption, and in the futur prevent the admission of such sufferers by stringent reg tions. One section of the resolution, which was unanimou adopted, reads: "Any employe in the service of, or pupi attendance upon, any public school of said city, suspecte being affected with pulmonary tuberculosis, shall, within week after having been notified by the City Superintend of Schools, either withdraw from the service of the sch department or attendance upon school, or submit to a l teriological examination by the city bacteriologist, who sh upon the completion of such examination, file with the Superintenden of Schools a certificate setting forth the sult of such examination." The examination is to be at expense of the city, and the Board of Education is to l final action on their bacteriologist's report alone. It is p able, or rather sure, that this plan will excite strenous op sition, but unquestionably there is much to be said i favor, and it is apparently in line with the tendency of times. The decision reached in the matter by the Oakl educators will be awaited with general interest.—*New Times.*

Cincinnati (Ohio) Society for Medical Researc At a meeting held January 11, DR. M. L. HEIDINGFELD sented photographs and sections of cases of **leukopat unguim onychomycosis** and **naevus linearis,** took up some pathologic and etiologic considerations leukopathia ungium. He attributed the cause of most c of leukonychia to trauma, by means of which a whole be matrix cells, from which the nail substance is formed, bec so pathologically changed that they fail to undergo ph

gic keratinization ; their refractive power becomes changed ıd they then appear as chalky-white streaks or spots in the ail substance. He showed photographs of a case of leukoychia, involving very extensively all the finger nails of both ands, where the cause was plainly due to the indiscreet use a cuticle knife. Microscopic preparations from the clipings of these nails showed the chalky-white transverse reaks of the nails to consist of layers of pathological nail ıbstance, running downward and forward, and imbricated ove each other. The cells in these layers preserve their uclei more sharply, retain their cubical structure to eater degree, and absorb stains much more intensely ıan the remainder of the nail substance. Preparations om a fetus of seven months' gestation, showed that if an ntire layer of matrix cells, from which the nail substance at ny given time was being formed, were involved in a patho)gic process, layers would be formed in the nail substance hich would conform in their size, appearance and position ith those already described. Cases of leukonychia, from phoid fever, phthisis, and other marantic diseases, without auma for a cause, could be explained by reason of malutrition of the cells from which the nail is formed. Demnstrator combatted the popular and almost universal opin)n that these changes are due to an infiltration of air into ıe nail substance, and maintained that he was unable to see ither physical or theoretical evidence for such an hypothes. Demonstrator showed an analogous lack of keratinizaon in a case of naevus linearis, where the uppermost rete ells, in forming the superficial layer, retained their cubical ructure nuclei, and took the stain much more deeply than ıe surrounding normal stratum corucum.

Demonstrator next showed microscopic preparations from case of mychomycosis, in which there was extensive disturbnce in the structure and appearance of the nail substance. [e was unable to discover any evidence of the fingers in the ail substance, and was extremely skeptical against ever nding it in such dry, nonsucculent material as nail subance; he maintained that the tricophyton tonsurans in ıese cases get underneath the fold of the nail, penetrates to ıe matrix and there sets up an inflammatory process and ıus induces the extensive pathologic changes.

DR. M. H. FLETCHER presented **microscopic sections f a cat's jaw,** the bloodvessels having been injected. He mphasized especially that the perideutal periosteum, while ich in aterides, contained very few capillaries. As a result, ıe periosteum resembles the hard tissues in the manner in hich it reacts to bacterial invasion. Few leukocytes asemble at the site of infection and the periosteum undergoes necrosis resembling the death of bone. For that reason he as applied the term Caries of the Periosteum to a process hich he has frequently observed clinically and which is haracterized by slow disintegration of the periosteum without suppuration.

DR. S. P. KRAMER presented sections of **livers and kidıeys from cases of yellow fever** recently studied in uba.

Cleveland Medical Society.—At a Quarterly Special leeting, held December 22, DR. NICHOLAS SENN, of Chicago, ead the paper of the evening upon "Fractures of the Skull," n which he stated that visceral intracranial lesions are of nore consequence in determining the necessity for a method f operative procedure in cases of fracture of the skull than re the extent and character of the fracture. The greatest ource of danger in these injuries is a complicating wound ommunicating with the skull-contents through the cranial efect, and thereby producing grave danger of infection. he examination of the wound with a view of determining he exact location and extent of the fracture, and the search or visceral injuries must be conducted with extreme care, to uard against wound infection. Every accidental wound nust be regarded as infected, but superficial infection menable to antisepsis may be made inaccessible by careless iagnostic exploration. No digital or instrumental examiıation of the wound should be made until the necessary horough aseptic preparations have been completed. In ompound fractures the entire skull should be shaved and lisinfected, and the wound flushed with hydrogen peroxid nd 2½% carbolic acid. In basal fractures the ear and nasopharynx should be disinfected so far as is possible. Absolute rest in bed is essential in treating skull fractures. Regarding the practice of some surgeons in trephining all fractures of the vault of the skull, Dr. Senn said the surgeon who converts a closed fracture of the skull into an open one without adequate cause assumes a great responsibility. The present technic of asepsis does not furnish absolute protection against infection. Conservatism is to be recommended in the treatment of these fractures, especially in children. Trephining should be done (1) in case of subcutaneous fractures in adults with marked depression, (2) subcutaneous fractures attended by focal symptoms, (3) all compound fractures, including punctured and gunshot fractures, and (4) fractures complicated by rupture of the middle meningeal artery. The trephine should never be used in the elevation of a depressed fracture, the chisel and mallet being greatly superior tools. Comminuted compound fractures demand free exposure to determine their extent and to discover foreign bodies, and every bone fragment must be taken out and kept in warm 2½% carbolic acid while the wound is disinfected, and replaced in proper position in the skull defect preparatory to closure. If the wound remains aseptic all the fragments will retain vitality and take an active part in restoring the continuity of the skull. In case of rupture of the middle meningeal artery and if the bleeding-point cannot be reached from the seat of fracture the artery must be exposed and ligated in the temporal fossa.

DR. GEORGE W. CRILE asked Dr. Senn what had been his experience with regard to the occurrence of epilepsy following fracture of the skull, and what results he had secured in such cases from further operation, especially in those of the so-called Jacksonian type?

DR. HUNTER ROBB asked in what proportion of cases it is possible to carry out any precautions to prevent infection of the scalp or brain when there is a compound fracture? Frequently it is to expect a septic condition.

DR. C. J. ALDRICH asked Dr. Senn what bad results he had noticed from leaving open the space made by trephining and whether there is not more danger of irritation resulting from restoring the fragments than from leaving the wound open?

DR. F. E. BUNTS asked if Dr. Senn had noticed a sign prognostic of death in cases of fracture which he had learned from experience to consider pathognomonic. This is, in fatal cases—particularly of fracture at the base of the skull—the fact that the patient begins early to manipulate the pubes?

DR. D. P. ALLEN said that he did not feel as conservative as Dr. Senn about going down upon the skull, but thought it is proper to do so in order to ascertain positively whether there is a fracture, for the reason that he had seen spicules of bone projecting from the internal table and causing death from brain pressure in cases in which the external injury was slight. In reference to asepsis in fracture at the base, he had reported at the last meeting of the American Surgical Association a large number of cases that ended in recovery in which no attempt had been made towards asepsis. It is impossible to say how the internal ear and nasopharynx can be rendered aseptic, and it is a question if damage may not be done in these cases by attempts in this direction. It has been his experience that the dura mater has considerable power of reforming bone, and that openings of small size are thoroughly closed, but that in openings as large as 2½ inches it is useful to replace some fragments. He warmly endorsed Dr. Senn's insisting upon keeping these patients absolutely quiet after operation, and had seen cases that had got up in a short time go on to death without it being possible to discover at the postmortem any sign of injury.

DR. C. B. PARKER congratulated the Society upon the privilege of listening to so conservative a paper from a master-hand. His experience with Jacksonian epilepsy had been similar to that of Dr. Senn in that there is some temporary benefit from operation, but very few recoveries. He emphasized the necessity of thorough asepsis of the field of operation in these injuries, and thought that the replacement of bone-fragments was frequently of some benefit.

DR. N. S. EVERHARD, of Wadsworth, asked how it was possible to render aseptic punctured wounds of the brain?

DR. SENN, in closing, said that he had never had much confidence in cortical excision for Jacksonian epilepsy, and

while he had performed the operation a number of times with temporary benefit, he had never seen lasting results. Traumatic epilepsy, in his experience, was more frequently the result of intracranial lesions than of change in the contour of the skull. He confessed that the means of effecting absolute asepsis in cases of compound fracture of the skull are very imperfect, yet the attempt should be made in the right direction. He insisted that in every case of fracture of the skull the wound must be considered as infected and the entire scalp shaved and rigidly disinfected. Primary disinfection should be made step by step. He places great value upon the replacement of fragments in the opening in the skull, as he has seen as many cases of traumatic epilepsy developing after extensive skull-defectas after depressed fracture. He believes the dura mater to be a very sensitive structure, and that it is the duty of the surgeon to place the parts operated upon, as nearly as he can, in the same mutual relation that they previously occupied. Some years ago he had made extensive experiments upon animals as to the reproduction of bone and had found invariably that extensive skull defects were not repaired, and that the osteogenetic function of the dura mater is extremely limited. He thought this was valuable, as otherwise the surgeon would be often compelled to deal with exuberant provisional callous and frequent cerebral complications. He had never seen the symptom mentioned by Dr. Bunts, but thought the observation a very valuable one.

Chicago Medical Society.—At a meeting, held January 17, the subject of **disinfection** was discussed from various standpoints. DR. CHRISTIAN FENGER contributed a paper on the **preparation and disinfection of the patient,** which was read by Dr. Connell. In preparing a patient for an operation it is customary to have him or her in the hospital for from 24 to 48 hours previous to operation, the object being threefold: mental, physical, antiseptic. The preliminary steps in the antiseptic treatment consist, in the first place, of mechanical cleansing, the removal of infectious matter, which consists largely of masses of loose epidermis with bacteria. This is best accomplished by means of soap and water with friction applied with a stiff nail-brush. Too much confidence is placed in so-called antiseptics. To a greater or less extent they are all poisonous, and if used in a solution of sufficient strength to kill germs will do damage to the tissues with which they come in contact, and if so weak as not to cause damage to the skin, are frequently of little or no value as bactericides. A general bath should be the initial step in the antiseptic treatment.

DR. E. WYLLYS ANDREWS read a short paper on Schleich's New Methods of Skin Sterilization. Exhibition of Schleich's marble-dust soap were made and its use illustrated. Schleich lays down the emphatic rule that brushes should never be used, as they are incapable of cleansing and become "labyrinths of filth and slime." Chemical antiseptics are in his method given an unimportant place. They tend to injure the skin and do not effectually sterilize it. The properties required in a good soap are (1) sterilize materials. (2) Detergent properties; hence the use of marble dust. (3) Some ammonia to act as a liquefying agent or flux, the soda or potash being too hard when saponified. (4) Fat emulsifying power to carry away the waxy deposits of the skin (cholestrin, keratan, etc.). For this purpose he introduces what he calls "stearin paste." (5) Wax free in the mass to leave the skin anointed. For this purpose so-called "cerate paste" is put in the soap. (6) Sterile running water. The soap is a white paste of gritty feel. It is applied by rubbing with squares of sterilize gauze made into small napkins. The sensation left after it has been washed away is that the skin has a waxy feeling. Personally, Dr. Andrews could testify that it is less irritating to the skin than green soap used with a brush. He is not yet able to present any conclusions based on statistics as to its effectiveness. Dr. Banga, who first called his attention to it, is confident from a considerable trial that it gives the best of results in all major and minor operations.

DR. JACOB FRANK contributed a paper on the **Disinfection of the operator and his assistants** and detailed the method as practised by himself at the German Hospital. Rubber gloves are used in all operations. These are first thoroughly washed, both inside and out, in a 10% solution of sodium carbonate, then rinsed in sterile water and dried by holding over a gas-flame for one minute, r versing once. The inside is dusted liberally with soapston powder, which has been previously sterilized by dry heat f two hours. The gloves are wrapped in a double layer gauze, marking the size on gauze and placed in a forma dehyde sterilizer for two hours. After removing the glov from the sterilizer, they are wrapped in a sterile towel, t size and date of sterilization being marked on outside towel. This method of sterilization of gloves has been four to be far superior to all others. In the first place, the glov are sterile. Cultures have been made repeatedly, immed ately and two weeks after sterilization, and they have show absolutely no growth or life. Pure cultures of staphylococ streptococci, coli communis, Klebs-Löffler bacillus, typho pyocaneus, etc., after having been passed through the forma dehyd sterilizer, have shown no life. Secondly, the glov are most easily and readily put on. In case of abrasions the forearm, rubber armlets are used, which are sterilized i the same manner as the rubber gloves. After the glov have been used, they are prepared again in the same ma ner as before stated.

Woven Gloves in Surgical Operations.—Dr. Col man G. Buford, a former assistant of Professor Christia Fenger, after nearly 2½ years of observation of the use gloves in Professor Fenger's operations, concludes that wove gloves have a place in dry operations, and that the out surfaces of dry gloves usually remain sterile throughout t longest operations. He prefers cotton to silk gloves, but r commends above all the use of rubber gloves because of the impermeability. Both the woven and rubber gloves are ste ilized in any of the usual ways, except that he advises again boiling the rubber gloves in soda, or in carbolic-acid sol tions stronger than 2%. Other valuable points in connectio with the gloves are noted with especial reference to mea of diminishing the expense, which is considerable. Profess Fenger uses them in both aseptic and septic operations. I the former for the protection of the patient, and in the latt for self-protection. He has seldom found it necessary remove the gloves during operations, and has even used the throughout plastic operations on the ureter and bile-duc He has made 125 bacteriologic examinations, and conclud that in proportion to the work and responsibility of tho engaged in the operation, there is a relative increase or dim nution in the frequency of cultures from the inner side the gloves, and that this is due to reinfection of the surfa by microbes being brought from the sweat-ducts, glands, an hair-follicles by perspiration and pressure on the skin handling instruments. The insides of the operator's glov were infected in 66⅔% of the cases, while the least acti person, the nurse, handling sutures, ligatures and sponge had no cultures from the inner side of her gloves. A tot of 63 cultures were made from the inside of the gloves of a participants, and there was infection in 28⅘%, while of t 62 cultures made from the outside, only 9⅔% were infecte and the latter occurred with no more frequency in the ca of the operator than with the assistants.

DR. A. J. OCHSNER spoke on the **methods of surgic disinfection employed in the Augustana Hospita** (1) Theoretically, it is almost impossible to thoroughly ar absolutely disinfect the skin of the patient and the hands the operator. (2) Practically, it is one of the easiest ar simplest tasks to obtain a degree of surgical cleanness th will insure primary wound-healing. Theoretically, stron chemical disinfectants are indicated for the purpose of di infecting the hands. Practically, careful washing with t mildest soap and water and alcohol is absolutely sufficie and very much safer for the patient, because hands roug ened by the use of strong antiseptics are much more like to become hopelessly septic than those which are cover with smooth, healthy skin. (3) It is extremely simple keep the hands aseptic after they have been rendered s There is no more difficult task in any clinic than to ke all interested hands clean after they have been disinfecte (4) Sutures passing through the skin and the deep tissu underneath are a menace to the patient, because th form a direct communication between the skin containi staphylococci and the deep tissues which are primari sterile. These stitches never cause an infection, unle drawn too tightly, in which case the resulting pressure-necr sis is the cause of the mischief, because it furnishes the microorganisms dead tissue to thrive upon. Catgut sutur

ıd ligatures are objectionable. Practically, if applied ·operly, not tied too tightly, by a clean surgeon with clean sistants, they are absolutely satisfactory. (5) Theoretically is as safe to operate upon clean cases after dressing sup- ıurating wounds as at any other time. Practically, surgeons ho follow this practice always have a great amount of ound infection, on account of accidental contamination of ›mething coming in contact with the wounds. In order to ıve wounds heal without suppuration, he believes the fol- wing conditions should be considered: (*a*) The surgeon, s assistants and nurses must be habitually clean, and the :in of their hands must be free from irritation and rough- ess. (*b*) Their attention should constantly be directed toward e prevention of accidental infection. (*c*) The surgeon and s assistants should be careful not to breathe or speak into e wounds. (*d*) Tissues should not be exposed to unneces- ry traumatism. (*e*) Sutures should not be tied tightly ıough to cause pressure-necrosis. (*f*) A reasonable system ould be employed so that every one concerned can assist telligently in preventing infection.

Dr. William E. Schroeder spoke on the **disinfection of verything coming indirectly in contact with ounds,** such as the operating room, radiators, doors, ashstand, floor, operating table, instrument tables, opera- ıg chairs, glass irrigators and tubing, basin-racks and basins, strument trays, towels, sheets, gowns, etc.

Dr. A. E. Halstead spoke on **drainage when used,** ying that drainage of wounds naturally falls into two visions; first, the drainage of wounds which are surgically ean, or are supposed to be such; second, drainage of wounds nich have been infected, or which are made to relieve sup- ıration or septic conditions. While there are certain ad- ıntages to be gained by the drainage of some aseptic ounds, excellent results are obtained in the majority of ses without resorting to drainage. He limits drainage nong the clean cases to: (1) In those cases where there ıs been much traumatism to the tissues and where large eas of lymphatic vessels have been opened. Oozing may › expected in this class of cases, and it seems desirable to ·event the collection of fluid in some dependent part of the ›und. As examples he cited amputation of the breast, with earing out of the axilla for carcinoma mammae; amputa- ›ns, especially of the thigh and hip; extirpation of tubercular rvical lymphatic glands, etc. (2) Where there remain at e termination of the operation so-called dead spaces which ınnot be obliterated by deep sutures or other means. These e apt to act as receptacles for any serum or lymph which ay escape from the lacerated vessels and which might then rnish a culture medium for some of the bacteria which ay be found in almost any aseptic wound. As examples this class he mentioned several recent operations, ımely, unilateral thyroidectomy, ligature of subclavian ıeurysm, sequestrotomy of tibia, and carcinoma of the ctum. How long should the drain be left in the wound? ı his opinion, 24 hours is sufficiently long in almost all ses, for the following reasons: (*a*) If the wound is aseptic, l oozing will have practically ceased by this time. (*b*) If ıy dead spaces had resulted from the dissection, the tissues ill have had ample time to adapt themselves to each other ıd the cavities will be found nearly obliterated. (*c*) After : hours the drain frequently ceases to act as such, the eshes of the gauze being filled with coagulated lymph- rum, etc., or, if tubular, the lumen will be frequently found ›structed in a similar manner. The opening in the wound thus plugged and the drain worse than useless. (*d*) If moved at the end of 24 hours, it will be almost ever found that infection has traveled along the path of ıe drain, an accident likely to occur if the drain is left un- sturbed for a much longer period. In the second class, ımely, infected wounds and those made to relieve a septic cus, drainage is demanded almost without exception and practised by him in all such cases. Drainage of abscess, npyemas, suppurating joints, etc., is effected in the location hich gives the best possible escape to the secretions. To ımmarize, he uses drainage in the following varieties of ses: (1) When pus is found in the free peritoneal cavity, in accute diffuse suppurative peritonitis. (2) When there localized pus-formation in the free peritoneal cavity, such cus being walled in by the viscera and adhesions uniting e adjacent viscera. This includes cases of appendicular ›scess and pelvic abscesses from pus tubes, ovaries, etc. When operation is done to remove a collection of pus within a hollow viscus, as a pyosalpinx, or an appendix distended, but not yet ruptured, it is a rule to close the abdominal cavity without drainage unless it has become contaminated by pus by the rupture of the viscus which is undergoing removal.

Dr. J. B. Murphy spoke of **the use or nonuse of irrigating fluids in the abdominal cavity.** He said the purpose of irrigation was, first, for the removal of foreign material from the abdominal cavity; second, to dilute the poisons in this cavity; third, to prevent adhesions; and, fourth, to prevent or stop shock. For the fourth division, irrigation was of little value. We have now at our disposal a much more effective means, namely, intravenous saline injections. In certain types of peritoneal infection, by irrigating the peritoneal cavity and filling it with saline-solution he believes the poison may be so diluted as to tide the patient over the immediate intoxication and perhaps resist subsequent infection. The primary purpose of abdominal irrigation is the removal of aseptic materials from the abdomen, postoperative, that is, blood, fragments of tissue, cyst-contents, serum, etc. Bloodclots, he believes, can be removed with a dry aseptic sponge better than by irrigating fluids. Infection of the peritoneum occurs from three sources. Least of all from the air, if at all, with a very large interrogation point. Principally and primarily from the surgeon's hands and the skin of the patient. If infection has been carried from any one of these sources, he believes irrigation would do no good. If surgeons would consider the peritoneum as a broad surface in its pathology and in operation, the same as they did the surface of the skin, where all the pathologic changes that take place could be observed, he believes that surgeons would rapidly come to operate in the peritoneal cavity the same as they do outside of it without any irrigating fluids or antiseptic solutions.

SOUTHERN STATES.

Buncombe County (N. C.) Medical Society.—At the annual meeting held recently the following officers were elected for the ensuing year: President, Dr. H. L. Baird; vice-president, Dr. F. P. Chessborough; recording secretary, Dr. J. F. Sweir; corresponding secretary, Dr. E. L. Morris; treasurer, Dr. C. V. Reynolds.

Orleans Parish Medical Society.—At the annual meeting held January 13, the following officers were installed for year 1900: President, Dr. T. S. Dabney; first, second and third vice-presidents, respectively, Dr. M. J. Magruder, Dr. H. B. Gessner, Dr. E. J. Graner; recording secretary, Dr. E. H. Walet; treasurer, Dr. M. H. McGuire; librarian and corresponding secretary, Dr. S. P. Delaup. The Society has an active membership of 171; 23 regular meetings were held during year 1899.

MISCELLANY.

Artificial Vichy Water—Use of the Name Cannot be Enjoined.—By a decision handed down Wednesday by Judges Shipman and Lacombe in the United States Circuit Court of Appeals, New York, affirming a previous opinion of the Circuit Court, the Republic of France, owners of the Vichy Springs, the Vichy Company, lessees, are refused the right to enjoin manufacturers of artificial vichy water in this country from producing and selling their product under the name of vichy. The decision also denies any damages or profits. The decision is important to makers of vichy all over the United States. The French Vichy Company endeavored to recover profits from Americans, amounting in a single case to nearly $10,000,000.

Obituary.—Dr. L. G. Lowe, New Orleans, La., January 9, aged 30 years.—Dr. Amos G. Warner, formerly chief of the Board of Charities of the District of Columbia, at Las

Cruces, N. M., January 17.—DR. ABRAM H. WITTMER, first assistant physician at the Government Hospital for the Insane at Washington, D. C., January 19, aged 55 years.—DR. A. L. BOUGHNER. Chester, Pa., January 16, aged 44 years.—DR. ERNEST SCHRODER, Brooklyn, N. Y., January 12, aged 48 years.—DR. WILLIAM H. LYONS, N. Y., January 13, aged 59 years.—DR. MILTON W. HALL, Dorchester, Mass., January 9, aged 52 years.—DR. JOHN C. CLEARY, Port Chester, N. Y., January 14, aged 31 years.—DR. GUSTAVE MAHE, Sioux City, Iowa, January 11.—DR. DIXIE CROSBY, formerly of Exeter, N. H., in New York, January 20.—DR. JOHN WILLIAM CARROLL, Baltimore, Md., January 20, aged 73 years.—DR. C. W. KRISE, Carlisle, Pa., January 23, aged 52 years.—DR. JOHN CARGILL SHAW, Brooklyn, N. Y., January 22, aged 55 years.

American Medical Association.—The following is the preliminary program of the Section on Ophthalmology of the meeting to be held at Atlantic City, N. J., June 5–8, 1900:

TUESDAY—AFTERNOON SESSION.

Address of Chairman, H. V. Wurdemann, Milwaukee.
Treatment of Conical Cornea.
1. Optical Therapeutics, Swan M. Burnett, Washington.
2. Operations, Robert Sattler, Cincinnati.

Discussion opened by Herman Knapp, N. Y.; F. C. Hotz, Chicago; Samuel D. Risley, Philadelphia (to be invited).
Volunteer Papers.

WEDNESDAY—MORNING SESSION.

Exhibition of Specimens and New Instruments.
1. A Double Trial Lens to Balance the Eyes in Presbyopia, Mark D. Stevenson, Akron, O.
2. Other Demonstrations.

Volunteer Papers.

WEDNESDAY—AFTERNOON SESSION.

The Relation of Ocular Diseases and Visual Defects to Vocations.
1. What Amount of Visual Defect Should Disqualify in Railroad and Steamship Service, Frank Allport, Chicago.
2. Estimation of the Amount of Injury to the Business Capacity of the Individual from Partial or Complete Loss of Vision, Adolf Alt, St. Louis.

Discussion opened by William Thompson, Philadelphia; C. H. Williams, Boston.
Volunteer Papers.

THURSDAY—MORNING SESSION.

Exhibition of Specimens and New Instruments.
1. Demonstrations of Sections of an Unusual Intraocular Growth, Wilbur P. Marple, New York.
2. Other Demonstrations and Instruments.

Volunteer Papers.

THURSDAY—AFTERNOON SESSION.

The Rational Use and Limitations of Therapeutic Measures Intended to Promote the Absorption of Exudates Within the Eyeball.
1. Medicinal Measures, Randolph Brunson, Hot Springs.
2. Local Therapeutics, M. Uribe Troncoso, Mexico City.
3. The Present Status and Value of Massage of the Eyeball with the Consideration what Diseases of the Eye may be Favorably Influenced by this Therapeutic Measure and What are the Best Means of its Application, Casey A. Wood, Chicago.

Discussion opened by George M. Gould, Philadelphia; Robert L. Randolph, Baltimore; J. Santos Fernandez, Havana, Cuba.
Volunteer Papers.

FRIDAY—MORNING SESSION.

Exhibition of Specimens and New Instruments.
The Treatment of Immature Cataract with Special Reference to the Rate of Development and such Measures as may Check It, G. E. de Schweinitz, Philadelphia
Discussion opened by John E. Weeks, New York; Abner W. Calhoun, Atlanta.

FRIDAY—AFTERNOON SESSION.

Volunteer Papers and their Titles accepted to date.
1. Secondary Operations on Capsular Membranes, Peter A. Callan, New York.
2. Lessons Learned from a First Series of 100 Cataract Extractions, F. T. Rogers, Providence.
3. Glioma of the Retina, G. A. Sulzer, Portsmouth.
4. Hemorrhagic Glaucoma, W. C. Posey, Philadelphia.
5. Will Relate to Variations in the Size of the Pupil, Lucien Howe, Buffalo.
6. Paresis of External Recti Associated with Irregular Tabes, G. Oran Ring, Philadelphia.
7. The Effects Upon the Eye of Flashes of Electric Ligl Dunbar Ray, Atlanta.
8. Keratitis-Bullosa with Report of a Case, E. O. Sisson, Ke kuk, Ia.

DR. H. V. WURDEMANN, Chairman,
123 Wisconsin Street, Milwaukee, Wis.

DR. CHARLES F. CLARK, Secretary,
188 E. State Street, Columbus, O.

Changes in the Medical Corps of the U. S. Nav for the week ended January 20, 1900.

(Changes by cable from Asiatic Station.)

WRIGHT, D. L., assistant surgeon, detached from the "Monterey and ordered to the "Isle du Luzon."

DICKINSON, D., medical director, ordered to duty as a member the naval medical examining board, Washington Navy Yard.

BEARDSLEY, G. S., medical director, detached from the naval ret ing board, Washington Navy Yard, and ordered home to aw orders.

WISE, J. C., medical inspector, detached from the naval medical e amining board, Washington Navy Yard, January 20, a ordered to duty as member of the retiring board, same day.

HENEBERGER, L. G., surgeon, detached from the naval recruiti rendezvous, Detroit, Mich., and ordered to the training statio Newport, R. I.

DIEHL, O., surgeon, detached from the "Michigan" and ordered the naval recruiting rendezvous, Philadelphia, Pa.

ALFRED, A. R., passed assistant surgeon, detached from the Ne York Navy Yard and ordered to the "Texas."

OLCOTT, F. W., passed assistant surgeon, detached from the "Texas and ordered to the naval recruiting rendezvous, Detroit, Mic

WILSON, H. D., passed assistant surgeon, ordered to duty on t "Michigan."

RIGGS, C. E., passed assistant surgeon, detached from the naval r cruiting rendezvous, New York, and ordered to the New Yo Navy Yard.

HARRIS, H. N. T., surgeon, ordered to temporary duty on the "Ve mont" in connection with the crew of the "Albany."

SPEAR, R., assistant surgeon, detached from the naval recruiti rendezvous, Philadelphia, Pa., and ordered to the "Constel tion" temporarily.

DUNN, H. A., assistant surgeon, ordered to the naval provi grounds, Indian Head, Md.

MORRIS, L., passed assistant surgeon, detached from the "Helena and ordered to the "Brooklyn."

MORGAN, D. H., assistant surgeon, detached from the "Iris" a ordered home.

BEARDSLEY, G. S., medical director, placed on the list of retir officers of the Navy, from January 22, 1900.

FLINT, J. M., medical director, placed on the list of retired offic of the Navy, from February 7.

MCGUIGAN, J. H. pharmacist, detached from the Naval Provi Grounds, Indian Head, Md., and ordered to the New Yo Navy Yard.

ENGLANDER, S., pharmacist, detached from the New York Na Yard, and ordered to the naval hospital, New York.

Changes in the U. S. Marine-Hospital Servic for the week ended January 18, 1900.

WERTENBAKER, C. P., passed assistant surgeon, to proceed to Greer boro, N. C., and Jessup, Ga., for special temporary duty. Ja uary 13.

LURSDEN, L. L., assistant surgeon, relieved from duty at Seatt Wash., and directed to proceed to the San Francisco Quaranti Station and report to the medical officer in command for du and assignment to quarters. January 16.

KING, W. W., assistant surgeon, to report to Surgeon L. L. W liams, Immigration Depot, New York, N. Y., for tempora duty, pending departure for Ponce, Puerto Rico. January 12.

THORNBURY, F. H., assistant surgeon, relieved from duty at the S Francisco Quarantine and directed to proceed to San Francis Cal., and report to the medical officer in command for du and assignment to quarters. January 18.

RARUS, CARL, assistant surgeon, relieved from duty at Havar Cuba, and directed to proceed to Fort Stanton, N. M., and rep to the medical officer in command for duty and assignment quarters. January 16.

STANSFIELD, H. A., assistant surgeon, relieved from duty at S Francisco, Cal., and directed to proceed to Honolulu, Hawa and report to Surgeon D. A. Carmichael for duty. January

FOX, CARROLL, assistant surgeon, relieved from duty at the Ree Island Quarantine Station and directed to proceed to the Po Townsend Quarantine Station and report to the medical offic in command for duty. January 18.

TROTTER, F. E., assistant surgeon, relieved from duty at the Tortug Quarantine Station, and directed to proceed to Havana, Cub and report to the quarantine officer in command for dut January 16.

EDSON, E. R., ssistant surgeon, relieved from duty at St. Louis, M and directed to proceed to the Reedy Island Quarantine Stati and report to the medical officer in command for duty and signment to quarters. January 17.

STEVENSON, JOHN W., acting assistant surgeon, is granted leave absence for 30 days from January 22, 1900. January 17.

Changes in the Medical Corps of the U. S. Army

r the week ended January 20, 1900:

CANDREW, P. H., acting assistant surgeon, is granted leave for 1 month, with permission to return to the United States.

LAKE, JOHN C., hospital steward, will proceed to Fort Columbus for temporary duty.

MMERALL, W. B., acting assistant surgeon, is relieved from duty at Hamilton Barracks, and will report at military hospital, Matanzas, Cuba, for duty.

NAPP, GUSTAV, hospital steward, is relieved from duty at the hospital, Presidio, and will report on the transport "Tartar" for duty during the voyage of that vessel to the Philippine Islands. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for instructions.

EINEL, LOUIS, hospital steward now at Vancouver Barracks, will proceed to Fort Walla Walla for duty.

ALHOUN, WM. W., acting assistant surgeon, is assigned to duty with troops on the transport "Tartar" during the voyage of that vessel to the Philippine Islands. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for instructions.

OREY, GEORGE B., acting assistant surgeon, is assigned to duty with troops on the transport "Tartar." Upon arrival in Manila he will report to the commanding general, department of the Pacific, for instructions.

HWENKENBERG, JOHN, hospital steward, is assigned to duty at Fort Sam Houston.

ARTY, GEORGE S., hospital steward, will be sent by the commanding officer Fort Sam Houston, to San Jacinto for duty.

EANS, GEORGE E., acting assistant surgeon, is granted leave for 1 month.

AYMOND, Major Henry I., surgeon, is assigned to duty as attending surgeon at headquarters, department of the Lakes, and examiner of recruits in Chicago, relieving Major Richard W. Johnson, surgeon.

ONE, First Lieutenat JOHN H., now on duty at Matanzas, Cuba, is relieved from duty at Fort Leavenworth, to date from April 19, 1898, the date he left his station en route to Chickamaugua, Ga., in compliance with telegraphic instructions from headquarters, department of the Missouri, dated April 10, 1898.

ELGADO, JOSE M., acting assistant surgeon, will proceed from Plattsburg Barracks to Washington, D. C., and report to the Surgeon-general of the Army for instructions.

HOMAS, JEROME B., will proceed from Brooklyn, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

U BOIS, FRANK, assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for duty.

T. JOHN, CHARLES, asisstant surgeon, will proceed from Buffalo, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

AMLIN, WM. E., acting assistant surgeon, will proceed from New York City to Waltham, Mass., and report to the Surgeon-general of the Army for annulment of his contract.

A board of medical officers, to consist of First Lieutenant JERE B. LAYTON, assistant surgeon; First Lieutenant RICHARD P. STRONG, ssistant surgeon; and Acting Assistant Surgeon JOSEPH J. CURRY, appointed to meet at one of the general hospitals in or near Manila, P. I., to be designated by the commanding general, department of the Pacific, upon the recommendation of the chief surgeon f that department, for the purpose of studying tropical diseases as ney occur in those islands. The board will receive its instructions om the Surgeon-general of the Army and will be under the immeiate direction of the chief surgeon, department of the Pacific.

ILBOURNE, Major HENRY S., surgeon, medical superintendent of Army transport service, will proceed from New York City to the Norfolk Navy Yard, on business pertaining to the Army transport service, and on completion of this duty will return to his proper station.

WEN, Captain WILLIAM O., assistant surgeon, is relieved from further duty in the department of California, and will proceed from San Francisco, Cal.. to Fort Thomas.

LSNER, FRED R., hospital steward, now on furlough, will be discharged under the provisions of pars. 145 and 146 of the Regulations, by the commanding officer of the Army and Navy General Hospital, Hot Springs, Ark., who will forward the discharge papers to the soldier at Monterey, Cal.

OPE, Lieutenant Colonel BENJAMIN F., deputy surgeon-general, will proceed from Columbus Barracks to San Francisco, arriving there on or about February 5, and report to the commanding general, department of the Pacific, for duty.

AKEMAN, Captain WM. J., assistant surgeon, will proceed from Fort Thomas to San Francisco, Cal., arriving there on or about February 5, and report to the commanding general, department of the Pacific, for duty.

A board of medical officers, to consist of Lieutenant Colonel BENAMIN F. POPE, deputy surgeon-general; Major GUY L. EDIE, surgeon; Captain WILLIAM J. WAKEMAN, assistant surgeon; First ieutenant BAILEY K. ASHFORD, assistant surgeon, is constituted to ieet at Manila, P. I., as soon as practicable, for the examination of ndidates for admission to the medical corps of the Army. The oard will be governed in its proceedings by such instructions as may receive from the Surgeon-general of the Army. The board ill remain in session until all the candidates who are authorized to present themselves shall have been examined, and the president of the board will then report the completion of the examination of the candidates in the Philippines by cable to the Adjutant-general of the Army.

POPE, Lieutenant Colonel BENJAMIN F., deputy surgeon-general, on completion of duty on board of examiners, at Manila, P. I., will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

WAKEMAN, Captain WILLIAM J., assistant surgeon, on completion of duty on board of examiners at Manila, P. I., will report to the commadding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

ASHFORD, First Lieutenant BAILEY K., assistant surgeon, on completion of duty on board of examiners, at Manila, P. I., will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

HEYL, Captain ASHSTON B., assistant surgeon, is granted leave from January 25 to February 28, inclusive.

HEYL, Captain ASHTON B., assistant surgeon, resignation accepted, to take effect February 28.

ASHFORD, First Lieutenant BAILEY K., assistant surgeon, upon expiration of his present leave, is relieved from further duty in the department of Puerto Rico and will proceed from Washington, D. C., to San Francisco, Cal., in time to arrive there on or before February 5, and report to the commanding general, department of California, for duty.

Foreign News and Notes.

GREAT BRITAIN.

The office of **Registrar General of Great Britain** will shortly be vacant, and there is a strong feeling among medical men that the appointment is one that should be held by a medical man. The figures to be summarized and arranged are those of the mortality of the country, and no one but a medical man can interpret death-certificates in such a way as to be safe in drawing lessons from the figures.

The Duke of Abercorn, supported by the Presidents of the Royal College of Physicians and Surgeons, of London, Edinburgh and Dublin, the editors of the *Lancet* and *British Medical Journal,* and many influential medical men in the three divisions of the kingdom, are starting a fund for the use of sick and wounded officers in the South African War, many of whom, there is reason to fear, will stand in as much need of pecuniary help as their privates.

Some discussion is taking place among dentists in Great Britain whether the dentists who hold hospital appointments at general hospitals, and who consequently may be called upon to lecture to and instruct students who do not themselves intend to be dentists, ought not to have more than a dental diploma. In general medical circles there is but one opinion, in that **the dentist to a hospital should have the usual surgical and medical qualifications** in addition to his dental diploma. All the large London hospitals but two follow this view.

The Condition of Tropical Disease on the West Coast of Africa.—Dr. R. Fielding Ould, who formed one of the investigating expeditions sent out by the Liverpool School of Tropical Medicine, has now returned to Liverpool, bringing with him a supplement to the report which has already been issued concerning the doings of the expedition, by its leader, Dr. Ronald Ross. Dr. Ould reports that he found no specimens of the malaria-bearing mosquito in Accra, but regards Lagos, where the anophele swarms, as a great center of infection. Dr. Ould is not perhaps as hopeful as some observers are of abolishing malaria from the West Coast of Africa by the extermination of the insect generally believed to play an essential part in its spread, and we may say that many people have grave doubt whether practical measures can be devised to prevent the breeding

of the mischievous mosquito. But he lays stress on the fact that there are many healthy plateaux in the country where the lovely climate and excellent soil promise much to the settlers. The gist of his advice is that suitable sites should be chosen by future colonists before they squat.

The Cinematograph as Clinical Instructor.—At the last meeting of the British Gynecological Society Dr. E. Doyen, of Paris, gave a demonstration lecture of gynecologic operation by means of the cinematograph. Fourteen slides, among others, were shown explaining the steps in an ovariotomy and the working of the lecturer's lever clamp-forceps and twenty-four slides illustrative of his methods of abdominal hysterectomy. The demonstration was considered by many of those present to show that the value of the cinematograph, by exhibiting to hundreds a procedure which, in an operating theatre only half a dozen people can see properly, may become very great in the teaching of operative surgery.

The late Surgeon-Major Grant, who has recently died in London at the advanced age of 82, was a distinguished man, whose public services were not destined to meet with much recognition. He entered the Bengal Medical Service in 1840, served with the 55th Foot during the Chinese War of 1841, and after having been officially thanked for the services during the campaign, was appointed Surgeon to the Governor-General of India. During the Indian Mutiny he was Apothecary-General, and in that capacity he rendered such valuable assistance to the army in the administration of medical stores that he received the thanks both of the Indian Government and of the Secretary of State. In 1861, after twenty years' hard work, he retired from the Bengal Medical service, when he was appointed Honorary Surgeon to the Queen. Had a soldier or a politician done one-half what was done for the country by this able, modest medical man, he would have been a mass of titles and medals.

The Late Sir James Paget's Joke.—Sir James Paget, a most dignified and serious man, was not without a sense of the ridiculous, as is shown by the following story, which happened, we believe, to be true as well as funny. Sir James was an extraordinarily fluent speaker, one of those men who are able to visualize a whole sentence before uttering it, so that when they open their mouths out it drops complete and neat, with every word in the right place, every digression properly returned from, and every adjective apposite. He was one day present at a discussion by the medical staff of a hospital upon the unfortunate operative procedure of a colleague, and somebody expressed a hope that the discreditable story would not find its way into *The Lancet*, not at that time well disposed towards the London hospitals. Just then *The Lancet* of the morning's issue was brought into the room, when Sir James opened it and read to the horror-stricken group a pungent report of the episode in which no one connected with the accident was spared. When he put down the paper, and the unscrupulousness of the writer had been thoroughly denounced, some one picked it up with the intention of referring to the article again. He could not find it, nor could any one else; Sir James Paget had extemporized the article.

The Public Health of Great Britain during the first week of the new year was remarkably bad. On all sides the rate of mortality was high and the general average of health low. The weekly returns of the Registrar General which was published on January 9, showed that the deaths registered during the first week of 1900 corresponded to an annual death-rate of over 30 per 1,000 of the population. T best way to demonstrate the significance of this figure is compare it with the death-rate of Great Britain in Dece ber. At the beginning of December the figure was 1 by the third week of the month it had only reached 2 and by the end of that week, *i. e.*, by December 22, it was a week later it was 27, and by January 9 it was 30.9. T is in the course of 6 weeks the death-rate rose to 63%; a the cities which came out worse statistically are Lond Brighton—popularly reputed to be the healthiest town England—Preston, Nottingham and Croydon. At Brigh the death-rate rose during the 6 weeks from 22.9 to 4 and in London it rose from 19.4 to 37.1, both rises be practically equivalent to 100%. The responsible factor these serious increases in the figures of mortality have b diseases of the respiratory organs, bronchitis, and pn monia—very generally following upon influenza—hav been particularly fatal.

The Medical and Nursing Arrangements of t South African War.—"As you have before allowed to write in your columns," says a frequent corresponde "the medical and nursing arrangements at the seat of w now raging in South Africa give absolute satisfaction. I struggle that has so far not been followed by any substan British success (to put the case, as a good Britisher should civilly as is possible for his sorely-tried countrymen) the branch of the service that has 'come out on top,' is Royal Army Medical Corps. Their organization has b capital, their surgical skill has been followed by excellent sults, and the individual bravery of the medical men received the praise of commanding officers with ev column of the scattered forces. The work of the Red C Society has been an invaluable auxiliary to that of the m cal corps. In its care of the sick and wounded it has no this campaign commenced its labors where the medi corps ceased from theirs, but has throughout acted as a v able adjunct, while the sick and wounded are still under l pital treatment. It has also formed a center for the org zation of private effort, the splendid field-hospitals pla at the disposal of the Government by the patriotic genero of Lord Iveagh and others, looking to the Red Cross Soci for such instructions as to how their services may be use The following private hospitals have proceeded, or are p ceeding, to the war: Lord Iveagh's Irish Hospital; Sir Ja Sieright's Hospital; the Portland Hospital; Dr. Hor Mander's Flying Hospital; a Yeomanry Hospital; and Langman Hospital, whose director is Dr. Conan Doyle, the w known novelist. It may seem singular that all the after-c and much of the immediate-care of the sick and wounde war should be unprovided for by the Government and le the benevolence of individual donors, but this plan is not culiar to Great Britain, nor is it as haphazard as it sou In all countries there exist always a ready response to needs of the men who are suffering for the fatherland; there is not a civilized government in the world that d not feel that in times of need those of the citizens whose age, or position in life precludes them from giving pers assistance, will readily help with funds and home-labor.

CONTINENTAL EUROPE.

The Disinfection of Telephones in Paris.—cording to the *Lancet*, the Under-Secretary of State, is responsible for the posts and telegraphs, has, with a v to avoid transmission of infectious diseases, just made order that the receivers and transmitters of all public

phones shall be disinfected daily by being washed with a strong solution of carbolic acid. This concession to the principles of hygiene has been received with a certain amount of scepticism by medical men. The idea, they say, is excellent, but they take exception to the choice of a disinfectant, for carbolic acid has an abominable smell and is of very feeble microbicidal power.

Obituary.—DR. T. BONNICI, professor of surgery in the Royal Malta University, December 11, aged 43 years.—DR. J. PAETSCHM, professor in the Berlin Dental Institute.—DR. JOHANN MITAVSKY, a distinguished ophthalmologist in the Bohemian University of Prague, aged 38 years.—DR. LODOVICO BRUNETTI, emeritus professor of pathologic anatomy in the University of Padua, December 7, aged 86 years.

University Appointments.—BERLIN: Dr. Gustav Fritsch, extraordinary professor of microscopic anatomy and director of the division for histology in the Physiologic Institute has been appointed honorary ordinary professor.—BRESLAU: Dr. Arthur Gronouw has been appointed professor of ophthalmology.—BASLE: Dr. L. G. Courvoisier, extraordinary professor of surgery and Dr. Karl Mellinger, extraordinary professor of ophthalmology, have been appointed ordinary professors.—DORPAT: Dr. Muratow has been appointed ordinary professor of obstetrics and gynecology.—GRAZ: Dr. J. Habermann has been appointed ordinary professor of otology.—COPENHAGEN: Dr. Rovsing has been appointed professor of surgery.

Société de Chirurgie de Paris.—On Wednesday, January 3, 1900, the regular meeting night, the society did not meet; the second time in over 50 years that the surgeons have missed a meeting. The first time they did not meet was upon May 24, 1871, as all the surgeons were attending to the wounded. The cause this week was the moving of the society from the ancient Abbey of St. Germain-des-Prés, which they have occupied since 1852, to their new "hotel," No. 12 Rue de Seine. The society, formed in 1843, used to meet at the Hôtel de Ville, which was burned in 1843. They then moved, temporarily, to the Ecole Pratique, part of the Medical School; soon, in 1848, moving over to the Société Philomatique, in the Rue d'Anjou-Dauphine, where they remained the four years before occupying the Abbey they have just vacated for their fine new home.

The Sale of Impure Ice in Paris.—According to the *Lancet* the Prefect of Police is acting on the advice of the Council of Hygiene. The attention of the council was drawn to the sale of impure ice by the occurrence, especially in summer time, of various gastrointestinal affections, sometimes of an epidemic nature. These affections appeared to be due to the use of either natural ice collected from impure sources or of artificial ice made from dirty water. The Prefect of Police has decided that in the future ice-sellers must stock and sell ice as being of two definitely distinct kinds. These must be distinguished by being ticketed as ice for eating purposes and ice for industrial purposes, and the former must be obtained from spring or sterilized water. In no case is the latter kind, which is not intended for internal consumption, to be substituted for the former under pain of a very heavy penalty.

Prizes of the Académie de Médecine.—At the annual jubilee meeting of the Académie de Médecine on December 12, according to the *British Medical Journal*, the award of the prizes, offered for the year, was made known. The following are some of the principal awards: The Academy Prize ($200) for an essay on the physiology and pathology of the thyroid gland was divided between MM. Gacnier, Enriquez, and Lamy, of Paris. The Argenteuil Prize ($1,360, sexennial) was divided in varying proportions between MM. Bazy and Chailloux, of Paris, and Escat, of Marseilles (Castration in Hypertrophy of the Prostate); Professors Poncel and Delore, of Lyons (Treatise on Suprapubic Cystotomy in Prostatics); MM. Wassermann and Halle, of Paris (Contribution to the Pathologic Anatomy of Urethral Strictures), and several others. The Barbier Prize ($460) was divided among several candidates, M. P. L. Simond, Director of the Bacteriologic Laboratory at Saigon, receiving $300 of it for an essay (The Propagation of the Plague). The Laborie Prize ($1,000) was divided between MM. Delagénière, of Mans (The Surgery of the Uterus); Jeannel, of Toulouse (The Surgery of the Intestine), Cestan, of Toulouse (The Therapeusis of Empyema), who were awarded $300 each, the balance being distributed in smaller sums among other candidates. The François Joseph Audiffred Prize ($4,800), Meynot ($520), Amussat ($200), and several other prizes were not awarded.

Milton's Blindness Resulted from Glaucoma.—According to the *West London Medical Journal*, Milton was induced by a friend to write out in full the details of his case, in order that the notes might be sent to a Parisian oculist, named Thevenot, for his judgment and advice, and the following is an abridged account of Milton's communication: "It is now, I think, about ten years since I first perceived my sight to grow weak and dim. When I used to sit down to read as usual in the mornings, my eyes gave me considerable pain. If I looked at a candle, it appeared surrounded by an iris. In a little time, a darkness, covering the left side of the left eye (which was partially clouded some years before the other) intercepted the view of all things in that direction. Objects, also, in front seemed to dwindle in size whenever I closed my right eye. Before I wholly lost my sight, as soon as I lay down in bed and turned on either side, brilliant flashes of light used to issue from my closed eyes; and afterwards, on the gradual failure of my powers of vision, colors, proportionately dim and faint, seemed to rush out with a degree of vehemence and a kind of noise. These have now faded into uniform blackness, such as ensues on the extinction of a candle. The constant darkness, however, in which I live day and night, inclines more to a whitish than a blackish tinge, and the eyes turning round admit, as through a narrow chink, a very small portion of light."

The Conservative Treatment of Coxitis and its Results, Particularly the Conservative Treatment with Portable Apparatus. — Romanus Binder (*Zeitschrift für Orthopädische Chirurgie*, 1899, vii, 276-297) says that although the mortality attending the conservative and operative methods of treating hip-joint disease are about the same, the functional results obtained by the conservative plan are far the better. Contracture is the chief bad result which follows conservative treatment, but in properly treated cases this can be greatly minimized. First the patient must be treated from the very beginning of the disease, and then proper mechanical procedures will greatly hinder its ravages, and often effect a cure. When, however, contractures are present with complete ankylosis, only an operation will do any good. The advantage which a portable brace, with which the patient can get around, has over the ordinary extension method, is the fact that the patient can keep in better health, and is therefore better able to resist the disease-process. [G.B.W.]

The Latest Literature.

British Medical Journal.

January 6, 1900. [No. 2036.]

1. A Clinical Lecture on Minor Epilepsy. WILLIAM GOWERS.
2. Two Clinical Lectures on Retention of Menstrual Blood from Atresia of the Vagina, with some Preliminary Remarks on the Indications for Local Examination in the Disorders of Menstruation. CHARLES J. CULLINGWORTH.
3. An Address on the Political Aspects of Current Medical Topics. R. FARQUHARSON.
4. Observations on General Metabolism and the Blood in Gout. CHALMERS WATSON.
5. The Unimportance of the Presence of a Trace of Albumen or Nucleoalbumen in Urines of Extremely Low Specific Gravity. F. PARKER WEBER.
6. An Improved Prostatic Catheter. JOHN WARD COUSINS.
7. Injuries Produced by a 6-pound Hotchkiss Shell. J. R. DODD.
8. Primary Nephrectomy for Rupture of Kidney. WILLIAM RODGERS.
9. A Case of Sodium-Salicylate Poisoning. H. HILTON HEFFERNAN.
10. Salol in Smallpox. CHARLES BEGG.
11. Treatment of Molluscum Contagiosum with Sodium Ethylate. THOMAS F. RAVEN.
12. Scarlet Fever without Eruption. H. WARD IRVINE.
13. A Case of Acquired Syphilis in a Child; Hunterian Chancer of Eyelid. C. HAMILTON WHITEFORD.
14. Dislocation of the Radiocarpal Joint. GUY J. BRANSON.
15. Case of Double General Empyema in a Child; Operation. C. A. MORTON.
16. Elephantiasis of Leg; Amputation; Recovery. F. B. ARCHER.

1.—Gowers says that in the most **typical form of minor epilepsy** loss of consciousness is the only symptom. This loss of consciousness often occurs without the patient being in the least aware of it, and it may or may not be attended by muscular relaxation; it often is, in which event the patient falls. In some instances the patient when talking will suddenly stop for a moment and then go on with the sentence he was uttering. Sometimes anything he may be holding in his hand is dropped. In such cases the loss of consciousness is sudden and too brief for more than a moment's interruption of what is being done. More frequently the loss is more deliberate in its occurrence so that the patient is conscious of some sensation attending it. In these extremely brief attacks there is no change in the aspect of the patient, none at least in the color of the face or in the pupils at the moment of unconsciousness. When pallor occurs it is while the attack is passing off and not at its onset, and the pallor of the face must therefore be regarded as a consequence and not as a cause of the cerebral discharge. In addition to the fall, involuntary micturition is a symptom of very great diagnostic importance. It occurs with loss of consciousness almost too brief to be noticed. It is more common in females than males, and sometimes seems to relieve the cerebral tension. An attack of true minor epilepsy may occur without actual loss of consciousness. There is usually, however, some obscuration of consciousness which may have various forms. One of the most frequent is a sensation of strangeness. The various sensations which accompany these attacks are numerous. If the attacks are severe the sensations attending them are sometimes the same as those which precede the major seizures. It is important to bear in mind that neither the patient nor the patient's friends in a large number of cases have any idea of the connection bebetween the slight attacks and the severe attacks. The only way of gaining information regarding them is by putting leading questions relating to the chief form which these attacks assume and the chief sensations by which they have impressed themselves on the consciousness of the patient. One of the most common sensations of the minor attack is vertigo. It may be either subjective or objective, and it always involves some impairment of consciousness. Sometimes when subjective it proceeds to actual movement. It is generally a motor sensation due to activity of the motor center and the patient may always fall in the direction in which h seems to be turning. Sometimes this motor activity ma induce actual rotation. Another curious sensation is dreamy feeling. It may occur with or without imperfec recognition of surroundings, but it always involves some de gree of obscuration of consciousness. Loss of sight ma sometimes occur; sudden inhibition of the visual center, o there may be a sensory discharge and visual sensation. flash of light may pass across the sight; colors or stars ma be seen. Auditory sensations are not uncommon and usu ally occur in cases in which they constitute the warning of severe attack. The gustatory sensation rarely attends a mino attack; an olfactory aura is much more frequent; general sen sations are common. Emotional states occasionally occur. Th lowest form of minor attack is a sudden start, a sudden jerk of the limbs without interference with consciousness. Th jerk is always symmetrical and its relation to epilepsy i shown by the fact that such jerks frequently occur a fe days or hours before a severe attack or for a few day after one. Such starts may be accompanied by momen tary unconsciousness. A more elaborate process accom panying minor attacks is an ordered movement. A con verse state of the motor system is a sudden muscular relaxa tion. Many patients have various forms of warning. Mo mentary loss of consciousness, brief vertigo and a sudden sense of strangeness may all occur in the same patient. A very important relation of minor attacks is the peculiar con dition in which they frequently leave the patient. Norma consciousness is often regained slowly. The patient fo a minute or two is in a somewhat dazed condition Many and curious are the accidents which occur i this condition. This state may last for a considerable time after an attack and the action performed dur ing them is sometimes most elaborate. On the other hand the patient may pass into a state of most unelaborate actio that can be conceived, namely, that of hysterical convulsion Such cases are commonly mistaken for simple hysteria, bu simple hysteria does not recur during a long course of time as do the attacks of hysteroid convulsions, which are post epileptic. This automatic action may assume the form o some act of violence, sometimes, indeed, the condition o epileptic mania. Vomiting may follow slight attacks, but it i not so common as a sense of nausea. One should always im press on the friends of the patient, who vomits after a fit, the importance of laying him on his side or in a half-prone position. Another postepileptic accident for the lesser attacks is that of turning on the face. It is a half-hysterica condition and is attended with danger of suffocation. The diagnosis of minor attacks depends on the suddenness o their onset, their brief duration and their occurence apart from obvious exciting causes. They are sometimes difficult of distinction from some forms of vertigo in which an attack comes on suddenly, accompanied by a distressing sensation in the head and sometimes actual loss of consciousness. Here, however, we have always the evidence of pro longed, continuous disturbance of the auditory nerve, persistent tinnitus and some deafness. Vertigo usually continues after the severe attack is over and ceases gradually. The effect of bromids in the treatment of minor epilepsy is much less constant than in the severe form. Zinc oxid in doses from 3 to 10 grains sometimes does good where bromid fails. Borax is of little value in the minor attacks. Nitroglycerin, the hyoscin hydrochlorid, belladonna and India hemp are sometimes useful. Strychnia is occasionally useful especially when given with nitroglycerin. Perseverance in effort and persistence in treatment long after the attacks have entirely ceased is above all things necessary. When treatment is discontinued it should be done gradually. [S.M.H.]

2.—Cullingworth, in treating of menstrual disorders, claims that **dysmenorrhea** rarely justifies a **local examination**; but that in menorrhea or metrorrhagia a prompt investigation of the cause of hemorrhage should be the rule, as it is almost always due to some local lesion. In amenorrhea, the necessity for vaginal examination is much less. Arrested menstruation, aside from pregnancy, is usually due to disturbance of the general health, and a local examination is not required unless the symptoms are clearly referable to the pelvic viscera. In delayed menstruation a vaginal examination is to be avoided unless an imperforate hymen,

resia of the vagina, or of the cervix is indicated by such mptoms as periodical pains around the pelvis and the resence of a swelling in the lower part of the abdomen, hen such examination becomes imperative. Cullingworth ports an instance of this kind in a girl aged 14. In her se there were no molimnia, but the appearance of a cylinrical fluctuating tumor rising from the pelvis to the umbilus, 5½ inches. When an incision was made in the occluding membrane, 31 fluid ounces of a dark-brown viscid fluid as discharged. The swelling was caused by an enormous istention of the vagina reaching almost to the umbilicus, the terus not being swollen but simply pushed up by the agina. Instead of using an antiseptic douche to cleanse he vagina he prefers the use of absorbent pads; and the resence of any rise of temperature in the case reported, roves that the asepsis obtained by this means was complete. W K.]

4.—Watson has made some observations on **general metabolism and the blood in gout,** directing special ttention, (1) to the general metabolism during the attack nd in the interval as evidenced by the total daily excretion f nitrogen in the form of urea and uric acid and phosphorus in the form of P_2O_5; (2) a comparison of the ratios f the figures obtained; (3) the influence of the diet and lrugs in use on the daily excretion of uric acid, etc.; (4) the tudy of the blood as revealed by microscopic examination, he enumeration of white blood-corpuscles and by stained ilms. He discovered that there is a very marked diminion in the excretion of P_2O_5 during the first three days of he attack followed by an equally marked increase, the ormer period furnishing the lower figure, the latter the ighest of the whole series. During the acute attack the atios of P_2O_5 to the urea and the uric acid differed very narkedly from the ratios in previous periods. These figures eem to indicate that there is a retention of P_2O_5 in the body r some alteration in metabolism leading to its diminished roduction. The increase of uric-acid excretion was very marked and increasingly so during the first three days of the attack. The ratio of uric acid to urea was normal. The total nitrogen was increased during the early period of the attacks but very much more so during the latter period, the patient being then on a less nitrogenous diet and there being no proportionate increase in the excretion of uric acid. After the acute attack there was noted (1) a marked diminution in the excretion of uric acid compared with the first 3 days of the attack while the total nitrogen was markedly increased; (2) the ratio of uric acid to urea became 1 to 59 instead of 1 to 39 during the attack; (3) a decided rise in P_2O_5 excretion which was almost twice as great as in the previous period. The point of greatest interest was the presence of myelocytes in the blood, both in the interval and during the attack, but very especially in the latter. He suggests the possibility of there being a close connection between the alteration in the P_2O_5 excretion and the presence of the myelocytes. The main points shown in the observations made during certain periods preceding the attack were during the administration of nucleins in the form of sweetbreads: (1) No increase in the nitrogen excretion but a slight diminution; (3) slight increase in the excretion of P_2O_5. These points with the observations of other observers are of interest in connection with the effect of nucleins in varying conditions. After the nuclein period there was noted a slight fall in the excretion of nitrogen and of uric acid, the P_2O_5 remaining the same as before the sweetbreads were administered. During the next period the drugs potassium iodid and soda salicylate which had been given were withdrawn, and there was noted (1) an immediate and pronounced rise in the excretion of uric acid; (2) a resulting alteration in the uric acid and urea ratio, this becoming practically and for the first time normal; (3) that the total nitrogen was not increased, but rather the reverse, the P_2O_5 being practically unaltered. In contrasting the periods after the withdrawal of the nuclein, in one of which drugs were given and the other discontinued, it was noticed that, whereas the uric acid and urea ratio was the same, the uric acid and P_2O_5 shows a striking alteration, which would seem to indicate that the cause of the attack must be sought in some other direction than that of uric acid to uric ratio. From these observations, the following points seem to be established: (1) the alkalinity of the blood is not diminished during the attack; (2) excretion of uric acid is not diminished during the attack, but the reverse; there is, therefore, no ground for the supposition that there is temporary diminution in the capability of the kidneys to excrete uric acid; (3) the amount of uric acid in the blood is not greater during the attack than during the intervening period, and if these points be accepted, the cause of the acute paroxysm is yet to be demonstrated. He recommends that much less attention be centered on the excretion of uric acid alone as the all-important factor in the disease, and recommends the advisability of more attention being devoted to the histochemical characters of the blood, the ratio of uric acid to other important products of metabolism, and, if opportunity be afforded, examination of the bone-marrow. [S.M.H.]

5.—Weber believes that no conclusion of value for diagnostic purposes can be drawn from the detection of a very faint trace of albumin in urines of very low specific gravity voided by healthy individuals under certain conditions. [S.M.H.]

6.—Dodd reports a case of injury from a 6-pounder quick-firing Hotchkiss shell. The man was badly mutilated, and there was a perforated wound of the abdomen and intestines from which a fragment of shell was taken. He died 8½ hours after the accident from shock. [G.B.W.]

7.—The patient, a girl 15 years of age fell striking her side against a sleeper of an unfinished jetty. About 20 hours after the accident a ruptured kidney was removed through the lumbar incision. The patient died the following day. [G.B.W.]

9.—Hefferman had under his care a laboring man who took 130 grains of **soda salicylate** at a single dose. He complained primarily of palpitation and full feeling in the head, tinnitus, and after some hours active delirium with visual hallucinations and aural illusions; restlessness was very marked; he was inclined to be violent; his face was flushed; his skin perspiring, and his pupils dilated and fixed. There was a morbiliform eruption, chiefly over the chest and back, and to some extent over the arms and legs. There was no vomiting; the reflexes were increased; the temperature was normal; the pulse and respirations accelerated; micturition was frequent; the urine was very acid with a specific gravity of 1018; it contained neither albumin or sugar; he had great thirst. His condition gradually improved. He was sleepless for several nights, but on the fourth day fell into a deep sleep which lasted for 12 hours, and on awakening he seemed to be in his normal state of health. [S.M.H.]

10.—Begg has found **salol of great value in small-pox.** It absolutely abolishes all sense of irritation and desire to scratch and prevents the stage of maturation. One confluent case which was treated by this method showed only two vesicles in which suppuration occurred; all the others aborted. The dose ordinarily given was 15 grains every four hours. No bad effects followed the long-continued use of the drug. [S.M.H]

11.—Raven has found the application of sodium ethylate thoroughly satisfactory in the treatment of molluscum contagiosum. [S.M.H.]

12.—Irvine observed a girl, aged 18 years, who passed through an attack of scarlatina without the development of eruption. [S.M.H.]

13.—The cause of infection in this case of **chancre on the eyelid of a child** was due to the mother, who had been infected by her husband, moistening the child's eye with her sputum when, because of a blepharitis, they became adherent during sleep. [G.B.W.]

14.—The cause of the dislocation of the radiocarpal joint in this case was a fall which the patient broke with his pronated left hand. [G.B.W.]

15.—The child, aged 6 years, was admitted to the hospital with a **double empyema.** After several aspirations the patient's condition so improved that operation was thought best, and drainage through an incision in the fifth interspace was established on the right side. Three more aspirations of the left side were done and 14 days after the right pleura was opened, drainage on the left was established. After this operation the patient gradually improved until absolute health was reached. [G.B.W.]

16.—The leg in this case mensured 45 inches in circumference, and weighed after amputation 68 pounds. [G.B.W.]

Lancet.

January 6, 1900. [No. 3984.]

1. On Acidity. JAMES F. GOODHART.
2. Internal Derangements of the Knee-joint (popularly called "Slipped Cartilage"), Based upon a Series of 200 Cases. WILLIAM H. BENNETT.
3. The Histology and Prevention of Blackwater Fever. W. H. CROSSE.
4. The So-called Danger from the Use of Boric Acid in Preserved Foods. OSCAR LIEBREICH.
5. Three Cases, in which Moveable Kidney Produced all the Symptoms of Gallstones. T. J. MACLAGAN and FREDERICK TREVES.
6. A Case of Hemorrhagic Ascites. THEODORE FISHER.
7. A Case of Multilocular Cystic Epithelial Tumor of the Jaw; Excision of Half the Lower Jaw; Recovery. G. P. NEWBOLT.
8. An Unusual Case of Embolism in the Fundus Oculi. H. WRIGHT THOMSON.
9. Report on "Henpuye" in the Gold Coast Colony. ALBERT J. CHALMERS.
10. The Differential Diagnosis of Mongolism and Cretinism in Infancy. G. A. SUTHERLAND.
11. Bullet-wound in the Head; Removal of the Bullet from the Nose 20 Months Afterwards. CLAUD WOAKES.
12. Case of Impacted Extrascapular Fracture of the Neck of the Femur. H. E. BELCHER.
13. The Orchitis of Mumps. CLEMENT DUKES.
14. A Boy's Ear Bitten Off by a Horse. JOHN MUNRO MOIR.
15. A Case of Suppression of Urine Associated with a Single Kidney. D'AREY POWER.
16. A Case of Suprapubic Lithotomy; Removal of Two Vesical Calculi; Recovery. T. VINCENT JACKSON.

1.—Goodhart communicates an article on **acidity,** referring especially, as he expresses it, to **uric-acid acidity.** He summarizes his remarks in the following words: "My contention is that uric acid is a common product that may well be considered as the ash resulting from the workings of our many-chambered kiln, and that the fault lies, not in the ash, or even in the coal from which it is produced, but in the driver; or in the driving-power that should regulate the process of combustion. The uric-acid passer presents a problem to be unravelled, and each case a problem, more or less distinct from every other. In one case the cause may be the visceral sluggishness; that is, the common outcome of nervous exhaustion; in another, the hereditary condition, whatever it may be, that determines gout, and which certainly works out its mission, independently of any dietetic indiscretions. In another, it may be a great or sudden shock, or great anxiety; an exhausting attack of illness in another; some early defect of the kidney in another case. Perhaps, all that can be said is, that it appears to be the first indication of the growing old and of the failure of the organism to accommodate itself sufficiently rapidly to the various changes of its environment. While all these things are wanting in precision and tangibility, they are nonetheless the causes of all disease." He expresses the belief that, had it not been for our eagerness to get hold of something to treat, the uric-acid theory, that is dominant at the present day, would never have become the fetich that it has. One of the weaknesses of the medical profession is that it inclines to do too much, and in so doing overtreats disease. The self-righting power of the human body indicates that it should be let alone, and "given a little time, rest, freedom, and fresh air." The ordinary dietetic treatment of the uric-acid passer, in the great majority of cases, is worse than useless. Each case requires a diet of its own. It matters not what the diet may be, even to the extent of excluding all uric-acid-forming foods, these patients will still continue to void uric acid. In consequence of this fact, it is advisable not to restrict these patients to a limited monotonous diet, which of itself is sufficient to sicken a healthy individual, but to be liberal at all times, allowing indulgence in almost any class of foods, but ever endeavoring to ascertain what foods are especially adapted to the individual case. The use of large quantities of water is of great value in these cases. Free water-drinking performs an even more difficult task than that of flushing out sand from the urinary passages, in that it softens and disintegrates small calculi. [S.M.H.]

2.—Bennett has made a careful study of 200 consecutiv cases of **internal derangements of the kneejoint** sometimes called displaced semilunar cartilage or subluxa tion. Males are affected in 182 cases; the ages varied fro 13 to 62; the left knee and inner side were more frequentl affected. With the exception of 20 cases, too far advanced all were treated at first by temporary rest, massage, and ex ercise; of these, 112 were cured: 83 without apparatus, an 39 with the use of temporary support. In the 27 cases i which operation was performed, the semilunar cartilage wa at fault in 15; in the remaining 12 the causes were smal pedunculated bodies, or abnormal folds of synovial mem brane. The symptoms are usually sudden pain, with the sen sation of something having slipped out of place. Complet fixation or limitation of the power of extension followed b effusion and tenderness. These symptoms may occur spon taneously, or result from violence. Relief may be sponta neous, or may be effected by manipulation. The cause vary; displacement of the semilunar cartilage; nipping o folds of synovial membranes; loose or pedunculated bodies and bruising of the peripheral edge of a cartilage without dis placement. Treatment by temporary rest, massage, and ex ercise is advocated for the majority of cases. After reductio complete rest by fixation of the joint on a light splint for a week or two is recommended. Hot lead-water and laudanum is continually applied, and the limb is subjected to thorough daily massage to get rid of the effusion in the kneejoint. After the effusion disappears, passive motion is commenced care being taken that no rotary motion is allowed. At the end of a fortnight, pedal exercise may be freely used, and the massage is continued; ordinary walking exercise is begun at the end of 3 weeks. The importance of restoring proper tone and tension to the capsule of the kneejoint and the muscles is urged. The wasting of the muscle connected with the iliotibial band is a factor of importance not usually recognized. Apparatus and support should not be employed, unless unavoidable, and in cases in which rational treatment can be carried out, or fails to restore the normal tension of the knee-capsule, or if there is recurrence of displacement. Knee-caps, either elastic or nonelastic, should be avoided, as they tend to produce wasting of the thigh-muscles. The apparatus is designed to prevent rotation of the leg at the knee, and pads and trusses are usually useless. Operative treatment is advised only in such cases as the nonoperative measures have failed, and in case there is general flaccidity of the joint, as shown by an abnormal amount of lateral movement in excess of other symptoms. The operative treatment consists in removal of the cartilage, or in its fixation by sutures. Bennett believes that success depends more upon the management before and after, than upon any special method of operating. The patient should be kept in bed a week prior to operation, with daily massage to remove joint-effusion. It is considered unjustifiable to operate in any case in which there is fluid in the joint. Operation is attended with but slight risk. [M.B.T.]

3.—Crosse finds nothing in the **histology of blackwater fever** that cannot be found in the tissues of patients who have had several attacks of malaria. He considers this disease an intoxication, of malarial origin. The precautions necessary for its prevention, are: (1) those necessary for the prevention of malaria, and (2) those necessary for the prevention of blackwater fever in malarial subjects. The first is accomplished by taking every precaution against being bitten by mosquitoes, and by the daily administration of 5-grain doses of quinin. The second is accomplished by the care of the general health, and by a return to a nonmalarial climate. [S M.H.]

4.—Liebreich criticises an article, recently communicated to the *Lancet*, and abstracted by Dr. Annett, and previously abstracted in THE PHILADELPHIA MEDICAL JOURNAL, in which he endeavors to show that Dr. Annett failed to prove by his experiments small quantities of boric acid, if used for a long time, are poisonous for men and children. [S.M.H.]

5.—Three cases are reported, in which all the **symptoms of gallstone** were present, but at the operation no stones were found in the gallbladder. The symptoms were produced by pressure on the bile-ducts by a displaced **movable right kidney,** and, after the kidney was fixed by n phropexy, a good recovery followed, with no return of the pain or other symptoms. [M.B.T.]

6.—Fisher had under his care a woman, aged 38 years,

who after being out-of-doors one evening felt chilly. She had suffered from a similar attack for some time past. Two or three days following this attack she noticed some swelling of the abdomen. Pain in the abdomen quickly followed and she vomited occasionally. Her bowels were constipated. She came under notice four weeks after the onset of the symptoms when the abdomen was found greatly distended. There was general tenderness; a greater part of the abdomen was resonant, but shifting dulness extended in the flanks. The urine contained neither albumin nor sugar. Two days after admission 4 stools were passed, each containing blood and mucus. The patient died suddenly on the fourth day after admission in a severe attack of abdominal pain. The case was considered **hemorrhagic ascites.** At the necropsy the peritoneal cavity was found to contain about 12 pints of deeply bloodstained fluid. The small intestine from the duodenum downwards was intensely congested and of a deep purplish color. The congestion of the ascending color was less marked and there was none in the remainder of the large bowel. There were numerous petechia dotted over the peritoneal coat of the congested intestines and in places thin flakes of exudation were present. The veins of the mesentery were greatly distended and full of bloodclot, none of which appeared to be antemortem. The veins running over the surface of the stomach were similarly distended and bloodclot. The portal vein was about double its normal size and full of blackish purple clot. The divisions of the portal vein throughout the liver were also greatly distended. The hepatic veins were abnormally full but contained no antemortem thrombi. There was nothing abnormal in the inferior vena cava. The mucous membrane of the jejunum and ilium was intensely congested, and a large quantity of blood was mixed with the feces in their interior. The mucous membrane of the ascending colon was lëss congested. There was no antemortem thrombus in the mesenteric veins and arteries. The liver, beyond the distention of the veins described, showed nothing noteworthy. The spleen was enlarged and normally firm. Each pleural cavity contained 10 ounces of clear fluid. There was a very large congested lymphatic gland, the size of a small hen's egg, situated below the bifurcation of the trachea. Cultures from the spleen and from the enlarged lymphatic gland showed the B. coli communis. The congestion of the intestines followed closely the distribution of the superior mesenteric vein but there was no thrombosis of that vein. Extensive thrombosis of the small division of the portal vein would in a great measure explain the congestion of the small intestine and the ascites. This, however, whether limited or widespread, must have been merely one of the morbid evidences of more abstruse pathologic factors. The history given by the patient suggests some acute or subacute infection, and it is reasonable to suppose that if such infection were present it took place by the alimentary canal through some article of food. [S.M.H.]

7.—A woman, 66 years old, had a **cystic tumor** of the **lower jaw** which has been growing for 20 years. The cysts were laid open and gouged out freely, but about 5 months later there was return and decided increase in the size of the tumor. Resection of the left half of the jaw was performed and was followed by an excellent recovery. The tumor was a multilocular cystic epithelial growth. [M.B.T.]

9.—**Henpuye or dog nose** is a disease which Chalmers states is frequently met on the gold coast of Africa. In the nasal mucous membrane are first developed small bony swellings, symmetrically placed on each side of the nose; they are produced by the deposition of new bone under the periosteum. Pain, with the presence of a sore, are the first symptoms; later, headache develops, and as the growth becomes larger it interferes with vision by growing upward in front of the eyes; the skin is freely movable over the tumor. Growth may cease at any time or may continue for years; the disease is more common in men, and is said to occur in the West Indies as well as along the West Coast of Africa. It has been attributed to the larva of some insect, but Chalmers has never seen evidence to support this idea; on the other hand there is always the history of an attack of yaws, the tumor starting during the illness. The condition is considered a localized osteoplastic periostitis. The periosteum strips very readily, and under it is a thin shell of compact bone; the remainder of the tumors is of cancellous tissue. Chalmers has not been successful in reducing this swelling by the use of the potassium iodid. He advises incision in the long axis of the tumor; the skin is freed, exposing the base of the growth, and the swelling can usually be easily cut away with bone forceps and the Heys saw; bleeding is slight and easily controled, the wound is closed with continuous suture and healing follows readily. Six cases are reported; operation was performed in 3 cases with satisfactory result. [M.B.T.]

10.—Sutherland gives the following differential diagnosis between **mongolism and cretinism in infancy:** In cretinism the characteristic features are seldom present before the sixth month; in mongolism they are present at birth. Cretins are dull and passive infants, taking no notice of anything or any one. The face is expressionless; of a lower animal type; toadlike, and there is an absence of active movements. Mongols are smiling, grimacing infants; shy but observant, imitative and move active. In cretins the skin is swollen, dry and scaly. There are fatty deposits in the neck; the hair is coarse and scanty. In mongols these changes are absent. In the cretin there are no characteristic skull-changes. In the mongol the skull is flattened anteroposteriorly—brachycephalic. In the cretin the palpabral fissure appears small from swelling of the eyelids. The epicanthus is not present. In mongols the palpabral fissure is small and obliquely placed, without swelling of the lids and the epicanthus is marked. In cretins the tongue is very much swollen and protruding; in mongols the tongue is large, often protruding, but not swollen. In cretins the lips are thick, immobile and everted. In mongols the lips are mobile, pursed up and everted on movement or crying. In cretins congenital heart disease is rare; in mongols it is common. In cretins the relative size of the fingers is normal; in mongols the little finger is short and curved and the thumb is short. In cretins the thyroid gland is absent or atrophied: in mongols the thyroid gland is normal. In cretins marked benefit is received from the thyroid-gland treatment; in mongols there is no benefit. [S.M.H.]

11.—A case of gunshot wound is reported, in which the bullet entered over the left frontal eminence destroying the eye, the nasal wall of the antrum, and the anterior two-thirds of the inferior turbinated bone. The bullet was removed from the nose 20 months after the injury. [M.B.T.]

12.—A man of 26 was thrown from a horse sustaining an injury of the right leg. He had been accustomed to using alcohol to excess and was taken with violent delirium on the day after the injury and died 24 hours later. Postmortem examination showed an **impacted fracture** of the **neck of the femur** which was broken up only by using considerable force. [M.B.T.]

13.—Dukes does not consider the **orchitis of mumps** a metastasis, and he believes that it never arises before puberty. In a recent epidemic of 30 cases in the Rugby School 20% developed orchitis, although not one of the boys moved from his bed for any purpose for a period of 8 days. The days on which the orchitis showed itself were between the third and eighth. [S.M.H.]

15.—A man of 36 was admitted to the hospital, suffering from total suppression of urine. He stated that he had not passed half a cupful of urine during a week, and had never suffered from abdominal pain suggestive of renal colic, nor had his urine ever contained gravel, blood, or sediment. It was thought that the suppression arose from a calculus and incision was made in the right loin, exposing a small, contracted kidney. No stone was found, and the ureter seemed free from obstruction. Death followed the day after the operation. At the necropsy, the left kidney was found represented only by a small piece of fibrous tissue; there was neither renal artery nor vein. The pelvis of the kidney contained 4 small calculi. It was thought that death was caused by **calculus suppression of urine** due to irritation. [M.B.T.]

16.—**Suprapubic cystotomy** is reported in a boy of 8. Two calculi were removed, one of which projected into the vesical end of the urethra, the other was contained in a pouch. The bladder was sutured directly, and a soft catheter was passed through the urethra for drainage. Recovery was uneventful. Jackson does not believe that any one method is suited to all cases, but the method selected should depend upon the conditions which are met. [M.B.T.]

New York Medical Journal.

January 20, 1900. [Vol. lxxi, No. 3.]

1. On the Detection of Calculi in the Liver and Gallbladder. CARL BECK.
2. Chronic Abscess of the Frontal, Ethmoidal, and Sphenoidal Sinuses, followed by Meningitis and Death. J. H. BRYAN.
3. A Second Report on the Therapeutics of Heroin. MORRIS MANGES. (*Concluded.*)
4. Cholelithiasis. E. C. DAVIDSON.
5. Suppurative Ethmoiditis and Its Treatment. FRANK S. MILBURY.
6. Diarrhea. CHARLES O. MOLZ.
7. The Influence of School Life on Vision. PETER A. CALLAN.
8. Enucleations of the Eye. DAVID WEBSTER.

1.—Beck reports two cases in which he was able to get distinct outlines of **biliary calculi** in **radiographs;** several plates were used in each case. At first, four different plates were employed at the same time; in the fourth and remotest the outline of the liver was faint but the calculi were clearly represented. The next exposure was made with a quick penetrating focus-tube and lasted 10 minutes. Several other experiments of various periods from 6 to 9 minutes were made; the longer the time of exposure the clearer the liver and obscurer the calculi appeared. It is evident that one exposure is not sufficient to determine the length of time required by each individual tube for the representation of biliary calculi. Short, as well as long, exposures should be tried. In suspected cases the most powerful focus-tubes should be chosen, the patient should lie on the abdomen with pillows beneath the pelvis and clavicles causing protrusion of the region of the gallbladder and bringing the calculi to the plate. The rays should not penetrate the abdomen in a vertical direction but from the side at an angle of about 45 degrees with the plate. Beck finds that calculi consisting at pure cholesterin give an indistinct shadow; those containing considerable calcium are well appreciable. The diagnosis was confirmed in the cases reported by operation. [M.B.T.]

2.—A woman, 40 years of age, had suffered for a number of years from intense frontal neuralgia with profuse purulent discharge from the left nostril. Several polypi were removed with the snare, and the ethmoid bone was found in an advanced state of caries. Electric light showed the left frontal sinus opaque. On operating it was found filled with thick pus and granulation tissue; it was freely curreted and about one-half of the ethmoidal cells were removed, and the cavity was cleansed and packed with gauze. On the second day after the operation the patient's condition became worse, and death followed on the third day. The necropsy showed the cause of death to be acute **leptomeningitis** which probably arose from infection through the lymphatics. [M.B.T.]

3.—Manges continues his article on the **therapeutics of heroin.** In order to ascertain the general opinion of the profession regarding this drug he sent out letters to which 141 replies were received. Of these only 4 were outspoken against the drug; 50 were, in general terms, in favor of it; 82 represented a large experience of a varied kind. There were 340 cases treated. To these he adds 75 cases of his own, making a total of 416 cases. The percentage of failures in this list amounted to 21. In the relief of the cough of acute bronchitis it acted very promptly as a rule. In the cough of chronic bronchitis it acted favorably as a rule but the results were not constant. In patients in whom the bronchial secretion was diminished the drug was complained of. The results were fair in bronchiectasis. In acute pneumonia the results were very gratifying. In acute and chronic pulmonary phthisis few correspondents reported results which failed to show that heroin is distinctly superior to codein in most cases and to morphin in many. It does more than simply to allay the cough; it stimulates respiration, removes the oppressive sensation of dyspnea, promotes sleep, frequently lessens or prevents night-sweats, and at times reduces the evening rise of temperature. In pulmonary emphysema and bronchial asthma heroin is distinctly superior to any other drug thus far used. During the attack it should be used freely and preferably subcutaneously in the form of the hydrochlorid. Whooping cough has been benefited by the use of heroin. It has the advantage of giving relief in cardiac and renal asthma without causing too great general depression In diabetes mellitus the results have been satisfactory. In two cases it was successfully used in breaking off the morphin habit. The after-effects are less frequent and of milder degree than those from morphin or codein. [S.M.H.]

4.—Davidson discusses cholelithiasis in a thorough manner without adding anything specially new to the subject. He reports the case of a woman of 25 upon whom he operated, removing a gallstone which weighed 120 grains together with 8 smaller stones. A good recovery followed and the patient remains in perfect health. [S.M.H.]

6.—Molz communicates an article relating to the pathologic anatomy, etiology, symptomatology and treatment of diarrhea. [S.M.H.]

7.—Callan comments upon the increasing frequency of **eye-defects** among school children, especially of myopia and near-sightedness, which he attributes to too long hours and too little recreation. [S.M.H]

Medical Record.

January 20, 1900. [Vol. lvii, No. 3.]

1. Comparative Statistics in the Treatment of Appendicitis. EDWIN MARION COX.
2. Inversion of the Uncut Appendix. J. F. BALDWIN.
3. A Consideration of the Failure of Antitoxin in Operative Cases of Diphtheric Croup. J. EDWARD HERMAN.
4. A Common Case and Its Practical Suggestions. JOSEPHINE M. WETMORE.
5. Gynecology and Gynecologists in Europe. ABRAM BROTHERS.

2.—Baldwin has devised a method of **inversion of the appendix** which he says differs from that proposed by Edebohls. The appendix is freed from adhesions, the mesoappendix is ligated, divided, and the tissue constituting the mesoappendix are stripped off: the tip is then seized between the thumb and forefinger and inverted by pressing upon it with the blunt end of a patent-eyed needle. After the inversion is well started it is completed with a probe. After inversion a stitch or two is taken across the opening which is left. [M B.T.]

3.—Herman believes that all the evidence is entirely **against the antitoxin theory.** He presents statistics to show that the mortality of tracheotomy without antitoxin is less thsn 50%, and that such good results have never been obtained with the same operation when the patients, at the same time, received the antitoxin treatment. [M.B.T.]

5.—Brothers, in an interesting article, describes his experiences in visiting the **hospitals of Berlin, Paris, and London,** where he paid especial attention to the work of the famous gynecologists. Olshausen is a rapid operator, seldom resorts to drainage or to the flushing of the peritoneal cavity, and closes the abdominal incision with 3 or 4 rows of sutures, always using catgut. Landau he considered one of the best operators in the world. He uses Thumim's angiotribe instead of ligatures, and closes the wound with one row of silverwire sutures. He saw Duhrssen, a careful, painstaking operator, do a vaginal hysterectomy with the new ligature-material, "celluitzwirn." In Paris, at La Salpêtrière, he was present when Segond performed abdominal hysterectomy in 5 minutes. He operated on a table he himself had brought from New York, and is introducing the American method of abdominal hysterectomy. In London, Brothers saw many distinguished surgeons, but is certain there is less purely aseptic surgery there than in Berlin, Paris, or New York. In closing, he says that the American surgeon, especially the gynecologist and the abdominal surgeon, is forcing himself in a very emphatic manner upon the notice of his colleagues abroad, and gaining their respect and reverence. [W.K.]

Medical News.

January 20, 1900. [Vol. lxxvi, No. 3]

1. The Operative Treatment of Myopia of High Degree by the Removal of the Crystalline Lens. CHARLES STEDMAN BULL.
2. Gonorrhea; Its Dangers to Society. ALBERT NEISSER.

. A Visit to the Newest Psychopathic Hospital. FREDERICK PETERSON.
. Diuretics in Renal Dropsy: Their Indications and Uses. E. R. AXTELL.

1.—Bull says that the great danger in **myopia** is its progressive nature that it sometimes assumes in young patients, nd it is these progressive cases that most often call for peration, consisting in the removal of the lens. The dangers f the operation are intraocular hemorrhage, detachment of he retina, secondary glaucomatous symptoms and infection f the corneal wound. Contraindications to the operation re extensive degenerative changes in the region of the nacula lutra, detachment of the retina, membranous opacics in the vitreous, the loss of one eye, inflammatory opacity f the cornea, contagious conjunctivitis, advanced age of atient and a myopia of less than D. 12. The operation is ndicated when it is impossible to correct with glasses suffient for the needs of the patient; when there exists a progressive myopia, and when the myopia exceeds D 12. [G.B.W.]

2.—Neisser continues his article on the evil results of **gonorrhea.** These, he finds, in addition to the complications, are loss of time on the part of the population, and sterility. He is particularly pleased with the fact that the attention of the government and the medical profession is now being earnestly awakened to the seriousness of the disease. [J.S.]

3.—Peterson gives a history of his efforts in behalf of a **clinic for insanity,** urging the great importance of this subject for the medical student, and the total lack of facilities at present offered in America. In Germany such clinics are in active operation in connection with all but one of the universities. He gives a brief description of the psychiatric clinic in Giessen, which accommodates a few less than 100 patients, and has, in addition, laboratories in which careful studies are made, and demonstrations of all kinds are given. [J S.]

4.—Axtell believes that **dropsy** is an accumulation of watery fluid in the serous and lymphatic cavities of the body due to **deficient arrangement or alteration of the blood and capillaries.** It occurs in the majority of cases of acute nephritis, but is relatively rare in uncomplicated contracted kidney, and is due in this condition probably to heart-failure. As it is customary to employ diuretics for its relief, and as these have a very varying action, it is important to select the proper one to meet the indications presented. He divides diuretics into the salines and the stimulants. The former may occasionally be useful but are often very harmful. In acute nephritis, no diuretic at all should be given until the inflammation has subsided. Among the stimulant diuretics, which should not be used until diaphoretics and hydrocathartics have been tried, he mentions with more or less approval scoparius, squill, caffein, which is very variable in its action; pilocarpin, which has not been sufficiently tried; digitalis, of which the best preparation is probably the infusion; diuretin, sweet spirits of niter, calomel, and a variety of others. [J.S.]

Boston Medical and Surgical Journal.

January 18, 1900. [Vol. cxiii, No. 3.]

1. A Rhode-Island Philosopher (Elisha Bartlett). WILLIAM OSLER.
2. The Value of X-Ray Examinations in the Less Frequent Diseases of the Chest Illustrated by Their Use in Those Cases where Aneurysm Is Present or Suspected. FRANCIS S. WILLIAMS.
3. Remarks upon the Gunshot-Wounds of the Reduced Caliber Rifles in the Santiago Campaign. LOUIS A. LA GARDE.
4. Otitis Media in all Grave Diseases of Infancy. E. H. POMEROY.

1.—Osler contributes an article upon the life of **Elisha Bartlett,** which is incidentally an interesting picture of the methods of medical education during his time (1804 to 1855). Medical teaching in those days was almost exclusively didactic, the medical schools were strictly private enterprises, the real estate and properties being owned by the faculties, and the term of instruction lamentably short. [J.S.]

2.—Williams calls attention to the value of **x-ray examinations in aneurysm of the chest,** and reports 5 cases in which the diagnosis was made positive by this means [The paper is unfinished. J.S.]

3.—La Garde says that the "explosive" range for the **Krag-Jorgusen rifle** is up to 350 yards, as compared with 200 for the old Springfield. The flesh-wounds are much smaller and heal more rapidly in the reduced caliber rifle. Hemorrhage is much less. Of the 1,400 wounded at Santiago, "not one died of external hemorrhage." Injuries inflicted on the bony structures outside of the "explosive range" show very little comminution, it seldom being necessary to open up the wound to remove fragments. The small caliber bullets wounding the ends of bones and joints at long range invariably perforate or gutter and make comparatively slight injuries. Men are not nearly so apt to be permanently disabled after being wounded with the hard jacketed bullet as with the old leaden missile. [G B.W.]

4.—Pomeroy calls attention to the necessity of general practitioners keeping on the lookout for the development of **otitis media** in almost all the diseases of children. Especially in chronic gastroenteritis as pointed out by Poufick is there an especial likelihood of middle-ear disease complicating the case. [G.B.W.]

Journal American Medical Association.

January 20, 1900. [Vol. xxxiv, No. 3.]

1. Influence of the Medical Practitioner on Medical Progress. JOSEPH D. BRYANT.
2. Surgical Treatment of Perforation of the Bowel in Typhoid Fever. W. W. KEEN.
3. The Physician in Hawaii. E. S. GOODHUE.
4. The Present Status of Surgical Tuberculosis. RALPH ELMERGREEN.
5. Ectopia Lentis; A Report. C. P. PINCKARD.
6. Extention Massage of the Ossicles with a New Aural Masseur. HAMILTON STILLSON.
7. Sarcoma of Face and Temporal Region. JOSEPH H. BRANHAM.
8. City Milk Routes and Their Relation to Infectious Diseases. ERNEST WENDE.
9. Typhoid Fever in a Leper, following Immediately but Accidentally on Treatment with Antivenomous Serum. J. F. SCHAMBERG.

2.—See PHILADELPHIA MEDICAL JOURNAL, Vol. IV, p. 875.

3.—Goodhue gives an interesting sketch of the condition of **medical affairs** existing **in Hawaii.** Many of the natives still believe that disease is brought about by evil spirits, and there are still many native physicians called kahunas, who practice a kind of faith-cure. But considering that the Hawaiian has just emerged from a primitive state he is fully as progressive as the civilized people who employ Christian Scientists and peddler "specialists" and take patent nostrums. Epidemics formerly reached the islands at long intervals but were very fatal, as the people were particularly susceptible. During an epidemic of measles there were not enough well persons to provide for those who were ill, and $\frac{1}{10}$ of the inhabitants died. There are many nationalities represented on the islands and a great variety of diseases; the field is a good one for the study of skin diseases, particularly leprosy. [M.B.T.]

4.—Elmergreen discusses **surgical tuberculosis** without adding anything specially new to the subject. He reports cases in which he operated successfully for skin tuberculosis and tuberculous adenitis. Also a case of tuberculosis of the left knee resembling sarcoma in which he performed arthrectomy and later amputation at the middle of the thigh. The patient, a boy of 16, died 5 weeks after the latter operation from miliary tuberculosis. [M.B.T.]

7.—See PHILADELPHIA MEDICAL JOURNAL, Vol. III, p. 1330.

8.—See editorial columns of a later issue.

9.—Schamberg reports the case of a Russian **leper** from the region of the Baltic Sea, who passed through a typical **typhoid fever** of moderate severity at the Philadelphia Municipal Hospital. Schamberg has not been able to find records of a simultaneous existence of these two diseases. The injection of Calmette's antivenomous serum was tried on this patient with the hope of influencing his leprosy, but without any result. Dyer, of New Orleans, has reported improvement in several cases following the use of the serum. [M.B.T.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Intravenous Injection of Corrosive Sublimate in Bubonic Plague.—A correspondent writing to the *Lancet* for December 16, 1899, from Rome, states that Baccelli advocates the intravenous injection of corrosive sublimate in the treatment of the bubonic plague. The experiments preliminary to the application of this treatment to the human subject have been estimated by Terni, of Messina, who under Bacelli's direction has treated on the lines indicated a large number of animals previously inoculated with pestis bubonica and has obtained excellent and unvarying results. He hopes to have as much success with intravenous injections of sublimate in plague as he has already witnessed from the similar injection of carbolic acid in traumatic tetanus, which has proved superior to Tizzoni and Centanni's serum in reducing the fatalities from that disease.

Dry Diet in Heart Disease.—Morison (Cardiac Failure and its Treatment) writes as follows: "The question of *diet* in heart disease has long been recognized as one of much importance, and the tendency to advise extreme measures has been evinced in this as in almost every other sphere upon which the human mind has been brought to bear. This tendency imparts undue importance to points nevertheless important in their own place and degree, and is as human as it is to err. Against such human errors, fortunately, natural processes are so constructed as in a manner to protect themselves. Thus, if a large quantity of fluid food be administered to a patient whose venous system is already too turgid, the nutriment given is more likely to escape from the intestine than to be absorbed by it. Enough fluid may, nevertheless, be absorbed to prevent the removal of fluid collections in closed cavities. Even in Hope's time that author found that bath diuretics and hydrogogs equally failed to remove dropsies until the patient was put upon a dry diet. Subsequent writers, such as Dr. Thomas King Chambers, have dwelt upon the advisability of a reduction of fluid nourishment in the case of cardiac patients, and Oertel, of Munich, carried the restriction of liquids, some think, to an extreme from which there has been a natural reaction. Physiology and experience alike prove the advisability of such a restriction of fluid in the food of cardiac patients, as is found to be most conducive to adequate renal action, which is a delicate test of the cardiac capacity for dealing with the blood in the body. The amount naturally differs in different cases, and it is the duty of the physician here as elsewhere, to be guided by observation in his prescriptions and not by rule of thumb.

Sanatorium Treatment of Pulmonary Tuberculosis.—At a recent meeting of the Royal Medical and Chirurgical Society, Broadbent (*Lancet*, December 23, 1899) argued that the establishment of sanatoriums must be conducted on scientific and not on commercial lines. The earnings of dividends should not be introduced into the question. In other words, the institutions should be as far as possible the properties of medical men and not of public companies; otherwise the monetary profits may hold a superior place in the minds of the proprietors to the benefit of the patients, and the sanatoriums will run a serious risk of degenerating into fashionable hotels in the same way that many so-called hydropathic establishments have. In the treatment of tuberculosis rest and quietude are absolutely essential. Social festivities must be absolutely excluded during the period of time for which a patient is under treatment, for he must devote all his endeavors to recuperate his general condition so as to make his tissues unsuitable to the growth of the bacillus. Late hours and irregular meals are incompatible with success, and although certain amusements are desirable as obviating too much concentration of the patient's mind on his own condition or on that of his fellow patients, yet strict and constant attention to hygienic details is absolutely necessary, and this will not be ensured if the friends of the patients are allowed to reside in unlimited numbers within the sanatoriums, or if the daily round of the establishment is ordered in imitation of the program of a hotel in a fashionable watering-place.

Subcutaneous Injection of Morphin for Wounded Men.—T. Lauder Brunton (*Lancet*, December 23, 1899) writes that some years ago he was a good deal struck by the account given to him by Binz, of Bonn, of the use which he made of subcutaneous injections in the Franco-German war while engaged in superintending the removal of the wounded Binz went about armed with a bottle of morphin solution and a hypodermic syringe, and before a man was removed he gave him a subcutaneous injection which put the man to sleep, prevented any pain during removal, and lessened shock, so that the patient was in a better condition for operation when he arrived at the hospital.

Heart Disease in Childhood and Youth.—Chapman (*The Clinical Journal*, October 8, 1899) says as a preliminary to the use of digitalis, a free purgation is very useful; and leeches to the precordium, or even venesection, may with advantage be resorted to when there is cyanosis. The effect of these remedies upon the heart and circulation should be carefully watched. When large doses of digitalis are called for it is well to restrict the patient to the recumbent position. Mercury, in one form or another, is as valuable for children with heart disease as for adults. When a rapid relief to the liver is required calomel in small and frequently repeated doses, until the bowels have been freely acted upon, is a very useful way of administering the remedy; at other times mercury with chalk answers the purpose. Nux vomica is a very valuable drug, but it must be given in small doses and under watchful medical supervision only. I have seen very unpleasant symptoms follow the use of this remedy beyond the prescribed period. When the drug is required for a lengthened period it is advisable to leave it off for a few days every now and then. Alcohol is at times a useful remedy in some stages of heart disease, but it is, as a rule, not only unnecessary, but positively harmful. Belladonna applied externally sometimes relieves cardiac pain; but, as plasters interfere with auscultation, the liniment is a better form to employ in cases requiring constant observation. Nauheim baths being more useful in arteriosclerosis—a condition rarely occurring in children—the application of this mode of treatment is not often called for in the young The exercises will be found useful in appropriate cases.

Tuberculosis of the Breast.—J. E. Platt (*Manchester Medical Chronicle*, November, 1899) reports the case of a woman, aged 27 years. Her illness began about January 1, 1894, her first symptom being pain in the left breast, a little below nipple, and passing around chest to the inferior angle of scapula. The chest was tapped and fluid drawn off; it was tapped a second time. Nine months after the first attack she again experienced pain in the same breast, which was swollen and pain radiating to left arm. The left side of chest was full of pus. It was thought at first that the empyema had perforated the chest-wall and the pus had traveled into the submammary tissue. A month after the second attack an incision was made along the lower and outer border of the breast. This was followed by an escape of air, the lung being adherent to anterior chest-wall. No pus escaped. A second incision was made in the posterior axillary line, part of the seventh rib resected, and a large drainage tube inserted, the patient making fair progress after the operation. Four months later there was a reaccumulation of pus in the chest-cavity; the drainage-tube having been removed in the meantime. One month later **Estlander's operation** was performed, portions of seven ribs (from the second to the eighth) being removed. After this operation the patient was very ill for some days, but she rallied and made good progress. About a month later an ischio-rectal abscess developed. This was opened and scraped, healing later. A chronic abscess remained in lower part of left breast. This was incised and found to contain ½ oz. of thick pus and caseous matter. The abscess-cavity had no apparent communication with the chest-cavity nor the lung. It was freely scraped and packed with iodoform gauze, healing within the next month. At the same operation portions of two of the lower ribs were removed and free drainage provided for the lower part of the chest-cavity. When last seen there was still some discharge from the chest, but neither the ischio-rectal nor breast-abscess gave any further

trouble. The axillary glands were never enlarged. Treatment in these cases should follow the same procedure as in tuberculosis elsewhere, viz., excision or free scraping.

Fermentation of Food in Gastric Catarrh.—H. C. Wood suggests a combination of naphthol and carbolic acid, as in the following formula:

Naphthol	30 grains.
Carbolic acid	12 grains.

Make into 12 capsules; one after meals.

Untoward Effects of Orthoform.—Yonge (*British Medical Journal*, July 1, 1899) states that as one of the English sponsors of this drug, he feels bound to draw attention to certain by-effects of a toxic character which this substance has been recently discovered to produce. In a paper lately published, Asam Murnan remarks that orthoform when applied to ulcers sometimes causes sloughing similar to that caused by pure carbolic acid. He has encountered this untoward symptom in 9 cases. Yonge observes that similar by-effects have followed the application of the anesthetic in the practice of a medical friend of his, in 2 instances, after a few days' application of the hydrochlorid of orthoform. The author infers from a series of 50 cases in which he has used the drug that the incidence of this complication may possibly be looked for in about 4% of all cases. The local necrosis seems to cease as soon as the drug is withheld. Brocq and others have pointed out that orthoform may give rise to redness, irritation, and inflammation of the skin; and Epstein has observed vomiting, collapse, and other unfavorable signs after the administration of the drug by the mouth. The author concludes that it is necessary to watch carefully the effects of this otherwise useful local anesthetic, and to omit the designation of nontoxicity from its attributes.

Urticaria.—According to the *Journal des Praticiens* the following applications are useful in urticaria:

Chloral	45 grains.
Cherry-laurel water	3 ounces.
Distilled water	6 ounces.

After which either the following powder or ointment may be applied:

Bismuth salicylate	2½ drams.
Powdered starch	12 drams.

Or:

Cocain hydrochlorate	8 grains.
Menthol	4 grains.
Vaselin	2 ounces.

Furunculosis of the External Auditory Meatus.—Delsaux and Buys (*Ann. des Mal. de l'Or.*, July, 1899; *Treatment*, October 26, 1899) state that it is essential to commence treatment with the removal of all oily secretion with alcohol, ether, and hot-water douches. The boil may be absorbed with early incision of the galvanocautery. In later stages, maturation may be hastened by a spray of carbolic acid (1%) or a poultice containing mercuric chlorid (1:4000). If the pain is excessive, an incision should be made either after subcutaneous injection of cocain or under ethyl-chlorid spray. The prolonged application of cocain in association with carbolic acid may give sufficient anesthesia for this purpose. Incision becomes imperative if a number of furuncles are present and a condition of phlegmon is induced, otherwise suppuration may occur in the preauricular lymphatic gland and cause extensive suppuration of the cheek. After incision has been made, very great care must be taken to keep the meatus thoroughly cleansed, otherwise dissemination is certain to take place. Alcohol or ether are necessary for this purpose, and should be applied by swabbing several times a day in conjunction with boric syringing. Formol has proved disappointing as an antiseptic here. Where furunculosis has been recurrent, it is of course imperative to analyze the urine, and to direct treatment according, if diabetes or albuminuria is present. In all cases purgation is indicated, and intestinal antisepsis, naphthol, bismuth salicylate, magnesia and sulphur may be attempted. In the discussion, Delstanche remarked that he had considerable faith in the internal administration of brewer's yeast, 3 dessertspoonfuls being taken daily. This often aborted a furuncle. Schuster had seen excellent results with yeast used as a poultice. Lecoq used yeast in cases of furunculosis of gastric origin even in children, administering in some instances several soupspoonfuls.

Cancer of the Stomach.—Ewald recommends when there is much pain in the stomach the following combination of chloral and cocain:

Cocain hydrochlorate	4½ grains.
Chloral hydrate	45 grains.
Peppermint water	13 drams.
Water	3⅓ ounces.

A tablespoonful as required.

Sodium Glycerophosphates.—Harris (*Lancet*, December 16, 1899) states that he has employed this drug very largely during the last 3 or 4 years, and although he is unable to bear out all that has been said by others in its favor he believes that it has considerable value in certain conditions. Such diseases as neurasthenia, Addison's disease, etc., seem likely to be favorably influenced by the glycerophosphates. The writer has used only the sodium glycerophosphate, and not the other compounds. This can be obtained as a 75% solution, which is jelly-like, or as a 50% solution, which is liquid. The dose is from 15 to 40 minims, thrice daily, of the weaker solution. Given in a mixture with tincture of orange and chloroform water it is quite palatable. Harris has used the drug in neurasthenia, hysteria, functional affections, and diabetes. In most cases of neurasthenia it failed, but some patients were benefited by it. Very few cases of true hysteria were favorably influenced. The best results were obtained in the treatment of nervous exhaustion from overwork, in which it often had really good effects. Wild, in discussing Harris' paper, states that he has used sodium glycerophosphate for weakness following influenza and for nervous exhaustion from overwork with apparent distinct advantage. He thinks the calcium salt might be even more beneficial than the sodium salt.

Strontium Bromid in Epilepsy.—At a recent meeting of the Academy of Medicine (*Journal des Praticiens*, December 16, 1899) remarked that the remedy of choice in epilepsy was potassium bromid, but to be efficient such large doses were required as to subject the patient to the danger of bromism. It was true, however, that under a diet in which the ingestion of sodium chlorid was restricted, the sedative action of the bromid was so much increased that the daily dose could be materially lessened. Laborde believed that strontium bromid was as efficient as potassium bromid, and, moreover, had the advantage of being better tolerated by the system. The dose of strontium bromid could be rapidly increased until the convulsions were controled, without the necessity of depriving the patient of so important an element of food as sodium chlorid.

A Palatable Quinin Mixture.—Greauellé (*New York Medical Journal*, October 28, 1899) recommends the following formula for a palatable quinin mixture, especially suitable for children:

1.—Quinin hydrochlorate		5 to 10 grains.
	Alcohol	1 dram.
2.—Oil of cinnamon, Oil of Anise	of each	30 to 40 minims.
	Magnesia, sufficient.	
	Water	1 ounce.

Let stand for some hours, filter. Mix 1 and 2 and add:

3.—Simple sirup		3 ounces.
	Carmine or cochineal solution	5 drops.

Dose, 1 or 2 drams as directed.

Saccharin in small quantity helps to disguise the larger dose of quinin; small doses of Fowler's solution may be added, if indicated, or sodium bromid for children made irritable by quinin.

Fluoroform in Phthisis.—Stepp (*La Semaine Médicale*, No. 33, 1899) claims to have obtained good results with fluoroform in tuberculosis. The average dose is 4 or 5 drams a day, but as much as 3 ounces may be given with safety. Fluoroform is a gaseous substance, soluble in about 3% of water, and in such a solution it is almost tasteless and odorless.

Original Articles.

SELECTIONS FROM THE LANE LECTURES,

Delivered at Cooper College, San Francisco, Cal., 1898.

BY CLIFFORD ALLBUTT, M.D.,

Regius Professor of Physic at Cambridge, England.[1]

LECTURE I.—CARDIAC PHYSICS.

Dr. Lane, Ladies and Gentlemen:—Before we undertake to reason on the diseases of the heart it is well that we should ascertain the principles which govern the work of this wonderful organ. To use an illustration of Professor Sherrington, the heart performs work day by day, which in each day would raise itself six times from the sea level to the top of Mt. Everest; well may we marvel at the silent industry of an agent which without haste and without rest, for three-score years and ten, punctually performs this incessant labor with little sign, in healthy persons, of disorder or wear. It is the glory of English-speaking peoples that one of them—the great Harvey—read the secret of this function of the body which I have called wonderful, wonderful even beyond the many other wonders of the living body.

Suppose that I hold in my hand a bent pipe, the ends of which are joined so as to form a circle, and that therein is a fluid; let us suppose again that neither within the fluid itself nor between the fluid and the walls of this vessel there is any friction, and, lastly, that this fluid has been set in motion in the tube; in this case the fluid would circulate for an infinite time; the initial impulse would not be dissipated. But in the case of the circulation of the blood the conditions are indeed far otherwise; in this friction, both within the fluid itself and between it and the walls of the continent, is very great; hence the need of a heart, the heart being the regenerator of energy to replace by its essential chemical change that lost second by second in friction. It is indeed the loss by friction in the circuit which makes the heart necessary. In friction this indomitable organ has to overcome resistance of one kind but of two sources; namely, the friction within the blood and due to its viscosity, and that which arises between the moving fluid and the walls of the vessel. The resistance to be overcome will vary with these factors, which are far from constant; and after our contemplation of the vigilant and incessant labors of the faithful heart we shall realize better how the smallest increase in resistance may oppress it, at first insensibly yet in the end grievously. Perhaps hitherto most of you have been occupied rather with the velocity imparted by the heart to the blood; but such is the predominance of friction in the conditions of this work that the work done by the heart in overcoming friction is some 200 times greater than that used to impart velocity directly.

Of the two factors in friction—that of viscosity and that of the continent—let us take the latter first. The form of the continent is not a matter of indifference; if the tube be narrow the fluid will run with greater velocity but with greater friction, for the friction varies as the rate; it is obvious also that the distance the fluid has to run must be an important factor; thus we have to calculate two dimensions—the length of the vessel and its diameter. Now in the arterial system these factors are not constant, as we well know; the vessels gradually diminish in diameter from the main tubes to the less and less; moreover, in ramification the area is not only that of the undivided vessel, but is very much greater; so that in the distal parts we have to do not only with diminished diameters, but with increased areas also; the fluid moves onwards under the double disadvantage of greater distances and lessening diameters; we may calculate it as increase in length and diminution in diameter of a tube, whereby friction is increased in a twofold manner. Let us now turn to the friction within the fluid itself; no fluid can be regarded in practice as devoid of viscosity, and the blood is a fluid of considerable viscosity, its internal friction being likewise considerable; in disorders of certain kinds it seems that this viscosity is increased, whereby the heart is exposed to abnormal stress, and even to strain. In the state of health the viscosity of the blood in the rabbit has been calculated (taking water at 37° C. as the unit) at 3.2; and that of the dog at 4.5. In fever the viscosity of the blood—so far as the temperature goes—seems to be lessened, in age it often tends to increase, and so on; the viscosity therefore is a matter of importance not only in its origin, but also in its secondary effect upon the work of the heart. Other things being equal—which is often not the case—an increase in viscosity would tend to slow the pulse. To conceive the friction of viscosity it is well to picture to ourselves the column of circulating blood as composed of fluid cylinders within cylinders about an axial stream, a conception which will enable us to realize more plainly that the cylinder next to the wall of the vessel will be retarded more by friction than the cylinder next within; and this latter more than that again within, and so on, until we reach in our diagram the central stream which will move most rapidly; it may be estimated that the axial column will move twice as fast as the mean rate of the whole fluid. Again, if we regard viscosity we conceive that the more the viscosity the more these imaginary cylinders will stick the one against the other, and the greater will be the shearing stresses to be overcome from the periphery to the center of the fluid. Once more, we saw that ramification in the arterial system increases frictional area; but this increase is not in equable degree, since any two branches may not stand in the same proportion to their contents; and herein

[1] The concluding lecture on Medicine of the Nineteenth Century was published in the PHILADELPHIA MEDICAL JOURNAL columns on December 17, 1898.

lies an interesting difference. The aorta, for instance, is relatively larger in respect of its content than, say, the renal artery, and the velocity of its content therefore is relatively less; and this corresponds to our farther conception of the aorta, with its extensile walls, as a reservoir as well as a channel; and the same is true of the pulmonary artery.

There is a velocity in the arterial system other than that of the blood-stream; namely that of the pulse-wave. Forgive me if I imply that you may not seize the difference at once, for I am sure that many physicians do not; at any rate, they speak and write as if they forget it. The velocity of the blood-stream, as computed by Ludwig, in the arteries of the adult man varies about a mean of 0.3 to 0.5 m. per second, and between extremes of 0.3 to 1.0 m. (aorta) (Waller). It does not vary constantly as blood-pressure. To take a concrete instance, if we compute the distance between the heart and the radial artery to be 80 cm. the blood-velocity is about two seconds; that is it would take a particular particle of blood two seconds to pass from the left ventricle to the wrist. But the pulse-wave takes, as you know, nothing like two seconds to reach the wrist; in the supposed healthy adult it would take about one-tenth second, a difference readily perceptible to the finger. It is clear then that the pulse-wave is not a wave of blood, not, that is, a wave of transmission of blood from point to point; it is not transmitted blood, but transmitted shock. Let us set a row of billiard balls in a row on a level table, and let us strike the first ball with a cue, gently; we shall see, if we do it carefully, that the blow will not transfer the stricken ball to the most distant point of the system—indeed, it may scarcely remove it from its first position—but it will transmit rapidly to this distant point a shock which will be perceptible enough to the eye or to the touch, the last ball only, perhaps, traveling a few inches forward. The shock thus transmitted is the pulse-wave as distinguished from the slower material transmission. I may parenthetically remind you that we do not note the cardiac systolic time by the radial, but by the carotid pulse, which is so near the opening of the aortic valve that the space difference may be neglected; to the touch, indeed, it is inappreciable.

Now, in considering the velocity of the blood as a mass I said that we might safely neglect the kind of tube; in whatever kind of tube the resistance would vary as the viscosity of the content and as the diameter of the tube; but this is not so with the velocity of the wave; here the kind of tube is not negligible. Even in elastic tubes Poisseuille's law is not seriously interfered with, but with wave-transmission it is otherwise; in the latter case the rigidity of the walls of the tube is a chief factor. If by its content the wall of an elastic tube be not tightly stretched the wave-rate will be relatively slow; if, on the contrary, it be tightly stretched, the wave-transmission will be by so much the more rapid; and the same holds of course for the kind of wall, whether it be of more or less yielding material. Here again we come upon matter of great clinical importance; at various times of life, and in various states of disease or decay—nay, even in the course of normal evolution—the degree of elasticity is far from constancy, and the rate of transmission of the pulse-wave varies accordingly. For instance, in a child aged $4\frac{1}{2}$ the pulse-rate may be 216 feet per second; in a young man of 25, 306 feet per second, at the age of 55, 510 feet per second (Keyt, Chapman)—differences which seem enormous. In diseases such as Bright's disease, or arteriosclerosis, the wave will be accelerated still more, even in younger persons. A ready method of estimating pulse-wave rate would be then of no little clinical service.

Thus the heart has three main uses; to overcome friction, to impart velocity to the blood directly, and to distend the aorta, pulmonary artery and other large central elastic vessels. The heart, as we know, converts chemical energy in mechanical work, and heat (with electric differences which we may neglect at present); the generation of heat by the heart though friction being by no means insignificant, for this conversion is estimated at about $\frac{1}{50}$ of the whole heat of the body. Now, the pump is intermittent, the organ taking its rest fractionally between each period; so by some means this intermittent action has to be converted into the continuous movement required for continuous life. This end is attained by the function of elastic tubes, and especially of those which have some function as reservoirs, such as the aorta and the pulmonary artery; energy being stored up for a moment at the cost of velocity, to be restored again as the pressure-curve tends to fall. The aorta has been compared by Sherrington to the bag of the bagpipes; or it is compared to a high pressure cistern equalizing the flow, and regulating the inequalities of demand and output; so important is this bagpipe function that it is estimated that the work expended by the heart in distending these reservoirs is one hundred times that expended in direct work of blood-driving. Moreover, were it not for this arrangement the ventricles, especially the left ventricle, would have to vary in volume incessantly, with more stress and less efficiency. For not only is there intermittence in the cardiac period, not only is there variation in bodily consumption, not only is there variation in the access of blood to the heart, but, looking at the system no longer as a whole, there are also very fluctuating demands in the several areas of the body,—now the stomach being active, let us say, now the muscles, now neither of these factors but some other. With these alternate and inconstant demands, these inconstant pressures, these inconstant returns of blood to the heart, the arterial reservoirs have to deal, integrating them after the manner of the flywheel of an engine; furthermore, as in

the engine so in the circulation, "governors" are provided in the nervous system. Thus it comes about that amid all this variety of supply and demand the minimum of blood-distribution is attained with the minimum disturbances of pressures, and the least racking of the machine.

The conditions of this sleepless cardiac activity are regular supply of oxygen, of food and of warmth; and to these ends the cardiac circulation is so arranged that all the blood shall go through the cardiac muscle many times for once through other muscular areas.

Let us now consider the laws of blood-pressure in the body more in detail. It is obvious at first sight that we cannot reason about arterial pressures without considering the venous also. In capillary areas it is obvious that we cannot estimate the pressure without estimating pressures on both sides of the area; the arterial pressure, that is, on one side and the venous pressure on the other. Thus a fall of arterial pressure is not necessarily a fall of pressure, or even a measure of pressure in all capillary areas. Venous pressure again, whatever the arterial, may not only fall to zero, but even below it, becoming negative in certain areas, as perchance in the thorax in extreme expiration, or in pulmonary repletion. Even under normal circumstances the mean arterial pressure is to the mean venous as about 20 : 1. The three chief promotors of positive venous pressure are the larger sectional area of the veins, muscular contraction, and the "respiratory pump;" without this last, as I have hinted, in the mean position and at rest the venous pressure at the entrance of the heart must be almost zero. The composition of these and other differences is facilitated by a system of compensations, a few chief factors of which must be mentioned here. Of one of these means—of the equalizing effect of the elastic and relatively wide aorta—I have already spoken; their power, not turned directly to speed, expends itself upon the inner surface of the vessel; therefore, within limits the slower the speed the more the distending pressure. The late Professor Roy made some very interesting observations on this factor and showed that this vessel is most extensible within ordinary physiologic limits, and that its extensibility diminishes with every increment beyond the normal extreme. All bodies have their respective limits of elasticity stresses beyond which limits tensile are apt to produce strain; this happens frequently in the aorta under pressures which are either positively excessive, or, in the case of a vessel whose elasticity has been reduced by disease, as by syphilis or arteriosclerosis, are relatively. In such disease the aorta has less and less value as a high-pressure cistern, and becomes a more and more passive reservoir. In health, however, the factor of safety in tensile stress is estimated at no less than 20 : 1.

With this equilibrating factor in the circulation may be contrasted another property of arteries, namely, that of contractility, or tone. Tone is rather a property of the muscular tissue with which certain long lengths of the arterial tree are more or less richly provided; and this arterial contractility, which may be exercised in large as well as in small areas, and may in duration be indefatigable, tends to alter arterial pressures considerably. Were it not for another of the compensatory mechanisms, of which I am now speaking, a contraction of the muscular arteries over a large area would raise aortic pressure persistently, and by increasing peripheral resistance would throw no little overstress on the left side of the heart. This tone in the arteries is of the same nature as that of the heart itself; in both cases it implies a closer or longer systole, and less relaxation in diastole. If this takes place over a very large area it is clear that the arterial tree will contain less blood, and, the output of the heart remaining the same, the arterial pressure would rise accordingly. Here, however, enters the most important compensatory mechanism, perhaps, in the circulation; by means of a certain nervous circuit, known as the depressor circuit, the distribution of the blood-mass can be so changed as to corner the excess of blood, chiefly by dilation of the splanchnic venous system, so as to relieve the heart—at any rate for the time being. I need not say that this means of relief is at hand in all cases of excessive arterial pressure, not only in the case of large areas of vasoconstriction. Conversely, as the important researches of Leonard Hill have shown us, the heart may be filled by the active delivery of blood from the splanchnic veins whenever the arterial pressure tends to fall, and in this way the effect of gravitation in upright animals is counteracted, the play of the great venous reservoirs of the abdomen serving at one time to restore to relatively empty arteries blood, which, by gravitation or otherwise, had accumulated in the great veins; at another to accommodate an excess of blood if, by sudden contraction of the muscular system or otherwise, it is delivered to the heart faster than the ventricles can conveniently accept and deal with. Thus it is that the mass of the blood, unless very largely increased—say by 30% to 40%—an increase which is very unlikely to occur, has no influence upon arterial pressure; although, as I shall say presently, the output of the heart may be and usually is increased. Thus, in opposition to much prevalent and even authoritative teaching, you will realize that neither the mass of the blood as a whole nor arterial constriction over large areas has more than a momentary effect in raising general arterial pressure. These conclusions are of much practical importance, as we shall find hereafter. The vasomotor system then, venous and arterial, is designed at any rate in part to regulate pressure in the larger arteries; if the pressure fall the veins deliver more blood, if it rise they accept more; indeed, in cases of persistent high arterial pressure the venous derivation may be not passive only, but very active; for instance

in such a state, the liver may be as hard as a board, and on section drip freely with blood.

As clinical examples of defect of nervous equilibration between arterial and splanchnic areas I may refer to two patients in particular who have come under my care since Hill's researches were published—both are men, the one of some thirty years of age, the other about a dozen years older. Both complained of exhaustion and palpitation. In the erect position the pulse in both was of low pressure and ran continuously at 120 or more; in the sitting position (feet down) it fell to a mean of 84 to 90, but with great fluctuations—in one-quarter minute, say at 110, in another at 80; on lying down the pressure in both patients alike rose suddenly, and after two or three sharper oscillations settled to steady, normal work at 70. On rising again the heart began to race like a ship's screw lifted out of water. One was cured by a long sea-voyage; the other is now under my care.

Another interesting compensatory process chiefly worked by the vasomotor system is the alternate irrigation of areas of periodic activity. Were it necessary to provide blood enough to keep all areas fully fed at all times, to forward continuous supplies to the several needs of the various organs or sets of organs, the waste of force and of feed would be enormous, and in resting areas probably unwholesome. We see that, as function bears on this partial aggregate or that, alternating dilation and constriction serve to divert the fertilizing streams hither and thither accordingly. Hence our conscious experience of the difficulty of working on two sets of organs simultaneously, as, for instance, to take active exercise or to write lectures during digestion. Moreover, besides these larger measures of give and take in the several parts, there is an incessant reciprocation between secondary and tertiary areas, waves of blood flowing this way and that in obedience to secret attractions and repulsions, as the animated films which people the rock-pools by the sea and expand and contract, as clouds pass over the sun. Yet, by means of the compensatory mechanisms to which I have referred, these tides hither and thither have little or no effect on the sum of arterial pressures. In the pulmonary circuit only, where the needs of the organs are uniform from morning to night, from birth to death, is the blood tideless. Many of the other viscera, however, are not only flushed or emptied by these vigor tides, as demands rise and fall, but have also—as the liver, the spleen, and the kidney—inner tides or pulses generated by rhythmic movements within themselves.

Such are the influences, or some of them, which tend to vary arterial pressure from outside; but besides these various distributions of the blood there are other influences which depend on static changes in the arteries themselves. If an artery contracts, its channel is narrowed and the flow of blood through it; if the channel is not quite closed, it is smaller in volume but of greater velocity; not only it but the wall becomes more rigid also, and the more the spasm the more the vessel approximates to a rigid tube. Thus, for this reason as well as on account of greater friction within the vessel, arterial pressure about the area tends to rise. But the coefficient of rigidity, which in the case of arterial constriction is perhaps negligible or transient, or associated with other and more important factors, becomes considerable, if not dominant, when in the advance of years, or of such an infection as syphilis, the arterial tree, or large parts of it, becomes permanently stiffened. When discussing the rate of the pulse-wave I quoted to you certain figures to illustrate the measure of arterial stiffening from childhood to age; a change which, to some extent at any rate, is inevitable and necessary, and may then be called normal. To distinguish this stiffening of the wall of a vessel—say of the radial artery—from the pressure of the current within it needs always an erudite touch, and even to the expert is by no means always easy; yet the distinction is of great importance nevertheless, as we shall see when in a later lecture I undertake to treat of the diseases of the arteries. It must suffice at present to say that this physical change in the walls of the arteries tends to the increase of peripheral resistance, and so, unless otherwise compensated, of general arterial blood-pressure. In the absence of this increased pressure, although wave-velocity would be increased, blood-velocity would be diminished, because of the increased resistance; diminished caliber, as we have remarked, would increase blood-velocity, but in the large majority of cases this effect, if not annulled, is reduced by the increased peripheral resistance. The viscosity of the blood tends perhaps normally to fall after middle life, but the few observations we have suggest that under conditions of disorder, which in elderly persons are by no means infrequent, but the nature of which is unknown, the specific gravity of the blood rises and we discover in such patients a morbid state which I shall describe hereafter under the name of senile plethora. In this lecture we are chiefly concerned with the physics of the normal circulation, and at this moment with "tone" rather than with diseased blood or vessel.

And upon the problems of tone I would detain you for a few minutes longer; first of all in respect of the heart. The cardiac muscle differs from skeletal muscle in some very important particulars, differences which we must consider carefully. In the skeletal muscle response varies as stimulus; in the cardiac muscle response does not vary as stimulus but as the state of nutrition of the muscle at the moment; each contraction being the maximum of the moment. Again, in the cardiac muscle the "refractory time" is well marked, so that continuous stimulus meets with rhythmical response. It follows then that each contraction does not take its degree from the work to be done, and that if the volume of content to be lifted be more than

the maximum contraction a certain amount of residual blood, be it larger or smaller, must remain unlifted; in other words the flow does not cease because there is no more blood to lift, but because the maximum contraction of the moment is spent. If this recur time after time the ventricle must dilate in proportion to the sum of the residual blood plus the amount lifted at each stroke. Such dilation, if an evidence of perturbation, yet is not in itself disease, but is of the nature of compensation. Now, when dilation has set in, and the radius of curvature of the ventricular cavity is lengthened, a little thought will show that a shorter contraction of the hollow muscle will lift the same volume of blood.

The effects of blood-pressure on output are so obscure and contradictory that I will not attempt to discuss them, but will content myself by saying that probably fluctuations of blood-pressure do not alter output to any degree which need be taken into calculation, for, other things being equal, a rise of pressure slows the pulse through the vagus arc, and thus economizes the heart; and I have already indicated other means of compensation. The relative length of systole under great changes of pressure is remarkably uniform; in low pressure the upstroke of the sphygmograph being higher, this factor again may be taken out of our argument.

The relevancy of these observations to the factor of "tone" will be more evident when we have also considered the phenomena of loading of a muscle. It is true of muscle generally, and of cardiac muscle in particular, that within limits tension does not arrest, but actually increases, contraction; in other words, to load the muscles increases the work done. For a normal heart of a certain volume there is a certain load which will directly help the muscle to do the utmost work. Beyond a certain degree, then, tone is opposed to maximum work, for tension by the load is unduly opposed; on the other hand, dilation, if it stand within certain limits, may even assist the heart to increase of work, the moderate excess of load bringing about a stronger contraction—probably by some quickening of metabolism. Thus under physiologic conditions excessive loading, although it may dilate the heart, awakens in it a greater ability, and so enables it to meet demands in excess of the mean. You remember that in a dilated ventricle the same amount of blood is lifted by a shorter contraction, and a contraction of mean length drives out a volume more than the mean. Thus far we have regarded the heart as identical with skeletal muscle in these respects; but the heart works under this difference that it is not precisely a loaded, but an "afterloaded" muscle, that is, the stress of its load falls not before, but during its contraction; and we have seen that if the excessive volume of blood pours into a temporarily dilated ventricle we may expect the muscle to do more than discharge the mean volume, which is done by a shorter contraction; but the fibers probably will respond to the plus loading by the normal degree of shortening, which will put out more than the normal volume—that is, if no compensatory mechanism, nervous or other, interferes. The morbid results of dilation lie not then in the occcasional stretching of a normal ventricle beyond the mean—this can be well met by the ordinary reserve energy together with the stimulus of excess loading—but they lie certainly in such a persistence of excess as to exhaust the organ. Nutrition being unequal to the persistent importunity, tone yields to prolonged excessive tension, and although hypertrophy for a time may stave off the impending failure, a restoration somehow of normal conditions must come about if the heart is to regain its equilibrium. While it is essential then to a useful life that the heart shall be thus adaptable to fluctuations of demand, even to extreme demands, yet, on the other hand, over a long period of time the work ought not to exceed a certain mean, the amount of which varies for each individual; for Mosso and others have shown that the rate of muscular fatigue, whether skelatal or cardiac, varies in different individuals. In one person temporary dilation of a ventricle under incidental stress is rapidly overcome; in another the limit of specific elasticity, insufficiently guarded by tone, is passed and strain irremediable may be established. Such are the ill effects of aortic regurgitation and, to a less degree, in mitral, when the heart receives its excess load in diastole; and, moreover, were the load normal, is no longer an afterloaded muscle. The mutual play of tone versus dilation is then of the first importance in all men; but tone varies in all men constitutionally, and in the individual with the fluctuations of his health; under no circumstances is tone more profoundly weakened than under the influence of the toxins of the infectious diseases.

Excess of tone, that is longer or tighter closure in systole and less relaxation in diastole, is not so well known to us as a clinical disorder, being perhaps operative only in the case of certain poisons of the digitalis group. In experiments upon animals with digitalis this excess of tone is very distinct, the cavity of the ventricles contracting more and more, and the rate becoming more and more rapid, until at each stroke the delivery of blood is minimal, and even inconsistent with life; this state is often called "tetanus of the heart;" but of tetanus—in the proper sense of a fixed position of the muscle as a whole—the cardiac muscle is incapable; small as the mean volume and high as the rate may be, the periods are performed otherwise in normal order.

I have said that fatigue of the heart varies as the reserve nutrition of the individual, and cannot be well considered apart from the nervous coefficient, for it would appear that excess demands are met by some nervous message for increased metabolism; failure thus to respond being mainly due to suppression of nerv-

ous connection at the terminal points—curarization—or to exhaustion of the immediate nervous centers concerned, as shown statically by Hodges of the Johns Hopkins University, and by others since. Now, fatigue makes itself manifest not only in the excessive dilation of the ventricles imperfectly supported by tone, but also at the orifices, especially at the auriculoventricular. In the bird the right orifice is unprotected by a valve, a sphincter muscular arrangement about the orifice sufficing for efficient closure; in man the valve is an additional protection, but even in many the cooperation of sphincter fibers is probably an essential part of the closure, and failure of this sphincter action alone—the valve being uninjured—may be followed by failure of function. Thus in practice we often find the mitral mechanism temporarily inefficient, and a regurgitant murmur appears and disappears as tone is restored to the muscle; such abnormality is not infrequent in patients suffering from starvation, toxic infection, the poison of alcohol, and so forth, a like effect being seen in abbreviation of the systole under such such circumstances. Among these influences "autointoxication" takes a prominent place, "fatigue-products" formed during relatively excessive function accumulating in the blood and "curarizing" the organ to a greater or less degree. Herein the cardiac muscle runs on the same lines as the skeletal muscles, although of course the continuity of its function is more important, and is more anxiously watched. I ought, however, to provide here that, on the researches of Roy, Professor Sherrington attributes mitral insufficiency more immediately to disturbed space-relations between the ventricular wall and the chorda tendinea than to a slackening of the sphincter-fibers, basing his opinion on the results of Roy and Adami, who demonstrated that the trabeculae and columnae carneae give their help at the beginning of systole when the radius of curvature is longest; but whether their allied fibers may become dissociated in contractile value from the parietal fibers we do not know.

It seems certain that the relative duration of the interval of rest—that is of diastole, should not be curtailed—a relatively short diastolic time being of ill omen in disease. Fatigue, then, is a disability which the heart shares with the skeletal muscles; yet it seems to be in the ordinary sense unknown in unstriped muscle. In seeking to satisfy a particular need we may sacrifice other advantages, like the old woman in the tale of the fairy wishes; yet sometimes we could find in our hearts to wish for less obstinacy in the unstriped fiber; as, for instance, in Raynaud's disease, and other "local syncopes." Unstriped fiber seems to be practically indefatigable; and its artificial relaxation, by means of the nitrites let us say, probably depends on the nervous elements. Setting aside the large elastic arterial reservoirs, such as the aorta and the pulmonary artery, the more or less muscular arteries and arterioles have other habits; their structure being rather to facilitate departmental distribution. Thus the arterial tree possesses a peculiar property of active dilation as well as of active contraction; thus particular areas may be flooded with blood or thrown out of supply, as we have seen, and to these ends tonus is modified not by an irrelevant rhythm of fatigue, but by a readily determinable interference of agents of active dilation. Vasomotor constriction over very large areas may cause a transient rise of arterial pressure, or a dilation a transient fall; but, as I have said, in a well-balanced circulation such adaptations should be imperceptible in their celerity, save by manometrical measurements. Thus derivation of blood hour by hour to stomach, brain, muscles, or other areas of periodic activity, is probably without substantial effect on general arterial pressure. I insist on this proposition, as physicians have been too ready, I think, to call in widespread arterial constrictions to account for cardiac embarrassments; but that even large fluctuations in blood-distribution are promptly compensated we have already seen.

In the common clinical use of the phrase "arterial tension" tone is ignored, much, I think, to our confusion. On touching an artery, as the radial for instance, with the finger, we have to estimate, if we can, three elements; namely, first, the condition of the wall of the vessel, whether thickened or not; secondly, the pressure of the blood-stream; and thirdly, the arterial tone. Now the word "tension" means, of course, stretching, and no more than this; and tone, as we have seen, means less relaxation in diastole, more contraction in systole; therefore, given the same blood-pressure, the more the tone the less the stretching of the wall of the vessel; in other words, the less the arterial tension. Arterial tension, then, does not vary as the blood-pressure, for the degree of the distention is largely and incessantly modified by the coefficient of tone of the whole arterial tree or of particular areas of it. Thus tone and tension stand in some opposition; and excess of tone in any area, as distinguished from general arterial pressure, may be associated with an area of high pressure, the local arteries being not under more tension, but protected from tensile stress by such hypertonus; or, again, in the whole tree high blood-pressure may be, as often it is, associated with normal and even excessive tone, the arteries under the high pressure being then not stretched but constricted, and their diastolic excursion not more than the mean but even less. Once more: the impact of a high maximum pressure upon the wall of an artery of low tone may cause abnormal tensile stress, very often strain, although the mean pressure may not exceed the normal. Such conditions, with their injurious results to the arteries, are often seen in aortic insufficiency. Indeed, arterial tension, in the accurate sense of the word, is very difficult to estimate; perhaps in Dr. Oliver's arteriometer we have some means of recording the con-

dition; in any case it is most confusing to use the phrase "arterial tension" to signify something else, namely, high blood-pressure in which the walls of the arterial tree may be of normal or excessive tone, and therefore under no abnormal tensile stress, or indeed, undergoing less than the mean diastolic excursion. The terms "intra-arterial tension" or "intraventricular" are of course, nonsensical; unless that of the blood itself be signified, which, of course, is not intended.

It is well to add here, though it is sufficiently obvious, that high arterial pressure does not imply high venous pressure; both, by way of the capillary vessels, may be under a pressure above the normal, or the arterial pressure may be high and the venous low, according to the intermediate peripheral resistances, as often we see in Bright's disease; or, of course, the arterial pressure may be low and the venous high, as in mitral diseases.

Output of the heart again is often confounded with arterial pressure, even by careful physicians. What has been said concerning peripheral resistance, compensatory dilations, tone, and so forth, illustrates the independence of output and pressure. For instance, increase in the total mass of the blood need not, as we have seen, raise pressure in the arteries, or for the moment only, but it usually causes a larger output at each systole, unless, that is, there be a corresponding stagnation in the large abdominal venous areas. The mean ventricular output in the adult is at least 100 cc. Whether under normal circumstances and under mean conditions the ventricles empty themselves entirely at each stroke is not yet decided; Röntgen-ray observations seem to support the opinion of Roy and Adami that they do not quite drive out all the content; thus in the words of these observers, contraction volume and output, which in states of disease may differ so grievously, are not identical even in health. This difference is probably increased when the heart, normally, as we have seen, an afterloaded muscle, is loaded earlier, that is, during relaxation, as in more than one form of valvular disease. By this premature stress during dilation the elastic limits of the muscle are pushed back, and although the output, in conditions of good cardiac ability, will be greater on an equal or perhaps even on a shorter contraction, yet, as the heart fails in tone, the residual blood gets more and more, and the output falls in volume while the contracting volume increases, so that the ventricle, stressed beyond its elastic limits and even strained, falls more and more in arrear. It is under conditions of increased output with no net increase of arterial pressure that we find many of the viscera, especially the liver, in the state of active hyperemia already noted; these, and other areas under this nervous equilibration, actively diverting the blood so as to counteract, as far as may be, the increase of work thrown upon the heart. I should add, of course, that if this excessive stress continue the ventricle will by hypertrophy readapt itself to the new conditions, if these do not fall too heavily upon it at first. Output is increased, *cæteris paribus*, by irritation of an afferent nerve, such as the sciatic; an important sequence for the clinician, who herein is apt to confuse cause and effect; for instance, in neuralgias wherein local rise of pressure, which may appear during the paroxysm as a consequence of irritation of sensory nerves, is regarded as causative. Peripheral afferent stimulus may cause increased output even against aortic pressures already abnormally high; in such cases the reservoir function of the aorta and the pulmonary artery are called into play. This may mean, however, more pressure per unit area, which in case of degenerate heart or vessels must be apprehended, and the peripheral irritation subdued as soon as may be. In such cases morphia has an indirect action, reaching beyond the mere palliation of the pain. The vascular system is meanwhile relieved to some temporary extent by slowing, so long, that is, as the vagi are intact, and the splanchnic area is opened out; increased work of the ventricle being followed quickly by economizing conditions. Such are some of the means by which constancy of output is provided for under variations of arterial pressure.

Of negative pressures within the heart we know something, but not decisively as to degrees. It is stated that during diastole, which is regarded as in great part an active resilience, negative pressure may at first reach the height of 20 mm. of Hg; but it is obvious that this suction must be incessantly disturbed in a positive or negative direction by incidental conditions, especially by the periods of the respiration. The remarkable influence of inspiration and expiration—"the respiratory process"—on blood-pressures are seen in every manometrical curve, and the effect of inspiration in forwarding the blood through the great venous trunks of the chest are too well known to need iteration in this place. This observation, as you are aware, has been applied by Professor Oerlet and his followers to the relief of cardiac disease by graduated exercises upon the slopes of hills. In mitral regurgitation the arrhythmia of expiratory interferences is very manifest. The pulses of the heart itself may have some slight effect of the same kind, but much of the difference is rather change of shape than of volume.

The sounds of the heart may undergo important modifications, as you well know; their nature is, therefore, an important study. By means of resonators, both the first and second sounds have been dissected, and each is found to consist of two elements; the subject is yet far from elucidation, yet it seems that of the two elements of the first sound, a higher and a lower, the former is due to the propagation of the vibrations of the taut auriculoventricular cusps and their blood-columns, and the lower to the vibration of the muscular

valls of the ventricles and of their contents; of the econd sound the higher component is due to a like ibration of the semilunar valves, the lower to vibraion of the associated blood-columns. Defective nutrition of the cardiac muscle then should be attended vith an enfeeblement of the lower element of the irst sound, and such a defect we are always preoared to recognize in all such cases; but, unfortuately, contingent conditions, such as emphysema, nd others less well understood, interfere so often with he propagation of the first sound that we can not rely on diagnosis by the ear alone. In mitral stenosis, on the contrary, the higher element of the first sound predominates so strongly as to make this evident change a very valuable means of diagnosis; in this state an unfilled left ventrical and very short valvular vibrations of high frequency give a characteristic and indeed peculiar quality to the first sound, such as to clinch a diagnosis of the condition even in the absence of fluid veins giving rise to audible murmur. Accentuation of the semilunar valves likewise may indicate either shorter cusps (higher pitch) or denser cusps (clang) or, increased blood-pressure above them; and thus we try to measure increased aortic and pulmonary stresses respectively. It must be remembered, however, that in health the pulmonary second sound is more accentuated than the aortic, at any rate up to, say, 50 years ago, and that in passing functional states these sounds may vary probably in connection with varying cardio-vascular tone. You will observe that I describe the higher element of the first sound as being due, not to the closure of the auriculoventricular valves, but to their tension after closure; for it is ascertained by manometrical experiments that at the moment of the first sound the intra-auricular pressures are not increased, not even though the valve bulge into the auricle. I find that students fail to realize that the so-called cavities of the heart and arteries are never cavities, but potential cavities only; that the work is carried on in a plenum; this being so, the valve-cusps, when free to play normally, float nearer to their beds as intraventricular pressure increases, but as during approximation blood at equal pressures surrounds them they do not close with a snap; the snap, if such it is, coincides with their tension by the blood as it is forced by the contracting ventricles, the auricular pressures, having by this time fallen proportionally; in other words, the second sounds are not generated by closure, but by differential pressures. Reduplication of the first or of the second sound cannot be due to asynchronism in the contraction of the ventricles, which the physiologists assure us does not occur; it is probably due to asynchronism of these tensile stresses of the valves. Under normal circumstances there is not a little mutual play in space between the cusps of all the valves, supported, more or less as respectively they are, by the muscular cushions to which I have referred. Thus, as stresses vary, there is no doubt a good deal of reciprocation in function between the several cusps, and in health these segments probably lie in opposition over considerable superficial areas, as for the moment the sphinctered orifices keep tight. It is alleged indeed that there is a mutual accommodation between the mitral and aortic valvular apparatus, the papillary muscles helping to hold open the aortic orifice.

Thus by easy gradations we are led on to consider the forms of the heart's movements. I have taught for many years that the heart is to be regarded as a screw, the great vessels, both arterial and venous, about the heart being continuous in functions with it, and integrated with it as one compound organ; by this screw action the blood is forced from section to section.

The apex is indeed the most immovable part of the heart, the shock being rather a change of shape than a translation in space, and the base approaches it as the aorta lengthens. The heart shifts, however, as a whole with the position of the patient, as cardiographers must remember. Herein the parts about the heart are to be contrasted with the muscular arteries wherein physiologists assure us that no peristalsis is possible; the muscular coat can only affect the velocity of the blood-current by variation of caliber, and hypertrophy of the coats of the small arteries, due no doubt to abnormal tensile stresses, can have no other forwarding effect upon their contest, they cannot by vermicular action urge it on; thus hypertrophy of the small arteries is a compensatory support of tone against excessive distention. But about the heart things are otherwise; here the blood is sent on by a peristaltic movement, it is screwed in bulk from section to section. Clinical observers, however, are prone to argue as if the several chambers of the heart act in distinct succession; but when we speak of the orderly succession of the movements of the several parts of the cardiac machine we are not to use terms which suggest a staccato succession but the phases of a cycle. This cycle in its time-relations is represented by the subjoined table.[1]

	SECS.
Systole of ventricle before the opening of the semilunar valves, while pressure is still getting up	.03
Continued contraction of the ventricle and escape of blood into the aorta	.27
Total systole of the ventricle	.3
Diastole of both auricle and ventricle, neither contracting passive interval	.4
Systole of auricle (about or less than)	.1
Diastole of ventricle, including relaxation and filling, up to the beginning of the ventricular systole	.5
Total cardiac cycle	.8

The only part of this table to which I will call especial attention is the first item; namely, the first phase of the systole. Ludwig, in his earlier investigations into the cardiac cycle, noticed the loss of an interval of time; this interval was traced by him to its

[1] This table is copied from Prof. Sherrington. Allbutt's System of Medicine, vol. v, p. 470.

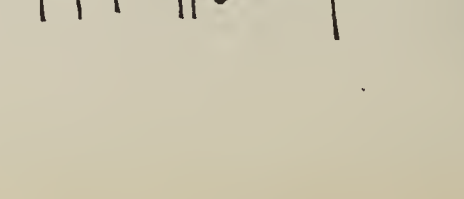
precise place, and its cause investigated; subsequently the interval has been known under such names as "Ludwig's lost time," "Ausspannungszeit," the "prosphygmic interval," and the like. This interval has been estimated on the basis of synchronous tracings of apex beat and the carotid pulse, and otherwise. From the clinical side the analysis of the "apex beat" into sphygmic and prosphygmic parts has been elaborately worked out by Potain, and the clinical importance of the interval demonstrated. This "lost time" is of no little importance, both in its physiologic and clinic aspects. On the table you will see that it is on the initiation of the systole that some $\frac{3}{100}$ of a second is "lost" in "getting up" pressure. During this moment the ventricular contraction is approximately "isometric;" that is, the muscle gathers itself together without shortening, as when an athlete hardens his biceps without flexing the forearm on the arm; thus the ventricle (and for the moment it is convenient to speak of the left side) grasps the whole volume of its content, but as the pressure is not instantly sufficient to overcome the pressure in the aorta, the effort continues until the resistance of the column of blood in the aorta is overcome, the valve opens, and during the remainder of the systole—that is, for say, $\frac{5}{100}$ of a second more, the content of the ventricle is expelled, or that fraction of it which is equivalent to the current contraction-value. This prosphygmic interval seems clinically to be increased when, as in true obstruction of the aortic orifice the intraventricular pressure is raised, and diminished when, as in free aortic regurgitation aortic and ventricular pressures are equal at the end of diastole; "heart and aorta being virtually one chamber." (Chapman.)

As I have said, there may be always a nominal residuum after the completion of the contraction-volume, and output may be always fractionally different—and under adverse circumstances the residuum may be substantial, and even grave in amount. Such is the case in states of excessive arterial pressure; but under normal circumstances the pressure in the ventricle continues to rise, and in health to attain its maximum almost instantly when the ventricle relaxes, and certain secondary waves apart, the pressure falls more or less gradually to the abscissa. If the mean arterial pressure be abnormally high these phases vary accordingly; more persistently, instead of reaching its maximum almost at once on the opening of the aortic valve, it rises more reluctantly throughout a long systole, "becoming maximal immediately prior to relaxation" (Hürthle, Sherrington). For like reasons the fall also is more gradual, and the maximum and minimum are approximate. This protracted high-pressure curve, or "plateau" is often to be seen plainly on sphygmographic curves in Bright's and other diseases.

The screw-action of the heart, whereby pressures are made continuous, has been emphasized by Dr. Samways and other recent authors as a "vermicular action," the statical expression of which in muscular distribution has been demonstrated by His; its use is to keep up onward movement even as ventricular pressures rise before the closure of the auriculoventricular valves; the shorter mean radius of curvature of the auricles making them, thin-walled as they are, no unequal antagonists of the stouter but more capacious ventricles. The valves close when and not before the ventricular and auricular pressures attain equality; the ventricles then stiffen themselves during the prosphygmic interval; the valves become taut under the stress; intraventricular pressures attain the degrees of the aortic and pulmonary; the semilunar valves open, and the blood is dispatched again on its rounds.[2] The stouter left ventricle has a much greater reserve than the right, being subject to large variations in demand, whether during the various muscular efforts whereby arterial pressure may be suddenly raised even as much as 30%, or again during the fluctuating demands of unequal areas of visceral activities. The right ventricle, on the other hand, supplying, as it does, an area of uniform demand, and undisturbed by vasomotor interference, is endowed with a smaller "factor of safety." It is because of this uniform calibration of the pulmonary venules that slight increases of pressure in this circuit are heard at once at the terminal (pulmonary) valve.

The heart has not only to be a cause of activity in other parts, but also of activity in itself; its own nutrition is self-provided, by way of the coronary circulation and by other less obvious ways of which we know little. I shall tell you hereafter that even in extreme states of obliterative disease of the coronary vessels the muscle of the left ventricle may, and often does, retain its soundness, nay even under an abnormal resistance also it may present a sound hypertrophy, and this for an indefinitely long time.

If the coronary vessels are healthy the pressure in them must be the aortic pressures both of cardiac and of aortic systole; for Brucke's allegation, adopted by Milnor Fothergill, that the elevation of the cusps of the aortic valve during systole closes the orifices of these arteries and permits them to be filled only by the resilience of the aorta during cardiac diastole—an allegation contested by myself at the time—has since been amply refuted on the obvious grounds of the law of equal hydrostatic pressures; for, as I urged at the time, were the cusps set back against the wall of the aorta without even a film of blood behind them, how would they ever get down again, while the presence of even a film would



[2] *a*—*b* auricular systole; *b*—*c* prosphygmic interval; *c*—*d* period of expulsion; *d* cessation of contraction. Here a drop occurs, at the bottom of which is a notch owing to inertia of the lever, after which a slight rise takes place owing to gradual filling of the ventricle. (Chapman.)

ansmit equal pressures behind them? This is one of ıe many misconceptions which would vanish did we ut realize that the circulatory system is a plenum.

The kind and degree of the concern of the nervous ystem in the heart's functions has been implicitly recgnized in the foregoing description. I need not detain ou long on this side of the circulatory mechanism. Ve have seen that, by means of the "depressor" action, ıe nervous internuncial fibers can regulate blood-pressures in many ways, especially in counteraction of ravity and in keeping a balance under other circumtances of fluctuating pressures. As one convenient lustration I may remind you that section of the pinal cord usually causes a drop something like 50% ı pressure, a fall due in part—say 25%—to a release of eripheral resistance, and in part to a coincident increase of capacity of the whole vascular system—ay by another 25%. On the other hand, stimulation f the splanchnics, by driving 20% to 30% of blood nto the main current, may raise the mean arterial ressure by as much as 50 mm. Hg, as I have myself bserved in Roy's laboratory. Slowing of the pulses s probably always due to the economizing action of the agi, which is brought about by a reflex action, when he heart is under excessive stress; by its means either he metabolism of the heart is checked, its emission f heat increased, or its energy diverted into other hannels, perhaps into some ganglionic reservoir, to be tored for further emergencies. But the vagus often works ıand in hand with the accelerators (a group of nerves ittle understood), so that even on muscular effort, when ressure rises, be it transient or continuous, the rate is ncreased.

The mechanism of vagus economy is as as follows: . Diminution of auricular contraction. 2. Overflow nto ventricle. 3. Diminished excitement of ventricle. 4. Slower and smaller output, its quantity, perhaps, reluced by 20% to 30%. 5. More residual blood. Thus n high or relatively high blood-pressure a lesser output aves the heart, and after this rest the contractions beome stronger, quicker and fuller. Meanwhile, probably, the depressor mechanisms have put some of the nass of blood aside. This saving of the heart sometimes takes the form of a complete intermittence, or a full contraction may be followed by a partial one, ifting but a fraction of the pale of blood. Intermittence, then, is often an economy; though, on the contrary, it is often due to toxic causes sickening the cardiac muscle, or neurocardiac system, as we see it in failing compensation. In the first case the modified action is not the asystole, which in the second case may be vertigo, or dim vision. The net result is that by means of the vagus the heart calls for rest, and rest is virtually possible only by prolongation of diastole, the systolic tone, though not constant, being approximately, so; but the vagus is susceptible of fatigue also, and in case of peril the vagus, often after some conflict and arrhythmia, falls back and the heart has to sacrifice some of its rest to the imperious demand of more stubborn organic elements. Thus, in disorder we find diastole to be the least uniform in duration of the heart's periods. (Donders, Edgren, and others.) You will say that to slow the heart is no saving if the mean output is constant; but mean output for the period of retardation is pretty surely diminished. Conversely, however, authors are too ready to assume that cardiac acceleration means more work; in a narrow sense it does not if the mean output per minute is proportionately less; still, in a broader sense, the heart probably suffers more wear; output per minute and hour may be increased, and probably in either case the normal adjustments of the whole circulatory mechanism are racked.

Before concluding this lecture you may desire some account of the instruments used to investigate, measure and record the phenomena upon some of which I have commented. Of these we shall be ungrateful indeed if speaking historically we did not put Marey's sphygmograph in the first place. This instrument achieved much, not only in revealing to us the form of the pulse, but also in drawing more attention to graphic methods. Some experience soon showed that the sphygmograph would not solve our problems; the inconsistency of the conditions of its application make it useless as a measure of arterial pressure, and its powers of analysis of arterial movements prove to have somewhat narrow limits, so narrow that in many abnormal states of the circulation the curves of the sphygmograph are so formless or so inconsistent as to be valueless in this respect. The cardiograph has like defects; it misses some of the phases of the cardiac cycle, though fortunately it tells us some things which the sphygmograph does not, especially as regards the comparative times of the cycle. I need not say that synchronous tracings at two or more points of the circulation are helpful and illuminating. Hill and Barnard's sphygmometer is a gauge of mean arterial pressures only; thus far I have found it a valuable instrument, though not very portable, or handy in application. Dr. Oliver has produced a more portable instrument, of which, however, I have no experience. Oliver has also produced an instrument, the arteriometer, for measuring the caliber of the radial artery; it should be useful, but I have not yet attained sufficient skill with it to get consistent results. Finally, in the laboratory, manometers recording movements and pressures in animals upon revolving drums, carried to something like perfection by Ludwig and his pupils, have added largely to our knowledge of this subject. Even with the sphygmograph, however, some few skilled operators, such as Mahomed, Riegel, Galabin, and others, have produced good and instructive curves, and even a moderately skilled person may from it obtain much information, such, for example, as the space and time rela-

tions between maximum and minimum pressures, and as to the state of elasticity of the artery under observation, practically always of the radials, though in this inquiry the instrument may be applied to the dorsalis pedis, in which vessel degeneration may be detected early. In case of low resistance the upstroke may be more rapid than the clockwork, and the excursion-line may slope backwards; with high resistance the clockwork becomes relatively faster and the low maximum excursion slopes heavily forward. The secondary waves are beyond the analysis of the sphygmograph, except as the anacrotic (or katacrotic) and dicrotic notches; the latter is not of much use,as its causation and conditions are not yet determined; the anacrotic signifying that the intraventricular and aortic pressures have a small maximum difference, and that at the point of its occurrence in the rising curve the velocity of the ventricle is relatively in excess of that of the aorta at its periphery, tells us only what the form of the "plateau," or that of the arterial elasticity, tells us better. In the consulting-room the experience of the finger, instructed, no doubt, by the records of those graphic instruments has become independent of the sphygmograph, while it tells us still more; but a sphygmometer, such as Hill and Barnard's, is indispensable for the appreciations of mean pressure for which the impressions of the finger alone are not quite trustworthy, the tone of the vessel and the state of its coats often interfering with accurate appreciation. I have already urged sufficiently that vascular tone or "tension" is not directly, as the blood-pressure. In states of low mean arterial pressure the maximum and minimum pressures may present wide differences; under very low pressures but vigorous pulses the excursion of the lever may be thrice or even four times as large as under very high pressure. High and low maximums must then be distinguished from high and low mean pressures.

So many able workers have been engaged in discovering, elucidating and extending the phenomena which I have tried to set forth in this article that it would be as difficult as it would have been inconvenient to distribute correctly to each his due. My only claims to deal with the subject at all are my long friendship with the late Professor Roy and frequent association with him in his experiments, and my sense of the importance of a knowledge of the laws of the normal circulation to all of us who could comprehend and take in hand to modify the abnormal, as we shall see hereafter. For the substance of my lecture I am wholly indebted to others; and among these investigators I would mention the names of Ludwig, Cohnheim, Roy, Hürthle, Tigerstedt, Sherrington, Waller, Chapman, and James Mackenzie.

Schultze (*Zeitschrift für Orthopädische Chirurgie*, 1899, vii, 298) suggests for the treatment of **fractures of the lower extremity,** the use of **plaster-of-paris** bandages covering in the whole extremity, which is put on and allowed to set while the limb is being extended. [G.B.W.]

A CASE OF MULTILOCULAR PSEUDOMUCINOUS CYSTADENOMA OF THE RIGHT OVARY ASSOCIATED WITH PRONOUNCED SYMPTOMS OF DIABETES OPERATION WITH RECOVERY, FOLLOWED BY THE DISAPPEARANCE OF THE SUGAR FROM THE URINE AND OF THE DIABETIC SYMPTOMS

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THE object of this paper is to call attention to a seeming etiologic relationship between certain disease of the female internal genital organs and some cases o diabetes, and particularly to describe and present fo discussion a case in which, concomitant with the growth of a multilocular pseudomucinous cystadenoma of th right ovary, there was present in the urine 7% of suga and the clinical symptoms of diabetes, followed, afte the removal of the cystoma, by a disappearance of th sugar from the urine, the diabetic symptoms and th recovery of the patient. So far as we can learn from a careful study of the literature, disease of the femal internal genital organs, associated in a seemingly etiologic relationship with a large amount of sugar in th urine and diabetic symptoms, has been very rarely observed.

The only literature bearing on the subject is comprised in indirect references by Tuffier,[1] Israel,[2] Tait and Lecorche,[4] and the report of two isolated cases b Imlach[5] and Croom.[6] Imlach and Croom believe tha from the history and course of the cases they repor that it may be fairly assumed that the disease of th genitals and the glycosuria stood in the relationshi of cause and effect.

The case coming under my observation would seem to warrant such a belief and has led to this preliminary study.

Mrs. L. H., American, white, housewife, sextipara, 53 year of age, was referred to me on July 19, 1897. Her famil history had no bearing on the case and was entirely good Her children were healthy. She gave the history that sh had always enjoyed the best of health and had been accus tomed to hard work. The menstrual function was establishe at 16 years of age and occurred normally until the meno pause, which took place at 49 years of age. At about 2 years after the menopause she was without apparent caus taken with pain in the lower abdomen, followed by a rathe profuse bleeding from the uterus. Such hemorrhages then oc curred every two weeks, lasting a week, during the remainde of her illness. Eight months after the onset of the hemorrhage or 10 months before coming under observation, she discovere a tumor growing in the lower abdomen. It gave her no dis tress and she was little concerned about it. Some time afte the discovery of this tumor she began to complain of languo weakness, deficient endurance, and sleeplessness. Her appe tite was very good, yet she seemed to be losing weight. He digestion was poor, she was now and then nauseated and ha gastric eructations. She soon began to complain of grea thirst, and noticed that she drank large quantities of wate during the day and was getting up for it once or twice a night. Micturition became more and more frequent and fo many months she had been passing what she thought was

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[1], [2], [3], [4], [5], [6] *Brit. Gynecolog. Jour.*, February, 1896.

rge quantity of urine. The bowels were constipated. The mptoms of languor, weakness, sleeplessness, thirst, and equent micturition slowly grew worse. The digestion im-roved and her appetite became enormous. She was always ungry. The tumor grew rapidly and for a month before xamination had filled the abdominal cavity and was ausing some shortness of breath. It, however, gave her ttle other distress beyond an occasional sharp, shooting ain and a feeling of weight in the pelvis. The hemorrhages om the uterus continued with the same frequency, grew nore profuse, but were never alarming. Finally, a week efore coming to Philadelphia, she consulted her physician, ho at once recognized her condition and advised operation. n admission to the hospital her appearance was quite haracteristic of that of a woman having a large ovarian yst. She had the expression known as the "facies ova-iana." Her limbs, face, and chest were somewhat emaciated. There was a small amount of edema of the lower limbs. The kin was everywhere dry and rough. She complained of the ymptoms above described and believed all of her illness to e due to the presence of the abdominal tumor. A physical xamination of the chest detected nothing abnormal. The bdomen was seen to be irregularly distended and filled with tumor, the surface of which was bossed or lobulated. Three bosses or lobules could be determined by inspection. After practising the usual palpation and percussion it was easily determined to be a multilocular cyst, which filled the pelvis and abdomen, extending well into the flanks and reaching to within 3 inches of the xiphoid cartilage.

Vaginal examination determined a bilateral laceration of the cervix, the uterus enlarged, measuring 3½ inches, retroposed and displaced bodily toward the left pelvic wall by a cystic mass, which was found to be part of the abdominal tumor. The diagnosis of a multilocular cystadenoma of the right ovary was easily made.

Because of the symptoms which suggested diabetes, and following also the usual custom, a careful chemic and microscopic examination of the urine was made, with the following result: The urine was light lemon-yellow in color, acid in reaction, and contained a small amount of flocculent sediment. The specific gravity was 1042. No albumin nor casts were found, but a large amount of sugar was detected. At this time Dr. James Tyson was asked to see the patient and agreed with me in the diagnosis of diabetes. Since the tumor was already causing dyspnea and edema of the lower limbs, and thus was the more serious immediate condition, it was thought the safer plan to operate.

Celiotomy was performed on July 27, 1897. The abdomen was opened by a free incision. Several adhesions between the cyst-wall and the parietal peritoneum were separated. The largest loculus was tapped, the mass delivered out of the peritoneal cavity and removed in the usual manner. The left tube and ovary were normal, and the uterus, except that it was large and congested, was also normal. The abdomen was closed without drainage.

The macroscopic characteristics of this multilocular pseudomucinous cystadenoma in no way differed from many others I had previously observed, nor was there any indication of degenerative change, bloodvessel change, or complication. Its weight with the collected contents was 22 pounds. There were three large and two small loculi, containing the usual colloid material.

Very unfortunately no chemical examination of the contents of the loculi nor microscopic examination of the cyst-wall was made, for the importance of this could not be appreciated at the time. We believed the diabetes would pursue the usual fatal course.

The patient made a perfectly normal convalescence, the temperature never going above 101° F. nor the pulse above 110. As soon as the immediate danger of the operation was over she was placed under the care of Dr. Tyson, who prescribed sodium salycilate gr. 10 every 4 hours, with other medicines, placed the patient on a diabetic diet and made daily examinations of the urine. The amount of sugar in the urine was found to diminish from day to day, until at the time she left the hospital, 24 days after operation, it had fallen to 4%. All other symptoms also lessened and she left for home quite considerably improved in health. On November 1 her physician wrote me that she was rapidly gaining in every way, and that on October 9 there was but 0.50% of sugar in the urine. Her bowels and kidneys were acting normally. She was sleeping well, she had returned to the ordinary diet and was attending to her duties on the farm. On February 17, 1898, he wrote me again that Mrs. H. was very well, working hard and walking 1½ miles to town and back often more than once daily. Also that the sugar had entirely disappeared from the urine.

The case reported by Croom[7] strikingly resembles in history and course the case just described, and is of equal importance in showing the same possible etiologic relationship. The patient was 53 years of age, and came to him complaining of dyspnea from the presence of an abdominal tumor she had discovered 5 months previous to coming under observation. The menopause took place 6 months before, and since then there had been no discharge from the uterus. Micturition gave rise to no pain or uneasiness, and the amount of urine did not exceed the normal. On examination, however, the urine was found to contain a large amount of sugar. Its specific gravity was 1047. The amount of sugar excreted in the urine in 24 hours was 545 grains. There were none of the other symptoms of diabetes. Her general health seemed good. By abdominal and vaginal examination the tumor was determined to be a large colloid ovarian cyst. Medical treatment was administered for 3 weeks without benefit, and as the growth of the tumor was distinctly progressing, the dyspnea becoming urgent, operation was decided upon. No difficulty was experienced in removing 2 large multilocular colloid cystoma and completing the operation. The tumors weighed together 56½ pounds.

The patient made a good though slow recovery after operation, and left the hospital at the end of 6 weeks.

The amount of sugar in the urine dropped to one-half what it was before operation during the first 6 hours, but this was only temporary, and it rose again on the following day to 10 grains to the ounce. Then for 11 days no special treatment was given. Morphia was then tried with a modified diet, but had no influence on the amount of sugar excreted. Finally a rigidly restricted diet was given alone. This was followed by no better result for the first fortnight. Then the sugar diminished rapidly, and about 3 months after operation the urine was found absolutely free from sugar.

From these two cases it is very positively shown that concomitant with the growth of a multilocular pseudomucinous cystadenoma there was a large quantity of sugar in the urine; that the sugar rather rapidly disappeared from the urine after the removal of the cystadenoma; that the patients very quickly and completely regained their health, and that the urine remained free from sugar even though the ordinary diet was taken. In the one case there were associated very pronounced symptoms of diabetes mellitus, while in the other these symptoms apparently were absent. The quantity of sugar in the urine progressively diminished in one case, taking place more rapidly during the first 24 days

[7] *Brit. Gynecolog. Jour.*, February, 1896.

than during the succeeding 6 months. The urine in this case was found completely free from sugar 7 months after operation. In the other case the percentage of sugar dropped during the first 6 hours after operation to one-half what it was before operation. The quantity rose again, however, within 24 hours, and remained stationary for a month, regardless of diet and therapy, then rapidly disappeared, and was absent 3 months after operation. The age of both patients was 53 years, one being 6 months and the other 3 years beyond the menopause. There was no hereditary history of diabetes, and the patients had been healthy preceding the described illness. It is to be particularly observed also that in both instances the cystoma was a pseudomucinous cystadenoma, unilateral, and weighing 22 pounds in one, and bilateral and weighing 56½ pounds in the other.

It would seem from these facts, therefore, that there is at least strong evidence that the presence and growth of the multilocular pseudomucinous cystadenoma stood in the relationship of cause and effect, and were not merely coincident.

The question at once arises, In what way does the cause operate? Could the character of the cystoma and its contents in some way influence the production of the diabetes? We find that a very careful and quite extensive study of the contents of these cystoma has been made by Hammerstan (*Zeitschr. für Physiolog. Chemie*, Bd. vi, 1882) and Pfannenstiel (*Archiv für Gyn.*, Bd. xxxviii), and that both determined the colloid contents as a peculiar mucoid material secreted by the cylindric epithelial cells lining the loculi. This substance was found to have many of the properties of mucin, but differed from mucin in that when treated with acetic acid it remained unchanged. Hammerstan therefore gave it the name, pseudomucin. He found that by boiling pseudomucin with a dilute solution of a mineral acid a sugar was separated, which in turn was strongly reduced by an alkaline solution of the sulfate of copper. He states that pseudomucin belongs to the "so-called" glycoproteids, and that anyalysis shows it to be N and H.

Pfannenstiel determined that there are various forms of pseudomucinous cystadenoma, which differ as to the character of cyst-wall, loculi, consistency of contents, etc., and also that there were three forms of pseudomucin, which differed in solubility, reaction, and amount of N. Still more recently Mijükoff (*Archiv für Gyn.*, Bd. xlix) found in the colloid contents of a very large cystoma of the ovary a substance which he describes as paramucin. Paramucin, he states, is directly (without boiling with a dilute solution of a mineral acid) reduced by Fehling's solution.

The question arises, was this glycoproteid not in some way set free in these particular instances and excreted by the kidneys as sugar? What would make plausible such a hypothesis is the fact that four forms of pseudomucinous cystadenoma have been describe which vary as to the character of wall and pseudom cin. It would seem possible that there may exist fifth form of this cystoma, the walls and physical an chemical properties of which may allow absorptio through channels to the kidneys, producing sugar i the urine and the symptoms of diabetes.

The most probable method of absorption would b through the vascular system of the tumor, just a metastasis takes place in malignant growths. Th pathology of the walls and septums of these cysts sho that the smaller bloodvessels approach very near th internal lining of the loculus and are sometimes e posed. They might therefore directly take up th substance.

Lymphatics have been found about the pedicle the tumor, and no doubt exist in the walls. Absorptio and the necessary change of the mucoid substan might perhaps take place through the lymphatics.

The varying consistency of the fluid contents mak it possible that an exosmosis could have occurred, th material set free being of a character to be in some wa changed and cause the formation and excretion sugar. The physical condition of the patient in thes two instances may have had some influence in settin free and changing the pseudomucin, so that it wa excreted by the kidneys as sugar.

How changes could take place in the pseudomucin s free as described in the above theories is difficult say, yet it seems to me not impossible that the nece sary fermentative or chemical change should occur. would also seem plausible that the glycolytic functio of the pancreas could be so disturbed by the continu presence of such a substance as to produce glycosuri

Before any definite evidence can be gained to estab lish on the one hand, or prove false on the other, direct relationship of cause and effect between th pseudomucin of these cystoma, and glycosuria an diabetes, a certain amount of experimentation will b necessary. At the first opportunity I have of procurin material from a cystoma of this character I shall inje it into the blood of dogs, administer it as food, etc., an look for changes in the urine.

Leaving this question undecided, it is necessary look further for other causes which may have operate in the production of the glycosuria in such a tumor.

A theory of importance is the mechanical interfe ence with the glycolytic function of the pancreas, with the hepatic circulation.

I do not believe the tumor in my case was of suf cient size to interfere with the function of the pancrea since it reached only to within three inches of th xiphoid cartilage. Such a cause might have operate in the case described by Croom, but since there wa a sudden diminution in the amount of sugar immed ately after operation he concluded this theory coul not be accepted.

It is known that hyperemia of the hepatic system will ause glycosuria. It is, however, extremely unlikely hat a pelvic abdominal tumor could interfere with the epatic circulation. If this were the case then most arge abdominal tumors would cause sugar to appear in he urine. I do not believe that it was probable in my ase that there was pressure on the semilunar ganglion, nd that vasomotor dilation and thus hepatic hyper- mia resulted, though it is possible. This, however, is he theory which Croom thought most plausible in his ase.

I think it can be fairly well assumed that these umors did not cause glycosuria by mechanically inter- ering with the function of the liver or pancreas directly r indirectly.

The question as to the association of neoplasms with liabetes I find has been somewhat investigated and nust be considered. From the study of 54 cases Tuf- ier[8] concludes that all tumors, from lipoma to encepha- oid cancer, and without predomination of any one form, nay be associated with diabetes. He believes that liabetes has no influence on the tumor, and that the ssociation is simply coincident. Naunyn,[9] among 400 ases, saw 6 with carcinoma of the liver, 1 with pithelioma of the cheek, and 1 with carcinoma of the tomach.

These studies of Tuffier and observations of Naunyn would seem to substantiate the belief that diabetes can- not be produce by the mechanic or pathologic influ- ences of tumors in general, yet in none of the cases Tuffier collected, or Naunyn observed, was operation performed, the tumor removed and the patient's health restored. Furthermore, his paper does not show a care- ful study of the subject. His observations did not warrant such a study and therefore his opinions did not prove that the relationship of cause and effect may not exist, at least in the special form of tumor we describe.

A case reported by Imlach[10] has a direct bearing on the subject and makes the problem even more difficult, since the association of a large quantity of sugar in the urine and the symptoms of diabetes with pyosalpinx was followed, after a bilateral salpingo-oophorectomy, by a disappearance of the glycosuria and complete re- covery as in the cases above reported. The patient complained of insatiable thirst, sleeplessness, which she has had for a month. She passed a large quantity of urine, of which the specific gravity was 1036. For 3 months there had been between 1,200 and 2,560 grains of sugar in the urine passed in 24 hours. All symp- toms of diabetes rapidly disappeared after operation and a month later she was well, there was no sugar in the urine and she was taking the ordinary diet. The object of the operation, he states, was the induction of the menopause, with the hope that the acute diabetes would become chronic.

[8] *Archives générales de Médecine*, Aug.-Sept., 1888.
[9] Work on Diabetes Mellitus, Nothnagel's System.
[10] *British Medical Journal*, July 11, 1885.

Here pyosalpinx was associated with glycosuria and diabetic symptoms, and the patient was completely cured by removing the tubes and ovaries. This would influence one against the belief regarding the absorption of pseudomucin, or the mechanic disturbance of the circulation of the liver or glycolytic function of the pan- creas. It would rather point out that the induction of the climacteric change had something to do with the cure. Some evidence to assist in the belief that the climacteric has a decided influence on some cases of diabetes mel- litus is to be found in the literature. Lawson Tait[11] and Lecorche[12] refer to a climacteric diabetes, which appears at or about the climacterium, and has a natural termination in cure. Tait reports 4 such cases, and from their description there seems to be no doubt but they were true diabetes and that they recovered. Ac- cording to Lecorche, diabetes occurs unusually frequent at the time of the climacterium. He believes there is a special form of diabetes in women at the menstrual period of life, which runs a certain definite course, ex- tending over some years and terminates in recovery. Frerichs[13] believes that women at the climacteric, espe- cially when stout, are liable to suffer from diabetes. This, however, is not the experience of Naunyn[14] and Dickin- son.[15] Williamson states that in mild forms of diabetes, occurring about the climacteric, recovery sometimes takes place. It is possible, therefore, that all 3 patients described had this climacteric diabetes. The first 2 patients were 53 years of age and in or about the cli- macterium. One can appreciate how the cystoma in these 2 cases kept up sufficient irritation to prevent the completion of the climacteric changes and thus not allow the cure of the diabetes. The disease being an ovarian growth too, may have assisted to prevent the changes which would otherwise have taken place. Still another cause for the continuance of the diabetes in the 2 first cases was the general poor health of the patients caused by the presence of the large cystic tumors. After the removal of the tumor in such a case there would be a natural improvement of the general health, which would stimulate the functions of the liver and pancreas and might explain the rapid disappearance of the sugar from the urine. It might be, too, that the glycosuria was only present with the reduced physical condition of the patient, and that it diminished and disappeared with the improvement of the general health. Naunyn writes that in cases of diabetes in which there is a complicating disease, the latter is relieved and the patient's nourishment is thus much improved, the gly- cosuria may disappear. Such cases have been observed.

If it is to be granted that the induction of the climac- terium, or completion of the climacteric change, with, perhaps, the improvement of the general health, caused

[11] *The Practitioner*, London and New York, June, 1886.
[12] *Annales de Gynecologie*, Oct., 1885.
[13] Williamson on Diabetes Mellitus.
[14] Naunyn, Diabetes Mellitus, Nothnagel's System.
[15] Williamson on Diabetes Mellitus.

the glycosuria and diabetic symptoms to disappear in these 3 cases and those described by Tait and Lecorche, then the question arises, How does the climacteric change act? Our meager knowledge of this physiologic process does not allow us to give more than hypothetic reasoning on the question. We know that there takes place an atrophy of the genital organs, and they become quite completely functionless at this time. Furthermore there is a systemic change which seems to affect chiefly the vasomotor system.

Many cases of diabetes are not affected by the climacterium, and thus it cannot in itself cure diabetes. Furthermore, since this last is true, we must conclude that in those cases where the climacteric change does seem to favorably influence and cure diabetes, there must have been some preexisting disease, abnormal function or secretion of the internal genital organs producing diabetes, and such disease was necessarily affected, and perhaps entirely removed, by the climactric atrophic change. It is therefore still suggested that there may be some relationship of cause and effect between certain diseases or functional conditions of these organs and certain cases of diabetes.

The fact that in two cases there was a pseudomucinous cystadenoma of the ovary, and in the other a pyosalpinx, would lead to the belief that if diabetes can be produced by a gynecologic disease, it is produced by more than one form of disease. Also, since the vast majority of the diseases of the female pelvic organs, including pseudomucinous cystadenoma and pyosalpinx, are not associated with glycosuria, that there must be, in order to produce the glycosuria, some special associated pathologic condition of these organs, other organs or tissues, or some condition of the health which would favor the production of the glycosuria. If there is a pathologic condition of the genital organs associated with diabetes, and it is demonstrable macroscopically, or even microscopically, it has not been observed. There has been no reason to look for such changes, and in this way its presence would be overlooked, or considered to be of no importance. The case reported by Israel (*Virchow's Archiv*, Bd. 83, 1881), however, is, I think, in this sense of sufficient worth to be referred to. The patient died of diabetic coma. There was evidence of constitutional syphilis. Both ovaries were found necrotic, converted into fluctuating sacs the size of a walnut and hen's egg. The uterus was normal. The tubes were normal, except that the fimbriated ends were swollen and the vessels filled by being in contact with the necrotic ovaries. He did not believe the necrosis of the ovaries to be due to syphilis, but surmised that there was a preexisting chronic oophoritis which progressed to necrosis under the favorable influence of the diabetic disease. There was, therefore, no very logical reasoning in this instance that a chronic oophoritis was influenced to necrosis by the diabetic disease. Further, since we find in the literature that all cases of necrosis of the ovaries observed, excep this one of Israel's, have been due either to sever wound-infection or to torsion of the ovarian pedicle which completely shut off the blood-supply to the ovary this case is unique and there is strong cause for doub that Israel's explanation is the correct one. To m mind it is quite as probable that the necrosis, or pre existing disease of the ovaries, was a diabetic lesion similar to the necrosis of the pancreas which has bee observed under the same conditions.

From this study of the literature and the history an course of the cases described it would seem quite war rantable to make the following deductions:

1. In rare instances when disease of the femal internal genital organs is associated with diabeti symptoms and a large quantity of sugar is found i the urine, the diabetic symptoms and sugar in th urine seem to be dependent on the disease of the geni tal organs.

2. In other cases the excretion of a large amount c sugar by the kidneys without diabetic symptoms seem to be dependent also on the disease of the female inte nal genital organs.

3. Since in every case of any class or classes of di ease of the female internal genital organs no such ass ciation has been observed, it is probable, that in orde to produce the diabetic symptoms and excretion c sugar by the kidneys, there may be present, in add tion to the disease of the genital organs which we a able to recognize, some special and separate lesions, c abnormal secretion of the genital organs, or some affe tion of other organs, or some special predisposing co dition of the body.

4. Such cases of diabetes as are here described, an those cases to which Tait and Lecorche have given th name "climacteric diabetes," may be cured by th induction of the climacterium, the removal of gro disease which allows the completion of the climacter change, or by the progress of the normal climacteriu

Finally, I would say that the subject of associatio of disease of the female internal genital organs wi glycosuria and diabetes is worthy of serious consider tion, that there is sufficient evidence of an etiologic r lationship between the two diseases to stimulate caref observation of cases of this class and experimentatio aiming to determine the question of cause and effect.

I am indebted to my friend, Dr. Eugene Lindau Resident Physician University Hospital, for valuab assistance in the preparation of this paper.

Combating Tuberculosis.—The President of t Council of France, M. Waldeck-Rousseau, has just appoint a committee charged to furnish a report upon the practic means to combat the propagation of tuberculosis. T physicians upon this committee are Dr. Bouillet, Dr. C mette, Director of the Pasteur Institute at Lille; Dr. Kelse Dr. Letrelle, Dr. Marfan, Dr. Piettre, and Dr. Thomo secretary of the committee on Tuberculosis in the "Assi ance Publique." Professor Brouardel has been appoint vice-president of the commission.

ATHETOSIS AND KINDRED AFFECTIONS.[1]

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[Concluded from page 179.]

With regard to epilepsy, especially of the so-called liopathic variety, the assumption has hitherto been iat the lesion was one, perhaps molecular in charac-r, of the motor centers of the cerebral cortex. Recent xperiments, however, of Johann Prus[8] render this onclusion rather doubtful. He found that in dogs, e could produce convulsions by irritating the motor egion of the cortex. In order to determine then, hether in electric stimulation of the cortex, motor r sensory cells are stimulated, he painted the cortex ith a 10% solution of cocain. He found that, upon ien stimulating the same regions, he failed to produce ie convulsive attack. He concludes that there exist the region of the motor cortex sensory elements, or t least the termination of sensory fibers. He also con-ludes that the starting-point of ordinary epilepsy is ither sensory-nerve arborizations or sensory ganglion-ells, and not motor-cells or motor-fibers. The results f these experiments, would, if verified, go to show iat epilepsy is of the nature of a reflex disorder, in-tead of, as is generally accepted, a disorder primarily f the motor centers.

There is at least one other argument that renders this heory plausible. In the first place, what is it that occurs rst in an epileptic paroxysm? We know that in the iajority of cases the attack is ushered in by a sensory ura. Hamilton[9] says that "aurae may be sensory or iotor—in the preponderance of cases the former, for iotor precursors are quite rare." Gowers[10] has made a ystematic study of a large number of cases of epilepsy, nd from this study he finds that of 1,000 cases in vhich the presence or absence of a warning was noted, he aura occurred, at least occasionally, in 505. Fur-hermore, of these 505 cases, about 450 had sensory urae. The point of interest to us here is that in so arge a proportion of cases there occurs a precursor ref-rable to the sensory portion of the nervous system. Iow are we to account for this fact? How can we ccount for it upon the supposition that the lesion nvolves primarily the motor cells of the cortex? If his were the case we should expect the first discharge of nerve-force to evince itself in the form of motor dis-urbance, the sensory symptoms coming subsequently, f they occurred at all, before unconsciousness super-ened. We cannot escape the conclusion that, at least n the cases with sensory aurae (and some authors be-ieve they constitute the majority), the primary lesion s in the sensory tract.

But we are next confronted with the undoubted ruth that, in cases of epilepsy of the Jacksonian type, the lesion is frequently demonstrated to be a tumor in the region of the motor cortex, the convulsions having been localized in the portion of the body corresponding to the motor centers apparently involved. Does not this necessarily imply that the seat of the primary irritation is motor and not sensory? In answer to this I will quote the words of Gowers:[11] "This region of the cerebral cortex (*i. e.*, that bordering on the fissure of Rolando), is certainly motor, but it is certainly also not exclusively motor. Its destruction by disease causes persistent paralysis corresponding in distribution to the part destroyed; irritation of it causes convulsions that begin in the limb corresponding to the part irritated. But destruction of the parts causes also some loss of sensation, chiefly in the extremity of the limb most paralyzed." The fact is, that in our attempts at cerebral localization, we sometimes ignore the axiom that the brain is a very complex organ. It is probable that, in the main, the areas of the cortex, commonly mapped out as presiding over functions, are correct. But it is probable also that they are not to be rigidly accepted as such. It is probable that these so-called motor areas contain also sensory elements. It is only on this hypothesis that we can explain the sensory aura that precedes an attack due to a lesion in this location. It is only on this hypothesis that we can explain the discovery of Prus, already mentioned, namely, that a cocainization of this area will prevent the usual convulsion that follows an irritation in this region.

The class of cases here referred to is one whose pathology can be determined as yet only on theoretic or speculative grounds. But there is another class of cases of epilepsy in which the nervous lesion cannot possibly be originally in the motor tract. I refer to the cases that are acknowledged to be and are therefore denominated reflex epilepsies. There are many cases that have been attributed to uterine aud ovarian disorders. Others have been ascribed to umbilical hernia, to phimosis, to vesical calculus, or to urethral stricture. Old scars have been assigned as the exciting cause of the disease. Similarly many cases have been variously explained as due to injuries to nerves, neuromata, carious teeth, disease of the internal ear, injuries of the temporal bone, eye-strain due to muscular insufficiency. Of the last, Ranney[12] has presented some very striking examples. There are doubtless many cases that are improperly attributed to peripheral causes. But it is just as certain that there are many others that must be considered as having this origin. This is demonstrated by the many histories of such cases in which the removal of the supposed cause has been followed by a complete cessation of the trouble. For example, when a patient that has been having epileptic seizures for fifteen years as often as two or three times a week, and at least once in three months, is relieved of the trouble by tenotomies of the ocular muscles and the use of hypermetropic glasses, we cannot doubt that there is such

[1] Read before the San Francisco Medico-Chirurgical Society.

a thing as reflex epilepsy. When such a case as this has no return of the convulsions for ten years after the treatment described, there is no other conclusion possible. The case that I have cited is one described by Ranney,[13] and is one upon the basis of which he affirms that chronic epilepsy does not necessarily indicate any organic change in the nerve-centers. The interest of the case in the present connection lies in the fact that it clearly demonstrates that there are instances of epilepsy in which the trouble is distinctly a peripheral one; that, such being the case, the irritation must in these instances be experienced first in the sensory centers; and that the motor centers must be only secondarily affected.

We have, therefore, strong reason to believe that epilepsy, at least in the majority of cases, is due, not to direct irritation of the motor cortex, but rather to a lesion or an irritation of the sensory centers or to a lesion or an irritation further back in the reflex arc.

We have similar reason for believing that chorea may be a reflex disorder. It is a fact that in many cases of chronic chorea, just as in Ranney's case of chronic epilepsy, a peripheral source of irritation has been discovered and the disease has disappeared with the removal of the supposed reflex cause. But, aside from this, there are other reasons that point to the same conclusion. In an article on chorea, in Dercum's Nervous Diseases,[14] the writer sums up the pathology as follows: "In acute cases the disease is due to nutritive changes in the cortex of the brain, the motor region being more affected than elsewhere; . . . the cause of these nutritive changes may be either fright or mental strain, like overstudy. . . . " Now, if, as the writer states, and as is the fact, the disease frequently occurs as a result of fright or mental strain, we have no reason for supposing that the portion of the brain affected is the motor cortex—at least, no other reason than that the disturbances are chiefly motor. But, as has been shown, motor abnormalities are just as likely to be produced reflexly as directly. Moreover, fright and mental strain are more likely to leave their permanent impress upon receptive centers than upon emissive centers. There is no reason to lead us to suppose that the motor centers of the cortex are more vulnerable than are those which have to do with sensation and with psychic processes. In fact, there are reasons why we should suppose the contrary to be the case. And when sudden startling impressions are followed by chorea, we are warranted in assuming, until the contrary has been proved, that the damage has been done to the receptive centers; that these centers have lost their normal equilibrium; that they are more prone to excitation than they were formerly, and that they are more apt than formerly to respond to a stimulus by producing reflex movements. What fright and other strong emotions produce is a condition in which the higher, that is, the psychic centers, lose for a time their normal inhibitory power over the lower centers. It is natural, therefore, that these lower centers should then respond to weaker stimuli, whether they act reflexly through the sensory tract, or through the psychic tract itself. When a child with chorea, on attempting to hold the hand steady, makes the characteristic jerky movements, we should, if we accept this theory, account for the phenomenon, not by postulating an abnormal condition of the motor centers of the hand, but rather by inferring a disturbance of the higher centers to which these motor centers are normally subject.

There is a condition known as posthemiplegic chorea, and another called posthemiplegic athetosis. These come on at times some months after the onset of a hemiplegia or of a partial unilateral paralysis of cerebral origin. Strümpell[15] says that they occur chiefly in focal disease of the posterior extremity of the internal capsule and of the optic thalamus. He quotes Charcot's opinion that when there are posthemiplegic symptoms of irritation, such as posthemiplegic chorea, there is very probably a lesion of the posterior extremity of the internal capsule. Gowers[16] says that in adults these troubles have been observed chiefly in cases in which the lesion was in or near the optic thalamus. He professes himself at a loss to explain the fact. On the bases of the theory propounded in this paper, they could be accounted for as reflex movements. Given an irritative lesion in a sensory nerve-center or a sensory tract, the irritation may travel by the reflex path and manifest itself by its action on the motor centers and the muscles they supply. The facts of the pathologic findings are as follows: A lesion occurs involving the caudal part of the thalamus and of the internal capsule. There ensues a transient paralysis followed by choreatic or athetotic movements. But here again, as in ordinary athetosis, the movements occur more frequently in the arm than in the leg, and when they occur in both they are more severe in the former. It is evident that the same argument against direct implication of the motor tract and in favor of its reflex involvement will hold here as did in the case of athetosis proper.

The case whose history was given as an introduction to this paper could not, of course, have been one in which there was a gross anatomic change in the central nervous system. The rapid improvement forbids that supposition. But even in such cases, that is, cases in which we have hitherto been unable to demonstrate an anatomic lesion and which we therefore class as idiopathic, there must be some physical basis that underlies the disturbance of function. The physical change may be molecular in character, beyond the power of recognition by our most powerful instrumental aids in diagnosis. But, whatever its nature, it is possible that it, as well as the grosser anatomic lesions that are sometimes found in the disease, occurs in the same locality.

The main purpose of the present paper has been to suggest that in athetosis and in kindred affections,that is, in such as consist mainly of involuntary or spasmodic movements, the lesion is frequently, possibly in the majority of cases, located, not in the motor system, but somewhere in the sensory tract, and that the disorders are therefore largely reflex. Let me briefly rehearse the arguments that seem to point to this conclusion.

1. In those cases of athetosis in which a lesion has been found, it has been located in the posterior third of the posterior limb of the internal capsule or in the adjacent portion of the thalamus opticus. These are the site of sensory organs.

2. These lesions could not produce the symptoms of athetosis by direct irritation of the neighboring pyramidal tract; for, if they did, the abnormal movements would be more common in the lower than in the upper extremities, whereas the reverse of this is the case.

3. Chorea is frequently occasioned by fright and similar violent emotions. Emotions are occasioned by impressions upon the receptive centers; that is, upon those of sensation and psychic function. Only indirectly can they affect the motor nervous system. It is unreasonable to suppose that the force that causes the nervous derangement should leave unscathed the centers that receive its first shock and should pass on and leave a permanent impression upon a more remote portion of the nervous system.

4. Chronic chorea has frequently disappeared after the removal of some peripheral source of irritation.

5. In post-hemiplegic chorea and in post-hemiplegic athetosis, there is a focal disease of the optic thalamus or of the posterior part of the internal capsule.

6. Cocainization of the so-called motor areas of the cortex prevents the occurrence of localized convulsions upon irritation of these areas. Inference: Ordinarily, the primary point of irritation in convulsions is sensory.

7. In a large fraction of all cases of epilepsy, the initial symptom of an attack is a sensory aura. How can a lesion of the motor tract produce such an initial symptom?

8. Numerous cases of epilepsy are acknowledged to be of reflex origin, *e. g.*, cases that have been attributed to old scars, to carious teeth, injuries of the nerves, neuromata, intestinal parasites, umbilical hernia, disease of the internal ear, injuries of the temporal bone, eye-strain, etc. In many of these cases the disease has disappeared after a removal of the supposed exciting cause.

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[8] THE PHILADELPHIA MEDICAL JOURNAL, October 22, 1898, p. 809.
[9] Pepper's System, vol. v, p. 475.
[10] Epilepsy and Other Chronic Diseases, p. 33, *et. seq.*
[11] Diseases of the Brain and Spinal Cord, p. 11.
[12] Eye-strain in Health and Disease.
[13] *Op. cit*, p. 202.
[14] P. 244.
[15] *Op. cit.*, pp. 682 and 685.
[16] Diseases of the Brain and Spinal Cord, p. 53.

MEDICAL SOCIETIES IN THIS COUNTRY FOUNDED PRIOR TO THE YEAR 1787.*

BY FRANCIS R. PACKARD, M.D.,
of Philadelphia.

THROUGH the efforts of Drs. S. Weir Mitchell and Ewing Jordan there has been secured for the College of Physicians the original diploma of Dr. William Martin, granted to him by the American Medical Society of Philadelphia in 1786. Dr. Keen very kindly suggested that it would be interesting in this connection to have read to the College a resume of the few facts which are known concerning the earlier medical societies with a view of establishing their chronological sequence.

I shall number the societies according to the order in which they were founded.

1. From 1735 until at least 1741 there was a medical society in Boston. Its existence has been doubted, but the following facts prove conclusively that it not only existed, but that it flourished. On February 18, 1735, Dr. William Douglass, of Boston, wrote to Dr. Cadwallader Colden, of New York[1]: "We have lately in Boston formed a medical society, of which this gentleman (Dr. Clark), a member thereof, can give you a particular account. We design from time to time to publish some short pieces; there is now ready for the press number one, with this title-page:

Number One.
Medical Memoirs.

Containing.
1. A Miscellany. Practical Introduction.
2. A history of the dysentery epidemical in Boston.
3. Some account of a gutta serena in a young woman.
4. The anatomical inspection of a spina ventosa in the vertebrae of the loins in a young woman.
5. Some practical comments or remarks on the writings of Dr. Thomas Sydenham.

Published by a Medical Society in Boston, New England."

This title-page indicates a most interesting number, but, unfortunately, for some unknown reason, it was never published.

In 1763 Dr. Douglass published a pamphlet on "The Practical History of a New Epidemical Eruptive Miliary Fever, with an Angina Ulcusculosa which prevailed in Boston, New England, in the years 1735 and 1736," which he dedicated "To a Medical Society in Boston." The preface began as follows:

"Gentlemen, This piece of Medical History does naturally address itself to you, considering that I have the pleasure of being one of your number, that you have been fellow-laborers in the management of this distemper, and therefore competent judges of this performance, and that where difficult and extraordinary cases have occurred in any of your private practice, I

* Read before the College of Physicians of Philadelphia, January 3, 1900.

was favored to visit the Patients in order to make a minute Clinical inquiry : in short, without your assistance this piece would have been less perfect, and not so well vouched."

Dr. S. A. Green[2] mentions a long communication in the *Boston Weekly News-Letter*, for January 5, 1737, addressed "To the Judicious and Learned President and Members of the Medical Society in Boston," and signed Philanthropos. It was a plan for the regulation by law of the practice of medicine in Massachusetts. He also metions that the same newspaper for November 13, 1741, contains a report of an operation for stone in the bladder, on Joseph Baker, aged 6 years. It was performed "in presence of the Medical Society," by Dr. Sylvester Gardiner, a well-known Boston Physician. It began, "A Medical Society in Boston, New England, with no quackish view, as is the manner of some : but for the Comfort and Benefit of the unhappy and miserable Sufferers by the excruciating Pain, occasioned by a Stone in the Bladder, do publish the following Case."

2. Wickes[3] found in the library of the New York Academy of Medicine a manuscript with the following title : "An Essay on the Nature of the malignant Pleurisy that proved so remarkably fatal to the Inhabitants of Huntington, Long Island, and some other places on Long Island : in the winter of the year 1749. Drawn up at the request of a Weekly Society of Gentlemen in New York, and addressed to them at one of their meetings," by Dr. Jno. Bard, of New York, and as the manuscript bears the date 1749 and the writer speaks of the epidemic as now prevailing, it is to be inferred that the Society existed in that year. I know of no other mention of it.

3. In 1765 a number of medical men in Philadelphia formed themselves into a society under the name of the "Philadelphia Medical Society."

It enjoyed a brief existence of three years, at the expiration of which period it merged with the American Society for Promoting Useful Knowledge, which subsequently changed its name to the American Philosophical Society, and as such is probably the best-known scientific society in America at the present day. When the societies united the members of the Philadelphia Medical Society were Drs. Graeme, Cadwallader, Redman, Morgan, Kearsley, Clarkson, Bayard, Harris, Rush, Sowman, Glentworth, and Potts. None of its records have descended to us.

4. The oldest of still-existing medical societies is the Medical Society of New Jersey, which was organized in 1766 and has maintained a continuous existence ever since.

5. Wickes[4] quotes from Dr. Peter Middleton's "Introductory Lecture at the opening of the Medical School in King's College," in November, 1769, his mention of the "institution of Societies," or "well-regulated Associations of Gentlemen" for the advancement of the profession, and the doctor's remark, "And permit me to add as one of the many instances of the utility of these societies, that whatever merit there is in the present *Institution*, it was first planned and concluded upon in a *Medical Society* now subsisting in this place ; and *May It Long Subsist.*" It would appear, however, that the worthy doctor's wish was not fulfilled, as we know nothing further of the Society to which he referred. Wickes supposed this Society to be identical with the one which, as we have seen, existed in New York in 1749, but it seems hardly possible that a society which amounted to anything could allow twenty years to elapse without giving any evidence of vitality.

6. In the *Columbian Magazine* for April, 1790, is an account of the American Medical Society, written by its Secretary and published by order of the Society. It was instituted in 1783 by the teachers and students of medicine, in Philadelphia. It went out of existence about the year 1792. A diploma granted by it to Dr. William Martin has been presented by one of his descendants to the College and is exhibited to the Fellows this evening.

7. On May 14, 1780, a meeting of physicians was held in Boston, which organized the Boston Medical Society. Chief among its founders were Samuel Danforth, Isaac Reed, Jr., Thomas Kast, and John Warren. The object of the Society was to regulate physicians' fees. The war, then drawing to a close, had upset all business relations and the high prices of the necessaries of life, as well as the depreciated currency then in circulation, required a change in the modes of payment which had prevailed before the war. Most of the founders of this Society were also prominent in establishing the Massachusetts Medical Society.

8. The Massachusetts Medical Society was founded in 1781 and is still flourishing.

9. As early as 1763 a number of physicians of Norwich, Connecticut, had petitioned the General Assembly of the State to permit them to form a society for the purpose of regulating the practice of medicine, but the Assembly refused their petition. In 1766, and again in 1774, attempts were made to organize the medical men of the State with a view to regulating medical practice. It was not, however, until 1783 that any permanent organization of physicians was established in Connecticut. On December 10, 1783, Drs. Leverett Hubbard, Eneas Munson, Samuel Nesbitt, Levi Ives, and Samuel Darling, of New Haven, published an advertisement in the *Connecticut Journal* calling a meeting of the medical men of New Haven County at the Coffee House in New Haven, for January 6, 1784, "in order to form regulations within the line of their profession of the utmost importance to the public and themselves." Thus was the Medical Society of New Haven County founded. In 1788 it published the first volume of medical transactions ever issued in this country, a copy of which is now in the library of this college. The New Haven Society as soon as it was

instituted sought to promote the formation of similar societies in the other counties of Connecticut with a view to the ultimate formation of a State Medical Society. This effort met with slight response. A New London Medical Society was formed, but it does not appear to have led any active existence.

10. In 1787 was founded the College of Physicians of Philadelphia, the history of which is to be found written in the fullest and most entertaining manner in Dr. Ruschenberger's History of the College of Physicians of Philadelphia.

We thus see that prior to the founding of the College of Physicians of this city, in 1787, there were nine medical societies which, at one time or another, led a more or less active existence. Of the nine there are but three that survive to the present time—the Medical Society of New Jersey, the Massachusetts Medical Society, and the New Haven Medical Society—so that our honored College may justly claim to be the fourth in seniority of the medical societies of this country.

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[2] Centennial Address before the Massachusetts Medical Society, 1881.
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DIET AS A METHOD OF DIAGNOSIS.[1]

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A PHYSICIAN should cultivate the qualities of an expert detective; he should aim to possess the analytic mind of a Sherlock Holmes. One need not ask his patient whether he is poor or rich, coarse or refined, whether he kills his time at the green table, or uses his leisure hours for the development of his intellect. A glance at the face, nose, hands, finger-nails, and the gait; the extent of the vocabulary he uses, the formation of the sentences, the pronunciation of the words furnish sufficient data for answering all the above-mentioned queries and many more besides. Gerhardt has recently published a pamphlet, "The Hand in Disease," which is a masterpiece of medical detective work. It is to be hoped that it will be followed by a series on the eye, nose, mouth, lips, etc., in disease.

I wish to briefly outline in this paper the diagnostic value of diet. There is a deep meaning in the German saying, "Der Mensch ist was er isst," which may be freely translated, "Tell me what you eat and I'll tell you who you are." One who will tell you that sauerkraut and beer predominate in his diet, don't hesitate to designate him as a Teuton. One who mentions potatoes with a sort of veneration is sure to have come from the green island. One who speaks of caviar and vodka with a watering mouth may be put down as a subject of the Czar. If rice and maize are the chief articles of subsistence, the differential diagnosis lies somewhere between a Chinaman and a Spaniard. If animal food is consumed in large quantities, you will not be far from the mark by putting him down as either American or English. Large quantities of food are taken by workingmen, butchers, cooks, beer brewers, gluttons, and idiots; by those suffering from a dilated stomach (first stage), hyperacidity and nervous dyspepsia. Anorexia, the complete absence of the feeling of hunger, is an expression of some nervous disturbance, and occurs mostly in the young, among the well-to-do classes, and predominates in women. There may be a pseudoanorexia, the patient fears to take food on account of the distress it causes. Anorexia, if persistent and not amenable to treatment, should be an indication for a thorough examination of the lungs. Anorexia is a forerunner of the tubercle-bacilli. The opposite of anorexia—bulimia, the absence of satiety—is, in the majority of cases, of nervous origin; one should, however, look out for round ulcer, tapeworm, disease of the sexual organs, and disease of the brain. Abnormally large quantities of food are taken by diabetics and convalescents from exhausting diseases; and those suffering from hysteria, epilepsy, hydrocephalus, and tumor of the brain consume, as a rule, astonishingly large quantities.

You can astonish your patient who eats at the lunch-counter by your clairvoyance. Tell him he suffers from pressure and distention at the pit of his stomach after meals, that he feels languid and sleepy, that he is most of the time constipated and has an occasional attack of diarrhea. Ask one who does not exercise his teeth and salivary glands—the "bolter"—whether he suffers from waterbrash and occasional attacks of nausea. You can assure him who subsists upon stews and chops and cutlets, to the exclusion of fruit and starches, that you *know* his bowels are "tied up." Of course she—the candy-and-ice-cream miss—goes often to the toilet-room.

But here is the rub. Patients may be divided into two great categories—observers and non-observers. Some will be able to give direct and clear answers to your interrogations, and these will be, as a rule, the women. Others will be hazy even about their morning meal. There are but few who can state what articles of food agree with them or not; whether they eat more starchy than proteid food; what is the quantity of water they drink in 24 hours; what amount of sugar they use in their food; whether the pain or distress or diarrhea depends upon the taking of food in general of a particular article of food; whether the annoying symptoms appear 5 minutes or 2 hours after meals, and whether they last for a long or short period. Each one of the above questions—and I could lengthen the catalog ad infinitum—has its import. It is absolutely impossible to make a correct diagnosis and institute proper treat-

[1] Read before the Colorado State Medical Society, June 20-22, 1899.

ment unless all the questions are answered with precision and certainty. The stomach-tube, the reagents, the gastrodiaphane and even the gastroscope are of no avail when you don't know *what*, *when*, *where* and *how* it ails him. The subjective symptoms are of greater diagnostic value in gastrointestinal disorders than the objective symptoms. Palpation without interrogation is misleading. Chemical examination of the stomach-contents is not to be relied upon, if, for instance a particular article of food causes the distress. The majority of our patients, however, " wear their brains in their bellies and their heads in their guts." They are unable to give reliable data, and we therefore are not able to make out diagnosis at the first visit. It remains for us to make our patients understand that just so long as they will be uncertain about certain points so long will the diagnosis be obscure. Let the patient understand that it takes time to make a correct diagnosis. Let him go home and watch his symptoms. Write out just what you want him to find out. Let him eat for a few days his usual meals and report all the symptoms he has noted. Then put the patient for 1 or 2 days on a milk diet, the next on a meat diet, the next on a mixed diet without fruit, then with fruit and so on. At the same time you can make the physical examination of the patient, the chemical macroscopic and microscopic examination of the saliva, stomach-contents, urine and feces. It may take several days, sometimes a week or two before you are able to make the diagnosis, but it will be time well spent. You won't have to revise the diagnosis, and then revise the revision. Not only are these diet tests valuable as diagnostic points, but they are in the majority of cases helps to the future treatment. A diet which according to our theoretic consideration should be the most suitable, proves, when put to a test, quite obnoxious. It is better, then, that the patient know that this changing diet is prescribed with a view of testing the stomach, than to prescribe a course of diet as a part of the treatment, and afterwards be obliged to drop it. It is also advisable in certain cases, especially when ulcer of the stomach is suspected, to order your patient to entirely abstain from food for 1, 2, or even 3 days.

To summarize :—

1. Every patient suffering from gastrointestinal trouble should be interrogated in the minutiae of his diet, and its probable relation to the disease.

2. Since, as a rule, the answers are not satisfactory, therefore diet tests should be instituted for as long a period as it will be necessary to elicit all the required data.

3. Impress upon your patient the fact that it is impossible to make a snap diagnosis. You may, at the first visit, suppose, guess, surmise, suspect and presume as to the nature of the malady, but it will be for his benefit to wait patiently until you have ascertained the cause of his trouble.

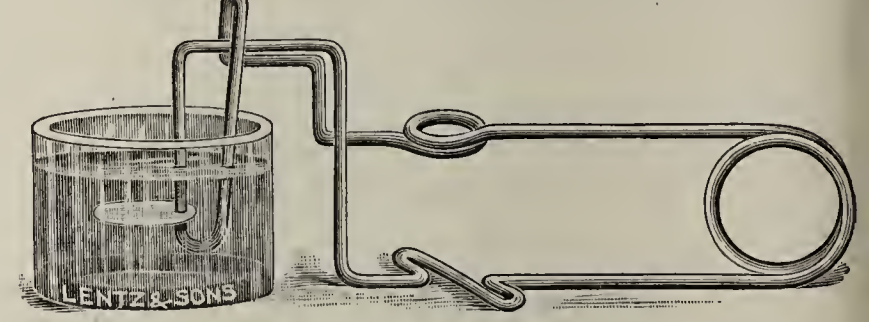
NEW STAINING FORCEPS.

BY F. J. KALTEYER, M.D.,

of Philadelphia.

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THE accompanying illustration represents staining forceps of my own design, which I have found quite convenient in my work, and perhaps they may also prove so to other members of the profession. They are made of strong steel wire, tinned and nickel-plated, are intended for bacteriologic and hematologic work, and can be employed for all purposes for which other staining forceps are used. The forceps are so constructed that when a cover-glass is held by them they can be placed alongside of a Stender dish, the specimen being immersed in the fluid therein. They are designed for use with this dish, but any similar one can be employed. Stains may be kept in these dishes instead of reagent bottles. It will be found especially convenient to keep stains which have a precipitate in a Stender dish, and by using the forceps just described,



cover-glass specimens may easily be stained in these solutions without disturbing the precipitate.

They are also constructed so that the height of contact of the jaws varies in different instruments, enabling one to economize the stains by immersing several specimens at the same time in a very small dish, the cover-glasses overlapping in tiers.

If it is desired to place stain upon the cover-glass, in the usual manner, the fluid will not drip or run down, since there is no jaw extending downward to carry the stain. When staining is performed in this manner a Petri dish may be placed beneath the cover-glass if desired, in order to catch any excess of stain carelessly poured on the cover, thus preventing injury to the laboratory table.

Dystocia Following Hysteropexy.—F. C. Batchelor, (*Australasian Medical Gazette*, October 29, 1899). A woman, 22 years old, exhausted from a long labor, the administration of chloroform, and a journey from the country, was brought to the hospital for treatment. The child was found in transverse position and the cervix displaced and above the pelvis. Conditions were such as to make the use of forceps or version impossible, and cesarean section was performed. A dead fetus was removed, and the patient left the table in a much weakened condition. Death followed and at the necropsy a strong triangular band was found connecting the fundus of the uterus to the symphysis. This had caused the abnormal position of the uterus and the condition in labor. Hysteropexy had been performed 11 months previously for the relief of retroversion with adhesions. [M.B.T.]

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The Second of Our Enlarged Special Issues, herewith presented our subscribers, is devoted to a symposium of twenty contributors upon Diseases of the Stomach. So unexpectedly generous have been the offerings of those invited that we have suddenly found our largest allowance of space more than filled, and have been compelled to carry over to later issues matter that was scheduled for this. We are encouraged to do this by the numerous and hearty congratulations we have received concerning the special x ray issue of January 6. The plan of thus gathering the authoritative opinions and the results of the experience of the best American investigators and clinicians has elicited the most widespread interest and praise. It brings to a focus the labors of many workers for comparison and instruction, and by preservation of these numbers of the JOURNAL it will enable physicians, whenever they may desire in the future, to turn back and refer to these summaries, and thus gain help in the difficulties of daily practice. Our special issue of March 3 will be devoted to Typhoid Fever.

The Etiology of Gastric Ulcer is a subject about which there has been considerable theorizing based on comparatively few facts. It has been supposed that the mucous membrane of the stomach is attacked by the gastric juice, and the conditions favoring this digestion of the stomach-wall by its own secretion were thought to be a lessened alkalinity of the blood, hyperacidity of the gastric juice and a lack of normal tone and resistance of the tissues from poor nutrition and lowered vitality. Another theory is that ulceration follows thrombosis of the bloodvessels, causing local death of the mucous membrane. So far as we are aware there has been no very definite pathologic or experimental evidence in support of this supposition, and in this connection the recent observations of Claude, (*Gazette Hebdom. de Med. et de Chir. de Paris*, September 28, 1899) are of considerable interest. M. Claude reports a number of experiments with rabbits and other animals, in which he found on postmortem examination of animals that had died from inanition, that there was hemorrhage into the muscular coat of the stomach. This hemorrhage was caused by thrombosis of the arterioles, followed by rupture of the smaller vessels which would have given rise to ulceration. In the absence of inflammatory or vascular disturbance the lesions were attributed to the same autointoxication that had caused the inanition and death.

These experiments not only add something to the foundation of fact in support of the thrombosis theory, but they also show a connection between thrombosis and the lowered vitality and poor general condition usually found with gastric ulcer; they show that the improper hygiene and lack of suitable nourishment, which is so common among the lower classes, may be the cause of ulcer instead of the ulcer causing the ill-health, as has been believed. This may be the reason why ulcer of the stomach is comparatively much more frequent in Europe than here in America where there is comparatively little of the abject poverty which is so common on the other side of the Atlantic.

Gastric Disorders and Eye-strain.—Despite the fact that many competent physicians have testified that functional gastric disease is often directly due to eye-strain, general physicians too frequently fail to bear this in mind. In every oculist's office patients appear almost every day who for years or for a life have suffered from disorders of nutrition and who in all ways and by many physicians have been treated without the influence of disordered ocular function having been suspected or suggested. And yet nothing in therapeutics is more certain and more decisively demonstrated than that sick-headache, anorexia, anemia, dyspepsia, and malnutrition of many types, may be due to astigmatism and anisometropia. If a patient relieved of these distressing ailments by the oculist is supplied with wrong glasses by the blunder of an optician; if glasses are exchanged by mistake; if they are maladjusted or bent out of shape; if the refraction changes and the glasses are not changed; if a jeweler replaces a loosened lens wrong side up—then the stomach and organs of assimilation strike work, and nausea and denutrition of some kind follow. If a well person attempts to wear the glasses worn with comfort by another, vomiting may speedily take place. There is no truth of medical science better proved or more persistently ignored in daily practice than this of the intimate association of eye-strain and malassimilation. That functional disease finally ends in organic disease is an axiom, leading to the fact so often ignored that many organic gastric diseases may have originally sprung from neglected eye-strain.

The Frying-pan and Indigestion.—No one who has taken the trouble to scan the average American bill of fare can fail to recognize the importance of the frying-pan with us; fried ham or bacon and eggs, fried oysters, fried potatoes, fried steaks, and so on, *ad nauseam*, seem to be staple articles of food, particularly in city restaurants, in which so many business and professional men get their noonday luncheons. The cause of this is probably mainly hurry; the customer wants something hot and fresh immediately and the restaurant-keeper can supply this demand with less expense in time, trouble, and fuel by serving fried meats and potatoes than by serving the more wholesome broiled or baked foods; the result is the development of an abnormal, depraved appetite and a ruined digestion for a lamentably large number of people.

It is not difficult to understand why fried foods are so indigestible if we take the trouble to study the physiology of digestion. The proteids which are the chief nutritive constituents of meat, oysters, fish, and eggs, in order to be digested and assimilated must be acted upon by the gastric or pancreatic juices, and before this can take place the layer of fat which has covered and permeated the morsel in frying must be removed. This is accomplished by the process of emulsification, which means the expenditure of a large amount of digestive energy. This will be readily appreciated by any one who tries to emulsify even a few drops of oil by shaking in a test-tube with prepared digestive fluid, and it is even more difficult in the case of fried foods which are completely saturated with grease. The butter applied to broiled meats is far less pernicious, for not only is butter the most easily emulsified of the fats, but it is not soaked in by gradual heating, as is the case with most fried foods. The condition of the fried starchy foods like potatoes is very similar, for in order that the starch may be changed into assimilable grape-sugar it must be acted upon by the amylopsin of the pancreatic juice.

What can be done to lessen the fried-food nuisance? Perhaps nothing so long as present conditions exist; so long as the highest ideal of the people is to accumulate dollars rather than to develop and preserve healthy bodies which shall be the servants of healthy minds. Yet if those who teach physiology in our public and other schools understood their subject and its practical applications as they should; if there were more schools in which wholesome, economical cookery were taught as it should be; if physicians took every opportunity to impress such facts of practical hygienic importance, as they should, there can be no doubt that by some sensible and well-informed people the fried abominations would be avoided.

Stomach or Pancreas?—The four successful total removals of the stomach by Schlatter, Brigham, Macdonald, and Richardson, after which the patients have lived and digested food for varying periods, have shown that gastric digestion is not essential to life, health, or an excellent state of nutrition. This has led many people to belittle the importance of gastric digestion, and to declare that the action of the pancreatic juice is not only all that is absolutely essential for proper digestion of the proteids, but that gastric digestion is of no importance. People can live without stomachs, but not without a fairly sound pancreas, they say. Probably these skeptics have not given very careful attention to recent developments in the surgery of the pancreas. Körte has operated successfully for gangrenous pancreatitis, and M. H. Richardson, J. M. T. Finney, Pearce Gould, and others have operated successfully for suppurative pancreatitis. In all of these cases the function of the pancreas must have been considerably interfered with, but a case mentioned by Carmalt (*Yale Medical Journal*, November, 1899) is even more remarkable; he has found recorded a case of gangrenous pancreatitis in which the entire organ was lost, and yet the patient lived for 17 years afterward. Naturally, he concludes that the pancreas is not a vital organ. But it is evident that digestion of the proteids must have been accomplished in some way, and it is equally evident that the stomach must have performed this entire work at least sufficiently well to sustain life for 17 years.

From these facts it would seem that the stomach and pancreas may interchange their function, and either alone is capable of furnishing the digestive ferment required for proteid digestion in the same way that one kidney or one part of the brain may take up extra work after removal of the organ or part of the organ evidently designed to do a share of the work.

Teachings of the Comparative Anatomy of the Stomach.—The study of comparative anatomy is not only a pleasure to most persons of an inquiring turn of mind, but it may often furnish practical hints and information. The functions of the stomach in vertebrate animals are storage of food, the secretion of digestive juice which reduces solid food to liquid form, and the thorough mixing of the food. In proportion to the importance of these various functions to the life and development of its possessor the form and structure of the stomach and its walls and glands varies greatly. In the fishes and amphibians the stomach is a rudimentary affair, a mere dilation of the digestive canal, apparently of little importance to its owner. These lower vertebrates usually get their food in small quantities at frequent intervals, and do not need a large pouch for storage, and their bodies, with less complex systems of organs to support, do not need to elaborate so much of the digestive juices. The reptiles, most of them, take large meals at infrequent intervals, but still the stomach is not very highly developed. In the bird the stomach is developed to suit their habits of eating

ard seeds and grains; it loses the storage-function hich is assumed by the crop, and by developing very ick, strong walls the gizzard grinds up those hard ods which are the main sources of nourishment of ost birds. Among many of the vegetarian mammals he storage-function is of great importance, especially ith the ruminants which are poorly provided with eans of self-defence and snatch their food in large mounts, attending to its mastication and digestion ter. These animals are provided with stomachs made p of distinct pouches for storage before regurgitation, r mastication, and for digestion after mastication. In he higher omnivorous forms, all of the functions are ore important, and the whole organ is more highly eveloped, especially in man.

From a medical standpoint all of the functions of he stomach have their importance and should be con-idered. In the past it has been too much the custom o dose out a liberal amount of pepsin, sometimes with ydrochloric acid, to every one who complained of ndigestion. If the modern stomach-specialist has one to other extremes he has at least taught the pro-ession that sometimes matters other than the secre-ion of pepsin deserve attention; hence there has been levised the stomach electrode, stomach massage and emedies which are administered to influence the motor unction; hence, the test-meal to determine just what s the trouble with the secretory function; hence the perations to relieve the pyloric obstruction which had aused the stomach to dilate until its abnormal storage apacity was nearly equal to that of an ox. In other words, medical men are coming to see that there are several things to be considered in treating gastric dis-orders; while the motor function is not as important or us as for birds, nor the storage function as import-nt as with ruminants, these matters must be consid-ered. Men with amphibian or fish-like organization nd with reptilian sluggishness may be able to get on with almost any excuse for a stomach, but the more ighly organized man possesses a complex affair which nust be studied from all standpoints if it is to be uccessfully treated, and any practitioner who is too azy or too incompetent to make a thorough study of ach individual case, would better turn his patient over o a specialist.

The Osteopathic "Credentials of the Faculty."—The *Philadelphia Journal of Osteopathy* for January, 1900, gives the portraits, records, or "Credentials of the Faculty" of the "Philadelphia College of Osteopathy," from which it is made abundantly evident that these gentlemen of many and lengthy titular caudal append-ages are the products of the highest erudition which science and civilization can supply. And yet in their description of themselves and in their writing of them-selves and of "the science of osteopathy" we regret to notice sad evidences of a deficient common-school train-ing, competing with most strange scientific and literary habits. The "obestetrician" of the "School of Marion Simms," and the "greatest of gynechologists," is of questionable professional origin. We constantly read of "impinched" "subsidary" nerves, and "impinchment" of organs by muscles and dislocated bones; of "diptheria;" of the "femeral artery obstructed at a saphenous opening," and of many things osteopathic "cursorarily," and "similary," "claiming to do all, this drugless science, that medicine can do, and more, and to do it better," "under the banner of nature and of nature's God." Nine "Govs." of American States are quoted in support of osteopathy, as signing the legalizing bills, and as "honoring those to whom honor is due." We regret our want of space wherein to quote the opinions of these precious Govs., but that they may be still more profoundly honored we give their names:

Gov. Josiah Grout, of Vermont.
Gov. Lon V. Stephens, of Missouri.
Gov. T. A. Briggs, of North Dakota.
Gov. H. F. Pingree, of Michigan.
Gov. L. M. Shaw, of Iowa.
Gov. A. E. Lee, of South Dakota.
Ex. Gov. John P. Altgeld, of Illinois.
Gov. B. McMillan, of Tennessee.
Gov. John R. Tanner, of Illinois.

No marvel that A.B., D.O., editor should be moved by such gubernatorial backing to exclaim:

"Osteopathy has a noble record. Under the banner of nature and of nature's God Osteopathy has gone forth to the world of sickness, in the name of health and help and happiness, panoplied in the golden armor of truth and fact; and it is now dealing its blows, fast and thick, upon the hydra-headed monster of disease, and thus winning its crown of glory, that is shining brighter and brighter, day by day; and the day is not far distant when Osteopathy will be crowned by a glad and grateful public as the Queen Science of Health.

"As a science, pure and simple, it has an immovable foundation in nature itself, and its operations are in harmonious accord with the ineradicable and irrepealable laws of nature, and its future, in scientific achievements and remedial results, is as illimitable as the boundless and inexplorable resources of universal life."

City Milk-Routes and their Relation to Typhoid Fever and other Infectious Diseases.—Ernest Wende once more calls attention to the importance of the milk-supplies of large cities as a source of infection. In a recent paper (*Journal American Medical Association*, January 20, 1900) he quotes from the tabulation of Hart, who has described 95 outbreaks of infectious diseases directly traceable to milk-supplies as a source of infection, and finds that of these epidemics 48 were of typhoid fever. Freeman has collected information with regard to 90 similar epidemics, of which 53 were of typhoid fever. Since 1893 there have been 5 outbreaks of this character in Buffalo, 3 of typhoid fever and 2 of scarlet fever. Fifty-seven children of 26 separate and distinct families succumbed to scarlet fever. All of the families had procured their milk from the same milk-man, and on investigation it was found that a young

man was engaged in milking and washing cans whose skin was desquamating after an attack of scarlet fever. An epidemic of typhoid fever was traced to a milkman who was handling milk and washing cans and also caring for his wife who was ill with enteric fever. In the case of another epidemic the employe of a milkman was performing similar duties, and in a third epidemic it was found the patients had been supplied by a milkman whose milk-room was on the first floor of a building in which the room just above had been occupied a short time previously by a person who had had a course of typhoid fever. All of these outbreaks were quickly suppressed as soon as the milk-supply from these sources was cut off.

Wende considers chemical analysis and bacteriologic tests of some value, but he attributes the greatest importance in the detection of epidemics in their incipiency to the prompt registration of all contagious diseases. In addition to this the Buffalo Department of Health keeps a *record of the conditions that prevail at each dairy supplying the city with milk.* This information is obtained solely by inquiry, but has been found generally reliable. It includes data of the size, health, tuberculin-examination of the herds, character of the water, food, health of the employes, methods of milking, cooling, cleansing, transportation, in fact all factors bearing on the purity and protection of the milk. Circulars of information are also sent to the dairymen.

When conditions at a dairy appear prejudicial to the public health, from any cause, investigation is made and correction requested. In the absence of authority beyond the municipal limits, when action for any cause appears necessary for insanitary reasons, or because of failure to comply with the department's request, the product of such a dairy is interdicted at the city line, and the dealer to whom it is consigned notified.

We congratulate the citizens of the city of Buffalo on the thorough work of its Health Department. There can no longer be any doubt as to the importance of preventive measures of this kind. We cannot plead ignorance; apathy and indifference are the foes most to be dreaded. We hope the time will soon come when *all* municipalities will have an efficient, aggressive, prompt board of health, and that the unselfish work of sanitarians will receive something of the reward both in money and the gratitude of the public to which their services should entitle them.

Medical Instruction Must be Genuine.—Interesting facts brought out in connection with the Kentucky decision in regard to the validity of osteopathic diplomas are that the Kentucky Board of Health made a definite inspection of the school in question, and that the inspector of the Board testified that he had visited and investigated the facilities for instruction and other medical colleges. There can be little doubt that the power delegated to examining boards of accepting or rejecting the diplomas from any college carries with it the implied duty to make a careful and impartial inquiry as to the teaching facilities of the various schools. This is a most important duty. We trust that other State Boards will follow the example of the Kentucky Board. The whole profession has a right to know whether certain colleges rigidly enforce the requirements that appear in their announcements. Is laboratory instruction always given as fully as it should be? Is dissection of all the parts actually required from all students? Are the entrance examinations and graduating requirements *real tests*, or are they farcical in their nature? Let examining boards make unbiased investigation as to all these points in every college in the country. Members of some faculties make secret charges against competing colleges. The profession has a right to know whether there is any truth in the charges, and should know whether medical institutions live up to their calendar announcements.

Suggestions to Writers, No. 57. Practising and Preaching.—The editor of the worst-edited, most immoral, and, taken as a whole, the most supremely vile "medical" journal we have ever seen, thus commands his contributors:

"After having written an article, try to read it over yourself. If you cannot succeed, do not imagine we can, and send it, but rewrite it."

The pathetic experiences which suggested this remarkably worded advice are also intimated in the further order: "Write on white paper and use pen and ink." This editor and all of his contributors do not fail roundly and frequently to denounce ignorance and ignoramuses, but the denunciations are in terms, by means of syntax, and with a method of spelling that never before came together in a typesetters' room. True to character, they are proud of what they suppose learned and scientific, so they religiously retain the diphthong in *anæmia*, *gastrorrhœa*, etc., but the diphthong they retain is, we regret to observe, not the "etymollogic" one. They say *anoemia*, *gastrorrhoea*, *hoemorrhage*, etc. We suppose they would write *aedema* and *oether*, and contend that *aether* is correct! From all of which appears the ancient but ever new truth that knowledge outruns action, and that preaching is easier than practising. It is, however, equally plain that the nonpractising preacher should not be stoned nor should derision be expressed in language which the poor sermonizer has rightly condemned.

University Appointments.—Professor Barrier has been appointed director of the Veterinary School at Alfort.

Sow's Milk for Babies.—A Breton peasant woman has tried feeding babies with sow's milk, allowing the baby to nurse directly from the sow. They have thrived, and she is now making public her experiences as a suggestion to the medical profession.

Correspondence.

COLLEGE PRESIDENTS AND MEDICAL EDUCATION.

BY ISAAC SHARPLESS.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

AT a meeting of the Association of College Presidents of Pennsylvania, held at Harrisburg, on January 12, 1900, the following resolution and explanation were unanimously adopted, and Presidents Stahr, Birdsall, and Sharpless were appointed a committee to present them to the Medical Council of the State:

Resolved, That the Medical Council of the State of Pennsylvania be requested so to construe the State Law and their own decisions that graduates of reputable colleges be eligible for examination by the Council after three years of study in a medical college, provided that work practically equivalent to the first year of our best medical colleges be done in the undergraduate course.

In presenting this resolution we desire to assure the Medical Council that we are in sympathy with every effort to raise the standard of medical practitioners, but it is our united judgment that the admission of college graduates into the second year of the medical course has never lowered this standard, and we believe that the recent action of the Council will discourage the acquisition of a liberal education prior to technical work.

Special Article.

MEDICAL COMMISSION TO THE PHILIPPINES.[1]

BY LEWELLYS F. BARKER, M.D.,

of Johns Hopkins University, Baltimore, Md.

DURING the last 30 years remarkable advances have been made in pathologic and especially in bacteriologic technic. A large number of scientific investigators in all civilized countries have been gradually overcoming difficulties which had hitherto been insurmountable, but which, by the new methods at their disposal could now be satisfactorily attacked. The field of medicine has become so wide and divided into so many departments that one man can scarcely hope to cover all of them. Much as we have to thank civil and military physicians in the past for the good work they have done, we can scarcely ask in the future men who have to devote a large share of their time to the treatment of patients and to the performance of executive functions to undertake the complicated researches necessary for the isolation of the causative agent in obscure diseases. There has to be a division of labor and the practical man must be helped out by individuals who have been especially trained in particular lines of work and who can give all their time to such work. Accordingly of late, European governments and educational institutions have been sending into tropical regions men especially prepared and commissioned to investigate disease, and these men have been relieved of all duties except those actually connected with their original research. In this way Koch and Cafiky went to Egypt and India in 1883 to study Asiatic cholera, an expedition which resulted in the discovery of the cause of the disease, and at Hong Kong in 1894 Yersin and Kitasato independently isolated the bacillus of bubonic plague. That such special investigations of the causes of disease justify the education of specialists and the expenditure of the time and money required is fully evidenced by the practical results which have followed. Cholera, now that the spirillum, the growth and activity of which in human beings causes the symptoms of the disease, is known, and its habits of life and mode of dissemination have been studied, can in civilized countries be absolutely controled; the disease can no longer gain a permanent foothold in a city in which modern methods of sanitation are employed. Plague which swept away whole populations at a breath in former times need now scarcely be feared among Western nations, for even if the hygienic precautions of the end of the century fail to keep the disease out of the West, the method of preventive inoculation which has been devised since the discovery of the causative bacillus will protect those who avail themselves of this prophylactic measure.

In the light of these facts the authorities of the medical department of the Johns Hopkins University, decided in March of the present year to sent two of their staff, Dr. Simon Flexner and Dr. Lewellys F. Barker to the Philippine Islands, equipped with a complete outfit for the study of the disease by modern clinical and pathological methods. They were instructed to study the diseases which prevail in the islands, "with the hope not only of making contributions to the science of medicine, but also of being of service to the American forces in those islands, to the natives of the country, and to humanity at large." The expenses of the expedition were defrayed through the generosity of a few friends of the University. Two advanced medical students, Mr. Joseph Marshall Flint, of Chicago, and Mr. Frederick P. Gay, of Boston, went as volunteers, to assist in the medical work at Manila. Mr. John W. Garrett, of Baltimore, interested in the political relations of the archipelago, made a fifth member of the party.

The voyage out was made by way of Vancouver, Japan and Hong Kong. Ten days were spent in Japan, and the experience there proved of great value as an introduction to the work in Manila, inasmuch as Japanese scientists have studied, and indeed with considerable success, several of the problems which confront the investigator in the tropics. With Doctors Aoyoma and Miura, in Tokyo, several cases of *kakké* were observed, a disease which in the Philippines, and in other countries, is more generally known under the name of beri-beri. The researches of the Japanese into the nature of this malady are among the most interesting and important extant. Dr. Aoyoma, who, when investigating plague in Hong Kong, was himself attacked by the disease, and for a considerable period lay in a most precarious condition, showed no ill effects of the ordeal passed through, but was as active and enthusiastic as ever in the observation and treatment of disease. In the laboratory of Dr. Kitasato the celebrated bacteriologist, of Tokyo, opportunity was afforded for looking into the work done by Dr. Shiga, one of the assistants in that laboratory, on the cause and treatment of dysentery. Dr. Shiga, who has isolated a bacillus which he regards as the cause of epidemic dysentery in Japan, has also by inoculation of the bacillus into animals prepared a curative serum which he believes will be of value in the treatment of human cases.

At Hong Kong the members of the Commission, through the courtesy of Dr. Lowson, had their first opportunity of studying cases of bubonic plague, clinically, in the wards of the isolation hospital, and, pathologically, in the dead-house. The disease is constantly present there, though to a varying degree, among the Chinese inhabitants, Europeans being occasionally, though but rarely, attacked. A member of the commission, speaking of experience with plague, remarked upon the curious mental phases passed through on encountering for the first time such a world-dreaded disease. During the first visit to the morgue, in which the dead bodies of plague-patients were kept, great care was taken to come into no personal contact with the dead, and even draughts of air leading from the vicinity of the cadavers were avoided. On the second day, the swelling (or buboes) in the groin, axilla or neck were palpated, but with some care, and on the third day they found themselves making postmortem examinations of the internal organs. Though Dr. Aoyoma developed the disease as a result of his studies, and Dr. Müller, of Vienna, died from plague contracted while attending a nurse sick of it, it is probable that pathologists, provided they take the necessary precautions to avoid infection, have less to fear than is ordinarily supposed. If one work much with the disease, however, he would be very unwise did he not take advantage of the protection afforded by Haffkine's preventive inoculation.

The members of the Commission arrived in Manila at the beginning of May, and at once, thanks to letters from Surgeon-General Sternberg and the courtesy of Colonel Wood-

[1] Published synchronously by courtesy of the Editor of the *Johns Hopkins Hospital Bulletin*.

hull, the chief surgeon of the American forces in the islands, were enabled to begin their work in the military hospitals there. The majority of the American sick in Manila are cared for in two large base hospitals, known respectively as the First and Second Reserve Hospitals. In the former institution, with Major Crosby in control, are some twelve hundred patients; while in the latter, under the management of Captain (now Major) Keefer, there are perhaps half as many. As soon as the patients are convalescent those who require further building up are sent to the pleasantly situated Convalescent Hospital on Corregidor Island. This hospital is situated on the shore snugly nestled beneath the fort which fired on Admiral Dewey's ships as he entered Manila Bay. In addition to the military institutions mentioned there are numerous "district" and "regimental" hospitals in Manila, Cavite, and other places where American troops are stationed. It was matter of pleasant surprise to see how efficiently large military hospitals, seven or eight thousand miles away from home, could be organized for medical and surgical work. Whatever criticisms may have been made in America with regard to the administration of medical affairs, nothing but praise is to be recorded of the medical services rendered by Colonel Woodhull and his staff in the Philippine campaign.

On account of the especial facilities and material obtainable at the First Reserve Hospital, working headquarters were established there, Lieutenant Strong generously sharing his laboratory with the newcomers, and in every way possible lending his aid to the investigations undertaken. The time at their disposal being limited, the members of the Commission decided to choose out of the many attractive problems which immediately suggested themselves for investigation, certain only which seemed to them of the greatest importance and which could be most advantageously approached. It was found that among the American soldiers in Manila the two most fatal diseases in May and June were dysentery and typhoid fever, while among the natives tuberculosis and beri-beri were common and destructive maladies. The dysenteries and tropical diseases of the liver met with were made the object of especial study, and one of the most important results of the expedition was the isolation, by Dr. Flexner, from the dejecta of patients, of a bacillus which is almost certainly the cause of the acute dysentery studied. The causative agent in this disease once known it is perhaps not too much to hope that a preventive inoculation may be devised which will render individuals going to the islands immune from attack. Such a prophylactic measure, if invented, would be of incalculable value, since, according to an authoritative textbook, "in the tropics dysentery destroys more lives than cholera, and it has been more fatal to armies than powder and shot." Malarial fevers are frequently encountered, and in Manila the parasites of the tertian and of the estivoautumnal variety are easily demonstrable in the blood of patients suffering from these types of the infection. The frequency and malignancy of the cases vary with the locality and with the season of the year. The deadly *calentura perniciosa* is much feared in certain districts, and as soon as the country is settled this form of malaria should be thoroughly studied. The forests of the interior of Mindoro and the regions adjacent to the Rio Agusan in Mindanao are localities of unusual interest in this connection. The relation of mosquitos to malaria, so vital a question at the moment, is one well worthy of attack in the Malayan archipelago. Not uninteresting, too, in passing, is the statement in certain of the Jesuitical records of Mindanao, that the natives of that island recognized as far back as two centuries ago a relation between the intermittent fevers and the prevalence of mosquitos.

At Cavite an outbreak of some two hundred cases of beri-beri among the Filipino prisoners yielded wide opportunity for the study of this disease in its various clinical and pathologic aspects. In the same town a large epidemic of what was probably dengue fever occurred.

The cases at the Spanish hospital of San Juan de Dios, those at San Lazarus, the leprosy hospital, and those at the city asylum were made accessible to study through the kindness of Major Frank Bourns of the Provost-Marshal's department. There were still a few smallpox cases in the city, though through the strenuous exertions of the officer mentioned in the way of compulsory vaccination and the establishment of a *carabao*-vaccine farm this disease which claimed so many victims from among the American soldiers at the beginning of the occupation was practically stamped out of Manila. Skin diseases are very prevalent among the natives and the affection known as dhobie itch (for the most part a form of ringworm) attacked large numbers of American soldiers.

A considerable amount of pathologic material was collected by the members of the commission especially from cases of beri-beri, leprosy, and dysentery, and this was brought back to America for further study. An abundance of plague material was similarly collected at Hong Kong. Bubonic plague does not exist in Manila, and a careful search through the older records would make it appear that it has never broken out in the Philippines.

The climate, though trying, owing to the continuous heat and moisture, is believed to be supportable if Americans will take certain necessary precautions. As one genial Englishman who has lived in Manila 19 years, and who is now in perfect health put it, "it is not so much the climate as the glass bottle which injures people out here." The visit of the commission to the islands was made in the hottest season of the year and at the beginning of July the onset of the rains by increasing the moisture in the air added much to the discomfort. However, if one carefully chooses his diet, eschews iced drinks, clothes himself rationally, avoids excesses both physical and mental, keeps out of the sun during the hottest time of the day, sleeps under mosquito netting and does not bathe in too cold water, he may live a fairly comfortable life and will probably enjoy good health. Indeed some Americans have found themselves in better health in Manila than at home, though this is the exception rather than the rule. Diarrheal troubles are very frequent and are to be combated by rest, a simple diet, and if necessary, by wearing a woolen abdominal band. Much has been written about the drinking of boiled water by the soldiers. Outside Manila this is certainly desirable, but any attempt to persuade soldiers on the march to follow this custom will probably prove futile. The Johns Hopkins party walked one afternoon from the Bag Bag river to San Fernando and before the end of the journey found themselves drinking any water available, some of it certainly far from pure.

Early in July Mr. Garrett left Manila for a trip through Java and a few days later the rest of the party returned to Hong Kong and began the homeward voyage which was made by way of Suez and London. Two members of the commission spent three weeks in India and there examined as fully as possible in the time, the outbreaks of plague which existed and the plague measures adopted by English officers in the Indian Empire. In Bombay, Colonel Weir, and in Poona Major Reid and Major Windle accompanied them to the scene of the outbreaks.

The excursion to Poona was most impressive. Traveling upward for hours through the Western Ghats the country was so beautiful, and the air so much cooler than at the sea-level that one could scarcely believe that he was approaching, in the plain a little lower down on the other side, the pest-stricken city of Poona. On arrival at the railway station however, the first signs of distress were noticed. Trains loads of people were fleeing from the place. A drive through the town to the office of the chief plague authority showed how rapidly it was being deserted. Many of the streets were almost empty, shop doors and windows were closed and barricaded, plague notices were pasted on the walls, a preternatural stillness was everywhere noticeable, the few people encountered walking quietly along with heads bowed and faces sorrowful. A visit was made to some houses where plague cases had just been reported with the native editor of the principal Poona newspaper, this gentleman having volunteered his services as plague inspector. In a small hovel, scarcely larger than a ship's cabin, one might find a patient surrounded by several of his friends awaiting the arrival of the inspector. The chances for contact-contamination were manifold.

At the general plague hospital there were some 800 cases of the disease under the charge of Major Windle. He was assisted by eight European nurses and a number of native helpers. He complained that it was almost impossible to retain natives as workmen; even washermen and grave-diggers could not be employed in sufficient numbers owing to the fears and prejudices of the people. Cartloads of the newly attacked were being brought in to the hospital at i

entrance, while a body was carried out from the wards every ten minutes to the morgue at the rear. Those who live in the West can scarcely appreciate the enormous disadvantages under which medical men fight plague in India. The people are ignorant and superstitious, the rigid caste rules prevent any successful application of modern hygienic measures, and even the preventive inoculation cannot be utilized to any great extent owing to the fact that thus far the bacilli have been grown in beef-broth, and the natives will not countenance such a profanation of the sacred animal. Even in death caste rules have to be observed, and it was found at the morgue that partitions had to be put up separating the low-caste Hindoos from those of high caste, from the Mohammedans and from the Parsees and Christians. The floor of the morgue presented a melancholy sight; in one of the rooms no less than 32 bodies lay upon the ground as closely packed as was possible without actually piling the bodies upon one another. Mohammedans are buried and high-caste Hindoos are burned, but the bodies sometimes accumulate so fast that they cannot be disposed of by the usual methods. Major Windle stated that one day, a short time before, he had burned 24 bodies in one heap. It is absolutely impossible in Poona to employ Occidental methods in the way of segregation or disinfection. The natives prefer to die rather than submit to rules which are obnoxious to them. It is no uncommon sight to see a widow after uttering the death wail, beating her face and breasts and throwing herself violently upon the body of her dead husband, kissing his face and lips; it is very strange that no more than do contract the disease. One left Poona and Bombay thankful that in America no such unfavorable religious and social conditions prevail.

Of the results which have been obtained by the Commission it is too early as yet to speak more than generally. The observations made in Manila have to be supplemented and controled by further microscopic and bacteriologic studies upon the material collected. It will be some months at least before a full report can be looked for.

At present the observations concerning the causation of dysentery, the differentiation of the fevers of the region, the relative prevalence of typhoid fever and malaria, the studies of the varieties of the malarial parasites there found, and the investigations of beri-beri may be specified as among the more important scientific results of the expedition. The influence of the scientific spirit and methods, with the demonstration of their practical utility, so beneficial in medical centers at home and exerted at so early a period in the American regime in the Philippines, can scarcely fail to be of significance in the further development of medicine there.

It is probable that in the near future other expeditions will be undertaken, as only a beginning in the study of tropical medicine has been made. England and Germany are alive to the importance of such investigations. Major Ross has recently been sent to East Africa to continue his studies upon the part played by mosquitos in the dissemination of malarial parasites, and Dr. Wright is being sent by the English government to establish a laboratory in the Malay peninsula for the study of beri-beri. Prof. Koch, of Berlin, has also lately been sent on another expedition for the investigation of the malarial fevers in the tropics. Schools of tropical medicine are being established at various English and Continental ports. The time seems ripe also for undertaking instruction in tropical diseases in America. The establishment of investigating institutes and of teaching departments in such cities as San Francisco, New Orleans, Baltimore, and New York would be an additional safeguard to the country, since these are ports most likely to be infected. Moreover, careful instruction as regards diseases peculiar to the tropics, and the special character assumed by other diseases when they occur in the hotter regions of the earth, would seem to be essential for those American physicians and surgeons who contemplate residence or practice in our new tropical possessions.

The Third Scandinavian Congress of Internal Medicine will be held in Copenhagen in July, 1900. The principal subject on the program is Serumtherapy. The discussion will be introduced by Professor Sarensen (Copenhagen), Dr. Aaser (Christiania), and Dr. Hellstroem (Stockholm).

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending February 10, 1900:

Monday, February 5—Academy of Surgery.

Wednesday, February 7—College of Physicians.

Thursday, February 8.—Pathological Society.

Friday, February 9.—College of Physicians, Section on Surgery.

St. Joseph's Hospital, Lancaster, Pa.—A new four-story annex was formally opened January 26. It doubles the capacity of the hospital, adding 44 beds and 4 wards. The annex includes also a new operating-room and a pathologic laboratory.

The James Dundas Operating Room has recently been presented to the Hospital of the University of Pennsylvania, by James Dundas Lippincott, as a memorial to his uncle, James Dundas. It consists of a suite of four rooms arranged and fitted up in the most improved plan, and is designed chiefly for operations upon private patients.

Dr. John Guitéras, a Professor in the University of Havana.—According to the *Journal of the American Medical Association*, a chair of intertropical pathology has been created at Havana, and Dr. Juan Guitéras, who is at present studying in Europe, appointed to it. The *Archivos de la Policlinica* congratulates the Havana faculty on "this brilliant and exceptional acquisition," and expresses its exalted appreciation of "the patriotic act of the Doctor in leaving his position in Philadelphia—the chair of pathologic anatomy at the University of Pennsylvania—to return to Cuba for our welfare and to work for medical culture."

The University of Pennsylvania Medical Society.—At a preliminary meeting, held in the University Hospital, January 26, the University of Pennsylvania Medical Society was organized. The object of the Society is the promotion of medical and allied sciences, particularly among those officially connected with the University, and with this idea in view, membership in the Society is open to anyone officially connected with the University. It is hoped to enlist actively the cooperation of all attached to the Medical, Biological, Dental, and Veterinary Departments, the University Hospital, the Veterinary Hospital, the Laboratory of Hygiene, and the Wistar Institute of Anatomy and Biology. The following officers were elected: President, Dr. A. C. Abbott; vice-presidents, Dr. Milton B. Hartzell and Dr. Leonard Pearson; and secretary, Dr. A. O. J. Kelly.

MISCELLANY.

The Gallinger Antivivisection Bill.—Owing to certain changes recently made, the Committee on the District of Columbia at present consists of Senator James McMillan, Michigan, Chairman, and Senators J. H. Gallinger, New Hampshire; H. C. Hansborough, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; Geo. L. Wellington, Maryland; S. R. Mallory, Florida; W. V. Sullivan, Mississippi; W. A. Clark, Montana; Thos. S. Martin, Viginia; Wm. M. Stewart, Nevada, and Richard Kenney, Delaware. Personal letters remonstrating against the bill may be addressed to them or to other senators. Petitions should be addressed to the Senate of the United States.

W. W. KEEN, M.D.,
President American Medical Association.

The Latest Literature.

British Medical Journal.

January 13, 1900. [No. 2037.]

1. A Century of Surgery. CHRISTOPHER HEATH.
2. Retention of Menstrual Blood from Atresia of the Vagina. CHARLES J. CULLINGWORTH.
3. Description of Ambulance for the Mounted Service. T. F. S. CAVERHILL.
4. Concussion of the Retina. SYDNEY STEPHENSON.
5. Carcinoma of the Ascending Colon and Its Treatment, with the Record of 2 Cases. W. MCADAM ECCLES.
6. A Case of Ruptured Ureter or Renal Pelvis. E. PERCY PATON.
7. Enterectomy for Gangrenous Hernia; with an Account of 2 Successful Cases. W. P. MONTGOMERY.
8. Valvular Drainage-Tubes in Empyema. WM. WILLIAMS.
9. Acute Orchitis in an Infant 11 Weeks Old. F. ASHTON WARNER.
10. Fracture of Both Clavicles. JAMES BATTERSBY.
11. Rectal Feeding in Exhaustion Following Children's Ailments. CHRISTOPHER A. A. COULTHARD.
12. A Case of Excessive Hemorrhage from a Varicocele of the Labia Majora. J. E. ROSENSTEIN.
13. Hypodermic Administration of Mercury in Syphilis. W. HUBERT S. FOSBERY.
14. A Calcified Lipoma in a Hernial Sac. R. A. MILLIGAN.
15. Notes on a Case of Ectopic Gestation. THOS. WALLACE.
16. Strangulation of Intestine by Fallopian-Tube. P. CLENNELL FENWICK.

1.—Heath recalls the wonderful **progress** which **surgery** has made in the nineteenth **century** and tells of the development of amputation by the flat method, of the introduction of joint excisions, made possible by the discovery of anesthetics, of the wonderful results which have resulted from the practice of antisepsis, of operations for vesical calculus, prostatic disease, ovariotomy, of abdominal surgery and of surgery of the nervous system. In conclusion he calls attention to the possibilities of diagnosis which modern implements afford, such as the ophthalmoscope, laryngoscope, the electric endoscope and later the x-rays. [G.B.]

2.—Cullingworth concludes his clinical lectures on **retention of menstrual blood from atresia of the vagina.** He calls attention to the various causes which may produce hematometra or hematocolpos, and the necessity of local examination in disorders of menstruation. [W.K.]

4.—Stephenson reports a case of a lad being struck on the eye with a cricket-ball followed by **concussion of the retina.** The ophthalmoscope showed "a wide but defective zone of whitish fundus, situated peripherally, upward, inward, and outwards." V. $\frac{5}{9}$ (ii letters). There was also sluggishness of the pupil. The eye recovered very rapidly. [G.B.W.]

5.—Eccles reports 2 cases of **carcinoma of the ascending colon.** The first was a man, 43 years of age, who had began to suffer from constipation as the first symptom of the growth about 5 months before admission. When admitted to the hospital he was suffering from symptoms of intestinal obstruction. On operation, a malignant (adenocarcinoma) infiltration of the ascending colon was found. The growth was resected, and an artificial anus made. The patient died 6 hours after the operation. The second case was a woman, aged 45 years, who had for 2 years noticed dragging pains in upper part of abdomen. There was no constipation. At a primary operation, a malignant tumor of the ascending colon was found. This was fixed in the wound, and at a second operation, 8 days later, the diseased intestine was excised, and an end-to-end anastomosis done. The patient made a good recovery, and when examined, 8 months after the operation, no return of the trouble could be detected. [G.B.W.]

6.—A man, 36 years of age, fell, striking the left of his abdomen against a large tin box. There was a fracture of the twelfth rib, with vomiting and passage of blood-tinged urine. Twelve days after the accident a tumor could be made out in the left loin and extending down into the iliac fossa. This, on being opened, held some 2 pints of clear urine which was thought to come from a **ruptured ureter or renal pelvis.** The patient made a good recovery. [G.B.W.]

8.—Williams reports a case of tuberculous empyema cured by the use of his **valvular drainage tube.** The patient was a marked consumptive and though relieved absolutely from pus in his pleural cavity, died from the ravages of the tubercle-bacillus in his lungs. [G.B.W.]

9.—In this case of **orchitis,** the **child, 11 months of age,** had been circumcised and the wound at time of development of the inflammation in the testicle was not quite healed. Warner, however, does not believe the wound was the seat of an infection which produced the orchitis. Trauma he believes was the probable cause. [G.B.W.]

11.—Coulthard recommends **nutrient enemas** for children suffering from extreme exhaustion following diarrhea. The enema should be placed as high up in the large bowel as possible. Before giving them the bowel should be washed out with two or three pints of sterilized water. The enemas should consist of the following mixture: 1 egg; 1 tablespoonful of Valentine's meat-juice; 4 ounces of sterilized milk; $\frac{1}{2}$ ounce of brandy; $\frac{1}{2}$ teaspoonful of salt; 5 ounces of sterilized water; 2 ounces of this mixture should be injected every two hours. A soft rubber catheter, number 10 or 12, with a closed syringe with a capacity of two ounces are all the implements necessary for the injection. The catheter should be withdrawn slowly after the injection and the child laid in bed with its legs and buttocks slightly raised. Infants so treated are usually able to take nourishment freely by the mouth after the third or fourth injection. If necessary this treatment may be continued three or four days. [S.M.H.]

12.—Rosenstein reports a case of excessive hemorrhage from rupture of **varicose veins in the labia majora.** The veins had ruptured while the patient was stooping to take off her shoe. [W.K.]

13.—Fosbery reports some cases of syphilis in which he gave **intramuscular injections of mercurial cream** according to the formula of Lambkin, which contains 1 dram of mercury; 2 drams of lanolin, and 4 drams of carbolic oil, 1 in 20. The doses used in the cases treated varied from 4 to 7 minims. The effects as regards the syphilis were good, but the preparation was evidently too strong, as it caused pain and mercurialism. [S.M.H.]

14.—Milligan discovered in a hernial sac what he believed to be a **calcified lipoma.** [S.M.H.]

15.—Wallace contributes notes on a case of **ectopic gestation.** Celiotomy was performed, a full grown fetus removed, and the entire sac removed with much difficulty. The patient was much shocked but ultimately recovered from the operation. [W.K.]

16.—Fenwick describes a case of **intestinal strangulation** in which the constricting band was found to consist of the left fallopian tube which had become adherent to the posterior wall of the pelvis, and left a circular opening through which the intestine had passed. Autopsy revealed the character of the obstruction. [W.K.]

Lancet.

January 13, 1900. [No. 3985.]

1. Cancer of the Penis. A. MARMADUKE SHEILD.
2. Malaria and Mosquitos. G. BASTIANELLI and A. BIGNAMI.
3. Volkmann's Ischemic Paralysis; Its Treatment by Tendon-lengthening. HERBERT W. PAGE.
4. Hypothermia. E. B. HULBERT.
5. A Mode of Operating in Cases of Appendicitis, Adapted for Use on any Day or at any Stage of an Acute or Subacute Attack, though not Indicated in every Case. C. B. KEETLEY.
6. Preserving Alcohol *versus* Our Own Interests. FREDERIC C. COLEY.
7. Diet in Typhoid Fever. R. W. MARSDEN
8. A Simple and Trustworthy Method for the Quantitative Estimation of Mercury in Urine. SCHUMACHER (II), and W. L. JUNG.
9. Protracted Gestation. JOHN PHILLIPS.
10. Poisoning by Corrosive Sublimate in a Pregnant Woman; Recovery; Delivery of Twins at Term; Postpartum Hemorrhage. M. D. EDER.
11. A Case of Enormous Nasal and Postnasal Polypus; Paralysis and Death. ATUL CHANDRA MUKHERJI.

2. A Case of Chronic Middle-Ear Suppuration with Thrombosis of the Lateral Sinus in which the Internal Jugular Vein was not Ligatured; Recovery. ARTHUR H. CHEATLE.
3. A Successful Case of Removal of a Packing-Needle from the Descending Colon; Rapid Disappearance of Intraperitoneal Adhesions. N. DAVIES-COLLEY.
4. A Case of Cerebral Hemorrhage Presenting Several Unusual Features; Necropsy. G. J. IRVINE.

1.—Sheild considers local irritation the chief exciting cause of **epithelioma of the penis**; the majority of the patients have had phimosis during their entire lives. The affection usually occurs in advanced life, but has been reported in a patient 22 years old; Sheild has observed the disease twice in patients under 35. The disease may begin as a superficial erosion, a warty growth, or a nodular mass, and if the prepuce cannot be retracted there is usually hemorrhagic or seropurulent discharge. Infiltration takes place at the base of the wart and ultimately a foul ulcer forms with gristly edges and covered with protuberant granulations. The inguinal glands often become affected early; the lumbar glands later if the disease is neglected. Secondary growths in the viscera are rare. In the diagnosis gummatous ulceration must be considered, but in that affection the sore is devoid of gristle-like hardness, the margins are serpiginous, and the other signs of syphilis are usually present. Gouty tumors of the penis occur in the elderly and the signs of gout are marked; sarcoma is rare and the diagnosis prior to removal is usually uncertain. The fetor, the infiltration and the warty character of the growth are quite typical. In treating epithelioma the use of caustics is inefficient and complicates the diagnosis. Either free excision must be practised or the growth eradicated with the actual cautery. If the body of the penis is free amputation may be performed near the middle of the penis; if there is serious infiltration of the corpora cavernosa the whole organ must be removed; in bad cases the whole genital apparatus has been successfully removed. Sheild does not enter into a discussion of the methods of operative details; he condemns the use of the galvano-ecraseur and such extensive operations as removal of the femoral vessels or amputation at the hip-joint; operation is unfavorable in cases in which the inguinal glands are suppurating. Sheild reports 6 operations; his patients have survived 10 years, 8 years, 7 years, 4 years and 3 years without recurrence, and in one patient the time is too short to judge of the ultimate result. [M.B.T.]

2.—Bastianelli and Bignami consider that it has been irrefutably demonstrated that **human malaria** is a disease inoculated by a particular species of **mosquito.** Experimentation has demonstrated pretty clearly that these extracorporeal hosts of the human malarial parasite are the various species of the genus anopheles. It was with the purpose of completing the demonstration of this truth that the work reported in this article was undertaken by the authors. They first took up the study of the estivoautumnal parasites, showing that these present two life-cycles, one of which is completed entirely in man and is the cause of the fever, while the other is only initiated in man and is completed in mosquitos of the genus anopheles. The study of the same cycle in the other forms led to exactly similar results. They report upon the manner of development of the various parasites in man and in the genus anopheles, showing the points of difference between the several varieties and how all three species of malarial parasite, distinguishable from each other, adopt as host the same species of mosquito, and in so doing preserve intact the distinguishing characters of their species. They have further shown that a single infected mosquito is capable of inoculating malaria into man, and that a single mosquito may further by successive bites infect several individuals, and that if at a single bite the anopheles empties all the contents of the salivary glands the glands may still become affected afresh; that two species of parasite may develop in one and the same individual, the two remaining distinct, and that it can in consequence happen that a single anopheles may inoculate a mixed infection. Such mixed infections (estival and tertian) are not uncommon in Italy. At this point in the article, in order to explain in a complete manner the course of an epidemic of malaria, they made a study, first of the malarial individuals, second, of the malarial mosquitos, and third, of the places in which the larva of the anopheles developed, and conclude the article with some remarks upon the indications for prophylactic measures indicated by the facts developed. They think that treatment with quinin should be carried out energetically from the date of the first febrile attack, since it is known that quinin, although it can interfere with and even prevent the development of the young crescents, has no evident action on those already matured. [S.M.H.]

3.—Page reports the case of a boy of 4½ years, who had sustained a fracture of the lower end of the left humerus near the elbow. The arm was put up in the flexed position with anterior and posterior splints which caused a superficial slough. Contraction of the fingers resulted which it was found impossible to straighten under local anesthesia. **Tendon-lengthening** was performed in the following manner: the tendons were exposed by raising a rectangular flap at the wrist and each was in turn split longitudinally, severed to the right and left at the opposite ends of each incision, extended and sutured. Improvement was very slow, but eventually good movement of the arm, wrist, and fingers resulted. [M.B.T.]

4.—Hulbert had under his care a man, aged 36 years, suffering from a rather peculiar train of nervous symptoms, which suggested to his mind the existence of some **diffuse degenerative change in the brain,** possibly sclerotic in character, and beginning chiefly in the pons and medulla. The patient finally died, and a most careful autopsy, including numerous microscopic sections from the cerebrum, cerebellum, pons, medulla, etc., showed no lesion in any part of the body. The chief interest of the case centered in the presence of marked **hypothermia,** the lowest recorded temperature being 81.6° (rectal). At this stage a hot bath was given, the temperature of the water being gradually raised from 98° to 105°, in consequence of which the temperature rose 19.5° in 18 hours. It fell again, and persisted subnormal until shortly before death, when it rose to 104°. [S.M.H.]

5.—Keetley recommends a mode of proceeding in operating for **appendicitis,** similar to that in ligating the common iliac artery by extraperitoneal incision. This is in the direction of the path which pus usually takes in escaping from the inguinal region, if left to itself. Keetley believes that this mode of operating is safe in any case, and under almost any condition. The skin and external oblique aponeurosis is divided above the superior iliac spine, and the outer half of Poupart's ligament; the fibers of the deeper muscles are separated, the transversalis fascia if divided and the peritoneum is carefully separated from the iliac fascia. The deep surface of the appendix may be palpated and the tissues examined by throwing a strong light into the wound. [M.B.T.]

6.—Coley advises against prescribing **alcohol** unless one is convinced that no safer remedy will produce the desired effect. He believes it should never be given for trivial ailments. [S M.H.]

7.—Marsden advocates more **liberal diet in typhoid fever.** In mild cases, without contraindication, he gives bread and milk, custard, fish with mashed potato, chicken, bread and butter, and finally minced meat, continuing with this until convalescence is well established. In severe cases he restricts the diet to milk, peptonized milk, and meat juice, even continuing this treatment into the period of convalescence. He thinks the individual patient and his condition alone should be considered, and that slight exacerbations of temperature or occasional irregularity of the bowels need not, *per se*, cause the withdrawal of the food when no evidence exists of a distinct causal connection. The patient's wishes should constitute an important help. If he is hungry and wishes more food, and examination reveals no doubt as to the genuineness of this feeling, the request should be complied with, but under no condition should solid food be forced upon the patient. [S.M.H.]

8.—Schumacher and Jung describe a simple and trustworthy method for the quantitative estimation of mercury in urine. [S.M.H.]

10.—Phillips reports a case of protracted gestation, labor occurring 323 days after the cessation of her last period, and 310 days after the date of coitus. During her entire pregnancy the patient had excellent health and the labor was normal with cephalic presentation. [W.K.]

12.—A boy, of 19 years, had a discharge from both ears, which had stopped 18 months previously. He was taken

with pain in the head, vomiting, giddiness, and a rise of temperature; there was tenderness on pressure back of the mastoid. At the operation the ossicles were found necrosed and the antrum full of granulations, and an infected **thrombus** was **removed from the lateral sinus.** As the clot was firm above and below the point of infection, it was cleared away without tying the jugular vein, and bleeding was controled by gauze-packing. Recovery followed. [M.B.T.]

14.—A man, aged 19, who had been previously healthy, was taken with **hemiplegia** of the left side, and partial loss of consciousness. His condition became gradually worse, and death followed the next day. At the necropsy a large clot measuring 2 inches by 1 inch was found in the right lateral ventricle. The heart weighed 19 ounces, but there was no sign of vegetation or roughening of the valves there was no lesion of the arteries at the base of the brain, no aneurysm, emboli or other cause for the condition to be found. [M.B.T.]

New York Medical Journal.

January 27, 1900. [Vol. lxxi, No. 4.]

1. Flexion or Bent-Knee Marching. E. H. BRADFORD.
2. Remarks on Intranasal Operations. WALTER F. CHAPPELL.
3. The Study of Inhibition. J. Y. GONZALEZ.
4. Antitoxin Results and Diphtheria Definitions. A. RUPP.
5. Pony, Montana, as a Resort for Cases of Pulmonary Tuberculosis. JOHN C. SCHAPPS.
6. Staphylitis and Elongated Uvula. THERON W. KILMER.
7. Clinical Memoranda on Otitis Media Suppurativa Chronica. A Clinical Lecture. JOHN F. OAKS.
8. A Treatment for Acute Serous Synovitis Permitting of Joint-Functions. PHIL. HOFFMANN.

1.—Bradford considers the **flexion-gait** a natural gait, and believes that it should be acquired in practice by all pedestrians among whom walking is of service, either as a means of healthy exercise or as a necessity. [S.M.H.]

2.—Chappell recommends the use of splints as a dressing following both the removal of spurs and the corrcction of deflections of the **septum nasi.** The spur may be removed by either an annular knife or a nasal saw. The splint should embrace the full width of the septum and should be broader at its posterior end than at its anterior. [G.B.H.]

3.—Gonzalez proposes to interpret **inhibitory force** in terms of molecular motion, not without analogy with isomeric redistribution of molecules in colloid substances. Every vital organ exhibiting inhibitory phenomena receives constantly two currents of nervous vibrations, in opposite directions, and as these are partly neutralized, there remains a resultant working in the direction of functional activity as ordinarily manifested by the organs. The two nervous waves are, though contrary in direction, of the same nature, since there are no fundamental differences of structure between the nerves transmitting the inhibitory and those carrying the accelerator impulse. [S.M.H.]

5.—Schapps recommends **Pony, Montana, as a resort for cases of pulmonary tuberculosis.** He records several cases illustrative of the healing power of this climate, and attributes its beneficial effects to the dry, cold winters, the altitude and the prevalence of sunshine. [S.M.H.]

6.—Kilmer says that a **uvula** is **elongated** when it has become of such a length as to cause trouble, and that then the only treatment is amputation of the tip. The removal of more than the tip is unnecessary and uncalled for. The devices for amputating the uvula are; (1) forceps and scissors; (2) uvula scissors with teeth for grasping the uvula and holding while the blades are cutting; (3) the guillotine; (4) the cold-snare and (5) the electro snare. The first of these is probably the most successful and easiest method. [G.B.W.]

7.—Oaks says that the object of the treatment of a **chronic suppurative otitis media** is to (1) secure and promote asepsis, (2) to secure free drainage and (3) to eliminate the etiologic factor. When faithful and correct treatment has failed to cure the suppurative otitis media, radical and heroic measures, such as ossiculectomy and exenteration of the tympanic and epitympanic spaces are called for. Oaks also calls attention to the use of antinosine in the treatment of throat, nose and ear disease. The drug is the sodium salt of nosophen. [G B W.]

8.—Hoffman strongly believes in the efficiency of his **compression treatment for acute serous synovitis.** The principle is to fill all depressions about the joint with cotton and then apply strips of rubber adhesive plaster in such a way as to entirely encircle the joint and several inches of the limb above and below, so as to make firm and equable compressions. He says that in the majority of 156 cases treated according to this plan the results were most gratifying. [G.B.W.]

Medical Record.

January 27, 1900. [Vol. 57, No. 4.]

1. Leprosy in Hawaii. E. S. GOODHUE.
2. Sanatorium Treatment at Home for Patients Suffering from Tuberculosis. S. A. KNOPF.
3. A Criticism Upon a New Method of Preparing the Skin for Vaccination by Denudation with Caustic Potash Solution. FRANK S. FIELDER.

1.—Goodhue insists that **leprosy** does exist in Hawaii, that there are 1,100 cases there now in the colony, and that sending cases from this country to Hawaii, now that those islands are under our government, is a good method of disposing of the lepers that may be found here. [D.L.E.]

2.—Knopf gives the customary advice concerning the **residence** to be selected for a **tuberculous patient.** He should sleep alone, his room should be plainly furnished and have no heavy hangings. A convenient cabinet for a cuspidor is pictured. He should dress warmly, but not heavily. Food should be freely given, hot milk and toast before rising, full breakfast after a bath, a heavy midday meal, a moderate supper, and milk or prepared foods between the meals. He should be as much in the air as possible, sheltered from hot sunshine or unpleasant winds. Hydrotherapeutic measures should be used, the severity being gradually increased. He should be constantly under the eye of a physician. [D.L.E]

3.—Fielder decides after use of the KOH method that it is less distressing to the patient and does not draw blood, but that it takes more time, is less certain and requires more skill than scarification and the vesicles are likely to be excessively large. [D.L.E.]

Medical News.

January 27, 1900. [Vol. lxxvi, No. 4.]

1. Pruritus Ani. J. P. TUTTLE.
2. The Great Drainage-Canal at Chicago. J. A. STEWART.
3. Experimental Researches on the Effects of Increased Barometric Pressure and of Foreign Bodies in the Pharynx Esophagus, Trachea and Larynx. GEORGE W. CRILE
4. Hernia in Pregnancy and Pregnancy in Hernia, with Note on Umbilical Hernia. THOMAS H. MANLEY.

1.—Tuttle believed that among the various alleged **causes of pruritus ani,** the most important are rheumatism, uricemia, catarrhal diseases of the rectum, sigmoiditis, and colitis. He has seen so many of the other alleged causes removed without any benefit in the symptoms, that he is skeptical regarding their etiologic relation. Parasitic diseases are also important elements, and often require careful macroscopic and microscopic observation. The more obscure such as scabies and the various tinea, should be treated by a specialist. There are two types of objective signs, one in which there is excess of secretion, the skin and mucocutaneous junction become moist, excoriated, and inflamed, and in this condition there is actual pain. In the dry condition, the glands are atrophied, the surface is dry, the sphincter contracted, and frequently any distention causes numerous little cracks and fissures in the mucous membranes. These are usually the most severe cases, the fissures itching often intolerably. Among the most important features in treatment are modified Kelly tubes, long Wales bougies, krameria and strong solutions of argonin. The general condition should also be treated, and the prognosis is generally favorable. [J.S.]

2.—Stewart describes the drainage-canal at Chicago, and believes that it will not do very much to contaminate the water-supply at St. Louis, and that it will be of great benefit to the city of Chicago itself. He seems to think that it may be of considerable commercial importance. [J.S.]

3.—Crile has performed a series of experiments upon gs in order to test the effect of increased intrathoracic essure and the presence of foreign bodies in the esoph-us. The animals were completely etherized, respiratory acings obtained by means of a tambour attached to the iest, and blood-pressure by means of a mercury manom-er. The trachea was dissected out, a canula inserted, id connected with bellows so that air-pressure could be ddenly and rapidly increased. Five dogs were employed; all, sudden increase in the intrapulmonary pressure pro-iced collapse of the circulation, which was restored as soon the pressure was relieved. This is apparently brought out by the obstruction of the flow of blood to the left art and the engorgement of the right side. He supposes at the symptoms experienced by workingmen entering a nnel under high barometric pressure are due to this fall blood-pressure. In another series of dogs, 7 in number, ie esophagus was dissected out, and interesophageal pres-ire produced by various means, dilators, cones, etc. It as found that mere dilation of the esophagus in any part elow the larynx produced at most a trifling alteration in the ulse-rate, but dilation opposite the larynx or the introduc-on of a bulky object, such as the handle of a chisel, into ie pharynx caused sudden respiratory arrest and fall of lood-pressure. The latter was readily avoided by paralyz-ig the pneumogastric nerves with atropin, before or uring the experiments. It appears, therefore, that some of ie symptoms of choking are caused by reflex inhibition, artly through the superior laryngeal and partly through ie trunk of the vagus. A practical point is, that if opera-ve procedures are undertaken for dislodging foreign bodies, is advisable to adminster a preliminary dose of atropin. he narrowest parts of the esophageal tract are at the harynx and the cardiac end of the stomach. [J.S.]

Boston Medical and Surgical Journal.

January 25, 1900. [Vol. cxiii, No. 4.]

. A Rhode Island Philosopher (Elisha Bartlett). WILLIAM OSLER.
. Sixteen Years' Experience in Food and Drug Inspection. SAMUEL W. ABBOTT.
. The Value of X-Ray Examinations in the Less Frequent Diseases of the Chest Illustrated by their Use in those Cases where Aneurysm is Present or Suspected. FRANCIS H. WILLIAMS.
. A Sterilizer and Equipment for Confinement Cases. FRANK A. HIGGINS.
. On the High Operation for Disease within the Scrotum. J. G. MUMFORD.
. A Case of Ptomain-Poisoning. W. P. COUES.

1.—Osler continues his article upon Elisha Bartlett, calling articular attention to his contributions to medical litera-ure. He died in 1855. Osler pays a warm tribute to his bility and to his exceptionably lovable character. [J.S.]

2.—Abbott describes the results of food-inspection in Massachusetts from 1883 to 1898, inclusive. He gives a table which shows that altogether 97,500 examinations were made at a total cost of about $150,000. It is interesting to note hat the proportion of samples in conformity to the statutes vas much higher in 1883 than in 1898, indicating a progres-ive improvement in the quality of food furnished, either as a result of the development of conscience in the vendors, or as the result of the fear inspired by the food-inspection. The results tend to overthrow certain popular errors; thus, he common articles of food—flour, sugar, etc., are very rarely adulterated. Milk, in addition to alterations in the quality by additions of water, by removal of cream, frequently con-ains coloring matter or preservatives. He gives a short lescription of the organization of the department, which consists essentially of a well equipped laboratory for chemic and microscopic analyses, and of course an adequate appro-priation of money. The officials are few, consisting of a chief director who supervises the work and examines the grounds for prosecution; an experienced analyst, and a col-lector of samples, who need not be an analyst but must be acquainted with all the ordinary forms of adulteration and able to detect such new ones as may be devised, and also able to make complaints and conduct prosecutions. These food-inspection laws are of benefit to the consumer rather by improving the quality than by cheapening the price of the product, and confer a sense of security which is not gained by any other means. Comparisons of samples from Massachusetts with those of other States showed that when food-inspection was made the percentage of adulteration was very much lower. [J.S.]

3.—Williams concludes his paper upon the **diagnosis of the aneurysm** by means of the x-ray, reporting 5 additional cases. [J.S.]

4.—Higgins describes the sterilizer which he employs, and the contents of the physician's obstetric bag. [W.K.]

5.—Mumford strongly recommends the **high incision** for the **treatment of disease of the testicle** and thinks it especially applicable in cases of hernia, hydrocele, and varicocele. In malignant disease, tuberculosis and other burrowing suppurative diseases the incision must be extended into the scrotum. The high incision used is similar to that of Alexander for shortening the round ligament. [G.B.W.]

6.—Coues reports the case of a man, of 26, who, after a meal of chicken sandwiches, cocoanut pie and sardines, fell suddenly to the floor and was sent to his home in a state of profound collapse, with cold extremities, and feeble pulse. Physical examination was entirely negative. There was considerable pain in the precordial region. He gradually recovered, vomited, and had a fecal evacuation, after which he was apparently quite well. The case is described as one of ptomain-poisoning. [J.S.]

Journal of American Medical Association.

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1. Syphilis of the Nervous System, and the Use and Abuse of Mercury and Iodin in Its Treatments. WILLIAM LESZYNSKY.
2. Evidences that Bovine Tuberculosis is Communicable to Man by Direct Contact, or by Food-Infection. JOHN A. ROBISON.
3. Influenza. G. E. CRAWFORD.
4. Physical Standards of National Guardsmen. J. FRANCIS CALEF.
5. The Treatment of Aneurysms by Subcutaneous Gelatin-Injections. THOMAS B. FUTCHER.
6. Contagion in Leprosy as Observed in San Francisco. DOUGLAS W. MONTGOMERY.
7. Some Questions Relative to the Diagnosis of Anesthetic Leprosy. J. G. McDOUGAL.
8. Probable Brain Tumor with Recovery. W. A. JONES.
9. Syphilis from Dental Instruments. WILLIAM L. BAUM.
10. An Intestinal Suture. RAYMOND CUSTER TURCK.
11. May We Not Frequently Do Great Harm Rather Than Any Good, by Office-Treatment of Female Generative Organs? MILO BUEL WARD.

1.—In spite of vigorous early treatment we possess no certain remedy to protect the **nervous system from syphilis.** The disease may attack the intracranial or spinal arteries producing endarteritis which leads to thrombosis; it may give rise to gummatous growths; or the nutrition of the nerve-cell may be slowly interfered with causing gradual degeneration. Obliterative endarteritis and basal meningitis and meningoencephalitis extending to the posterior fossa are the forms most dangerous to life. Residual symptoms indirectly due to syphilis are not influenced by antisyphilitic treatment, and to persist in the use of mercury and the iodids in such cases is distinctly harmful. The rapidity of relief depends upon the virulence, duration and character of the lesion and the susceptibility of the patient to mercury and the iodids. Patients who have had syphilis but have never received antisyphilitic treatment should receive active treatment for several weeks, but if these measures have already been carried out without relief it is useless to repeat the procedure. We are by no means certain that degenerative diseases are always the result of early infection. From careful observation in a large number of cases, Lezynsky believes that there are additional causative factors, such as alcoholic, sexual or other excesses, or a congenital or acquired neuropathic constitution, which favor the development of degenerative processes in the nervous system, even in those patients who have contracted syphilis at some remote period. He hopes that the rapid progress in bacteriology will

soon be the means of discovering the specific germ of syphilis and its antitoxin. [M.B.T.]

2.—From a review of literature Robison concludes that we have not sufficient evidence to teach positively the intertransmission of **bovine and human tuberculosis** by contagion or ingestion of tuberculous flesh, while we must admit possible danger in the use of tuberculous milk. It is better to teach the public that there are other predisposing and exciting causes of tuberculosis which, if removed, would tend to eradicate the disease from the human race more rapidly than trying first to eradicate it from domestic animals. The profession should be a unit in its fight against tuberculosis, and education of the public is the best method of preventing the spread of the disease; this is best accomplished through sanatoria, from which patients return to their homes, and teach others by example. The Massachusetts State Sanitarium, where patients receive treatment for 50 cents a day, is mentioned as a model institution for the poor. [M.B.T.]

3.—Crawford believes that **influenza is not a modern disease.** Hippocrates refers in his writings to what we now know as influenza, and epidemics have been more or less prevalent since his time. Neither is it confined to winter weather or cold climates, but prevails in Egypt and Southern California, as well as in northern countries, and though more common in winter, numerous cases occur in summer. The characteristic features of various forms of the disease are described. It is believed that one attack usually confers immunity varying from several months to years. Every case should be regarded as serious, and the patient should be confined to bed until the fever and active symptoms have disappeared. Attempts to "work off" the disease often aggravate it. The main indication after the relief of pain is supporting treatment. The coal-tar products are preferable to opium for the relief of pain in most cases, and tonic doses of quinin, iron and strychnin are usually indicated. [M.B.T.]

5.—Futcher reviews the literature of the **treatment of aneurysm by injections** of solutions of **gelatin,** and reports 9 cases in which the treatment has been tried in the Johns Hopkins Hospital. Two hundred and fifty cc. of 1% solution of white gelatin in normal salt-solution was injected into the subcutaneous tissue of the thigh or abdomen under strict aseptic precautions every fifth day in the later cases. As the result of this treatment Futcher states that in not a single instance has the aneurysm been cured, although in one case the abdominal aneurysm has diminished considerably in size and the patient is still under treatment. In 7 of the 9 cases there was appreciable diminution in the subjective symptoms referable to pressure. It seems quite certain that the subcutaneous injection of gelatin-solution does materially increase the coagulability of the blood. The gelatin-injections are frequently very painful, the pain lasting and being most intense, often as late as 6 hours after the injection. In several instances the injections were followed, 2 to 4 hours later, by a distinct chill, with an elevation of temperature reaching at times as high as 103° F. In no case was there any local suppuration, and in only one case was there even local reaction. Notwithstanding the fact that not a single case can be reported cured, Futcher is convinced that there is some merit in the treatment, and that it deserves further trial. [M.B.T.]

6.—Montgomery states that there are a considerable number of **lepers** in San Francisco that are not confined to the pest-house. There seems to be danger that that section of the country may become a leper-focus, for the region west of the Rocky Mountains seems not alone to be the recipient of a large number of lepers from outlying leper-countries, but the disease appears to be capable of propagating itself in this country. The number of incoming lepers to the Pacific Coast from foreign countries must necessarily grow larger with our increasing territory and trade. The remedy must be in the segregation or deportation of those lepers we have and the more stringent examination of immigrants from leper-countries. [M.B.T.]

7.—Two cases of **leprosy** are reported occurring in sisters in which there was some doubt as to the diagnosis between that disease and congenital syphilis. [M.B.T.]

8.—A case is reported occurring in a boy of 16 in which there were unusual difficulties as to the diagnosis; from the general symptoms of headache, vertigo, vomiting, the ocular palsy, the left-sided paralysis, the ankle-clonus and increased knee-jerk, the subnormal temperature and pulse, together with his extreme irritability, a **brain-tumor** seemed the most probable explanation of the trouble. Gradual improvement followed and the patient is now in excellent health. With the probability of tumor in mind, and the absence of any specific history, the conclusion was finally reached that the neoplasm was of tubercular origin. [M.B.T.]

9.—Baum reports 6 cases of **syphilis** in which the infection was probably communicated by **dental instruments.** The importance of a knowledge of the appearance of syphilitic lesions by dentists, and the necessity for careful disinfection of instruments is emphasized. [M.B.T.]

10.—Turck recommends a modified form of Halsted's mattress suture, made by passing each suture under the loop and over the loose end of the preceding suture. With this form of suture leakage is impossible. [M.B.T.]

Berliner klinische Wochenschrift.

September 11, 1899. [36. Jahrg., No. 37.]

1. Dermatomyositis. H. OPPENHEIM.
2. The Conservative, Special Treatment of Chronic Suppuration of the Middle Ear. STETTER.
3. Congenital Insufficiency of the Soft Palate. H. GUTZMANN.
4. The Removal of Foreign Bodies from the Cornea. G. LEVINSOHN.
5. Children's Health Resorts on the German Sea-Coast, and their Prophylactic and Curative Results. C. A. EWALD.

1.—Oppenheim reports a case of **dermatomyositis** in a boy of 8. After some ill-defined premonitory symptoms consisting of pain in the back and extremities, redness of the face and hands, swelling and fever, the disease developed and affected the musculature, the skin, the mucous membranes, and the subcutaneous tissues. In the muscles the changes produced a forced stiffness and immobility, dependent primarily upon painfulness of motion, but also upon paresis and atrophy of some of the muscles, and abnormal states of tension and shortening in others. On palpation, the muscles felt like brawny, tense, tendon-like structures, and were excessively sensitive to pressure. The skin-changes consisted in an erythematous or pseudoerysipelatous redness of the face, especially of the lids; also of the backs of the hands. There were also atrophic, scar-like patches in different places. The mucous membrane of the tongue, mouth and pharynx was intensely red, the edge of the gum of a purple color, and the tongue of a salmon hue. The cervical and epitrochlear glands were swollen. The sphincters were not affected; the reflexes were normal or slightly exaggerated; sensation was not disturbed. The disease is that described by Unverricht as dermatomyositis (or rather dermatomucosomyositis). It somewhat resembles trichinosis, and has also been called pseudotrichinosis. The malady is practically hopeless in adults, but in the present instance (that of the boy) the author thinks that the prognosis is less unfavorable. Examination of the deltoid muscle was made. The exposed muscle was pale red, and microscopically showed marked **cellular infiltration,** diffuse as well as localized. The perimysium was thickened in places. The primitive fibrillas were, to a certain extent, reduced in size; some were entirely degenerated. [D.R.]

3.—Gutzmann defines **insufficiency of the soft palate** as a condition in which, in spite of the apparently normal form and immovability of the palate it does not fulfil the physiologic function of closing the posterior pharynx. This condition is recognized by the great distance which exists between the soft palate and the posterior wall of the pharynx. Defects in speech usually call attention to the condition; there is a nasal sound to all the vowels and consonants and imperfect pronunciation of many consonants. Gutzmann has never considered operation necessary or advisable; he has been successful by using massage and by stretching the velum palati and the posterior wall of the pharynx; moreover, in the course of time, patients gain a certain amount of skill and ability to use the muscles without any especial speech exercises. [M.B.T.]

4. Levinsohn has devised a spade-formed instrument which he considers especially adapted for the removal of foreign bodies from the cornea. [M.B.T.]

Original Articles.

LATENT CANCER OF THE STOMACH.

BY WILLIAM OSLER, M.D., AND THOMAS McCRAE, M.B.,
of Johns Hopkins Hospital.

IN a study of 150 consecutive cases of carcinoma of ne stomach in the medical department of the Johns Hopkins Hospital, we have been very much interested n a group in which the disease was unsuspected dur- ng life. As Welch remarks, it is rare to find cancer of ne stomach in an apparently healthy man dying of ccident. The latent cases are most frequently met n old persons, in whom the symptoms may be ery slight, or absent, or they are mistaken for the rdinary dyspeptic complaints of the aged. Even after he most thorough examination it may not be possible o reach a diagnosis. In obscure cases, particularly vith dyspepsia and emaciation, the possibility of latent arcinoma should be borne in mind.

There are three groups of cases of latent carcinoma f the stomach:

1. A very small one in general hospitals, a very large ne in almshouses and asylums, comprising cases in vhich the symptoms are those of a gradual enfeeble- nent without any indication of local disease—as Oliver Wendell Holmes puts it, in the "One Hoss Shay," "a eneral flavor of mild decay, but nothing local."

2. Cases in which, with an absence of gastric symp- oms, the lesions of associated disease seem sufficient o account for the condition. In this group were of our cases. In 2 the diagnosis of nephritis was nade; 1 had advanced pulmonary tuberculosis with neumothorax, and the fourth showed profound ane- nia with multiple venous thrombi. The following is a ummary of these cases:

CASE I.—*Diagnosis of nephritis, arteriosclerosis and pleurisy; no gastric symptoms.*

No. 22. A. G., Hospital Nos. 2454 and 3251, male, aged 61 years, first admitted January 22, 1891, complaining of short- ness of breath. A history of dyspnea, for some years. He had frequent attacks at night, and any ordinary exertion was difficult. With this he has had frequent cough. He had little appetite and the bowels had been loose.

Examination: Dyspnea, cyanosis, and edema. The ar- teries were very sclerotic. There was fluid in the left pleural cavity; over 600 cc. were withdrawn. The heart's action was rapid, with gallop rhythm; on January 20, 900 cc. were withdrawn from the left pleura, and the following day a friction-rub was heard in the left axilla. There were al- bumin and tube casts in the urine. The dyspnea gradu- ally lessened, and by February 16 his condition was much improved.

The patient remained in the hospital until April 29; on discharge he was still slightly cyanotic, but the dyspnea had gone. There was slightly impaired resonance on the left side of the chest. There was nothing noteworthy about the abdomen. During his stay there were no gastric symp- toms and the general condition of the patient improved.

Second admission, May 19, 1891, three weeks later. He looked very ill, cyanosed, and with dyspnea and hiccough. The pulse was scarcely perceptible. On May 23, 260 cc. of fluid were withdrawn from the left pleural cavity. His con- dition remained much the same until death on June 5, 1891. There was no complaint of any gastric symptoms. The temperature was practically normal during both admissions. There was no loss of weight on the second admission, and the nephritis and arteriosclerosis seemed to account for the symptoms, and no stomach-symptoms were present to draw attention to that organ.

Autopsy showed carcinoma of the stomach and esophagus, there being an elevated tumor-mass 7 by 2 cm., which was half in the stomach. The center was ulcerated. There was chronic diffuse nephritis, arteriosclerosis, aortic and mitral insuffi- ciency, and chronic pericarditis. There was pleural exudate with a fibrinous pleurisy over an infarction in the right lung. There were no metastases. Thrombi were present in both sides of the heart and in the pulmonary artery.

CASE II.—*General edema; albumin and granular and hyaline tube casts in urine, rapid emaciation; vomiting at onset, but none during his stay in hospital; diagnosis of nephritis.*

No. 73. T. C., Hospital No. 10,234, male, aged 61, admitted June 26, 1894, complaining of swelling of the legs. His family history was negative. He gave a history of an attack like the present 20 years ago, which lasted for 2 months. He then had both edema and dyspnea. In the last 5 years he had gradually lost over 40 pounds. His present illness began about 5 weeks before with persistent vomiting which lasted for one week. Swelling of the legs then appeared, and the vomiting stopped. He was able to keep at work until 4 days before admission. His appetite has been good, and the bowels regular. Examination showed marked emaciation and fairly general edema. There was slight dul- ness over the right base. The abdomen was distended, tym- panitic in the elevated and dull in the dependent portions, but it was held so tensely that attempts at palpation were not satisfactory. The urine was of dark color. Specific gravity 1012, showed a faint trace of albumin and contained hyaline and granular casts. The temperature was slightly elevated. The edema increased and the patient died on July 4.

Autopsy showed a large scirrhous cancer involving nearly the whole of the stomach, and extending to the esophagus. The stomach was adherent to all surrounding structures. The growth extended through to the peritoneum at places. There were secondary growths in the glands and liver.

CASE III.—*Tuberculosis and pneumothorax, all the symptoms those of chronic consumption; no stomach symptoms.*

No. 71.—J. A., Hospital No. 10,050, male, aged 41 years, admitted June 7, 1894, complaining of pain in the chest and cough. His family history was tuberculous. He had been very healthy previously. His present illness dated back about six months, though for some time before he had been troubled with a cough. This became worse, he had sharp pain in the left chest and several attacks of hemoptysis. For five months he had diarrhea, with the passage of mucus and blood in the stools. He has not had any appetite. There has been much loss of flesh. There was no history of any stomach-symptoms.

Examination showed great emaciation. There was club- bing of the fingers. There were marked signs on both sides of the thorax, both on percussion and auscultation. Pneu- mothorax was present on the left side. The abdomen looked natural, was nowhere tender and was negative on palpation. The temperature was only slightly elevated. The patient rapidly sank and died on June 11.

Autopsy showed cancer of the lesser curvature of the stomach with secondary growths in the lymph-glands and liver. The mass measured 6 by 5 cm. It was soft and fun- goid in character. The pylorus was free. There was tuber- culosis in both lungs and pneumothorax on the left side. Tuberculous ulceration of the large and small intestine was also found.

CASE IV.—*Multiple thrombi of superficial cutaneous veins; pro- found and progressive anemia; no gastric symptoms.*

No. 64. G. N., Hospital No. 9131, male, aged 50, admitted January 31, 1894, complaining of weakness and pains in the arms and legs. His family and previous history were nor- mal. The present illness, which began four weeks before, he attributed to exposure, wet and cold. He had a chill fol- lowed by fever, which lasted some days. Pain then began in each leg and then in the arms. These were sharp, made worse by movement and there was a great tenderness of the muscles on pressure. There was not any edema, but great weakness. The appetite was poor. The bowels were regular.

Examination showed no marked general change, except pallor and sallowness. The thorax was normal. On exami- nation there was epigastric tenderness and marked resistance of the abdominal walls. Neither the spleen nor liver was enlarged. Many of the superficial veins of both the arms and legs were represented by firm hard cords. These

thrombosed veins were somewhat sensitive. A portion of one of these veins in the arm was removed. The thrombus was soft and could be squeezed out. Cultures made from it were negative. The chart shows the remarkable extent of the thrombosis:

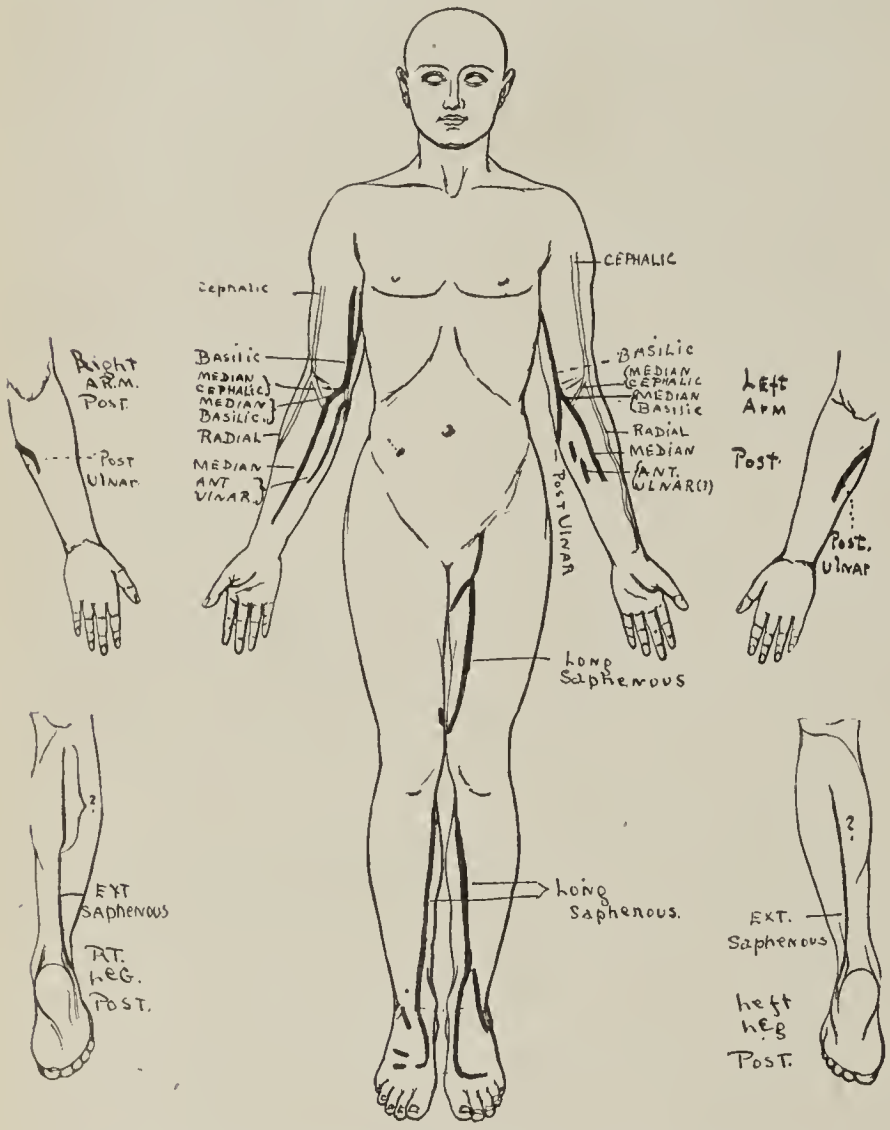
Blood—Hemoglobin .....39%.
Red corpuscles.....2,300,000.
White corpuseles .....6,000.

On February 10 edema appeared in the left leg. Very many of the superficial veins showed thrombosis. The left foot felt as warm as the right. On February 15 edema began in the right leg. The left femoral vein could be felt as a firm cord.

The anemia increased, the blood-count on February 16 being:

Hemoglobin .....22%.
Red corpuscles... .....1,716,000.
White corpuscles.....29,000.

The differential count showed 89% of polymorphonuclears. No nucleated red corpuscles were seen.



The patient gradually sank and died on February 18, 1894. His temperature was constantly somewhat elevated. There were no stomach-symptoms.

Autopsy showed cancer of the pylorus with secondary involvement of lymph-glands, gastrohepatie, anterior mediastinal and subelavieular, and the liver. The mass occupied the lesser curvature and did not involve the whole pylorus, so that the orifice was not narrowed. There were also multiple venous thrombi.

This remarkable case excited very special interest, more particularly the unusual number of thrombi in the superficial veins, and their association with great tenderness in the muscles. Though we spoke of the possibility of malignant disease, yet there was no positive evidence obtained. He was not given a test-meal, as there were really no features whatever pointing to the stomach.

3. Cases in which the metastases completely mask the primary disease.

CASE V.—*Paraesthesia in feet; symptoms of ataxia; gradual paraplegia; headache; marked pain in neck; development of a tumor in the right side of the pelvis; no stomach symptoms. Autopsy; primary carcinoma of lesser curvatare of the stomach; secondary masses in the abdominal glands, the right ilium and the femur.*

No 106. J. W., male, white. Hospital No. 14,944. Aged 40 years. Admitted January 10, 1896, complaining of inability to walk and pain in the neck and legs. His history was negative and he had been healthy until his present attack.

Present illness began about 8 months before with peculiar sensations as of "pins and needles" in the feet. In about 2 months the weakness in the legs had so increased that he was unable to walk. Sensation was almost absent in the feet. Headache and pains in the neck had been severe. There had not been any special stomach symptoms, although he had vomited occasionally.

Examination showed emaciation and marked pallor. The abdomen was praetically negative in the upper part. A mass was felt deeply in the right iliac fossa, which was palpable per rectum and involved the bony parts of the pelvis. There was great wasting of the legs with absence of the kneejerks. Blood-examination showed hemoglobin 48%; red corpuscles, 2,432,000.

The patient had severe pain which required large amounts of morphin. The tumor of the right pelvis increased in size. He lost ground in every way. In February he developed marked mental symptoms with ideas of perseeution etc. Death followed on Mareh 14, 1896.

Autopsy showed primary carcinoma of the lesser curvature of the stomaeh. The stomaeh was of normal size and on the anterior wall in the region of the lesser eurvature was an area of new growth 6 em. in diameter. There was no uleeration. Histologically, the growth was a eolloid carcinoma. There were secondary growths in the abdominal glands and in the right ilium and femur. Unfortunately, the spinal cord was not examined.

CASE VI.—*Pains in the right arm and right side of neck, with wasting of the muscles of the right arm; inequality of the pupils; development of nodular masses on the ribs; diagnosis of cancer, but primary disease not suspected; no gastric symptoms. Autopsy showed cancer of lesser curvature of the stomach; a nodular mass compressing the brachial plexus metastases in tenth dorsal and first lumbar vertebrae.*

No. 124. G. K., Hospital No. 17,993, male, aged 39 years, admitted Deecmber 1, 1896, eomplaining of pain through the right shoulder and back, with loss of sensation in the right forearm. His family-history was negative. He had had malaria every year for eight years past and pains in the shoulders and back, thought to be rheumatic. The most severe of these attaeks was 18 months before, during which he spent two weeks in bed. Since then he has been very well and able to work. His occupation, an ironfitter, involved much heavy lifting. He never had any stomaeh or bowel trouble; at times for many years he has had shortness of breath on exertion.

The present illness began in August, 1896, with coughing and profuse expeetoration. Pain soon came on in the right side, elose to the shoulder, and was severe enough to make him give up work. The cough soon left him, but the pain remained. It gradually went down the right arm. It was eonstant and described as boring in character. It was worse on movement. About one week before admission he noticed a loss of sensation in the forearm, and at the same time he lost power in the right arm, so that since then he has not been able to use it. The pain and weakness has also extended to his back, so that he had difficulty in raising himself up in bed. The legs were not affeeted. There was no history of any injury. There had not been any stomach symptoms. The bowels had been eonstipated. He had lost nearly 20 pounds in weight and much strength.

Examination showed fair nutrition. The patient remained usually on the left side, he seemed to suffer much pain and objeeted to changing his position or sitting up, on aecount of the pain it eaused. There were prominenees on the 4th, 5th, 7th, 8th, and 12th ribs, not attached to the skin, but to the bones. They were very tender, had a slightly elastic, but not fluctuated feeling. Examination of the thorax was negative. There was no dulness over the manubrium. The

bdomen was flat, the muscles were held somewhat rigidly, that palpation was difficult. There was marked wasting the muscles of the right arm, and loss of power. There emed to be some disturbance of sensation over the ulnar rface of the left arm, but the results were not constant. here was distinct inequality of the pupil, the left being rger. They both reacted to light and on convergence. phthalmoscopic examination was negative. The patient eld himself very stiffly when asked to sit up, and the mobility f the head downward was much impaired. There was no ain on pressure over the spine. There was no general andular enlargement.

Blood—Hemoglobin..... ..... 92%.
Red corpuscles..... 5,752,000.
White corpuscles..... 13,000.

The patient had severe pain, and frequently required morhin hypodermically. He lost weight and strength. The nasses on the ribs gradually increased in size, and became nore tender. On December 26 it was noted that the abdoen was very tense, and moderately distended. No other bdominal symptoms were present. The leukocytes increased nd were 22,000 on the 26th. A differential count showed 85% f polymorphonuclear. The patient generally sank, and ied on December 30. During his stay he took nourishment irly well. There was no complaint or sign of any gastric rouble.

The case was regarded as probably one of primary neoplasm in the thorax with secondary deposits on the ibs and probably in the vertebrae. The absence of history of any gastric trouble and of any signs during his tay in the hospital, did not call for special attention o the stomach, and no test-breakfast was given. The bdominal examination was always negative, except hat the muscles were held tensely. As the patient was lifficult of examination this did not perhaps arouse he attention it should have done. The true condition was not suspected.

Autopsy showed cancer of the stomach. The lesser curvature was converted into a rigid mass over which the omentum was closely bound. The growth extended along the posterior wall. It did not involve the cardia or pylorus. On section all the coats were infiltrated. The mucous membrane was smooth, white, and opaque. Near the pylorus was an ulcerated area 3 by 3 cm. on the posterior wall. There were metastases in the lungs, bronchial, pericardial axillary and abdominal lymph-glands, ribs, skull, and vertebrae. There was compression of the bronchial plexus by a tumor-nodule. The vertebral metastases were in the first and tenth dorsal and first lumbar.

CASE VII.—*Onset of illness with ascites; two months later aspiration of bloody fluid; recurrence of ascites with swelling of the legs; drainage of peritoneum; recognition of malignant disease of the stomach. Autopsy showed extensive cancer of the stomach.*

No. 141. A. H., male, Hospital No. 21,173, aged 59 years; admitted November 9, 1897, complaining of "dropsy." His family history was negative. He had been a moderate drinker and denied syphilis.

Present illness began four months previously with swelling of the abdomen. This increased gradually and at the end of two months he was tapped by his physician, who drew off a large amount of bloody fluid. Soon after the abdomen began to enlarge again and this continued until the present admission. With this swelling of the legs came on. There had been some pain in the lower abdomen. His appetite had varied. He had occasional vomiting of mucus but no blood. The bowels had been irregular. There had been great frequency of micturition.

Examination showed emaciation but not cachexia. The thorax was negative. The abdomen was distended symmetrically. Movable dulness and fluctuation were obtained. The liver-dulness began at the fifth rib in the right nipple line and only extended a distance of 4 cm. Its edge could not be felt. There was edema of the legs, genitalia and lower trunk.

The case was suggestive in some ways of cirrhosis of the liver, although the history of bloody fluid being obtained on previous tapping pointed to malignant growth. The absence of any stomach-symptoms seemed against a primary growth there. The patient required tapping and it was thought best to do this by an exploratory exploration.

Operation.—On the abdominal cavity being opened a bloody turbid fluid was obtained. A mass was found in the stomach and secondary deposits over the peritoneum. The fluid showed numerous red corpuscles and leukocytes. There were also large cells many times the size of a leukocyte, some of which contained more than one nucleus. No signs of karyokinesis were seen. Certain groups of cells were found which were very suggestive of masses of cancer-cells. After the operation a firm mass was to be felt in the left hypochondrium. In the right hypochondrium several nodules were felt. The patient was much easier after the operation, but died suddenly on December 5, 1897.

Autopsy showed colloid carcinoma of the stomach along the lesser curvature from the cardia to the pylorus. The pylorus was converted into a dense ring and the growth extended for a short distance into the duodenum. The esophagus was invaded but the cardiac orifice was not narrowed. The omentum and peritoneum were involved. The stomach was adherent to the liver, spleen and diaphragm. The growth extended through the diaphragm to the pleura.

In reviewing this interesting series of cases, and particularly in the study of the autopsy records, one is astonished to notice how extensive and widespread the disease may be with practically no symptoms. In three of the cases a very large part of the stomach was involved, in two the cardiac orifice, and in two the pylorus. In one instance the growth involved the esophagus, and in one to a slight extent the duodenum. In three instances there was ulceration, and in five metastases were present.

AFTER-HISTORY IN A CASE OF SUCCESSFUL TOTAL EXTIRPATION OF THE STOMACH.

BY CHARLES BROOKS BRIGHAM, M.D.,
of San Francisco, Cal.

THE detailed account of the case of Mrs. Maggini, whose entire stomach I removed for carcinoma, on February 24, 1898, at St. Luke's Hospital in San Francisco, was first published in the *Boston Medical and Surgical Journal* of May 5, of the same year.

The principal points of the case are these: The patient, who was 66 years of age, and otherwise healthy, had been suffering for a year with pain in her stomach. Within 2 months of the operation she could not retain solid food, and even liquids were often vomited. The pain and hardness in the region of the pylorus led to the diagnosis of cancer.

An operation for its removal was decided upon. Dr. Samuel G. Boyd assisted; the anesthesia was effected by chloroform at first until unconsciousness was reached, and then ether was given. Eleven ounces of the latter were used.

The incision was 7 inches in length, extending from the ensiform process to 1 inch below the umbilicus through fat which was over 1 inch in thickness; it disclosed a tumor extending over half the area of the stomach.

The omentum was tied off in half-inch lengths and divided between ligatures; the duodenum was clamped first and divided; then the cardiac orifice and the esophagus being clamped, the tissue was divided between the two. The duodenum was united to the esophagus without undue tension by means of a Murphy button, $\frac{15}{16}$ inch in diameter. The operation occupied $2\frac{1}{4}$ hours;

the loss of blood was about 2 ounces. Every precaution was taken to prevent loss of heat during the operation.

The patient rallied with a pulse of 116; temperature, 98°. She was thirsty and very restless; the pain was indefinite and inconsiderable. For the first 24 hours, the mouth was constantly moistened; after that, hot water, in 3-dram doses every hour, relieved the thirst. On the third day, the liquid given was either claret and water, or hot black coffee, or chicken broth, in 2-dram doses; the restlessness due probably to shock was relieved by morphin. The patient was sponged daily with warm alcohol.

Nutritive enemas were given every 4 hours from the time of the operation until the fourth day, when they were discontinued. On this day, by the aid of a simple enema, a free movement of the bowels occurred; the movement on the next day was a free dark well-formed one, without undigested food. On the seventh day the pulse was 96; temperature 99.4°.

day the patient sat up in a chair for an hour and a half without fatigue. Three days later she walked a little about the room.

On the twenty-eighth day the patient weighed 121 pounds, a gain of 5 pounds in one week. A hardness in the middle of the incision was noticed and became so painful that two inches of the primary incision were carefully opened under ether; at the depth of an inch 6 ounces of pus were evacuated. The cavity was washed out daily with hot salt-solution and was completely closed 10 days after.

Seven weeks after the operation the patient left the hospital for her home. A few days previous to this the amount of food taken was as follows: At 6.30 a cup of coffee and a raw egg; at 10.00 two dozen oysters and a bowl of broth; at 1.00 one-half a broiled chicken with toast and stewed strawberries; at 5.00 half a broiled chicken, two slices of toast and a cup of tea. When patient left hospital, pulse was 84, temperature 99°.

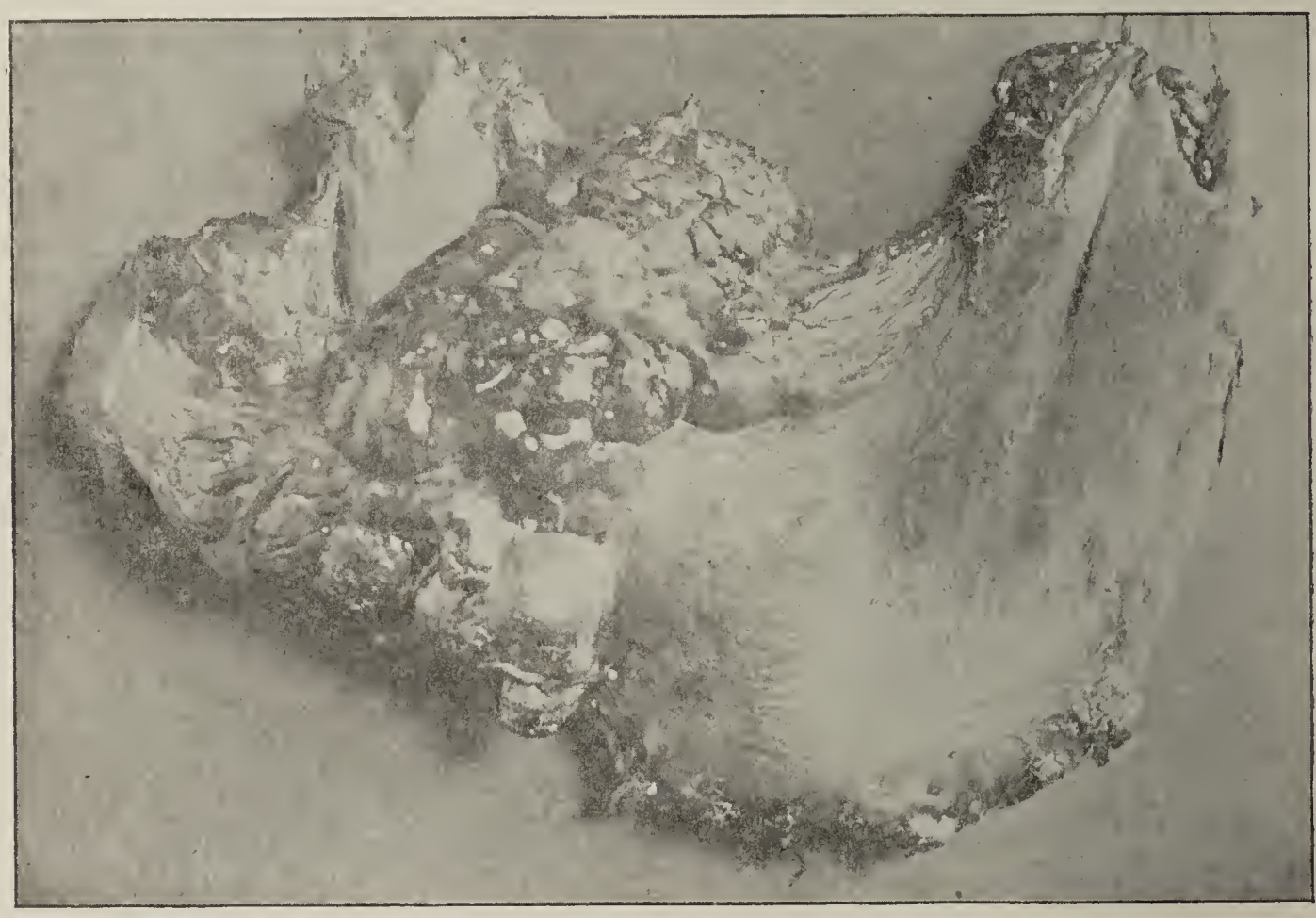


FIG. 1.—Stomach, anterior view.

[Loaned by the *Boston Medical and Surgical Journal.*]

The dressing was changed on the tenth day, and showed primary union throughout the incision, except at the uppermost stitch where there was a stitch-abscess discharging a dram of pus; the next day all the sutures were removed from the incision.

On the thirteenth day there was considerable distress in swallowing; during the morning about 2 ounces of bile, smelling like urine, were vomited. After a short sleep, the patient found that she could swallow so easily that she did not know where the food went to; the Murphy-button had left the position which it had occupied for 13 days.

After this 37 ounces of nourishment in liquid form were taken in 24 hours. On the seventeenth day the patient had for breakfast some minced chicken, a soft-boiled egg, a cup of coffee, half a slice of toast and two ounces of water. After this, food was given at regular intervals of three hours. On the nineteenth

Since April 14, 1898, Mrs. Maggini has been living a home. For several months her meals were at three hour intervals; she was not restricted to any particular food—eggs, oysters, chicken, lamb chops, soup, bread fruit, and vegetables as she desired. She took red wine several times daily; she was hungry and enjoyed her food. As she had few teeth the meat was cut in small pieces. She had no indigestion and her bowel movements were normal, containing no undigested food her sleep was natural; her skin moist; her cheeks with considerable color.

She arose early, often dressing herself and slipping away to church before any of the family were up. She took rides of several miles on the street cars with her grandchildren—a few months after leaving the hospital she kept house for herself and daughter, preparing her own meals. Last winter in her spare time she made several yards of fine lace. In the fall of 1899 she wit

ıessed a night parade of the California Volunteers, re-urning home at half past one in the morning not at ıll fatigued.

She has never taken any tonic or medicine since her eturn home, with the exception of castor oil. This she hinks is indispensable, and once in ten days she takes hree tablespoonfuls. At the present time she takes but hree meals daily with eggnog in the afternoon. A few days ago her lunch was this: A soup plate full of corn-

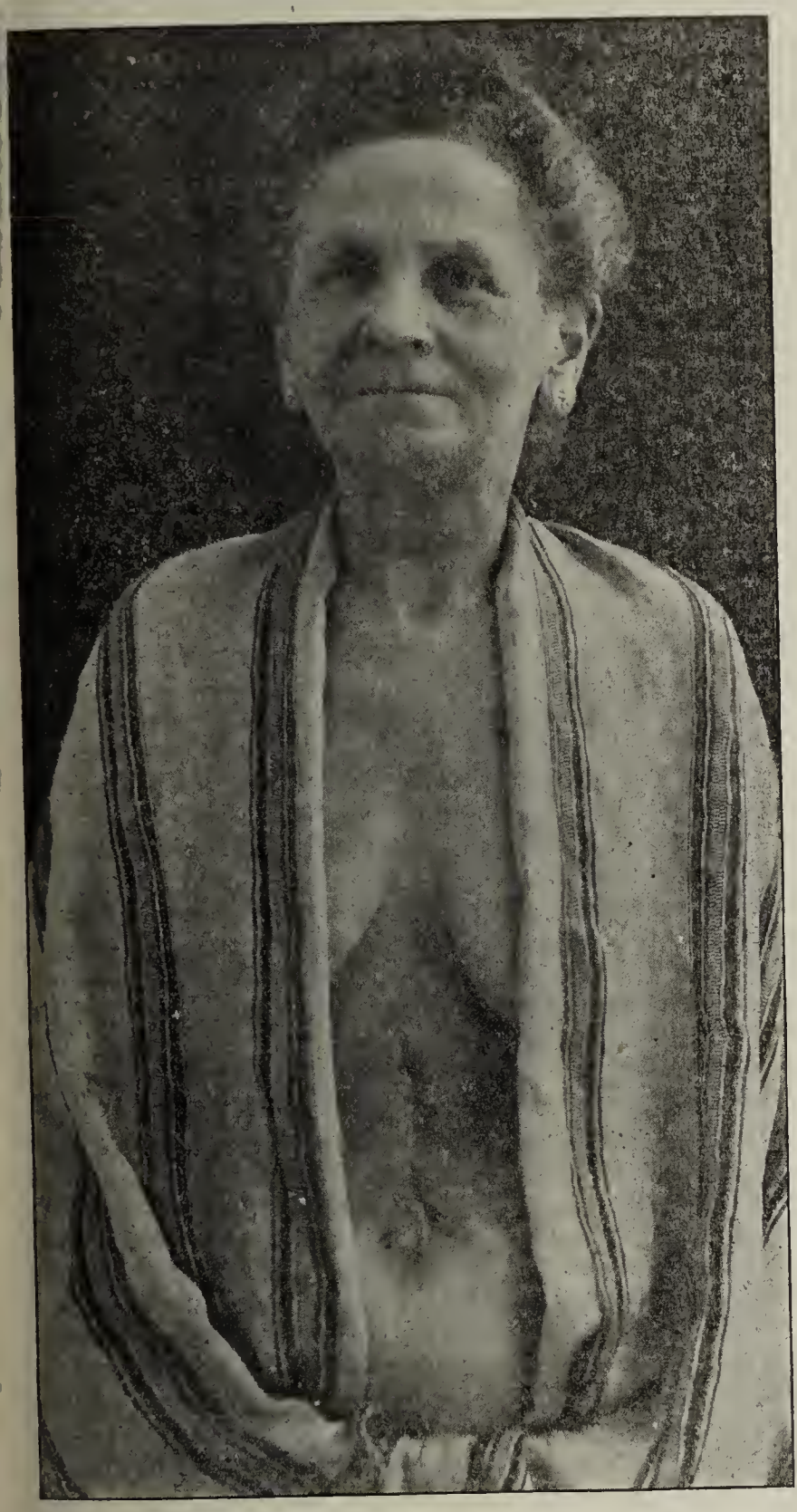


FIG. 2.—Photograph of patient taken January 10, 1900.

meal mush thickly covered with the gravy of fricassee of chicken, a large slice of Christmas Italian bread, and a glass of claret. Her dinner on January 14 consisted of a bowl of soup, a plate of chicken with mashed potatoes and green peas, Italian bread and butter, and a cup of black coffee. In the spring of 1899 she weighed 110 pounds. Her weight at present is 113 pounds. She is 68 years old.

The Murphy button has never appeared. On May 9, 1898, the abdomen was examined by the x-ray. The radiograph showed the button turned sidewise a little to the left of the spinal column near the eleventh dorsal vertebra. Another radiograph taken on January 12, 1900, showed the button in the same place. It has never interfered with her digestion or with her comfort and may be encysted or lodged in some fold of the intestine.

The blood has recently been examined by Dr. Herbert C. Moffitt, of San Francisco, who gives the following report:

FIRST COUNT, JANUARY 8, 1900.

Red corpuscles	4,230,000
White corpuscles	6,000

DIFFERENTIAL WHITE CORPUSCLE COUNT.

Polymorphonuclear	74
Small mononuclear	16
Large mononuclear	8
Transitional	2
Eosinophiles	0
	100

This was 4 hours after a mixed meal.

SECOND COUNT, JANUARY 12, 1900.

Red corpuscles	4,100,000
White corpuscles	6,000
Hemoglobin	757

This was 1¼ hours after a very light mixed meal. The white-corpuscle count is unaffected. The blood is practically normal save slight diminution of hemoglobin.

NOTES ON THE TOTAL REMOVAL OF THE HUMAN STOMACH AND ON GASTROPLICATION, WITH A LATE HISTORY OF TWO CASES.

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SINCE Schlatter, in 1897, successfully removed the whole of the stomach for carcinoma many surgeons have made similar attempts. Brigham, of San Francisco, in February, 1898, and myself, in September of the same year, and later Richardson, of Boston, were the second, third and fourth to perform the operation successfully.

The first two cases were in females, the last two in males. Schlatter's patient died of secondary deposits two years or more after the operation. The two others in San Francisco are still alive and well. Of Richardson's case I have no record, so cannot say how it may be doing or if the patient be still alive.

Following these four successful cases there have been many and various kinds of stomach extirpations, all of which have been, I believe, unsuccessful. It is my endeavor here to point out why.

I know of no operation on the human body in which it becomes so necessary to pick the patient, and also so important to have preoperative technic, by which I do not mean antiseptic or aseptic precautions, but other matters which I propose to deal with later. The patient should not be too old or thin, or the cachexia too marked. The heart must be healthy, of normal size, and its muscular walls in fairly sound condition. The patient's habits must be good; those who have indulged in alcohol, even to slight excess, or who lead a quick business life, where there is a constant nervous strain, are not suitable subjects for this operation. Of

course there are other states which preclude any surgical procedure, as albuminuria, diabetes, and diseases of the liver or other organs, which are so well understood by every surgeon that they hardly require mentioning.

The preoperative arrangements should be mainly toward preventing loss of heat; the operation being necessarily somewhat long and involving considerable exposure of the abdominal contents, it befalls that there shall be considerable amount of radiation; it is therefore necessary not only that hot water-bottles be applied to the person, but that the whole of the body and extremities be covered with cotton, by which loss of heat is materially retarded. The room should not be less than 80° F. There should be four assistants, men who have been trained in practical surgery, so as to have everything in readiness for the surgeon's hand. The chief assistant should have been with the operator in other cases, so that they should be able to work together in such a manner that practically the operator has the control of four eyes and two pairs of hands.

It is also essential that the stomach should have been washed and siphoned the morning immediately prior to operating, and emptied so far as practicable.

The incision should be a free one, extending from the ensiform cartilage to an inch below the umbilicus. The organ being now exposed the hand should be passed into the abdomen to discover the conditions present as to adhesions and secondary growths in glands and liver. The operator having satisfied himself as to the surroundings proceeds to attack, firstly, the gastrophrenic ligament, dividing it between two ligatures; both the lesser and greater omentum must be treated in a like manner until the center of the curvatures above and below be reached; clamps guarded with rubber are now to be applied to the first part of the duodenum, or, if preferred, tape may be used for this purpose. The duodenal pyloric margin of the stomach must be treated similarly. The finger is to be passed behind in order to protect the adjacent structures and the part divided with scissors, this permits a considerable portion of the stomach to be drawn downward, forward, and to the right; the usual antiseptic treatment should be given the cut ends, but never use pure carbolic acid. It is best to pack the duodenum with sterilized gauze around the cut edges, thus diminishing the chances of contaminating the peritoneum; the remainder of the stomach may now be quickly cleared of its attachments in the manner as heretofore, the most troublesome part will be made at the lower end of the fundus, where the vasa brevia enter; here there may be some annoyance from hemorrhage, the vessels should be tied separately. Nothing now remains but the division of the esophageal end, which is quickly accomplished in the same way and with the same precautions at the duodenal extremity; these two ends now are approximated and the portions of the Murphy button put in position. Heretofore catgut has been sufficient for sutures, now silk of medium stoutness should be employed. The best way to pass the puckering suture is by whipping over the edges by which means they are turned well in. The system of running the suture parallel to the cut edges of the bowel does not accomplish this necessary factor.

It is also important that the two portions of the button be adjusted accurately so that equal pressure may be exercised all around; neglect of this simple precaution has been one of the several causes of failure. So soon as the button is in place, from three to four reinforcing sutures are inserted around the joint, care being taken not to interfere with the blood-supply at the posterior part of the duodenum. This, if not attended to, is another source of failure. I close the abdominal wall with silkworm-gut, double-needled from within out, suturing all the layers of the abdominal walls at once, which I find quickest and best. I always see that the bed to which the patient is to be taken is properly prepared as regards warmth prior to his being taken off the table As both the vagi have been cut and the solar plexus considerably handled, a grave nervous disturbance is set up; there is no doubt that by the dividing of these large nervous cords they are, for a time at least, inhibited, although respiration continues about normal, the sympathetic uncontroled causes the heart to gallop, at the same time there is considerable amount of general shock, we have therefore to face two propositions: General stimulation by hypodermics of whisky and rectal enemas of hot coffee, and at the same time retard rapid heart-action by the hypodermic administration of digitalin, for if we fail to control its rapid action the muscle will wear itself out and the patient die within the first three days from sheer cardiac exhaustion.

At the end of 24 hours fluids may be given by the mouth in frequent and small quantities, and soft food so soon as the button comes away.

In the foregoing it has been presupposed that the duodenal and esophageal ends have been able to be approximated, if this cannot be done the duodenal end must be closed with a Lembert's suture, and the anastomosis be made with some part of the jejunum.

So far as I have been able to ascertain, the causes of failure have been somewhat as follows: Patients too far gone should never be operated on, these usually die on the table or in a few hours after. The cardiac condition has not been up to par, heart galloped on and exhausted itself. Failure in proper coaptation of the edges of the esophagus and duodenum, consequent leakage and peritonitis, general peritonitis due to sepsis, all these with care may be avoided, excepting that of the heart, and even this danger in a great measure, if a careful physical examination of that organ be made prior to the operation.

In my own case I had considerable anxiety over this feature, and for a few hours felt the patient's life held by a thread. This man, however, is well, and living at Pasadena, Cal., where he follows the usual hard life of a farm laborer, eating and drinking the common food, partaking of meat and vegetables and red wine, and all this he is able to digest and do a good day's work, although he has no stomach. In fact a stomach, although a convenience, is not a necessity, it taking the same place in regard to food as does the camel's bag to water. It is the human larder, and provided it keeps the food sweet and aseptic its main function is completed; but this is a matter more for the physiologist than for the surgeon.

It has been my misfortune to be present at death on the table while the operation was in progress; I would like in this paper to register my protest against subjecting those who are quite past surgical aid being given a last chance at the expense of an operation which has and will again prolong useful lives, in many cases probably for years.

If extirpation of the stomach may be termed removal of a disease, then "gastroplication may aptly be referred to as the curing of the complaint." Gastrectomy

has only a limited sphere, while the field of the other is practically unlimited.

Loss of nervomotor function of the stomach, with its train of symptoms, one of which is dilation, is so common a complaint, and so disastrous to the well-being of the brain-working community, causing, in many instances, continuous and permanent loss of health, by the absorption of deleterious toxins, putting completely or partially out of the field so many able, scientific and business minds, that any procedure that can permanently cure is an immense advance in surgery.

The operation of gastroplication performed in a proper manner will, however, permanently cure these unfortunates, and when I say cure, I mean it in its fullest sense. I have no doubt but that it will in a very few years hold the leading position of all abdominal operations, for, presuming the usual surgical care be exercised, it becomes practically quite safe and a sure remedy for this complaint, and its mortality should be nil. If we consider the anatomic arrangements of the organ in regard to the relative position of the fundus and pylorus, it becomes apparent that if a straight line be drawn from the center of the above part to the center of the pyloric culdesac, it forms an inclined plane, passing downwards from left to right; now, if we divide this line into four equal parts, and draw vertical ones through it at each point, namely, at the junction of the pyloric third, and again at the esophageal first, we have the major portion of the body of the organ included in the middle two-fourths; it is this portion of the organ that chiefly suffers in dilation; the reef, therefore, should mainly be applied to this region and made parallel to the first-mentioned line.

The operation itself may be easily and quickly performed by making an incision in the usual manner from the ensiform cartilage to the umbilicus, forming the required fold by turning inward the peritoneal surface, suturing the whole length of the tuck with fine catgut, being careful to reach well up toward the fundus; the sutures of course must only include the peritoneal and muscular structures; along the free edge of the tuck thus formed and along the corresponding portion of the stomach-wall denude slightly by scarification the peritoneal surface, now pass another set of sutures along the edge so as to include the scarified portion; by this means we have first a row of sutures, secondly, scarified peritoneum, and thirdly, a second row of sutures. As the colon and great omentum in bad cases have become displaced downward it becomes necessary to take off the tension from the stomach, I manage this by catching up the great omentum in one or two stitches as I am suturing the abdominal walls, thus fixing it in this position, the weight of the loaded colon will therefore fall on this point.

Nothing but a few teaspoonfuls of hot water should be given by mouth for 36 hours; later on small amounts of peptonized broth and milk should be given in slowly increased quantities. I have a theory that the blood-vessels included in the tuck become obliterated by the pressure exercised by the sutures, that the infolded portion slowly becomes atrophied, but of this time alone can show the truth. It is very important prior to operation that the stomach be well siphoned out. I have two patients recently operated on who are well and working, both, however, say they cannot take such large quantities of food as heretofore, a feeling of distention and fulness being present if the attempt be made to overload the organ.

PERFORATING GASTRIC ULCER AND ITS SURGICAL TREATMENT.[1]

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of Philadelphia.

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AMONG the numerous advances which recently have been made in abdominal surgery, perhaps none are of greater interest than those in the treatment of gastric ulcer. This affection is deserving of special attention because of its great frequency. It has been estimated by Ewald to affect about 4 to 5% of the entire population of Germany. Von Leube has treated more than a thousand cases in the last 10 years, and no doubt the disease is approximately as common in other civilized lands. Statistics as to the mortality of the disease vary greatly; according to Ewald it is between 1.23% and 13%; according to Welch about 15% of all cases, 6.6% dying in consequence of perforation. Perforation is by no means uncommon, as is evidenced by the number of cases operated upon during the past few years and it must be regarded as the most dangerous complication of gastric ulcer, for it almost certainly leads to death, in case an early operation is not performed. The first operation for perforating gastric ulcer was by Mikulicz in 1880 with a fatal result. After his operation the attempt was frequently repeated, but without better success. In 1892 the first successful operation was performed by Kriege and since then the successful cases have been very numerous. Particularly during the past year an unusually large number of operations have been reported, and an unusually large number of articles have appeared, many of them of much value. A number of writers have published tabulations which give interesting information with regard to the experience of various surgeons. In 1896 Weir and Foote collected 78 cases from English, German, and French sources in which operations were performed for perforating gastric ulcer. Two years later, in 1898, Professor Keen, in his Cartwright Lectures, published another table of 78 more cases which I assisted him in collecting, and the conclusions which were reached from studying this later literature were, in many respects, quite different from those reached from the study of the Weir and Foote table. Lennander has also recently written a thorough article on this subject which deserves favorable mention. All of these tabulations appear to be specially valuable from the fact that in spite of the large number of operations, the experience of individual operators is limited and we are thus given a ready means of information with regard to the various conditions met in these cases. With the belief that even a farther study of the literature of this subject may be of some value, I have collected from literature 76 cases which have been reported during the past year, since the appearance of Professor Keen's Cartwright Lectures. In a brief dissertation it is impossible to discuss the surgical treatment of perforating ulcer from all its numerous pathologic and surgical standpoints. In this article all considerations of hemorrhage, disturbances of digestion, narrowing of the pylorus, hourglass contraction, etc., which result from gastric ulcer, are left out of account and only the immediate treatment of perforation will be discussed, also leaving out of account the more remote patho-

[1] Translation of an Inaugural Dissertation presented at the University of Berlin, Germany, July 21, 1899, as a requirement for the Doctorate in Medicine and Surgery; with statistics from 19 additional cases collected since publication in Germany.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOVERED.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HOURS BEFORE OPERATION.
1	Anderson, A. R.	*Brit. Med. Jour.*, 1899, Vol. i, 796.	. . . . .	R.	. . . . .	. . . . .	6
2	Anderson, G. R.	*Brit. Med. Jour.*, 1898, Vol. i, 1448. *Lancet*, 1898, Vol. i, 1323.	. . . . .	R.	Pain and vomiting after meals for over a year; anemic; no hematemesis.	While walking after a heavy meal was taken with sudden severe abdominal pain.	2¾
3	Bidwell.	*Med. Press and Circ.*, London, 1898, N. S. lxv., 576.	F. 40	R.	Some months' history of gastric ulcer and hematemesis.	After indiscreet diet acute pain in the left hypochondrium, collapse and vomiting.	20
4	Bowker, R. S.	*Australasian Med. Gaz.*, Sidney, 1898, xvii, 477.	F. 38	. . . .	Slight pain in the stomach for some time. A week previous to attack vomitted about 2 pints of blood.	While walking was taken with sudden pain and vomited.	Same night.
5	Box, C. R., and Thurston, E. O.	*Lancet*, 1899, Vol. i, 897.	F. 17	R.	For 2 years had pain and occasional vomiting of blood; 2 hematemeses.	Sudden violent pain after eating.	13½
6	Browne, Walton.	Mentioned by Campbell, *Brit. Med. Jour.*, 1898, Vol. i, 1656.	. . . . .	R.	. . . . .	. . . . .	. . . .
7	Bush, P.	*Brit. Med. Jour.*, 1898, Vol. ii, 1407.	F. 26	Recov. from operation.	History of old gastric ulcer.	All symptoms and signs of perforation except loss of hepatic dulness.	26
8	Bush, P.	*Brit. Med. Jour.*, 1898, Vol. ii, 1407.	F. 24	R.	Indistinct history of gastric ulcer.	All signs and symptoms of gastric perforation.	18
9	Cabot, A. T.	*Boston Med. and Surg. Jour.*, 1898, cxxxix, 134.	F. 30	R.	For some time indigestion with vomiting; one week previous hematemesis.	Sudden violent abdominal pain and collapse.	23
10	Campbell, J.	*Brit. Med. Jour.*, 1898, Vol. ii, p. 150, 1898, also *Lancet*, 1898, Vol. i, p. 1693.	F. 35	R.	For 2 years gastric pain; 15 years previous neuralgia of head and side; pain following meals.	Two hours after supper of ——— and milk was awakened by sharp pain and vomitting.	9
11	Capaccini, C.	*Riforma Med.*, Napoli, 1898, Vol. xiv, pt. 4, 387, 399, 411.	M. 27	R.	For 2 years dyspepsia, gastralgia and occasional vomiting of blood.	Sudden severe abdominal pain.	. . . .
12	Cathcart.	*Lancet*, 1899, Vol. i, 1435.	. . . . .	D.	. . . . .	Patient thought to be suffering from appendicitis.	. . . .
13	Clubbe, C. P. B.	*Australasian Med. Gaz.*, 1898, June 20.	F. 21	R.	For some time indigestion and abdominal pain.	Sudden abdominal pain while walking upstairs.	5
14	Clubbe, C. P. B.	*Australasian Med. Gaz.*, 1898, June 20.	F.	D.	For some time epigastric pain and vomiting.	Severe pain; patient becoming worse during the night.	. . . .
15	Clubbe, C. P. B.	*Australasian Med. Gaz.*, 1898, June 20.	F. 19	R.	Epigastric pain and vomiting occasionally "coffee-ground" during past few weeks.	Sudden violent pain and vomiting of blood.	30
16	Clubbe, C. P. B.	*Australasian Med. Gaz.*, 1898, June 20.	F.	R.	. . . . .	. . . . .	. . . .
17	Fanöe, G.	*Hosp. Tid.*, Kjobenhavn, 1897, 4 R., Vol., 12, 41.	. . . . .	R.	. . . . .	. . . . .	. . . .
18	Furner, W.	*Lancet*, 1898, Vol. ii, 1761.	F. 22	R.	Anemia for 5 years; for several months pain after eating; vomiting but no hematemesis.	While running upstairs after dinner was taken with sudden severe pain in left hypochondrium and epigastrium.	24
19	Furner, W.	*Loncet*, Vol. ii, 1761.	F. 29	R.	For some time pain after meals which was relieved by vomiting. No hematemesis.	Sudden acute pain in epigastrium; nausea.	. . . .

CONDITION AT OPERATION.	SITE OF PERFORATION.	DATE OF OPERATION.	OPERATION.	RESULT.
. . . . .	Posterior surface of cardia near the lesser curvature.	. . . . .	Milky fluid in the general peritoneal cavity; perforation reached after tearing through lesser omentum and suture.	Uneventful recovery.
Abdomen rigid, tympanitic and generally tender, obliterated liver-dulness to seventh rib.	Anterior surface near the cardia.	February 21, 1897.	Median incision between the ensiform and umbilicus; escape of gas and turbid fluid; lymph flakes on omentum and liver; abdominal cavity sponged, packed about and sutured with 3 rows of Lembert sutures of fine silk. Irrigated until fluid was clear, sponged but no drainage. Operation 1 hour and 20 minutes.	Excessive vomiting for 48 hours; slight pleurisy with effusion; temp. normal 13th day. Well and free from symptoms 8 months after operation.
Abdomen much distended and rigid; liver-dulness obliterated. Patient 4 months pregnant.	Anterior wall near pylorus.	Not given.	Incision in left semilunar line, escape of free gas and purulent fluid, lymph between liver and stomach perforation discovered and sutured to the intestine. Two rows of Lembert sutures (first cut out) flushed with normal salt-solution, drainage tube and gauze. Opening made above pubes.	Abortion 8 days after operation, but recovered.
Abdomen somewhat distended and resonant; obliterated liver-dulness. Pulse 120, weak; collapse.	Posterior wall near the pylorus and lesser curvature.	July 13, 1898.	Median incision above the umbilicus, spurt of cloudy fluid. Not finding perforation anterior division of gastrocolic omentum, and perforation found, stomach folded over and Lembert sutures applied; flushed with hot salt-solution. Opening and tube in right lumbar region drained.	Double pneumonia and stich-abscess, but recovered and is quite well.
Abdomen moderately distended, tender, motionless. Pulse 124, strong; temp. 100.2° F.	Anterior surface of cardia near the lesser curvature.	January 6, 1899.	Incision through the left rectus muscle above the umbilicus; escape of little turbid fluid; incision prolonged; perforation inverted, 2 rows of Lembert sutures. Abdominal cavity sponged, opening above pubes and entire cavity flushed, glass tube in pelvis and gauze in upper wound. Operation 40 minutes.	Vomited first day but little pain. Rectal feeding for 14 days; food by the mouth 11 days; good recovery and subsequent health.
. . . . .	. . . . .	. . . . .	. . . . .	Recovery.
. . . . .	Middle posterior wall near lesser curvature.	. . . . .	Thick fluid welled through incision, anterior surface of stomach thickly coated with lymph. After examining anterior wall tore through mesocolon, ulcer found and closed with difficulty with 3 rows of sutures, sponged but no irrigation. Tube toward site of ulcer.	First 36 hours severe collapse, then steady improvement for 3 weeks, and then suddenly died. No cause found at necropsy. Ulcer healed; no pus.
. . . . .	Anterior surface of the cardia near the lesser curvature.	. . . . .	Fluid and food escaped on opening the abdomen, perforation closed by 2 rows of sutures (first cut out), peritoneal cavity sponged, not irrigated. 2 drainage tubes.	Uninterrupted recovery; now quite well.
Abdomen distended, tympanitic and tender, especially the epigastrium; liver-dulness obliterated.	Lesser curvature.	February 4, 1898.	On opening the abdomen escape of gas; small amount of turbid fluid in abdomen. Between the stomach and liver fibrinous exudate under which sloughed area and perforation. Two rows of sutures folding in indurated area. Gauze drainage.	Uneventful recovery.
Abdominal muscles rigid; abdomen distended and tympanitic. Pulse 104; temp. 101° F., and getting worse.	Near lesser curvature and pylorus.	July 21, 1897.	Median incision in epigastrium; escape of gas; patches of lymph; abdomen walled off; edges of ulcer trimmed and drawn together with silk and Lembert sutures and omental graft over all. Gauze drainage, not flushed for fear of dissemination of stomach-contents.	Progress after operation excellent; nutrient enemas were administered for 5 days; patient well and free from paiu since operation.
Abdomen contracted, tender and painful; collapse, cold extremities, feeble; rapid pulse.	Pylorus near lesser curvature.	May 18, 1897.	Ulcer found with difficulty because of adhesions. Median incision between umbilicus aud ensiform. Abdomen contained gas and turbid gastric juice. Loreta's digital divulsion because of pyloric stenosis. Perforation sutured with difficulty because of location being high up. Gauze-packing.	Patient's condition bad for the first few days, but ultimate recovery and complete relief from symptoms.
. . . . .	Three ulcers.	. . . . .	Peritoneal cavity found full of pus; ulcers sutured; abdomen wasbed.	Hematemesis recurred and patient died. Necropsy showed 3 ulcers.
Abdomen distended, tender and tympanitic; liver-dulness obliterated.	. . . . .	January 29, 1898.	Median incision above umbilicus; escape of gas; lymph on anterior wall of stomach; perforation in thickened; area closed with catgut sutures; flushed with sterilized water; drainage and gauze.	Nutrient enema; food by mouth in 4 days; uneventful recovery.
Abdomen distended and tender; liver-dulnes absent.	Not found. High on posterior surface of cardia.	April 27, 1898.	Median incision above umbilicus; anterior and posterior surfaces of stomach carefully examined but no perforation found.	General condition became worse and patient died next day; necropsy showed small perforation high on posterior surface of cardia.
Somewhat collapsed. Pulse rapid; temp. 98° F.; abdomen swollen, distended and tender; liver-dulness lost.	Anterior wall.	April 28, 1898.	Median incision above umbilicus; peritoneum inflamed and coated with lymph; perforation closed with difficulty; because stitch would not hold in omental graft; opened below umbilicus; flushing; drainage with tube and gauze.	Nutrient enema: liquid food at the eud of oue week; rapid recovery.
. . . . .	. . . . .	. . . . .	. . . . .	Recovery.
. . . . .	. . . . .	. . . . .	Laparotomy; suture of ulcer.	Recovery.
Some collapse; abdomen distended and hard; liver-dulness obliterated.	Anterior surface lesser curvature near cardia.	. . . . .	Stomach-wall folded over indurated area and stitched with one row of Lembert sutures; flushed with salt-solution; gauze drainage.	Frequent vomiting first 24 hours, then did well until eleventh day when temp. rose to 101° F.; dulness of left lung posterior. Diagnosed pleural effusion; aspirated and 400 cc. clear fluid withdrawn; gradual improvement and recovery; patient now well.
. . . . .	Anterior surface lesser curvature near pylorus.	February 22, 1897.	Gas and stomach-contents found in abdomin cavity; perforation closed by Lembert sutures; flushed with saline solution; drained vis.	Rectal feeding for 3 days; small quantity by mouth for 8 days, melena recurring on 10th and 11th day; patient pale, restless; rectum filled with black clot. Abdomen again opened second time; intestines fixed to abdom. wall, opened and tube inserted through which patient fed to rest stomach; parotitis and rise of T. third day; improvement and perfect recovery 6 weeks after operation. Fistula closed at subsequent operation.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOVERED.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HOURS BEFORE OPERATION.
20	Garré.	*Münch. med. Woch.*, 1898, xlv, 1165.	. . . . .	R.	. . . . .	. . . . .	. . . .
21	Garré.	*Münch. med. Woch.*, 1898, xlv, 1165.	. . . . .	R.	. . . . .	. . . . .	. . . .
22	Gerulanos.	*Münch. med. Woch.*, 1898, xlv, 1413.	. . . . .	D.	. . . . .	. . . . .	. . . .
23	Hartley, Frank.	*Med. Rec.*, N. Y., 1899, Vol. 55, 202.	F. 24.	R.	For 3 years dyspepsia with pain. During 6 months past the disturbance has increased.	While removing jar from shelf, sudden severe pain caused patient to fall to the floor; vomiting.	About 14.
24	Hawkins.	*Lancet*, 1898, Vol. ii, 1476.	F. young.	R.	Masked symptoms of gastric ulcer.	Sudden signs of perforation.	. . . .
25	Jones, Robert.	*Brit. Med. Jour.*, 1899, 962.	F. 19.	R.	Until 2 weeks previously no signs of ulcer; then pain and tenderness after every meal; diagnosed gastric ulcer.	. . . . .	Less than 3.
26	Jones, Robert.	*Brit. Med. Jour.*, 1899, i, 962.	F. 21.	D.	. . . . .	Sudden violent abdominal pain.	More than 14.
27	Lennander, K. G.	*Mitteilungen a. d. Grenzgeb. der Med. u. Chir.*, 1898, Bd. iv, Heft 1, 113.	F. 24.	D.	Always had "weak stomach;" for 15 months condition worse; tenderness and pain over stomach; vomiting dark-colored material.	Suddenly overcome by severe abdominal pain.	21½
28	Lennander, K. G.	*Mitteilungen a. d. Grenzgeb. der Med. u. Chir.*, 1898, Bd. iv, Heft 1, 113.	F. 41.	R.	Gastric disturbances for 5 years; occasionally vomiting, but never blood.	Sudden severe pain over the stomach.	26.
29	Lennander, K. G.	*Mitteilungen a. d. Grenzgeb. der Med. u. Chir.*, 1898, Bd. iv, Heft 1, 113.	M. 48.	R.	Gastric disturbances 10 or 12 years; 8 years previously blood in stools.	Sudden severe abdominal pain, particularly left side below umbilicus.	48.
30	Lindner & Kuttner.	"Die Chirurgie des Magens," Seite 214; Verlag Enslin, Berlin, 1898.	F. 40.	R.	For some time severe pain and vomiting after food; loss of flesh; anemia.	. . . . .	. . . .
31	Macgillivray, C. W.	*Lancet*, 1899, Vol. i, 1435, also *Brit. Med. Jour.*, 1899, Vol. i, 1279.	F. 24	R.	No pain until previous day.	. . . . .	5
32	Macgillivray, C. W.	*Lancet*, 1899, Vol. i, 1435, also *Brit. Med. Jour.*, 1899, Vol. i, 1279.	. . . . .	R.	Ill for years; pain, indigestion, vomiting.	. . . . .	18
33	Maclaren, R.	*Brit. Med. Jour.*, 1898, Vol. ii, 1407.	. . . . .	1 D.	. . . . .	. . . . .	. . . .
34	. . . . .	. . . . .	. . . . .	2 R.	. . . . .	. . . . .	. . . .
35	. . . . .	. . . . .	. . . . .	. . . .	. . . . .	. . . . .	. . . .
36	Martin, A. M.	*Brit. Med. Jour.*, 1899, Vol. i, 216.	F.	R.	Gastric pain for 2 years.	Sudden severe abdominal pain and collapse.	10
37	Morgan, J. H.	*Lancet*, 1899, Vol. i, 372.	F. 27	D.	Dyspepsia; had been treated for gastric ulcer for over a year; hematemesis 7 months previous.	While carrying tray upstairs was taken with sudden severe pain in stomach and between the shoulders; vomited small amount of blood.	Next day.
38	Morgan, J. H.	*Lancet*, 1899, Vol. i, 372.	F. 27	R.	For some time dyspepsia and symptoms of gastric ulcer; some months previous vomited blood.	Returning from a walk became very ill and collapsed.	8
39	Morse, F. H.	*Brit. Med. Jour.*, 1898, Vol. ii, 1407.	. . . . .	R.	. . . . .	. . . . .	. . . .
40	Myles.	*Brit. Med. Jour.*, 1898, Vol. i, 1656.	F.	D.	Suddenly taken ill; perforation diagnosed.	. . . . .	4 days
41	Myles.	*Brit Med. Jour.*, 1898, Vol. i, 1656.	F.	D.	. . . . .	Symptoms of collapse, constant pain and vomiting.	6

CONDITION AT OPERATION.	SITE OF PERFORATION.	DATE OF OPERATION.	OPERATION.	RESULT.
. . . . .	. . . . .	. . . . .	Resection of stomach-wall for gastric ulcer which had perforated into the rectus muscle.	Recovery.
. . . . .	. . . . .	. . . . .	Gastro-plastic operation and entcroanastomosis for gastric ulcer that had perforated into transverse colon.	Recovery.
. . . . .	. . . . .	. . . .	Celiotomy; ulcer excised and sutured.	First few days after operation all went well; then rise of temperature; on 9th day after operation subphrenic abscess perforated into lung; death on 11th day.
Temp. 102.4° F., pulse small and compressible; abdomen tender, painful and somewhat tympanitic.	Posterior wall near lesser curvature.	February 13, 1899.	Median incision 5 in. above umbilicus; seropurulent fluid and fibrous placques seen in abdominal cavity; cleansed with normal salt-solution, also pelvis and between liver and diaphragm; perforation in a scar; excision of ulcer; 1 row of stitches through all coats, 2d row Lembert sutures; flushed with salt solution; gauze drainage in saccus omentalis and pelvis.	Temperature ranged from 99° to 103° F. for several days, but uneventful recovery.
. . . . .	. . . . .	. . . . .	. . . . .	Recovery.
Very great pain and tenderness; rapid pulse; drawn face.	Anterior surface pylorus near lesser curvature.	1896 . . .	Median incision; escape of gas; perforation closed with Lembert sutures without drainage; irrigation; operation 20 miuutes.	Great abdominal pain followed operation with temp. 101° F.; in 2 days there was no pain, and temp. normal; 3d day took milk by mouth; was up in 3 weeks, remained well for 3 years.
Intense pain; pulse 120, weak.	Anterior wall high up nearer cardia.	Nov. 12, 1898.	Stomach and colon covered with lymph; adhesion to liver separated and cavity containing brown fluid and food opened; first Lembert sutures tore out; pursestring followed by Lembert sutures held; omental graft; irrigation and gauze drainage.	First 4 days no rise of temp., and fairly well; 14th day coughed and expectorated pus; 2d operation no pus in old sinus; clear fluid aspirated from thorax; and quantity fetid pus from left hypochondrium; freely drained and washed out. Greatly collapsed and died same evening. Necropsy showed stomach wound firm and healthy, but subphrenic abscess communicating with lung by sinus.
Abdomen distended, rigid, tender.	Anterior curvature near pylorus.	March 30, 1894.	Median incision above umbilicus, afterwards extended to ensiform and by transverse incision through l. rectus; stomach adherent to liver; perforation sutured with difficulty; omental graft over line of suture: no irrigation; gauze tampons between stomach and liver; drainage of pelvis through vagina.	At first all went well; subphrenic abscess operated upon on 11th day; pleurisy; death on 17th day. Necropsy showed ulcer healed, no peritonitis, abscess fully drained, death from acute degeneration of internal organs.
Abdominal pain, distention and tenderness; temp. 37.9 C.; pulse 100, small, irregular; resp. 40.	Anterior wall near lesser curvature.	October 27, 1896.	Median incision in epigastrium; diffuse peritonitis with thin pus throughout abdominal cavity; ulcer sutured with catgut; irrigation with salt-solution, drainage with gauze and tube from epigastrium, lumbar regions, above symphysis and through vagina.	Condition good for few days; about 11th day diffuse bronchitis; 26th day evacuated subphrenic abscess; 35th day 2 liters fluid evacuated from pleura; 54th day left hospital well.
Abdomen much distended and sensitive to pressure, particularly on left side; liver-dulness absent.	Anterior wall near pylorus . .	Nov. 6, 1896.	Incision between umbilicus and symphysis: escape of gas and fluid; diffuse peritonitis and pus throughout abdominal cavity; nothing found; incision above umbilicus; perforation partially closed and gauze packed about; irrigation with salt-solution; drainage with gauze and tube as in preceding case.	Intravenous infusion 2 liters salt-solution after operation; 4 days nutrient enemas; completely cured after 1½ months.
Diagnosis, gastric ulcer with perigastritis.	. . . . .	March 16, 1897.	Stomach adherent to liver; in thick adhesive band small opening into stomach was found which would admit little finger; resection of segment near lesser curvature with suture.	Uneventful recovery; patient remains free from symptoms and in good health 1 year later.
Little collapsed.	Anterior wall, cardia near lesser curvature.	. . . . .	On opening abdomen escape of seropurulent fluid and gas; flakes of lymph; counter opening above pubes; flushed with salt-solution.	Recovery uneventful. No pain or indigestion.
. . . . .	Lesser curvature.	. . . . .	Stomach divided into 2 compartments by constriction bands Heineke-Mikulicz plastic operation relieved this stricture and rupture closed. Flushed out seropurulent fluid with salt-solution.	Recovery uneventful. No pain or indigestion.
. . . . .	. . . . .	. . . . .	Maclaren reports operation in 4 cases; one fatal case mentioned by Weir and Foote, *Med. News*, 1896, Vol. lxviii, 456.	2 recoveries; 1 death.
. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Abdomen generally painful, distended and tender; dull both flanks; change with position.	Posterior wall near cardia.	. . . . .	Fluid and food found on opening abdomen; perforation closed with double row of silk sutures; flushed with salt-solution; drainage through Douglas' pouch.	Uneventful recovery.
Abdomen distended and rigid, especially left side; pain, particularly in left iliac region; liver-dulness obliterated. Pulse 156, small; resp. 40; expression anxious.	Anterior wall near cardia.	February 7, 1899.	Incision 1 inch to left of median line; escape of gas and turbid fluid containing food; perforation closed with 6 silk Lembert sutures, abdominal cavities sponged and flushed with hot boric solution and hot water.	Patient in bad condition; free use of stimulants, but died few hours later. Necropsy showed acute general peritonitis.
Great collapse; abdominal pain and tenderness, especially in hypochondrium; distention; liver-dulness obliterated; pulse small, rapid, compressible.	Anterior wall near cardia.	October 8, 1897.	Incision at median line between xiphoid and umbilicus; escape of gas and turbid fluid mixed with food; contents of stomach escaped from perforation; 8 Lembert sutures and 4 in second row; peritoneum wiped especially between liver and diaphragm; flushed with boric acid solution; drainage tube.	Rectal feeding until 8th day; on 13th day evacuation of small superficial abscess. Gradual recovery, and now fairly good health.
. . . . .	. . . . .	. . . . .	Morse has operated in 4 cases; one rept. by Weir and Foote; 2 by Keene and Tinker, PHILA. MED. JOURNAL, May 7, 1898. Irrigation at operation.	Recovery.
Did not consent to operation until 4th day, when exceedingly collapsed.	Not found.	. . . . .	Great amount of pus found on opening abdomen; lymph and adhesions everywhere. Perforation not found; drainage.	Death.
. . . . .	. . . . .	. . . . .	Abdomen full of blood; perforation found and sutured.	Died soon after operation.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOVERED.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HOURS BEFORE OPERATION.
42	Myles.	*Brit. Med. Jour.*, 1898, Vol. i, 1656.	. . . . .	D.	. . . . .	. . . . .	. . . .
43	Rioblanc.	*Lyon Méd.*, 1898, lxxxix, 483.	M. young.	D.	Several months abdominal pain and vomiting, occasionally blood; also had left inguinal hernia.	Symptoms of intestinal obstruction and peritonitis; pain severe.	About 20
44	Roughton, E. W.	*Brit. Med. Jour.*, 1898, Vol. ii, 84.	F. 20	D.	Dyspepsia for 2 years; never hematemesis.	Awoke at 3 A.M. with severe epigastric pain.	13
45	Rutherford.	*Glasgow Med. Jour.*, 1899, Vol. i (li), 200.	F. 26	D. (R. from oper.	For 8 or 9 years had pain after meals relieved by vomiting; hematemesis 10 days before operation.	After an attack of vomiting pain in epigastrium followed by collapse.	8
46	Scharlieb, Mrs.	*Lancet*, 1898, Vol. ii, 1282. Reported in Editorial Columns, "Death under Ether."	F.	D.	. . . . .	Condition diagnosed as due to perforation, gastric ulcer.	Next day.
47	Sharkey.	*Lancet*, 1898, Vol. i, 1323.	F. 33	R.	Abdominal pain and occasional vomiting since age of 15; once coffee-ground vomit. Five years previously treated for anemia; 2 years previously hematemesis, and treated for gastric ulcer.	While walking taken with sudden sharp pain below ribs; vomited brown material.	4¼
48	Shaw.	*Lancet*, 1898, Vol. i, 815.	F. 20	R.	For 10 months suffered from gastric ulcer.	Four hours after supper taken with acute abdominal pain, followed by temp. 100°, pulse 120, abdomen tender.	12
49	Sherman, F. M.	*Boston Med. and Surg. Jour.*, Vol. cxl, 183.	F. 24	R.	Eleven years ago had gastric disturbance and more or less trouble since. Acid vomit., gas, pain, especially last year; for 16 months hematemesis. Diagnosis gastric ulcer.	Severe pain left side of neck, left shoulder, and just below left ribs; increased rapidity of pulse.	18
50	Sieur.	*Archiv de Méd. et Pharm. Milit.*, Paris, 1898, Vol. xxxii, 56.	M. 23	D.	Not ill nor indisposed for 2 years.	Two days severe march; took cup of coffee; sudden acute pain in epigastrium radiating to hypochondrium and shoulder.	48
51	Silcock, A. Q (Reported by Phillips and S.)	*Lancet*, 1898, Vol. i, 832.	F. 20	R.	Two years previous attack of abdominal pain and vomiting; recovered but had several other attacks; never hematemesis.	One hour after eating sudden severe pain in upper part of abdomen, vomiting, collapse.	33
52	Swain, Jas.	*Bristol Med.-Chir. Jour.*, 1898, xvi, 225.	. . . . .	R.	Slight indigestion for several years.	While bicycling taken with sudden severe pain in left hypochondrium; vomited bloody food; collapse.	7
53	Tubby, A. H.	*Brit. Med. Jour.*, 1899, Vol. i, 1267.	M. 27	D.	Good health until one month previous. Nausea and severe hematemesis, 30–40 oz.	. . . . .	. . . .
54	Tubby, A. H.	*Brit. Med. Jour.*, 1899, Vol. i, 1267.	F. 31	D.	History of occasional dyspepsia, never hematemesis.	Intense sudden pain in left hypochondrium, followed by distention which disappeared later.	. . . .
55	Tubby, A. H.	*Brit. Med. Jour.*, 1899, Vol. i, 1267.	F. 17	D.	For 2 months pain in back and left shoulder.	While at work taken with pain which became suddenly worse.	48
56	Tubby, A. H.	*Brit. Med. Jour.*, 1899, Vol. i, 1267.	F. 21	R.	Some dyspeptic symptoms, but never hematemesis.	Cramp in stomach and nausea.	28
57	Wallis, F. C.	*Lancet*, 1898, Vol. ii, 1476.	F. 20	R. from oper.	. . . . .	. . . . .	10½

CONDITION AT OPERATION.	SITE OF PERFORATION.	DATE OF OPERATION.	OPERATION.	RESULT.
. . . . .	Posterior wall.	. . . . .	Situation of perforation such that it was impossible to drain abdominal cavity.	Died after some weeks.
Abdominal pain and distention; temp. 38.4 C.; pulse 120, small, weak.	Anterior wall near lesser curvature.	. . . . .	Median incision below umbilicus; search for obstruction, appendicitis and intestinal perforation; incision prolonged; perforation found and sutured; irrigation with salt-solution; drainage.	Patient much collapsed; free stimulation; death 2 hours after operation.
Severe pain in epigastrium; abdomen distended; liver-dulness obliterated; pulse and color good; no vomiting or collapse.	Anterior wall near cardia.	April 9, 1898.	Incision between xiphoid and umbilicus; free escape of gas on opening peritoneum; recent adhesions left lobe of liver to stomach; no extravasated stomach-contents; transverse division left rectus muscle. Perforation closed with double row Lembert sutures; sponging and irrigation, biniodid 1 : 5,000; gauze drainage.	Vomited what was apparently bile after operation; condition fairly good until 6th day, when vomiting returned; temp. 101° F.; pulse 128; 3 stitches removed and turbid fluid mopped out. Grew rapidly worse and died next day. Necropsy showed subphrenic abscess, pint of pus; perforation firm and healthy.
. . . . .	Cardia near lesser curvature.	September 8, 1898.	Found extravasated stomach-contents on opening abdomen; peritoneum inflamed; fold in stomach; stitches tore through; one irrigation with hot salt-solution; drainage through pelvis.	First 24 hours temp. above normal; discharge of pus from wound; 3 weeks later rigor, collapse, death. Necropsy showed extensive superficial peritonitis in flank and subphrenic region; recent perforation in posterior wall and extravasation into lesser sac.
. . . . .	. . . . .	October 28, 1898.	During operation, collapse and death.	Death attributed to collapsed condition at time of operation.
Intense pain in epigastrium and hypochondriac region; abdomen rigid, tender, not distended. Pulse 88, small, compressible; temperature 95.6 F.	Anterior wall near lesser curvature and pylorus.	December 6, 1897.	Infusion of 3 pints normal saline-solution with 1½ ounces of brandy; abdomen opened with median incision; escape of several ounces of milky fluid; perforation closed by double row Lembert sutures, and omental graft; much induration about ulcer; intestines washed with sterilized water, and abdominal cavity and pelvis sponged; drainage.	Rectal feeding for 15 days; pain for few days after solid food, but discharged in 6 weeks and since then well.
Grave condition.	Anterior wall near pylorus.	June 25, 1897.	Median incision above umbilicus; escape of gas and fluid; lymph between stomach and liver; perforation closed by 2 rows of Lembert sutures; omental graft over weak spot; lymph sponged away; incision below umbilicus and flushed with boiled water; gauze drainage; tube in Douglas' culdesac, upper wound and under liver; operation 1½ hours.	Uneventful recovery; for 2 days very ill; free drainage, especially from the pelvis; temp. never over 102° F., and in 10 days normal; continues well with careful diet.
Abdomen distended; tympanitic; liver-dulness almost obliterated; great tenderness in epigastrium and left hypochondrium. Pulse 160; temp. 101.5° F.	Posterior wall (not found).	July 9, 1898.	Curved incision below left costal border; escape of gas and turbid fluid, stomach so adherent that it was impossible to find perforation; irrigation with salt-solution; gauze drainage.	Nutrient enemas for 10 days; temp. remained high and on 27th day pocket of pus evacuated; slow but perfect recovery.
Abdomen distended; acute pain exaggerated by pressure; liver-dulness obliterated; pulse 100, compressible, small; temp. 38.5 C. For 24 hours intractible vomiting.	Posterior surface pylorus.	August 24, 1895.	Incision in linea alba between xiphoid and umbilicus; escape of turbid fluid; peritoneal injection and recent adhesions; tampon gauze; perforation sutured with catgut and Lembert sutures, but very friable; drainage with tube and gauze. Operation 45 minutes.	Patient at first slightly relieved but became worse and died 36 hours after operation. Necropsy showed entire right side of abdomen full of pus.
Acute tenderness above and to left linea alba; pain in right iliac fossa; pulse 120; temp. 100.2° F.	Anterior wall, lower part.	Sept. 14, 1897.	Median incision below xiphoid and horizontal cut to left; lymph everywhere on opening abdomen and considerable serum escaped; perforation closed with Lembert sutures; washed with sterilized water. Operation 1½ hours. Third day a discharge made it evident that suture had given away; 5th day parotitis and rise of temp. For the week temp. 100° to 102°. Eighth day 2d operation; counter-opening and drain 8th left costal space to median incision; edge of perforation invaginated and 3 Lembert sutures through entire stomach-wall.	After second operation elevated temperature for few days, with offensive discharge; then uninterrupted recovery.
Abdomen rigid, retracted: resp. thoracic, superficial; dulness in left flank; liver-dulness obliterated.	Anterior wall nearer cardia.	. . . . .	Incision below xiphoid; escape of gas and milky fluid on opening peritoneum; perforation closed with double row Lembert sutures; irrigated with normal salt-solution, drainage between liver and stomach near left kidney and in left loin.	Patient able to take solid food in about 3 weeks.
. . . . .	. . . . .	. . . . .	Operation arrested hematemesis.	Death in 10 days.
Extreme collapse returned with distention and tympanites but no loss of liver-dulness.	. . . . .	Sept. 2, 1898.	Abdomen opened but patient died on table through exhaustion from hemorrhage.	Died from hemorrhage.
Abdomen distended, tympanitic; liver-dulness obliterated.	Anterior wall cardia near lesser curvature.	January 3, 1899.	Incision above umbilicus; gas but no food in peritoneal cavity; incision enlarged transversely; adhesion between stomach and liver; Lembert suture held poorly and omental graft. Irrigation warm salt-solution; drainage.	For 2 days condition low; 4th day severe diarrhea; 18th day hematemesis and blood from bowels; 23d day died from hematemesis. Necropsy showed perforation closed but hemorrhage from outward part of ulcer not turned in.
Liver-dulness obliterated; pulse 108; temp. 99.2 F.; resp. 28, costal: not marked collapse nor distention.	Anterior wall cardia near lesser curvature.	October 28, 1898.	Median incision; escape of gas; no free food abdominal cavity or peritonitis; impossible to fold in sufficiently to include ulcer in healthy tissue, so omental graft sewed over; flushed with normal salt-solution; glass drainage; operation 2¼ hours; severe shock.	Recovery slow but perfect.
. . . . .	Posterior wall near cardia.	March 11, 1898.	On opening abdomen, stomach-contents found extravasated in gastrohepatic area; perforation closed with 2 rows Lembert sutures and omental graft; abdomen wiped, no irrigation or drainage.	No peritonitis; 11th day phlebitis; 17th day basal pneumonia until 29th day; then improvement, but 31st day suddenly vomited 9 ounces of blood and died.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOVERED.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HOURS BEFORE OPERATION.
58 & 59	Adamson, R. O.	*Scottish Med. and Surg. Jour.*, Dec., 1899. Abst. in *Münch. med. Woch.*, Jan. 2, 1900, p. 22.	. . . . .	D. R.	. . . . .	Severe pain in the stomach radiating to left shoulder.	. . . .
60	Croisier.	*Gaz. hebdom. de med. et Chir. de Paris*, 1899, xlvi, 450.	. . . . .	D.	No symptoms until time of perforation.	Greatest pain in right iliac fossa led to diagnosis of appendicitis.	. . . .
61	Delbert. Rept. by Merklen.	*Gaz. hebdom, de med. et Chir. de Paris*, 1899, xlvi, 41.	M. 43	R.	For 3 weeks crises of pain in epigastrium radiating to sternum.	Atrocious pain in left side and all signs of perforation.	22 days.
62	Hildebrandt.	*Gaz. hebdom. de med. et Chir. de Paris*, 1899, xlvi, 360.	M. 44	R.	. . . . .	Sudden violent pain; diagnosis perforated gastric ulcer.	3 days.
63	Johnston, J. Rept. by Parsons, A. R.	*Brit. Med. Jour.*, 1899, ii, 1186.	F. 9	R.	Symptoms of gastric ulcer for 9 months.	Sudden violent abdominal pain.	5
64	Kiefer.	*Münch. med. Woch.*, 1899, xlvi, 1216.	F. 20	R.	Gastric disturbance, chlorosis, constipation.	Violent pain and severe shock; rapidly developing distention, rigidity, typanites; pain radiating to scapula and arm.	16
65	Lund, F. B.	*Boston Med. and Surg. Jour.*, 1900, cxlii, 25.	M. 30	R.	Indigestion a year or more.	Agonizing pain in epigastrium; vomited several times.	16
66	Maclaren, R.	*Lancet*, 1899, ii, 1094.	F. 20	R.	Indigestion for about a year, but had never vomited.	Sudden violent pain, chiefly in left hypochondrium.	48
67	McCullough, A. R.	*British Med. Jour.*, 1899, ii, 851.	F. 25	D.	Nausea and pain after eating for several months.	Sudden abdominal pain and vomiting.	About 19
68	Munro, J. C.	*Med. and Surg. Rep.*, Boston City Hosp., 1899, Series x, 210.	F. 21	D.	Several years gastric pain and distress; never vomiting.	Sudden severe pain; vomiting; chill.	4 days.
69	Munro, J. C.	*Med. and Surg Rep.*, Boston City Hosp., 1899, Series x, 210.	F. 21	D.	Dyspepsia several years; 5 weeks previous to attack coffee-ground vomit.	Severe pain left side of abdomen.	Probably 4 days.
70	Thompson, R.	*Lancet*, 1899, ii, 486.	F. 19	R.	Symptoms of gastric ulcer for 15 months.	Sudden severe pain in epigastrium after hearty meal; vomited blood-tinged material.	6
71	Thomas, T.	*Brit. Med. Jour.*, 1899, ii, 1480.	. . . . .	D.	. . . . .	. . . . .	. . .
72	Thomas, T.	*Brit. Med. Jour.*, 1899, ii, 1480.	. . . . .	R.	. . . . .	. . . . .	. . .
73	Warren, personal to Lund.	*Boston Med. and Surg. Jour.*, 1900, cxlii, 30.	M.	R.	. . . . .	. . . . .	16
74	Wiesinger.	*Münch. med. Woch.*, 1899, xlvi, 781.	. . . . .	R.	No previous symptoms of disease of stomach.	Fell on the street in collapse.	. . .
75	Ziegler.	*Münch med. Woch.*, 1899, xlvi, 554.	M. 43	R.	Stenosis of pylorus with dilation for which gastroenterôstomy had been done.	Three days after gastroenterostomy on taking some tea suddenly violent pain in region of stomach.	About 4
76	Quenu.	*Gaz. des Hopitaux*, 1899, lxxii, 552.	M.	R.	. . . . .	. . . . .	. . .

logic conditions and complications, such as subphrenic abscess.

Counting in the cases in the following table, 232 instances of operation for perforating gastric ulcer have thus far been published. In referring to these cases for convenience sake the initial letters "W. and F." will be used in referring to those reported by Weir and Foote, "K. and T." in referring to Professor Keen's table, while those from the following table are designated simply by the number.

THE OCCURRENCE OF PERFORATING GASTRIC ULCER.

a. *Nationality.*—The majority of cases have been reported in English medical publications. This is perhaps due, in part to the unfavorable hygienic conditions existing among the lower classes in certain parts of England, and in part, to the fact that the English have recognized the frequency and importance of this condition more thoroughly and hence have operated more frequently. The cases thus far operated upon have been published in the literature of the following countries:

In England and its colonies	150 cases.
Germany	29 "
United States of America	22 "
France	21 "
Sweden	3 "
Norway	2 "
Denmark	3 "
Italy	2 "
Total,	232 cases.

b. *Sex.*

	Male.	Female.	Not mentioned.	Total.
W. and F.	12	61	5	78
K. and T.	9	61	8	78
Tinker	11	43	22	76
	32	165	37	232

As may be seen by the above figures, more than five sixths of the cases occur among women. The result of the three tabulations agree in this respect.

CONDITION AT TIME OF OPERATION.	SITE OF PERFORATION.	DATE OF OPERATION.	OPERATION.	RESULT.
. . . . .	. . . . .	. . . . .	. . . . .	1 death:
. . . . .	. . . . .	. . . . .	. . . . .	1 recovery.
Symptoms of general peritonitis.	Middle of anterior wall; size of 20-centime piece.	. . . . .	Incision over appendix which was found sound; perforation not found; drainage from 3 openings.	Death.
. . . . .	. . . . .	. . . . .	Evacuation of an abscess containing gas and about 1 liter pus; drainage.	Appeared cured, but after a month return of pain; 2d operation freeing adhesions; recurrence of pain 3d operation resecting adheren area; perfect recovery.
Symptoms of general peritonitis.	Lesser curvature near pylorus.	. . . . .	Celiotomy; intestinal adhesions; purulent effusion; 3 sutures closed ulcer; careful cleansing with gauze sponges and boiled water; abdominal cavity tamponed with sterile gauze not closed.	For 10 days high temperature; then good progress; patient left hospital after 2 months with small fistula.
. . . . .	. . . . .	. . . . .	Operation for perforated ulcer.	Pneumonia on 11th day; otherwise uninterrupted recovery, and now in perfect health.
Increased distention; liver-dulness absent; pulse 120; temp. 37.9 C.	Lesser curvature near esophagus; size of a bean.	. . . . .	Celiotomy; excision, infiltrated area size 5 mk. piece including ulcer; suture.	Slight peritonitis attributed to site of ulcer. Uneventful, complete recovery.
Abdomen tender and rigid, especially epigastrium.	Anterior surface ¾ inch from pylorus.	June 20, 1899.	Median incision above umbilicus; ulcer infolded at right angles to long axis of stomach; closed by 3 rows silk Lembert sutures; incision below umbilicus; thorough flushing with salt-solution; drainage from pelvis with glass tube and gauze; gauze drain from upper wound.	Nutrient enemas for 16 days; uneventful recovery; patient remains free from digestive disturbance.
Abdomen slightly distended, rigid, tender; liver-dulness diminished; temp. 101.8 F.; pulse 120, small, hard.	Posterior wall, high up near fundus.	April 8, 1899.	Curved incision parallel to costal margin; perforation found after prolonged search and sutured with difficulty; careful irrigation with boiled water; glass drainage tube.	Little shock from operation; rectal feeding 48 hours; then liquid food by mouth; uneventful recovery.
Condition of extreme collapse.	Anterior surface of pylorus.	May 24, 1899.	Celiotomy; suture of ulcer.	Death in about 4 hours, from exhaustion.
Severe shock; abdomen much distended.	Pyloric end near lesser curvature.	. . . . .	Incision 1 inch left of median line; gas and stomach-contents in abdominal cavity; attempted suture but stiches cut out; ulcer sutured in parietal wound; flushing with sterile water but thorough cleansing impossible; iodoform gauze wicks packed about ulcer; glass drainage tube; rubber tube tied in stomach.	Death from acute peritonitis; necropsy showed ulcer well walled off; pocket of pus in pelvis.
Abdomen distended; profuse vomiting; probably pneumonia of base of lung.	Cardiac end.	. . . . .	Escape of gas, pus and gastric contents on opening abdomen; perforation closed with silk mattress sutures; flushing with several gallons hot salt-solution; lymph cleared off where possible; abdomen filled with salt-solution.	Death after 48 hours.
Abdomen retracted, rigid; absence of liver-dulness.	Anterior surface just below cardia near lesser curvature.	July 13, 1898.	Median incision, escape of grumous fluid, further incision upward and outward to the left; perforation closed by double row silk Lembert sutures; irrigation with sterile water; drainage below umbilicus.	Nutrient enemas first 5 days; uninterrupted progress first 18 days then left pleurisy, aspiration 5 oz. turbid fluid; ultimate perfect recovery.
. . . . .	Near pylorus.	. . . . .	Whole peritoneal cavity soiled; irrigation.	Death.
. . . . .	Near cardia.	. . . . .	Extravasation limited to anterior surface of great omentum; wiping out extrav. food and lymph.	Recovery.
. . . . .	Near pylorus.	. . . . .	. . . . .	Recovery.
. . . . .	Near pylorus.	April 29, 1899.	Celiotomy; brown fluid and food in abdominal cavity, signs of purulent peritonitis; suture of ulcer; irrigation with sterile salt-solution.	Five days later 2d operation for intestinal obstruction caused by adherence of intestine to incision. Primary union; recovery.
Severe shock; abdominal pain; difficult respiration; liver-dulness diminished.	Anterior wall near pylorus; size 5 Pfen. piece.	April 8, 1898.	Abdomen reopened; escape of free gas; peritoneum injected; site of gastroenterostomy in good condition; perforation found with fluid escaping, and closed with 10 silk sutures; abdomen cleansed with sponges saturated with sterile salt-solution; gauze drainage; free stimulation.	Patient in collapse after operation but reacted next morning and uneventful recovery; remains free from all symptoms.
All the signs of biliary obstruction.	. . . . .	. . . . .	Incision over gallbladder; adhesions between gallbladder and stomach separated and perforation found and sutured.	The ulcer had evidently become adherent to gallbladder and perforated into it.

c. *Age.*

	25 Years or Younger.		More than 25 Years.		More than 40 Years.		Not mentioned.
	Male	Female	Male	Female	Male	Female	
W. and F.....	1	39	11	11	8	4	7
K. and T.....	0	41	9	16	4		3
Tinker	1	24	7	12	4	1	18
Total	2	104	27	39	16	5	28

From the above it is seen that among women about three-fifths of the cases occur before the twenty-fifth year, on the other hand only about one-twelfth of the cases among men occur at this age, while more than one-half of the patients among men were more than 40 years old. The youngest patient was 9, the oldest 71.

d. *Social Standing.*

In very many cases this is not mentioned at all, but when it is given the patients are almost always from the lower classes; the majority of them servant girls. Of course, the general hygienic conditions among this class of patients are often very bad.

e. *Previous Illness.* In almost all cases in which a record is given of the previous state of health the statement is made that the patients suffered in greater or less degree from chronic digestive disturbances lasting months or even years. Gastric catarrh is repeatedly mentioned as an early symptom, and in numerous cases had existed for a long time before the other symptoms of gastric ulcer appeared.

f. *Site of Perforation.*

	W. and F.	K. and T.	Tinker.	Total.
Anterior wall.....	43	52	24	119
Posterior wall.....	11	8	12	31
Near the lesser curvature....	6	31	23	60
Near the cardia.....	27	27	20	11
Near the pylorus.....	9	13	18	40

Hence it is seen that perforation occurs most frequently in the anterior wall, and more frequently in the neighborhood of the cardia than the pylorus. In comparing the two curvatures it is seen that the perforation most frequently occurs near the lesser curvature. Perforations of the posterior wall are comparatively rare. In many cases the seat of perforation is not mentioned at all; in other cases its relation is given as regards several points, for example: the anterior wall near the lesser curvature and cardia; in such cases the seat of perforation is mentioned in the table not only as the anterior wall but both the other localities.

g. *Perforation not Found.*—In the first 78 cases reported by Weir and Foote the perforation was not found in 16 cases. With increasing experience in this field, and, perhaps, with more care, and more thorough methods of investigation the results have become more favorable, so that among the next 78 cases the perforation was found in all but 9, and in the present series of 76 in all but 4.

h. *Cause of Perforation.*—The causes of perforation are, in most cases, not easily determined. Very frequently there is mention of some slight effort as the direct cause, and doubtless such physical efforts may have an etiologic influence; thus, walking is mentioned in 3 cases (No. 2, and K and T. 36 and 37), in 4 cases ascending the stairs (Nos. 13, 18, 37 and K. and T. 3), in one case dressing (K. and T. No. 6), lifting the arms (K. and T. No. 5), turning in bed (K. and T. No. 5). In other cases, on the contrary, overexertion is thought to have been the direct cause of perforation. For example, bicycling (No. 52), a two days' severe march (No. 50), lifting a heavy weight (No. 23).

1. *Number of Perforations.*—Since Mikulicz first operated in 1880, the number of cases has increased gradually from year to year. During the first 16 years after Mikulicz' operation only 78 cases were reported, or 4.875 cases per year; taking the next 2 years, there were also 78 cases reported or 39 cases a year; while from May, 1898, until the present time (a little over a year) there have been 76 cases reported. This progressive increase in the number of operative interventions in perforating gastric ulcer, finds its explanation, not in the fact that the number of perforations has increased in this ratio, but in the fact that general physicians recognize the condition earlier and immediately call in a surgeon.

DIAGNOSIS.

The diagnosis of perforation is based upon:

1. The history of the disease, in which we find almost without exception the symptoms of gastric ulcer or of chronic gastric catarrh.

2. Upon the constant occurrence of sudden, very severe pain in the epigastrium or left hypochondrium. In the cases in which the previous history and character of the attacks are mentioned these diagnostic points are mentioned almost without exception. Other important symptoms are vomiting, which is frequently mentioned. (Mentioned 12 times in my tabulation, and in 5 cases blood was vomited.) Collapse is present in many cases. The seat of the pain is usually located in the upper part of the abdomen (left hypochondrium or epigastrium) and only rarely in unusual positions; for example, in the region below the umbilicus (No. 29); in the shoulder (Nos. 50 and 58), and in the shoulder and neck (No. 49). After perforation the symptoms of peritonitis appear within a varying length of time. There is abdominal distention in almost all cases which are operated upon later than 15 hours after perforation; often it is present much earlier (No. 2, 5, 31, 44); the abdomen in such cases is tympanitic and tense, the normal liver-dulness is absent and the respiration is of costal type. During the first hours after perforation, the abdomen may be retracted, indeed almost boat-shaped and very rigid. Tenderness on pressure is almost always present, sometimes early, sometimes later. The pulse is usually rapid; and about 24 hours after the perforation the temperature rises, a certain sign that there is general infection of the peritoneal cavity. If one is called to a case in which there is already general peritonitis the diagnosis may be very difficult. In such cases it may be almost impossible to determine whether the cause of the condition is not in the appendix, oviducts, etc. In the differential diagnosis it should be remembered that in appendicitis, the tenderness, pain and rigidity are in the right inguinal region, while in perforating gastric ulcer these signs are present in the upper left quadrant of the abdomen. Not infrequently a diagnosis of intestinal obstruction with peritonitis has been made, but in gastric ulcer fecal vomiting following vomiting of gastric contents is wanting; in all cases the abdominal rings should be most carefully examined in order to exclude any possible error of diagnosis. A false diagnosis of intestinal obstruction has been made twice (K. and T. 43 and No. 5); appendicitis twice (Nos. 12 and 60). In one case a diagnosis of biliary obstruction was made (No. 76). In many cases the diagnosis has not been definitely made. In any case, whether the diagnosis is certain or not, if the above threatening symptoms are present, operation is always indicated.

TREATMENT.

As soon as the diagnosis of perforation of gastric ulcer is established with any degree of certainty nothing more should be given by the mouth, and every preparation should be made for immediate operation. If shock is present it is treated by the application of external heat, by the subcutaneous use of stimulants, enemas containing brandy, or other stimulants, friction of the extremities, etc. It is the opinion of practically all surgeons that in every case in which it is possible to make the necessary preparations for a severe operation, it should be undertaken at once, for otherwise a fatal peritonitis usually follows.

OPERATION.

The incision is usually made in the median line between the ensiform appendix and the umbilicus and, if necessary to get more room it may be combined with a transverse incision either to the right or to the left. If the diagnosis is positive an incision parallel to the border of the ribs is perhaps more favorable because most perforations are found in the neighborhood of the cardia. Under all circumstances the incision should be long enough so that the condition present can be readily ascertained. The perforation is usually found on the anterior wall, more frequently in the neighborhood of the cardia and lesser curvature, less frequently near the pylorus. If it is not found after search in this region the lesser omentum or gastrocolic ligament is divided in order to examine the posterior wall. Indeed, Furner has recommended that the lesser omentum always shall be opened in order to search for a possible perforation and to permit thorough cleansing for a second perforation is by no means rare and very frequently the omental cavity is contaminated. Jonnesco has also recommended this procedure. The treatment of the perforation depends upon its location, size, and

character, and the condition of the patient. Anderson (No. 1) has recommended the excision of the ulcer, but this procedure is possible only in favorable cases. The simplest and probably the best technic for the majority of cases is to infold the ulcer and insert two rows of Halsted's sutures. In case the stomach-wall in the region of the ulcer is thickened, inflamed and very friable, an omental graft may be sutured over it (Nos. 57, 55, 47, 27, 26, 10). Ulcers in the region of the cardia and even more particularly in the region of the pylorus, must be sutured in such a manner that stenosis shall not result. Capaccini combined, with an excellent result, Loreta's divulsion of the pylorus with the operation for perforating ulcer in a case in which stenosis was already present. It is every essential in inserting the sutures to be certain that the entire ulcer is closed. Gould (*British Med. Jour.*, 1804, ii, 859) mentioned a case operated upon by Pepper in which the patient recovered from the operation, but died 3 days later. At the necropsy it was found that the ulcer had not been invaginated sufficiently and that a second perforation had occurred in the ulcer. (K. and T. No. 60.) A patient of Tubby's (No. 55) died from hemorrhage after operation, and it was also found that the ulcer had not been thoroughly sutured. In those cases in which it has been found impossible to suture the perforation various procedures have been followed. The stomach has been drained by a tube and the peritoneal cavity walled off with gauze; the patients of Hartman and Sherman (K. and T. 35, and T. No. 49) were saved in this way, while those of Le Dentu and Routier (K. and T. No. 40 and 63) died; Braun (K. and T. No. 22) closed the stomach by sewing a piece of omentum over the opening and his patient recovered; Bennet (K. and T. No. 16) stuffed a piece of omentum in the opening and then sutured the omentum over it and his patient also recovered; Dalziel (K. and T. 29) finding it impossible to invaginate the ulcer closed the opening by bringing the edges of the ulcer together with two rows of sutures in the way that an ordinary incised wound is closed, and a good recovery followed. Under similar circumstances Ferrier (K. and T. 69) performed gastroenterostomy with an excellent result. Provided the condition of the patient permits, it is always desirable to search for other ulcers which have not perforated. According to Orth, more than one ulcer is present in about 20% of the cases. Wallis' patient died on the thirty-first day after operation of hemorrhage from a second ulcer (No. 57). Cathcart's patient (No. 12) died in a similar manner, and at the necropsy 3 ulcers were found. Rutherford and Silcock (Nos. 45 and K. and T. 51) also have had similar experience; each of them lost a patient, respectively, 3 weeks and 2 days after the operation in consequence of the perforation of an ulcer existing at the time of operation. After it is determined that the stomach is satisfactorily closed, the most difficult part of the operation still remains to be accomplished; that is, the cleansing of the abdominal cavity. The best method is to flush with warm salt-solution or boiled water, as those fluids are best tolerated by the peritoneum. This cleansing must be carried out thoroughly and systematically if one desires to save the patient, for in most cases the abdominal cavity is infected. The stomach-contents have been observed in the pelvis, the omental bursa and subphrenic space by Sharkey, Shaw, Furner, Anderson, Jones and others. An incision from the symphysis, possibly also in the lumbar regions, is necessary in almost all cases, and great quantities of solution should be used for flushing. Cleansing beneath the diaphragm, and of the pelvic cavity is of great importance and necessitates the separation of all adhesions; in some cases dry sponging may be combined with irrigation. Nearly all the patients that have been saved have been treated with irrigation. Among 19 patients recorded in my table, who have been operated upon during the first 12 hours after perforation, 16 have recovered, and in all of these cases irrigation was used. Another important question is that of drainage. There are recorded in literature the histories of a number of patients that have recovered without the use of drainage, while in other cases a fatal result followed—in cases which give one the impression that had drainage been used the life might have been saved. In most cases drainage appears to be necessary, not only from the wound of the operation, but also from the pelvis and possibly, as Lennander suggests, also from the lumbar region. Many operators find it desirable to drain with both tubes and gauze; the tubes are removed as soon as secretion has ceased and the gauze is left in place until it loosens of itself. The suture of the abdomen need not be considered.

After-Treatment.

If shock is present it may be treated by the usual methods, and in case the patient has lost much blood the intravenous infusion of normal salt-solution is of special value. If necessary, morphin may be given subcutaneously to relieve pain. In order to give the stomach rest, no nourishment is given by the mouth for the first 5 to 7 days, during which time the patient is nourished by enemas. Daily flushing of the colon may be employed to empty the intestine and to promote the escape of intestinal gases. As soon as vomiting has ceased boiled water may be given, a teaspoonful at a time, by the mouth. The patient should remain in bed a considerable time and should have a careful course of dieting. In case incapsulated abscesses form, as has been frequently observed, they are best opened each one by a special incision and drained, for, as Lennander has pointed out, in case the walls of these cavities are broken down, and they are washed out through a single abdominal incision the entire healthy peritoneum is likely to be infected. Abscess of the liver (K. and T. No. 1), empyema (K. and T. No. 53, 49), parotitis (No. 19 and K. and T. 19, 77), phlebitis, (No. 57 and K. and T. No. 10, 43, 77), pneumonia (No. 4, 57, 63, and K. and T. 1, 49, 70), pleurisy (No. 2, 18, 63 and K. and T. Nos. 4, 18, 20, 48, 46), subphrenic abscess (Nos. 44, 45, 28, 26 and K. and T. 4, 6, 49, etc.), which commonly occur during convalescence, should be treated according to the usual methods.

Mortality.

Results shown by the tabulations of Weir and Foote, Keen and Tinker, and the following table, are as follows:

Time between perforation and operation.	Total operations.	Died.	Recovered.	Percentage of mortality
Less than 12 hours	68	17	51	25.
12 to 24 hours	50	27	23	54.
24 to 48 hours	35	25	10	71.42
More than 48 hours.....	40	21	19	52.5
Interval not mentioned..	39	19	20	.....
	232	109	123	48.81

Operations before 1896 (Keen and Tinker).

Less than 12 hours.....	7	2	5	28.57
12 to 24 hours.....	2	2	...	100.00
24 to 48 hours.....	1	1	...	100.00
More than 48 hours.....	9	2	7	22.22
Interval not mentioned..	4	2	2	.....
	23	9	14	39.13

Tabulation of Weir and Foote.

Less than 12 hours.....	23	9	14	39.13
12 to 24 hours.....	17	13	4	76.47
24 to 48 hours	18	16	2	88.88
More than 48 hours.....	14	12	2	85.71
Interval not mentioned..	6	5	1	.....
	78	55	23	71.51

Operations since 1896 (Keen and Tinker and the accompanying table).

Less than 12 hours.....	37	6	31	16.21
12 to 24 hours.....	31	12	19	38.70
24 to 48 hours.....	16	8	8	50.
More than 48 hours.....	17	7	10	41.17
Interval not mentioned..	30	12	18	.....
	131	45	86	35.71

As can be seen from the above tabulations the results of operation have become steadily more favorable. According to Weir and Foote the total mortality was first placed at 71.51%, while at present it amounts to only 42.67%. The prognosis depends in great part upon the length of time which has elapsed between perforation and operation. Lennander has well said: "The first essential in order to save a large number of patients suffering with severe abdominal symptoms is, that we physicians cease to believe that it is our first duty in these cases to relieve pain. On the contrary, we should, from the character of the pain, form a diagnosis, the important part of which is, in this case we should operate immediately, or in this case we should not operate, at least not immediately. If we begin with a large dose of morphin or with hot compresses we delude the patients with hope, which, in the majority of cases, rapidly disappears when the distention of the abdomen denotes the presence of a diffuse peritonitis." In the cases which have been operated upon within the first 12 hours after the perforation 75% have been saved and in the past three years, during which time surgeons have had the benefit of more extensive experience in this field, 83.78% of the patients have been saved by early operation. In the following table there are 19 cases which came to operation 12 hours or earlier after perforation and of this number 3 died. One of these patients died 3 weeks after the operation from another perforation (No. 45), another died 31 days after the operation from hemorrhage (No. 57), and, in a third case, the abdominal cavity was filled with blood at the time of operation; the patient was in a condition of extreme collapse from loss of blood and died soon after (No. 41). Hence it would be seen that in these cases two might have been saved by more careful inspection for other ulcers, while death in the third case cannot be attributed to the operation. Not only are more patients saved by early operation, but the recovery in more than two-thirds of the cases after early operation is entirely uneventful. On the contrary more than two-thirds of the patients that have recovered after late operation have passed through severe illnesses and in many cases seemed at the point of death. Quite possibly the statistics given may be too favorable, for it is a well-known fact that operators publish their favorable results sooner than unfavorable results; but, in any case the number of patients that have recovered is large enough so that we may well feel encouraged.

SYPHILIS OF THE STOMACH.

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DYSPEPTIC symptoms not infrequently occur in the secondary and tertiary stages of syphilis. While in the secondary stage, however, the digestive disturbances are attributable to the constitutional condition, to the fever, etc., and hence are to be regarded as concomitant phenomena of the original disease, without any special involvement of the stomach, the affections of the stomach in the tertiary stage of syphilis are of independent nature, caused by anatomic processes in that organ.

It is only the latter group that I would make here the subject of discussion.

Syphilitic lesions of the stomach may assume various forms (erosions, ulcers, tumors, stenosis of the pylorus, gastralgia, etc.), all of which present the features of the ordinary types of these affections; their syphilitic nature cannot be recognized by the symptoms alone. Diagnosis of their syphilitic origin is facilitated, first, by the demonstration of a previously existing luetic infection; secondly, by syphilitic manifestations in other portions of the body; and thirdly, by the successful results of antisyphilitic treatment.

It is scarcely necessary to mention that syphilitic subjects may suffer from any of the diseases of the digestive tract without there being any connection between the latter and antecedent lues. Indeed, these cases probably constitute the majority. Hence it is the more difficult to decide in any given case whether the disease of the stomach is of a syphilitic nature or not. Yet this is quite often possible. Syphilis of the stomach is by no means a new subject, since it has been known to the medical world for many decades.

G. Andral[1] as early as 1834 described two cases of syphilitic gastric affection. One related to a woman, 29 years old, who had lost her appetite, was tormented with pains in the scrobiculus, and after her meals frequently vomited her food. No tumor could be felt. During three months the condition resisted all sorts of treatment, after which the patient complained of pains in the neck in swallowing. On examination a number of ulcers were discovered in the pharynx which had a syphilitic appearance. The question now came up, whether similar ulcers existed in the stomach. Andral at once initiated mercurial treatment; at first by internal administration and later by means of inunctions; and the patient recovered in the course of a few weeks. The author made this case the text of the following important conclusion: "If it is true otherwise that the ulceration of the skin, buccal, and pharyngeal mucous membranes are to be regarded as due to the syphilitic virus, and that they can be successfully attacked

with mercurial treatment, we do not see why ulcerations or other lesions of the more deeply situated portions of mucous membranes should not also be attributed to the same cause and subjected to the same mode of treatment."

E. Wagner[2] and Lancereaux[3] have each reported a case of gastric syphilis demonstrated at an autopsy.

V. Cornil[4] regards the anatomic lesions of syphilitic origin of the stomach as of very rare occurrence, and reports a case under this category in which he had made an autopsy, and found gummata in the stomach. He says: "The gastric mucous membrane showed along the smaller curvature and in the vicinity of the pylorus raised groups of flattened tumors having a diameter of 5 centimeters. The mucous membrane was preserved, but thinned and adherent at their level."

Chiari[5] described a case of congenital syphilis in a child three weeks old, with autopsy. During life there were no gastric symptoms. At the autopsy the stomach was found somewhat enlarged; at some places the mucosa was thicker, of a pale yellow color, remarkably smooth, and projecting into the stomach-cavity in the form of a cushion, and felt indurated. On incision it was shown that not only the mucosa but also the submucosa, muscularis, and serosa were more dense and thickened over a plate-shaped area, and that all these layers had become fused into a uniform and indurated tissue. At some of these plaques a shallow ulceration was found which apparently was attributable to the digestive action of the gastric juice. Altogether five such foci were found in the stomach."

Chiari,[6] in another and later important work on this subject, concludes that cases of undoubted gastric lues are extremely rare, since among 243 autopsies on syphilitic subjects, only two cases of gastric syphilis of the stomach occurred.

Virchow, Birch-Hirschfeld, and Klebs, in their well-known books on pathologic anatomy, described isolated instances of gastric syphilis.

Stolper[7] also represents the view that syphilis of the stomach is very uncommon. Among 86 cases of syphilis with autopsies he found only one case of gastric lues.

Gaillard[8] lays stress upon the importance of syphilitic lesions of the stomach, and maintains with justice that a severe ulcerative process of this organ in a syphilitic person may be of a specific nature, even when mercurial treatment is unsuccessful.

Among the more recent authors several appear to be of the opinion that syphilis of the stomach is not of such rare occurrence.

F. Mracèk[9] says: "As the direct products of syphilis ulcers originating from gummatous infiltrations of the submucosa occur in the stomach. These have been many times demonstrated by autopsies. They usually appear in the region of the pylorus and of the lesser curvature, and also at the cardia. Infiltrations develop in the submucosa and extend both in the direction of the mucosa as well as of the serosa of the stomach-wall. Besides these ulcerations, gummatous infiltrations, as well as cicatricial formations, were found, so that the possibility of cicatrization of gummatous ulcers in the stomach cannot be excluded. Furthermore, ulcers due to a syphilitic endarteritis of the vessels of the stomach are met with. These have the characteristics of round gastric ulcers, both in a clinical and anatomical sense."

Osler[10] says: "Gummata of the stomach occur occasionally. Syphilitic ulceration has been found in the stomach, in the small intestines, and in the cecum."

Hemmeter[11] has observed two cases of gastric syphilis in children of the same family, the parents being luetic. In both cases gastralgia was present. In one of them there was incessant vomiting, and also a gumma on the lower jaw. The symptoms disappeared completely after an inunction cure.

Dieulafoy[12] describes a case presenting all the typical classical symptoms of simple round ulcer of the stomach. After all customary treatment of the disease during a period of 18 months had proved a failure, resort was had to injections of biniodid of mercury in oil (0.004) after which a cure rapidly ensued. The subject was a patient who, before the appearance of the stomach trouble had acquired syphilitic infection, for which he had been treated by Fournier. In his contribution Dieulafoy reaches the following conclusions:

1. Syphilis of the stomach is not as infrequent as might be thought.

2. Syphilitic lesions of the stomach occur in various forms: hemorrhagic erosions, ecchymoses of the mucous membrane, gummatous infiltrations of the submucosa, gummatous plaques, circumscribed gummata, gummatous ulcerations and their resultant scars. It is probable that here, as in other losses of substance of the stomach, the gastric juice augments this ulcerative process.

3. The symptoms of syphilitic ulceration of the stomach may resemble completely those of simple gastric ulcer; pains over the ensiform process, besides backache, intolerance of the stomach, vomiting of food, small and large gastric hemorrhages, melena, and marked emaciation.

4. None of these symptoms permits us to assume the syphilitic nature of the stomach lesions. As soon as the signs of a simple gastric ulcer occur in a syphilitic person, we are warranted in suspecting a syphilitic nature of the stomach-lesion.

5. We should never, therefore, neglect to seek in a patient presenting symptoms of gastric ulcer for a possible antecedent history of syphilis.

6. In the latter case an appropriate treatment with mercurial preparations and potassium iodid must be at once initiated.

7. The recognition of syphilis as a cause of gastric ulcer is the more important, since this enables us to cure patients who otherwise might have been subjected to surgical intervention.

Fournier[13] reports a case of severe gastric hemorrhages in a young woman who six years before had acquired syphilis. After resort to potassium iodid a rapid cure took place.

Flexner[14] has described an undoubted case of gastric syphilis confirmed by the autopsy, which revealed a syphilitic ulcer of the stomach with perforation. Microscopic examination of the affected areas showed that certain places were considerably thickened owing to cellular infiltration of the submucosa; within these considerable accumulations of cells there were found signs of necrosis; other parts of the submucosa were permeated by a dense tissue.

Mackay[15] describes a cases of ulcer with gastric hemorrhage in a young man affected with hereditary lues. A cure was brought about with mercury and potassium iodid.

E. Fränkel[16] refers to a case of syphilitic ulcer of the stomach and intestine in a man, 47 years old, and regards these conditions as extremely infrequent.

Aristoff[17] is opposed to the prevalent view as to the

rarity of gastric syphilis, and says: "Syphilitic affections of the stomach in hereditary lues are in reality not so extremely infrequent as is commonly thought; for in seven among nine cases, syphilis of the stomach was demonstrated by careful examination. For this purpose an accurate microscopic examination is, of course, absolutely essential, and this will reveal the gummatous affections and diffused inflammation."

My own humble opinion is that syphilis of the stomach is by no means of rare occurrence. Owing to the importance of this subject with reference to our therapeutic procedures, I have taken the liberty to report from my practice the following cases, which I am led to regard, on clinical grounds, as instances of gastric syphilis. Among the cases which I have observed it is best to differentiate 3 groups of syphilitic diseases of the stomach, namely:

I. Gastric ulcer of syphilitic origin.
II. Syphilitic tumor of the stomach.
III. Syphilitic stenosis of the pylorus.

The following two cases belong to Group I. (Gastric ulcer of syphilitic origin.)

CASE 1.—May 1, 1892. Mrs. A. K., 30 years old, had acquired syphilis three years previously, from which she had completely recovered after a thorough mercurial inunction cure. Since three months she had suffered from violent pains immedialely after meals, and occasionally vomiting; there had never been vomiting of blood; the bowels were constipated. The ordinary treatment of gastric ulcer had been carried out strictly by the attending physician during the past four weeks, but without the slightest success; and hence I was requested to see the patient.

Status Praesens: Patient appears somewhat pale, but on the whole is quite well nourished; nothing abnormal can be found in the thoracic organs. Palpation of the abdomen elicits especial painfulness on pressure over a small circumscribed area below the ensiform process; otherwise nothing abnormal can be detected. The patient complains of violent pains immediately after eating, and also after ingestion of small quantities of fluid substances, such as milk, bouillon, etc.; the pains usually continne for one to two hours and are sometimes attended with vomiting. No pains are experienced when the stomach is empty. Aside from the gastric trouble the patient refers to pains in her lower limbs, which are more marked at night than during the day. The legs are painful to pressure upon the tibia.

In view of this history the diagnosis of ulcus ventriculi syphiliticum was made, and the patient subjected to an inunction cure, in connection with the administration of potassium iodid. A fluid diet was prescribed, but after 14 days, when the pains had disappeared, semifluid and solid foods were permitted. In the course of 6 weeks under the above antisyphilitic treatment the patient made a complete recovery.

CASE 2.—August, 1899. Mrs. Carrie W., about 33 years old, had acquired syphilis 7 years before. About 2 years ago she began to be troubled with her stomach, suffering usually from pains right after eating. Some time afterwards a profuse hemorrhage from the stomach occurred. According to the statements of the patient she claimed to have vomited about a quart of blood mixed with food. She had then gone through a thorough course of treatment for the ulcer, and recovered without, however, regaining her former condition of health; for she complained almost constantly of dyspeptic symptoms; the appetite being considerably impaired, while frequent eructations and occasional gastralgia and constipation persisted. At the close of July, 1899, a second considerable hemorrhage from the stomach ensued, and during two successive days the patient vomited large masses of blood, and also passed blood in the stools (tar color).

Status Praesens: August 1, 1899. At the time of my visit the patient is confined to bed and appears extremely pale and anemic. Over the heart a slight presystolic murmur can be heard; otherwise nothing abnormal can be detected in the thoracic organs. On palpation the scrobiculus is very sensitive to slight pressure; fever is not present; the urine contains neither sugar nor albumin. The patient complains of constant pains in the stomach, which radiate towards the back,—and are increased even after fluid food,—and of attacks of vomiting. She was placed upon a strictly fluid diet; absolute rest in bed enjoined, and bismuth 2.0, three times daily, prescribed.

August 20, 1899.—Vomiting has ceased, and the pains are somewhat easier. The same treatment is continued during the following fourteen days, except that small quantities of semifluid food are permitted; besides the patient is allowed to be up several hours during the day.

September 10, 1899.—The condition of the patient has not changed since August 20, and the pains in the stomach persist in the same degree. In consideration of the history of syphilis the possibility of a luetic origin of the gastric ulcer appears feasible, and the patient now receives potassium iodid in increasing doses, the bismuth being discontinued. Several days after the administration of this drug the patient began to have less pains, and after the lapse of three weeks was completely free from any unpleasant sensations in the stomach. She was now able to tolerate ordinary diet without the least disturbances, gained in weight, and has since remained healthy.

The following observations belong to Group II. (Syphilitic tumor of the stomach.)

CASE 1.—April, 1890. C. K., 35 years old, suffered 2 years ago from a soft chancre with swelling of the inguinal glands and cutaneous eruption, and since about six months had been troubled with severe disturbances of the stomach. The patient was attacked with pains soon after meals, and with occasional vomiting; the appetite was impaired and the stools costive. During the last six months he had lost 20 pounds in weight, and felt quite weak.

Status Praesens.—The patient appears somewhat pale, but not actually cachectic; nothing abnormal can be detected as regards the lungs and heart. Palpation reveals quite a firm nodular resistance over an area of about the size of a goose-egg under the left border of the ribs; this is situated beneath the abdominal wall, and can be traced from the left toward the right up to the ensiform process. On deep inspiration the tumor referred to moves downward; and immediately below the tumor a splashing noise can be elicited; so that it must be assumed that the resistance is located at the lesser curvature of the stomach; insufflation of the stomach with air gives the same results. The gastric region is quite painful to pressure; over the posterior side of the thorax there is a considerable tumor which is situated to the left of the spine and extends from the third to the sixth thoracic vertebrae, and has a bony hardness to the touch.

The stomach contents are examined one hour after Ewald's test-breakfast with the following results: HCl = 0, Acid. = 4, Lactic acid = 0, Lab = 0; a small amount of fluid, but considerable mucus mixed with blood.

The positive demonstration of a nodular tumor at the lesser curvature of the stomach would have sufficed to make the diagnosis of carcinoma, which was apparently confirmed by the other symptoms, if there had not been a previous history of syphilis in connection with the well pronounced exostoses over the back. Both the latter circumstances led me to assume that this was a syphilitic tumor (gumma) of the stomach, a view which was also shared by Dr. Louria, of Brooklyn, the family physician of the patient. The patient was subjected to a thorough inunction cure, and furthermore treated internally with potassium iodid. Under this treatment the condition improved from day to day, so that in the course of several weeks no trace of the tumors of the stomach and the spine could be discovered. Since then he has completely recovered.

CASE 2.—April, 1898. William C., 50 years old, had acquired a chancre 20 years ago, and had been troubled since 18 years with severe gastric disturbances, anorexia and sleeplessness; vomiting was not present; a visit to Germany improved his condition. Up to three years ago the patient enjoyed good health, but then again experienced pains in the abdomen; the appetite remained good. The pains then subsided, but returned after a year, and have now persisted for six months, during which the patient lost 15 pounds in weight. At this time he came under my observation. A

ht oval resistance over an area of the size of a hen's egg ld be felt in the epigastric region. Examination of the nach with a tube revealed: Stomach empty in fasting te; one hour after test meal: HCl +; acidity = 50.
'he patient received potassium iodid and his condition proved. He increased about 15 pounds in weight, and was l up to the end of January, 1899. During this period no nor could be discovered. At the beginning of February, 1899, was attacked with quite severe gastric disorders, suffering m pains and vomiting. In March, 1899, the patient once re came under my observation, and was examined. The istance was again present and somewhat more distinctly pable than the previous year. The stomach contained in fasting condition food residue: HCl +. Potassium id and resorcin, as well as bismuth, were administered l an inunction cure initiated.
As I have not seen the patient since that time I cannot port anything further regarding the results of this treatnt Yet it would appear distinctly from the above deiption that the case was one of gummatous tumor of the nach, which first disappeared and then recurred after a ar, when it very probably also involved the pylorus.

The following observations relate to the third group. philitic stenosis of the pylorus.)

CASE 1.—May, 1897. Carl S., 37 years old, printer, had aced syphilis in 1890, and had been subjected to a thorough tic treatment extending over several months. He was n healthy until 1894, when he was troubled with severe speptic disorders. He was usually attacked with pains ne time after eating, and occasionally by vomiting; the wels were also sluggish. This trouble has persisted up to e present time, although interrupted by periods of several nths' duration during which the disturbances were less nounced. During the last year the condition has become ich worse; the pains have been much more intense and e vomiting more obstinate. The patient subsisted chiefly fluid food and had to wash out his stomach two or three nes daily, as otherwise, according to his statements, the ins became unendurable. During the last year he has lost pounds in weight, and feels weak and incapacitated for rk.

Status Praesens.—The patient appears very emaciated and ak, although the lips and cheeks have a reddish tinge. e thoracic organs are normal. On inspection of the abmen a protrusion of the left lower half is noticeable; now d then hill-like prominences moving from the left towards e right are observed; palpation reveals a small oval tumor mewhat larger than a pigeon's egg, and situated under the ht border of the ribs in the right mammary line. This tumor pears to be connected with the pylorus. The stomach exnds down to the symphysis, and is markedly dilated. This n be determined not only by the presence of splashing unds, but also by illumination of the stomach. Examinan of the stomach in the fasting state—patient having been dered to take a dish of rice with milk and crackers on the evious evening, and not to wash out the stomach—shows at the organ contains 300 ccm. of fluid, besides chyme (in e latter rice granules and bread particles can be easily cognized); chemically free hydrochloric acid can be dected in the gastric contents, and acidity of 90.
Diagnosis of benign stenosis of the pylorus is made, and view of the previous history the syphilitic nature of the sease, and especially of the tumor found at the pylorus, is garded as a possibility.
As regards treatment, the patient was first placed upon a rictly fluid diet, besides resorcin and bismuth prescribed. lthough the pain somewhat subsided and the vomiting occurred less frequently, the tumor remained unchanged durg a period of treatment extending over 14 days. Potassium did (10:200—1 tablespoonful, 3 times daily) was administered and the fluid diet continued. At the end of 14 days it as remarked that the tumor had considerably diminished size; the pains had almost completely disappeared, and e vomiting no longer occurred. As the stomach was found mpty in the fasting condition, the fluid food was supplemented with semifluid nourishment, and the administration potassium iodid continued in the same manner. After the pse of another month the tumor could no longer be felt, hile improvement in the patient's condition steadily progressed. He was soon able to tolerate also solid food, and in the course of 4 months increased 20 pounds in weight.

CASE 2.—March 2, 1899. George W., 38 years old, had a chancre 18 years ago, but had always enjoyed good health up to within 3 years. At that time he began to experience pains in the gastric region (usually some time after meals) with nausea and occasional vomiting. This condition lasted about 3 months, and then disappeared completely. A year later the same symptoms occurred and persisted for 2 or 3 months; during this time attacks of colic and diarrhea frequently occurred. A condition of euphoria then ensued up to August, 1898, when the patient commenced to complain of a feeling of fulness in the abdomen; the appetite was considerably impaired. This continued until December, 1898, after which pains in the gastric region, which occasionally had a lancinating character, with frequent eructations of gas from the stomach, and large amounts of flatus from the bowel, appeared. During the latter period of the disease, the patient had 3 attacks of vomiting. He had lately lost 30 pounds in weight, and felt weak and wretched. The stools were irregular, constipation alternating with diarrhea.

Status Praesens.—The patient is of large stature, and does not appear ill-nourished. but is somewhat pale; the tongue is markedly coated. The heart and lungs show nothing abnormal; the liver is considerably enlarged and extends almost a hand's breadth below the right border of the ribs; it feels smooth, is sensitive to pressure, but not markedly painful. The greater curvature of the stomach lies somewhat above the navel. From this point upwards to the left border of the ribs splashing sounds can be produced. The gastric region is somewhat painful to pressure. Examination of the stomach on March 5, one hour after Ewald's test-breakfast, reveals: HCl +; acidity = 80; the quantity of contents obtained amounts to 200 ccm. and consists of fluid, fine particles of bread and fat floating upon the surface of the fluid.

March 7. In the fasting condition the stomach contains 100 ccm. of chyme; HCl +.

The patient is placed upon a strictly fluid diet, consisting of milk and gruel; resorcin and bismuth are administered. Under this treatment he feels somewhat better, but his stomach in the fasting state is never empty, but contains considerable quantities of gastric juice mixed with some milk and chiefly fats. When the patient is permitted to take more solid starchy food, such as bread, rice, etc., considerable residue of these substances is found in the fasting stomach. In the course of three weeks' treatment the symptoms of stenosis of the pylorus remained practically unchanged, and in consideration of the previous history of syphilis, and of the existing enlargement of the liver, I resorted to the administration of potassium iodid, while the previous remedies were tentatively discontinued. During the first week of the iodid treatment the ischochymia remained unchanged, but the amount of residue in the fasting stomach gradually lessened. Dating from the middle of April the stomach in the fasting condition was always empty, even under a solid diet. The patient no longer complained of pains, slept well, was able to live on a mixed diet. and increased considerably in weight; the swelling of the liver also decreased perceptibly. Since then he has continued to enjoy perfect health.

REMARKS.

Group I (syphilitic ulcer of the stomach) is chiefly represented clinically in the literature. The two cases belonging to this class admit of scarcely any other interpretation, save that there was present here an ulcus syphiliticum of the stomach. In the first case (Mrs. A. K.) other signs of tertiary syphilis existed, while in Case 2 (Carrie W.), aside from the lesion of the stomach, nothing further of luetic nature could be found. In both cases the customary methods of treatment of gastric ulcer were entirely or partially unsuccessful, while antisyphilitic therapy was followed by complete recovery. Inasmuch as the occurrence of syphilitic ulcers in the stomach is a firmly established pathologic and anatomic fact, there is no reason for

rejecting the assumption of a luetic ulcer of the stomach in the above described cases.

The second group (syphilitic tumors of the stomach) has received but scant mention in the literature, as far as I have been able to learn, except in a few reports of autopsies, but has not been described as having been recognized during the lifetime of the patient. The two cases (C. K. and William C.) belonging to this group are therefore the more significant. The occurrence of syphilitic tumors of the stomach is quite rare, but none the less important. They may run their course in a similar manner as carcinoma, and readily be mistaken for the latter. On palpation such a gummatous tumor may evince all the characteristics of a malignant neoplasm, and even the symptoms may so strongly resemble those of cancer as to be confounded with the latter. It would appear therefore advisable in every case of neoplasm of the stomach to bear in mind the possibility of syphilis, and to question the patient as to any previous history of that disease, and examine for any other syphilitic manifestations on the body.

Case W. C. of this group, in which ultimately appearances of ischochymia, caused by a stenosis of the pylorus, occurred, brings us to the third group of syphilitic pyloric stenosis. In one of these cases (Carl S.) a thickened pylorus could be felt as an oval tumor which disappeared under continued antisyphilitic treatment. At the same time the symptoms of ischochymia receded and the patient recovered. In the second case (George W.) the pylorus was not palpable, and the diagnosis of the commencing constriction had to be based upon the results of internal examination of the stomach. In both cases the customary medical measures indicated in benign pyloric stenosis proved insufficient, while the administration of potassium iodid soon effected the improvement.

The existence of syphilitic stenosis of the pylorus has, I think, not been described clinically, although a recognition of this condition is of great practical importance. The two cases of luetic lesion of the pylorus, described above, would have been subjected to an operation after the failure of the customary measures if I had not suspected the syphilitic origin of the affection.

From the present article it appears distinctly that tertiary syphilis may produce severe gastric affections which are susceptible to antiluetic treatment. In the therapeutics of intractable diseases of the digestive apparatus, therefore, the possibility of a syphilitic origin of the trouble must never be forgotten.

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REMARKS UPON THE DIAGNOSIS AND SURGICA TREATMENT OF PERFORATED GASTRIC ULCEI WITH ILLUSTRATIVE CASES.[1]

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of Boston.

The mortality in ulcer of the stomach should, wit the progress of medical and surgical art, constant diminish; for almost all cases admit of cure, either b medical or by surgical treatment, or by both combine That the mortality should diminish, however, requir that only those cases be referred to surgical treatme which cannot be cured medically; for indiscrimina surgical treatment might destroy many patients wh are now cured by medical methods, just as medic treatment, unintelligently directed, might withhold many cases the only chance for cure.

It is not to be expected that in choosing betwe medical and surgical methods no mistake will be mad Doubtless under surgical treatment many patients wi die who, under medical, would recover, and conversel The questions which demand discussion and experien are, therefore: What cases shall be treated medical and what surgically? What symptoms indicate dange that can be best averted by surgery; what indica complications that surgery alone can remedy? An finally, What contraindicate surgical intervention?

The scope of this paper, however, is to discuss b one phase of gastric ulcer—that of perforation, i diagnosis and treatment, and to illustrate it by a fe cases that have come under my observation. A wo as to the frequency of gastric ulcer may, however, n be unimportant. Judged by hospital records, gastr ulcer is comparatively frequent. It is stated by Ewa that 5% of the adult population suffer from this di ease. Judged by my own surgical experience, whi has been thus far based upon the complications a emergencies of gastric ulcer, the number is very sma In 13 years' work as visiting surgeon at the Massach setts General Hospital, I have never operated at th hospital for gastric ulcer except for the relief of sor of its remote results. In my private surgery, whi includes a much larger percentage of abdominal em gencies, I have operated but twice. On the other han in a general surgical practice I had seen, up to Jun 1889, 900 cases of appendicitis, of which 520 may classed as emergencies—gangrenes, perforations, a other infections. Even as compared with such em gencies as ruptured extrauterine pregnancies, acute ga bladder infections, tumors with twisted pedicles, a the like, perforations and hemorrhages from gast ulcers are relatively infrequent. Though there has be in my experience this apparent infrequency, yet it mu not therefore be inferred that it is as rare in the exp rience of others, though the comparison holds good the Massachusetts General Hospital. There may ha been failure on the part of the physician to recogn the emergency, failure on mine, chance, and so That chance may have a bearing is seen in the fa that in two hours of April 25, 1899, I saw three cases two of fatal perforation operated upon, and one severe hemorrhage which recovered without operati

The explanation would seem to be that the attendi physician does not call the surgeon's aid in the em gencies of gastric ulcer; but this is not always true, the great majority of medical men today recognize t existence of an acute abdominal lesion which demar

[1] Read at the annual meeting of the Vermont Medical Society, October, 1

ıtervention, especially a septic one or a hemorrhage. 'hysicians of large practice, who see, in a year, not one, ut many abdominal emergencies, will report but rarely case of gastric ulcer endangering life either by per-)ration or by hemorrhage.

At the Massachusetts General Hospital from 1888 to 898 there were 187 cases of gastric ulcer admitted to he medical wards. In 13,097 admissions there were 87 with diagnosis of gastric ulcer, or 1.43%; at Johns Iopkins in 9,517 cases there were 30 of gastric ulcer, r 0.32%; Cook County Hospital, Chicago, 3,930 pa-ients, 6 with diagnosis of gastric ulcer, or 0.15%; Arapahoe County Hospital, Denver, 5,040 patients, 6 vith diagnosis of gastric ulcer, or 0.12%.[2] In the 187 ases at the Massachusetts General Hospital there were ; of perforation, or 3.2%. All were fatal, whether)perated upon or not. No perforation occurred with-)ut previous symptoms of ulcer, though in one case here had been only very slight dyspeptic trouble or one month. According to Osler, perforation takes)lace in 6% of all cases. Since the publication of Jos-in and Greenough's article there have been at least 4 ases operated upon at the Massachusetts General Hospital. Of these, 1 (Dr. Warren's) recovered.

The frequency of perforation in recognized gastric ılcer must be greater in hospitals than in private prac-ice, because a large proportion of the severe cases are ent to the hospitals for treatment. On the other hand perforation from unsuspected ulcer is of course more ikely to be observed in private practice. The practical importance of perforated gastric ulcer, as judged by its frequency, is therefore insignificant in comparison with the more common emergencies of acute abdominal disease. As judged by its mortality, on the other hand, it is second to none, ranking with such essentially fatal lesions as volvulus and mesenteric embolism. Like volvulus, however, perforated gastric ulcer, practically fatal if unrelieved, permits a cure by surgical measures if they are applied early. It seems therefore important to call particular attention to the very first signs that indicate a perforation of gastric ulcer, and to emphasize the urgency of immediate surgical intervention.

Unless protected by limiting adhesions, gastric contents escape either into the general peritoneal cavity, and cause general peritonitis, or into the lesser peritoneal cavity and cause general peritonitis or localized (subphrenic) abscess. Guided by limiting adhesions, the gastric contents may perforate the diaphragm and invade the pleura or the pericardium. They may escape into other viscera. We are chiefly concerned, however, with those perforations which gravely threaten life,—cases in which intervention to be successful must be practised within a few hours; cases in which the general peritoneal cavity is flooded as the immediate result of the perforation. Other and less fulminating forms of gastric extravasation may require operation. A consideration of them would exceed the limits of this paper. Suffice it to say that, as the result of perforations, the surgeon may be called upon to operate upon localized peritonitis, subphrenic abscess, pleurisy, pericarditis, and other septic complications of gastric ulcer which from their nature are usually slow in inception and in progress, and which give ample time for study.

Although infections of the lesser omental cavity are always serious, and not infrequently fatal, it is rather the infection of the general peritoneum to which I invite discussion. The physical attributes of a gastric ulcer which has perforated into the general peritoneal cavity are such that there is practically no hope of spontaneous closure. Moreover, however strong and extensive limiting adhesions may be, once broken, they present no obstruction to the most widespread peritoneal devastation. If the stomach is full at the time of perforation, as is generally the case, the whole peritoneal cavity is at once flooded, and the flooding continues as long as there is anything in the stomach to escape. The chances of recovery under medical treatment are hardly worth considering. They depend upon limitation of the infection within the possibilities of successful absorption,—upon confinement of the extravasation to small areas—to the upper or to the lateral half of the abdomen, for example,—and upon a vigorous and absorptive peritoneum. Beyond this desperate chance, there is no hope of recovery.

Nevertheless, patients with perforation do recover. At least 12 such cases have recovered perfectly,[3] though perforation had undoubtedly occurred. On the other hand, large numbers are saved by operation. Though the mortality after operation is still excessive, even in the hands of the most skilful, the results from year to year are improving. The mortality varies between wide limits, as shown by Bidwell.[4] The cases collected by Bidwell numbered 55. Of these 33 were cured,—a mortality of 40%. Bidwell quotes Mikulicz, who collected 103 cases, with 33 recoveries,—a mortality of 67.9%; Parisier, 99 cases, with 33 recoveries,—a mortality of 66.6%; Comte, 65 cases, with 19 recoveries, or a mortality of 70.76%; a total of 494 operations with 172 recoveries, or a mortality of 65.2%. Of Mikulicz' 103 cases, 35 were operated upon before 1894, with only one recovery,—a mortality of 95.15%. The 68 cases (Mikulicz) operated on since that date showed 32 recoveries, or a mortality of 52.94%. Bidwell, adding his cases to the recent ones of Mikulicz, gets a mortality of 47.15%. According to Weir and Foote, the mortality is 71%; but of those operated on in the first 12 hours, 39%; between 12 and 24 hours, 76%.

F. B. Lund, of Boston, has recently reported the successful suturing of a perforated gastric ulcer. In his paper,[2] Dr. Lund gives the following statistics:

	Cases.	Recoveries.
Richardson (in Dennis' System of Surgery) to 1896	39	10—23%.
Farrar Cobb (unpublished) 1894 to October, 1897.	98	50—51.
F. B. Lund, 1897 to October, 1899	40	28—71.
Totals,	177	88—45.
CASES OPERATED ON WITHIN 12 HOURS.		
Richardson and Cobb (prior to 1897)	45	35—78%.
F. B. Lund (1897 to October, 1899)	14	12—86.
Totals,	59	47—79.
CASES OPERATED ON WITHIN 24 HOURS.		
Richardson and Cobb (prior to 1897)	70	44—63%.
F. B. Lund (1897 to October, 1899)	26	19—73.
Totals,	96	63—65.
Cases collected by Farrar, Cobb, 1894–1897 (unpublished)	98	50—51%.
Cases collected by F. B. Lund	40	28—71.
Totals,	17	

My personal opinion is that the percentage of recoveries is too high, because of the failure of operators to report early their fatal cases. Their successful ones are more likely to appear than their unsuccessful ones. The results at the Massachusetts General Hospital up to the present time show but 1 recovery in some 10 cases. The large mortality at the Massachusetts General Hospital has been due to the general peritonitis

[2] Joslin and Greenough, *Jour. Med. Sci.*, August, 1899.

[3] Weir quoted by Warren.

[4] *Am. Jour. Med. Sci.*, Sept., 1899, page 264.

[2] *Boston Medical and Surgical Journal*, Jan. 11, 1900.

existing at the time of admission, for none of the cases there have been operated upon earlier than 24 hours after the perforation. The prognosis is really that of operations upon fully established peritonitis, when none but a high mortality can be expected.

Success depends upon the promptness of intervention. When the abdomen has been opened in the first hours of the extravasation, before general peritonitis has got under irrepressible headway, cleansing of the peritoneal cavity and closure of the perforation has in a large percentage of cases been successful. On the other hand, in late interventions the mortality has been and still is excessive. The death-rate of general peritonitis, and the results are the measure of one's success in treating that formidable disease.

In general peritonitis the prognosis after operation depends upon many things, but chiefly upon the nature and extent of the infection. In the commonest of forms—that caused by a perforation of the appendix—the microorganism is usually the colon-bacillus. Doubtless in many cases other bacteria are present, and in some they exert the chief influence—the streptococcus, for example, the diplococcus of Fränkel, the Bacillus mucosus of Friedländer. Of the last there have been several examples at the Massachusetts General Hospital, the source of the infection being usually the appendix; once its source was an acute pancreatitis. The prognosis depends, too, upon the amount of infection material, the rapidity with which it is extravasated, the strength and extent of limiting adhesions. The so-called fulminating peritonitis is in my opinion dependent rather upon the amount and rapidity of the extravasated material than upon the virulence of it; rather upon the rapid and abundant escape of infectious fluids than upon the wide reproduction of virulent germ-colonies spreading from a limited focus throughout broad areas,—a sudden overwhelming of the abdominal cavity, rather than a spreading invasion. In the one case the peritoneal cavity is immediately flooded to its remotest areas; in the other it is infected coil by coil. I have seen such flooding in large perforations of the appendix close to a cecum distended with fluid contents; in the sudden rupture of ulcers through distended intestinal walls, and in perforations of well-filled stomachs;—in all, the onset of peritonitis is the same, and it may well be called fulminating, for but a few seconds are necessary to flood the farthest confines of the abdominal cavity. In small perforations of distended viscera, or in large perforations of empty ones, the infection is the slow spreading of a limited quantity of poison, and in many cases a reproduction of virulent germs gradually invading fresh areas of the peritoneum,—the latter a process which at any moment may be successfully opposed by adhesive barriers; the former one which cannot from its very nature be restrained.

In considering the perforations of gastric ulcer we are thus brought indirectly to consider general peritonitis. In many cases, as I have said, especially in those of slow extravasation, adhesions rapidly form which limit more or less the contaminating flow. They especially protect those areas of the peritoneum which are anatomically more or less isolated,—the lower half from the upper by the transverse colon and its mesentery; the one half from the other by the mass of intestines and their mesentery; the general peritoneal cavity from the pelvis by gravitation, intestines, and so on. Not that these limitations present more than a feeble barrier, yet a barrier which before a slowly-extending extravasation may be successfully fortified by rapidly forming adhesions.

The mortality depends, therefore, upon the strength and extent of limiting adhesions even in what is apparently a general peritonitis, for just enough of the general peritoneal cavity may remain unaffected to make the difference between a fatal and a grave toxemia. It is possible that the 12 recoveries without operation may have been cases of this kind. The prognosis depends then, in the first instance, upon the rapidity and extent of the extravasation, and upon the nature of the germ. It seems, therefore, clear, from reasoning as well as from experience, that in the perforations of gastric ulcer early intervention is especially indicated, and that a general peritonitis of fatal dimensions can be averted only by mechanical cleansing of the infected areas, and closure of the perforation.

In fully established general peritonitis from perforating gastric ulcer intervention is demanded unless the patient is hopelessly moribund. The most important question becomes then, What are the symptoms of perforated gastric ulcer? and what are the very earliest symptoms which demand intervention.

The first symptom of perforated gastric ulcer is severe pain situated in the epigastrium, radiating into the back, the shoulder, the groin, or in other directions. The pain is described by many strong adjectives such as *great*, *violent*, *sharp*, *shooting*, *severe*, *excruciating*, *agonizing*, *bursting*, *fearful*, *terrible*, *dreadful*, *awful*. It is immediately recognized by patient and onlooker as something serious,—something quite beyond the ordinary. As the immediate result of the pain the patient gives expression to it in writhing, jactitation, cries, and groans. Syncope and shock may rapidly follow; the patient may be reduced in a few moments to extreme collapse. The pulse rises, the temperature falls, the respirations become hurried and shallow. Vomiting soon ensues, and increases the pain and shock by increasing the extravasation. The epigastrium becomes rigid, tender, and prominent. The whole abdomen soon shares in the septic process, except in those rare instances when the escape of fluids is successfully resisted by the formation of adhesions.

By this time the shock has become extreme; the patient, overwhelmed by the violence done the peritoneum, often becomes rapidly moribund. In rare instances the shock of the perforation is increased by hemorrhage. This combination of the two great emergencies of gastric ulcer is extremely rare. In the only case I have known death took place in a very short time before operation could possibly have been performed.

When seen a few hours after the perforation the patient, in favorable cases, will have rallied from the initial shock, the pulse will have fallen, the temperature will have reached or exceeded the normal. The pain and tenderness will have become more general. There will be rigidity of the abdominal muscles, more especially marked about the epigastrium; general tympany and beginning distention. Vomiting will be continuous. The liver-dulness will already have been replaced by the tympany of escaped gases. In general strength the patient will have gained sufficiently to warrant the exploration which these symptoms cannot but demand.

The symptoms of general peritonitis quickly become fully developed and mask the original lesion. By the

ıd of 12 hours, and often sooner, the infection of the rst few moments has become a peritonitis under full eadway. The general peritonitis will present the usual ıaracteristics of the fulminating type.

The diagnosis of perforated gastric ulcer must be ıade from the immediate symptoms of the perforation, ith or without more or less definite history of gastric lcer. It is hardly necessary to say that with a defiite history of gastric ulcer the diagnosis is easy. Unided by any history of gastric ulcer, and dependent pon the immediate symptoms alone, a strong probaility of perforation can usually be established; yet in ne instance, personally reported to me by the surgeon, wo teachers in clinical medicine, with the surgeon imself, regarded the lesion as an acute appendicitis. might mention many acute abdominal lesions in hich I have been entirely mistaken as to the exact isease. A conspicuous example is given in Case IV, nd I have published many similar errors. The truth s that no exact diagnosis is possible in the early hours f many acute abdominal emergencies. Yet in perfoations of the stomach less than in many acute abdomiıal lesions is error likely to be made.

With a clear history of gastric ulcer the sudden epiastric pain with shock and collapse, distention, rigidity, nd tympany, obliteration of liver-dulness, and promient epigastrium, nothing could be clearer. Sudden ain in the epigastrium, radiating to the back, the houlder, or even to the groin, suggests an infection in the ıpper areas of the peritoneal cavity. Occurring in wonen of early adult life, a perforated stomach-ulcer is trongly suggested. With the symptoms of peritonitis —tenderness, rigidity, obstipation, vomiting, shock—he probability becomes almost a certainty; with evilence of free gas the concluson is almost irresistible. When to these symptoms are added a clear history of astric ulcer, but one conclusion is possible. And yet he diagnosis may be wrong, as shown by Case IV. True, there was no clear history of gastric ulcer, yet here had been not infrequent attacks of epigastric ain.

A wide experience in abdominal surgery cannot but mphasize the difficulties of diagnosis in many acute mergencies of visceral abdominal disease. Indeed, he wider his experience, the more strongly is the surgeon impressed by the difficulties of diagnosis, and the more charitable does he become in judging the mistakes of others. Though he is frequently impressed by the difficulties of interpreting the cause of symptoms, he is equally impressed by the clear necessity for intervention which these same symptoms always indicate, and by the certainty with which they guide him to the lesion, whatever it may be. Each symptom of the previous history and of the acute lesion has its own diagnostic value. Variations from the usual type are so frequent and so great that much study must be given to each symptom and to each combination of symptoms before a correct deduction can be drawn. This consideration is, it seems to me, the most important part of my subject, for upon the ability of the general practitioner to estimate correctly the value of symptoms depends the possibility of early and successful intervention.

When the symptoms of peritoneal infection are definitely localized in the upper abdomen, the previous history of the patient is of the utmost importance. There may be a typical history of gastric ulcer. Pain some hours after eating, relieved by taking food, or by pressure; vomiting, sometimes of blood; tarry stools, tenderness in the epigastrium, anemia—such a history followed by acute epigastric pain with shock means a perforated gastric ulcer. A previous history of bloody vomitus, even without any other symptoms of gastric ulcer, adds the necessary evidence of perforation if local signs of the latter are present. A previous history of "stomach trouble," of slight and transitory pain, of trivial gastric symptoms, generally acquires great weight in the presence of signs of perforation.

The complete absence of previous history, however, deprives local signs of gastric perforation of much of their significance; under these circumstances perforation of the stomach can only be suspected.

The significance of the symptoms due directly to perforation is great. Chief among them is pain. Sudden violent pain in the epigastrium, or in either hypochondrium, always suggests a perforation of the stomach, generally of a gastric ulcer. Without shock or other signs of peritoneal infection, pain in this region has little significance as an indication of lesions demanding surgical intervention. With shock and tenderness, the pain suggests strongly a perforation of the stomach, but equally strongly an acute pancreatitis. It may indicate, in rare instances, an acute cholecystitis, a perforation of the duodenum, or of the transverse colon. The pain may mean the rupture of an abscess of liver, diaphragm, pleural cavity, or lung—lesions which must have presented previous symptoms.

We should expect difficulty at times, therefore, in discriminating between perforation of the stomach and those acute lesions which may exist without special symptoms. As a matter of experience such difficulties really exist, as in Case IV. A rare possibility which must be remembered, when the abdomen is opened for pain, shock, and tenderness, is portal thrombosis or portal embolism. Finally, in exceptionally rare instances nothing whatever may be found.

In a recent case referred to in a paper before the Maine Medical Society on "Acute Abdominal Symptoms Demanding Immediate Surgical Intervention," violent symptoms in the epigastrium in a man of 49, suddenly occurred during convalescence from a fracture of the leg. Had not the man been moribund when I saw him I should have opened the epigastrium for the violent pain, vomiting of blood, tenderness, and distention with which he had been suffering. The autopsy showed nothing abnormal in the abdomen, the death having been caused by multiple infarcts of the lungs.

Acute pain, with shock, tenderness, and rigidity in upper abdomen, vomiting, with the history of even the mildest of dyspeptic symptoms should incline the opinion toward perforation rather than toward other acute lesion high up in the abdominal cavity. Without pain, acute epigastric symptoms cannot be caused by a perforated ulcer. Pain is therefore the most important symptom of perforated gastric ulcer. It is also a most common symptom of everyday life. Are we to make a diagnosis of some acute lesion demanding immediate surgical intervention because of pain alone? Shall we not some day open the abdomen for pain dependent upon an error in diet? We shall, unless we learn to weigh the pain itself, and especially the symptoms that precede and those that accompany it. Pain, no matter how severe, unattended by peritoneal shock; *i. e.*, elevation of pulse, normal or depressed temperature, rigidity of muscles, tenderness, does not

demand, it does not even justify, intervention. It may be a gastralgia, a simple colic, a gallstone traversing the biliary tract. Even when preceded by a history of gastric ulcer, pain without the symptoms of infection above enumerated does not justify the diagnosis of perforation, or, indeed, of any other acute septic extravasation. On the other hand, pain with these symptoms, and especially with a history, no matter how indefinite, of previous gastric disturbance, means a perforation of the stomach, or some equally serious lesion, and demands instant intervention. The other symptoms of perforation have a value to be estimated only in connection with the pain, or with the history, or with both. They are all caused by an infection of the peritoneum, and they are the symptoms of what is too often allowed to become a fatal general peritonitis.

When the diagnosis of perforated gastric ulcer is reasonably certain, or when, if there is uncertainty as to the exact lesion, it is clear that there is some acute and dangerous lesion under beginning headway in the upper abdomen, the duty of immediate intervention is clear. An objection lies in the possibility of unnecessary operation, for the chagrin is great, though the danger is slight, when the patient has been subjected to unnecessary risk. In spite of the possibility of such an occurrence, the greatest good to the greatest number will be done by operation when the conditions described in the foregoing paragraph exist.

I might give in detail many cases to emphasize the difficulties of determining the exact lesions of the upper abdomen. Suffice it to say that, in my opinion and experience, the diagnosis in some cases is a matter of conjecture rather than of precision. Yet it must not be concluded that one is often, or even frequently wrong. The typical case is easy, the atypical difficult of diagnosis; but the former, vastly exceeding the latter in frequency, enables us usually to form a correct deduction.

The median incision between the ensiform cartilage and the umbilicus permits a more extensive and satisfactory exploration of the upper abdomen than any other. It should be used in all obscure symptoms of this region, because it permits examination of stomach, gallbladder, pancreas, spleen, and kidneys. In case lesions to one side are discovered, a second incision may be indicated, but through the median cut more possibilities are provided for than through any other. When the symptoms point, however, to a definite area of the upper abdomen not easily accessible by a median cut, the opening may be made directly over that area. By the median route one meets with evidence of underlying trouble the moment the peritoneum is reached, for it will bulge into the wound, forced upward by gas, serum, blood, gastric or intestinal contents, or whatever may make up the extravasation. These abnormal fluids may be looked upon as a sure indication of an organic lesion of some kind: gas and intestinal contents pointing to extravasation from the alimentary tract; blood to the pancreas; pus to ruptured abscesses; turbid serum to a beginning peritonitis; simple serum to almost any lesion, acute or chronic; bile to a ruptured gallbladder. The direction of search will be determined by these fluids, and time should not be lost by general explorations. Gas, with or without intestinal contents, indicates an immediate search for a perforation; first of the stomach, next of the transverse colon, and last of the duodenum.

When bloody fluids are found, the lesser omenta cavity should be opened at once and the pancreas examined; when bile, the region of the gallbladder. N other fluids possess value as guides. Pus, turbid serum simple serum, may have their origin in almost any lesion of the upper abdomen, and search for that lesio should be systematic, and in the order of accessibility the viscera of the greater omental cavity being explored before breaking into the lesser.

In suspected perforations of the stomach the anterio wall should be closely examined, both by inspectio and by the fingers. It may be possible to determin the situation of an ulcer of the posterior wall by digita examination before the lesser omental bursa is opened If nothing is found by examination of the anterior wall the omentum should be carefully separated betwee the stomach and the transverse colon. If nothin escapes from this cavity, the diagnosis of perforate gastric ulcer has been a mistaken one, and search mus be made for other causes of symptoms.

When a perforation is found, the first thing to do is t stop further extravasation; the second, to remove fluid already escaped; and the third, to annul as perfectl as possible the injury already done the peritoneum, an to provide against an advancing peritonitis. Were al patients strong enough to stand painstaking method of doing these things, the treatment of perforation would be simple. Most patients, however, are in a con dition that demands the simplest and most rapi methods of closure—methods in which security mus be sacrificed to speed, suturing to gauze-drainage, care ful cleansing to brief irrigation. In other words, th surgeon must use his judgment in the selection o methods, remembering that the patient who survive hasty efforts at repair is better than he who succumb after the slow fitting of a perfect joint; that in des perate cases after simple incision of the abdominal wal irrigation and drainage are sometimes better than perfected technical operation from which the patien emerges moribund. It is by such considerations a these that acute adominal emergencies test the sur geon's judgment and common sense. On the othe hand, the operator must be on his guard lest he under estimate the patient's strength, and fail to apply hi remedy as thoroughly as he might. Furthermore, h must remember that there are abdominal lesions whic must be carefully and thoroughly repaired, regardles of the danger of a prolonged technic, cases in whic failure to remedy completely the disease cannot fail t cause death. In such mechanical diseases as vol vulus, mesenteric embolism and thrombosis, interna strangulations of the intestines, for instance, gan grene of the coil, cannot but result; these are lesion in which the least that can be done is to make an arti ficial anus.

So in perforations of the stomach the least that ca be done is to provide an outlet through the abdomina wall for the escape of extravasated fluid, to protec from further contamination the lower abdomen wit gauze barriers, to drain with gauze wicks to the seat c perforation. In favorable cases, on the other hand time may be safely taken for the most thorough an painstaking methods. The folly of applying ide operations to desperate cases has been too frequentl illustrated by death upon the table. When the pa tient's condition justifies the time necessary, carefu closure of the perforation by one of several method may be accomplished, according to the seat and size

e opening, the plasticity of the gastric wall, the de-ability of total excision of the ulcer.

The occasions when the perforated ulcer should be tally excised cannot often arise. The ulcer must be sily accessible, of small dimensions, surrounded by eas of healthy stomach. The patient must be in od condition. Such a favorable combination of attrib-es, both local and general, will seldom be met. Even hen it is, the wisdom of selecting a procedure of great fficulty and danger must be questioned. Though we ive on the one hand possibilities of immediate and rmanent cure, both of the ulcer and of the perfora-on, yet on the other we have greater possibilities of covery from the perfora tion and good prospects of timate healing of the ulcer. We must contrast the ngers of the speedy with the safety of the tedious nvalescence.

In the present state of our knowledge it seems me clear that complete excision of a perforated stric ulcer must be reserved for those rare cases which no other method is satisfactory; that so tensive and so prolonged an operation is seldom stified by the patient's condition; and that future ouble, though possible, is not likely to occur.

Direct closure by inverting the edges of the ulcer is e simplest and quickest method of repair. If the ening is small and the gastric tissues are pliable, the le may be closed by a purse-string suture. If the ening is a quarter or half an inch in diameter, inter-pted Lembert sutures may be introduced half an inch tside the ulcer. A considerable bite of tissue should e taken, the needle emerging, say, quarter of an inch arer the perforation. On the other side the needle is rust in a quarter of an inch from the ulcer and is ought out half an inch from it. Three or four, or ore, sutures, should be thus applied before tying is gun, for a single suture will often tear out of tissues at will hold securely three or four or more. As on as these sutures, or all that may be necessary, e applied, the ends may be pulled upon and the in-rted edges of the perforation brought together, when e knots may be tied. Once in secure apposition, ad-itional end-sutures may be used, and a second row ay be placed over all. If the sutures are tied as soon they are put in, the tension may cause them to tear t as fast as they are applied. When all are introduced fore they are drawn upon, the tension is distributed d they are more likely to hold.

If the sutures tear out when applied close to the per-ration, they must be applied farther away. The rocess becomes then an infolding of gastric wall rather an an inversion of the ulcer-edge. A considerable ea may be thus depressed. The ulcer then projects to the stomach as a sharp fold at the apex of which the perforation. The ulcer itself is out-folded—each alf of its base is opposed to the other half—back to ack. The surface of the ulcer is divided into halves hich look away from each other. What effect this folding of the stomach-wall, this outfolding of ulcer, ay have upon its subsequent course, cannot be deter-ined. In the only case that I have had there was erfect recovery. When it is deemed best to excise odily the ulcer, the surgeon must depend upon his genuity to make the walls of the resulting opening t. A consideration of methods of partial gastrectomy ceeds the scope of this essay.

When the gastric wall about the perforation is exten-vely infiltrated, edematous and friable, excision is out of the question, and infolding may be impracticable. Nothing remains but attempts at control by means other than suturing. In my second case it seemed a happy thought to put a soft-drainage-tube directly into the stomach. Being slightly larger than the perforation, which was clean cut and oblong, the tube made a water-tight closure. It was a protection against extravasation, a means of drainage, of feeding, and of lavage. In a word, the device seemed admirable and would no doubt have succeeded but for a perforation in the posterior wall, which proved immediately fatal.

If closure by suture, by excision, or by drainage-tube is impossible, there remains only the use of gauze. The gauze may be packed spirally about the perforation from stomach-surface to outer wound. This arrangement makes a sort of well, at the bottom of which is the perforation, at the top of wound-margin. A similar disposition of gauze may be made by applying numerous strips long enough to reach from the margin of the perforation to and outside the abdominal incision. The strips in contact with or overlapping each other radiate from the gastric walls about the perforation to the edges of the abdominal cut. I have several times been forced to this method of controling extravasations in which closure was impossible, especially in perforations of the intestines and after incision of the common duct.

The object in using the gauze is to protect the general peritoneal cavity from further extravasation, and to guide into the outer dressings the fresh extravasations. Between abdominal wall and transverse colon gauze masses will protect the lower abdomen; to right and left of perforation they will prevent contamination about the areas of gallbladder and spleen. In the center straight strands of gauze leading directly into the opening provide full and immediate capillary drainage. In all methods of closure by suture, provision must be made against renewed extravasations, for they are more likely to occur than after extensive resections with suture through sound gastric wall. A few strands of gauze should be left from the suture-line to the outer dressing. Gauze wicks are essential, moreover, for peritoneal drainage.

When the perforation has been satisfactorily closed, the infected area should be carefully cleansed by dry wiping and by abundant irrigation with salt-solution. When the lower abdomen is infected, the incision may be carried below the umbilicus, or a second opening may be made there through which the peritoneal cavity may be thoroughly cleansed. Dependent drainage may be established in the flanks. In a word, the treatment of the general peritoneal cavity must be that of a more or less extensive peritonitis. In my cases, though the peritoneum was apparently infected to its remotest areas, no general peritonitis-symptoms supervened, and the recovery in one case and the death in the other were in no way influenced by it.

The gauze wicks should be removed in four or five days. If the depths of the wound are dry, a small strand only should be reapplied. If the sutures have given way and there is abundant escape of gastric contents, the gauze must be so arranged as to aid rather than to obstruct the escape of fluid. A drainage-tube may be used, though that device has almost disappeared from my own kit. The wound should be allowed to close gradually. In case a gastric fistula results the chief care should be to make the escape of fluid easy.

Spontaneous closure of the fistula may be confidently expected.

The complications of perforated gastric ulcer, besides general peritonitis, are subphrenic or other abscesses. These must be treated as symptoms may at the time indicate. Convalescence is necessarily slow, except when the perforation is securely sutured and the sutures hold. The gastric fistula, like the intestinal, takes a long time to heal.

Feeding must be careful. For 48 hours it must be by rectum; then by rectum and by mouth. Liquids should be given in teaspoonful doses, at gradually lessening intervals. When the perforation is closed by a tube, feeding can do no harm. There can be no intragastric pressure; therefore no vomiting. Lavage is easy and satisfactory. In every way this method makes the after-treatment satisfactory.

The subject of recurrence possesses a great interest; how the history of an ulcer is influenced by suture, by infolding, by gauze drainage; the probable effect of the extensive adhesions between broad areas of peritoneum; the necessarily impaired movements of the stomach, adhesions of pylorus, duodenum, gallbladder, colon, and diaphragm. The answer to these questions must be for the present a matter rather of conjecture than of demonstration.

My first patient with suspected perforation of gastric ulcer I saw in 1888. The questions which arose in connection with that case are unsettled today. It seems of interest, therefore, to review briefly the case in the light of present knowledge.

CASE I.—The patient was a healthy man of 34, who, after a week's malaise, attended by chills and sick-headache, was seized with severe pain in the left upper quadrant of the abdomen. There was vomiting, distention, tympany, and fever. The pain was controled by morphin, and, with the temperature and other signs, gradually subsided. It was five days before the bowels could be moved. He became perfectly well. Six weeks later a similar attack occurred. The pain was in the same place as before. The attack subsided slowly. It was two or three weeks before the patient was in perfect condition. Before each attack he had taken food difficult of digestion.

The third attack was like the other two. It began suddenly with pain, which was increased by violent retching. The temperature was normal; the pulse 92. The following day he vomited half a cupful of blood. He felt so much better that he wanted to get up. The pain was much less, though there was distention and constipation.

On the third day the pain recurred, with vomiting of coffee-black material and a little bright blood. The pulse was 96; the temperature 99. On the fourth day distention had subsided; deep pressure was but slightly painful. The diagnosis of Dr. Tilton, of Lexington, the attending physician, was ulcer of the stomach.

I saw the patient on the third day. There was no tumor, but slight distention, no fever. There was a tender spot beneath the margin of the ribs on the left side. There was no good reason for operating, for the patient had steadily improved for two days, and was still improving. Hemorrhage seemed an insignificant factor in the prognosis. The diagnosis of gastric ulcer was clear. The patient's general condition was good. Even today, with such a history and physical condition, the advisability of intervention would be questioned. Indeed, operation would be contraindicated, for intervention is justified only when hemorrhage threatens life by its immediate violence or by a slowly progressive anemia. There was, however, but slight hemorrhage and moderate pain in a patient who had had no occasion whatever for continuous medical supervision.

The patient died suddenly within a day or two. At the autopsy there was found on the posterior wall of the stomach an ulcer which had perforated. There had been an extensive hemorrhage and a localized peritonitis, from which a fatal general peritonitis had followed.

This seemed to me at the time a remarkable an valuable case. The question of intervention which the arose was the one which now, 10 years later, is bein actively discussed. I wrote at the time: "The que tion of operative interference in cases of this kind very important, and, I believe, had the symptoms bee at all urgent, it would have been imperative to ope the abdomen. The patient was getting better at th time, and seemed to be quite comfortable. The pe foration and hemorrhage from which he died came o very suddenly, and could not have been foreseen."

This view of the case seems to me a sound one t day. The only time when exploration was indicate in this case was when there was pain, vomiting, disten tion, fever, and obstipation. With such symptom clearly caused by some epigastric lesion, interventio it seems to me, is indicated. When, however, the symptoms are rapidly subsiding, exploration should made, if at all, after the cessation of acute symptom

CASE II.—Charles M., aged 22, a patient of Dr. King, w admitted to the Brockton Hospital on October 28, 1898. first saw him at 11.30 on the morning of that day.

The preceding forenoon (October 27) he was thrown fro a bicycle, but not violently or with any strain. For 3 wee he had been having, 2 hours after eating, attacks of abdon inal pain situated at the left of the umbilicus, and lasting hour. The day before admission, at 5 P.M., he was seiz with severe pain in the same region. Following the pa the patient became collapsed, the temperature 95°, the pul 64. He began to vomit, and vomited all through the nigh The vomitus comprised first the contents of the stomac then bile. There was no blood. The bowels had been loo 4 or 5 movements a day, for a week or so. Soon after t onset of the pain the abdomen became everywhere rigi There was great tenderness in the epigastrium and about t umbilicus. There was marked peritoneal facies. On t day of the attack the patient ate for dinner (at 12) corn beef and cabbage, half a box of sardines, potatoes, minc pie, and cake.

I found a muscular young man, vomiting at frequent i tervals a bile-colored fluid. Every abdominal contraction vomiting caused expressions of great pain. The abdom was everywhere rigid, but especially so in the upper ha The pulse and temperature were rising. There was no live dulness. It seemed probable that an extravasation from t alimentary tract had taken place, on the chances, high u and that the perforation was probably in the stomach. T incision was therefore made above the umbilicus. The m ment the peritoneum was opened, there was a burst of g followed by bile and purulent fluid. The fluid was app ently more or less confined in front of the omentum. T viscera presenting in the depths of the wound after the fi escape of fluid were all brightly reddened. The congest areas were here and there obscured or completely hidden deposits of lymph. The under surface of the liver was e tirely covered by lymph, which extended across the anteri wall of the stomach and to an indefinite extent upwa The subphrenic region was apparently walled off more less by adhesions about the lymph-covered areas. Explo tion upward with the fingers gave exit to large quantities fluid which had the gross characteristics of healthy, unco taminated bile. The bile poured out of the wound in exc sive amounts. It was soon found that it was escaping fr the stomach through an opening in the anterior wall not from the pylorus. The fluids were carefully removed means of gauze sponges. When the depths of the wou were comparatively dry, the situation and dimensions of t opening were easily made out. The perforation was ab 3 inches from the pylorus; it was a clean-cut, oblong ho $\frac{1}{3}$ by $\frac{1}{4}$ in., from which bile gushed with each respirat movement. The stomach at this point was intensely r dened; the liver, gallbladder, and all contiguous peritone were covered with greenish exudate.

The fluids were sopped up with large masses of gau until the field was comparatively dry. The opening in t stomach was closed with great difficulty. Direct inversi of the edges of the ulcer and suturing were impossible

cause the gastric wall was thickened, stiffened, inflexible, and friable, and the sutures tore out as soon as an attempt was made to tie them. Closure was finally accomplished by inverting a considerable area of gastric wall, a breadth of an inch each side, right and left of the ulcer, giving sufficient flexibility for firm suture. When brought together, these right and left surfaces made a line at right angles with the long axis of the stomach. The effect of this method was to depress a considerable area of the external surface of the stomach, and to cause the surface of the ulcer to project as a sharp fold into the lumen of the stomach. The whole abdominal cavity was cleansed as thoroughly as possible by prolonged washing with salt-solution. The infection had extended into the flanks, especially the left. Gauze wicks were left for drainage—one above the stomach, one over the first line of sutures, one in each flank, and one toward the pelvis. Though the prognosis seemed positively hopeless, the patient coming out from his ether in desperate condition, he made a perfect recovery and remains well.

Case III.—The second case of perforation occurred also in the service of Dr. King of Brockton. The patient was a widow, Kate B., aged 27. She was admitted to the Brockton Hospital on Wednesday, November 17, 1898. She had had 3 children; no miscarriages. She had had "milk fever" when 19 years old.

The family history was negative. For 5 or 6 weeks before the present attack her stomach had been "out of order." It was sour, and felt uncomfortable most of the time. There was nausea and vomiting, with pain every day; but these symptoms did not occur at any regular hour, nor did they seem to have any especial connection with taking food. Two years ago she says she had an attack of "inflammation of the stomach," which was similar to the present one. She then had nausea, vomiting, soreness over the stomach, and pain.

For about a week before admission to the hospital she had been sore over the epigastric region. On Tuesday, November 15, at about 5.30 P.M., while cooking, she was seized with sudden, severe pain in the left shoulder and beneath the left shoulder blade. That morning she had taken no breakfast at all; for lunch she had soup at 3 P.M. The pain extended from the shoulder into the epigastrium. So severe and sudden was the attack that she fell to the floor in a faint. She was put to bed and given a large dose of brandy. At 6 P.M. she had considerable pain, which was referred to the left shoulder. At 10 o'clock the pain in the shoulder having become extremely severe, Dr. Constance of Brockton was called. At that time some tenderness and distention were noted. The patient was sent to the Brockton Hospital Wednesday afternoon, and was seen in the evening by Dr. King. She then complained of pain in the left shoulder, and pain all over the abdomen, especially severe in the epigastrium. The whole abdomen was somewhat distended, but the distention was greatest in the epigastrium. The tenderness, too, was general, but more marked over the epigastrium. There was no vomiting. The bowels were constipated. The temperature was 99.8°; the pulse 120.

I saw the patient first at 5 P.M,, on Thursday. The above conditions were exaggerated. There was a marked depression extending across the abdomen from the tips of the tenth costal cartilages. Above this line the distention was excessive, below it was inconsiderable. The pulse was 145; the temperature 103°. The color was good, the extremities warm, the pulse of good strength, though rapid. The expression was good, but showing great pain. There was great pain in the left shoulder and in the epigastrium. The normal waist-constriction divided the abdomen into two prominences,—that above tympanitic, tense and tender; that below, soft and painless. The liver-dulness had disappeared. The percussion-note was highly tympanitic over splenic area. It was evident that there was free gas in the abdominal cavity.

The diagnosis was perforation of a gastric ulcer. Operation was advised, though the prognosis seemed hopeless. The intention was simply to incise the epigastrium, wash out rapidly with salt-solution, and drain with gauze wicks.

Operation was performed at 5.30 P.M., Thursday, November 17, 1898. A median incision of 5 inches in length was made between the ensiform cartilage and the umbilicus. It was immediately evident that some serious intraabdominal lesion had occurred, for the tissues of the epigastric wall were abnormal; moreover, the subperitoneal fat was infiltrated with a grayish opaque fluid. When the peritoneum was reached, it bulged into the wound, ballooned by the pressure of gas free in the general peritoneal cavity. As soon as the peritoneum was cut there was a puff of odorless gas, followed by the escape of turbid serum. The gas and fluid seemed to be confined mostly to the upper part of the abdomen,—to the portion above the line of constriction. About the stomach, liver, gallbladder, omentum, and transverse colon were recent adhesions. All these structures were intensely reddened and more or less covered with recent exudations.

The lower half of the abdomen was first thoroughly walled off with gauze. All adhesions about the stomach were then separated, whereupon thin, flakey pus escaped, with some gas; then a clear fluid, and finally what looked like coffee-grounds. Its source was a perforation in the anterior wall of the stomach, situated at about the junction of the upper and middle third of its transverse axis, and at the junction of the upper and middle thirds of its longitudinal axis.

The opening in the stomach was about $\frac{1}{2}$ by $\frac{1}{3}$ in. in dimensions. The peritoneal edges were sharp; its general appearance that of having been punched out of a thickened, congested and edematous stomach-wall.

Before attempting to close the opening and prevent further extravasation it seemed best to remove what had already escaped. The opening was therefore closed with a tightly fitting tube, while the abdominal cavity was repeatedly washed with salt-solution. When the abdominal cavity had been sufficiently irrigated, the tube was withdrawn from the opening in the stomach, which it had closed effectually. It was found impossible to close this opening, even by inverting considerable areas, as in the preceding case, for the stomach-wall was so friable that all sutures immediately tore out. Not only was excision of the ulcer impracticable, but even prolonged attempts at closure, for the patient's condition forbade. It seemed a happy thought to reinsert the rubber-tube, surround it with layers of gauze, and bring it out of the wound, where it could be used either as a safety-valve for the escape of gastric fluids, or as a means of feeding. The tube in the stomach was then stitched to the edges of the wound and gauze wicks were arranged in different directions for effective peritoneal drainage. The opening of the tube was closed by means of a plug. The lower part of the wound was closed with silkwormgut sutures and a dry dressing applied. The patient was in a wretched condition at the end of the operation,—the pulse was 200, weak; the respiration rapid and shallow.

On the following day the patient was not only alive, but decidedly improved; the temperature was 101.5° and the pulse 130. The abdomen was less tender and less distended. The plug in the tube was removed every four hours, for lavage and for feeding. There was no vomiting.

During the following six days, the patient continued to improve. The temperature dropped to 99.5° and the pulse to 108. The tube was removed permanently from the stomach. There was constant escape of gastric contents, mixed with "coffee-grounds" fluid. Food was given by the mouth—milk and whey—in small quantities.

The patient's condition at this time encouraged the hope that she would ultimately recover. It is a matter of deep regret that on November 25, after doing extremely well, she died suddenly with a renewal of her original symptoms. At the autopsy a second ulcer was found on the posterior wall, just opposite the first. Its situation suggested a perforation from the pressure of the tube. Careful examination of the ulceration, however, disproved this possibility, for the perforation was situated at the center of a considerable ulcerated area.

Case IV.—Miss Myra M., aged 15, a patient of Dr. Clarke, of Holyoke, had suffered from several attacks of pain in the epigastrium. There had never been any gastric symptoms after eating, and nothing to suggest a gastric ulcer. She sometimes would have the epigastric pain before breakfast. She would pass gas, and then the pain would immediately cease. There had been numerous instances of this. Appendicitis had never been suspected. There had been no vomiting at any time except the day before my visit. In fact, but for these attacks of sudden, transitory pain, she had been a remarkably healthy girl. There had been no

connection between the stomach-pain and the menstruation. In the early morning hours of July 17, 1899, she was taken with pain in the epigastrium extending all over the abdomen. There was pain in the side of the abdomen, too, but no tumor could be felt. The epigastric pain was accompanied by tenderness in the same region. I saw the patient about 5 o'clock in the afternoon of July 18. At 10 that morning the temperature was 100.6 and the pulse 120. From that time the pulse continued to rise, until at 6 P.M. it was 160, barely perceptible.

The patient was a strong, well-nourished girl. There was marked peritoneal facies. The pupils were small, the cheeks flushed. There was no restlessness and no vomiting. The hands and feet were warm, the tongue clean, the color bright. The pulse was very feeble at 156. The temperature was 100.5°. The epigastrium was very prominent, though the distention extended over the whole abdomen. The prominent epigastrium was rigid and tender. The lower abdomen and the right and left iliac fossae were less rigid and less tender. Deep pressure could be made over the right iliac fossa without much complaint. Pressure over the epigastrium was painful, and elicited cries, even when the patient was partly chloroformed. The area of liver-dulness was small, but there was no tympany over the liver. The rectum was ballooned. Deep pressure to the right caused pain, but no tumor in the region of the appendix could be felt.

I felt great hesitation about operation because the patient seemed moribund. The diagnosis was general peritonitis from perforation of the stomach. It was thought possible, however, that it might be appendicitis. After considerable discussion I decided to open the abdomen in the epigastrium, and later below the umbilicus if nothing was found wrong with the stomach. This was to be done either under chloroform or under cocain-anesthesia. Even under chloroform the epigastrium was still rigid and prominent. A rapid median cut was made 3 inches in length. As soon as the sheath of the rectus was cut, the peritoneum ballooned upward. It apparently was distended with some dark fluid. When the peritoneum was cut there was an abundant escape of dark, bloody fluid. There was no gas or food in the peritoneal cavity. The omentum presented in the wound covered with white flattened spots. The stomach above felt abnormal. The region of the pancreas was occupied by a thickened, resistant, and friable mass. It was evidently a case of acute hemorrhagic pancreatitis with localized fat-necrosis.

The lesser omental cavity was opened, and gauze strands were placed there. Other strands were placed about the stomach,—five in all, for the purpose of drainage.

After operation the pulse was 132. The prognosis was very unfavorable. To my surprise the patient recovered from the operation.

This patient lived four weeks, and was doing well. There was abundant discharge from the wound of what seemed to be pancreatic fluid. The patient died suddenly on August 24. The cause of death is uncertain.

This case is given because it illustrates the difficulties of diagnosis in epigastric extravasations. Although there was no history of gastric ulcer, yet a perforation of gastric ulcer seemed much more probable than any other acute lesion in that part of the abdomen. Acute hemorrhagic pancreatitis is so rare a lesion compared with the perforation of a gastric ulcer, especially in a young girl, that it never occurred to me that such a condition could be present. I give the case thus in detail to illustrate the difficulties of diagnosis of perforated gastric ulcer.

Cases I and II are the only ones in which I have operated for ulcer of the stomach. For cases of gastric ulcer uncomplicated by perforation or by hemorrhage, I have advised medical treatment rather than surgical. It seems to me clear that the best results are thus far attained by treating gastric ulcers medically, surgical intervention being reserved for those cases, in which perforation takes place, or in which hemorrhage is excessive. Even in hemorrhage, surgical intervention is not always indicated, for in many instances bleeding ceases of itself, and patients recover, who would undoubtedly succumb under the additional burden of operative shock.

Resection of gastric ulcer may, however, justify or even demand operation when a patient is slowly but surely dying from impaired nutrition and repeated hemorrhages. In no form of surgery, it seems to me, is good judgment and common sense so essential as in that of stomach ulcer. In none is surgical intervention when urgently demanded more brilliant; and in none when indiscreetly applied is it more to be condemned.

If all cases of gastric ulcer were treated, for instance, by excision and suture, I have no doubt that the results would be much worse than if all were treated medically. If all cases of perforation could be immediately explored, a considerable percentage of cases, otherwise fatal, would be saved. Yet under circumstances permitting the least delay, as in hospital cases, where help is always at hand, the mortality after surgical intervention is still excessive. Were it possible to pick out the cases especially liable to perforation or to hemorrhage, operation upon them would doubtless diminish very materially the present mortality. Unfortunately, as some of these cases show, not only can perforation never be predicted, but the existence of the ulcer itself may not even be suspected.

ACUTE DILATION OF THE STOMACH.*

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A TENDENCY has recently shown itself in high quarters to do away entirely with the term "dilation of the stomach." It has been found impossible during life to distinguish *anatomically* a dilated stomach from a very large normal stomach, and functionally from a small atonic stomach. Some very small stomachs are muscularly so weak that they show all the symptoms of stagnation and decomposition of food, so characteristic of dilation; and, on the other hand, some very large stomachs functionate as actively and perfectly as if their dimensions did not greatly exceed the average. It has therefore been suggested to overlook the mere size of the organ as a clinical criterion and to consider only its muscular efficiency. From this standpoint we should look upon advanced cases of dilation as representing merely extreme degrees of muscular insufficiency, which would be represented in its mildest form by simple atony.

This rearrangement of our nomenclature and clinical conceptions is as unnecessary as it is inconvenient. The word dilation will always remain a very useful term to designate increase of size of the stomach combined with the deficiency of muscular force; and the contention that we have no criterion by which to know that a stomach is really dilated instead of merely large has more of an academic than a practical value.

The so-called megalogastria (giant-stomachs) are by no means common and never were mistaken even by the older clinicians for dilated stomachs. I have therefore clung to the term dilation to represent the concep-

* A paper read by invitation at the Quarterly Meeting of the Cleveland Medical Society, October 27, 1899.

on of an apparent excess of size with marked weakness f motor function.

I had considerable hesitation before selecting the tle of this paper. Dilation of the stomach is a ubject in some respects so threadbare; it has been iscussed and written about so much, that it seems idle o expect to add anything new to it. The classical icture of a dilated stomach hanging sack-like within ne abdominal cavity is so well known to all clinicians hat to dwell upon it once more seems worse than use-ess. Nor would I, indeed, have undertaken my present ask, had it not seemed to me that however familiar the rofession might be with that form of dilation of the tomach which manifests itself as a slow and very hronic disease, the more acute forms of such dilation ere not sufficiently appreciated either as regards their requency or their importance. The less chronic forms f dilation seem to me to be deserving of far more ttention than they have hitherto received, especially s our textbooks pass them by with the merest mention. The recognition of the fact that the stomach may be-ome dilated in the course of a few weeks, days or even ours should become more general, and therefore I hought it might not be unprofitable to direct your ttention to the acuter forms of gastrectasis.

The earliest infancy is not exempt from dilation of he stomach. Quite a number of cases of congenital tenosis of the pylorus have recently been described, n which the stomach becomes distended during the irst few days of life. The tightly closed pylorus allows ittle or no food to pass into the duodenum, vomiting ensues, the stomach, however, fills up with the ingested ood and sometimes forms a prominent tumor occupy-ng the whole epigastrium. The obstruction at the ylorus may consist of an anatomic malformation; it nay be due to a hypertrophy of the ring-muscle of the ylorus or it may be simply functional in character. In the latter case the pylorus may relax, leading to spon-aneous recovery; surgical interference has been re-quired in other cases, but the disease is usually fatal.

Dilation of the stomach due to the overfilling of the rgan with food is by no means rare during the first ear of life. Bottlefed infants uniformly have larger tomachs than breastfed ones. The more ignorant the parent the more liable is the infant to overdistention of the stomach. I have in my collection a stomach of a nine-months-old baby which died of pneumonia; the mother, an ignorant Russian woman, had regularly in-dulged the child in an amazing variety of foods. The stomach when slightly distended measures nearly 14 cm. in its long diameter, this being nearly the average for a three-years-old child.

During the second and third years of life dilation of the stomach is quite common. As Comby has pointed out, rachitic children are especially liable to this affec-tion. All other debilitating conditions in early infancy predispose to it. Weakness of the muscular walls of the stomach is sometimes inherited and all authors recognize this condition as a cause of early dilation. Kundrat[1] states that many children suffer from acute dilation of the stomach due to the filling of the organ either with air which is swallowed, or with gases of de-composition. All pediatrists recognize the fact that gluttony in children frequently induces pathologic distention of the stomach, which may be accompanied by alarming symptoms. This distention may occur in the course of a few hours or days, as the following case, reported by A. Fraenkel,[2] illustrates :

A gluttonous girl, 6 years old, was seized with the symptoms of acute indigestion shortly after eating green peas. On the third day the epigastrium became greatly distended, and the child rapidly sank into a state of collapse. Examination yielded a succussion-splash far down in the hypogastrium, and the stomach gave a tympanitic note four fingers' breadth below the umbilicus. By lavage, a quart of fluid was removed from the stomach and the child slowly recovered, suffering a slight relapse 6 weeks later.

Similar cases are not uncommonly met with in children, and Dr. T. Louis Brown reported a striking example to the Cincinnati Academy of Medicine a few years ago :

A young child had indulged excessively in dried apples, and the subsequent distention of the stomach was so excessive that rupture of the organ was feared. To avoid this contingency a towel was tied around the abdomen. This was gradually tightened and vomiting was induced by tickling the fauces. An almost incredible amount of fluid together with the macerated apples was expelled, and the child quickly passed from a state of intense suffering to one of complete relief. No after-effects were noted in this case.

Acute gastrectasis as it occurs in the adult is a more interesting condition and has been more neglected by medical writers. There is little doubt that when attention is more generally called to it, the number of cases to be reported will be greatly augmented; and it will eventually be discovered that, instead of being a rarity, acute gastrectasis is by no means uncommon; and the recognition of its existence will be a decided help towards an intelligent therapy. I have collected a large number of cases of more or less acute dilation, illustrating chiefly the causes which may lead to this interesting condition, and have grouped them together for comparison according to their etiology.

Direct trauma, either of the nerves supplying the stomach, or of the stomach-wall itself, may cause acute dilation. Dr. Wenner has recently spoken of such a case before your own society, in which dilation followed a gunshot-wound of the spine. Traube was of the opinion that an ulcer of the stomach may lead to dilation by eroding the filaments of the vagus nerve in the stomach-wall itself, but this is probably an erroneous view.

In 1868, Erdmann[3] described an interesting case due to a fall :

A man, aged 18 years, fell backwards quite a distance and immediately afterwards noticed a swelling extending from the umbilicus to the sternum. During the following five days the swelling increased in size; very little food could be taken, as it caused considerable pain in the stomach. Percussion over the area of distention yielded a tympanitic note and was painful. After the fifth day, under the application of iced water and the administration of morphin, the distention began to diminish and food could be taken; on the twelfth day the patient was discharged perfectly well.

That overindulgence in food frequently leads to acute dilation in the young we have already noted. That an attack of acute indigestion in an adult may likewise rapidly produce a serious and permanent dilation the following case reported by Dr. Boas[4] demonstrates :

A gymnasium-student, 20 years old, was perfectly healthy up to the time of a gross error in diet, on December 20, 1893. On the following day he suffered from distention of the epigastrium and belched considerable gas, smelling of sulfuretted hydrogen. Later diarrhea and vomiting set in, the latter recurring every two days. Three weeks later an examination showed that the greater curvature extended a hand's-breadth below the umbilicus and stagnation of food and drink was a prominent symptom. The patient was treated

by lavage and appropriate dieting and improved slightly, but a month later the morning-stomach still contained fluid contents. Unfortunately this patient soon passed from Boas' observation.

Broadbent[5] reported a somewhat similar case last year.

A healthy woman, 35 years old, took a sherbet on an empty stomach one very hot afternoon when she was very fatigued. Twenty-four hours later she began having intense abdominal pain and symptoms of tetany. An examination revealed a widely dilated stomach. Broadbent also tells of an attack of acute dilation affecting a man, 50 years old, who after dining freely, while crossing the English Channel, was taken suddenly sick shortly afterwards on the train.

Unless patients have been under our observation, however, for some time, we must be guarded in believing that the dilation is really acute in onset. It is well known that dilation of the stomach may exist for years without producing any characteristic symptoms, and, as Ewald has pointed out, we may mistake sudden violent symptoms arising in the course of a chronic dilation for the acuter disease. Hotaling[6] has recently published an interesting history of a woman, 63 years old, whose stomach dilated to large dimensions undoubtedly gradually as the result of a cicatrizing ulcer near the pylorus and who had no symptoms calling attention to the stomach until a few weeks before her death.

Several cases have even crept into literature under the title of acute dilation which probably represented mere episodes in the course of the chronic disease. (Veeder;[7] Todd.[8]) In patients whom we have not previously examined, and who have had distinct dyspeptic disturbances, it is well to hesitate before accepting a diagnosis of acute dilation. Sudden obstruction of the pylorus or of the duodenum may lead to acute dilation of the stomach. Compression of the second part of the duodenum by a movable right kidney has been known to lead to excessively violent symptoms of acute gastrectasis. Kinking of the duodenum has produced the same results. Obstruction of the pylorus may be caused by undigested food-masses, or by foreign bodies. Nauwerk[9] gives the history of a 23-years-old girl who ate freely of cherries, at the same time swallowing the stones. Symptoms of pylorus-stenosis rapidly arose, and notwithstanding appropriate treatment the stomach began to dilate and continued to increase in size until death ensued 3 months later. At the autopsy 10 cherrystones were found in the stomach.

It seems probable that spastic contractions of the pylorus may lead to acute and more or less transient distentions of the stomach. This spasm may be due to nervous influences or to an acute indigestion. Lauder Brunton states that he has found a transient condition or gastrectasis probably attended with contraction of the pylorus in cases of sick headache. Henoch[10] describes at length certain cases of acute dilation occurring in young neurotic girls, at or shortly after puberty. The epigastrium remains distended for days or even weeks by the widely dilated stomach which seems to be full of air; the degree of dilation varies from time to time, and as a rule finally disappears entirely after weeks or months of treatment. Probably the air is retained in the stomach on account of spasmodic closure of the pyloric and the cardiac orifices.

A less acute, but a far more important form of gastrectasis, is that which comes on insidiously during the course of any acute disease. Allbutt[11] has dwelt more forcibly than any other writer on the gastric dilation, which is the concomitant, or, more correctly speaking, the cause of lingering and imperfect convalescence from infectious diseases. Very graphically he describes the long-continued feebleness and gradual failing of patients who have recently passed through a severe illness, and very correctly he ascribes this condition to an insidious ectasis of the stomach, an ectasis that seems to be more than a mere atony, the nerves of the stomach having been apparently poisoned by toxins circulating in the blood. This weakness of the stomach is familiar to all pediatrists as a sequel of severe scarlet fever; but its occurrence after other diseases, in adults as well as in children, is frequent enough for it to be considered of the greatest importance. Those who are accustomed to making routine examinations of the stomach will be astonished to note the prevalence of this myasthenic condition after acute diseases. Typhoid fever predisposes the patient to downward dislocation of the stomach, and this is often accompanied by overdistensibility and motor insufficiency. The various forms of septicemia lead readily to the milder grades of gastrectasis, and this remains mild only on the condition that all other circumstances are favorable to a rapid convalescence. Excesses of diet at this time are especially dangerous, leading, in some instances, to rapid dilation with a very violent and dangerous outbreak of symptoms.

William Brinton, in his "Lectures on the Diseases of the Stomach," says that "it occasionally happens that a patient recovering from fever is suddenly seized with intense pain in the belly, which becomes somewhat tympanic, and perhaps tender to pressure; . . . but before the brief lapse of time requisite to develop a peritonitis, he either dies of extreme prostration, or, as in all the cases which I have seen, he recovers with extraordinary rapidity." In these acute cases of gastric dilation the malady is sometimes clearly traceable to an excess of food, but in other instances no such cause is present. The pathology admits of but one explanation, viz., a lesion of the nerve-tissues connected with the stomach. Allbutt insists, with entire justice, that far more attention should be paid to the condition of the stomach during convalescence from all acute or protracted diseases, and he has also pointed out that insidious gastrectasis occurring during the course of an acute disease has in many cases prevented complete recovery, and has led to a tedious state of semi-invalidism extending over a period of months or years. He says: "The physician who does not forget the liability of the stomach to fail in the fight will examine the organ (in some cases of prolonged convalescence) and readily discover the signs of no incipient palsy. In such cases recovery is still possible, but at heavy usury the patient creeps out of his chamber wan, languid and emaciated, and regains his health but imperfectly in a year or two. Not only is the general health slow in returning, but the stomach itself is almost the last part of the body to regain tone and functional vigor. . . . In other cases I need not say that such dilation of the stomach is but one more shaft from the quiver of Azrael; discovered or undiscovered, it is but a part of the company of death."

We shall now enter upon the discussion of one form of acute dilation which seems to be in a class by itself and to constitute a distinct disease *sui generis;* a disease which usually overwhelms the patient by the intensity of its onset and the rapidity of its course; a disease which has proved exceedingly fatal, and whose

xact cause is still mysterious. This form of acute di-ation may arise without premonition in the course of ny acute disease; it has attacked patients recovering rom typhoid fever, from pneumonia, and those affected ith the simplest maladies; it shows a tendency to fol-ow operations upon the abdominal viscera. This affec-ion is deemed by the textbooks scarcely worthy of the nerest mention, and yet it is not exceedingly rare, and he recognition of its existence is of the utmost import-nce for therapeutic purposes, and may lead to the sav-ng of lives.

In 1853, Miller and Humby[12] published the following ase in the Transactions of the Pathological Society of ondon. Mrs. M., aged 48 years, who was well up to he time of the attack about to be described, was seized n the night of March 8, 1852, with a sudden but severe omiting spell, during the course of which she passed nto a state of profound collapse. She vomited large uantities of fluid, filling five basins in the course of he night. She vomited steadily for the three days fol-owing, her abdomen became sunk and depressed, her ongue dry, the feces lumpy. On the 10th of March her ondition grew much worse; the vomiting ceased, the bdomen was distended and yielded fluctuation to pal-ation. Then followed a few days of delirium; the eakness increased, and on March 17, 9 days after the nset, she died. The postmortem examination revealed n enormously distended stomach, filling the whole bdomen. All the other viscera were healthy.

A very similar case, occurring in 1856, was described y Hughes Bennett.[13]

His patient, a young man aged 26 years, had severe bdominal symptoms for 3 days. Violent vomiting ccurred on the fourth day, becoming uncontrolable on he seventh day; on the ninth day the patient died. The only pathologic condition found on the post-nortem table was an enormously distended stomach.

The attention of practitioners was directed to this orm of acute dilation of the stomach by Hilton Fagge[14] who reported two striking cases in 1873. The first case was thus summarized by Fagge:

Acute dilation of the stomach, with paralysis of its muscular oat supervening upon a retroperitoneal abscess communicating with the duodenum; use of the stomach-pump; evacuation of even pints of fluid; return of the stomach to its natural dimen-ions and seat; death from exhaustion. The postmortem ex-mination showed that the pylorus was unobstrueted; there was no trace of peritonitis; about one-half pint of greenish luid was found in the stomaeh, *which was of a normal size.*

The second case, which is far more interesting and nstructive, occurred under the care of Dr. Rees, in 1870:

The patient, a male, aged 30 years, was in the wards of Guy's Hospital, taking ol. morrhuae as a tonic. Very sud-denly, on Deeember 15, 1870, he began to vomit; palpation of the abdomen elieited a loud splash. Urine was seereted in very small quantities, being removed with the eatheter. On the third day he had two stools after an enema. The vomiting eontinued unabated, the vomited matter being a greenish fluid. The temperature beeame subnormal, the pulse very rapid, and on the evening of the third day the pa-tient died of exhaustion. When the abdomen was opened on the postmortem table the stomach was found to fill the whole abdomen, the intestines being erowded into the pelvis. The liver, intestines, kidneys and heart were healthy. *During its removal from the body the stomach was wounded. A thin greenish fluid escaped, and the stomach returned to its normal size.*

In 1883 Henry Morris[15] reported a new case which is strikingly similar to the second one reported by Fagge:

The patient, a valet, aged 37, was operated on, November 11, 1882, for a suppurating ankle-joint One hour after the operation he began to vomit a fluid in large quantities, with-out pain or effort. The vomit was a thin, greenish fluid, unmixed with food, neither frothy nor offensive, and came up in large gushes, being evaeuated with considerable force. The vomiting continued without cessation for forty hours, at least ten pints having been ejeeted. During this period the patient was collapsed, his temperature subnormal, his faee pinehed, the pulse very rapid. Notwithstanding the nutrient enemas eontaining brandy, he died of exhaustion. The postmortem examination revealed a very distended stomaeh, which almost eompletely filled the abdomen, and eontained 28 ounces of thiek, grumous fluid. There was no obstruc-tion of the bowels, no peritonitis.

In 1887 Dr. Tyson reported a similar case before the Sheffield Medico-Chirurgical Society:[16]

The patient, a pregnant woman, aged 41, took a glass of cold milk immediately after some exhausting work. Soon afterwards she began to vomit large quantities of bile-stained fluid. In 36 hours she misearried a 7-months-old fetus. The vomiting continued. All the physical signs as described by Fagge were present. On the fourth day she died of exhaus-tion, vomiting having continued until the end. No post-mortem examination was made.

Another conclusive case, with necropsy, was reported by Schultz:[17]

A farmer's daughter, aged 24, who had previously been strong and healthy, was taken siek in August, 1889, with a vague fever which resisted treatment, and redueed her to a eondition of extreme emaciation. On November 28 she was admitted to the hospital; her temperature was normal, her pulse 84, but marasmus was extreme. With eareful nursing and feeding she improved steadily. After two weeks she took food with relish, had no pains, no nausea. On Deeem-ber 17 she eomplained of intense abdominal pain, and began to vomit; all the next day she vomited a bile-stained fluid and had intense abdominal pain. The abdomen began to be distended on the 19th; the peristaltie movements of the dilated stomaeh were visible through the abdominal wall. On that day she had a normal stool. Her vomiting was in-cessant during the night of the 19th, but ceased on the 20th, when distention beeame extreme, and the patient died of exhaustion. The neeropsy showed an enormously distended stomach, with thin walls. There was no stenosis of the pylorus, the duodenum also being dilated.

In 1891 Dr. D. W. C. Hood[18] reported the following case:

A servant girl, aged 19, was admitted to the West London Hospital, December 24, 1890, suffering from a gumboil; three days later the pus was diseharged into the mouth, and she was apparently convaleseent; on Deeember 28 she developed pneumonia at the base of the right lung; on the 29th she began to vomit a thin, greenish fluid; later in the day the fluid became inky, and at 7.45 P.M. she died. The necropsy diselosed a very dilated stomach, which contained two quarts of fluid. The duodenum and upper part of the ileum were also distended. Both lungs were engorged, and the periear-dium was the seat of a purulent inflammation. The stomaeh-walls were so thin that at places they looked like writing paper.

At a meeting of the Bournemouth Medical Society in 1895 Mahomed read the notes of a necropsy on a case of acute dilation of the stomach. The affection arose during convalescence from pleuropneumonia, and was rapidly fatal. The patient was a volunteer, 20 years of age. Mahomed concluded that, in addition to the loss of muscular power, *excessive secretion from the gastric mucosa is an important factor* in cases of acute dilation.

Another fatal case was reported in 1896 by Albu.[19]

The patient, aged 26, a stonemason by trade, was taken siek with a severe attaek of searlatina on May 20, 1895. Convaleseenee was fully established after the first week. On May 31 the patient, without having indulged in any indis-

cretion of diet, complained of severe epigastric pain, and began to vomit violently. For the first 20 hours vomiting was incessant; at first food was ejected, but later only a thin, greenish fluid. The pulse was small, the intellect clouded. On the afternoon of the second day the abdomen became distended; clapôtement could be elicited; the vomiting ceased. Gastric lavage was practised, but without benfit. The apathy increased. Toward evening the patient became delirious, and died during the night. Albu calls special attention to the existence of two symptoms which mark the last stage of this peculiar disease—the absence of visible peristaltic movements and the cessation of vomiting. These symptoms can be referred to paralysis of the muscular walls of the stomach. The necropsy disclosed the usual condition—an enormously distended stomach containing a greenish fluid. There were no ulcers, scars, nor obstructions at the pylorus. The kidneys showed signs of interstitial inflammation; myocarditis was present. The only possible cause of death was the distended stomach. *Albu thinks the disease is a central paralysis due to the toxins of an infectious disease.*

In the winter of 1895 I had the opportunity of observing a case of acute dilation of the stomach which, in every respect, except the outcome, resembles the cases cited above. I read a description of the case at a meeting of the Cincinnati Academy of Medicine in January, 1897. Following is a brief synopsis of it:

Bessie Lampe, aged 17, of Russian extraction, very well developed and nourished, was admitted to my service in the Jewish Hospital, October 23, 1895. She was in perfect health up to two weeks prior to admission, at which time the prodromal symptoms of typhoid fever began. On admission she presented a typical picture of typhoid fever, including the rose-spots and enlargement of the spleen. The only serious complications were vomiting which occurred one or more times daily and retention of urine requiring catheterization throughout the whole course of her illness. During the first 15 days after admission the disease progressed naturally; she was delirious at times, vomited frequently, and complained of abdominal tenderness. Convalescence was fully established by November 13, at which time she felt very hungry and took nourishment well.

On November 13 she vomited once, but felt well.

On the 14th she complained of severe abdominal pain, became very nervous, being delirious at times, and vomited eight times. Food was stopped. The abdomen was enlarged and tender.

On the 15th the restlessness continued until 10.30 P.M., when she suddenly collapsed. Her temperature fell to 69.5° F., she was pulseless at the wrist.

It was with the greatest difficulty that she was kept alive during the next day, during which time she was pulseless and cold, and vomited large quantities of a thin, greenish fluid. Now and then she would swallow a small quantity of cracked ice with a few drops of chloroform, but for the most part her sensorium was dulled. Her bowels moved spontaneously, the stool being brown and watery. About 700 cc. of urine was drawn during the 24 hours. During the day she vomited 20 to 25 times, the quantity of fluid varying from 25 to 150 cc. each time. The total quantity must have been nearly three pints.

On the 17th the vomiting continued unabated, the fluid, of light-green color, coming up in large quantities. Her bowels moved three times spontaneously. Her abdomen was still distended. The condition of collapse continued, though the patient was conscious throughout the day.

On the 18th the condition of the patient was so desperate that gastric lavage, presumably as a last resort, was determined upon. A very thin tube was passed without much difficulty, and a large quantity of thin greenish fluid was removed. The condition of the patient improved almost immediately, the abdominal distention disappeared, the sensorium became clearer. Rectal alimentation was resorted to. The vomiting ceased for about 18 hours. The bowels moved spontaneously, the stools being thin and brown.

Gastric lavage was practised once or twice daily for three days, and the patient was nourished entirely by enemas for five days. Her convalescence was slow. She vomited at times and remained weak, being slightly delirious now and then.

On the 21st she retained some iced-tea and orange-juice. From the 22d on, her improvement was more rapid, her stomach retained koumyss, buttermilk, chicken-broth, and her strength slowly returned. She remained in the hospital two months more, suffering from ulcers on the legs due to sloughing in places where ether had been injected.

I had an opportunity to examine this patient nearly two years later; she was in perfect health, had no gastric symptoms and her stomach was not enlarged.

There can be no question as to the diagnosis in this case. The very violent and incessant vomiting, the condition of collapse, the distention of the abdomen, the nature of the vomited material, are all very characteristic. The disappearance of abdominal distention after lavage confirmed the diagnosis. The regular spontaneous movements of the bowels for several days and the persistence of liver-dulness precluded the idea of a perforation, which was the first suspicion.

I do not desire to consume any more time with the recital of other similar cases which have lately appeared in the literature.

Fenger[20] recently published the details of an attack of acute dilation of the stomach following cholecystotomy; the violent symptoms began five days after the operation; lavage was practised with only temporary relief, and on the tenth day the patient collapsed and died.

One of the most striking features of nearly all of the cases is the persistent vomiting of greenish fluid, often in enormous quantities. The origin of this fluid and its relation to the disease are not at all clear. The greenish color is doubtless due to the admixture of bile. Just what influences can lead to the rapid filling of the stomach with a watery fluid free from acid (at least in my own case no hydrochloric acid could be detected) is a question that remains to be solved. It is possible that in some cases at least this pouring out of a watery fluid is the primary pathologic process, and Henry Morris has suggested that the disease be called "acute gastrorrhea"; Mahomed likewise believes that excessive secretion is an important factor of the disease aside from paralysis of the muscular walls of the stomach.

An exceedingly interesting case in this connection was reported two years ago by Drs. Cutter and Elliott,[21] of Boston. A patient was operated upon for recurrent hemorrhages from a gastric ulcer; the ulcer area was excised and the wound in the stomach was sewed up. The patient did very well for two days; on the third day he suffered pain and had a rapid pulse; on the fourth day he sank and died. At the autopsy the wounds were perfectly healthy; there had been no leakage and no peritonitis. Although the patient had swallowed absolutely nothing since the operation, the stomach was found to be full of a thin watery fluid. The cause of death was not apparent.

It is easier to propound a question in pathology than to answer it, and for the present, at least, we must be content to confess our ignorance of the whole process in question. The disease appears to be a toxic one. The nerves supplying the stomach seem to be paralyzed by some unknown toxic agent. Is it not probable that the excessive secretion of a thin fluid from the gastric mucosa is of the nature of a so-called paralytic secretion, such as occurs after section of the nerves which supply the parotids and the pancreas?

Another feature to which I desire to call attention is

the relief afforded by the use of the stomach-tube. In some instances this relief has been only temporary; in my own case it proved curative, though it had to be frequently repeated. Lavage is indicated in all cases of acute dilation which come under the present head. The condition of my own patient at the time lavage was performed was so desperate that I feared the passage of the tube might prove fatal. I have learned to fear the process less, since then, in other cases of persistent bilious vomiting following anesthesia.

Finally, gathering up the main facts from what I fear has proved to be too tedious detail, the following statements may be postulated:

1. During the course of or convalescence from some acute or chronic disease the stomach may undergo rapid dilation.

2. This condition is marked clinically by a sudden and violent onset; vomiting is violent and intractable; large quantities of fluid are ejected; the fluid is usually greenish, due to admixture of bile. The patient is reduced to a state of collapse or exhaustion, which may prove fatal in a few days.

3. During the progress of the disease the abdomen becomes distended, the right hypochondrium remaining flattened. The bowels move spontaneously, and a splash may be elicited over the site of the distention. The mind usually becomes clouded.

4. If treatment is unsuccessful the distention of the abdomen increases, vomiting ceases, and the patient dies of exhaustion.

5. The indications for treatment are, first, supportive measures; and, second, the use of the stomach-tube one or more times as early in the case as possible. Rectal feeding should be resorted to, and nothing should be allowed "by the mouth" until the vomiting has been nearly or quite controled.

6. Treatment without lavage is unavailing, and the use of narcotics worse than useless.

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Simon: Un cas de dilatation de l'estomac à début brusque chez un enfant de sept ans; guerison rapide par le lavage de l'estomac, *Journ de Clin. et de terapie infant.*, 1894, ii, p. 76.

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Some writers refer to cases by Kundrat and Oser. Neither of these authors gives any specific instance of acute dilation, but both merely refer to its occurrence.

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HISTOLOGIC STUDIES RELATING TO THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH.

By JOHN C. HEMMETER, M.D., Phil.D., etc.

Professor in the Medical Department of the University of Maryland, and Director of the Clinical Laboratory.

The histologic examination of small fragments of gastric mucosa either detached accidently or removed intentionally by special efforts of the physician, gives promise to instruct us at least to a certain extent concerning the anatomic condition of the lining membrane of the stomach. In certain abnormal conditions the surface of the stomach readily exfoliates, and small fragments of tissue are found either in the vomit or in the wash-water; but P. Cohnheim,[1] under the direction of Boas, executed a large number of histologic examinations on specimens that were obtained by a form of curage with the stomach-tube.

If patients retch considerably or vomit during the drawing of a test-meal, or during lavage, it is very probable that such fragments of mucosa will be found in the vomited matter or in the wash-water. Martius and Lubarsch[2] used this same method on a large number of cases. I have personally sought information concerning the actual state of the gastric mucosa by this method, and used it since 1896 on a large clinical material in hospital and private practice. I have never been informed of any pain or the least discomfort or evil result following such superficial loss of substance from the stomach. The fragments, as a rule, are from 4 to 10 mm. in length, 0.3 to 1.0 mm. in thickness, and from 2 to 5 mm. in breadth. Whenever the test-meals or the gastric wash-water show the faintest admixture of blood, one may rest assured that it contains a particle of mucosa. The contents should then be poured slowly from one glass to another, or spread out on a white plate, which facilitates the detection of the fragments. When found they are washed in normal salt-solution, hardened in concentrated aqueous solution of corrosive sublimate or some of them in alcohol, imbedded in celloidin, and sectioned with the microtome. The sections are stained with eosin and hematoxylin, and sometimes with picrocarmin, methylene-blue, thionin and a special complex stain for bringing out the different kinds of cells in the peptic ducts.[3] It has been my effort to ascertain the truth concerning the clinical value of this method, if any. In the first edition of my textbook on diseases of the stomach, I have considered critically the merit of recent investigations concerning the structure and function of the various portions of the gastric mucous membrane. To avoid mistakes caused by different designations of the various types of cells found in the glands of the stomach, I will group these different names used by various investigators under two headings:

Border cells,	Chief cells,
Parietal " (Heidenhain)	Central cells,
Oxyntic " (Langley)	Ferment cells,
Acid " (Mall)	
Delomorphous (Rollet)	Adelomorphous, (Rollet.)
Belegzellen,	Hauptzellen.

The terms, border, parietal or central cells refer to the position which these cells occupy relative to the central canal of the peptic duct, the central cells being closer to the duct and the border cells toward the periphery of the gland tubule. Acid or oxyntic cells are terms to signify the secretion of these elements. The name delomorphous or adelomorphous has reference to the configuration, after staining the cells by anilin dyes. Those that stain sharply and deeply, *i. e.*, the border or acid cells, having a conspicuous form, are called delomorphous. Those that stain less distinctly, are called the adelomorphous. It is important to remember for what I shall have to say concerning the diagnostic value of these fragments, that the mucous membrane of the stomach may be divided into three zones from a histologic point of view: the pyloric zone with no border or acid cells; the intermediate zone with numerous border or oxyntic cells, and the fundus with very few border or acid cells, where the peptic ducts are composed almost exclusively of central or ferment cells.

It must be acknowledged at this point of our report that this method of obtaining histologic specimens from the gastric mucosa is not an invariable one, followed

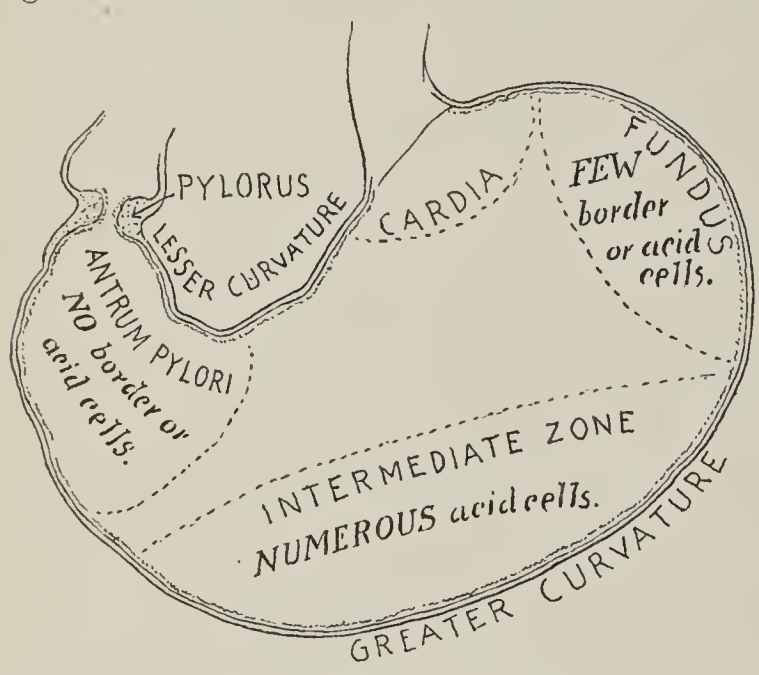


FIG. 1.—Showing the relative distribution of acid or border cells in the pylorus, intermediate zone, and fundus.

in all of its applications by the same results. There is something accidental attached to this method, and it cannot be executed in every individual case where it would be desirable for the sake of diagnosis. Every new method is characterized by incompleteness and defects. It is conceivable that proper instruments may in future be devised by means of which small pieces of gastric mucosa may be detached in a harmless manner. If this could be done, the histologic diagnosis of gastric diseases could be perfected and developed to such a degree to be of the same utility, as the examination of fragments derived from the uterus. Even the location in the stomach from which a specimen is taken might be determinable. I would suggest to future investigators the use of the spiral sound as devised by Kuhn, which can be recognized by means of the x-rays and the fluoroscope. The tip of such a sound might be constructed to act as a minute suction apparatus with an opening no larger than from 4 to 5 mm., so that it would be impossible to detach pieces of greater dimensions. Fragments of mucosa could then be gained by gradual aspiration or suction rather than by curage or scraping. Suction might perhaps distort the histologic elements. I have at least discovered this in some pieces that were accidentally aspirated by the stomach-tube by patients themselves, so that curage, so far as our present knowledge goes, least interferes with the normal histologic relations of the fragments gained in this manner. The main point to be emphasized is that we need a method which will not only gain the fragments for us, but in which we can locate the instrument employed by means of the x-rays. The location of the entire stomach might previously be determined by means of bismuth subnitrate and the x-rays, as is described in my textbook, together with other methods there described for that purpose. The loss which the patient experiences in his gastric mucosa would be abundantly counterbalanced by the improved method of treatment and the greater chances of a life-saving operation which an early diagnosis would make possible. Martius and Lubarsch, Cohnheim,[4] Boas,[5] and myself, have reported no accidents from a very large clinical material on which this method was used. Hyperacidity existed in 18 of my cases, and still no evil consequences followed, which can be interpreted as indicating that autodigestion cannot further enlarge the tiny erosion which is caused by the removal of the fragments.

The technic of the method of examining fragments of tissues gained by cureting has been most perfected in the diagnosis of uterine diseases.[6] The uterus is an organ with a very small cavity, with rigid, comparatively inelastic walls; it can be very thoroughly examined by bimanual palpation, and it is quite possible to determine from which portion of its cavity the fragment cureted off has been derived. The mucosa of the uterus is quite uniform in its histologic features and simple in structure; but the stomach is a wide sack with comparatively thin and distensible walls along which the sound or stomach-tube glides in an uncontrolable manner. It is therefore, to a certain degree, a matter of accident from which place a fragment of the mucosa is detached. It has already been emphasized that the gastric mucosa varies in its histologic features in different parts of the stomach. For instance, if we should find a pronounced preponderance of border or acid cells in the gland-ducts of a fragment, this might be considered normal for the intermediate zone, but it would be pathologic for the mucosa of the fundus. In order to investigate this point, I conducted a number of experiments on cadavers, as well as upon dogs, to determine which part of the gastric surface would be struck first and most frequently by the tip of a rigid sound introduced for the purpose of gastric curage. Further observations were made upon four healthy medical students before an x-ray apparatus with a sound containing a metallic spiral. I discovered that the sound on being introduced first strikes about the center, or a little to the right of the center of the intermediate zone. The tip of the sound glides along through the antrum pyloricum toward the pylorus, but in doing so it arches out towards the left, and in reaching the pylorus it simultaneously bellies out the fundus. This has been very aptly represented by F. Kuhn,[7] who made careful studies both on the human stomach and on glass models cast in the shape of the human stomach.[7] My experiments conducted in this manner convinced me that the stomach-tube will with its tip glide along the intermediate zone and pyloric portion only, and that the fundus will be distended only by the smooth part of the tube, and not by the tip. The locality within the stomach at

which the sound will strike will vary considerably with the size and position of the stomach, and with any distortions caused by adhesions, cicatrices, gastroptosis, and gastrectasia. The more nearly vertical the stomach is, the nearer the pylorus will the point of first contact be.[8] By changing the position of the patient, for

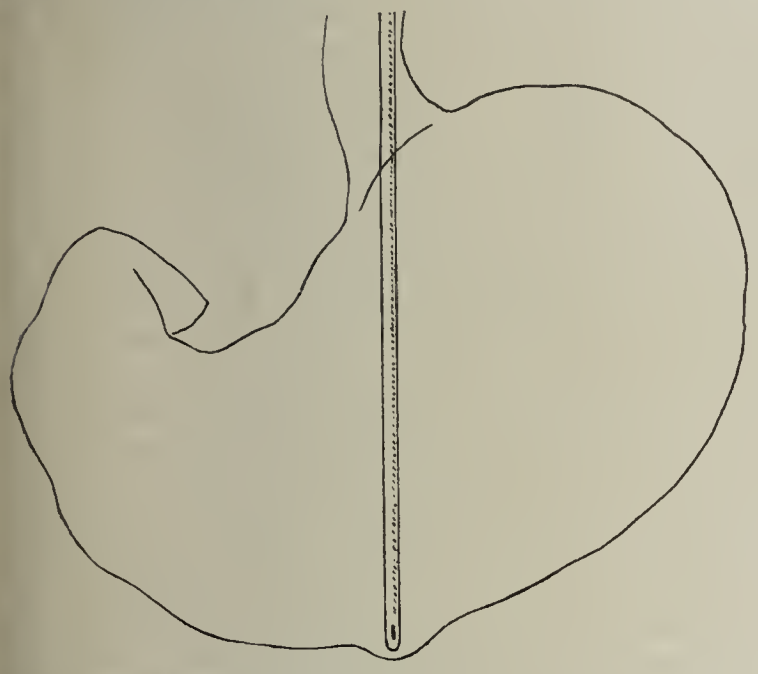


FIG. 2.—Illustrating the locality on the intermediate zone at which the stomach tube will first come in contact with the gastric mucosa.

instance, making him lie on his left side, and with his hips raised considerably higher than the thorax, it is possible to make the tip of the sound glide first into the fundus, particularly if the tip is weighted by a metal spiral that becomes heavier towards the extreme end. Such sounds have been kindly presented to me by Dr. F. Kuhn, of Cassel. If the fragments consist of sequestrated areas that lie very loosely upon the surface of the mucosa, it will of course not be necessary to detach them with the tip of the sound or stomach-tube. (Personally I use nothing but an ordinary stomach tube for this purpose in practice, for the smooth portion of any part of the tube will be sufficient to detach them.) The experiments of Kuhn and myself suffice to show that ordinarily fragments can only be detached from the intermediate portion and pyloric region by this method. This limits the consideration to pieces of mucosa with no border or acid cells, and showing the characteristic twisting of pyloric gland ducts, and such as show a great many border or oxyntic cells. The consideration of the relative number of border or acid cells, and central or ferment cells is important for the diagnosis of hyperacidity, supersecretion, achylia gastrica, nervous dyspepsia, and the differentiation of these diseases from the various forms of chronic gastritis. They are not so important for the diagnosis of carcinoma of the stomach. For the recognition of the gastric neuroses mentioned, and of various types of chronic gastritis this method is not so practical in my opinion, nor as instructive as the results of chemical examination of the gastric contents. It is of course important to know whether a loss of function, achylia gastrica, for instance, is due to a neurosis or to an inflammatory process in the stomach, a gastritis. It is here that a histologic examination of a fragment may give positive information, for in the neurosis the mucosa is apparently normal, and in chronic gastritis it shows the characteristic signs of inflammation.

In attempting to establish the early diagnosis of carcinoma of the stomach by this method, I wish to emphasize that it should be applied only on cases in which the diagnosis cannot be made clear from other physical and chemical methods. As a rule, however, the diagnosis made by such methods is in my experience a late diagnosis. In an article[9] published in October, 1899, I have given my personal experience concerning the diagnostic value of the subjective and objective signs and symptoms, and of the physic, chemic and microscopic examinations into the condition of the gastric structure and function. I must refer those interested in this aspect of our subject to that publication, and also to the second edition of my textbook on Diseases of the Stomach, article "Carcinoma," and also "Motor Insufficiency," p. 669. In this report I hope to be able to give new information concerning the execution and the value of a method which I trust may advance our knowledge and bring us nearer to the possibility of an early diagnosis. It will perhaps be expedient to premise what I will have to say in the following by stating that we must not simply look for particles of actual malignant tumor in the wash-water or in the scrapings from the gastric mucosa, but for the signs of pathologic and atypic mytoses. There can be no doubt that one might have the good fortune of arriving at a positive diagnosis by finding actual structural fragments of an existing carcinoma, but in my experience such an occurrence always speaks for a neoplasm that has already progressed very far, and which may, if all other methods of examination are brought to bear upon the case, be diagnosed without gastric curage.

VARIETIES OF MALIGNANT TUMORS AFFECTING THE STOMACH.

The following malignant neoplasms may invade the stomach:

I. *The malignant adenoma, or adenocarcinoma.*
II. *The cylindrical-cell carcinoma.*
III. *The medullary carcinoma.*

The cylindrical-cell carcinoma may show transition into the colloid form, and both the medullary as well as the cylindrical-cell carcinoma may transform into the scirrhus. In

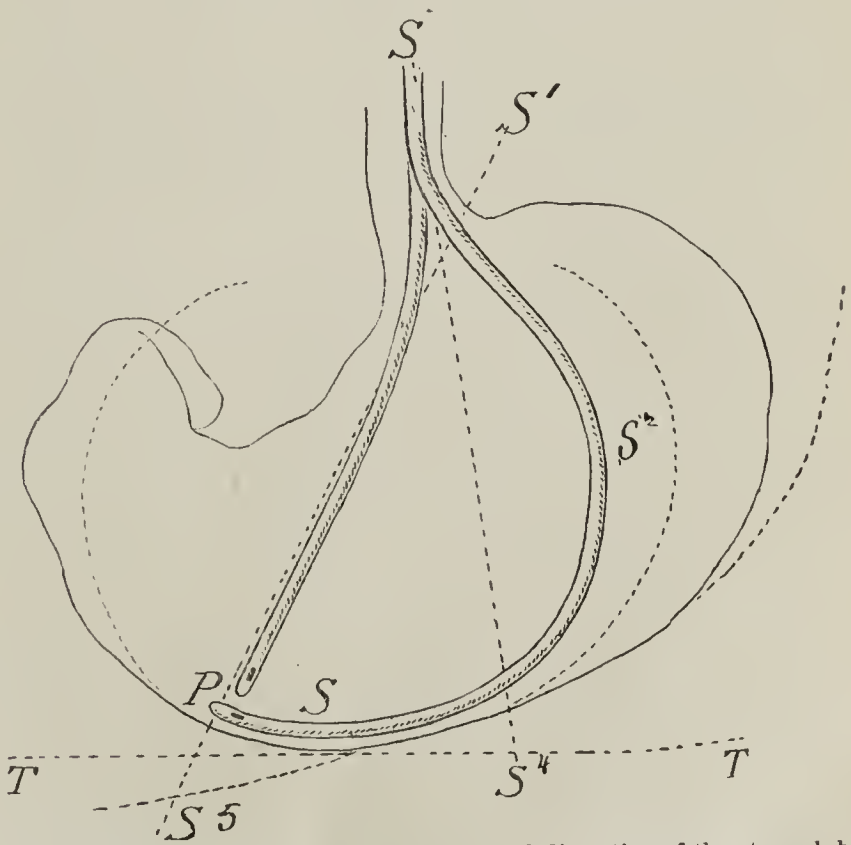


FIG. 3.—Illustrating the further arching out and distention of the stomach by the stomach-tube after it is pushed on further from the position indicated in Fig. 2. The line S^3S^4 indicates the first position of the tube; the line S^1S^5 indicates the second position, the tip simply gliding along from the point of first intact at S^4 to the point P on the gastric mucosa. But in doing this it already begins to bend and arch out the fundus, shown in the curved shape the sound has assumed in the line S^2S^5.

my textbook[10] there is a misprint which indicates that cylindrical-cell carcinoma and adenocarcinoma are the same thing, for the two words are connected by the conjunctive "or." I take advantage of this occasion to correct that error, and also to permit the above classification to supersede the classification given in the textbook. The fact that the cylindrical-cell carcinoma may transform into the colloid form, and that this type of carcinoma and the medullary carcinoma may gradually be transformed into the scirrhus, would already indicate that the colloid tumor and the scirrhus are late stages in the history of malignant gastric neoplasms. I have never been able to obtain a piece, nor the smallest fragment, of a colloid carcinoma, nor a scirrhus by this method. As a rule, the diagnosis is clear through other clinical methods by the time that these forms of carcinoma have developed. If I do not include in this description a consideration of the stroma of gastric malignant neoplasms, it is because we rarely obtain bits of tissue sufficiently large to permit of a correct judgment concerning the malignant nature of the growth by means of these histologic elements, and also secondly, because cases in which bits of tissue sufficiently large to permit of the diagnosis of malignant neoplasms directly from the stroma are in my experience, as a rule, advanced or late cases that have often already developed metastases.

In my opinion, any proliferation of the cylindrical epithelial cells of the stomach that has broken through the muscularis mucosae is malignant, for when the misplaced cylindrical cells of the gastric epithelium have once entered the submucosa, the alveolar structure of the neoplasm develops through the new formation of connective tissue and bloodvessels, underneath the epithelium. The demonstration of this *heterotopia* of the cylindrical cells is a most important step for the histologic diagnosis of fragments sufficiently large. There are, however, genuine carcinomas without heterotopia, where there is no misplacement of the cells, and a continuity with the surface is maintained. What we have just said refers only to the cylindrical-cell carcinoma of the stomach. The adenocarcinoma, in forming heterotopic invasions, must descend deeper than the submucosa, for the glandular structure of the stomach has its normal seat in the submucosa. Carcinomas may be diagnosed according to their structure, their topographic relation to neighboring organs, and to characteristics of their parenchyma, as compared to that of the mother-tissue. Sarcomas of the stomach are very rare. They are recognized by their structure, the development of their cells under the formation of intercellular substance. The malignancy of sarcomatous tumors may be judged from the heterotopic development of the tumor. This is often the only means of judging it, because in sarcomas with indifferent spindle or round cells a comparison with the cells of the mother-tissue is often impossible.

In the stomach the differentiation of malignant tumors from infectious granulomas offers comparatively few difficulties. Besides, the necessity for such a differentiation will rarely be given through the examination of fragments gained by curage or lavage, since the gastric diseases caused by infectious granulomata are exceedingly rare, and as a rule not recognized until the autopsy.

Concerning the age of a gastric tumor we possess no reliable information. Even at the histologic examination, after the death of the patient, it is impossible to tell how long the tumor has existed. Fortunately this has no bearing upon the clinical question—"When shall we seek for the histologic evidence of cancer of the stomach by means of gastric curage?" The answer is, "In any case of gastric disease in which the symptoms of chronic atrophic gastritis are presented, and which does not markedly improve after three weeks of approved treatment." Disregarding the physical evidences which can be obtained from the subjective and objective signs, none of which are characteristic for carcinoma, and disregarding the evidences of dilation, pyloric obstruction, and tumor, all of which are late signs, we should without hesitation begin to examine for histologic elements of cancer in all cases of gastric disease showing (1) rapid emaciation and cachexia; (2) absence of free HCl; (3) reduction of proteid digestion under 40% (by Hammerschlag's method); (4) presence of lactic acid as shown by distinct Uffelmann reaction; (5) presence of numerous long Oppler-Boas bacilli. The increase of the total nitrogen excretion in the urine, as shown by the Kjeldahl method, together with the latter phenomenon a very marked Rosenbach reaction is often found in the urine; that is, the urine on being boiled with nitric acid assumes a deep Burgundy-red color—*are late signs*. (This color is undoubtedly due to indigo-red, and can be dissolved out of the urine by ether after previous alkalinization.)

It is not necessary to wait for the accumulation of all of these evidences before going to work by the method described. Any single one of the above evidences associated with progressive aggravation in spite of proper treatment is sufficient to justify the method. I will go even farther and say that this is sufficient to justify an exploratory laparotomy.

Czerny and Rindfleisch[11] are of the opinion that gastric cancer should no longer be operated radically when it can be diagnosed as a tumor. Lindner and also Kraske[12] have emphatically expressed the same opinion. Evidently the only diagnosis, which will be of assistance to the surgeon that makes such demands is an early diagnosis. There is not one single pathognomonic sign of gastric cancer even in its advanced stages, much less for the early stages. It would be important to know how long a cancer may exist without giving symptoms. At what time in the course of this disease do the first symptoms appear? The first symptoms do not become evident until there is some grave interference with motility. This does not necessarily mean the development of a palpable tumor, because tumors may be present and not be palpable; or again, the motility of peristalsis may be seriously damaged by a flat carcinoma which will run its entire course without the formation of a tumor. By experience, the clinician will learn to appreciate the portent of certain combinations of symptoms. After a careful physical examination has been made of all the organs of the patient, very few symptoms grouped together, if persistent, will suffice to arouse the suspicion of malignant disease. For instance the presence of dyspeptic distress with anorexia, feeling of pressure in the stomach, eructations, nausea, and vomiting, with irregularities in the evacuations of the bowels, progressive emaciation and cachexia, presence of pain, which is rarely absent in gastric cancer, these symptoms, if associated with any one of the chemic and microscopic evidences given in the preceding, should arouse the suspicion of carcinoma, even in the absence of tumor, coffee-ground vomit, and lymph-gland

elling, all of which are late manifestations of the sease. To give an example of how a deduction would made by myself, I should say that with the presence the symptoms of chronic gastritis, persistent absence HCl in 3 to 4 consecutive analyses, and persistent ins in the stomach defying treatment, gastric curage ould be undertaken and if the asymmetrical mitoses e found, an exploratory laparotomy urged upon e patient. The same action of the physician would justifiable if an abundance of long Oppler-Boas cilli were frequently found in a stomach that has ven rise to the symptoms of chronic gastritis and in. Similarly persistent pain in the stomach with orexia, absence of HCl and occasional retardation the expulsion of the chyme should command the ove treatment. In all of these cases it is not so uch one single symptom, as the combination of gns and symptoms which is suggestive. There e even cases in which the suspicion of carcinoma ould arise in the physician who has an analyt- al mind even before these combinations of sub- ve and objective signs are evident. But here I am uching upon that state of the mind that borders on edical instinct and not upon physical methods of agnosis, as Juvenal expresses it, "Nequeo mon- rare, et sentio tantum," meaning "I cannot embody it words, but I can feel it in my soul (what I can fancy, ut cannot express.)"

All the facts which we have considered are liable to ror in whatever direction we go. The infirmity of ur minds in their reasoning power, the fallability of ur chemic, microscopic, and physical tests, are no- here more appalling than in the early diagnosis of astric cancer, and should lead the conservative clin- ian to be especially skeptical with reference to any atement made concerning an advancement in any iagnostic field brought to his attention. The subject- natter which I have stated, and which I still desire to resent, is given with the hope of causing a critical ivestigation.

By early diagnosis is meant the recognition of a dis- ase before it is fully established. This is not demanded y the medical mind in other diseases, for instance, in neumonia, meningitis, or the exanthems. Imagine ne difficulties in the way of an early diagnosis of such iseases—therefore the difficulties of early diagnosis of ancer of the stomach are to be expected.

Medical science, so far, has no explanation of the ause and nature of carcinoma, and until the cause is iscovered, a logical diagnosis of the early stage must e the exception.

The Significance of a Symmetrical (Pathologic) Mitosis or the Early Diagnosis of Cancer of the Stomach.—Karyo- inetic Processes in Malignant Tumors.—Malignant neo- lasms are especially well adapted for the study of nitoses or the karyokinetic transformations which the ucleus undergoes during normal and abnormal cell- livision. The cells of the carcinoma, in their division, ass through the same stages as the cells of certain old-blooded animals, and even of plants in which aryokinesis were first studied.

1. The resting nucleus forms the monospiren.
2. The nuclear threads divide transversely into single ieces (the chromosomes), these are the individual hromotin fibrils of the cell-nucleus.
3. The chromosomes divide and arrange themselves ongitudinally, forming the monaster.
4. The chromosomes arrange themselves into two groups, giving rise to the development of the equatorial plate.
5. These two groups separate further and further during the barrel or pithode stage, and form the diaster.
6. The chromosomes collect together closer, and develop the diaspiren. From this two resting nuclei are formed.

Up to the equatorial plate these active forms of nuclear division are designated as the prophase. The equatorial plate itself is the metaphase, and the stages following it constitute the anaphase. All of the finer chromatic constituents are also found in the mitotic figures of the cells of neoplasm. There is a clear spot in the cell-plasma outside of and close to the nucleus of a cell undergoing mitosis, which spot is called the sphere of attraction. It contains the centrosoma (Bovari) which is the center of the formation of the amphiasters in karyokinesis. In the study of mitoses of malignant neoplasms it is necessary to distiguish between physiologic and pathologic forms. A part of the cells of neoplasms must be considered as being in

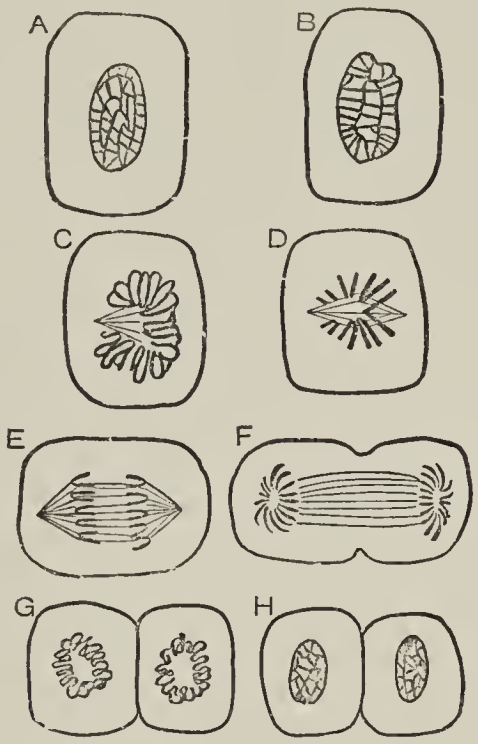


FIG. 4.—Normal karyokinesis, or mitosis. A, Nuclear reticulum, resting stage B, Preparing for division. C, Wreath stage. D, Monaster with achromatic spindle. E, Barrel or pithode stage, or metakinesis, *i.e.*, chromatin-fibrils traveling along the achromatic spindle toward the poles. F, Diaster. G, Daughter-wreath stage. H, Daughter-cells passing to resting stage. (From Gould's Illustrated Dictionary of Medicine.)

a physiologic condition as far as their own life-history and growth is concerned. In the present state of our knowledge on this subject, we are fortunately able to recognize accurately what is a normal and what is a pathologic mitosis. The pathologic forms are developed only in diseased cells, the structure of which has been sufficiently preserved to enable them to participate in the process of proliferation, but which do not go through this process in a normal manner owing either to hyper- or subnutrition. This irregular nutrition may be brought about in consequence of an altered blood-supply by inflammatory processes, or, by the fact that the cells are growing in an unfavorable environment produced by toxins and numerous other conditions which escape judgment. There are physiologic and pathologic mitoses in malignant tumors, but none of the pathologic forms are characteristic or pathognostic for malignant neoplasms.

Mitoses have been classified in (1) normal chromatic, (2) hypochromatic, and (3) hyperchromatic, according to the amount of chromatin contained in the chromo-

somes during cell-division, and not according to the apparent mass of chromatin in the resting nucleus. Judgment and differentiation of these various forms require practice and experience, and should be first studied in the mitotic figures of the large cells of lower animals (Salamander).

By normal chromatic mitoses we mean such as contain a number of chromosomes as are natural in the normal tissue of the same animal. Hypochromatic contain a smaller number and hyperchromatic contain a larger number of chromosomes. The hyperchromatic forms are the most frequent in malignant neoplasms. One or more of such forms may be seen in every field when oil-immersion lenses are used on sections of carcinoma. Hansemann,[13] distinguishes two groups of hyperchromatic mitoses, (*a*) those that result in two, and (*b*) those that result in many divisions. Those that result in two divisions are large forms with masses of chromosomes, sometimes over 100. The results of these mitoses are also hyperchromatic cells, because the daughter cells always contain as many chromosomes as the mother cell. Those that form many divisions undergo a reduction in the number of chromosomes, so that this number may return to the normal. Hertwig[14] has succeeded in preventing the nuclear division for a time by poisons. When the effect of the poisons ceased, the chromatin in the cells had accumulated, and pluripolar mitoses developed, which all at once divided into 4, 8, or more parts, so that finally the normal number of cells with the normal number of chromosomes were formed. Hansemann suggests that it is possible that the hyperchromatic mitoses in malignant neoplasms arise in a similar manner. Concerning the number of cells that may arise from one cell by division, so far only a division up to 4 cells has been observed. Even if the nucleus should divide still further, a greater division of the cell does not follow. These are the instances where large polynuclear giant-cells are formed, which are found most frequently in such tumors as contain the largest number of multipolar mitoses. This incomplete physiologic termination in which the cell does not divide, but only forms additional lobes or projections, although the nucleus divides many times, is a pathologic condition.

The hypochromatic forms are distinguished by a surprisingly small number of chromosomes, occasionally only 6 or 8. There are also such forms of this type that contain an uneven number of chromosomes which do not occur in any normal animal cell; for the number of chromosomes is regulated for the individual by the union of the sexual cells, and as the male sexual cell contains the same number of chromosomes as the female cell, the result must always be an even number of chromosomes. Hypochromatic cells are developed in two ways: (*a*) By asymmetric division, and (*b*) by destruction of single chromosomes. By *asymmetric mitoses* we mean such whose daughter-stars do not contain an even number of chromosomes. This is a phenomenon that has not been missed in any carcinoma which was examined for this feature. They are not regularly present in sarcomas. Vitalis Müller[15] first discovered them in sarcoma, and Rieder[16] found them in a mixed form, a sarcoma carcinomatodes. Hansemann asserts that he has never succeeded in finding these asymmetrical mitoses in any other inflammatory affection. Ströbe produced a regenerative inflammatory process in the cornea of rabbits, and has described a number of asymmetric mitoses in this condition. Hansemann has repeated these experiments and claims to have examined hundreds of preparations showing processes of regeneration and inflammation without finding a single asymmetric mitoses. In examining for asymmetric mitoses only such cells should be studied which can be observed to have other cells above and beneath them, because in section-cutting of specimens it is possible that normal mitoses may be so cut through and portions of them dragged over other cells as to give the impression of an asymmetric mitoses. Hansemann, although he has not found asymmetric mitoses in any other condition except in carcinomas and occasionally in sarcomas, is very conservative and not inclined to make the serious diagnosis of cancer solely upon the ground of such an observation. He considers the phenomenon so far as simply of biologic interest.

The second way, in which hypochromatic cells arise is by destruction of single chromosomes. Such are often found loosened and separated from the nuclear figure. In the space of the nuclear division, individual chromosomes are found singly, which still show good tinctorial qualities, and of the same configuration and dimension as the remaining chromosomes. Such disrupted ("versprengte") chromosomes have no special significance; later on they are added to the nuclear figure, thus completing it. Less frequently single chromosomes are found, which are entirely separated from the union of the nuclear figure, have no relation at all with the spindle, and are entirely extraneous to the division-space, lying remote from it as possible in the body of the cell. Such chromosomes always exhibit the phenomena of disease; their form is irregular, globular, or clumpy. They do not stain so well, and their contours are not as sharp as the remaining chromosomes. This signifies a destruction of these individual chromosomes, for the remaining nuclear figure in the same cell may appear normal, and only show a reduced number of chromosomes. This is decidedly a pathologic process, and Hansemann (*l. c.*, page 67) asserts that he has seen these forms only in carcinomas and sarcomas thus far, and also that hypochromatic cells occur only in carcinomas and sarcomas, but he claims for them so far only a biologic interest, and attributes to them no special significance for the malignant neoplasm.

In addition to these three typical forms of mitoses the normal chromatic, hypochromatic and hyperchromatic forms, there are a large number of pathologic variations; for instance, the chromosomes may represent globular or biscuit-shaped bodies instead of rods. The division of the cell may be much behind the division of the nucleus, or it may not occur at all. The daughter-cells may bend away from the axis of division so that in the diaster one star is seen in profile and the other from above. All of these phenomena may combine in a varying manner so that figures result which are very confusing, and have been occasionally interpreted as foreign bodies, parasites, etc. According to Hansemann it is of importance in judging the nature of neoplastic cells (1) to establish the physiologic form of the mitosis of any neoplasm, (2) to compare the physiologic form with those of the mother-tissue. The first is done by examining a large number of slide preparations excluding all pathologic mitoses, and obtaining a clear impression of the form of the other or physiologic mitoses. The second object requires an exact knowledge of the normal mitotic forms in normal human tissues. Hansemann's studies[17] have demon-

ated that the individual types of tissues give evidence characteristic differences within the scheme of mito-, and that they do not vary from their type under rmal conditions nor in inflammatory, regenerative or dinary hyperplastic processes. There is in short for tissues a specific karyokinesis. If, therefore, a tissue ows two or more forms of mitoses, independently pathologic or accidental disturbances, it is necessary conclude that this tissue is composed of two or ore types of cells; and, furthermore, that if in a sue the forms of mitoses are changed throughout, e cells themselves must have also changed their char-ter; that is, a new kind of cell must have been veloped.

Such changes of the character of mitoses are only und in malignant neoplasms, and in no other in-ammatory, regenerative, or hyperplastic proliferation. hese changes do not occur suddenly, for there are carci-omas in which the mitotic forms are only slightly differ-nt from the mother-tissue. In the adenomas of mucous embranes, particularly of the stomach and intestines, eviations of the mitoses are observed which are not und to be strikingly different from the normal ones of ese organs. The mitoses of a tumor may show great dif-rences among themselves, so that a neoplasm which ows great deviation from the mother-tissue may ow no uniform character of its mitoses. This is par-cularly the case in the medullary carcinoma. The char-cteristic of such tumors showing a marked deviation f the structure is that their mitoses show no uniform haracter. The conclusion from such observations is at if mitoses are found in a tumor (exclusive of the athologic forms) which deviate throughout from those f the mother-tissue, we are not dealing with an ordi-ary inflammatory, regenerative, or hyperplastic pro-iferation. The more the mitoses deviate from the nother-tissue, and the more they differ among them-elves, the surer is the conclusion that we are deal-ng with a malignant neoplasm. These descriptions f the pathologic deviations of mitoses I have ranslated from the work of Hansemann because I onsider that they have an important bearing upon he diagnosis. The single occurrence of hyperchrom-tic, abortive or other pathologic mitoses, has no special liagnostic significance, but experience has taught that f such pathologic mitoses occur in considerable num-bers, we may be fairly sure that we are dealing with a nalignant tumor. The number of the mitoses may oc-asionally be large in benign tumors, but they are then ot pathologic mitoses. The most important diagnostic distinction from our point of view is that the mitoses should show a deviation from the normal forms of the nother-tissue. Such a deviation is a sure sign of what Hansemann has designated as anaplasia. He under-stands by anaplasia a condition in which the cells have lost in part their specificity. They have become "ent-differenziert," so that they have acquired the property of independent existence; they have lost what he calls "altruismus" (altruistic means regard for others, and altruismus probably refers to maintenance of the type of the other cells.) A study of the phenomena of ana-plasia is of intense interest for the recognition of neoplastic tumors. It designates the degree of devia-tion of the cells of the neoplasm from the cells of the mother-tissue.

All observations on mitoses, in order to have any reli-able diagnostic value, must be carried out on faultless material. All postmortem changes make these investi-gations impossible. For this reason specimens from the stomach if found in the wash-water, are as a rule not well enough preserved to permit of this study; the forms in such specimens are very easily changed, and their number reduced; but in specimens gained by gastric curage, the mitoses, if any, are as a rule quite well preserved.

If asymmetric and hypochromatic mitoses together with an atypic formation of the epithelial tubules and remnants of gland tubules are found in fragments from the gastric mucosa, the diagnosis of malignant growth is logical. I have been able to make this diagnosis in three cases, three months, six months, and eight months, before a tumor was demonstrated either by operation or autopsy. Lubarsch (*l. c.*, page 162) describes one case in which the characteristics which Hansemann has established for malignant neoplasms, were found as he claims in a fragment of gastric mucosa, viz.: atypic epithelial proliferation, and irregular mitoses. He made a probable diagnosis of carcinoma, which was not verified at autopsy; the case showed an atrophy of the stomach. I consider it my duty to report this single and only case in the literature in which it was claimed that asymmetric mitoses were found and yet the autopsy upset the diagnosis of cancer of the stomach. We are not able to judge of the possible sources of error in such examinations, but of course it would be desirable that more than one or two pieces of gastric tissue should be examined before the diagnosis should be definitely established. I will conclude by giving a brief synopsis of the clinical history of three cases in which the diagnosis was made by myself, by means of the method described in the foregoing.

CASE 1.—Mr. O. A. B., aged 56, farmer, presented himself May 24, 1898, says he weighed 280 pounds December, 1897, now weighs 240. Bowels constipated, no history of tuberculosis or lues. A brother died of malignant disease; the patient's main complaint is a severe pain in the epigastric region which he asserts becomes worse three hours after meals, and is then alleviated by the ingestion of a new supply of food. Heart and lungs normal, no enlarged lymph-glands, liver normal to percussion and palpation. On distending the stomach with CO_2, it becomes very distinct and readily palpable. The greater curvature reaches to within half an inch of the pylorus. Analysis of the urine shows absence of sugar, albumin, globulin, and tube-casts; indican is increased, and the ratio of the performed to the etherial sulfates high. The total nitrogen on a milk-diet, of which he took 2,700 cc. on the day before the analysis, containing a little over 4% of proteids, and 6% of sugars and fats, was by the Kjeldahl method estimated at 17.862 grams; another estimation gave 18.724 grams; showing that at that time there was no abnormal increase of the total nitrogen-excretion. Results of test-meal analysis, May 30: double test-meal as described in the author's textbook: Free HCl = 6, combined HCl = 8, total acidity = 24, lactic acid absent by Uffelmann's test, biuret reaction positive. As there was no tumor palpable, and no lactic acid present, the diagnosis was reserved for the present. May 31, after curetage of the stomach, two fragments about 10 mm. in length, and 2 mm. in thickness, were gained. They were hardened in Zenker's solution; microscopic examination showed that the epithelial tubes were closely packed; there was a marked immigration of leukocytes in between the epithelial cells. The tubules were dilated and tortuous. A number of atypical mitoses were found in the cells lining the epithelial ducts, among them two distinct asymmetrical mitoses and a number of cells showing disrupted chromosomes. On June 7, results of test-meal analysis showed only a trace of free HCl, but combined HCl was still present, lactic acid absent, motility good, no tumor palpable. After gastric curetting, a third fragment about the size of the previous ones was discovered, which under the immersion lens showed marked atypical epithelial proliferation, and atypical mi-

toses, with hypochromatic chromosomes. The patient had in the meantime lost 6 pounds in weight. The diagnosis of probable cancer of the stomach was given and as the pains continued severely, an exploratory laparotomy was urged, but the patient refused consent. Ever since the first finding of atypical mitoses the diagnosis of carcinoma be-



PLATE I.—Fragment of gastric mucosa obtained by curage from case O. A. B., showing lumen of two gland tubules. The interglandular connective tissue is thickened and permeated with small, round celled infiltration. The greater portion of the epithelium of the gland is detached; many cells show vacuoles, some of them so large as to submerge the identity of the original cell, which appears either as a small rim of protoplasm around a vacuole, or as a smaller mass at the side of a huge vacuole. Numerous gland cells in the state of atypical mitosis, there are in both glands lumens, asymmetrical mitoses, some with disrupted chromosomes. In the center of one lumen is a four lobed cell presenting four nuclei. Asymmetrical mitoses do not derive their name from asymmetry in shape or configuration; an asymmetrical mitosis is one whose daughter-stars do not contain a like or even number of chromosomes.

came more and more convincing, from the very rapid decline, cachexia and general emaciation. On July 1, no free or combined HCl was present in the stomach after test-meal, and lactic acid was evident by the Uffelmann test. The motility was much impaired, but no tumor was palpable. The patient improved on careful dieting, lavage, internal medication of strychnin, HCl, and condurango. I did not see him again until September, 1898, when I again urged an operation, to which he was still opposed. Finally, on October 22, his final consent having been gained, an exploratory laparotomy was undertaken by Dr. L. M. Tiffany, a neoplasm the size of a duck's egg was discovered in the pylorus, but there were, unfortunately, numerous secondary metastases in the mesenteric glands. Therefore, only a gastroenterostomy could be executed. The tumor was afterwards shown to be a cylindrical cell carcinoma.

In this case the diagnosis of malignant tumor had been ascertained at a time when there was still a secretion of HCl in the stomach, and five months before it was demonstrated by operation. What the results of an operation might have been had it been executed in May or the beginning of June, is difficult to conjecture, but it is reasonable to assume that the neoplasm must have been very small at that time because the motility was still good and a faint HCl secretion still present, and the patient showed marked improvement upon medical treatment alone. A radical operation at that time would very probably have proved successful.

CASE 2.—Mr. E. F., shoemaker, aged 42; admitted to my clinic September 10, 1899. Complains of pressure and fulness in the stomach after eating, lost appetite, frequent eructations. He has never vomited. The patient weighs 180 pounds, is well nourished, and the subcutaneous adipose tissue quite abundant; no sign of cachexia; blood-counts normal; analysis of urine negative, heart and lungs normal to auscultation and percussion. The tongue was slightly coated. The epigastrium was not distended; very slightly sensitive to pressure, but presented no well-circumscribed pain-area. On distention with CO^2 the stomach was not enlarged. When a double test-meal was given, it was found that there were numerous particles of meal taken 7 hours before in the drawn gastric contents. Free HCl none, combined HCl doubtful, lactic acid a trace. September 12, patient has eaten nothing since supper last night, and on passing the stomach-tube about 50 cc. of gastric contents were drawn, in which meat-fibers were microscopically recognizable. Free HCl none, combined HCl none, lactic acid present, but did not give a distinct reaction by Uffelmann's test. Albumin-digestion by Hammerschlag's method was equal to 50%; no Oppler-Boas bacilli. No tumor palpable in the stomach or anywhere in the abdomen; bowels regular. By gastric curage two pieces of mucosa were obtained on September 12, one 6 mm. and the other 3 mm. long. The small piece was examined fresh; it revealed the cylindrical epithelium on the surface of the stomach, and that in the alveolus (Vorraum) well preserved and un-

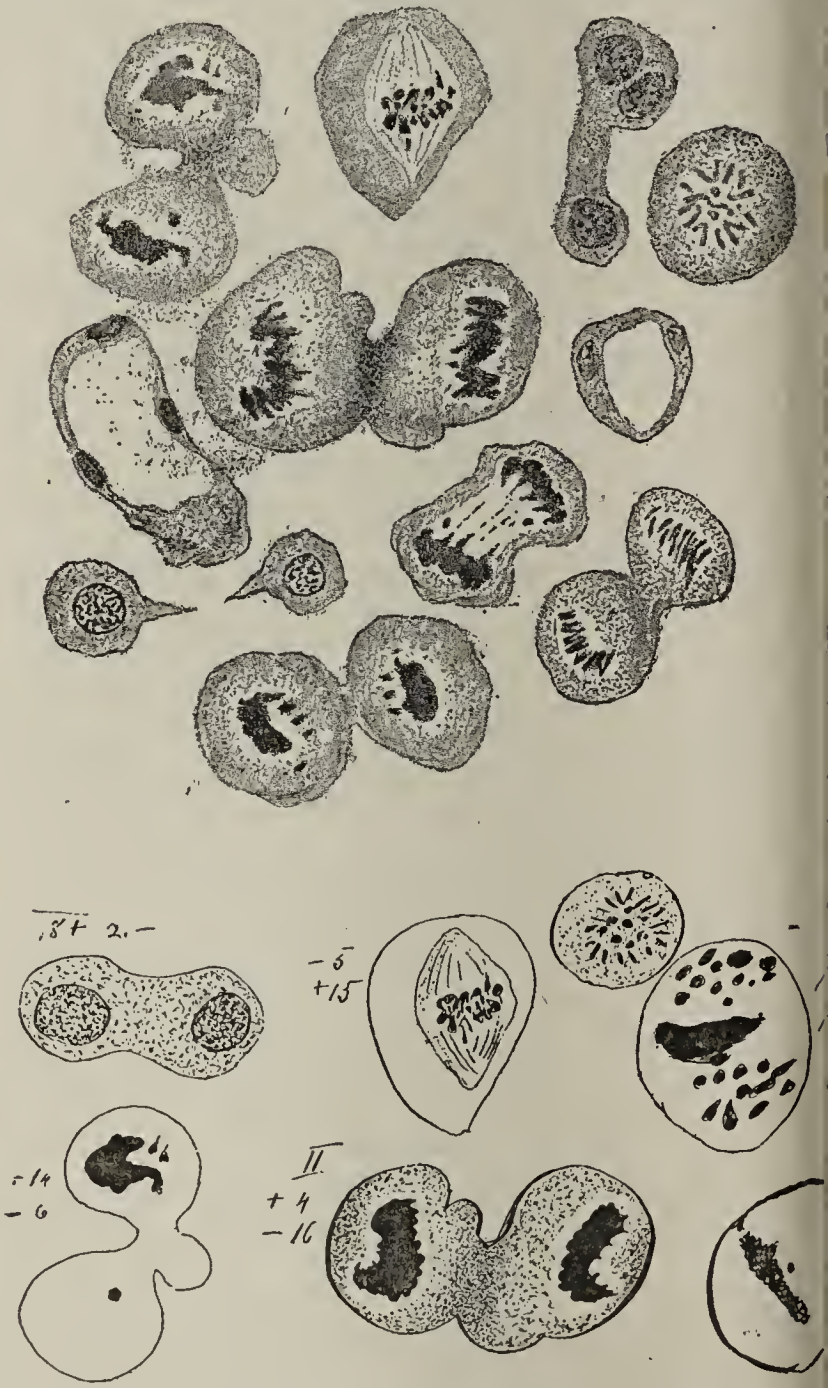


PLATE II.—This gives a number of cells in the state of atypical mitoses, tak from parts of the specimen illustrated in a lower power on Plate I. To t left side, above the center, is a mitotic form showing a cell with a hu vacuole and three nuclei; directly opposite on the right side of the drawi is a similar smaller cell in which the protoplasm has surrounded a vacu like a narrow ring. The lowest cell in the figure is an asymmetric mito showing an uneven number of chromosomes, and disrupted chromosom This is also shown in other cells of the illustration, particularly in the c showing a crippled pithode stage. The cells thus pictured were discover lying detached in the lumen of the gland-ducts as shown in Plate I.

anged. The larger piece, on being prepared by Altmann's ethod, showed a very fine but very distinct granulation the cells of the surface, and alveolar epithelium. The in-rglandular connective tissue is not increased, but it con-ins large lymphoid cells and abundant leukocytes, some of esc showing two and three nuclei. These polynuclear ukocytes are seen also within the protoplasm of the gland-ar epithelium itself, and also lying free in the lumen of the icts. In the mucus which is overlying the surface epithe-im there are also numerous of these leukocytes, some of em showing a fine acidophilic granulation. Nowhere in e lumen of the peptic ducts are any border or oxyntic lls to be discovered, all of the cells presenting the type the cells of the pyloric glands. The lower end of the ptic ducts are curiously expanded or dilated, giving e ducts that are struck along their longitudinal axes a ub-shaped appearance; only few mitoses visible, and ese not atypic. From this fragment it was not pos-ble to make anatomic diagnosis, except judging from the esence of a circumscribed small-celled infiltration, the agnosis of gastritis; but on September 20 three other pieces gastric mucosa were obtained in which a more uniform natomic condition was found. The gland-ducts were much lated and very tortuous, separated by a follicular connec-ve tissue that was very rich in cells. Here, also, as in the st piece, there was an abundant immigration of leukocytes to the epithelia and into the lumens of the peptic ducts. his condition, the numerous very dilated and tortuous ithelial tubules, and the abundance of cellular and leuko-te infiltration into the connective tissue, is a condition equently found in beginning gastric cancers, but the diag-osis was still further supported by the finding of a number atypical mitoses, a reproduction of which Mr. Louis chmidt has made from specimens gained from sections of ese fragments. I also discovered two distinct asymmetric itoses, two with hypochromatic, and three with disrupted romosomes. No acid-cells were discoverable.

Although this second piece of gastric mucosa indicated a raver condition of the stomach than the first, taken 8 days efore, the patient had remarkably improved in these 8 days. His stomach has been washed out with HCl, 6 : 1000, and he ad received 30 drops of HCl together with $\frac{1}{30}$ of a grain rychnin, and one dram fluid extract condurango internally, ree times a day. The diet had been more carefully selected. Owing to this marked improvement the patient was opposed o exploratory laparotomy which was suggested to him. The ieces gained from the stomach on the second cureting, hich caused my suspicion of cancer, were undoubtedly in he stomach at the time of the first curetage; the pieces ained by the first curetage gave evidence of the existence f nothing but a simple nonmalignant inflammatory process; his shows the necessity of examining repeatedly, and not asing the diagnosis upon the examination of one fragment. On October 1 the patient had experienced a relapse; there as pressure, fulness and distention after eating, much eruc-ation, and evidences of a seriously delayed peristalsis. actic acid was present in excess by Uffelmann's test. The ain in the stomach was marked and quite persistent. The apacity of the stomach appeared normal. On continuance f the same treatment the symptoms grew worse notwith-tanding. Exploratory laparatomy was again advised but efused; no tumor was palpable. From now on the case rew rapidly worse, no treatment seemed to give any relief, maciation was marked, and cachexia gradually set in. There was a very striking and rapid aggravation of the ymptoms of stagnation, which were all the more puzzling, ince the patient dated his illness as first received by ab normal sensations in the stomach, only so far back as May 12, 1899. Exclusive rectal feeding had to be resorted to, because no food whatever would pass the pylorus. Death occurred in December.

At the autopsy a very small cylindrical-cell carcinoma was found in the pylorus; dimensions were about 2.5x3 cm., but its situation tight in the pylorus was such that absolute rigidity and occlusion of the pylorus was caused by the neoplasm. Dr. William R. Stokes, who performed the autopsy, found no glandular involvement or metatases any-where.

The case would probably have been a favorable one for operation up to the first week in December, because a pylorectomy would have removed the entire disease. The death of the patient was due to inanition.

CASE 3.—Mrs. J. H. V., aged 56, consulted me January, 1899. On January 14 she presented herself for examination, complaining of gastric distress with similar symptoms as have been given by Mr. E. F. I knew this patient for 10 years, and had examined her stomach in February, 1889, when a test-meal gave the following result: Free HCl 36; combined HCl 14; total acidity 54. Blood-count normal, urine analysis negative. Heart, lung and reflexes normal. On examining the stomach it was found slightly displaced, greater curvature on a level with the umbilicus, but not dilated. Results of analysis on January 15, 1899: Free HCl trace, positive to congo, doubtful to phloroglucin vanillin, and to dimethyl amidoazobenzol, combined HCl 12, total acidity 24, lactic-acid trace. The gastric symptoms consist of pain after meals, increased by eating, and a very painful area in the left hypochondrium, over the region of the gall-bladder. The patient had been somewhat jaundiced, and the diagnosis of gallstones had been made. Weight 160 pounds. Anorexia continued until the patient refused to take food because it aggravated her pain. Codein and morphin has been used for the relief of this symptom, and rectal alimentation had to be resorted to. This patient had suffered off and on from gastric pains during a number of years, but they were attributed to neurasthenia, rather than to an organic disease of the stomach; but the persistence of these pains and a steady loss of weight induced me to undertake gastric curettage. The examination of the stomach-contents, it is true, had shown free and combined HCl. After the tube had been introduced, about 100 cc. of a straw-colored liquid rushed out with some violence, and was caught in a glass vessel. It was seen that a number of red and pinkish pieces of material were in this liquid, and before proceeding further with the curage, two smaller were rapidly mounted and were recognized as bits of gastric mucosa. The larger pieces were then stained, after being hardened in Zenker's solution (a mixture of Müller's fluid containing 5% of corrosive sublimate solution.) Some of these sections were stained with eosin and others by Altmann's fuchsin method. They showed a very strong immigration of leuko-cytes into the epithelia of the peptic ducts; in some places the lumena of the ducts seemed packed with leukocytes. The connective-tissue did not seem increased or broadened, but very much infiltrated with cells. The epithelium lining the ducts is not typical but they consist of low cylindrical cells with dark protoplasm and a darkly stained nucleus; the upper end of these cells seems to be resolved away. In these pieces the surface epithelium is not well preserved, but where it is comparatively well preserved in the vestibules or alveoli (Vorraum) it contains many cup or beaker cells. The ducts are sometimes so dilated and tortuous, that they assume a cystic appearance. The diluted ends of some of the peptic ducts contain a material which is slightly gran-ular and at times homogeneous, but cannot be stained by acid anilin stain. There are a number of very narrow cells, the protoplasm of which is entirely dark (Stöhr cells). Another but rare type of cells somewhat triangular in shape, with the narrow end touching the central duct and the wide end resting on the periphery of the duct, show a very beau-tiful granulation in sections stained with fuchsin. When these cells are numerous, the entire central part of the duct immediately adjacent to the lumen seems dotted with fuchsin ophilic granules. The granules seem to have a diameter of about 1.0 mm. These different types of cells vary much in their distribution throughout the peptic duct. The normal oxyntic or parietal, and normal central or ferment cells are present only in a few specimens. In a number of the cells simulating the normal cylindrical epithe-lial cells, there are atypic mitoses showing disrupted chro-mosomes. In the lumen of a number of the gland ducts the former gland cells have become detached and lie free in the lumen of the duct, some of them containing 2, 3 and 4 vacuoles, others showing an attempt of the cell to divide into 4 daughter-cells which have not become separated, but are still coherent and show 4 distinct nuclei. Asymmetrical forms were found also; two in one specimen. On the basis of these histological evidences found in several sections, the diagnosis of malignant tumor was suggested to the patient and exploratory laparotomy emphatically urged. In some

fragments obtained later on, similar histologic appearances were found as in case 1, Mr. O. A. B. Operation was unfortunately refused also in this case; death occurred on January 3, 1900. There was a small cylindrical-cell carcinoma in the pyloric antrum. The pylorus was adherent to the liver and gallbladder, but there was no metastases to be found anywhere else. In this case the diagnosis was made one year before death occurred, and when the analysis of gastric contents showed a trace of free HCl. An operation at that time it is reasonable to presume would have proved successful.

While it is greatly to be regretted that none of these consented to operation at a time when such a step had every indication of proving eminently successful, this is a factor which depended entirely upon the individuality of the patient. But the condition found when the operation was finally undertaken, or at the autopsy, justifies the belief that the early diagnosis of carcinoma of the stomach is possible in a certain number of cases.

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ON THE NEWER APPLICATIONS OF GASTROENTEROSTOMY IN THE TREATMENT OF DISEASES OF THE STOMACH.

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THE operation of gastroenterostomy devised by Wölfler, in 1881, has been applied for many years with success in the treatment of obstruction at the pylorus, whether originating from benign or malign diseases. In such cases it has been resorted to to overcome the progress of the starvation which the stenosed gastric outlet was producing. Of late years this operation has been widened in its use and it has become an important factor in those stomach-lesions where rest of the organ is of importance. Among the conditions in which, therefore, it is now advocated are the obscure gastralgias, the hemorrhages from ulcers, the ulcers themselves, and that somewhat foggy condition known as atony without pyloric narrowing. The symptoms that are usually included in the word gastralgia are several; but the pain after eating, with hyperacidity and delayed digestion, and often a moderate distention, would suggest a pyloric stenosis, and indeed at the operation or the exploratory laparotomy justly resorted to, there are frequently seen conditions of general or irregular thickening that point strongly to a commencing stricture. On the other hand many cases present themselves when with the above-mentioned symptoms there is encountered, when the stomach is exposed, either nothing in the pylorus or changes very slight in amount. The stenosis, while it may be present, is not therefore, the essential part of the disease now spoken of. At autopsies, too, there have been found alterations that show themselves as ulcerations, either in the usual round form or as fissures or rhagades at or near the pylorus, and sometimes below it, and it is this condition that offers so far the best explanation of the patient's suffering. For, given a damaged or abraded mucous membrane at the most vulnerable part of the stomach with its multiple variations in size, and where like the anus, it is difficult for proper repair to go on such a fissure or fissures will only provoke painful spasm of the muscular outlet, and particularly so under the twofold influence of food crowded mechanically against the damaged part and of food rendered more insulting or injurious by the greater amount of hydrochloric acid that is usually encountered in the stomach secretion in such cases. This formation of hydrochloric and other acids may in itself attain such large amounts as to be classed as a separate gastric disorder. When it so presents itself and becomes permanent it is known in Germany and in France as Reichmann's disease, or gastric succorrhea. So far as my experience goes, and in this I am supported by the opinion of Dr. C. S. Fischer, who has charge of the stomach cases at the Vanderbilt Clinic in this city, this disease of Reichmann's is not so common in this country as it is on the European continent, probably because of differences in food and cooking—others, however, as Einhorn and Reed, believe hyperchlorhydria to exist in more than half of gastric disorders. But, as described and as occasionally encountered, the continued excess of free acid is a principal agent in begetting the gastric distress. It is well known that the normal acidity is a large element in promoting the desired peristalsis of the stomach in the act of digestion, and when in excess it will often produce spasm of the pylorus. By many therefore, Reichmann's disease is in its early stages but a spasm of the pylorus, but in its later stages it is generally found to have with it more or less stenosis of the gastric outlet. In either case there may be stasis and dilation. Hence the injunction by Kocher, that if food-products are found after 14 hours' abstention a true stenosis may be thought of, will help in the differentiation of the two conditions. It is in such gastralgia when rebellious to the ordinary means of topical treatment that gastroenterostomy has proved of great value not only by overcoming in this way the effects of obstruction, but, by placing the organ at rest, this operation allows ulcerations, if present, to heal, and the extra amount of acid to escape and to cease tormenting the stomach, which relief in turn permits sooner or later an improvement or cure of the altered glands of the stomach. Led by the good results brought about in this way by the principle of rest of a damaged organ—a principle put into practice so many years with efficacy in the treatment of, for instance, long-standing and severe inflammation of the bladder, surgeons have lately advanced further in the relief of gastric hemorrhage and have put this organ at rest by a gastroenterostomy. This was almost forced upon us by the repeated failures to detect a single or even multiple ulcers when hunted for in the open or even everted stomach. Such ulcers are frequently so small or so little changed in color that during life and sometimes at the autopsy they can be easily overlooked.

This application of a gastroenterostomy for hemorıage has to be considered in two aspects. The quesion is, Shall the laparotomy leading to the gastroenterıtomy be done while the severe hemorrhage is ersisting, or, having just stopped, be then resorted to? nfortunately, judging from those patients in whom this oint has been presented to me for judgment, they e usually so much exsanguinated or shocked by loss of ood that they are not in a condition to withstand an peration which is a comparatively safe one and in enign stenosis of the pylorus has with a number surgeons of experience a mortality of only about)%. It is in the class of cases not so badly off as these ıat surgery can do and has done something— and it is articularly in those in which, after two or three sharp sses of blood, the question of intervention should be ıised. It is also the opinion of Kocher and Mikucz, that frequent and repeated hemorrhages demand ırgical intervention. On clearer grounds rest those ıses of gastric ulcer recognized as such and treated ıeffectually or only to relapse,—such are to be relieved y a gastroenterostomy. Of these Tricomi[1] gives 50 ıses with 6 deaths, treated by this operation.

Contrast this with the death-rate of such cases eated medically. This reaches, Tricomi says, to 1% of those wherein pain or vomiting, etc., were the rominent symptoms without distinct recognition of lcer. There are many similar instances of gastric lcer also, presented by Doyen, who reports 46 cases eated by gastroenterostomy. In about one half f these the pyloric spasm was attributed to a disnct ulcer and the other half to hyperchlorhydria. ı many of these patients there was also noted that nder the chloroform-anesthesia the spasm abated nd the pyloric orifice attained a diameter of 8 to 10 ım. Much more reliable figures than are given by this)mewhat eccentric surgeon are those of Carle, who esorted to a gastroenterostomy in similar conditions 8 times with success, and in whose cases there was ıarked hyperacidity before the operation, which afterard diminished or disappeared. Hartmann, Tuffier, eterson, Nicolayson and others have presented similar ıses. Carle states that in his first cases, 24 in number, he had 2 deaths, 8.3%; but in the last 20 cases, sing then a Murphy button, with a posterior stomachpening, he had not lost a single case.

The cases wherein gastroenterostomy has been resorted) for hemorrhage of the stomach are yet few in number. Hartmann, in 1898, presented 12 cases of this kind ith the heavy mortality of 8, and 4 cures. Of the 9 ıstances in which the measure has been applied for cute hemorrhage since that time 7 have been saved om death and the ulcer has been cured; in 2 others here this operation was done in the interval, both ere cured.

Still another condition in which the operation of astroenterostomy has been employed is that of the yet ıooted lesion of congenital stenosis of the pylorus, which occasionally found in infants. Meltzer, of New York, very careful observer, has reported a case where gasoenterostomy was resorted to, but without success. dler reported a similar case and stated that the miroscopic examination showed a hyperplasia of the ircular fibers. Romme and Pfaundler think, however, ıat many of the symptoms are not due to an abnorıal condition, but are from a purely functional spasm of the pylorus. Stern,[2] however, presented a case in a 5-weeks-old child wherein a gastroenterostomy was vainly done, where the pylorus was the size of a walnut and contracted. He, moreover, reports 10 other cases with similar lesions.

It may finally be mentioned that in a case of tetany, (which is often associated with a dilated stomach and may be caused by it, with a mortality as high as 75%,) Robson[3] successfully performed a gastrostomy. Here, as a permanent means of relief, a gastroenterostomy might be in the future considered.

I have published elsewhere[4] my views on the subject of this operation in the treatment of the marked stenosis, benign and malign, of the pylorus, and only beg now to add 3 cases, 2 of which are recent, illustrative of some of the points set forth in the preceding remarks. They are as follows:

CASE I.—*Hyperacidity; gastralgia; moderate dilation. Diagnosis: Probable pyloric contraction. Gastroenterostomy with enteroanastomosis. Braun's method with Gallet's modification. Recovery.*

I. F. H. C., male, aged 44, a salesman. Has been a dyspeptic for years, but for the past two years has suffered greatly after eating, especially if solid food was taken, with pain in the epigastrium, which lasted for hours and which only was absent when the stomach became empty. He had no nausea nor vomiting, but occasionally regurgitated a watery fluid. No hematemesis ever present. His strength and weight were but little diminished. He was, however, troubled by constipation. Liver and kidneys normal.

On examining the abdomen no tumor was to be felt, but his stomach when distended with 1 quart of water descended 1 inch below the umbilicus; the upper curvature was normal. The size of the stomach varied from time to time and lately it has been much contracted. The stomach motivity was impaired. Chemical analysis revealed by a frequent use of the stomach-tube a more or less constant hyperacidity for free HCl, with rancid odor and signs of fermentation. By Resgel tests the free HCl varied from 1.4 to 2.6, and by Leube's method, 7 hours later, the stomach was one time found empty and of normal size, and on a second trial considerable food-residue was found. Test-breakfasts were found well digested. Lavage has lately detected considerable stasis many hours after meals. He was referred to me, December 19, 1899, by Dr. Charles F. Fischer with the diagnosis as above, and the following was outlined as the probable course of the disease: primary acidity from neurotic influences, secondary pyloric spasms, hypertrophic obstruction resulting in food stasis, fermentation and further acidity, and so on in a vicious circle.

On December 21 I operated under nitrous-oxide gas and ether by exposing the stomach by a median incision starting 1 inch above the umbilicus, and running up about 4 inches. On opening the peritoneum, the stomach, only a very little dilated, was seized, drawn out, and its pylorus examined. It was found somewhat thickened and adherent posteriorly. It was then replaced and the steps of a gastroenterostomy carried out as suggested by von Häcker and Jaboulay and Braun. This consists in first making an enteroanastomosis between the two legs of a chosen loop of the jejunum, which loop is then fastened to the posterior wall of the stomach. Two Murphy buttons are used in this procedure. (See Fig. 1.) In detail the maneuvers are performed in certain definite steps. First, the omentum is drawn out the wound with the large intestine, so that the under surface of the latter with its mesentery is rendered somewhat taut, for then the fingers can be directed towards the vertebral column to the root of the latter, when the

[1] Tricomi, Thirteenth Congress Italian Surgeons, 1898.

[2] *Deutsche med. Wochenschrift*, No. 38, 898.
[3] *Lancet*, November 26, 1898.
[4] *Medical Record*, April 16, 1899; *Medical News*, June 1899.

jejunum can be readily caught and hooked upwards into view. A slight pull on the intestine will determine its duodenal fixation, and then at a distance of 10 or 15 inches from this attachment a loop is chosen for the

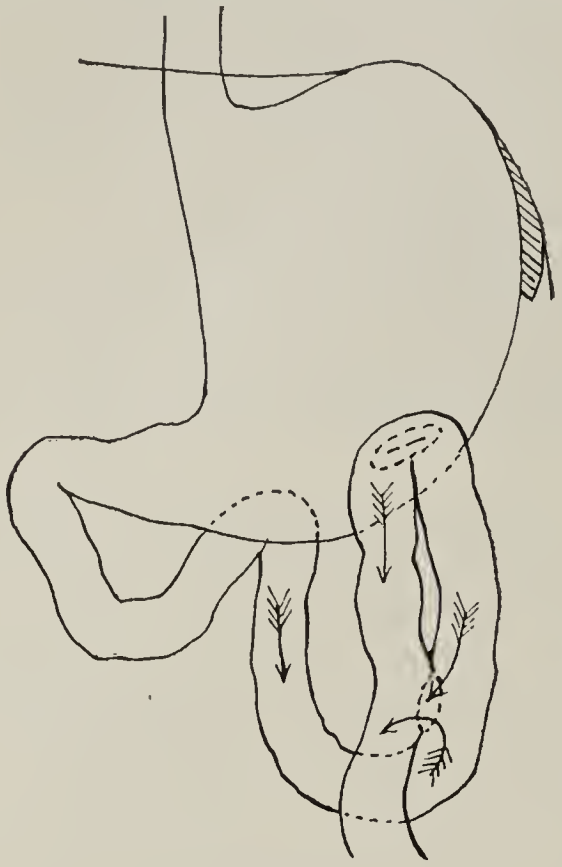


FIG. 1.

opening which is made about $\frac{1}{2}$ to $\frac{2}{3}$ of an inch in extent, opposite its mesentery. The second step is the resort to the enteroanastomosis. (See Fig. 2.) This is used by me now with confidence in its efficacy for preventing the pancreatic and bile-obstructions that obtain so frequently in a single gastroenterostomy, whether placed on the anterior or the posterior aspect of the stomach. It is true that this complication of obstruction is more likely to occur anteriorly when the intestine is attached to the stomach then posteriorly; but experience in

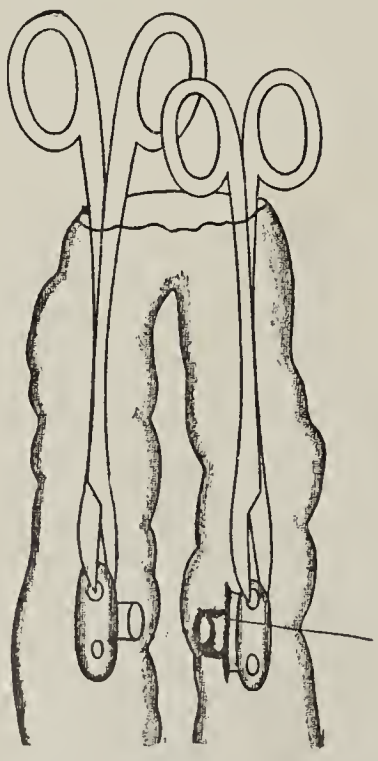


FIG. 2.—Gallet's method of enteroanastomosis.

my last 12 cases has demonstrated to me the value of the additional enteroanastomosis and likewise the important point, that it does not add any operative risk to the patient. It should be remembered it is not used to prevent bile or pancreas-secretion entering the stomach, for these fluids often flow back into the viscus without damage, after these artificial openings and Terrier has further proven their innocuousness in deliberately making a junction of the gallbladder with the stomach (cholegastrostomy). The intent of the procedure is to obviate the obstructions from the valve-like formations in the new gastric outlet to the biliary and pancreatic secretions, passing onwards to the lower bowel, and which often prove fatal unless removed by a secondary enteroanastomosis.

Returning now to the description of the operation this enteroanastomosis is best accomplished, according to the suggestion of Gallet of Brussels, by introducing through the opening just made into the jejunum the half of the smallest button held in an ordinary clamp down one of the legs of the intestinal loop for a distance of 2 or 3 inches, when by lateral pressure the end of the barrel or cylinder of the half button is made visible in outline on the peritoneal aspect of the bowel, when a nick of a scalpel allows it to protrude through the intestinal wall. It is now held in position by the assistant who controls the loop of jejunum. The other half of the button, also held by a clamp, is then passed down the other leg of the loop, projected against, nicked, and pushed through the wall of the bowel, similarly to that resorted to with the first half. The two halves are now apposed and pushed home with some force, for rapid sloughing is a desirable thing in using a Murphy button. At least it is best to make the most to great pressure than to have too little. After the entero anastomosis is completed, the true gastroenterostomy is entered upon. In the jejunal opening is placed the half of the large-sized Murphy button (27 mm. in diameter), to which I have added ovoid flanges for the intestinal half only, to aid in preventing its slipping into the stomach (a not very rare incident and not always harmful). This half-button is held in its introduction by a clamp. The purse-string suture of Murphy can be either now or better primarily applied before the bowel is opened. But I prefer to omit the purse-string suture and to take up any overplus in the incision after the half-button is in situ, by two or three Lembert sutures, as Carle advises, as it thus leaves the edges of the divided bowel more smoothly planted about the cylinder of this half-button. This completes the second act of the operation. The clamp yet holding the protruding button-cylinder is confided to the care of a special assistant, who is to keep the loop of bowel well out of the abdomen and away from the operative field, and who also should collect and remove any intestinal contents that may escape. Some use clamps or fingers above and below this opening to prevent this mishap, but they are unnecessary and in the way.

The third step is the exposure and fixation of the other half of the Murphy button into the posterior wall of the stomach. This is so well known that but a few words need be spent on it. To open into the lesser omental cavity in order to arrive at the rear aspect of the stomach one has only need to cut or tear with blunt scissors and at right angles to the bowel, through the mesentery of the transverse colon. To do this the large intestine which may have been kept out of the abdominal cavity as previously described, if not so retained, can now be fished out again, made slightly taut and the desired opening made through its mesentery. The posterior wall of the stoma

then be felt for, seized with the fingers or forceps drawn outward through this mesenteric gap; unless nd down by adhesions or inflexible from disease it be pulled out enough to appear beyond the skin, ere it can be opened, the other half of the button in- ed and the surplusage of the incision sewn up. The ves of the buttons are then crowded together, and a safety sutures placed around the anastomoses, ugh I often omit these, using them mainly when I e found my incision has been larger than intended hat it has unduly stretched. The parts are finally pped with a sterile salt-solution, the stomach laced through the mesenteric aperture without any uring of the edges of this gap and the wound in the lominal wall duly closed in layers. The patient is wed to swallow boiled water as soon as the effects he anesthesia have passed off. Nourishment by the tum is relied on in the benign cases for 2 to 4 days. malignant cases I may add the earlier use of rishment by mouth is advantageously employed. uch was the operation done in the present case. progress was without remark. On the tenth day smaller button was passed. His daily dejections n the seventh day were watched, but at the end of third week the larger button had not been recog- ed in the feces. It may lodge in the intestine for eral months without symptoms. Most frequently it l be caught in the ampulla of the rectum and hence annoyance there felt should be met by a digital mination. If the button be then recognized an ma will bring about its expulsion. After the fif- nth day I do not hesitate to use occasional purgatives hasten the downward passage of this foreign body. hen long intervals intervene without its appearance, when pain or distress are complained, an x-ray ex- ination will aid in locating it. As to the patient's dition. From the day of the operation he has been olutely free from pain or any of his former distress. hyperacidity has entirely disappeared and his mach-secretions are normal. He is now on ordi- y diet and considers himself a well man.

E II.—*Gastralgic hyperchlorhydria; slight dilation; possible gastric ulcer; gastroenterostomy with enteroanastomosis; cured.*

Ir. D., aged 24 years, gave the following history:

or 10 years he has had pain in the epigastric region after ng, varying in intensity without apparent cause, but wing on the whole worse, especially in the last 2 years. il the past year the pain has only been present in cold ther. It has usually come on only after eating, and has sed as soon as the stomach was empty. The pain has n confined to the epigastric region, and has been of a dull racter. There has been no vomiting, constipation, head- e, loss of weight, and no passage of blood per mouth or rectum. The patient was treated by several physicians Philadelphia without relief.

he symptoms for the last 11 months have been some- at different. In January, 1899, the patient suffered for 3 s with an intense sharp epigastric pain, different from that he had before experienced. The pain was preceded vomiting, but not of blood.

a second attack of the same character occurred in August, 9, lasting 2 days, and relieved by the application of ice. cept at these two times pain had been relieved as soon as stomach was empty, but on these occasions the pain did begin until there had been vomiting for 2 or 3 days.

Dr. Einhorn first saw the patient in January, 1899. At that e there was a dilation of slight degree, the lower margin the stomach reaching 2 fingers' breadth below the umbili- . The acidity was always found considerably increased, o 80, the normal being 50.

Even after a night of fasting, there was partially digested food present the following morning. Sometimes the stomach contained as much as a half-pint of gastric juice.

For a year the patient has washed out his stomach, obtaining very little mucus. The ability to digest has not been much improved thereby, as above stated.

In December, 1899, he was referred to me by Dr. Einhorn for the performance of gastroenterostomy, which was accomplished December 27, and performed as described in the previous case. On exploring the pylorus from without it was found small, soft, and normal; but on the posterior aspect, running nearly an inch into the stomach, was felt a decided narrow hardness suggesting the induration of an ulcer. The stomach was only slightly dilated. He made an uneventful recovery. From the day of the operation his gastric pains have ceased, and his diet after 20 days was increased to ordinary plain food without any uneasiness.

My third case is only in outline, having been previously recorded,[5] but as it exemplifies an important class of stomach-disorders I reproduce it:

CASE III.—*Dilation of stomach without pyloric stenosis and with a movable kidney. Posterior gastroenterostomy with enteroanastomoses by Gallet's method.*

Mrs. B., aged 40, has suffered for 20 years with remittent pain after eating, vertigo, eructations, headache, and lassitude. Stomach dilated vertically. Its greater curvature 2½ inches below the umbilicus. Lesser curvature normal. This was important in connection with the question of a general enteroptosis, as she had also a freely movable right kidney. It was a point of judgment as to whether the kidney or stomach should first be attacked. As most of her distress was of a gastric character, this organ was chosen for the surgical intervention. Stomach motility was greatly impaired. Food stasis nearly always present. No vomiting or hemorrhage. Total acidity 2.0 to 2.4 per 1,000. Free hydrochloric acid 0.1 to 1.1 per 1,000. Peptic ferments normal. Diagnosis by Dr. Fischer, who referred her to me, was dilation from atony of neurotic origin and without pyloric obstruction. March 7, 1899, median laparotomy revealed no abnormality of the pylorus. Stomach greatly dilated. A posterior gastroenterostomy with an enteroanastomosis by Gallet's method was effected. She made a rapid recovery and has since been kept under observation. Her pains have ceased and the stomach-motion has improved and her general condition steadily bettered.

GASTROPLICATION FOR DILATED STOMACH.

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DILATION of the stomach is usually due to some organic disease which eventuates in a stenosis of the pyloric orifice, but there are some cases of dilation of this viscus in which pyloric obstruction plays no part, and it is to this class that gastroplication is applicable, after the failure of simpler measures. This operation, which was devised by Bircher in 1891, has been performed too seldom to allow us to draw any very accurate conclusions in regard to its usefulness and limitations, but in those cases of dilation due to atony, without organic stenosis, it certainly enables the stomach to perform its functions more satisfactorily. I desire to place on record the following case:

Dr. K., aged 64 years, a practising physician, consulted me in June, 1899, and gave the following history: He was always a delicate child, with weak digestion, and subject to headaches. When about 7 years of age he was run over, the wheel of the vehicle passing almost transversely across the upper part of the abdomen. He was unconscious for 48 hours, but does not remember any further ill effects. He

[5] *Medical News*, June, 1899.

grew rapidly and did not pay sufficient attention to his physique. Served through the Civil War as a surgeon in the Confederate army, and at its close entered upon a large practice in this city. In 1869 he had a severe attack of constipation, with much flatulent distention of the intestines, due to a hearty meal of green corn. Purgatives having failed to

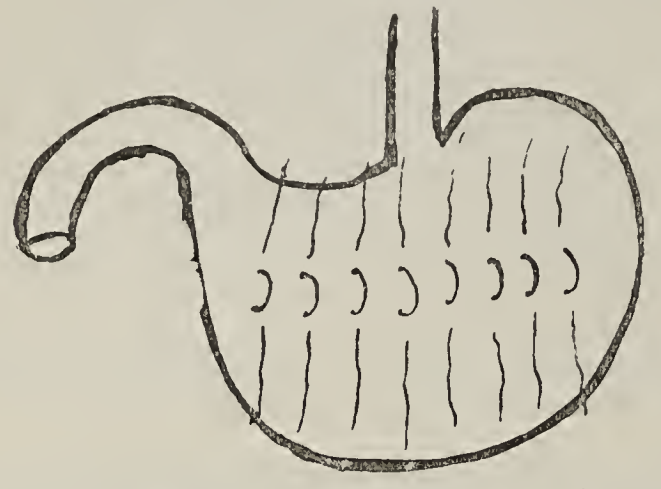


FIG. 1.—Dilated stomach; first row of sutures in position, but not tied.

give relief, a rectal tube was passed for a distance of nearly 3 feet, and an enormous amout of feces and gas was voided. His digestion was hereafter constantly impaired, and, in 1874, he was obliged to give up practice and retire to the country. He remained in the country 12 years, and in 1886 decided to resume practice in the city. His digestion again failed, and in 1899 it was practically gone, and his condition being "unbearable" he consulted my colleague, Professor Hemmeter. At this time he complained of a sense of weight and distress in the epigastric region, with offensive eructations, and an inability to digest the simplest food. Dr. Hemmeter found his stomach to be greatly dilated and to reach almost to the brim of the pelvis, and a chemical examination of the gastric fluids showed a complete absence of free hydrochloric acid, but the presence of the digestive ferments. There was no tumor to be found in connection with the pylorus. A diagnosis of functional dilation due to atony was made. He was directed to practise lavage daily, to eat finely chopped meats, sweetbreads, and a carefully regulated diet, and to recline an hour after each meal, and strychnia and hydrochloric acid were administered internally. No improvement followed this treatment and he was referred to me for surgical aid. In addition to his stomach-trouble there was a freely movable and greatly displaced right kidney, but whether this had any etiologic connection with the gastrectasis I do not know. As food lodged in his stomach and decomposed, I concluded to put a fold in its anterior wall in order to diminish its lumen, and to perform nephrorrhaphy at the same time.

On June 11, 1899, under chloroform-anesthesia, an incision about 6 inches in length was made in the linea alba, extending both above and below the umbilicus. The stomach was exposed and found to be dilated and displaced, its greatest curvature sagging far below the navel. There was no pathologic thickening at the pylorus. The anterior wall of the stomach was doubled on itself and retained with two rows

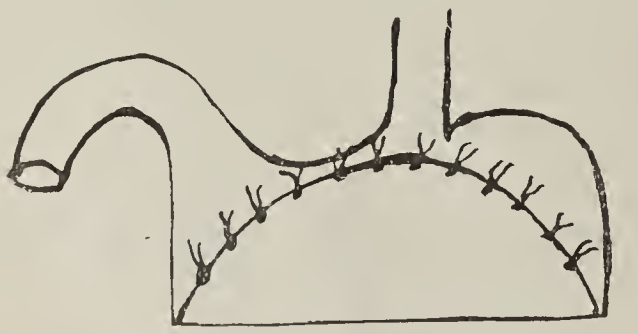


FIG. 2.—Stomach doubled up and sutured with two rows of silk sutures.

of silk sutures, which held it firmly, the greater curvature being sutured almost to the lesser curvature. The size of the organ was now reduced almost or quite one-half, and its appearance was almost normal. The abdominal incision was closed in the usual manner. Nephrorrhaphy was now done through an oblique incision in the loin. The patient was not at all shocked by the operation and was put to be in excellent condition. The highest temperature was reache on the next day, $100\frac{4}{5}$, falling to normal on the fourth da The pulse-rate averaged from 60 to 70 beats per minute. N water or food was given by mouth for 24 hours after oper tion. thirst being slaked by water per enemam, and mill whisky, and eggs were given in the same manner. After 2 hours small quantities of water were allowed to be swallowe Considerable nausea was experienced and some vomiting, f which lime-water, apollinaris, and champagne were give Small quantities of peptonized milk were given on the secon day, and toast and egg with tea on the fourth; in fact, he w able, in a week, to eat food he had not been able to dige for years. For several days after operation he was very res less and could not sleep at night; gr. xx sulfonal by rectu controled these symptoms very effectively. He left hospit on the eleventh day and convalesced satisfactorily. Sev months have now elapsed, and the condition of the patie has been markedly ameliorated. He no longer has the pa and distress after eating, and the stomach empties its completely. His digestion is still impaired and it is nece sary for him to exercise care in his diet, but with th care he is able to take and assimilate a variety of foods whi formerly he could not touch. A remarkable fact in conne tion with this case is the recurrence of free hydrochlo acid in his gastric juice, showing the resumption of the fun tional activity of the peptic glands.

I report this case for what it may be worth. I not claim that a miracle has been wrought, but that stomach which formerly could not empty itself, a which constantly retained decomposing food, now p pels its contents through the pylorus in a nearly or qu normal manner, to the great relief of the patient. Wh

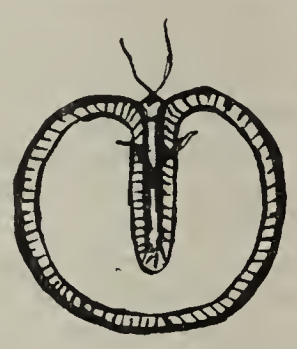


FIG. 3.—Transverse section of sutured stomach showing valve.

the gastric tubules have been destroyed no operati will restore their function, but a reasonably comforta existence may be sustained if the stomach can promp empty its contents into the small intestines, and wh this organ is greatly dilated, without pyloric steno and other means have failed to give relief, gastropli tion finds its proper sphere of usefulness. This ope tion naturally comes in competition with gastroenter tomy, which has been practised for the same conditi but it possesses the advantage of not opening stomach, and is consequently a less serious procedu The mortality is very small, as only one death has b reported, as far as I am aware, and the functional resu have been excellent.

DIRECT ELECTRIZATION OF THE STOMACH, ES CIALLY BY HIGH-TENSION FARADIC CURRENT

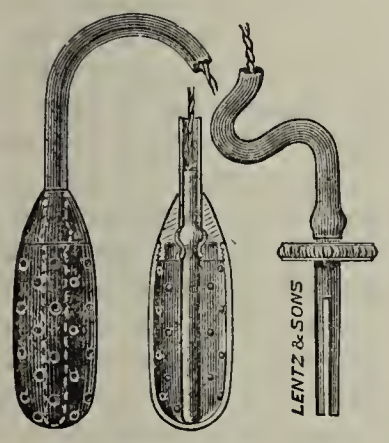
BY BOARDMAN REED, M.D.,
of Philadelphia.

THE direct application of electricity to the stom is entirely practicable with the instruments now obt able, and is an even simpler procedure than lav Since the promise has been given that this article s

[1] Read by invitation before the Lehigh Valley Medical Association, Ja 25, 1900.

a short one, it will be out of the question to attempt ything like an exhaustive review of the subject. ffice it to say, notwithstanding some claims to the ntrary, that during the past ten years there has accu-ulated a large array of evidence, both experimental d clinical, in this country and elsewhere, to the fact at direct electrization of the stomach through an ctrode within the viscus, the current being completed the application of the other pole either to the back the epigastric region, can cause contractions of its lls and a diminution of its size. There is clinical stimony also from a number of observers to the fact at the innervation and secretory function of the mach can be powerfully influenced in the same way.

Lest it be inferred that the method must be compli-ted and difficult, one, therefore, which could have ly a remote interest for general practitioners, let it be peated and emphasized at the outset of this discus-on, that intragastric electric treatment is at least as mple as lavage, producing even less strain upon a ak or nervous patient, and for persons accustomed to e tube, unless in a case of gastric ulcer, is by no eans so dangerous in its possible consequences, when ongly used, as are drugs recklessly and unskilfully escribed.



This is so true that, with the instrument and method w employed for this purpose in my practice, I not ly advise family physicians how to overcome atonic nditions and dilations of the stomach by this means, t also instruct nurses, and in exceptional cases even e relatives or friends of patients, so that they can minister the treatment safely under my general pervision.

This means, of course, that the method has been uch simplified since the earlier experiments with it. r. Charles G. Stockton, of Buffalo, was the first in merica to employ electricity in this manner, having gun using it in 1887. He devised a very ingenious ectrode, which he has continued to use up to the esent time with excellent results. It was fully de-ribed in a paper by him in 1891.[2]

He has seen markedly curative effects in cases of omachs with weakened or apparently absent motility, gastric dilation, catarrh, atrophy and in "some in hich the hydrochloric acid existed in excess."

Subsequently Einhorn had constructed a small and ry flexible cord terminating in an electrode enclosed a perforated guttapercha capsule, which can be vallowed easily by experts, but cannot be pushed own. Ewald finding this difficult to manage, im-roved on it by enclosing the too flexible conducting rd in an ordinary soft rubber stomach-tube, which is uch more easily introduced in the case of patients with rebellious throats. Two years ago, by some further modifications, I evolved the intragastric electrode which I here show you (see illustration). With some trifling improvements recently made in it, this now meets my requirements better than any other. The bulb or capsule covering the bit of metal which constitutes the electrode proper, is much narrower as well as longer and more sloping at both ends than that of the Einhorn and Ewald instruments, so that it is easier both to introduce it into the stomach and to get it out again, which is equally important. The cord is composed of spiral wire covered thinly with rubber, and has, like the Ewald electrode, enough firmness to enable it to be gently pushed through a spasmodically contracted esophagus and yet is so small as not to provoke usually any appreciable flow of saliva. It does not prevent talking or drinking, or otherwise annoy the majority of patients during the five to eight minutes that each treatment must last. These are all extremely practical points in carrying out the method in nervous or fussy patients.

Boas in his work on the stomach[3] describes and pictures an intragastric electrode which should be effective but involves the same inconvenience usually experienced in washing out the stomach, owing to the prolonged contact of a tube of considerable size with the throat and mouth.

I have never used the Stockton electrode, but it must have distinct advantages for cases requiring a preliminary lavage. My experience with electricity applied within the stomach has been somewhat striking as to the effects on secretion. Besides finding it helpful in certain cases of gastralgia, and in some cases of obscure gastric pain of unknown origin, using here the positive pole of the galvanic current with a strength of five to ten m.a., I have found the ordinary faradic current in virtually all cases of muscular atony, or atonic dilation, decidedly beneficial and sometimes rapidly curative. The slowly interrupted current of any faradic coil with a strength just sufficient to produce contractions in the stomach, and the currents obtainable from the familiar faradic batteries in general use having coils of short, coarse wire and not of a very high power, I have found not only to improve the motility and gradually to contract the stomach, when it was enlarged, but also as a rule to stimulate the gastric glands and increase the percentage of hydrochloric acid, in those cases at least in which the latter was below the normal without atrophy having developed.

Except in a single case reported below, I have never employed this form of faradic battery in hyperchlorhydria, considering its effect as generally tonic and stimulating. I believe that it always tends to stimulate at first and that, just as very large doses of drugs can overstimulate and depress, and moderate doses frequently repeated often do the same, so a very powerful faradic current for a short time, or even a mild one daily applied for a long time (as in Case 1), can and does produce depression of the glandular function. Doubtless there is a possible dose of faradism which could rapidly depress the motor function also, but this would likely be so strong as to be intolerable. There is the probable danger, however, that even a too long continuance of moderate currents directly applied to the stomach-walls would in the end lower the motor function.

With a good high-tension coil it is possible to apply

[2] The Use of the Gastric Electrode in Diminished Peristalsis. By Charles G. ockton, M.D. *Medical Times and Register*, November 7, 1891.

[3] *Diagnostik u. Therapie der Magenkrankheiten*, I Theil, S. 298.

a much stronger current painlessly than with the ordinary coil, and hence the depressing effect on secretion is rapidly obtained.

My experience teaches that such a coil with a long fine wire and rapid interruptions applied with one pole in the stomach and the other in the form of a large, flat, sponge, felt or clay electrode, over the epigastrium, will almost uniformly and rather speedily as a rule lessen the percentage of the hydrochloric acid in the gastric juice, whether it was previously normal or in excess. Having early learned of its markedly depressing effect upon the glands, I have never employed the high-tension coil in a case of deficient gastric secretion, but have learned to rely upon it of late as my sheet-anchor in stubborn cases of the opposite class, in which there is excessive secretion—hyperchlorhydria.

My discovery of this power in faradic currents of high intensity was accidental. While in general practice I had come to make considerable use of such currents in ovarian pain and other conditions accompanied by obscure pain or discomfort in the pelvis. For this purpose I had obtained one of Kidder's best high-tension faradic batteries and, after replacing its troublesome dry cells by an efficient Grenet cell, found it a most useful machine. When I began to make a large use of electricity in the stomach, this particular battery proved to be the most convenient and reliable one in my outfit, and so was most frequently employed. I was soon surprised to observe a rapid diminution in the proportion of hydrochloric acid in the stomach-contents of cases thus treated.

I shall report here only two fairly typical cases out of the many I have seen cured or greatly benefited by intragastric electricity. Numerous cases which involved motor conditions with or without dilation have been reported by me in previous papers [4] and I will therefore confine myself here to reports of those in which the effect on the secretion was especially marked.

The first case which was treated by me with the help of intragastric electricity has been referred to briefly in a previous paper,[5] but shows so strikingly the great value of this method in even a very desperate condition, that a fuller account of it will be given here :

CASE 1.—Lady, aged 22 years, unmarried, was sent to me from a town in Central New York. She had been for years out of health in various ways. When she came under my care she had dilation of the stomach with some gastroptosis, very movable right kidney, and catarrh of the whole gastro-intestinal tract, with extreme emaciation, prostration, and anemia. There was excess of the gastric secretion, the free HCl being .182, and the total acidity 90. The lower boundary of the stomach was 3 inches below the umbilicus. The upper boundary was only 1 inch above the lowest rib in the left parasternal line. She was barely able to walk and was daily growing weaker as well as thinner. There was also a rise of temperature to 100° or higher every afternoon. I put her to bed, ordered lavage and a very restricted diet with some rectal feeding, after irrigation of the colon. Tonic medicines were also administered per rectum. In spite of all this the improvement was slight, and after a time a moderate faradic current from an ordinary cheap coarse coil was applied every day with one electrode in the stomach and the other over the epigastrium. To avoid fatiguing the patient too much, the electricity was administered not directly after washing out the stomach, but at another time of the day. These various measures, except the rest in bed, were continued more or less persistently during a period of 3 months, after which the applications of electricity were made ever second day. By the end of the 3 months the stomach ha decidedly retracted in size, the lower border being the found 1 inch above the umbilicus. The patient had gaine many pounds in weight, was much stronger, and the propo tion of HCl had steadily lessened. An examination of th stomach-contents made about ten weeks later showed a absence of free HCl and a total acidity of only 35; her in provement continued. Two years after my treatment bega though she had meanwhile returned home and reported me at long intervals only, I found her with a good colo plump and strong. Her digestion was reasonably good wi moderate care of her diet. The former loose kidney cou no longer be felt. She remains still in fairly good healt though not robust.

The foregoing having been the first case in which applied any form of the electric current within t stomach, I was inexperienced, and thought only of th very serious condition of dilation and stagnation, wi the resulting alarming failure of nutrition. I had th had a limited experience only with hyperchlorhydr and did not realize that this condition, by producing spasmodic closure of the pylorus, had doubtless be the chief cause of the dilation. In making the dire electrical applications to the stomach, I looked up them as an extreme measure for combating the dange ous motor condition and did not consider the effe upon secretion. Therefore, frequent tests of the sto ach-contents were not made as is my present custo in all such cases, else the percentage of HCl wou not have been allowed to be lowered so far. But wi the administration of hydrochloric acid and pepsin medicines, and later tonics by the mouth, the gast juice soon regained its normal strength.

It was not until a year or more later that I began employ the direct electrization of the stomach in ma cases, and then again with the sole idea of strengthe ing weak motility and overcoming dilation, having thought any more than at first of its influence up secretion. As already explained, a high-tension c chanced then to be used mainly, and its depress effect upon secretion was so striking as to compel i mediate attention.

Occasionally I encounter cases of hyperchlorhyd in which it proves impossible to bring down the exc sive secretion by even the fullest doses of alkalies a belladonna, which are the most powerful medici remedies we possess for the purpose. Of late I h learned to turn to intragastric electricity in these ob nate cases. My high-tension faradic coil very seld fails me in such emergencies. The following case illustrate its action :

CASE 2.—Widow, aged 35, long neurasthenic and dyspep Right kidney very movable. Stomach somewhat dilat constipation and some intestinal catarrh. Percentage of in gastric juice excessive when patient first came under care 3 years ago. The hyperchlorhydria was then soon c troled by the usual remedies, and with it most of her c plaints disappeard. But there have been recurrences si due probably to reflex irritation from the floating kid In March, 1899, she returned with the HCl in greater ex than ever before, and this time persistent treatment by c alkalies, belladonna, etc., failed to control it. Finally high tension faradic current was applied through my in gastric electrode six times at intervals of 2 to 3 days the result that the percentage of HCl came down .051. It had been as high as .196 after the Ewald test-br fast. I urged operation, which the patient declined. September last she returned with marked hyperchlorhy again, and besides, whenever we tested her stomach-conte bile was always found present, showing probably pressur the kidney on the duodenum below the point of entranc the common bile-duct. She had lost much flesh and

[4] Dilation of the Stomach, with Reports of Cases Treated by Diet, Massage and Intragastric Electricity. *Journal American Medical Association*, July 30, 1898; and Displacements and Dilations of the Abdominal Organs; Their Relation to Faulty Modes of Dress, and Their Treatment. *Therapeutic Gazette*, September, 1899.

[5] International Clinics, Vol. I, Seventh Series.

or was very sallow. Again I tried to relieve her by means liet and full doses of the usual remedies and, again failing, lied the high tension current within the stomach in ad- on to the administration of the remedies internally. in there was a prompt diminution of the HCl secretion he normal. This patient has finally consented to have floating kidney fastened in place.

Several other cases are now under my charge with tories almost identical with the foregoing. The ients are either maiden ladies or widows who have se right kidneys, though none of the other has such eflux of the bile into the stomach. All have attacks severe and persistent hyperchlorhydria which re- nd speedily to the high-tension faradic current with le or no medication, while it has proved either very ficult or impossible to relieve the condition in them means of drugs alone, even with the help of diet. could instance a large number of cases of hydro- oric acid excess in which the high-tension current ectly applied has proved the most effective of the nedies employed, but it seems unnecessary to report re of them in detail.

A few words more as to the technic of this method of ministering electricity. My patients after a light, early akfast have come for this treatment not earlier than A.M., and those with very sensitive stomachs and r motility, preferably at 12 or later. One or two sses of water, according to the capacity of the mach, are then taken and a large flat electrode well- ted applied over the epigastrium. Then the battery ng ready, the patient while sitting on the side of a nge or couch, swallows the intragastric electrode h a little guidance and gentle pushing, if necessary, the part of the physician, and afterwards lies down. e current is turned on gently at first and the strength dually increased to that which the patient can com- ably bear, which is a very much stronger one with igh-tension coil than with an ordinary faradic tery. Five minutes of such a current every other , I have found enough. More has sometimes pro- ed harmful depression with loss of appetite, and r 12 or 15 such treatments, if the desired result has been sooner accomplished, it is best to intermit m for a week or two. But the slowly interrupted inary faradic current of moderate strength can often applied advantageously for 5 or 8 minutes every other for much longer periods in cases of anacidity or rkedly lowered secretion of the gastric juice, with or hout catarrh. It needs to be strongly emphasized, vever, that in all cases in which electricity is applied hin the stomach, especially in those in which there ydrochloric acid excess for which a high tension- rent is being used, there should be a quantitative of the stomach-contents about every week, or, at longest, every two weeks, to prevent the risk of in- ous overaction.

A very few patients will be seen in whom no kind intragastric instrument can be used without a mful amount of disturbance. But the electrode ployed by me is more easily introduced than the inary stomach-tube and, once in position, rarely asions any annoyance at all. The exceptions are prised by a small proportion of cases in which sea is experienced when the current strength is eased beyond a certain moderate limit. In these, ilder current needs to be used and a longer course treatment is therefore required to effect the desired lt.

MOTIVITY OF THE STOMACH.

By FENTON B. TURCK, M.D.,
of Chicago, Ill.

THE frequency, full significance, phases and degrees of motor insufficiency of the stomach without pyloric obstruction have not yet been sufficiently recognized by the medical profession. The object of this paper is to discuss the subject, to emphasize the fact that motor insufficiency is perhaps the most common of all stomach-disorders, and that correct diagnosis and the application of the most rational remedial measures is absolutely essential to the successful treatment of patients who suffer from impaired digestion and allied disturbances.

The etiology, symptomatology and pathology of motor insufficiency cannot be embodied in a single word, as the general and special pathology is not always known and as it cannot be determined whether the conditions found are symptoms of a general disease or primarily local.

Motor insufficiency may be etiologically divided into two classes :

a. Those due to mechanical obstruction.

b. Those in which muscular weakness, relaxation, and lack of motor power are present without pyloric obstruction.

The first class of cases present an obstacle to be removed by surgical means.

The second class of cases with which this paper especially deals was clearly recognized by the older writers, such as Penzoldt, Schreiber, Allbutt, and others, as well as by more recent observers, Riegel, Ewald, Boas, Einhorn, Hemmeter, etc. Much confusion has, however, resulted from the varying opinions held by these authors in regard to the degrees of motor insufficiency, their frequency of occurrence, and pathologic significance.

The difficulty of deciding correctly whether the disturbance is local or the effect of general pathologic conditions is almost insurmountable when the overwhelming array of possible etiologic factors is considered. There is hardly a condition, from the improper feeding of infants and the diseases of childhood to the errors of diet and diseases of old age, that may not be a factor to be taken into consideration in accounting for the failure of the stomach to churn the food and transport it into the intestines.

This being admitted, we may safely assume that in almost all cases the essential conditions found in motor insufficiency are relatively local. The stomach-musculature may have been weakened by various diseases or conditions so that it is unable to perform the amount of work required in normal limits. The cause of the permanent weakness or insufficiency is, however, due to the fact that while it was in a weakened or relaxed condition it was called upon for work which it was unable to do. Overwork or abuse of the stomach is the most common cause of this condition, and rational treatment should be directed toward the removal of this factor.

Muscular weakness and resultant dilation of the stomach may also be produced by excessive weight, bulk or improper quality of food, or by too frequent meals. To these factors may be added disturbances of the vascular or nervous system, especially disturbances of the vagus and other pathologic conditions which impair the muscular power of the stomach.

It must be borne in mind that a weight and bulk of food and a frequency of taking food which would be

normal in health might be excessive when the stomach was weakened by disease.

When motor insufficiency of the stomach is the result of, or is associated with, other, even incurable diseases, such as tuberculosis, nephritis, tabes dorsalis, etc., it is necessary to attempt first by every means at our command to overcome the failure of the gastric muscles and to restore the stomach-musculature to its normal condition.

The serious symptoms which result from motor insufficiency and retention are not due to starvation alone, but the retention undoubtedly produces disturbances so profound and of such rapid development that they cannot be accounted for by lack of nutrition alone.

In almost all these cases vasomotor disturbances, especially splanchnic congestion, cold hands and feet, blanched features, lowered blood-pressure, tachycardia, with accentuated second sound at the base of the heart, and certain peculiar nervous disorders are observed.

The experiments of Mayer and Priebram have demonstrated that dilation of the stomach has an inhibitory influence on the heart. From my own experiments I have found that the degree of distention of the stomach as regards this inhibitory action is of less importance than the duration of the dilation. Intermittent distention and contraction has a powerfully stimulating effect, which has been used to advantage in the pneumatic gymnastic treatment of the stomach which has already been reported.

A large number of experiments on dogs, which I have made, has demonstrated that moderate distention of the stomach tends to favor the flow of blood through the splanchnic area, while extreme distention obstructs the venous circulation by excessive air or water-pressure upon the walls. When such pressure was allowed to continue for fifteen minutes, tachycardia, visceral congestion, and dyspnea became very pronounced, and when the pressure was continued collapse usually resulted.

Whether similar results followed direct pressure in cases of motor insufficiency I am not prepared to say, but the stagnation of food-contents resulting from retention gives rise to gases, and it seems possible that this pressure, together with the constant pressure of food and liquid in the stomach, may produce serious vasomotor disturbances.

Retained food-products furnish another possible source of irritation. Schreiber concludes that the irritating action of retained food-remnants in the stomach is remarkable, especially when the effect of retained or constantly supplied gastric secretion is added to it.

The aggregate of these factors, however, is not sufficient to account for all the dangerous symptoms and the often very rapid decline of patients suffering from motor insufficiency and retention. Possibly the greatest etiologic factor in this condition is the presence of one or more of the toxic products of decomposition.

Gerhardt, Bouveret and Devic, Albu, Ewald, Hein, Loeb, Schlesinger, and Baginsky, explain tetany on the basis of gastrointestinal autointoxication. In my opinion, not only tetany but also the more common symptoms accompanying motor insufficiency and retention are also caused by the accumulating effect of toxic substances. The toxic effects of stagnant stomach-contents have been demonstrated to be far greater than those of normal stomach-contents when injected into rabbits or other animals. These conclusions are the result of many experiments made by myself during the last few years, some of which have already been reported.[1]

Whatever may be the relation between the objective and subjective symptoms and motor insufficiency, the fact remains that the general pathologic condition found are weakening of the muscles of the stomach and pronounced vascular disturbances. Clinical experience has shown that as soon as the motor power o the stomach improves and the circulatory disturbance begin to disappear the symptoms lessen in severity.

The complicated pathologic conditions and symptoms found in motor insufficiency of the stomach ar oftentimes most difficult to trace. The nervous phe nomena result in many vague symptoms which in crease the difficulty in determining the relation cause and effect. It may be that therapeusis directe to the gastric myasthenia and the splanchnic vascula disturbances affect, either reflexly through the nervou system, or directly through the circulation, patholog conditions in other parts of the body.

The symptoms accompanying motor insufficienc may be divided into those due to :

a. reflex irritation;
b. toxins;
c. disturbances of the circulation, and
d. malnutrition.

Reflex symptoms may be due to the presence of no mal stomach-contents such as food, water, mucus ar secretions acting as irritants, either mechanically, b reason of excessive bulk or weight, or chemically a for instance, excess of hydrochloric or of organic aci produced by bacteria. Certain articles of food may al act as chemical irritants as, for instance, organic aci pepper and spices of all kinds. Normal products digestion, like albumoses and peptones, being tox may also be considered as chemical irritants. Gas in the stomach must be classed among the reflex ir tants. The symptoms produced by the above-nam irritants, and which may be classed as reflex symptor are sensations of pressure in the region of the xiphe appendix, cardialgia, pain and distress over the ent breast, pain in the back, vomiting, burning sensati along the esophagus and throat, headache, disturb heart action due to vagus irritation, and perversion the appetite, such as hunger with a full stomach anorexia with an empty stomach.

Toxins may be either of bacteriologic origin or n mal products of digestion, peptones, or secondary al moses. The toxic properties of the albumoses are normally observed, because they are probably not p duced in very large quantities, since the soluble syn nin and primary albumoses are at once passed into intestines and elaborated, then taken through mucous membrane, and in transit converted into n toxic serum-albumin. With motor insufficiency, h ever, different conditions prevail. The peptones r be formed in large quantities in the stomach and ac mulate there, as no absorption occurs in the stoma and may then pass into the intestines in such qua ties as not to be wholly converted into serum-albu during transit into the blood or lymph-channels. F thermore, it is by no means improbable that the stage of the process of digestion, namely, the absorp of albumoses, with conversion into serum-albumin, also be impaired and thus permit more or less of t albumoses to enter as such into the circulation.

[1] *New York Medical Journal*, 1896, February 22, p. 233.

Among symptoms due to toxin may be mentioned ervous disorders of all kinds, headache, vertigo, visual erangement, asthmatic attacks, tachycardia, dyspnea, etany, agarophobia, etc.

The symptoms produced by disturbances of circulation are probably, as a rule, the result of a reflex irritation, or toxins. Notwithstanding this fact, it may be permissible to include these symptoms under a separate classification. As they have already been detailed, it will be unnecessary to again enumerate them.

Symptoms of Malnutrition.—Malnutrition is a condition of cellular starvation due, in part, to a deficiency in the amount of food brought to the cells, and in part to a deficiency of excretion from the cells. There are also, in all probability, cases of primary starvation, when the food is either insufficient in caloric value for the needs of the body, or when one constituent, protein for instance, is not sufficient to replace what is lost by the destructive metabolism of the tissues. Any of these forms of malnutrition or starvation are attended by a number of very serious symptoms, which may be due to some form of autointoxication, in addition to the ordinary symptoms, wasting away of adipose and cellular tissue. The lack of sufficient water often produces complicated symptoms of malnutrition.

Pathology of Motor Insufficiency.—The general pathology of motor insufficiency may be said to be identical with the pathologic conditions of the cells of the stomach-wall. The factors, the failure of any one of which may transform the cell from a physiologic to a pathologic condition are :

a. A sufficient amount of available potential energy, that is, nourishment.

b. A supply of oxygen sufficient to convert the potential energy into kinetic or living energy by proper oxidation of food-material, and

c. A sufficient vascular supply to carry carbon, nitrogen, and oxygen and to remove the waste products produced by the chemical changes in the active cells.

The pathology of motor insufficiency is therefore undoubtedly due at first to some faulty adjustment in one or another of these factors. In the pathologic condition which finally results it may make little difference whether the original cause was a sufficient supply of energy-holding compounds or of the necessary oxygen or blood-supply, or an accumulation of the waste products of the cell until any one of these would give rise to cellular and muscular fatigue.

The stomach is, however, an organ to which powerful physiologic stimulants, as food, and also artificial stimulants, such as condiments, are applied irrespective of the fatigue and need of rest of the muscles of the organ. As a result of repeated, untimely and excessive stimulation (irritation), the fatigue of the muscle and the possibility of regaining the lost tonus becomes less and less. With this fatigue, however, the irritability of both muscle and nerve-cells decreases, thereby saving the muscles from complete exhaustion. Muscles thus forced to work after fatigue has been developed, require a time for recovery which is out of all proportion to the extra work accomplished, as has been shown by the experiments of Maggiora.

The reason why so many different etiologic factors of motor insufficiency can be given is plain. Any condition which weakens the general system also fatigues the muscles of the stomach, and this fatigue may be the result of an almost infinite number of local or general disorders. During such periods of general muscle-fatigue the musculature of the stomach, unlike that of the rest of the body, with the exception of the heart, is being stimulated continually and thus forced to perform a large amount of work after it is already in a state of physiologic fatigue. The natural result, therefore, is a pathologic fatigue with increasing difficulty in recovery of tone until more or less complete exhaustion, that is, motor insufficiency, results. This condition may remain permanently long after the general system has recovered from its temporary debility.

The muscular walls of the stomach may be subjected directly to a similar condition of pathologic fatigue by excessive eating, drinking, etc.

Overwork and consequent fatigue of the muscles of the stomach as of other muscles result in the increased extensibility or elongation and diminished elasticity of the muscle-fibers. This elongation progresses with the stretching of the muscles, and the stomach becomes proportionately enlarged. Though the stomach may retract to near its normal size when empty, it may still be very much enlarged after a meal because of the increased extensibility of its muscles.

Any of the influences enumerated, such as lack of blood, fatigue, disturbances in the nerve-impulses, lessen irritability of the stomach-musculature and decrease the power to liberate energy. In this lessened energy is to be found the cause for the lack of motor power.

Therapy.—Diet. It is universally recognized that errors of diet are among the most important etiologic factors of motor insufficiency of the stomach. Errors of diet, however, possess no special significance unless we know what a normal diet should be in the individual case.

The physiology of dietetics is still largely theoretical. The estimation of the caloric value of food seems to be a step toward more exact determination of the kind and quantity of food necessary to sustain body metabolism. Much valuable information in regard to the digestive power of the stomach on different foods and in regard to the time required for the food to pass out of the stomach has recently been obtained. It is extremely difficult, however, to determine the relative food-value in various pathologic conditions of the gastrointestinal tract and this is especially marked in motor insufficiency of the stomach.

The two conditions to be considered, namely, relative digestibility and nourishing value of the food, are by no means easy of determination in these cases. A given quantity of food which possesses a certain nourishing value in health shows marked variation when motor insufficiency is present. In some acute diseases it has been observed that the power of the stomach to digest a normal quantity of food is lost. The regular meal is not digested, but remains in the stomach and becomes a source of intoxication rather than of nourishment to the patient. The latter may thus be practically starving and yet have a stomach overloaded with accumulalations of undigested food.

Retarded digestion, which is shown by the fact that the food remains in the stomach longer than in the normal condition, may occur in many cases, whether the amount of food taken is great or small. Difficulty of digestion seems often to be a matter of time rather than of the amount of food present in the stomach, and a small test-meal may remain as long as a full meal. Increased sluggishness on the part of the stomach-musculature and decreased contractibility may be

physiologic, but in motor insufficiency passes the limits of the physiologic and becomes pathologic.

The conditions of the stomach which must be recognized in considering the dietetics of motor insufficiency, are:

1. Lack of mechanical power of the stomach to reduce the food to a fine pulpy mass, capable of being forced through the pylorus into the intestines.

2. Lack of irritability of the stomach mucous membrane by reason of which the muscles do not receive the stimulation necessary to cause contraction. This condition may therefore result in retarded digestion even when the muscles of the stomach are normal. The result is the same, namely, a more or less prolonged retention of food, whether the defect lies in the muscles themselves, the mucous membrane, or end nerves.

It is clear that the diet to be employed in these two classes of cases must be widely different. If the muscles are weak the food must be carefully prepared with reference to its physical consistency, and periods of rest must be afforded the muscles to permit them to recover from their state of fatigue.

On the other hand, if the mucous membrane fails to transmit the necessary stimulation to the muscles then the food may be coarse and full in amount. A certain amount of stimulation is thus transmitted to the muscles partly by the weight of food, whereby the muscles are extended, and partly by the irritation due to the coarseness of the food-particles.

Treatment.—a. With hyperacidity. With pronounced hyperacidity it is necessary to withdraw all food from the stomach for a time and give the organ a prolonged period of rest. Give food by the rectum twice a day and water by the rectum for one week, giving in addition subcutaneous injections of physiologic salt-solution.

In the second week give food by the stomach once every other day, continuing the rectal feeding.

During the third week give food by the stomach once a day, still continuing the rectal feeding.

In the fourth week give two meals a day and continue gradually to increase until the normal condition is reached.

All food should be reduced to as finely divided a condition as possible, and little liquid should be given.

b. Without hyperacidity. Feed the patient twice daily and stimulate the gastric mucous membrane. The methods have already been detailed in my articles on "Pneumatic Gymnastics" (*British Med. Journal*, October 29, 1898), and "Methods in Gastric Therapeutics" (*Lancet*, January 28, 1899).

The space at command will not permit detail of therapeutic methods at length, but information on the subject may be obtained from the articles referred to above.

THE DIAGNOSIS OF GASTRIC ULCER WITH REPORT OF CASES.

BY FRANK H. MURDOCH, M.D.,
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THERE is, perhaps, no disease, which, even at the present day, so frequently passes unperceived as gastric ulcer. I do not refer to those latent cases which produce no symptoms during life, and which are discovered only postmortem (Brinton states that ulcer of the stomach is found either open or cicatrized in about 5% of persons dying from all causes), but to those cases which do produce symptoms that are attributed however not to ulcer but to dyspepsia.

Sometimes gastric ulcer causes no symptoms whatever until perforation occurs, as in a case reported by Dieulafoy,[1] and if perforation may occur as the first sign of ulcer it follows that hemorrhage also may be the first symptom of this most serious disease. These cases, however, are the exception, for usually the diagnosis can be made before either accident has taken place.

The most important point in the diagnosis of gastric ulcer is to *think* of ulcer, for we certainly cannot expect to find what we do not even suspect.

Patients with gastric ulcer usually give a history of long-continued stomach-trouble. They complain of having experienced distress in the gastric region immediately after eating due to the presence of solid food in the stomach, or the distress may come on, though much less frequently, 2 or 3 hours after meals, due to the secretion of hyperacid juice, or they may complain of bad taste, or of pyrosis, or of much bloating and belching, especially after meals, or of nausea or vomiting, which, when it does occur, is usually soon after eating, and by it distress may be relieved. Female patients may also be unable to wear their clothing as tight as formerly on account of the pressure being uncomfortable.

Pain is an exceedingly important symptom, and was experienced by nearly one-half, 10 out of 22 patients, whom I have treated for gastric ulcer. It is commonly felt soon after the ingestion of food, although it may come on two or three hours after eating. It may be a pain which the patient can endure or it may be so severe as to be intolerable as in the following case:

On January 1, 1899, I was summoned to see Mrs. K., whom I found in bed, and who gave the following history: She was 30 years of age, and had been complaining of stomach-trouble for 7 years. In June, 1898, one forenoon, while going about her household duties, she was suddenly seized with such excruciating pain that she fell to the floor, and was obliged to remain there nearly an hour, before she was able to be removed to her room. During September, October, and November, she had frequent attacks of pain which were relieved by hot applications, but the day after Christmas she had such a severe attack, that the physician who attended her was obliged to put her under the influence of chloroform in order to relieve her. When I saw her she was thin, pale, and discouraged, and unable to take even liquid food without experiencing pain. Examination showed that the heart, lungs, liver, and kidneys, were normal, but there was one small circumscribed spot of great tenderness midway between the xiphoid cartilage and the navel. The diagnosis of gastric ulcer was made and the patient treated accordingly. After commencing treatment she had no further attacks of pain and made a good recovery.

The pain of gastric ulcer is usually referred to the middle of the epigastrium just below the ensiform cartilage. Ewald states that the boring, sharply localized pain frequently darting from before backwards is characteristic. There is also frequently a gnawing pain felt in the back, to the left of the lower dorsal vertebræ. A most important point to be remembered is the fact that the pain of gastric ulcer, at least after the patient has been put upon a proper diet, is promptly relieved by orthoform. Hemorrhage, which occurred in one-third of Anderson's[2] cases, and in about one-seventh of my own, is a symptom of very great value. If hemorrhage from a large vessel has taken place it may even happen that the patient dies before any vomiting has

ccurred. In most cases, however, gastric hemorrhage not lethal.[3]

Having been led to think of ulcer by one or more of ne symptoms mentioned, the next thing to do, except- ng where there has been a recent hemorrhage, is to ake a careful physical examination. This is done by ausing the patient to unfasten the clothing and lie flat n the back. Then, with the middle finger of the right and extended, moderately firm pressure is made at ntervals of an inch, beginning just below the xiphoid artilage, and extending down the median line to the avel, unless the stomach is displaced, and then of ourse pressure must be made according to its location. f we find a small circumscribed spot of tenderness in ront, we then cause the patient to turn on the right ide and make firm pressure along the left side of the pine in the neighborhood of the tenth or twelfth dorsal ertebra, and frequently a very tender spot will be found n that locality. It seems remarkable that more stress as not been laid upon the value of these tender spots n the diagnosis of gastric ulcer, for the circumscribed pot of tenderness on front was present in all my cases xcepting two, and in these there had been hematem- sis, while the corresponding tender spot in the back vas present in 13 cases.

Osler[4] says local sensitiveness over a particular spot n the epigastrium is suggestive of ulcer. Ewald[5] re- narks that localized tenderness to the left of the welfth dorsal vertebra is very frequently observed, but ne does not speak of localized tenderness on front. Loomis[6] says the pain is circumscribed to a spot rarely arger than a silver dollar and is accompanied by ten- lerness on deep pressure.

Dreshfeld[7] relates the following case. One morning ne was called to see a young woman who simply com- plained of pain after food, so severe that she had to lie lown, but it soon passed away and she was able to do ner work. Physical examination of the chest and ab- lomen revealed nothing abnormal excepting tender- ness over a limited area in the epigastrium, so the case was diagnosed as one of chlorosis. The same evening ne was again called to see this patient, and found her n collapse with every indication that a gastric ulcer had perforated into the peritoneal cavity. She died in a few hours. Only pain after food and a tender spot n the epigastrium, and yet the patient was treading on the very verge of the grave.

Einhorn[8] in speaking of the circumscribed spot of tenderness in the epigastrium says, "this is the most im- portant characteristic point of gastric ulcer." And I heartily agree with him. I only wish he had written these words in italics or made them in some way more em- phatic. Sometimes we need to be knocked down with a statement so to speak before we are led to appreciate its value. If then in a patient with dyspeptic symp- toms we find a small circumscribed spot of tenderness in the epigastrium, whether there has been severe pain or not, whether there has been hematemesis or not, we are justified in making the diagnosis of gastric ulcer. This spot of tenderness must be constant, however, not present one day and absent the next, as may be the case in a gastric neurosis. It is not necessary either to make deep pressure in order to elicit pain. In fact so great is the tenderness that even moderately firm pressure will, in many cases, cause the patient to cry out. The tenderness of gastric ulcer often lasts for weeks, sometimes for months: it is only safe to begin the administration of solid food after it has disappeared.

General tenderness over the stomach is not in my experience common in ulcer, occurring only in the following case.

On September 20, 1899, Mr. L., aged 40, came to me complaining for two or three months past of distress in the stomach, two or three hours after meals relieved by eating. The night before I saw him he had such a severe attack of pain as to require the application of hot fomentations to his abdomen, but was not relieved until he vomited. Examination showed that the whole of the gastric region was very sensitive to pressure; and there was a circumscribed spot of tenderness to the left of the tenth dorsal vertebra. Suspecting ulcer he was put upon liquid food and bismuth. I also gave him orthoform powders with directions to take one should the pain return. That night and the next afternoon he again had attacks of severe pain, which, in both instances, was promptly relieved, in about 20 minutes, by the orthoform. On September 25, the general tenderness over the stomach had disappeared, and now a small circumscribed spot of great tenderness, 2 inches below the xiphoid cartilage, could easily be defined.

This case, as well as others I might mention, shows the great value of orthoform in gastric ulcer, not only for the relief of pain, but also as a means of diagnosis.

So far as the gastric secretions in ulcer of the stomach are concerned there is usually an excess of free HCl. I analyzed the stomach-contents of only 6 of my cases and found hyperchlorhydria present in 3, hyporchlorhydria in 1, while in 2 cases free HCl was absent.

It would seem then that we may diagnose ulcer of the stomach in patients with dyspeptic symptoms very positively in one of three ways:

1. By the occurrence of hemorrhage from the stomach.
2. By the presence of severe pain relieved by orthoform.
3. By discovering a small, constant, circumscribed spot of tenderness in the epigastrium with or without a correspoding tender spot to the left of the one of the lower dorsal vertebrae.

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THE SURGICAL TREATMENT OF DISEASES OF THE STOMACH.

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THE physician who keeps himself in touch with surgical progress will, in the future, call the aid of the surgeon in a large variety of gastric ailments which have in the past been supposed to be purely medical in character. To obtain the best results a cordial co-operation between the specialist and the operator is desirable. That this is not now the fact must be admitted, and many sufferers amenable to surgical relief are dragging out a miserable existence with symptoms which, if located in the regions of the pelvis, appendix, or gallbladder, would have demanded prompt attention.

From an operative point of view the stomach is a most favorable organ for work, far more so than the intestines; its abundant blood-supply is from sev-

eral independent sources, so that incisions of almost any extent may be expected to heal. Its mucous coat is very thick and easily separated from the muscular and peritoneal coats, permitting of easy suture, and the gastric juices, while not germicidal, are hostile to the growth of bacteria. Cushing experimentally demonstrated that the contents of the upper portion of the alimentary canal were far less septic than in the lower ileum, or large bowel, and clinical experience proves that gunshot wounds of the upper part of the intestinal tract most often do well after operative interference. The somewhat fixed position of the stomach favors the localization by adhesions of gastric perforations, in marked contrast with rapid dissemination through similar lesions in the intestinal wall. The unfavorable feature of such perforations lies more in the large quantity of material which the stomach may contain than in its virulent character.

My operative experience in this branch of surgery comprises about 60 cases, not enough to establish any conclusions, yet sufficient to be suggestive as to certain details of the work.

Fifty-three of these cases have been operated upon in St. Mary's Hospital, Rochester, Minn., by myself or by Dr. C. H. Mayo, during the past 6 years, and as this material has been under personal observation, and the after-results are known, these cases will be used in this paper to the exclusion of the cases operated upon in other institutions or in private houses, under circumstances in which the conditions were less uniform.

MALIGNANT DISEASE.

Exploratory	10
Pylorectomy with gastroduodenostomy	3
Gastroenterostomy	8
Gastrostomy	2

A total of 23 cases with 4 deaths, 3 gastroenterostomies and 1 gastrostomy. The cause of death in 2 was aspiration-pneumonia, and 2 from a form of exhaustion often seen after abdominal operation for malignant disease, due to a sudden failure of the vital forces coming on about the fifth day.

NONMALIGNANT DISEASE.

Gastroenterostomy	15
Gastrostomy	3
Pyloroplasty	8
Adhesions the result of healed ulcer of the duodenum	1
Adhesions from gastric ulcer	1
Adhesions to gallbladder	1
Gastrorrhaphy for gunshot wound	1

A total of 30 cases, with 1 death from exhaustion on the eighth day after a gastroenterostomy in an extremely emaciated man 50 years of age.

The anesthetic and its method of giving is an important factor in the result, as will be easily understood from the high percentage of deaths from aspiration-pneumonia; all in all we have been best pleased with a preliminary hypodermic injection of morphia, followed by chloroform-anesthesia, and in exhausted patients, only enough of the latter is used to produce insensibility during the incision of the abdominal walls, and again in closing.

There is no pain during the work on the stomach. Cocain-anesthesia has been successfully used in a number of such cases. If the stomach is greatly dilated and contains a quantity of fluid, not always so fully removed by preliminary siphonage as one expects, care should be used in elevating the organ out of the incision to prevent drowning the patient with its contents.

The inhalation-pneumonia which occurred in our cases was due, I believe, to raising the stomach to such an extent as to allow some of its contents to pass into the esophagus and trachea.

Explorations.—My experience leads me to think that in the beginning the operation is necessarily exploratory in character, for the most skilled diagnostician may fail to make an accurate diagnosis without incision, and even after opening the abdomen it is not so easy, in the living subject, to ascertain the condition as would appear to the uninitiated. This is particularly true of malignant disease, an early exploration being the only way of ascertaining the condition in time to be of any service. It will be noted that no less than 10 of our cases were explorations and the only regret is that they were not made earlier.

For most purposes the median incision, half way between the umbilicus and the xiphoid cartilage, will be found the most convenient; on its right side is the suspensory ligament of the liver, often confusing to one who is not expecting it. Normally, the pylorus will lie just underneath or a little to the right. If obstruction at the cardia exists, the stomach will be collapsed to a remarkable degree and lie behind the left lobe of the liver; on the contrary, if the pylorus be obstructed the dilated organ may fill two-thirds of the abdominal cavity. Should there be a tumor in the pylorus it would sag downward and to the right, and if the tumor be malignant, enlarged and tortuous bloodvessels will be seen underneath the peritoneum, the hard nodular "feel" of the growth will also aid in establishing the diagnosis.

As a rule, malignant disease ends sharply at the duodenum which is seldom involved, the extension being along the stomach-wall. Ulcerative conditions often show board-like scars with lessened vascularity and are more often adherent than in malignant disease.

Mikulicz says the lymphatic glands lie in four groups:

1. Along the lesser curvature and cardia.
2. Along the the greater curvature.
3. In the gastrocolic omentum.
4. About the head of the pancreas.

In previous papers on the subject I have called attention to the frequency with which enlarged glands are found in nonmalignant disease, especially so in ulceration and chronic obstruction; too much significance should not be placed on this enlargement, as in these cases it is due to sepsis.

To further the exploration, the gastrohepatic omentum may be partially divided, and after this the pylorus can be mobilized and drawn from the abdomen for more careful examination without interfering with its blood-supply or nerve-supply.

Incisions into the stomach-cavity are often necessary to expose a perforation or locate a foreign body.

To explore the cardiac orifice, or for retrograde dilation of the esophagus, Richardson directs that the lesser curvature be held taut and the exploring instrument in the stomach be carried along the sulcus thus produced to the opening. Abbe says that often the closure of the cardiac orifice is so perfect that only after steady pressure of a little duration will a dimple be felt corresponding to the esophageal opening.

For various reasons, such as the feeble condition of he patient or the inaccessible situation of the disease, complete diagnosis cannot be made, yet if symptom-tic indications exist operative relief should be afforded notwithstanding. This will often happen in obstruc-ions at the cardiac orifice calling for a gastrostomy, nd occasionally at the pylorus. In one instance I vas unable to examine an obstruction which I knew xisted at the pyloric opening, the latter being displaced igh up under the liver and very adherent. A gastro-nterostomy was followed by complete recovery, the atient being alive and well three years later.

On the other hand the malignant nature of the dis-ase may be only too plain, hopeless in its extent, yet ot producing obstructive symptoms; under these cir-umstances the incision should be closed, and in a nanner which will give as little discomfort as possible. or this purpose permanent buried sutures of silver vire, silkworm or silk, will enable the patient to get bout in a few days and leave the hospital within a veek. Many of these patients, if kept in bed the usual ime, will develop hypostatic congestions, and too often never leave the hospital alive.

Sutures buried in the upper median line seldom give fter-trouble, as they are encapsulated in fixed aponeu-otic structures. If placed in muscle or other movable issues, atrophy-necrosis may follow, necessitating re-noval. In any case the hernia-liability is of small mportance to the victim of a progressive malignant lisease.

New Growths.

Carcinoma of the stomach occurs in 35% of all cases of cancer (Richardson), and while it may exist in any variety the scirrhous form is by far the most common. Sarcoma and benign growths have been recorded, though so rarely that it need not concern us here.

Gastrectomy or complete removal of the stomach was first performed by Conners, of Cincinnati, and the sec-ond by Baldy, of Philadelphia, both unsuccessful. Schlatter's celebrated case first brought general atten-tion to the subject and many cases are now recorded, the most noteworthy successes being those of Mac-donald, of San Francisco, of Richardson, of Boston, and Brigham, of San Francisco. The most favorable form of malignant disease for this operation is the pathologic condition long called "cirrhosis" of the stomach, marked by enormous thickening of the wall without dilation—like an india-rubber water bottle (Bristowe), a chronic process as one would expect from the great amount of connective-tissue formation and the sparseness of the carcinoma-cells.

Carcinoma of the pylorus forms 60% of the stomach-cancers, and a sufficient number of successful pylorec-tomies have passed the three-years-limit to give the operation a standing in surgery.

I have developed a method of performing pylorec-tomy and partial gastrectomy which in three cases proved rapid and comparatively safe, briefly as follows:[1]

1. A median incision above the umbilicus, and if needed, a cross cut of the rectus muscle.

2. Double ligation and division of the necessary amount of gastrohepatic omentum; this allows the pylorus and lesser curvature to be delivered. The fin-gers are now in the lesser cavity of the peritoneum, and at once slip under the pylorus and act as a guide to the careful double ligation and division of the gastro-colic omentum attached to the malignant area.

3. The diseased part is isolated by a piece of gauze drawn under it, and a pair of forceps are caught from each side, separating the diseased from the healthy stomach and also preventing leakage from below. With a knife a circular cut is made completely around the healthy portion of the stomach to the mucous coat. The muscular and peritoneal coats are stripped back and a few bleeding points caught with forceps. The mucous coat is cut inch by inch and at once closed with the continuous suture; this is cut short and the detached pylorus and tumor are covered and turned out of the way. A second continuous catgut suture of the muscular coat rolls in the mucous layer, while out-side of this a good silk Lembert of the peritoneum and muscular coats protects and rolls in the two first rows of sutures.

4. The end of the stomach is slipped to the right and the ends of the tied omentum are sutured to each other and to the suture line, not only making further protec-tion, but also anchoring the stomach to the right and preventing undue traction upon the duodenum after it is fastened in place.

5. The duodenum is cleanly amputated at a healthy point and buttoned with a Murphy button to the ante-rior wall of the stomach.

The most favorable cases for pylorectomy are those in which early obstruction leads to early operation.

Ulcers.

Syphilitic and tuberculous ulcerations of the stom-ach occur, but so rarely as to be of little moment to us in this resume. For all practical purposes ulcer-ation of this organ is of the simple variety, and in no department of surgery has there been, recently, so great an advance as in the operative relief of this dis-tressing and dangerous malady; and it may be said at this time that prolonged and unsuccessful medical treatment is not for the best interests of the patient.

Gerhardt states that 28% of the cases of gastric ulcer treated medically, eventually prove fatal. Leube, of Würzburg, in the tabulation of 1,000 cases of gastric ulcer, gives a direct mortality of 4% from hemorrhage or perforation and 21% were not cured. It is probable that about 75% can be cured by medical and dietetic treatment in 4 or 5 weeks. Heydenreich gives the mortality of pylorectomy at 27%, gastroenterostomy 16%, and pyloroplasty 13%.

It may be said that 85% of the cases which cannot be cured by medical treatment can be cured by opera-tion. In this connection the recent reports of the cases of gastric ulcer treated in the Massachusetts General Hospital is of great interest.

For chronic intractable ulceration, three methods of operation have been practised—excision, incision with suture, and gastroenterostomy—each has its proper indi-cation and field of usefulness.

Nicolayson has gathered 30 cases successfully treated by gastroenterostomy from the literature. In two cases of our own the results of gastroenterostomy for the relief of open ulcers were very satisfactory.

Thirteen per cent of all gastric ulcers perforate (Micheaux), and of 56 cases of perforations collected by Dickinson, from the St. George's Hospital reports, about one-half died at once and half formed adhesions, with resulting abdominal or subphrenic abscess, fistula or other secondary complications. The result depends

[1] Note previously published in *New York Medical Record*, June 11, 1898.

on the suddenness of the perforation, its location and the amount of the gastric contents at the time; those on the lesser curvature and posterior surface being more liable to be at least temporarily protected by adhesions. Welch in 793 perforated cases found 62% on the lesser curvature and the posterior wall.

The treatment of acute perforation is immediate suture with an omental graft, or, if necessary, gauze isolation and drainage. Secondary processes, the result of perforations, should be cared for on ordinary surgical principles. W. W. Keen has collected 156 cases of perforation, which have been operated upon with encouraging success.

Hemorrhage, the result of gastric ulcer, has been treated by Kuester and others by primary incision, or with the actual cautery and gastroenterostomy. E. W. Andrews and D. N. Eisendrath, in the October number of the *Annals of Surgery*, 1899, have elaborated a definite operation for the treatment of hemorrhage from gastric ulcer which promises well.

Chronic distress, the result of adhesions connecting a healed gastric ulcer to a neighboring organ, is one of the not uncommon sequels, a condition which may be readily relieved by dividing the connecting bands.

The most common after-result of the healing process is distortion and contraction commonly at the pyloric opening, rarely in the body, producing an hourglass contraction. This brings us to the surgical treatment of the obstructions without regard to their origin.

Obstructions.

Obstruction of the cardiac orifice preventing proper feeding demands gastrostomy. A curved abdominal incision to the left of the median line will be found most suitable for this purpose. The form of operation depends on the indications; for temporary feeding purposes the Witzel operation is very satisfactory.

A rubber tube the size of a lead pencil being inserted through an opening in the stomach-wall and inclosed by a lateral fold of the peritoneal and muscular coats. It does not leak and on removal of the tube heals at once. The disadvantage is that if further exploration of the interior of the stomach is desired the obliquity of the canal is an awkward feature, for this reason the operation of Kader may be preferred; like the Witzel plan a rubber tube is inserted and held by a catgut suture. A fold of the peritoneal and muscular coats is caught each side of the tube with sutures and tied, this is repeated several times until a cone or nipple-like projection is caused to present directly into the gastric cavity. Bernays modifies this by using a circular suture of catgut for the same purpose.

For permanent feeding the Ssabanejew-Frank operation has no peer; unlike those mentioned it does not need a tube and the fistula formed is a mucocutaneous one, with no tendency to contraction of the orifice. A fold of the stomach-wall is drawn through the abdominal incision and the base sutured to the muscular and aponeurotic coats.

A second cutaneous incision is made an inch above the first, and to the left the intervening bridge of skin is undermined. The apex of the protruding cone of stomach is sutured to the margins of the upper incision forming a spout-like opening.

Hourglass contractions of the body of the stomach can be treated by incision and suture for gastroenterostomy, attaching the jejunum to the proximal pouch.

Pyloric Obstruction.

I have noticed that with the same amount of mechanical obstruction the symptoms will vary with the position of the pylorus. If the pylorus lies low down, gravity aids the stomach in getting rid of its contents, if it occupies a high position with a short gastrohepatic omentum, emptying the stomach depends entirely on muscular effort, and in the latter instance dilation and its train of distressing symptoms come on much earlier.

In a paper read before the American Medical Association in 1896, I called attention to a phenomenon observed in these cases, which I termed valve-formation, a condition which results from a high-lying pylorus with a moderate amount of obstruction of any form. The constant effort of the stomach to elevate its contents causes hypertrophy of its walls and secondary dilation with chronic gastric distress, and occasional vomiting of large amounts of material. In other words, overloading the stomach compresses the pylorus and prevents egress of the food. The condition is similar to that of valve-formation of the ureter at the pelvis of the kidneys, described by Christian Fenger as a case of intermittent hydronephrosis and pyonephrosis.

Gastroptosis may act in a similar manner, causing chronic indigestion and distress.

In the relief of pyloric obstruction gastroenterostomy plays the most prominent part, and but two methods have won recognition—the simple suture plan and the Murphy button. The advocates are rather equally divided; for example, Kocher of Switzerland, Doyen of France, and Senn use the suture, Czerny, Kummell, and a large share of the German surgeons hold to the button.

We have used the button exclusively in the cases operated upon, and either the recovery of the patient or the postmortem has established the competency of the device. Unfortunate button experience drawn from cases of acute intestinal obstruction will not hold good in these cases, as at the point of attachment both the stomach and intestine are healthy, while in the former case the proximal portion of the bowel is usually congested for a great distance. To set up a sloughing process in damaged tissues is not good surgery, as the chances are that it will not limit itself and perforation often occurs; the suture is safer in these cases.

As to whether the anastomosis between the stomach and jejunum shall be made on the anterior or the posterior wall of the stomach, there is also a difference of opinion.

All of our cases have been anterior operations, and I see no reason to regret it. The posterior method requires a larger incision, more manipulation, and also creates an artifical defect in the transverse mesocolon to get into the lesser cavity of the peritoneum. I do not believe that these disadvantages are counterbalanced by any practical results to the patient.

In using the button, grasp the jejunum at its origin, form a coil of about fourteen inches in length and introduce the male half into the intestine first. In placing the female half in the stomach-wall, cut through the muscular and peritoneal coats before introducing the suture and keep close to the margin of this incision with it; otherwise the thick coats ruffle up and prevent easy approximation. Unite so that intestinal and gastric peristalsis will be in the same line. If the union is nicely done the anterior wall of the stomach will tip downward and form a funnel at the point of union.

Malthe says that if after the approximation the ıtton lies to the right of the spinal column it will go ɔwn—if to the left it will drop back into the stomach, does not seem to make much difference whether the ıtton passes out or drops back; in the latter event no ırmful results have been reported. Some of our cases button-gastroenterostomy have already gone from 3 6 years since operation and remain in perfect health, though in several of these cases the button has never een passed to our knowledge.

The pyloroplasty of Heineke-Mikulicz, which consists making a longitudinal incision 2 or 3 inches in ngth, with its center at the stricture and suturing the ound transversely, is an operation which is not as opular as it was, and many have substituted gastro-ıterostomy for it in every case. We had relapse follow ıe operation in two cases, in each instance at the condary operation the pylorus lay very high and was dherent, with evident valve-formation.

Reasoning that gastroenterostomy succeeded because ravity emptied the stomach through the dependent pening, we have, in 3 cases, after operation, pushed ıe pylorus downward and fastened it in this position y a suture to the abdominal wall. The results have ɔ far been excellent.

The gastroplication of Bircher and the gastropexy of ɔuret have little to recommend them, while the dila-on of Loreta is an obsolete operation.

Traumatisms of the stomach are so purely surgical ıat I will not take up time further than to say that the esults of the application of modern surgical principles ɔ these injuries have been most satisfactory.

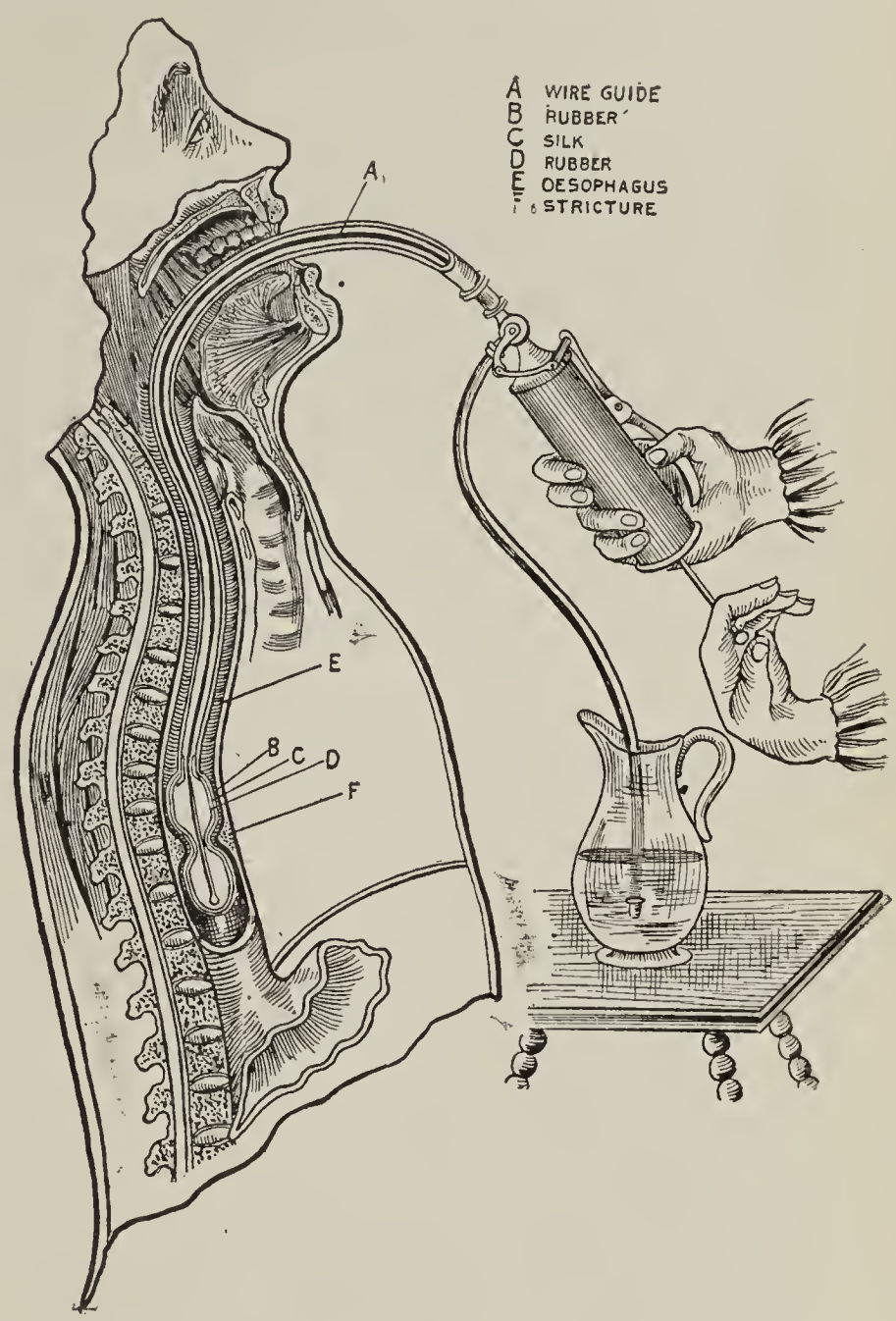
TRICTURE OF THE ESOPHAGUS RESULTING FROM TYPHOID ULCERATION, WITH REPORT OF A CASE INTRODUCING A NEW METHOD OF TREATING ESOPHAGEAL STRICTURES.

By JOHN S. PYLE, M.D., LL.B.,

of Toledo, Ohio.

In the PHILADELPHIA MEDICAL JOURNAL of October 8, 1899, Dr. J. E. Summers, of Omaha, Nebraska, eports a case of stricture of the esophagus resulting rom typhoid ulceration upon which he operated after he method introduced by Dr. Abbe. Regarding the arity of the strictures directly traceable to typhoid ılceration Dr. Summers quotes from Professor W. W. Keen's recent book upon the *Surgical Sequels of Typhoid Fever*, in which Professor Keen claims inability to report nore than two cases: one of Professor Osler's and one ɔf Dr. Frederick A. Packard's, of Philadelphia. The ase that I am able to record is one so like that of Dr. Summers' and so directly traceable to typhoid ulcera-ion that I feel that it is an important addition to this are class of affections, not only on account of the arity, but because of a new method, which I am pleased ɔ introduce, of treating the disease.

My patient was Mr. P. O., a resident of Toledo, Ohio, who uffered from a prolonged attack of typhoid fever, in 1898, asting between 10 and 11 weeks. At the time of being con-ulted by the patient a year had almost elapsed from the ermination of the fever. The history told of pain and very roublesome dysphagia during the progress of the typhoid eizure. The pain and dysphagia were intensified when ıcids or acid foods were administered. This condition ob-ained throughout the latter part of the seizure; but the ɔain gradually subsided, leaving a dysphagia which made it mpossible to take any solid food. Liquid food, in the course of time, was taken with the greatest difficulty. A single grapeseed or coffee-ground would completely blockade the small passage to the stomach. The stricture was situated about on a level with the esophageal opening in the diaphragm, and was so firm that it was impossible to force the opening with the ordinary esophageal probang or dilators. I was successful in passing an olive-pointed bougie with an extreme diameter of one-sixteenth of an inch. The bougie had to be forced a little to secure its passage. With the case in this condition I planned to expand the already small opening by means of a contrivance which I take pleasure in describing. The method of treating the case has been so entirely successful that I believe it will be universally adopted for not only similar cases but all cases of stricture of the esophagus, rectum, sigmoid and of the descending colon.



The illustration introduced shows the dilating device in position and the manner of exerting the expansile force upon the cicatricial band of tissue bounding the lumen of the esophagus.

The apparatus represented above consists of a rubber tube about the size of a No. 12 male catheter, containing in its composition silk fiber, a wire guide bearing an olive-point, two tissue-rubber digital-shaped sacks, one very fine digital-shaped silk sack and a force-pump, including the necessary trimmings. Piano-wire is used for the guide. The distal end bears a small, brass olive-point to avoid puncturing the digital-shaped sacks. The wire guide is placed in the rubber tubing and secured at its proximal end by the metal trimming used for connecting the rubber tubing to the force-pump. The delicate rubber and silk digital-shaped sacks are secured to the rubber tube by means

of strong linen thread which is wound round the tube and securely tied over a metallic fitting inserted in the distal end of the rubber hose. The olive-pointed guide is used to carry the digital sacks through the narrow opening bounded by the stricture. When once engaged, water, preferably warm, is forced into the sack by means of the pump. The sack above and below the stricture will expand to the limits of the silk covering between the rubber coverings. The stricture causes it to assume the shape of an hour-glass. At this juncture if additional water is forced into the dilator the entire pressure will be exerted upon the contracted portion, compelling the stricture to yield to the internal pressure. Graduated sizes may be used. The entire thickness of the tissue-rubber and that of the delicate silk used adds but very little to the diameter of the olive-pointed guide.

The case which I have described was treated with this appliance with the greatest satisfaction to myself. I first used a small digital-shaped sack about the size of the little finger, and succeeded in tearing the bands so as to admit a much larger dilator, which was afterward placed in position and expanded, completely dilating the esophagus to its greatest extent. This I have repeated at intervals on account of the tendency of the esophagus to become slightly contracted. My patient was not confined to bed at any time from the treatment, and the application of the instrument gave rise to very little discomfort. Dr. Abbe's operation of gastrostomy, as described by Dr. Summers, is one involving too much risk to be resorted to when simpler methods may be equally as efficaciously used.

THE INDICATIONS FOR SURGICAL INTERFERENCE UPON THE STOMACH.

By JAMES H. DUNN, M.D.,

of Minneapolis, Minn.

SOME experience with gastric surgery has impressed me especially with two thoughts: First, that on the whole, gastric operations have not proven very satisfactory. Second, that the stomach under proper conditions is not intolerant of operative interference. Reflection upon the matter indicates to my mind the reason for this paradox to be that physicians and patients look upon surgery as a *dernier ressort*, rather than a rational preventive measure for dangers clearly ahead, and tender us for the most part only cases which are moribund or nearly hopeless, when we incline to lend our resources to a cause already lost.

Indeed, here may too often be observed that which long occurs when surgery first invades a medical field, where the lines which divide surgical and medical treatment are ill-defined, and where a disease, usually or chiefly medical, may suddenly or unexpectedly become surgical. Under such conditions some surgical extremists talk and write with such abandon as to excite suspicion and opposition, while some physicians loosely ridicule, criticise, and oppose these loud views. Under the warmth of these radical discussions the great mass of practitioners often fail to grasp the real merits of the case, and sometimes lose sight of their real duty—to thoughtfully weigh all remedies, and, carefully discriminating, adapt proper treatment to proper cases at proper times. They are liable either to become partisans of one apparent doctrine, which is in fact far from the true teaching of sound surgery, or espouse the other, which is not the position of true medicine, and favor operating everything which is not already in articulo mortis, or nothing. Clearly a very unwise conclusion for practical men. As usual, it is the theorists, the talkers and writers, who conjure up the major parts of the wide dissension and differences out of hypothetic cases, while fully informed men of action and responsibility find themselves less discordant at the bedside. When the froth and foam of these discussions subsides, the physician gladly absorbs the surgeon's experience and utilizes it for his patients and the surgeon in like manner keeps in view and fully appreciates the value of medical skill and utilizes it to its just limit.

Broadly speaking, as you all know, the chief indications for surgical interference in gastric diseases are:

1. In penetrating wounds.
2. In obstruction { cardiac / or / pyloric.
3. For the excision of neoplasms, or for practical purposes —we may say carcinoma.
4. In the treatment of gastric ulcers { nonperforating, / perforating, or / hemorrhagic.
5. Removal of foreign bodies.

But not even in the most simple of these conditions viz., penetrating wounds, in my opinion, is the occasion to operate absolute and unconditioned, and in each and every case falling under these various categories the greatest care and judgment is required as to where, when and how, as well as whether or not, to interfere surgically.

If surgery is to yield the best results in gastric disease, early and exact diagnosis is of prime importance and to achieve this difficult desideratum, the best efforts of an experienced physician, and an experienced surgeon will be none too much talent in the case. After all is said there remains room for the good horse sense and instinct of the experienced clinician from each division of our art.

Soon or late the conditions for which gastric surgery is indicated become clear and fairly easy of diagnosis but in many cases when this stage of the disease is reached, the best time for action has long since passed. Hence, if operative interference is to achieve its best results, exploratory operations must occasionally be employed. True, exploratory operations are liable to great abuse when practised by the incompetent or inexperienced, upon the simple theory that the easiest way to make a diagnosis is by opening up the abdomen. If, however, they be restricted to their proper field, and only employed after the careful judgment of both medical and surgical clinicians has decided that the patient has little to lose and much to gain, they are certainly to be commended. I submit that it is often absolutely clear that an operation should be made, when it is quite as clearly impossible to diagnose the precise nature of the disease, *e. g.*, pyloric obstruction being demonstrated, it is folly to defer interference because we are not yet able to foretell with certainty whether the obstruction is due to beginning cancer; or this or that other cause. Though hard to formulate, the indications for exploratory operations are quite as precise to the well-balanced surgeon, as those for operation in cases which have been definitely diagnosed. And, in my opinion, the surgeon who has not got beyond t

ge of set rules, is not fully competent to undertake is difficult and responsible class of operations.

As to perforating wounds of the stomach without mplications, such as grave hemorrhage, particularly stol wounds and small punctured wounds of the npty stomach, I would advocate considerable conrvatism; only under the most favorable conditions the best hospital facilities and a very experienced d masterful operator (if at all) should the abdomen opened in certain of these cases:

1. Because a large percentage of such wounds rever upon rest and an empty stomach.

2. Because the operative technic of these cases is ceedingly difficult, and excessively dangerous except nder ideal conditions for operating.

I recall three cases; two not operated—with recovy; one operated upon by a very competent man, who d had very little practical experience in abdominal rgery. A 38-caliber pistol ball had passed through th walls. The anterior wall was closed; with great difculty the posterior wall was brought to light, when for e first time after many displacements of the organ, e stomach-contents were poured out. This hole was en closed, and the patient promptly died from shock d sepsis. The conditions found indicated that without disturbance, though the stomach was partly filled ith half-digested food, there was no visible leakage, d the chances of recovery at least were more than en. I have always believed he might have recovered t for the ill-advised interference.

The inexperienced must remember the great differce between small caliber wounds of the stomach and ose of the small intestine. The latter are practically ways fatal; the former, though very dangerous, are far om necessarily so. Again, the technic in operating e latter is much simpler, hence a surgeon who might d should interfere in the one case, would find it his uty to withhold in the other.

Statistics are of little value in determining the morlity of perforating wounds of the stomach without rgical interference. Such as we have, variously give e death-rate at from 99% to as low as 18%, Bailey (*Thèse e Paris*, 1880, No. 293) having collected 88 cases of ounds of the stomach with 75 spontaneous recoveries. uch extremes are clearly wide of the mark. Small erforating wounds, while very dangerous, are so far om generally fatal, as to render the chances about qual to those of an emergency laparotomy in this gion in average skilled hands. Therefore, while it is erhaps not possible to lay down any hard and fast le in such cases, we may hold, I think, that a probbly empty stomach at the time of the accident, small aliber of the penetrating instrument, the absence of evere hemorrhage or other complications, and particularly the absence of ideal operative conditions which ay be commanded at once or within a few hours at ost, contraindicate operation. On the other hand, rge penetrating wounds, those accompanied by serious hemorrhage (wounds liable to be near curvatures), hose with evident extravasation and those of large xternal opening, should be opened up, examined, and he damage as carefully repaired as possible.

Obstruction at or near the entrance to the stomach, hough much less frequent than at the pylorus, is not ery rare. Five cases came under my observation last ear.

The first case was that of a woman of middle age, who ad been able to swallow but little, and that with difficulty, for nearly a year, and who it was claimed had been absolutely without food for 11 days. She was emaciated to skin and bone, and unable to sit up from sheer exhaustion and inanition. The cause of the obstruction was not clear, some points in the history pointing to nonmalignant stricture. I made a rapid gastrostomy, without apparently increasing her extreme exhaustion, but she succumbed to starvation before her opened stomach could assimilate food. It was reported to me that the autopsy showed the trouble to be nonmalignant ulceration and contraction of the esophagus just above the stomach. If so, the patient was sacrificed to starvation, and in any event the gastrostomy was performed many months too late.

Case 2 came to me in May, a robust and healthy man of about 60, who never knew a day's sickness until within a few months. At this time he was unable to get anything solid into his stomach. Exploration with a bougie showed a constriction clearly due to carcinoma, about three inches above the stomach, admitting with difficulty a small bougie. The patient persistently refused my advise to open the stomach, and tried all sorts of foolish remedies until he slowly starved to death, late in December. How he lived these six months is largely a mystery, for during this time even milk was largely if not wholly regurgitated, rectal feeding being at last wholly relied upon for some weeks. At the postmortem, the stomach and other organs were normal, with extensive carcinoma of the lower end of the esophagus, also of the larynx. How long this man's life might have been prolonged by gastrostomy when I first saw him, is difficult to say, but that he need not have died of inanition at all is quite clear, and it is probable that his life might have been extended from one to two or more years, as the course of this form of carcinoma in persons of advanced years is frequently very chronic when nutrition is not greatly interfered with.

Case 3 was a man of 54 years, who had been treated by a very prominent regular practitioner, with electricity and bougies, for increasing dysphagia, clearly due to carcinoma of lower parts of the esophagus, until he was exhausted and emaciated in the extreme, and unable to get more than a little fluid into his stomach. I then made a gastrostomy from which he readily recovered, but he was so long and so far exhausted by starvation, that although he lived several months, there was no great improvement, and a feeble existence was prolonged rather than much satisfaction achieved.

These cases briefly sketched will serve my present purpose as well as more full and detailed histories, viz., to maintain that in the obstruction at the cardiac end of the stomach, gastrostomy is indicated as soon as serious obstruction begins, because if, as is nearly always the case, carcinoma is the cause, there is no use in waiting. Attempts at dilation and the stagnation of food in the esophagus are wholly harmful, while life and comfort may be considerably prolonged by the comparatively slight operation of gastrostomy—a procedure incomparably more satisfactory and advisable than colostomy in rectal carcinoma. The earlier it is done after the obstruction to solid food begins, the better. Its postponement until nutrition is deeply undermined, renders it usually of questionable benefit. Should the obstruction be nonmalignant, as soon as it is apparent that it cannot be relieved without opening the stomach, the more culpable is the neglect in waiting, because a life is sacrificed to a preventable disease. In these cases the diagnosis is so easy—the patient almost stating it himself—that after a confirmation by careful sounding, the physician should be able to advise the patient properly at once. As there is but the one rational thing to advise, patients would the more generally avail themselves of it, if they were not too often misled by halting and foolish advice of those who dally along with various irrational methods, instead of promptly recognizing the condition and from the start insisting on having the right thing or nothing done.

The chief causes of the much more frequent pyloric obstruction, are:

1 (and chiefly). Carcinoma, either by thickening produced in the walls of the orifice or the projection of nodules or warty or villous growths from the neighboring walls in the locality. Instances of sarcoma and even nonmalignant neoplasms, *e. g.*, the case of myoma recorded by Pernici (*Annals of Univ. Med.*, Sc. 92, Vol. I, C. 15), have been observed, but so rarely as to be almost a negligible quantity for our present purpose.

2. Cicatricial contraction from ulcers and perhaps spastic contraction from ulcer distant from the pylorus.

3. Congenital malformations.

4. Twists at or near the pylorus.

5. Pressure from growths in neighboring regions, *e. g.*, in liver, gallbladder, omentum, possibly the dragging of floating kidney, or adhesions from local peritonitis in this region, especially that resulting from disease of the gallbladder, etc.

The recognition of pyloric stenosis, is, at least for those not expert in gastric disease, far more difficult than obstruction of the cardia. But with all the means now at our disposal, it would seem that the conditions should be early detected with very great precision, or at least so far suspected as to have been gone over by an expert in stomach examinations. Usually when it is not recognized it is because no systematic examination of the stomach has been made. When recognized, obstruction, whether the cause be clear or not, seems to me properly a case for exploration at least, and such radical or palliative interference as the condition disclosed demands.

Usually a pyloroplasty in nonmalignant stenosis, free excision in beginning carcinoma, *i. e.*, when the disease is still local and removable, so far as gross appearances indicate; gastroenterostomy for relief of the symptoms of obstruction and stagnation in cases showing dissemination of the disease, or in case the condition of the patient is such as to preclude the possibility of a successful radical operation.

Cases of external obstruction from adhesions, tumors, etc., must be dealt with as appears most feasible under the condition found; direct relief and restoration of the natural course, when not purchased at too great risks, being preferable to gastroenterostomy.

The surgery of malignant disease is far from satisfactory in any region, and is not likely to become especially so in gastric cancer. But in the present state of science the following propositions are demonstrated beyond question:

1. Cancer in an organ or tissue is soon or late absolutely fatal under every known management save early and complete excision.

2. A considerable percentage of cases are permanently cured by early and radical excision.

3. The proportion of cures increases pari passu with the earliness of the operation, and the thoroughness and skill with which it is done.

4. The results obtained by Billroth, Kocher, and others, in radical excisions of gastric cancer, show them to be perfectly parallel to the results of surgical treatment of this disease in other organs, save only a higher primary mortality; that, as in other organs, the breast, uterus, etc., there are some perfect cures of from 3 to 7 years' duration, many relieved for a variable number of months, then relapse.

The primary mortality is being rapidly lessened by experience and technic, just as has been the case in other organs, until it is not more than was recently the case in hysterectomy. As in other organs, too, the proportion of cures increases with the earliness of recognition and skilful operation. Hence, logically, if you are not to leave your gastric-cancer cases to their fate, there is only left this course:

First, recognize the disease at the earliest possible moment, and advise exploration by thoroughly competent hands. If the disease can probably be radically removed, so that permanent cure may be reasonably looked for, almost no risks are too great to be taken for the great stake of a new lease of life. If, however, the disease is even slightly but clearly generalized beyond the possibility of lasting cure, no attempt whatever at removal can for a moment be justly considered, and further radical operation ought at once to be abandoned.

In case of obstruction, present or imminent, a palliative gastroenterostomy should be performed. To my mind the case of gastric cancer is in no wise different from that of the breast, the uterus, the rectum, etc. In any case the first great responsibility is prompt recognition, which usually lies with the physician or general practitioner. The second is scientific removal which rests upon the surgeon. Unfortunately, too often both more or less fail to rise to the occasion and by their combined shortsightedness much is lost. The former waits for diagnosis, which is sure to his mind but fatal to radical removal; while the other, not quite up to the mark in scientific technic and practical skill keeps a generation or two behind the present state of pathology and operative skill.

A third, though much less momentous responsibility also rests with the operator, viz., to attempt radical operations only in cases which are not visibly past hope of cure, and to perform palliative operations only for secondary and incidental accidents, and not for the disease *per se*. When it is evident that there is no reasonable hope of radical cure, and no obstruction present or likely to develop, the surgeon of sound sense will close the wound, with no cause for regret, as to his patient, himself or his profession. Of course, it is not always necessary to explore to decide this. In some cases it is quite apparent from the start that no operation, exploratory, radical or palliative, could be sensibly entertained.

Gastric ulcer is probably more dangerous to life than is generally supposed. In fact the average physician is inclined to underestimate the total dangers of disease which have a great chronicity and a great tendency to recurrence. Even the great clinicians long refused to regard cholelithiasis with much seriousness, because they saw many biliary colics which they recognized without recognizing frequent deaths in cases in which they had suspected gallstones; and found, postmortem, many stones of which the patient had said nothing either before or after death. The same is true of many diseases in which practitioners get only glances of separate acts of the pathologic drama; regarding each apparent recovery as a victory, and while the first death if coming under their observation at all, counts but once and then perchance is attributed to some other cause.

One of the most recent and careful examinations of the clinical course of gastric ulcer—that of Greenough and Joslin (*Am. Jour. of Med. Sciences*, August, 189[illegible] based upon the material for the Massachusetts General Hospital for 10 years past, shows that 1.4% of the medical cases admitted were for gastric ulcer; that

.2% of these cases perforation occurred while under reatment and 3.7% died of hemorrhage, giving a direct ortality of 7% from these two accidents alone.

While directly the results appeared to be: 54% discharged cured, 18% discharged improved, 8% died. urther tracing of 99 of these cases, after an average eriod of five years, showed recurrence in 41; cure in 3; death in 15.

From such data it is fair to assume that despite a ong and troublesome treatment and a protracted inalidism, soon or late at least 10% of gastric ulcers erminate fatally, while but a moiety of the other 90% re definitely cured.

Of those who neither get well nor die of the ulcer, it nay be said that they presumably would perish of it if hey lived long enough. These are some of the cases of nternal diseases which, so to speak, die cured. Other tatistics of course give a more optimistic view of gasric ulcer. Leube, of Würzburg, whose experience and apacity is probably second to none, speaking from the tandpoint of the physician, claims to be able to cure of his cases in a few weeks by rational dietetic and nedical methods, had 4% of deaths, and thinks 21% not cured might have been by continued and repeated nedical treatment. However, you will probably all agree with him in admitting the advisability of surgical nterference in gastric ulcer—(1) in perforation; (2) in epeated threatening hemorrhage.

I desire to challenge your opinion and discussion by submitting the following perhaps less clear proposition as a further indication:

3. In most cases of gastric ulcer, if after 8 or 10 weeks of careful, thoroughly competent dietetic and medical treatment, severe pain, vomiting and seriously impaired function persists, it is wise as a rule to advise surgical interference, provided of course prime facilities and first-class expert skill may be commanded. It seems to me conceded that it is the ulcer characterized by moderate but frequently recurrent hemorrhage that most often calls for surgical interference. A single hemorrhage, though severe, if already checked, does not necessitate operation unless a tendency to recur is shown. Experience has shown the difficulty of locating the bleeding ulcer to be much greater than might be supposed. Indeed cases are on record in which the surgical masters have failed to find the source of hemorrhage after opening the stomach. The greatest hemorrhage does not always spring from the largest or the most tangible ulcer. Small bleeding-points hidden in the recesses of so large an organ in a collapsed state, or possibly without its borders in the duodenum, or in adjacent vessels, are often difficult of location. Hence the great need of carefully planned search and a perfected technic in exploring for and dealing with these lesions.

These hints, let me add, are thrown out not to persuade to the instant excision of every gastric ulcer (for I would not approve of it), but to beg the consideration of the whole case.

There are clearly cases of gastric ulcer which ought to be treated surgically, and it is your duty to skilfully and without prejudice try to recognize them and advise interference as strongly in such cases as you should oppose it, and insist upon diet and medical management in those which do not require operative interference.

In these cases the surgeon has to lean almost entirely upon the physician for an opinion as to the desirability of operating unless perforation has already occurred, and if the physician does not know when his resources have reached their reasonable limit, it is not to be expected that his surgical counselor can tell him. When you have applied your resources to a rational degree and in a systematic way and are able to say the dangers and invalidism are from this on about thus and so, the matter is within the scope of the surgeon, and you have to inquire in your patient's interests—what better, if anything, can surgery offer?

The list of foreign bodies found in the alimentary canal of the insane and hysteric is long and curious. One might divide all things into two classes, those swallowed by the insane, and those reputed to be sure cures of most any common disease—especially specific urethritis. However, persons of sound mind rarely swallow foreign bodies of a form and size likely to require removal by gastrotomy. With rare exceptions, objects accidentally ingested may be evacuated by vomiting or defecation, and in my observation, partial plates of artificial teeth have been the most frequent. Some years ago I was called in consultation to a lady who had swallowed a pretty large plate with three teeth attached. When I arrived the attendant had her under chloroform and was industriously fishing for it with long forceps. After he became convinced of the futility of this course, and I felt sure that a gastrotomy would probably be in order on the morrow, we left the patient, still under the anesthetic, in the hands of the office attendant. In the morning I heard that she vomited severely from the chloroform and promptly threw up the teeth. So my friend's rather irrational operation proved a success indirectly.

Probably the best rule to follow in the case of foreign bodies, when of a size, shape and character to render the passage very dangerous or altogether impassable, is pretty prompt gastrotomy, without waiting for the advent of serious secondary symptoms. At any rate they will be easier to locate, and more safely removed before they have left the stomach than when lost in the intestines. In other cases the administration of bulky food, such as rice, potatoes, beans, etc., and an expectant attitude may be assumed until the foreign body is passed, or the approach of threatening symptoms indicate the necessity for action. The experience above related inclines me to think that perhaps certain foreign bodies might be more safely evacuated by the esophagus than by the intestinal tract. In that case, filling the stomach with soft food and administering an emetic might be tried.

If this paper serves the purpose of eliciting valuable discussion and directing general attention to the necessity of more timely application of surgical intervention in the relatively few conditions to which stomach surgery is advantageously applicable, my purpose will be achieved.

GASTROSUCCORRHEA.

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REICHMANN was the first to call attention to this disease in 1882. Later, by Rossbach, gastroxynsis was advanced as the name of a disease, which, if not the same, is very similar. The condition is classed among the functional neuroses affecting the stomach. We find

two varieties, the acute periodic and the chronic. The name implies continuous secretion of the gastric juice. The first form occurs in the shape of attacks lasting from 1 to 5 days. In the interval, the gastric secretion is normal or more probably as it was before the appearance of this malady, which is frequently hyperacid. Some, for example Riegel, deny the nervous origin. He and Matthieu also argue that one-half of gastric cases present a constant flow of digestive juice in the stomach. Jaworski, likewise, claims great frequency (115 out of 159 cases). Talma maintains that the contents of some neurasthenic stomachs react abnormally to acids.

Etiology.—Overexcitement, worry, too much brain-work, etc., may cause the condition. Hence the disease occurs largely, though not exclusively as claimed by some, for example Hemmeter, among the better classes. By some writers gastrosuccorrhea or gastroxynsis is considered as simply a phase of some neurosis. Einhorn disagrees with such views, and rightly. With regard to the time of the onset of an attack diversity of opinion exists. Some report it most frequently after breakfast and supper, others as breaking out in the middle of the night.

Claim is advanced that the stomach is never empty or at rest, for the reason that there are in it constantly more or less pharyngeal mucus, saliva, dust, bacteria, cell-detritus, etc. This is an argument worthy of recognition. If this view is correct we may always expect more or less of a physiologic gastrosuccorrhea, for we have here a constant stimulus to gastric flow. At the present stage of research I think I am justified in assuming anything above 60 cc. of gastric juice containing no food-particles and expressed from a fasting stomach the first thing in the morning, gastrosuccorrhea. Van Valzah treats both forms of this disease as symptoms. The acute variety comes suddenly, the patient, usually being in perfect health, with pain, epigastric and dorsal, tenderness over gastric region, vertigo, headache, etc. Jurgensen and Ewald report typical cases of migraine with gastrosuccorrhea. Vomiting soon supervenes, bringing temporary relief, only to be repeated at longer or shorter intervals. Severe retching frequently takes place after the stomach is empty. Notwithstanding the fact that the onset is frequently upon a full stomach, introduction of food is said to bear no relation to the production of an attack. The amount ejected is large, and, according to Ewald, highly acid in chronic but not so in acute or periodic cases. Anorexia is concomitant. Thirst sometimes is very pronounced. Draughts of water relieve the distress, but ultimately increase nausea. The vomitus may be tinged with bile. In both periodic and chronic it contains plenty of pepsin and rennet. The bowels are constipated. Stiller claims that the floating tenth rib is a common symptom.

These attacks go as suddenly and quickly as they come, and leave the patient in a state of general well-being, a point which seems to me is worth notice and repetition.

Objectively, we find the abdomen sunken, the general appearance of the patient pale, body and extremities cold, and the picture, as a whole, one of severe illness. After an attack the individual may remain well for periods alternating between weeks and years; yet the tendency is for recurrence at each time, to be followed by a shorter interval. The diagnosis of the periodic variety is not difficult.

Treatment.—Rest the stomach for about 24 hours, then, beginning with light diet, gradually return to ordinary eatables suitable to the general individual conditions, always bearing in mind the state of the gastric secretion. Remove, as far as possible, the cause. For pain and distress give bromids; these not sufficing, morphin with atropin may be used. To remove overacid condition, if present, use alkalies, silver nitrate in intragastric spray, pill, or solution. Lavage, properly performed, acts well. Much of the discomfort is caused by the irritating stomach-contents, hence the logic of rest to the organs. Constipation should be met by either enemas or Carlsbad salts, given in hot water morning and night.

Before passing to the next variety of this disease I would like to say that I believe many so called "sick headaches" and "bilious attacks" are of periodic gastrosuccorrheic origin. I have found many to be such. If the general practitioner would investigate these oft-occurring cases closely it would throw much light upon the subject.

Coming now to the chronic form we find great controversy as to the fact of its existence alone. Some maintain that either ulcer, atony or stenosis coexist. The question has been raised as to which of gastrosuccorrhea, atony or ectasis, is the cause. Dauber reports a most interesting case of what he terms mucous gastrosuccorrhea evolving from a chronic mucous catarrh, in which large quantities of mucus were brought up by the tube. Strengthening the argument of atony as a *result* of this trouble, Riegel found dilated stomachs in 29 out of 30 cases in his clinic. Of course here neurosis has given place to an organic lesion. Schreiber (1893), also Martius (1894), doubt presence of gastric juice in fasting condition. Riegel, as above stated, agrees with Reichmann.

We do find bona-fide cases of chronic gastrosuccorrhea. It is found more often in men than women, and is frequently associated with other neuroses. An important differentiation was made by Boas, 1889, Van Noorden, 1896, viz: In tabetic crises the reaction of the stomach-contents is alkaline, in this disease, acid—usually hyperacid.

Symptoms.—Pain occurs some time after meals or shortly before eating (simulating ulcer when situated away from the cardia or near the pylorus). Pyrosis and gastralgia are severe. Vomiting infrequent at first, later, several times daily—when during the night it contains no food, which dispenses with the idea of stagnation and proves motility to be intact. Appetite fair or increased. Thirst here also intense. Emaciation present though not progressive.

Ingestion of albuminous material gives relief. Diagnosis is based upon (1) repeated examinations of gastric contents (as in achylia) the first thing in the morning, the stomach having been thoroughly lavaged the previous evening, and no food having been permitted in the meantime. (2) Exclusion of ulcer, stenosis, atony of stomach-muscles, absence of foul breath, coated tongue, anorexia, etc., serve to differentiate from chronic gastric catarrh. Chemical examination yields no food-particles or fermentation-products, high acidity, retarded starch digestion, sometimes presence of bile and mucus. In ulcer we often, in fact most always, expect hyperchlorhydria, hence here any history of hematemesis or melena is of great value. In cases of atony and stenosis we find food-particles and fermentation-products.

These cases of chronic gastrosuccorrhea are not fr

uent, less so than the periodic. Prognosis as to life is ood; as to positive cure, not so bright.

Treatment.—Remove cause as far as possible, open ir, horse-back, bicycling, walking, etc. Refrain from cids, highly seasoned dishes—high living generally is etrimental. A diet for hyperchlorhydria will be well orne. Limit all exercise to the strength of the indi-idual. Do not allow liquids to be taken in large uantities, for the tendency here is to retard dilation. Iere allow me to suggest in cases with weak, flabby nuscular development, together with massage, electric-ty, etc., a well-fitted abdominal binder gives great satis-action. In medicine, $AgNO_3$ as above outlined. Sodii icarb., ammonium, magnesium phosphate, belladonna, ismuth subcarbonate in large doses (1 to 2 drams) in glass of water left in the stomach 10 to 20 minutes, hen washed out. Intragastric galvanism does good; s also does tannic acid, $\frac{1}{2}\%$ solution.

AUTOINSUFFLATION OF THE STOMACH—A NEW METHOD.

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By the term "insufflation," we understand the filling of any cavity in the body with air, gas or vapor for therapeutic or diagnostic purposes. Insufflation of the stomach, or, as it is otherwise called, ballooning of the stomach, is used for the last three decades as an aid in diagnosis in the diseases of the intraabdominal viscera in general and the stomach in particular. I will describe briefly the various methods employed for insufflating the stomach.

Insufflation by Means of Carbonic-Acid Gas.—Some 30 years ago Frerich, in Germany, introduced the method of insufflating the stomach with carbonic-acid gas for diagnostic purposes. In 1868 Fenwick, in England, employed the same method independently of Frerich. He used to give to his patients on an empty stomach a glass of seltzer or an effervescent powder, which distended the stomach tolerably well for the purpose of inspection and palpation. Wagner, in Monakoff's clinic, was the first to study the subject of insufflation upon an extensive clinical material, and has evolved the method now in vogue, namely: to give the patient a solution in water of tartaric acid followed by a solution of soda bicarbonate. The contact of the two, as is well known, generates carbonic-acid gas. The dose as recommended by Wagner was "as much as will go on the edge of a knife." Riegel, Ziemssen and Ebstein boldly recommended a teaspoonful each of the acid and soda, dissolved separately in two or three ounces of water, and taken one after the other.

Insufflation by Means of Atmospheric Air.—Runeberg in 1884 was the first to substitute atmospheric air for carbonic-acid gas. The procedure is very simple. Having introduced the tube into the stomach, a spray-apparatus is attached to the distal end of the tube and air pumped in. I have used on several occasions a bicycle-pump.

Insufflation by Means of Exhaled Air from the Lungs of the Operator.—Bouveret, of France, in 1894, substituted his lungs for the spray-apparatus. When the tube is *in situ*, he take the free end of the tubes in his mouth and blows his patient's stomach full with the expired air of his own lungs.

Let us subject each of the methods to a careful analysis.

Objections to the Use of Carbonic-Acid Gas.—1. Since stomachs are not all alike in point of capacity, it is impossible to estimate beforehand the exact quantity of the acid and alkali required to generate sufficient carbonic-acid gas to just fill the stomach. At one time the quantity may prove insufficient and the procedure must be repeated. At another time the quantity may prove too large, and cause distress to the patient on account of overdistention. In fact, all the textbooks make a point of warning the physician to have a stomach-tube near at hand, so that when the symptoms become alarming, the tube may be quickly introduced in order to let out the superfluous air, and thus afford relief to the patient.

2. Since the physician can neither increase nor diminish at will the quantity of gas introduced, he is unable, therefore, to examine the stomach under different states of distention.

3. Furthermore, since the physician has no means of holding the gas in the stomach, it begins to escape through the mouth as soon as it is introduced, and it is obvious that the diagnostic trio—inspection, palpation, and percussion—must be performed in a great hurry, and with the result that neither of the three modes of examination will confirm the others.

4. Carbonic-acid gas in many instances acts as an irritant to the mucous membrane of the stomach. Many patients complain of soreness in the gastric region for hours after the operation.

The disadvantages of the use of *atmospheric air* are:

1. The value of inspection and percussion is enhanced if they can be practised from the moment the stomach begins to fill with air, so that an exact idea is obtained as to the behavior of the stomach under different states of distention. By using the method of insufflation with atmospheric air, which requires that the operator should work the spray-apparatus, it is obvious that he cannot at the same time inspect and percuss the abdomen. Without the aid of an assistant to work the spray-apparatus, the examination is tedious and unsatisfactory,

2. The necessity for having a separate instrument—a spray-apparatus—is at times a great inconvenience. Our aim should be to employ as few and as simple instruments as possible.

In regard to *air exhaled from the lungs of the operator*, Fürbringer, of Berlin, in a recent article in *Deutsche medicinische Wochenschrift*, October 5, 1899, claims that he was the first to discard the use of the superfluous instrument, and that he substituted his lungs for the spray-apparatus four years prior to Bouveret, of Paris; but it matters not to whom belongs the honor of priority, since the objections to this method are threefold.

1. It is unsatisfactory from a mechanical standpoint. Think of a man using his lungs as bellows, his mouth as a conductor of the exhaled air; one hand must be used as a clamp so as to prevent the stomach-contents from filling up the mouth of the operator, and there is left only one hand to perform imperfect palpation. Nature not having provided us with a third hand, it is obvious that percussion cannot be practised at all.

2. It is not esthetic. Dr. Fürbringer claims that during the many years in which he used this method, none of his patients have objected to being insufflated

with his breath except once, and he was a dirty potator. I do not think that human nature is so differently shaped in Germany. I am sure that almost all of my patients would emphatically protest against, or at least be displeased with, such a procedure, except a dirty potator. Our patients here actually dare to ask us whether we have sterilized our tubes before using. Dr. Fürbringer claims that the patients in his private practice are so discomposed during the examination that they know not and care not whether the wind that insufflated their stomach comes from a smith's bellows, spray-apparatus, or the lungs of the operator. This is not a tenable argument. Once a patient *is* fastidious, he will consider it an affront when he finds out later the trick used on him.

3. It is not hygienic. The patient or the physician may suffer, or they may suspect one another to suffer, from tuberculosis, syphilis, foul breath, or what not.

It is clear, therefore, that all the methods now in vogue are more or less objectionable.

I have devised a method of insufflation which I claim to be free from all the objectionable features just enumerated, and which possesses, moreover, the virtue of extreme simplicity in both construction and operation

AUTOINSUFFLATION—MY METHOD.

My method is based upon the following physiologic fact: When the stomach-tube is in place, it in no way interferes with respiration or vocalization. The patient is able to take a deep breath, sing a tune, blow a horn and inflate a bag. Why should not the patient blow up his own stomach? The simplest procedure which presented itself to my mind was to bend the free end of the tube, introduce it into the mouth of the patient, and order the patient to blow away. The patient upon whom I tried this method happened to have been blessed with a wide oral orifice guarded by thick lips, so that he managed to hold in his mouth the doubled-up tube and blow his stomach up full, without the air escaping between the lips and tubes. This method, however, proved a complete failure in my next patient, who chanced to be a lady with a mouth similar to one described in Solomon's Song of Songs, but with lips which refused to hug and compress the tube. The good lady blew a good deal of breeze into my face, but not into her stomach. In order to afford an equal chance to one with superfluity of lip as to the one who is blessed with but a moiety of this article, I devised the following: I bored a side-opening in the tube at such a distance from the proximal end, that when the tube is introduced into the stomach, the opening should be situated in the anterior portion of the buccal cavity. I then clamp the free end of the tube, and ask my patient to shut his lips and teeth and blow up his cheeks. The air in the mouth, having no other exit, finds its way through the side opening into the stomach. The patient is told, as a matter of course, to breathe through the nose, between the acts of blowing up the cheeks, and to keep the mouth shut until the end of the examination; otherwise the air will escape from the stomach through the side-opening. During the act of blowing up one's cheeks, the tongue is retracted, the cheeks expand, and space is thus created for the filling up of a quantity of air. On the contrary, during the period of breathing through the nose, the mouth being shut and the cheeks pressed to the teeth, the anterior portion of the buccal cavity represents an almost air-tight cavity, and therefore the air in the stomach cannot escape through the opening into the mouth.

The advantages of my method can be summed up as follows:

1. The stomach-tube reigns supreme. No other apparatus is needed.

2. The method is absolutely under the control of the physician. The quantity of air can be increased, diminished or kept stationary.

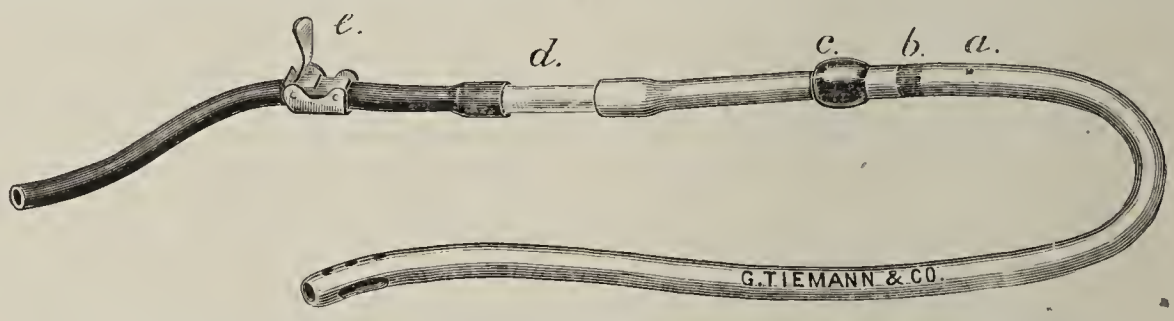
3. The procedure is harmless, since the patient will never overdistend his own stomach.

4. It will not cause any irritation of the mucous membrane of the stomach.

5. The patient will not object to using his own breath.

6. The physician is in no way handicapped. His eyes, his lungs, his mouth, his hands are perfectly free to inspect, palpate, percuss and talk to his patient, the latter of which, as is well known, is indispensable in all examinations of the abdomen, so as to divert the attention of the patient.

7. The physician runs no risk of tasting a mouthful of his patient's semidigested dinner.



(*a*) Side opening; (*b*) teeth mark; (*c*) sliding ring; (*d*) glass tube; (*e*) clamp. In order that the tube used for autoinsufflation may not loose its usefulness as a stomach-tube in general on account of the side-opening, the tube is provided with a sliding-ring, as represented in the accompanying cut, which may be slipped over the side-opening when the tube is not used for insufflation.

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CASE OF VERTICAL STOMACH.

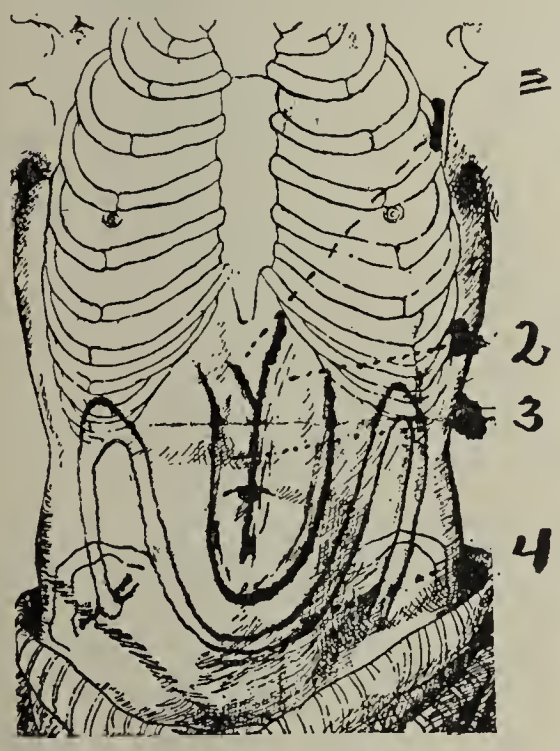
By GEORGE MACY EKWURZEL,

of Philadelphia.

THE following extract from notes of a necropsy performed at the Howard Hospital, in the service of Dr. Robert Roussel, is of more than passing interest:

Miss M. O., aged 22. On opening the peritoneum underlying the linea alba a large body was found placed vertically and in the median line. It at first appeared to be a displaced ascending colon, but a closer examination disclosed the fact that it was a loop made up of the stomach (vertically placed) on the left side, and of the duodenum on the right. The lowest part of the loop, corresponding to the pylor c valve, was in the median line midway between the umbilicus and the pubic symphysis. The stomach and duodenum were closely connected throughout the whole length of the loop by an expansion of the gastrohepatic omentum, and some cellular tissue.

The transverse colon preserved as nearly as possible its normal relations to the stomach and great omentum and for that very reason was 8 or 10 inches out of its usual position. It began in the right and ended in the left hypochondriac



1, gastrohepatic omentum; 2, stomach; 3, duodenum; 4, transverse colon.

region as usual, but instead of connecting the hepatic and splenic flexures by a nearly straight line, it described a deep curve, passing beneath the gastroduodenal loop above described and approaching within 2 inches of the symphysis pubis. The transverse mesocolon was attached in the usual place and was therefore elongated. The great omentum only extended about an inch below the transverse colon.

The duodenum was normal except for the length of its ascending portion, which instead of being 2 inches was 8. The transverse colon was empty, its diameter being no greater than that of one's index-finger. The stomach was tightly distended with gas, but its transverse diameter was even then not more than 3½ inches.

Treves says: "The feats of an acrobat who styles himself the sword-swallower can hardly be explained on any other supposition than that his stomach is vertical; but whether such condition is congenital or has been produced by the maneuver he practises, must be an open question." This woman could have introduced a sword into her gullet, and with very little stretching have rubbed its point against her symphysis pubis. Her deformity was congenital and never caused the slightest inconvenience during life.

I place this case on record because it may be of interest to abdominal surgeons and because the anatomic condition was such as closely to simulate gastric dilation or ptosis. Here was a woman with gastric tympany extending almost to the pubes on account of a condition which, though anomalous, was certainly not pathologic.

A CASE OF TRAUMATIC STRICTURE OF THE ESOPHAGUS TREATED BY ELECTROLYTIC DILATION.

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THE case I report is of special interest in that it demonstrates the actual effect of electrolysis on a newly formed stricture, above and over any mechanical dilation.

December 1, 1898. H. R., a French Canadian farm-laborer, aged 24, was referred to me by Dr Byrnes of Hatfield, Mass., with the following history: On August 1, 1898, the patient, after working in the fields, became thirsty, and went to the barn in search of water. Seeing a stone jar without label, such as was commonly used there to hold water, without further investigation be took a large gulp; the immediate burning sensation caused him to throw out most, if not all, of what he took, and getting some water he washed his mouth out and swallowed some, noticing, however, at once, that he could swallow only with difficulty. The corrosive fluid proved to be a patent concoction known as "tobacco spotting fluid," which is largely composed of a solution of potassium hydrate or caustic potash. It is interesting to know that this is sprayed over the leaves of tobacco grown in these districts, in order to produce the light spots which are found naturally on the Havana and other foreign leaves used as cigar "wrappers," thereby enabling the economical cigar-smoker to exhibit his "Havanas" without great expenditure. The patient was so engrossed with his own miserable condition, that he forgot to warn any one else, so that about 5 minutes after another laborer took a drink of the same liquid, with the result that he died shortly after in the Dickinson Hospital in this city.

By December 1 when he first came to my office, his difficulty in swallowing had increased until he could hardly get anything down but liquid nourishment, and he had lost considerable flesh. On examination with the probang, a very resistant obstruction was offered just below the level of the cricoid cartilage, and after considerable work I found it impossible to pass even a small bougie through. In a week's time a very small bulbous pointed bougie was introduced after considerable pressure was exerted, but nothing larger than No. 15 could be put through on this and the following visit.

I then resolved to try electrolysis, and, for the benefit of those who are interested, I will briefly describe the technic. The internal electrode was made the negative one, and consisted of a flexible insulated spiral bougie on the extremity of which metal olives, ranging in size from 15 to 32, could be screwed. The positive electrode was a spongiopiline pad, about 6 x 4 inches, soaped and placed in contact with the sternum; twenty Leclanché cells were in use, a mill-amperemeter, and a graduated current controller The bougie was introduced until it was in contact with the stricture and pressed gently against it; the current then gradually turned on until 10 ma. were registered; after 3 minutes flow the bougie suddenly went through the stricture, but was pulled back until engaging it, and the current allowed to flow for 5 minutes.

In a week's time bulb No. 20 was used; at the third treatment No. 26 was found to pass easily after 5 minutes flow of current. At the fourth sitting the largest size, No. 32, passed through suddenly with such ease that the patient was unaware of its passage. Two more sittings at intervals of a week were given, and the patient was then given a whalebone bougie, with several bulbs, and told to try to pass the same once a week and use the largest possible size.

On August 22, 1899, he presented himself again at my office, and said that he had not passed his bougie for a month and cou'd swallow anything if he masticated it properly. I passed with hardly any resistance the largest bulb I had, (the size of a large olive), and he was given instructions to use his bougie at intervals as long as there was any difficulty in swallowing.

One may perhaps attribute some of the good result to mechanical dilation, but very little. The bougie used with the current passed through the stricture with hardly any pressure, while without the current it was impossible to pass any but the smallest even with considerable force. No doubt the fact that the stricture was so recently formed was favorable, and I believe that the best effects of the galvanic current will only be seen before the cicatricial tissue has assumed the tough fibrous condition, which it will certainly do if left to itself. In this case there was absolutely no evidence of any spasm; both history and behavior negative that hypothesis, and the undoubted demonstration is that in recent strictures, at any rate, the use of the negative electrode effects a relaxation of the yet elastic fibrous tissue, which relaxation will be more or less permanent, especially if assisted by the occasional passage of an instrument. After studying the physical effect of the negative pole, I venture to say that its scientific employment will enable a far better prognosis to be given, even in conditions which are not so newly formed as in the case reported.

Although one can hardly expect favorable results in those cases where the fibrous tissue has become densely organized from age or continued irritation, yet in many of the so-called "cartilaginous" strictures, in which there is an inflammatory swelling of the inner mucous coat superposed on the deeper contracted tissue, the use of electrolysis will often diminish this swelling temporarily, so as to enable a bougie to pass the obstruction, which may then be treated by dilation in the usual manner. Some workers have warned against the use of the current in this location, on account of the possible danger of stimulation of the pneumogastric nerve. I have not noticed any effect of this sort and do not think it could occur unless a shock were produced by a sudden "break" of the circuit, which accident should be carefully guarded against by the use of proper control instruments. It is undoubtedly a fact that the scepticism, which is the attitude of many of the profession towards electrotherapeutic measures, is due chiefly to the unscientific procedures of those who have not used the instruments for the proper measurement and control of the current, which are absolutely essential if one is to expect any definite and reliable results from its employment in medicine, as much as in the industrial world.

Raynaud's Disease.—Harold N. Moyer (*Chicago Medical Recorder*, November, 1899) reports a case of Raynaud's disease in a man 35 years old. The previous history of the patient had been good, except an attack of malaria lasting 8 months. This occurred 6 years before the first attack of the present trouble, which began some 8 years ago, and has continued, with intervals, to the present time. He has had 12 attacks, and in each case the previous attack abated completely before the subsequent one appeared. The parts successively attacked were the inner side of lower third of left leg, and a second attack at the same area; the outer side of the same leg in the same region and area just below this. The plantar surface of third phalanx of left foot, dorsum of right foot, dorsal surface of second toe of right foot. The hands were then for the first time involved, the necrotic area involving the pulp of the ring-finger of left hand, index-finger of right hand, little finger of same hand, index-finger of hand, and at the same time the little toe of the right f and the left thumb. Neither nail or bone was lost from finger attacked, but the little toe of the right foot removed by a physician when about ready to drop off. ungual phalanx of the diseased thumb will be lost. With exception of these attacks the patient appears to be in g health. Acute pain in the affected area, followed by redn gangrene, and sloughing has marked the attacks. The ulc have healed slowly. The general nutrition of the patien fair, though he is slighly anemic. A blood-count showe somewhat lowered color index, some reduction in the cells, and the leukocytes about normal. The heart ha weak impulse, there being no pulse at the left wrist, feeble at the right. The case closely resembles Raynau disease, but is not typical, the pain being greater than co monly occurs in this disease. The redness accompanying swelling lasted a long time before the gangrene set in. [M.B.

Plastic Operation on Fallopian Tubes.—Emil R (*Chicago Medical Recorder*, Nov., 1899) reports a plastic ope tion on fallopian tubes for the purpose of restoring their n mal function, which had been destroyed by puerpe infection. This infection followed the first labor of a wom 25 years old. After the infection she did not conceive aga and suffered great pain and menstrual disorder. The ute was retroflexed, with adhesions. Operation was advised cause of suspected occlusion of the tubes. Vaginal celioto was performed, the uterus pulled down, the adhesions s arated, the appendages pulled down, and both tubes fou occluded. New openings were made in the tubes and bil eral salpingostomy performed. The tubes were incised a the mucous membrane of the tubes stitched to the serc coat. The operation for the retroflexed uterus was by a n method. The method allows shortening of the round li ments through the vagina in a better manner than th described by Brode, Wertheim et al. The round ligame were pulled down through a tunnel which was made in anterior wall of the uterus. There they were stitched, th making union between the uterine muscular tissue and round ligaments. The patient made a good recovery, m struated once, and is now 6 months pregnant. [M.B.T.]

Hernia Following Abdominal Operation. Prevention and Cure.—A. Lapthorn Smith (*British Gy cological Journal*, November, 1899) believes that hernia f lowing celiotomy is quite preventable, although there is denying the fact that it occurs with sufficient frequency render it more or less a bugbear to every physician w advises a patient to submit to an abdominal operation. paper may be summarized as follows: 1. Hernia is a quent complication following abdominal section. 2. Wh it occurs it prevents other women from undergoing a nee laparotomy. 3. It is quite preventable, (*a*) by leaving in stitches for one month if the woman is thin enough to all us to use through-and-through sutures; or (*b*) by using n absorbable buried ligatures when the woman is fat enou to require two layers of sutures. The writer prepares silkwormgut by placing it in sealed glass tubes and boili it. A cut with a file is made in the middle, and just wh it is required for use the tube is snapped across. (*c*) By d carding the abdominal drainage-tube, and when drainag necessary, which it rarely is, draining through the vagi (*d*) By securing accurate coaptation of the cut edges marking the places where the stitches are to go before t incision is made. (*e*) By taking care that no peritoneum curved up so as to come between the muscle and fascia opposite sides. 4. Hernia is easily cured in small cases w a single buried silkwormgut purse-string suture; and larger cases by splitting the edges of the ring until the re muscles are exposed from top to bottom, and suturing th with buried silkwormgut. 5. Patients with buried silkwor gut stitches do not need to stay in bed more than two wee and in some cases less; and they do not need to wear abdominal belt. 6. Patients with through-and-through si wormgut stitches left in for a month, can, in case of nec sity, go home in 12 or 15 days, and return at the end of f weeks to have their stitches removed. They do not need wear a support until the stitches are removed, and even th it is much less necessary than in patients whose stitches ha been removed early. [W.K.]

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State Laboratories of Hygiene.—State and National overnments are not inclined to authorize scientific ork for the benefit of science only. When it can be emonstrated that commercial interests can be benefited ereby, it is usually seen that scientific work is romptly authorized. This fact is especially well exmplified in connection with the establishment and pport of the agricultural experiment stations under ntrol of the department of agriculture. The $15,000 r annum which is allowed by the National Governent upon condition of appropriation of a like sum by ch State, has been a great stimulant to liberality upon e part of many State Legislatures.

It would seem that earnest and continuous presentaon of the advantages that would accrue to commercial terprises from the researches of laboratories of hygiene ight be added to appeals to State pride, and eventually sult in securing the passage of a bill by Congress in e with that which established the agricultural experient stations. In 1895 the draft of such a bill was esented to the American Public Health Association, d a few State Boards of Health took steps approving But interest in the subject died out for the time and s not been renewed. There could be no more fitting me than the present for a renewal of the agitation.

Crazy Charity.—There is a city in Kansas so deeply love with tramps and with trampism that it furnishes l who come with free bed, board, and bath-rooms. here is more than one college in our country that rerdless of intellect or learning gives its students, espeally its freshmen, a similar bribe to enter its hospitable ors. If a young man feels himself incapable of inpendence and of doing anything in the world, the eologic schools will reward him as the Kansas town es its Wandering Williams.

But who ever heard of a free scholarship in a medical hool?

The ways of the minds of the fashionable charityongers are past explanation.

The Plague.—Reports continue to arrive by the wspapers of the spread of the plague in the Sandwich lands. The U. S. Marine-Hospital Service is fully formed of all that pertains to the infection in those ands, and is doing all it can to eradicate the disease d prevent its introduction by any of the ports of this country. A large number of deaths are recorded up to this week in Honolulu, and an increasing number of cases of the disease. In this connection it is appropriate to call attention to the care being exercised by the Local Government Board in Scotland to prevent the introduction of the plague. In a circular dated January 15 they call attention to the order issued by the Commissioners of Customs to the effect that customs officers and medical officers of health shall act in unison in this matter. This precaution seems to be necessary in Scotland, where quarantine regulations are not so strict as here, and where an obdurate custom officer once actually declined the assistance of a medical officer. Such officials are more than likely to assert themselves in this country, and we hope that they will be properly disciplined in the matter. The Marine-Hospital Service in this country publishes weekly bulletins announcing the prevalence of all infectious diseases in all parts of the globe, so there is no excuse for ignorance on the part of any officials. The Scottish authorities called renewed attention to the possibility of the plague being carried by rats, mice and cats, and to the necessity for inquiring into the evidence of the disease in these animals. Rats have been suspected for some time, but mice and cats have not been so much under suspicion as the rats. According to the *Lancet* it was believed that mice spread the infection in Formosa, Jeddah and Alexandria, while cats were suspected in India, China and Portugal, but scientific proof of these facts seems to be wanting. Anyhow, at the present time, it will be well to quarantine rats, cats and mice as well as other travelers from Hawaii.

For the Prevention of Tuberculosis.—The State Board of Health of Maine has issued a revised circular dealing with the prevention of tuberculosis, and reciting the modes of conveyance and the principles of prophylaxis. Especial consideration naturally is given to the care and disposal of the sputa, although reference to the clothing and the surroundings of the infected individual is not omitted. Due importance is wisely attached to the preservation of the general health as an effective prophylactic measure. The publication and distribution of this circular must certainly exert a most useful educational influence in a hygienic direction, an end that it seems to us would be more thoroughly attained if tuberculosis were classed among the notifiable diseases, in order that particularly its victims and their

friends might be placed in a position to reduce to a minimum the dangers and the possibilities of infection and reinfection.

A Word about Vaccination.—A correspondent has written us a letter calling attention to some of the common errors committed by vaccinators. These errors lead, first, to failure and, second, to animadversions on the firm that supplied the lymph. That the fault is not always with the manufacturer, but sometimes with the doctor, we readily believe, and in justice to all parties, and especially in the interests of the patient, we give voice to our correspondent's plaint. The chief points to be observed seem to be these: A strong antiseptic should not be used for cleansing the skin if it can be avoided, because antiseptics may destroy the virus. Boiled water and soap, followed by the use of alcohol, are sufficient. If, for special reasons, an antiseptic is deemed necessary, the skin should afterwards be thoroughly rinsed with boiled water. In scarifying the skin, blood should not be drawn; (this is sometimes easier said than done, and in case blood is drawn it may be wiped away with aseptic cotton until it no longer oozes). The vaccine should be rubbed in thoroughly, and should be allowed to dry before the clothing is replaced. If a shield is used it should be of perforated felt or some such device that merely acts by preventing friction before the lymph is dry, and at most is not required for more than a few hours. An antiseptic dressing is not required if the lymph used is aseptic. The virus should not be exposed to extremes of temperature, but is best kept at a point between 40° and 60° F. If the virus is really aseptic there should be no great ulcerating sore produced, as in the old-fashioned vaccination—unless, of course, the wound becomes infected later with pathogenic organisms. But this accident, we think, is very likely to occur in the hands of even the most careful physician, in spite of the fact that our correspondent claims, that it would not occur if a particular lymph were used, etc. It is well to remember, however, that a genuine "take" may occur without extensive inflammation and suppuration. Finally, the ordinary bone "points" are liable to be dirty and infected; therefore, a preparation of the lymph in glycerin is more reliable.

College Education and Medical Registration.—In our issue of December 30, 1899, we discussed the question of admitting graduates of academic colleges to the examination for license to practise medicine after three years of medical study, and expressed our belief that the exclusion of such men by the recent action of the Medical Council of Pennsylvania was a backward step. Our editorial has called forth much discussion, which we trust has led to a clearer understanding of the existing conditions in medical education, both by the profession and the public, and which we hope will be productive of further progress. The arguments use in these discussions have not led us to change our view as originally expressed in these columns, but hav brought out clearly several facts which confirm us i the belief that we were in the right.

We still believe that it is unfair to ask a man wh has taken courses in a high-grade literary college t cover the same ground in a medical college; suc repetition of work is not only unjust, it tends to lead man into slipshod, half-hearted methods of study Crediting men for their academic work is not substi tuting literary study for medical study; it is onl substituting course for course. It has been sai that the medical aspects of the sciences studied i academic courses are not brought out; but is thi necessary or desirable? Are not the facts of inor ganic chemistry as taught in medical schools th same that a man learns in his general culture course We know that they must be and are. The physicia requires the same foundation in general chemistry a the man who is to become a professional chemist or th man who is studying the subject merely for the love o the knowledge. The same knowledge of physiolog that is a necessary foundation of the physician's educa tion is an interesting and desirable study for every cu tured man, and such a course, we are glad to know, given in nearly every literary college of the land. Th same is true of the other studies that make up th necessary work of the first year of the medical cours

The action of the foreign countries need not necessa rily determine our course here in America, but it is we worth while to consider the customs of the leadin scientific nations in matters of medical education. W have positive proof that in England the studies take in courses leading to A.B. and B.S., are accepted in lie of a year of medical study, and we have person knowledge of three cases in which such academ courses have been accepted by leading German un versities in lieu of one or two years of medical stud

One of our correspondents has mentioned that th medical student is more likely to look for the practic bearing of all his work and fail to gain the real scientif spirit of working for the sake of the knowledge alon which is the attitude of most men taking academ courses. We believe his point is well taken. If Harve Hunter, and Röntgen had not studied for the love knowledge rather than with any special practical end i view, the world would never have had the benefit of knowledge of the circulation of the blood, of ligation arteries for aneurysm, or of the x-rays—knowledge the greatest possible value in modern scientific medicin

We believe that the lack of a requirement for adequa preliminary education has, more than any other facto tended to keep our standing in medicine low as com pared with the other leading scientific nations of th world. We believe that a man with a thorough ac demic training is better fitted to study medicine and su

ed in practice than the man without such training; that e college man should be given credit for his work in such udies, taken during his academic course as are also quired in the medical school, provided his alma mater as facilities for teaching such studies thoroughly; and at the law at present existing entitles the college aduate to such credit; we are certain that credit for udy in academic courses is given in England and ermany today. We feel that so far as our columns e concerned further discussion is not desirable.

A Christian Science Quarrel is described by a correspondent in the *Canadian Journal of Medicine and urgery*. It seems that the editor of a lay journal, *The Vashington News Letter*, petitioned Mother Eddy for help ecause his journal had lost subscribers on account of its lvocacy of Christian Science. The divine Mother thereon ordered the faithful to subscribe for a year, but at e end of that time told them they were under no further bligations to renew, and the London (England) C. S. urch cleared the abjured periodical out of its reading-om. The editor of the *Washington News Letter*, now oroughly aroused, denounces the C. S. Publishing ompany as "a religious trust, which is selling God's uth at $100," "founded on money," and to be "killed it or it will choke and destroy religion." He also ublishes a synopsis of Christian Science healing for e masses who cannot afford to pay the divine Mary aker her extortionate prices for books. This, of course, the uttermost of sin against the Holy Ghost, and, in atitude to those who cast the rival's paper and book rth into the street, the holy Mother thus writes:

MY BELOVED BRETHREN,

"Pardon delay in answering your loyal letter, and living ght set upon a hill. The chain of Christian unity unbroken retches across the sea and rises upwards to the realms of corporeal life—even the glorious beatitudes of divine love. . . . What holds us to the Christian life is the *sevenfold ield* of honesty, purity, and unselfish love. I need not say is to *thee*, for *thou* knowest the way in Christian Science.

"*Pale*, sinful sense, at work to *lift itself*, *on crumbling rones of justice*, and *by pulling down its benefactors*, will mble from this scheme into the *bottomless* abyss of self-mnation, *there* to *relinquish its league with evil*. Wide yawns e gap between this course and Christian Science; *here the nnection stops*.

"God spare this plunge, *lessen its depths*, save sinners, and *their being* to recover its connection with its divine Principal, Love. God is blessing *thee*, *my* beloved *students* and *ethren* . . . and Love and good-will to man, *sweeter than sceptre*, are enthroned now and forever.

"Lovingly yours,

"(Signed) MARY BAKER EDDY."

The Pension Debauch and the Medical Profession.—In the murder of patriotism, the demagogism office-seekers, and the corruption of pension-attorneys, medical men have it in their power to exercise an influence for good. The honorable soldier, injured in patriotic service, deserves well of his country, at he is being brought into disgrace by the abuses of e pension system. On the general pensions appropriation bill, which has just come to the Senate from the House, there is a rider which is not less vicious because it simply continues an abuse of previous years. It consists of a proviso, attached to the clauses referring to the pension-examining surgeons, "that the report of such examining surgeons shall specifically state the rating which, in their judgment, the applicant is entitled to." By this condition the examining surgeons are left a too wide latitude of judgment. Here is one report of a local board in which a claimant as a monthly rate was adjudged:

For general debility	$30
For deafness	25
For disease of eyes	30
For disease of rectum	30
For disease of liver	30
For crepitation of shoulders and elbows	17
For alleged periodical vertigo	17
For rheumatism	17
For disease of heart	30
For tenderness over spleen	17
Total	$243

The accuracy of diagnoses here displayed is a professional as well as an ethical dishonor. Here is another:

For thin, flabby muscles and coated tremulous tongue	$17
For thin abdominal walls and tenderness over colon and stomach	17
For practically normal liver	12
For four medium-sized piles	17
For a rectal ulcer	17
For slight rheumatism	17
For slight disease of heart	17
For slight gunshot wound of right leg	12
Total	$126

When the central board had taken all the descriptive matter and boiled it down, and had asked the additional questions necessary to clear up doubtful points, it revised this rating thus:

For chronic diarrhea	$8
For disease of liver	2
For disease of rectum, including piles and rectal ulcer	12
For rehumatism	6
For disease of the heart	10
For gunshot wound of right leg	4
Total	$42

The professional conscience of examining surgeons should not be influenced either by sympathy or self-interest.

The Disposition of City Wastes.—Much of the mistiness that surrounds the subject of disposition of city wastes is the result of indefiniteness of description. Take the term "garbage" for an example. In one city it includes every kind of filth, from horse-manure and ashes to the contents of grease-traps. In another city, the term "garbage" is carefully defined in the health ordinance, and applies only to such animal and vegetable refuse as comes from the table. It can readily be seen that the first city can only dispose of its objection-

able and unsanitary mixture of wastes by an expensive process of combustion, or of dumping after long hauls. The only economy that can be attempted with such a mixture is the difficult and unsatisfactory method of separating either by hand or machine-process materials that never should have been allowed to become mixed.

The city which has clean table-refuse alone for its garbage, has a waste material which has a distinct market-value, and can be safely and economically used for feeding animals. In case the least element of doubt as to its healthfulness for animals should be entertained, such doubt can be readily ended by requiring the garbage to be boiled before feeding. Thus, a waste product, which, because of sheer carelessness and inefficient local ordinances, is a nuisance of the most expensive sort in one community, becomes an item of utility under a better arranged system.

Sewage disposal is another example of sanitary inefficiency in almost every American city. Millions of gallons of water enriched with the most necessary fertilizing elements are daily turned into our water-courses in such a condition as to threaten the health and lives of persons residing thereon. By the simple processes of intermittent irrigation as now perfectly understood and practised in some places, these millions of gallons of contaminated water may be readily changed into an effluent which is practically innocuous. The process of change is so profitable, through its influence upon the fertility of the soil of the sewage-farm, that increased production practically pays the expense of the methods of treatment.

American cities must, however, expect to suffer both pecuniary and life loss from inefficient treatment of these and kindred civic problems just so long as politicians exercise their power in municipal affairs, and place expediency above principle in the choice of sanitary methods. The enormous annual death-loss from typhoid fever, which, for more than 20 years, has made Philadelphia a by-word among well-administered cities, will end when the system of slow sand-filtration has been properly placed in operation. But the long list of our dead from that disease will remain with us as a perpetual reminder of the death we owe to local political methods. We are not alone among American cities in this regard. Pittsburg, Cincinnati, Chicago, and Saint Louis have their little death-lists also. Even in the far West, Denver, in 1896, as well as in 1890, paid its penalty for lack of proper methods of water-purification, although its sanitary officers recognized the dangers and enegetically advocated proper methods of prevention.

Altitudes and Health.—A great deal has been written and surmised in the past in regard to the effects of high altitudes upon health, which in the light of more recent investigations has been shown to be without foundation. For example, years ago some one announced that the air at an altitude of some thousan fect had been found to be free from bacteria. Certai newly-settled mountain regions were found to be fre from certain infections at the time of settlement. Fro these facts the writers of some textbooks came to th conclusion that high altitudes must be free from infec tious diseases. Epidemics of diphtheria in localitie nearly two miles above sea-level have not yet succeede in dislodging the fallacy from the minds of student who write books based upon surmises.

A great many people have supposed because the hear suffers from some functional disturbance when a sea level dweller goes into the altitudes, that heart-disea must necessarily be very fatal there. From belief t assertion was but a step. Almost every one accepte the dictum. Now come observers who quote statisti to show that a smaller proportion of the total death-lo in the altitudes is due to heart-disease than in the grea cities on the coast.

It will take many years and thousands of observation to arrive at the exact truth in regard to these matter If generalization can be at all allowable at this time, is safe not to go far in indulging it. Mountain dwelle find that their vacations seem to do them more goo when taken at sea-level. Coast dwellers enjoy tempo rary residence in the mountains more than a me change of location at the same altitude. There is a di tinct let-down of nervous tension when the resident the altitudes comes to the sea; the coast dweller fin the mountain air stimulant and soothing. Each slee better for the change. Each says that the air of th new place "is like new wine." After all, one wonde whether it is not simply a question of complete chan of surroundings.

Trauma and Tuberculosis.—It has, up to th present time, been an accepted theory, that traun often plays an important part in the developme of tuberculosis, especially of the bones and joints, it is with some surprise that we read the results Friedrich's experiments as given in the *Deutsche Ze schrift für Chirurgie*, November, 1899. He took a nur ber of rabbits, old and young, and after injecting tube cle-bacilli into the jugular vein, he bruised or otherwi injured their bones and joints and allowed the tube culous process to develop. The summing up of the experiments shows that in none was there a tendency f the germs which were traveling in the blood to lodge the injured tissue, for, at the postmortem, in not one the joints which had suffered trauma did tuberculos exist. Tuberculosis of the uninjured bones and join and of the kidneys, lungs and other organs was a fr quent finding, and often a general miliary tuberculos was present, so that Friedrich's statement that inju does not predispose to tuberculosis of the bones a joints is entirely justified by the results of his researc His results seem to warrant an even stronger assertio

z., that injury *protects* the part against tuberculous vasion. Bier's method of treating tuberculous joints the production of passive hyperemia is well-known, d, as Noetzel has pointed out, the favorable result is e to a concentration of the natural bactericidal forces the increased amount of blood brought to the part, d later on to the development of connective tissue. these two factors are the real causes of the favorable tion of a *passive* hyperemia, it seems within the grasp reason that an *active* hyperemia produced by the action of the tissues to injury might also tend to mbat the ravages of tuberculosis. The question is ie of great interest, and the medical profession will be holden to any one who by clinical and experimental search will throw confirming or other light on this ost important subject.

Insanity and Pelvic Disease.—The condition of the sane is so pitiable, and so appeals to the humanity of e profession, that any procedure which promises the ghtest hope of relief is grasped at with avidity. The er-increasing burden which the State and society are mpelled to bear year after year, demands a close in- stigation into causes and the elaboration of effectual medial measures. Insanity may vary in degree from erely hysteria or nervous irritability to bad cases of ania. To define its border-lines or limitations is al- ost impossible. The definite value of surgical inter- rence in these cases is difficult to determine. On one nd, prominent alienists claim that no permanent nefit has resulted from operations as a curative ocedure, that there may be some temporary arrest of e insanity, but later there is a recurrence and pos- bly an aggravation of the nervous symptoms. On e other hand, equally eminent and veracious gynecol- ists claim most brilliant results in those instances of ental aberration due to reflex irritation produced by lvic disease, and that an inflammatory condition, or neoplasm involving the generative organs, may cause ental derangement which subsides only after the iologic factor is removed.

The alienist sometimes criticises and condemns the necic surgeon for waging what he terms a "re- ntless war upon the ovaries, as if in them resided the ief demoniacal spirits which torture the unhappy male lunatic," and claims that man should be happy, rice happy, because of the simplicity of his genital tfit; for if nature had decreed him to wear his geni- ls in the abdominal cavity, he too might have been mpelled to suffer surgical martyrdom for the sake of storing his reason. The conscientious gynecologist, aving remarkable results following his operations, is ually vituperative and condemns the neurologist for ot utilizing the surgical abilities of his confreres in iding him to restore the sad lunatic to perfect physical nd mental health. He calls attention to the intricate ervous connection between brain and sexual organs, and to the long line of sexual insanities occurring at puberty, during pregnancy, the puerperium, or the menopause. He knows that in one asylum alone containing 595 inmates, 230 exhibited perverted sexual functions; and he urges most earnestly that a thorough pelvic examination be made in all women before sign- ing papers of commitment, and if pelvic disease be found, such patient be given the benefit of modern gynecologic treatment.

The question remains, Who shall minister to the mind diseased? The answer seems to be given in the consensus of opinion submitted by 120 of the principal alienists in America (in reply to the queries of Dr. James Russell, of Hamilton, Ontario). Surgical inter- ference should be resorted to with the insane as with the sane, only when there is evident physical indica- tion for operation, but seldom or never as an experi- mental procedure for the relief of insanity. When the etiologic factor is obvious or suspected, remove it, exercising a calm, judicial attitude in the sifting of evidence. Be neither carried away by the gynecic operative furore, nor guilty of the equally culpable nonaction which sometimes characterizes the neurol- ogist in these cases. No operation upon an insane per- son is advisable unless some definite structural lesion is present, such as would justify the operation were the patient sane. "Nature is being compelled to disgorge her secrets as to the causation of many diseases, but with the ever-increasing illumination the shadows still lurk in many quarters, and over no department are the clouds of ignorance denser than over the afflictions of our insane population."

Suggestions to Writers, No. 58. Illustrations are perhaps often useless, but are sometimes necessary, and may even tell more than text as to the condition,—but not if they tell lies. If, for instance, the cut is upside down it may not help the reader very much. And it is not always the fault of the proofreader or printer if this reversal is found in the printed page. Sometimes only the author can know. When not self-evident it would, therefore, be well for him always to indicate the top, bottom, and right side of the cut. Occasionally the scientific value of illustrations depends upon the size or relative sizes of the pictures, but authors forget that in reproducing or adapting originals for the print- er's use the cuts usually have to be reduced in size. When of importance, instructions as to this detail should accompany the MS., and in the legend the reader should be notified concerning it. And there should be a legend! It should also accompany the original. It can then be properly inserted in the galley-proofs sent the author, who will thus know if it is correct. Correspondence, trouble, and possible accident may thus be spared. The legend should also be full and clear. All illustrations should be numbered in regular order, and every one should be referred to, by the number, in the text. It is

altogether too common that authors fail to number cuts, to explain them in legends, and more than once we have known illustrations to be wholly ignored in the text. It is also strange that so many do not understand that the smudgy proof of the illustration in the galleys is not as it will appear when properly printed; it is sent to furnish the author with an opportunity to indicate where it is to be placed, to verify or insert the legends, to see if it is right side up, etc., etc. Despite this, letters will appear with maledictions upon engravers, and savage irony as to our art department, ordering non-insertion, etc. We have known one tired, but not altogether disingenuous editor who made it his custom in such instances to send the wrathful contributor a courteous letter saying that a new cut would be made to replace the bad one he justly criticised, and that this would be guaranteed all right. A last item refers to changes in cuts once made. Authors often ask that details of cuts shall be made different, something inserted here or taken out there, as if it were a matter like changes in type. These things, of course, should have been ordered in the original of the illustration. When the photographer, engraver, and etcher send the block to us for the printer's use, little or nothing can be done in the way of modifications.

Complete Double Ureter.—Bransford Lewis (*St. Louis Medical Review*, November 18, 1899) reports the finding of an anatomic curiosity in the form of a double ureter. He has met two such cases. In each case the ureter was double throughout, opening by two separate orifices into the bladder. The same writer reports the anomalous condition of a man who possessed **no kidney** on the **left side,** but **two on the right.** The upper one was normal in position, the other lower down, lying in the right iliac fossa. The lower one received its renal artery from the right common iliac, also a twig from the abdominal aorta. Its vein emptied into the right common iliac. Each kidney was supplied with a ureter. These emptied one on either side of the trigone, as in the normal condition. [M.B.T.]

Implantation of Both Ureters into Sigmoid Flexure.—Carl Beck (*Chicago Medical Recorder*, November, 1899) reports a case of implantation of both ureters into the sigmoid flexure. The patient was a young man suffering with tuberculosis of the bladder. Suprapubic cystotomy, with curettement of bladder and insertion of a tube, was tried without success. Excision of bladder, with implantation of both ureters into sigmoid flexure was decided upon. The ureters were cut off about an inch from the bladder-wall, and the ends picked up. A flap was made in the gut, consisting of peritoneum, subperitoneal, and muscular tissue, leaving nothing but the mucosa and submucosa. The flap was turned back and the ureters carried beneath it. A small opening was made into the gut and the ends of the ureters were carried through, leaving about 1½ inches of the ends hanging free in the lumen of the bowel. The ureters were placed one above the other in passing through the bowel. Around the flap they were sutured in a sort of groove in the bowel-wall. The peritoneum below was sutured for a short distance. Beck believes the good result in this case was accomplished by leaving the ureter ends hanging free in the bowel. This is his own modification. He thinks by this method the dangers of pyelonephritis are greatly lessened. The patient recovered uneventfully, and now, 5 weeks after the operation, is able to hold his urine 4 hours. That the patient can hold his urine so long is attributed to the fact that the ureters were implanted in the sigmoid flexure instead of the rectum. [M.B.T.]

Correspondence.

THE PENNSYLVANIA STATE MEDICAL BOARD.

BY S. WEIR MITCHELL, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN your last number Prof. Tyson has mildly criticised my efforts towards raising the standard of medical examinations. He writes: "*I believe the Medical Council has done the best it could do up to the present time,* and it was in an effort to do better that it made the last mistake in discriminating against the best class of students—the college men." As to this latter opinion I am not at present much concerned; but if after these years of trial the Medical Board has the full approval of the professor of practice in the University of Pennsylvania, it is fortunate that he does not represent the general opinion of educated physicians.

My friend Dr. Tyson has stated his views; I have previously given my reasons for an opponent belief. He thinks that the Medical Council "has done the best it could;" that it has not, either as to vigilance or gain in methods.

As concerning compensation, does not Dr. Tyson think $1,200 a fair return for the work done in these examinations? There are well-known and able men who would undertake the work gladly for this amount, and, too, add oral methods, and know how to begin to employ practical tests. Having found fault with the Board for unfair[1] and ineffective examinations, I desire now to say that I wish to make no abrupt changes. I can see how at once valuable and easily to improve the present written examinations. Let oral examinations be added next year. Then let a committee of the Board consider the question of adding practical examinations. I can point out how in some directions it would be easy. But, let us at all events not encourage the Board to believe that we are contented.

I want to assure the Board in conclusion that I am only eager to helpfully urge it forward, and to say, moreover, that a little consultation long ago with the leaders of the profession and men skilled in examinations would have materially aided the cause of education.

PRACTICAL SCIENCE VS. THEORETIC SCIENCE.

BY JOHN M. DODSON, M.D.,
of Chicago, Ill.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE discussion, in the columns of your JOURNAL, on the relation of institutions of general education to the medical college, elicited by the recent action of the Medical Council of Pennsylvania, is one of great importance, having to do with one of the most fundamental problems of higher medical education. It seems to me that Dr. Tinker, in his admirable letter in your issue of January 20, has furnished a complete and satisfactory answer to those who object to the medical college giving credit for scientific work done in the university or college. I believe, however, that his statement can be made still more emphatic. I venture to say that many of the branches of the medical curriculum, among them chemistry, physics, histology, physiology, and bacteriology are better taught in a large number of scientific institutions than in any but a very few of the medical schools of the

[1] Unfairness to the practically educated.

intry. These institutions have large and better equipped oratories, more instructors in proportion to the number of dents, and instructors whose whole time is devoted to this rk,—instructors, in a word, who are professional educators, l not primarily practising physicians, and only incidenty teachers. But more than this, I believe that such instiions are the proper places in which the study of these nches should be commenced, because they furnish the per spirit and atmosphere, if I may use these terms.

Medicine is applied science. The practice of medicine sists, largely, in the application of the facts and prinles of these fundamental sciences—and, in addition reto, of anatomy, pathology, and materia medica,—to the dy and treatment of the diseases and deformities of the man body.

In the study of applied science, the logical procedure first, the study of the facts, principles, and technical thods of the general science, and then, and then only, the dy of their application to any special department. It is portant that the fundamental facts and methods should first acquired, without reference to their special applican. Only in this way can that broad, thorough mastery be quired which is so essential to their subsequent use in any ecial direction. The student who is attempting to acquire knowledge of any science, and of its special application, the same time, is constantly asking himself what prinles and what methods are likely to be necessary to him in s chosen field. Imbued with the idea, for example, that is studying chemistry, as a medical student, he is loath to dy those things in chemistry which he fancies are of no ility in medicine, and yet he cannot, by any possibility, ticipate what knowledge he may need; nor, indeed, can teacher, be he the wisest of men. Those facts and ethods in chemistry which seem today to have no bearing on medical practice, may, a year hence, be of vital sigficance.

For this reason I believe that it is of great advantage to e prospective medical student to acquire a thorough nowledge of chemistry—and the same is true of the other iences mentioned—in the atmosphere of the university or llege, where these sciences are being studied for their own ke, with no immediate reference to their practical applition.

I am of opinion that the time is at hand when a large part the teaching of these fundamental branches now given in e medical college, will be relegated to the institutions for neral culture, where they can be more satisfactorily and oroughly taught. The medical college, as a school of plied science, will then concern itself solely with teaching e application of those sciences to medicine.

Human anatomy should be taught as a branch of verbrate anatomy in such institutions, and studied, too, by any who have no intention of practising medicine, as a anch of general learning. It may be of interest to note at courses in human anatomy, including dissection, are w offered in the University of Chicago. Even pathology, as a study of the behavior of living organisms in an abrmal environment,—should be there taught, and in such arrangement, to my mind, lies the hope of a satisfactory lution of many of the unsolved problems in pathology.

When the medical college is thus able to transfer to the llege of science the major part of the present curriculum its first two years, another year of clinical and practical struction can and will be added, and thus a five years' urse in medicine be provided for, equal and in some respects superior to that now offered in the German universities.

The action of the Medical Council of Pennsylvania is a retrograde step, directly opposed to the forward movement which has been going on so rapidly in the past 20 years.

A LIVING MAN WHOSE HALF-BROTHER WAS BORN 142 YEARS AGO.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DEAR SIR:—In working over the record of my college class, Yale '73, I struck the other day a curious fact that I am sure will interest you, and that deserves a place in the records of human life. I give names so that you may verify the statement if you deem it necessary. My class-mate, James I. Chamberlin, a lawyer of 222 Market Street, Harrisburg, Pa., says that his father, Moses Chamberlin, who is still living in Milford, Pa., at the age of 88, but in full mental and physical vigor, had a half-brother who was killed at the battle of Germantown, 123 years ago. Their father, Col. William Chamberlin, was the husband of four wives, and was 79 when his youngest child, Moses, was born. The oldest, whose name was also William, was 19 when he was killed. There were 23 children altogether, but Moses is the only survivor. Judge Biddle, of Carlisle, Pa., a brother-in-law of James I. Chamberlin, is acquainted with the facts, and would doubtless bear testimony to them. Very respectfully, yours,

THE MEDICAL CURRICULUM IN GERMANY AND ENGLAND.

BY HENRY BEATES, JR., M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

ACTING upon the suggestions offered by my voluntary instructors, the following is respectfully submitted because the arguments of those who oppose the establishment of a four years' course of study in medicine disclose the fact that a correct explanation of the medical curriculum of Germany and England will be timely.

Candidates for admission to the professional schools in German universities are only admitted on presentation of certificates indicating that they have completed the course of study in a "gymnasium" and a "real-gymnasium." These courses are believed to be equivalent to those in arts and science in the first three years of the higher-grade colleges of the United States. No student is permitted to begin the study of medicine in a German university until he shall have complied with the conditions of general culture just stated. He must then remain five years in attendance upon medical instruction in German universities before he will be permitted to present himself for examination for the medical degree. The medical schools of German universities do not count studies pursued in academic courses as satisfying the requirements in lieu of one year's medical study.

The time of military service in the German army is two years, but individuals who have passed the gymnasium and "real-gymnasium," or who have passed a specific examination, held three years before the completion of the courses in the two schools just named, and those who have passed through the real-schule, are not required to give more than one year to service in the army. Such students constitute

the "einjährige Freiwillige," and when these volunteer to serve their time in the army they may be in attendance upon instruction in any one of the five years required in the medical school of a German university, but the military service must be complete not later than the twenty-sixth year of their age.

When matriculated in the university, they are expected to both attend the lectures and do the work assigned to each of the years of the five years of the curriculum, and when they present themselves at the expiration of these five years for examination for the degree in medicine they are compelled to exhibit their ex-matriculation papers, which are signed by the proper university authorities, testifying that they took instruction in all of the required studies covering tbe five years of the medical course. They must also show certificates setting forth the fact that they have performed the required practical work in hospitals. A medical student may, during any period of the course, volunteer for military duty, and during this time he may (if it does not interfere with his military obligations) also be in attendance at the university in the town in which his military service is being performed. The coincident performance of military service and attendance at the university does not apply therefore alone to the first year of medical study, but may to any one of the five years. The fact is, a great majority volunteer for military service at the beginning of the fifth semester (first half of the third year of the course), and owing to required work in the hospital, which begins with the sixth semester (second half of the third year of the course), it is almost impracticable for students to perform at the same time military service and attend the university, and therefore it very rarely happens that a student is performing military duties and attending medical instruction in the universities after the end of the fifth semester. Although these students are expected to be in attendance while they are in military service, the professors customarily sign the Anmeldungs-Buch testifying to their attendance, when they may have actually been very irregular in attendance.

It is not, however, unusual to see numbers of students in uniform in the lecture-rooms and laboratories of a German university. Nevertheless, their irregularity in attendance is not during an entire year of the medical course, but, in the majority of cases, only during one semester, or half of the academic year, the remaining one-half of the year of military service being spent in an army hospital, after the completion of their five years medical studies, and after the State Board examination (Staats Examen) has been passed.

It may be true that in England, where the medical course is five years in length, graduates of arts or science of any university recognized by the general Medical Council who have spent a year in the study of physics, chemistry, biology, and have passed an examination in these subjects for the degree in question, are held to have completed the first of the five years of medical study, but these individuals must still spend four years in medical study in medical schools before being permitted to appear for examination for license to practise; and in Germany, if it were true that students were not expected to attend instruction during one of the five years of the course, they still would have to attend four years before being eligible for examination before the State Examining Board for license to practise, or to present themselves for the examination for the doctor's degree.

Is there any reason why, in America, if America should choose to follow the custom of any other country, at least four years' attendance upon instruction in a purely medical school should not be required before the individual having graduated should be permitted to present himself before the State Board for examination for license to practise?

In this country at least, one institution, Johns Hopkins University, requires of the candidate for admission to the first year of the required four years' course, that he shall be in possession of a bachelor's degree and, in addition, have had previous to admission to the Medical School an amount of biological studies such as is not ordinarily included in the course for the bachelor's degree.

The American public surely should require that practitioners of medicine shall have had courses of instruction in medical schools, equal, at least, in duration and extent to those required in countries where the status of education is of the highest. That, in other words, practitioners of medicine shall have had sufficient instruction and experience to enable them to competently engage in their responsible duties. It is this requirement upon which the Pennsylvania medical law clearly insists.

GENERAL AND TECHNICAL TRAINING.

BY A. L. BENEDICT, M.D.,
of Buffalo, N. Y.
Vice-President of the American Academy of Medicine.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I AM much interested in the discussion in regard to favoring college graduates in medical schools, both from having had considerable to say on that subject in the past and because I am preparing a paper on what may be termed the "combined course" for the American Academy of Medicine at its next meeting. I should be greatly obliged for suggestions from others interested in this vital topic and, especially for information as to actual practice in regard to time-allowance, combinations of bachelor's and medical doctor's courses in universities, etc., ruling of faculties and examining boards.

Dr. H. C. Wood's opinion is all the more deserving of reflection because of its amazing nature in view of his position and reputation. In justice to him, the fact must not be overlooked that a full high-school course of four years included about one year of the college course as in vogue five or ten years ago and probably half the college course of a generation ago with the important exception of the classic languages which are rather going out of fashion, but which must continue to be the basis of a medical vocabulary.

The problem is to allow a man to get a general education plus a technical training in medicine within the first half of his probable active lifetime. Some men can absorb culture from the air, but we must not forget that while the medical school can make the average man into a complete doctor the year of his graduation, it cannot make him grow, growth depending on a general knowledge of physics, chemistry, familiarity with language, and logical training.

Hip-Joint Amputation.—R. B. Baird and G. L. Connell (*The Physician and Surgeon*, December, 1899) report a case of hip-joint amputation for osteosarcoma. A young man, 18½ years old, 2 years prior to the operation fell from a tree and injured his knee. An osteosarcoma developed, involving the knee and lower ⅓ of the femur. The latter finally measured 28 inches in circumference. Amputation was advised early, but refused. The patient's condition gradually grew worse and consent was at last given to amputate. The hip-joint amputation, by Wyeth's bloodless method, was performed. The patient did well, has gained much in flesh, and was about on crutches in 4 weeks after the operation. [M.B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

The German Hospital of Philadelphia has been nriched by a donation of $10,000 given by Mr. Henry D. usti, one of the trustees, for the endowment of two free eds.

Pittsburg (Pa.) Academy of Medicine.—At the ecent regular meeting the following officers were elected to erve for the ensuing year: President, Dr. P. J. Eaton; first ice-president, Dr. E. S. Montgomery; second vice-president,)r. J. D. Singley; secretary, Dr. J. C. Thompson; treasurer,)r. E. W. Day; librarian, Dr. E. H. Small.

Medico-Legal Society of Philadelphia.—At a ieeting held January 30, the following officers were elected)r the ensuing year: President, Dr. A. M. Eaton; first ice-president, Dr. L. H. Adler; second vice-president,)r. Samuel Wolfe; secretary, Dr. C. H. Clewell; treasurer,)r. G. M. D. Peltz; librarian, Dr. J. D. Nash. A supper)llowed the meeting.

The Society of Ex-Resident Physicians of the Jniversity Hospital held its first annual dinner, Februry 3, prior to which there was an executive session, at hich the following officers were elected: President, Dr. Henry R. Wharton; vice-presidents, Dr. Edward Martin,)r. Barton Cooke Hirst, Dr. Richard H. Harte; secretary nd treasurer, Dr. Albert Philip Francine; executive committee, Dr. John H. Girvin, Dr. S. S. Kneas, Dr. Henry Torris, Dr. John Jopson, Dr. Charles H. Frazier, Dr. Albert 'hilip Francine, Dr. H. C. Wood, Jr., Dr. M. H. Biggs.

Pathological Society of Philadelphia.—At a meetng held January 25, there was a symposium upon **typhoid ever.** DR. A. C. ABBOTT made some remarks upon the **Epidemiology of typhoid fever,** in which he stated that although it is true that typhoid fever is particularly an autumnal disease, this is only partly true, because examination f the incidence of the affection for long periods of years iscloses the fact that it has frequently been disproportionlly prevalent at other seasons as well as during the fall. Reference was also made to the dependence of the disease pon a polluted water-supply, and this was illustrated by rawings, tables and maps illustrating the epidemic in Philaelphia during the winter of 1897–98. DR. JOHN H. MUSSER ead a paper upon **The value of clinical laboratory-nethods in the diagnosis of typhoid fever.** DR. A.). J. KELLY, DR. J. D. ROSENBERGER, DR. A. C. ABBOTT, DR. . DUTTON STEELE, and DR. JOSEPH MCFARLAND related their xperiences with the **Widal test.** DR. GWYN, of Johns Hopkins University, spoke of the **Detection of the tyhoid-fever bacillus in the urine of typhoid-fever atients.** DR. SIMON FLEXNER read a paper upon **Typhoid epticemia.** DR. THOMAS G. ASHTON read a paper upon **The duty of the physician in preventing the dissemination of typhoid fever.** DR. JOSEPH MCFARLAND ead a paper on **The present outlook for the serum-reatment of typhoid fever.** The papers will be published in a future number of the JOURNAL.

American Laryngological, Rhinological and Otological Society.—Annual meeting of the Eastern Section t the College of Physicians, Philadelphia, Saturday, Febuary 17. Program:

Remarks by the Chairman, Hudson Makuen, Philadelphia; A Case of Empyema of the Frontal Sinus, F. T. Rogers, Providence, R. I.; A Case of Empyema and Necrosis of the Frontal Sinus with Operation, Thomas R. Pooley, New York City; Report of a Case of Empyema of the Antrum of Highmore of Fifteen Years' Duration, Due to a Foreign Body: Operation: Recovery, Arthur B. Duel, New York City; Exhibition of a Case of Rhinoscleroma, Walter J. Freeman, Philadelphia; Malignant Condition of the Middle Turbinate, John B. Rae, New York City; Epithelioma of the Maxillary Sinus, H. Holbrook Curtis, New York City.

Discussion—Neoplasms of the Upper Respiratory Tract, by Charles W. Richardson, Washington, D. C.; Wendell C. Phillips, New York City; M. R. Ward, Pittsburg, Pa.; Price Brown, Toronto, Canada; George C. Stout, Philadelphia; D. Braden Kyle, Philadelphia.

AFTERNOON SESSION AT 3 O'CLOCK.

The Correction of External Nasal Deformities, Report of a Case, J. C. Lester, Brooklyn, N. Y.; Papilloma of the Nasal Septum (Microscopic Specimen), Edward Fridenberg, New York City; Pathological Changes in the Unobstructed Nostril in Cases of Deviation of the Septum, Eugene L. Vansant, Philadelphia; Exhibition of an Appliance for Inserting Ointments into the Nasal Cavities, T. Passmore Berens, New York City; The Treatment of Suppurative Otitis Media in Young Children, George L. Richards, Fall River, Mass.; The Mechanical Devices for the Improvement of Hearing, Edward B. Dench, New York City; Electrolysis in the Treatment of Strictures of the Eustachian Tube, with Report of Cases, J. A. Kenefick, New York City; Report of an Interesting Mastoid Case, S. MacCuen Smith, Philadelphia; The Abortive Treatment of Acute Mastoiditis, J. F. McKernon, New York City; Hay Fever, Alva E. Abrams, Hartford, Conn.; Paroxysmal Asthma Promptly Relieved by the Removal of Nasal Polypi, Ralph W. Seiss, Philadelphia.

Pittsburgh (Pa.) Pathological Society.—At a regular meeting held January 11, the following officers were elected: President, Dr. Eugene Matson; vice-president, Dr. R. G. Burns; secretary and treasurer, Dr. W. B. Ewing; directors, Drs. Boyce, Forcel, and Singley.

DR. R. G. BURNS read a paper on **Sarcoma with especial reference to its occurrence in bone, liver and kidney.** Many slides illustrating the condition were shown. DR. CROMBIE reported the case of a **cystic pelvic tumor** containing a viscid mucin-like material. DR. BURNS presented a slide prepared from the tumor, and stated that it was a **papillary cystoadenoma** which had undergone malignant change. Its probable origin was the ovary, although no ovarian tissue could be recognized in the section. DR. F. F. SIMPSON mentioned several cases in which malignant tumors of the ovary had recurred in the remaining ovary after removal of the primary tumor. The rational procedure is to remove the opposite ovary as well as the one involved in such cases. DR. FORCEL spoke of intraligamentous cysts. DR. J. I. JOHNSTON reported the case of a man of 65 with pain and emesis. Hematemesis had occurred about one year before death. The vomitus contained free HCl. Autopsy showed a **carcinoma of the stomach** developed at the site of an old gastric ulcer. DR. J. D. SINGLEY presented a slide showing **tuberculosis of the vermiform appendix** and demonstrated a number of tubercle-bacilli in one of the giant cells.

Pittsburg (Pa.) Academy of Medicine.—At a regular meeting held January 15, DR. W. B. EWING reported a case of **Varicella in an adult of 28 years,** and spoke of the difficulty in distinguishing some cases from true variola. DR. J. I. JOHNSTON read a paper on **Typhoid fever complicated by intestinal perforation.** In 50 cases of typhoid under his care perforation occurred twice, was diagnosed and operated upon. All but 3 gave the Widal reaction (dried blood method). Of the 3, 2 were negative and one was not examined, but the diagnosis was confirmed by the subsequent course of the case. As to the frequency of perforation, Fitz gives 6.5% based on a large number of cases. No symptoms premonitory of perforation were noted in an experience of 5 such cases. One perforated at the end of the first week, 1 during the second week, 2 during the third week, and 1 two weeks after the temperature became normal. In these cases the rigid abdominal wall was present in all 5, but the other symptoms commonly spoken of were at variance entirely or in part; there was no immediate drop in temperature and no distention in 4. The one rational mode of treatment is immediate laparatomy, unless the patient is moribund. Leaving such cases to nature when recognized has almost as much warrant as leaving a perforative appendicitis run such a course. Westcott's tabulations (Keen) of 88 cases show 16 recoveries after operation, but a number of successful cases have since been reported. The mortality of perforative cases unoperated is stated as 90 to 95%, while Keen's collected cases operated upon show a mortality of 80%. J. E. Platt (February 25, 1899) collected 20 additional cases operated upon, making in all 103 cases, with 21 recoveries, giving a mortality of 79.6. The author then reported in detail 2 cases, both of which ended fatally.

Pittsburg (Pa.) Academy of Medicine.—At a regular meeting held January 22, DR. SINGLEY reported a case of **gonorrheal conjunctivitis** in a woman, contracted by having her face splashed with solution while giving a douche to a child with gonorrheal vaginitis.

DR. E. W. DAY reported a case which came to him with a diagnosis of chronic follicular tonsillitis. There was so much swelling of the fauces that a good view of the throat could not be obtained. Syphilis or tuberculosis was suspected. After the more acute symptoms had subsided a **chancre** was found just **posterior to the tonsil.** Secondary symptoms followed. DRS. ELTERICH, THOMPSON, EATON, MONTGOMERY, and MILLER, each reported cases of extra-genital chancres. DR. R. W. STEWART said that any sore existing without evident cause and which is chronic, is probably syphilitic. Tubercular ulcers are readily differentiated. He had seen chancres on almost every part of the body, and mentioned one on the anterior surface of the leg followed by secondary symptoms in a woman. DR. E. B. HECKEL reported a case of sudden diminution in hearing in which a cicatrix on the antitragus caused him to suspect syphilis. A history of secondary symptoms and improvement on specific treatment confirmed the diagnosis.

DR. R R. HUGGINS read a paper on **Myxedema,** and reported two cases. In one the father and sister probably had the same disease. Three grains of desiccated thyroid daily suffice to control the symptoms, which rapidly return if it is omitted. The second case died from edema of the larynx. In discussion, DR. ELTERICH asked about the condition of the thyroid gland in these cases. DR. R. W. STEWART said that it was well known that myxedema followed removal of the thyroid gland in time. An earlier danger is tetany. For these reasons thyroidectomy, or complete removal of the gland, is now rarely done, but, instead, intraglandular enucleation. In this operation the gland is exposed, opened, the nodules shelled out, and the remainder of the gland left *in situ.* The results are just as good as in thyroidectomy, and disagreeable effects do not follow. He reported an intraglandular operation done a few days since, and mentioned a case of enlarged thyroid now under observation, believed to be sarcomatous. DR. E. E. MOYER stated that there seems to be no disease in which the ordinary symptoms are so constantly present as in myxedema. DR. J. C. THOMPSON called attention to the use of iodothyrin in these cases. DR. HECKEL asked if edema of the larynx was not unusual in myxedema. Closing the discussion, DR. HUGGINS said that he had been unable to satisfy himself as to the actual condition of the thyroid gland in his cases. In the reports of cases of myxedema he had seen, there was no mention of edema of the larynx.

NEW YORK.

A Bazaar for a Hospital-ship Fund.—A grand concert and bazaar are announced to be held for the benefit of the fund to be used in fitting out a hospital-ship to go to South Africa and care for Britons and Boers alike. The prime mover in this movement is Mrs. Langtry, and she has already enlisted the aid and influence of many society women of note.

Death from Swallowing Spray-tip.—A child, 2¾ years old, met death from suffocation while being treated for a diphtheric sore throat. The mother was spraying the throat of the little one with some medicine, when an attack of coughing caused the tip of the spray apparatus to become loose. It was quickly swallowed, and lodging in the air-passages caused death before medical aid could be summoned.

Bequests to Hospitals.—By the will of the late Marie Eichler, widow of a wealthy brewer, a portion of her estate, which is estimated to be worth $3,000,000, has been bequeathed to a number of charitable institutions. Among these are the following: Home for Incurables, $2,000; German Hospital and Dispensary, $3,000; for the founding of a training school in connection with this hospital, $1,000; St. Joseph's Home for Consumptives, $1,000, and Lebanon Hospital, $1,000.

Newly-landed Immigrants Made a County Charge.—The Superintendent of the Poor complains that of late an unusually large number of immigrants have been brought to Bellevue Hospital for medical treatment who had not been longer in this country than a day or two. Formerly the State was required to take care of such for a period of 5 years after their arrival in this country.

Increased Insanity Among Criminals.—The annual report of the Superintendent of Prisons shows an increase in the number of criminal insane. There are now confined in the Matteawan Hospital 719 instead of the 550 inmates it is supposed to house. Attention is directed to the fact that while the three State prisons furnished 45 insane criminals, the Elmira Reformatory alone sent 40 such persons.

Erysipelas in an Infirmary.—It is reported that so many cases of erysipelas have made their appearance in the wards of the S. R. Smith Infirmary, in the borough of Richmond, that it has been considered necessary to refuse, for the present, to take in any more cases of diphtheria, in order that the ward for contagious diseases may be used for the proper isolation and treatment of the cases of erysipelas.

A Purposed Board of Lunacy Examiners.—A bill has been introduced into the Legislature by Senator Coffey, providing that the Commissioners of Public Charities shall appoint a Board of Lunacy Examiners for the City of New York, consisting of eleven duly qualified physicians who must have had at least ten years' experience in the active practice of their profession. There are to be four for the boroughs of Manhattan and the Bronx, four for the boroughs of Brooklyn and Queens, and two for the borough of Richmond. The chief examiner is to be selected from Greater New York, and his salary is to be $5,000 per annum; the other examiners must be residents of their respective boroughs, and their salary is to be $3,500, except in the borough of Richmond, where it is only $1,500.

More Legislation for the Gerry Children's Society.—Assemblyman Stewart has introduced into the Legislature a bill designed, as he says, not to embarrass the good work of this society in any way, but merely to remove from the statute books of the State some of the improper and inequitable provisions of law, secured by the society in question, which disfigure their pages. By its provisions the society will have to present at its annual meeting a report, verified by the president or treasurer, or otherwise properly authenticated, showing the amount of real and personal property held, all moneys received and disbursed, together with detailed information concerning the purposes and objects of such expenditures.

The Barren Island Nuisance.—At the request of Governor Roosevelt, Dr. A. H. Doty, health officer of the Port, made an inspection of the methods in vogue in Europe for the disposal of garbage. He now reports to the Governor that it should be possible to remove the present objectionable plant on Barren Island within twelve months, and substitute an improved system. He also indorses bills introduced into the Legislature by Senator Wagner and Assemblyman Doughty, providing for the establishment by New York City of a crematory plant that will be capable of completely consuming the garbage. The Governor refused to sign last year's bill because it called for the immediate abatement of the nuisance on Barren Island without making provision of a better system for disposing of New York garbage.

Health of New York State.—According to the annual bulletin of the State Board of Health the number of deaths in the State for 1899 was 121,320, which is an increase of 850 over the previous year, and of 4,740 over 1897, a year of unusually low mortality. However, the death-rate per thousand of population corresponds with the average death-rate for the past ten years, *i. e.*, 17.3. The infant mortality was less than the average by about 5,000, and is particularly encouraging as showing only 29% of the deaths in those under five years, as against an average of 35%. The deaths from diph-

theria were about half the average for the last ten years. About 15% of all the deaths, or 18,000, were due to respiratory diseases, but this is explained by the estimate that 7,000 deaths resulted from influenza alone in the first four months of last year.

The New Mt. Sinai Hospital.—Ground has already been broken for a handsome new building for the Mt. Sinai Hospital. The site selected is the whole block bounded by Fifth and Madison Avenues, and 100th and 101st Streets, and the plan calls for buildings constructed largely of light ornamental brick and marble. The different buildings are to be connected by covered corridors, and the roofs of the wards are to be used as roof-gardens. The medical and surgical pavilions will contain 160 beds each, and the training-school will accommodate 125 nurses. The children's pavilion will contain 60 beds. Each floor is intended to be practically a well-equipped and complete hospital in itself, the main wards being 40 feet wide and 80 feet long, with windows on three sides, and without any obstructing columns. The estimated cost is $1,335,000, of which sum $500,000 is still lacking.

Whisky in Soldiers' Home.—Those who have taken an interest in the investigation into the management of the Soldiers' Home at Bath have been impressed with the large quantity of liquor consumed at this place. Dr. J. M. Mosher, of Albany, who was sent to investigate, reported that the amount used at this hospital was largely in excess of that consumed in other similar institutions, and that the free continuous use of whisky in conditions of chronic disease was a matter on which there was room for difference of opinion. On comparing the quantity of liquor allowed at Bath with that used at other soldiers' homes, it was found that the consumption at Bath was 3½ times greater than at Dayton, the largest home in the country. The allowance at Bath had been three barrels per month, but latterly it had been reduced to two barrels, and the physician was quoted as saying that the supply of liquor was not half enough for the needs of the hospital.

Many Exposed to Smallpox.—A young laborer, who had been employed recently on the Virginia Beach Railway, arrived from North Carolina on the steamer *Jefferson*, of the Old Dominion Line. Two days later he made his appearance at Bellevue Hospital, complaining of feeling sick. The physicians who saw him, not recognizing his disease, told him that cases of his kind belonged to the Metropolitan Hospital, but he could not be admitted there on Sunday. He was accordingly turned loose again in the street, and wandered about the city on foot and in street cars all day, finally turning up in the evening at the City Lodging House. He was taken in there for a night's lodging, but about three hours afterward he was found to be so sick that he was sent again to Bellevue Hospital. On his second visit there it was discovered that he had smallpox. He was at once isolated, and the health-authorities notified. Prompt measures were taken to fumigate the lodging-house and vaccinate the 95 men who had been there that night.

Arrests by Coroners.—It is contended that the coroners of New York have been acting illegally for the past 15 years, in issuing warrants, similar to those issued by the city magistrates, ordering the arrest of persons charged with homicide or attempted homicide. The matter has come up for argument in the Supreme Court, before Judge Fitzgerald, in connection with the return of a writ of habeas corpus obtained for a woman now detained in the City Prison on a warrant issued by Coroner Bausch. Her counsel argued that such action on the part of the coroner was illegal, because the code of criminal procedure expressly stipulates that the coroner, or his deputies, can only act in a magisterial capacity when the authority is conferred by a jury. In his reply, Assistant District Attorney Carr admitted the truth of this allegation, but insisted that it was often practically impossible to obey the provisions of the code when persons injured were very ill. As proof he cited the case in which another coroner had been roundly abused for summoning a jury to the bedside of a dying girl. Decision was reserved.

Women Military Nurses.—A number of ladies prominent in society, together with some of the women who worked for the Red Cross Society in the late Spanish-American war, are interested in securing the passage of a bill by Congress by which it is hoped a better system of nursing in the United States Army may be secured. The bill provides that women nurses, in the proportion of not more than 10% of the number of sick and wounded in general and post hospitals of 50 beds and upwards, shall be employed as a women's nursing service of the Medical Department of the army. The superintendent shall be a woman nurse who has graduated from a training-school connected with a general hospital, and who has already demonstrated her executive ability. She is to receive a salary of $2,000 per annum, and is to be appointed by the Secretary of War. The other nurses are to receive $40 per month when on duty within the limits of the United States, and $50 per month when on duty outside of those limits. They shall also be entitled to transportation and necessary expenses when traveling under proper orders.

Fasting for His Health.—Mr. Milton Rathbun, who is in the feed business in New York City, and who resides in Mount Vernon, has conceived the notion that he can greatly improve his health by a long fast. His first experiment in this direction occurred last year, beginning on April 23, and lasting 28 days. During this time he reduced his weight from 210 to 168 pounds, and asserts that he felt no ill effects from it. His weight having reached 207 pounds, he decided to subject himself to another period of fasting, taking particular care this time to make careful observations and keep an accurate record of the quantity of fluid taken, and of the daily loss in weight, as well as the reduction in his girth. He declared that he had undertaken this experiment purely in the interests of his own health, and had edeavored to keep it from the public, as he was not desirous of notoriety. The secret having leaked out, he felt compelled to state his position in order to correct certain misstatements that had been published. He thinks that his experience and observations should be of some value to others, particularly members of the medical profession. The present fast began on January 22, and at that time his weight was 207 pounds. He has taken no food since then, and has only drank between one and two pints of a pure mineral water each day. The second day he felt hungry and weak, and was compelled to leave his place of business two hours earlier than usual. He is able now to attend to his business each day as usual, and expects to continue without any food for forty days, when he calculates his weight should have been reduced to 154 pounds. When it shall have reached 160 pounds, he purposes to drink more water in order that the loss of weight may not be too rapid. After his first fast he took half a cup of bouillon the first day, a glass of milk the second day, and on the third day a square meal.

New York Academy of Medicine—Section on Pediatrics.—At the meeting on January 11 Dr. Vanderpoel Adriance presented the results of **Some observations on Koplik's spots in an epidemic of measles.** The epidemic, which had occurred in the Nursery and Child's Hospital last summer, comprised 96 cases, but the first 17 cases were excluded from present consideration because of imperfect records. In 76% of the cases Koplik's spots had been noted; in 20% before the occurrence of the rash, and in one instance as much as 4 days prior to this occurrence. He had not found, as had been hoped, that this diagnostic sign enabled one to check the spread of measles in a children's hospital, and this was evidently because even these spots were not visible until the contagious catarrhal stage. It was also worthy of note that 16 out of the 96 cases had well-marked second attacks of measles. The mortality had been 15.8%. In the discussion Dr. Jacob Sobel took the ground that the presence of Koplik's spots was absolutely pathognomonic, and occurred invariably sooner or later in every case of true measles. In this way it served to differentiate between this disease and German measles. In searching for Koplik's spots artificial light was hardly sufficient; the examination should be made by good daylight, the cheek being everted. Dr. J. Howland summarized his results in examining for

these spots in a recent epidemic at the New York Foundling Hospital, by stating that of the 61 cases, in 1 these spots had been visible four days before the eruption; in 1 it had been noted three days before; in 6, two days before; in 15, one day before; in 21 on the same day as the rash; in 7 on the day of maximum eruption. In 4 of the cases no spots had been seen, and in 6 others these spots had not been typical. Dr. La Fetra pointed out the value of Koplik's spots as a means of distinguishing measles from an antitoxin rash, and Dr. E. Libman spoke of their value as a means of differentiating drug-eruptions from measles in adults. Dr. Rowland G. Freeman very properly called attention to the experience of most observers, that while these spots were present in a large percentage of cases of measles, they were not apparently an invariable accompaniment of that disease, and that, therefore, one would hardly be justified, for this reason alone, in pronouncing a questionable case one of measles, and, on that account, exposing the patient to infection with that disease.

NEW ENGLAND.

Board of Health Hospital in Brookline, Mass.—New buildings, to meet the exigencies of a possible epidemic of scarlet fever or diphtheria, are to be erected.

Harvard Infirmary.—Mr. Stillman, of New York, who gave $50,000 for the new Harvard Infirmary, has added $50,000 for the general use of the building committee. The building will be erected in the spring.

Harvard Undergraduates who intend to study medicine are advised to study the anatomy of vertebrates and invertebrates, and two courses in zoology, as a preliminary to a four-years course in the medical school.

Carney Hospital, Boston.—The Massachusetts Legislature has appropriated $10,000 toward the erection of a new outpatient building at Carney Hospital on the condition that an equal sum be raised by those in charge of the institution. This will be done, and the hospital will soon erect a 4-story brick building, 52x55 feet, arranged for 10 clinics.

Back-Bay Doctors.—A writer, with a fondness for statistics, has found that the so-called Back-Bay district of Boston, an area a mile long by one-third of a mile wide, contains 401 physicians and surgeons, and 109 dentists. Of the doctors, 271 have some specialty. The population of the district is 20,000. This gives a doctor for every 50 people.

Boston Society of Sciences.—The papers at the last meeting were **Cultivation of the typhoid bacillus from rose-spots,** by Dr. Mark W. Richardson, and **Significance of variation among pathogenic bacteria,** by Dr. Theobald Smith. Dr. J. H. Wright explained a simple method for anerobic cultivation of bacteria in fluid media, and Dr. E. W. Taylor showed lantern slides illustrating various lesions of the nervous system.

Diphtheria and Scarlet Fever Increasing in Boston.—The number of cases of scarlet fever and diphtheria in Boston is greatly in excess of the corresponding period last year. Last week there were 236 cases of diphtheria and 132 cases of scarlet fever. The diseases are spreading because the new Smith department of the Boston City Hospital is wholly inadequate to the demands upon it, and the Board of Health cannot move cases from their homes and isolate them properly. In Reading, Mass., the schools were closed on account of the prevalence of diphtheria. There are many cases also in Cambridge, Newton, and Brookline.

Boston Lying-In Hospital.—This hospital cared for 647 mothers and 652 children during 1899, an increase over the previous year. There were four deaths during confinement. Corporation officers were elected as follows: Nathaniel Hayes, president; Henry H. Sprague, vice-president; George Von L. Myers, treasurer; William D. Soluer, secretary; William H. Baldwin, J. F. Edwards, Oliver Ames, Charles W. Hubbard, Wallace L. Pierce, and Samuel Wells, trustees. With them are associated Dr. J. Collins Warren and Dr. George B. Shattuck, from the Massachussetts Humane Society, and Hon. George G. Crodier and James G. Freeman, of the Massachusetts Charitable Free Society.

The Massachusetts State Board of Insanity, in its recent report to the Legislature, has made some very important recommendations. They advise that after January 1, 1904, all the insane poor in the State shall be supported at the expense of the Commonwealth, instead of by the several cities and towns. This will involve the transfer to the State authorities of nearly 6,000 people. These people shall be cared for in buildings owned and controled by the State. It is proposed subsidiary to this to establish a colony for the chronic insane, purchasing 2,000 acres of land for the purpose. The Legislature is asked to appropriate $25,000 for the purchase of land and $50,000 for the erection of buildings for the colony. It is proposed to establish a comprehensive system which will separate the acute from the chronic cases in the interests of the better care of both.

An Effort at Uniformity.—Representatives of the Medical Examining Boards of New England met at the State House in Boston last week, and organized the Confederation of New England States' Examining and Licensing Boards. At present the States of Maine, New Hampshire, Massachusetts, and Connecticut require applicants for medical licenses to pass more or less rigid examinations. Rhode Island licenses graduates of all reputable colleges, and in Vermont the qualifications are passed by three of the State Societies. It was proposed to make the requirements such that one license would be good in every New England State. Massachusetts will, however, be very slow to accept the ratings or make-ups of any other State in this important matter. Dr. Max Mailhouse, of New Haven, presided at the meeting. There was a full discussion of the methods of examination in vogue in the several States, but no definite action was taken beyond the choice of the following officers: President, Max Mailhouse, Connecticut; vice-presidents, A. J. Harvey, Maine; W. H. True, New Hampshire; C. S. Forbes, Vermont; S. H. Calderwood, Massachusetts; A. S. Sprague, Rhode Island; H. P. Cole, Connecticut; secretary, Gardner T. Swartz, Rhode Island; executive committee, A. K. P. Meserve, Maine; George Cook, New Hampshire; H. C. Tinkham, Vermont; W. P. Bowers, Massachusetts; G. T. Swartz, Rhode Island; J. W. Wright, Connecticut.

The Boston Insane Hospital.—At the meeting of the Boston Society for Medical Improvement, January 22, Dr. Henry C. Baldwin read a paper entitled **A report of the work of the Boston Insane Hospital Trustees, and plans for the development of the hospital.** Dr. Baldwin said that the Massachusetts Legislature of 1897 had provided for a board of seven trustees to take charge of the Insane Hospital Department of the city of Boston. This board found that over 1,500 patients were placed under their care, over 1,000 of whom were located in State institutions outside of Boston, owing to the failure of the city to provide suitable hospital accommodations inside the city limits. The 500 insane in the city were in two institutions, built in 1892 and 1894, but far below the modern standard. They were lighted by gasoline and inadequately protected in case of fire. The management had depended upon city politics, and the needs of the insane had not been carefully studied, and no fixed plan of development adopted. The new trustees decided to use the hospital chiefly for acute and recent cases. During 1899, 356 cases were admitted, 110 of whom were discharged recovered or improved. Patients had been employed when possible, and the farm-products raised by their labor amounted to $16,000 last year. Plans are on foot for such an enlargement of the institution as will accommodate 1,000 more patients. It is proposed to acquire 150 acres of adjacent property at once. This, with Franklin Park, Franklin Field, and other large tracts forever reserved from building, and partially surrounding the hospital site, gives an aggregate of over 1,000 acres, assures large breathing-

spaces and freedom from the noises and discomforts of a closely populated district. The detached plan of building will allow a gradual growth of the hospital, and distribute the expense through a number of years. Dr. PHILIP C. KNAPP also spoke of problems connected with Boston's insane.

Suffolk District Medical Society—Section for Obstetrics and Diseases of Women.—At a meeting held January 24, DR. AGNES C. VICTOR read a paper on **The question of supernumerary fallopian tubes, with specimens of fallopian tubes with supernumerary ostia.**

DR. CHAS H. WINN reported a case of **Bicornate uterus with twin pregnancy; abortion from one horn.** The patient was Mrs. S. E. W., 30 years of age. Prior to 1898 admitted four induced abortions. On one occasion a twin pregnancy, one fetus coming away decomposed, the other in normal condition. When seen, November 8, 1898, she admitted another operative abortion. Date of last menstruation September 17. She was etherized and uterus thoroughly curetted and packed with iodoform gauze. Severe and persistent gastric symptoms followed, with brief remissions. January 13, 1899, called Dr. R. A. Kingman in consultation. Examination revealed the following: Cervix softened one half its length, uterus enlarged, softened and of irregular contour. At the right there was an elastic globular mass, apparently a pregnancy of four months' development. Continuous with this, at the left and slightly behind, a firm mass about the size of a small fist. Diagnosis: Twin pregnancy in a bicornate uterus, abortion from left horn, with fetus in right horn undisturbed. From this time on, gastric symptoms gradually subsided. On July 12, 1899, she was delivered of a healthy 9-pound female child.

Salient points of the case are: (*a*) Abortion with twins some years ago, in which one fetus was macerated and the other not; (*b*) a second twin pregnancy, both horns being occupied; (*c*) the demonstration of the bicornate condition, by facts just mentioned, and by finding contracted horn of left side of pregnant uterus; (*d*) probability of superfetation. Last menstruation occurring September 17, and child being born ten months later, impregnation must have occurred a month later than the menstruation. But, abortion in November must have been more than a month's development, as proved by a large piece of tissue removed by curet. Hence it is probable that pregnancy occurred in left horn shortly after cessation of menstruation in September; that a few weeks later pregnancy occurred in right horn; that when abortion was attempted, the catheter passed more readily into that horn which contained larger ovum; that this horn was emptied by the curet without disturbance to contents of right horn; (*e*) the tolerance of the pregnant uterus to adverse influences.

Dr. E. L. TWOMBLY reported **A case of pernicious vomiting of pregnancy,** in which even the usual treatment had not been tried before he was called. The patient was 3½ months along, and had vomited all food for 8 weeks. The uterus was crowded down in the pelvis with sharp anteflexion of cervix. Temporary relief was obtained by relieving this condition, but the end was fatal. The two points for discussion were:

1. That faulty positions and displacements of the pregnant uterus which delay its arising out of the pelvic cavity and press upon the neck of the cervix, are more often causes of excessive vomiting than it has been generally supposed. (This takes for granted that the irritant is the local one, and that we have excluded vomiting originating from other conditions, *i. e.*, chronic gastritis, icterus, cancer of stomach, etc.)

Attention was called to the anterior position which many practitioners call normal, when in reality it is this very condition which, by "compression of the nerves in the cervical tissue, associated with a bent, indurated condition of this part of the uterus, and a consequent loss of the natural pliability and expansibility of the tissues," (so described by Graily Hewitt) causes in *many* cases the excessive vomiting. Vomiting ceases when such conditions are skilfully relieved.

2. If, in the early months of pregnancy, all measures fail, we should proceed to empty the uterus by surgical means, after proper consultation, provided the religious beliefs of all concerned are not against it. Delay is dangerous, and he enters his plea for earlier interference before the patient's courage is gone, her vitality exhausted, and her system in the worst condition to stand the shock.

CHICAGO AND WESTERN STATES.

The Chicago Surgical Society was recently organized with the following Charter members: Drs. Owens, Murphy, Bevan, Van Hook, Harris, Ferguson, McArthur, Steele, Allport, Andrews, Beck, Plummer, Frank, and Eisendrath.

Evanston (Ill.) Hospital.—A ward for contagious diseases is to be erected in connection with the Evanston Hospital. The wing will be two stories and basement, of pressed brick and stone, connected with the main building by an open corridor. The cost of the improvement is estimated at $20,000.

The Denver and Arapahoe Medical Society.—At a meeting held January 9, the following were elected officers for the ensuing year: President: Dr. C. K. Fleming; vice-president, Dr. H. G. Wetherill; secretary, Dr. C. P. Conroy; treasurer, Dr. E. J. Rothwell; financial secretary, Dr. G. H. Stover; board of censors, Drs. E. P. Hershey, W. A. Jayne, Edward Jackson, J. N. Hall, Leonard Freeman.

Physicians' Club of Chicago.—At a meeting held January 29, **Medical legislation** was the subject for discussion. Hon. S. P. Shope, Ex-Justice of the Supreme Court, discussed in a masterly manner the constitutional aspects of medical legislation. Dr. J. W. Pettit, of Ottawa, Ill., analyzed the present State medical law, pointing out its points of strength and weakness. Dr. George H. Simons, editor *Journal American Medical Association*, followed with remarks on the need of organization and cooperation to promote proper medical legislation. A general discussion followed, which was participated in by Drs. I. N. Love, Weller Van Hook, C. B. Johnson, James A. Egan, Harold N. Moyer, Clarke W. Hawley, and Frances Dickinson. A resolution was offered and adopted urging Governor Tanner to appoint Dr. George W. Webster as a member of the State Board of Health to fill the present vacancy.

The Milwaukee (Wis.) Medical Society.—At a meeting held January 23, DR. W. A. EVANS, of Chicago, read a paper on **The infectiousness of milk from tuberculous cows with sound udders.** The milk from 41 cows in whom the tuberculin-test was positive was examined. In 25% of those pronounced by the Illinois State Veterinarian to have sound udders, the milk was found to contain tubercle-bacilli, thus proving the infectiousness of milk from tuberculous cows whose udders show no visible signs of disease during life.

DR. E. HAMILTON read a paper on **Scarlet fever and the present epidemic.** This paper and the discussion that followed brought out some points of interest in regard to the mild yet extremely contagious character of the present epidemic, and the laxity of our quarantine-regulations; and as prime factors in the spread of the infection the intentional and unintentional concealment of cases, failures in diagnosis, and recoveries reported before desquamation had ceased.

The Health Commissioner, Dr. Schulz, has recently appointed 7 additional assistants at a salary of $50.00 per month, to act in conjunction with the present 5 assistant commissioners as school-inspectors. Each school is visited daily. In the first two days' inspection there were discovered 12 cases of scarlet fever, 24 of measles, and 2 of whooping-cough.

Chicago Neurological Society.—At a recent meeting DR. RICHARD DEWEY, of Wauwatosa, Wisc., read a paper on **Drug addiction in the medical profession.** He quoted liberally from Crothers on this subject, and said that while Dr. Crothers had been criticised for giving vent to unwarranted inferences, the consensus of opinion was that whatever the details may be, attention had been drawn to a real evil. DR. ORPHEUS EVERTS informed the author that about 20% of opium habitues within his knowledge were

medical practitioners. The writer's own experience is, that of 28 cases of morphin and cocain addiction under his care in 4½ years, 13 were physicians, a percentage of 46. Taking physicians and the sporting fraternity together, the percentage would have been 70. He calls attention to the well-known fact that the sporting class and demimonde are especially prone to drug as well as alcoholic excesses, emphasizing the point that a great difference exists as to the reasons for these excesses in one case and the other. The physician wears himself out in loyal and unselfish service; the other class in vicious and licentious practices. The physician watches at the sick-bed while they are reveling; he takes something to brace himself for a new effort in behalf of humanity, while they are engaged in plundering and pandering. The conclusion arrived at is that the percentage may be overestimated or underestimated and is likely never to be accurately determined. Nevertheless, there is far more inebriety of this kind than appears on the surface. It is also likely to be overestimated in the public mind and an unjust suspicion to attach to the profession. As a professional body, medical men should not only be virtuous but above suspicion, and, if necessary, should promptly repudiate drug-habits and those who practise them. In the discussion DR. HENRY M. LYMAN described the effects of **hasheesh,** which he experienced many years ago while experimenting with various drugs. He went the round of the drug-stores and tried eleven specimens before he could procure any effect whatever. The twelfth specimen was active, and it produced the most delightful sensations he had ever experienced from a drug. He could readily see how a person of neurotic temperament and slight self-control might easily fall into the hasheesh habit, as do the people of the Orient.

Academy of Medicine of Cincinnati.—At a meeting held January 15, DR. I. WOLFSTEIN read a paper on **Tabes.** The object of the paper was the review of the accepted etiologic factors, with a view of determining their relative importance. The essayist showed that many exciting causes were occasionally operative, besides syphilis, although this one cause was associated preponderantly with tabes. The paper considered traumatic tabes, and gave the theoretic basis upon which this factor might act. Among the toxic forms, special attention was bestowed upon ergotin, and so-called diabetic tabes. The writer took a stand against the prevalent belief that a tabetic had been a luetic. Various statistic results were analyzed, and the difficulty of obtaining a convincing history of syphilis was brought forward. Greater objectivity and less bias in favor of a preconceived theory was implored. The well-known arguments against lues were advanced. First, the great variability of equally honest statisticians; the difference between the usual pathologic processes of lues and of tabes; the inconsistencies in the various theories of the relationship of the two diseases from the view-point of pathology, and also the inefficiency of luetic therapy. Attention was also called to the rarity of tabes among negroes (Trennen), and in countries where syphilis is prevalent to a high degree, Abyssinia, the Kirghis Tartars, Japan, and especially Bosnia and Herzegovina (Glück). Also to its rarity among prostitutes, and women generally, and to the fact that primitive and rural peoples showed exemption. The influence of civilization, and especially the excessive hardships of modern sociologic conditions as exemplified in city life were mentioned. Lastly, the essayist referred to the most interesting and plausible theory advanced by Edinger, known as the theory of functional exhaustion. It was shown how Edinger had applied his ingenious, if not entirely adequate, theory to tabes, and the manner in which some of the puzzling problems of the disease might be thereby explained. Thus the early loss of pupillar light-reflex because of the increasing functional activity of the part. The ataxia was also explained by showing that as erect position, equilibrium and coordination are the bodily functions requiring almost constant function of the fibers of muscle-sense, that these would give way early, hence the early involvement of the posterior columns in which these fibers are situated. For a discussion of many other problems of interest the original essay must be consulted. The conclusions were that there was no direct relationship of cause and effect between syphilis and tabes, and that to produce the disease some precedent condition, such as congenital predisposition, or functional overwork in cooperation with some one of the group of exciting causes mentioned in the paper, was necessary.

Chicago Medical Society.—At a meeting held January 24, DR. ALBERT B. HALE read a paper entitled **Optical therapeutics for the general practitioner.** Among drugs useful in ophthalmic therapeutics we have of the newer ones four that are particularly valuable:

Holocain is a synthetic product, related to phenacetin, so that its name is merely imitative of cocain, which in many cases it may supplant. Its salt, the hydrochlorid, is soluble to about 2½% in cold water, and should be applied in a 1% aqueous solution. It has particular advantages for the general practitioner. In removing foreign bodies from the conjunctiva or cornea, for instance, it is better than cocain, as it acts quicker, causes little pain, does not dilate the pupil, in temporary use it affects the corneal epithelium less, produces no ischemia, to be followed by hyperemia. It is somewhat antiseptic (enough to keep itself, at least), and can be sterilized by boiling, with no disturbance of chemical composition. It must not be injected hypodermically, nor be applied to other than ocular mucous membrane, as it is systemically poisonous. It must be prepared and kept in porcelain, not glass, as the alkali of the glass influences it.

Euphthalmin.—Of the three effects of local applications to the eye (omitting cautery or astringency)—anesthesia, mydriasis, cycloplegia—many drugs produce all three, in varying proportions. Modern chemistry has supplied holocain for simple anesthesia. As yet, no drug produces simple cycloplegia alone. Mydriasis alone, however, can now be produced by euphthalmin, a complex synthetic product. It is best used in a 5 to 10% watery solution. Here the author gave tables and cited authors to prove that cycloplegia is practically absent, and that it can be used in all cases at any age to produce a dilation of pupil for study of lens and fundus. Conclusions: (1) No subjective symptoms produced; (2) only mydriasis caused, of short duration, beginning in thirty minutes; (3) effects shown earlier in youth than age; (4) ocular tension not increased; (5) no hyperemia or ischemia of conjunctiva produced, corneal epithelium unaffected; (6) accommodation practically unaffected; (7) normal pupil soon restored; (8) non-poisonous apparently.

Protargol.—Better than any inorganic silver salt yet used. It is a proteid compound, containing about 8% of silver. Bactericidal power is as great as silver nitrate; it penetrates deeper; is much less painful; not so dangerous to epithelium; can be used much more frequently; not so affected by light; and its brown color is an advantage for local application. Perhaps the silver nitrate is better for direct action on the gonococcus, but for all other inflammations or irritations of ocular mucous membranes, protargol, in 5 to 10% watery solution, is much better for the general practitioner.

Extract of Suprarenal Capsule.—Abel (Johns Hopkins) was quoted with reference to epinephrin. Bates' experiments were confirmed, showing that it is astringent more than hemostatic, acting through uninjured vessel-wall. It is useful for cosmetic purposes to blanch a red eye, to assist in prolonging anesthesia with cocain or holocain, to aid other drugs in treating inflammations of the conjunctiva. It is an unstable powder, spoils easily in the presence of water, must therefore be mixed fresh for use, as it has no well-defined solubility.

DR. CHARLES J. WHALEN read a paper on the **Prevention of tuberculosis.** He said that the total number of deaths from tuberculosis in Chicago for the year 1898 was 2,416, and the average reported deaths from this disease annually for the past ten years was 2,378, which was 11% of the mortality from all causes. The United States Government spends annually millions of dollars to prevent the spread of cholera, yellow fever and smallpox, yet to the presence of tuberculosis there exists a spirit of apathy that is a reproach to our intelligence. The author advanced evidence by country physicians to show that intestinal tuberculosis is extremely rare. While infection from milk may be possible, he believes it to be extremely infrequent, and that the chief means of communicating the disease in childhood is by direct infection by inspired air. The best means of prevention is the destruction of the sputum and the removal of those affected, who are too poor to receive the necessary care at home, to an isola-

on hospital which should be provided by the State. While e welcomes the new crusade against tuberculosis, he does ot believe it would be judicious at the present time to ake the registration of this disease compulsory, for in-ection and disinfection can safely be carried out with-it working such a severe hardship to those unfor-inates. Too rigorous or inhuman restrictions might ndo the work already done, or bring it into disrepute, onsequently only such precautions should be taken as are ally necessary. It is gratifying to know that Illinois is king advanced ground on this subject. This view has also een gaining in favor of late in other States in America as ell as abroad. France and Belgium, and other foreign ountries, have provided sanatoria for the treatment of tu-erculous children. They are also provided with a school, so hat the children not only have a chance to be cured, but at he same time receive an education. The poor adult con-mptive, too, needs the protection and care of the State, nd he believes that every municipality should have a sana-rium where those dependents who are afflicted with the isease could receive the necessary attention. As tuberculous atients should not be received in general hospitals or dis-ensaries, the establishment of isolation hospitals for the onsumptive poor would be the best step that could be taken or the prevention of the disease. Isolation hospitals are ot to be advised for the well-to-do, who can afford and will arry out the necessary instructions at home, for it must be dmitted that the presence of so many invalids in all stages f the disease must have a depressing influence. A good rained nurse and control of the patient at home will be ound more efficacious and satisfactory to the patient than olation at a sanatorium.

DR. EDWARD H. LEE discussed **The treatment of fractures of the extremities by means of the Schoenborn-Beele splint.** He gave a detailed description of his splint and demonstrated its usefulness on a patient. Amongst the many advantages which it offers are that it can e applied immediately; it is light and neat; there is no ecessity of padding with cotton; it is not apt to produce ecubitus; it may be removed and put back in place in a ery short time, and the cost of the material is moderate. He knows of no other splint that will adapt itself so perfectly o the form of the limb as this one. In 1891, during his term f service as interne under Professor Schoenborn at the ulius Hospital in Würzburg, Germany, he had the oppor-unity of becoming familiar with the making and application f this splint. For the past seven years he has used this nethod in the Cook County Hospital, the Alexian Brothers' Hospital, and in private practice in a great number of cases. t has also been used extensively by a number of the internes f the Cook County Hospital and by some of the members f the attending staff, and the results have been excellent. Dr. Lee then described the application of the splint to various ractures.

DR. R. M. LADOVA read a paper on **The Nature of Neurasthenia; A study of the recent literature.** He said that neurasthenia is a general chronic functional neurosis, a state of continuous exhaustion and irritability of he nervous system. The predisposing causes are heredity, either neuropathic or arthritic. The determining causes are rauma, anemia, toxemia, overwork, worry and anger, ex-austing chronic and acute diseases, misfortune, alcoholism, mental shock, violent emotions, crisis of puberty, sexual and other excesses and platonic love. When heredity is present, the trouble begins early in life and runs a more severe course. Attention was directed to the two hundred observa-tions made by Bidon, who contends that neurasthenia is etiologically allied to degeneracy. The study of the posterity of neurasthenics strongly points towards this view. Grand-holm regards the too extensive social intercourse of the world as the principal cause of neurasthenia. Gattel has collected one hundred observations, and claims that the sexual ele-ment is always present. Tschisch speaks of coitus reser-vatus as a potent cause, and Pleury of platonic love. Unrequited love and otherwise unfortunate love affairs may be safely added to the list. Biernacki found that fresh blood of neurasthenics coagulated slowly with a small amount of fibrin; the blood is otherwise nor-mal. This sedimentation anomaly is present in most cases and depends on the small amount of fibrinogen; its constancy speaks for its primary nature. Charcot states that gout, diabetes, obesity and chronic rheumatism, on account of their frequency in neurasthenic families, point to a disturbance of the processes of oxidation. Functional neuroses follow psychical excitement, which speak little for their primary nature. None of the theories that have been so far advanced to explain Beard's disease have been satisfactory. The toxic origin of neurasthenia cannot be denied. Priantaphykides reports 50 undoubted cases of malaria where neurasthenia is the only symptom. Grave cases of neurasthenia follow light attacks of influenza. Is fatigue a phenomenon primarily dynamic or toxic? It is possible that the toxin only acts as an irritant to the nerve cell, exciting it to overactivity. Fatigue and chemical phenomena accompanying it are in proportion to the amount of nerve energy the muscle receives from its centers. A study of walking and bicycle-riding points to it. In riding or walking up hill, where volition works against the force of gravity, fatigue is more evident. Functional neuroses are probably not primary diseases of the central nervous system, but a secondary symptom-complex in consequence of the activity of products of primary oxidation-disturbance of the nervous system.

SOUTHERN STATES.

Mississippi State Board of Health.—The following have recently been appointed: President, Dr. H. A. Gant; secretary, Dr. J. F. Hunter; Dr. W. S. Green, Dr. J. N. D. Shinkle, Dr. C. D. Mitchell, Dr. H. S. Gully, Dr. D. B. Watkins, Dr. E. J. Jones, Dr. H. H. Haralson, Dr. S. R. Dunn, Dr. W. Payne.

Louisiana is to have a new Leper Hospital, $20,000 having recently been appropriated by the State Legislature for that purpose. The hospital will be located somewhere near New Orleans. Every effort will be made to incorporate most modern and approved plans in the erection of the buildings and the arrangement of the grounds.

Orleans Parish Medical Society.—At a meeting held January 27, DR. GORDON KING exhibited a boy, aged 12, with a growth in the postnasal space involving the left side of the palate, and occluding the posterior choanae. The tumor involved the neighboring structures, producing headache, discharges from nose, and great general debility. At the present stage of the affection operation was not feasible. He was uncertain whether the growth was tuberculous or malignant in character. In an early stage of the development of the growth a specimen of the tissue was examined by Dr. O. L. Pothier, pathologist to Charity Hospital, who reported it to be tuberculous. Dr. King entertained the idea of putting the patient on antisyphilitic treatment as a last resort, although no history of venereal disease had been admitted by the parents, in fact the boy's hereditary history was good in every respect. Prognosis is very unfavorable.

DR. ISADORE DYER addressed the Society on the **differential diagnosis of smallpox.** Exanthemas, exanthematous drug-eruptions, scarlet fever, macular and papular measles, the hydroa, impetigo, varicella, and syphilis were carefully compared with smallpox and points of differentiation brought out.

DR. QUITMAN KOHNKE read a paper on the **Prophylaxis of smallpox.**

DR. LUTHER SEXTON spoke on the **treatment of smallpox.**

DR. L. G. LEBEUF on the **history of smallpox.**

Resolutions condemning Senator Gallinger's Antivivisection Bill, known as a Bill "for the Further Prevention of Cruelty to Animals in the District of Columbia," were unanimously passed by the Society.

Clinical Society of Maryland.—At a meeting held January 19, DR. STEWART PATON exhibited two cases of **pseudo-general paralysis of the insane.** The first was a man, 27 years of age, who had never had any severe illness and whose family history was good. He came home from his work one day last February and on entering the house found himself for a short period quite unable to say what he wanted. He could speak, but talked nonsense.

There was no paralysis of the ocular muscles, but the mouth was slightly drawn to the left. Reflexes were normal. The second case was a young man, 24 years of age, who had been nervous all his life, but gave no history of alcoholism and a very questionable specific history. Under the administration of potassium iodid both patients improved very markedly. Dr. Paton considered the usual textbook descriptions of pseudo-general paralysis to be very misleading, and thinks that the average duration of the disease covers a period of some ten or twelve years instead of the two to four years usually stated. He took this to mean that it is possible now to diagnose the disease at a very much earlier stage than formerly, and that the prognosis was consequently improving. He thought that the general belief that there are no cases of paresis without syphilis was an extreme view.

DR. REULING in discussion called attention to a number of cases of general paralysis recently described as occurring in very young people and even in children and said that it might be supposed from this that the congenital form of syphilis may also act as a causative factor. He reported such a case seen at the Hopkins Hospital recently in a child 5 years of age.

DR. H. B. JACOBS reported a case of **congenital heart-disease.** The child, 5 years old, presented a good example of the "blue disease." On auscultation there was a very loud systolic murmur at the apex, passing upward over the pulmonary area and together with this a machinery noise lasting through the whole cycle of the heart. He thought it was probably due to a constricted pulmonary artery with a deficient septum ventriculorum.

DR. W. G. MCCALLUM exhibited a number of specimens taken from the museum of the Hopkins Hospital to show the **characteristic lesions of congenital heart-disease.** He had made stereoscopic pictures of a number of these specimens and found it an excellent means of illustrating the conditions.

DR. T. B. FUTCHER reported a case of **diabetic coma** occurring in a young girl, aged 14, and after a consideration of the etiology explained the methods of testing the urine and blood in order to diagnose diabetes, and especially to detect the possible onset of coma. In the case reported they were able in this way to predict that coma was coming on, and though the patient became drowsy and stupid the prompt treatment prevented her becoming at any time strictly comatose. She was too far gone to take the alkalies by the mouth, and it was necessary to give several intravenous injections of salt-solution containing bicarbonate of soda, but the response to each injection was immediate and very satisfactory. The patient is now in good condition and some hope is entertained that she may recover.

MISCELLANY.

The Doctor's Magazine is the title of a new magazine that will shortly be issued under the editorial supervision of Dr. George F. Butler, recently editor of the *Medical Standard.*

Obituary.—DR. L. H. LAVALL, Bethlehem, Pa., January 24.—DR. THOMAS LOUIS OGIER, Charleston, S. C., January 21; aged 90 years.—DR. ALFRED J. WATTS, Brooklyn, N. Y., January 22, aged 74 years.—DR. THOMAS H. FRANKLIN, Atlantic City, N. J., January 9, aged 59 years.—DR. D. S. MARQUIS, Rochester, Beaver Co., Pa., January 31, aged 79 years.—DR. E. EUGENE WESTON, West Pittston, Pa., aged 48 years.—DR. WILLIAM S. HOUSE, Haverstraw, N. Y., January 27, aged 62 years.—DR. MARY J. SCARLET-DIXON, West Chester, Pa., January 28, aged 78 years.—DR. M. A. BOOTH, Newport, Del., aged 84 years.

The Medical Department of the Army is now in need of some additional assistance in the Philippines and it is desired that candidates for appointment as acting assistant surgeons will make application to the Surgeon-General of the army. Applicants must be graduates of reputable medical colleges, who have had practical experience, since graduation, in hospitals or in private practice. Candidates between the ages of 25 and 35 are preferred. Candidates should forward with their application one or more letters from well-known professional men, giving testimony as to their character and qualifications. Appointments will not be made through political influence, and letters designed to produce political effect will injure rather than benefit the applicant. All applicants will be examined as to their physical and professional qualifications for service in the Philippines before they are given a contract. Contracts are made for one year, with the understanding that the approved candidate will remain in service for a longer period if his services are required.

Changes in the Medical Corps of the U. S. Army for the two weeks ended February 3, 1900:

TETAMORE, FRANK L. R., acting assistant surgeon, will proceed to Bulacan, Luzon, and report to the commanding officer Sixteenth Infantry, for duty with the regiment.

HEPBURN, JAMES H., acting assistant surgeon, granted leave for one month, on surgeon's certificate, is extended one month.

TEMPLE, HARRY P., hospital steward, will proceed to Angel Island, Cal., for temporary duty at the hospital corps school of instruction at that post awaiting transportation to the Philippine Islands.

MCLEAN, ALLEN D., acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

MEISEL, JOSEPH, hospital steward, will proceed to the Presidio for duty at the hospital at that post.

RAYMOND, Major HENRY I., surgeon U. S. volunteers (captain and assistant surgeon U. S. Army), is honorably discharged from the volunteer service only upon tender of his resignation to take effect this date.

CALVERT, First Lieutenant WM. J., assistant surgeon, is detailed as a member of the board of medical officers appointed by par. 22, S. O. 13, January 16, this office, vice First Lieutenant JERE B. CLAYTON, assistant surgeon, who is relieved as a member of the board which was ordered to meet near Manila, P. I., for the purpose of studying tropical diseases.

MERRILL, Major JAMES C., surgeon, is detailed as a member of the Examining Board convened at the Army Medical Museum Building, Washington, D. C., vice Colonel DALLAS BACHE, assistant surgeon, relieved.

TAYLOR, HUGH L., acting assistant surgeon, the order which directs him to proceed to his home, Waco, Tex., and report by letter to the Surgeon-General of the Army for annulment of his contract is revoked.

TAYLOR, HUGH L., acting assistant surgeon, upon being relieved by ELMER S. TENNEY, acting assistant surgeon, will procced from Fort Douglas to Benicia Barracks for duty.

AYER, IRA, acting assistant surgeon, is relieved from further duty on the transport "Wright," to take effect upon its arrival in New York Harbor, and will report to the commanding general, department of the East, for assignment to duty at Fort Wood and with recruits destined for the Philippine Islands, and upon arrival at Manila will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

SENECAL, HENRY C., hospital steward Fort McPherson, will be sent to Manila, P. I., for assignment to duty.

CLEARY, Lieutenant-Colonel PETER J. A., deputy surgeon-general, leave granted on surgeon's certificate is extended 20 days.

GIBSON, Major ROBERT J., surgeon, is detailed as a member of the board convened to examine officers of the corps of engineers at San Francisco, Cal., by par. 3, S. O. 14, January 17, 1900, this office, vice Captain WILLIAM O. OWEN, assistant surgeon, relieved.

COLLINS, First Lieutenant CHRISTOPHER C., assistant surgeon, leave granted on surgeon's certificate is extended 20 days on surgeon's certificate.

DELGADO, JOSE M., acting assistant surgeon, will proceed from Washington, D. C., to Tampa, Fla., and report upon arrival to the Adjutant-General of the Army for further orders.

FARMER, CHARLES, acting assistant surgeon, will proceed from New York City to Lexington, Ky., and report by letter to the Surgeon-General of the Army for annulment of his contract.

MARROW, First Lieutenant CHARLES E., assistant surgeon, will proceed to San Isidro, Luzon, for duty at the first division field hospital.

HARTSOCK, First Lieutenant FREDERICK M., assistant surgeon, is relieved from duty in Puerto Rico and will proceed to New York City, telegraphing arrival to the Adjutant-General of the Army.

TEN EYCK, Captain BENJAMIN L., assistant surgeon, will report at Ponce, P. R., for duty.

COWPER, H. W., acting assistant surgeon, now on temporary duty at Ponce, will report to the chief surgeon of the department of Puerto Rico, San Juan, P. R., for special duty.

EGBERT, Major RUDOLPH G., surgeon, is relieved from further duty as surgeon at Vancouver Barracks, and as acting chief surgeon, department of the Columbia, and will proceed to Seattle, Wash., and report to Colonel GEORGE M. RANDALL, Eighth Infantry, commanding the department of Alaska, for duty as chief surgeon of that department.

KELLY, JOHN P., acting assistant surgeon, is relieved from duty in the division of Cuba and will proceed to New York City, reporting by telegraph to the Adjutant-General of the Army for further orders.

CON, JOHN E., acting assistant surgeon, is granted leave for 20 days.

DEN, WILLIAM, acting assistant surgeon, will proceed from New York City to Portland, Me., and report by letter to the Surgeon-General of the Army for annulment of his contract.

OWNLEE, CHARLES Y., acting assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the department of the Pacific, and will report to the commanding general, department of California, for assignment to duty.

ILER, ROBERT W., acting assistant surgeon, now at Fort Columbus, is relieved from further duty in the division of Cuba, and will proceed to Washington, D. C., and report to the Surgeon-General of the Army for annulment of his contract.

EY, EDWARDO C., acting assistant surgeon, is assigned to temporary duty at Fort Riley.

IGG, ASHFORD, hospital steward, now at the First Reserve Hospital, Manila, P. I., will be sent to San Francisco, Cal., for admission to the U. S. General Hospital, Presidio.

ILLIPS, Captain JOHN L., assistant surgeon, is relieved from duty as attending surgeon and examiner of recruits at Boston, Mass., and will proceed to Fort Columbus for temporary duty.

MBALL, Major JAMES P., surgeon, is relieved from duty at Fort Columbus will proceed to Omaha, Neb., and report to the commanding general, department of Missouri, for duty as chief surgeon of that department.

ERPER, Colonel EGON A., deputy surgeon-general, is relieved from duty at Omaha, Neb., will proceed to his home, where for his own convenience he is authorized to await retirement.

BLE, CHARLES D., acting assistant surgeon, is relieved from further duty at Columbus Barracks, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

HARE, FRANK J., acting assistant surgeon, is relieved from temporary duty at the U. S. General Hospital, Presidio, and will report for annulment of contract.

ACREADY, JOHN H., acting assistant surgeon, is assigned to duty at the U. S. General Hospital, Presidio.

X, First Lieutenant WALTER, assistant surgeon, will stand relieved from temporary duty at the U. S. General Hospital, Presidio, January 25, and will proceed to the Philippine Islands on the transport "Pennsylvania."

CLEAN, ALLEN D., acting assistant surgeon, will stand relieved from temporary duty at the U. S. General Hospital, Presidio, January 25, and will proceed to the Philippine Islands on the transport "Pennsylvania."

EUBER, LOUIS J., acting assistant surgeon, will stand relieved from temporary duty at the U. S. General Hospital, Presidio, January 25, and will proceed to the Philippine Islands on the transport "Pennsylvania."

. JOHN, CHARLES, acting assistant surgeon, is assigned to duty with troops on the transport "Pennsylvania," to sail for the Philippine Islands about January 25.

INECAL, HENRY C., hospital steward, will proceed to Angel Island, Cal., for temporary duty with the hospital corps school of instruction at that post, awaiting transportation to the Philippine Islands.

EYNOLDS, Captain FREDERICK P., is relieved from further duty at Fort Slocum and from the operation of the order which directs him to accompany recruits on the U. S. transport "Sumner" to Manila, P. I., and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

EYNOLDS, Captain FREDERICK P., assistant surgeon, is detailed as a member of the board of officers of the medical department appointed January 18, 1900, vice First Lieutenant Bailey K. Ashford, assistant surgeon. Upon the completion of the duties of the board, Captain Reynolds will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

LAYTON, First Lieutenant JERE B., assistant surgeon, is relieved from further duty in the department of the Pacific and Eighth Army Corps and will report to the commanding general, department of California, San Francisco, Cal., for assignment to duty.

Changes in the Medical Corps of the U. S. Navy

or the two weeks ended February 3, 1900.

ARRIS, H. N. T., surgeon, ordered to the "Albany" via the "Prairie."

ON WEDEKIND, L. L., passed assistant surgeon, ordered to duty on the "Richmond."

(Changes by cable from Asiatic Station.)

OLCOMB, R. C., assistant surgeon, detached from the "Solace" and ordered to the "Helena."

MES, H. E., surgeon, detached from duty in connection with the "Kearsarge," and ordered to duty on board that vessel February 20.

OYD, J. C., medical inspector, commissioned as medical inspector from October 25, 1899.

AGGENER, R., pharmacist, detached from the Pensacola Navy Yard and ordered to be examined at the Washington Navy Yard, February 13, for retirement, and then home to wait orders.

(Changes by cable from Asiatic Station.)

NYDER, J. J., assistant surgeon, detached from the "New Orleans" and ordered to the "Isla de Cuba."

Changes in the U. S. Marine-Hospital Service,

for the two weeks ended February 1, 1900.

WILLIAMS, L. L, surgeon, granted extension of leave of absence for 10 days. January 23.

PETTUS, W. J., surgeon, granted leave of absence for 1 month and 29 days from February 10. January 22.

PARKER, H. B., assistant surgeon, directed to report at Washington, D. C., for special temporary duty. January 23.

FRICK, JOHN, acting assistant surgeon, granted leave of absence for 30 days from February 28. January 25.

BOARD CONVENED.

Board convened to meet at 378 Washington Street, New York, N.Y., on Wednesday, February 7, 1900, for the purpose of examining candidates for appointment as assistant surgeon in the Service. Detail for the Board: Surgeon H. W. AUSTIN, Chairman; Surgeon C. F. BANKS, and Surgeon L. L. WILLIAMS, Recorder.

WERTENBAKER, C. P., passed assistant surgeon, to proceed to Winston, N. C., for special temporary duty, January 29, 1900. To proceed to High Point, N. C., for special temporary duty. January 31.

NYDEGGER, J. A., passed assistant surgeon, to proceed to Manila, Philippine Islands, and report to Passed Assistant Surgeon J. C. PERRY, for duty. February 1.

TABB, S. R., assistant surgeon, granted extension of leave of absence for 7 days on account of sickness. January 27.

GRUBBS, S. B., assistant surgeon, to proceed to Marseilles, France, for temporary duty. January 31.

KAUFFMANN, H. B., acting assistant surgeon, granted leave of absence for 30 days, on account of sickness, from February 3, 1900. February 1.

Dr. Woodward's Report on Vivisection.—Dr. Wm. C. Woodward, the health-officer of the District of Columbia, has submitted to the Commissioners, at their request, an admirable report on Senate Bill No. 34, providing "for the further prevention of cruelty to animals in the District of Columbia," known as the antivivisection bill. Among other arguments Dr. Woodward says:

"But if we suppose that animals have been experimented upon in an unnecessarily cruel manner without possibility of prevention under existing law, the idea naturally suggests itself that specific instances of such experimentation must have been placed on record in the hearings which have been accorded those endeavoring to secure the enactment of this measure, and in the reports which they have filed with it. There has been no complaint that anything was excluded from such hearings or from such reports which had even the most remote bearing upon the subject, but while instances of alleged cruelty have been cited from various parts of the world, not one has been placed on record which was in any way related to the District of Columbia. The omission is significant. In the absence of any explanation it is to my mind conclusive that the promotors of this measure had no such evidence to submit. And if the absence of evidence to show that such abuses have existed is noticeable, the lack of evidence to show that they are likely to exist is equally striking."

He sums up his report as follows:

"The proposed law seeks to take from the regularly incorporated medical colleges, universities and scientific societies the right which they alone now have to authorize experiments on living animals, and to confer such authority in a restricted form on the Board of Commissioners, a lay organization of which two men constitute a majority. It seeks to take from the courts the power to decide whether any experiment has or has not been properly conducted, and to limit their authority to the power to determine whether in any given case an experiment was performed according to certain rules and regulations laid down in this bill. It undertakes to do away with the necessity for a warrant for the search of premises on which experiments are conducted, enabling any or all of four inspectors to enter at any time without notice. It seeks to subject the papers of the experimenter to search without warrant, by requiring him to make such reports as the Commissioners may direct, and in this manner it undertakes to make him bear evidence against himself. In support of the proposed bill not one fact has been adduced to show that harmful conditions exist, ever have existed, or are ever likely to exist in this District, not curable by existing law."

Thirteenth International Medical Congress.—The Secretary-General of the Congress gives notice of the following reductions in rates:

First. All the railway companies of France will grant the members of the Congress a reduction of 50% upon round-trip tickets as follows: Every member of the Congress will receive, upon application to the Secretary-General,[1] a ticket which must be stamped at the railroad station where he enters France, upon paying the full price of a single trip to Paris. At Paris the member will have this ticket viséd in the office of the Congress, and it will then serve as a return ticket without additional expense. The journey to Paris having been entirely paid, and the return trip being free, there is of course a 50% reduction. It goes without saying that in order to secure this, the return trip must be to the same point at which the original fare was paid.

Second. The French Line (La Compagnie Générale Transatlantique) will allow members of the Congress a reduction of 10% on tickets from New York.

Third. The Secretary-General has arranged to provide to early applicants a number of lodgings, including light and service, at the rate of five francs per day; and various agencies also advertise reduced rates for lodgings.

For further particulars and application blanks for membership, address:

DR. H. B. JACOBS,
Secretary American National Committee,
3 W. Franklin Street, Baltimore, Md.

Use of the Antipest Serum in the Treatment of Plague, and in Immunizing against the Disease.—Immunization against Plague by Combined Use of Antipest Serum and Haffkine Prophylactic.—In a recent number of the Public Health Reports, it is stated that the report of Calmette and Salimbini (*Annales of the Institut Pasteur*, December, 1899) shows, as a result of their observations and experiments during the plague-epidemic in Oporto, Portugal, that much larger doses of the antipest serum may be used, and are sometimes demanded, than had heretofore been deemed sufficient. Their report also shows that, while the use of the Haffkine prophylactic may be attended with danger among those who had been exposed to the infection of the disease prior to the inoculation, the use of a preliminary immunizing dose of antipest serum, followed by the injection of a dose of the Haffkine prophylactic, removed this element of danger, and conferred an immunity of probably longer duration than would be produced by the exhibition of the serum alone. Walter Wyman, supervising surgeon-general United States Marine-Hospital Service, has directed that between 160 and 200 cc. should be given during the first 48 hours of the disease. In severe cases, 20 or 40 cc. of this amount should be injected into a vein. In immunizing with the serum, use 5 to 10 cc. every 15 days. In case the Haffkine prophylactic cannot be administered on account of exposure to the disease, the mixed plan of immunization may be used. This consists of giving 5 or 10 c.c. of antipest serum, and, 3 days later, 1 cc. of the Haffkine prophylactic

Antimedicine faith-healers are treated with entirely commendable severity, and no less commendable commonsense, in the current number of *The New York Christian Advocate*, and it is a notable fact that, quite as much of *The Advocate's* contemptuous denunciation falls upon those whom it calls "the Simpsonites" as upon the followers of more notorious perverters of reason and religion, like "Dr." Dowie and Mrs. Eddy. The article begins with a well-founded declaration that these combinations of fraud and fanaticism are rolling up a most extraordinary list of agonizing and unnecessary deaths, and then explains why it is that argument and experience have so little effect upon victims of this form of superstition. "There is little use," it says, "in trying to open their eyes. For in science, religion, or finance, when a person adopts a principle which contradicts reason, philosophy, and the laws of nature, and then, if it happens to touch the subject of religion, distorts every passage of Scripture to make it agree with his irrational theory, he can believe anything. There are in this city well-known men who have all the signs of disease, and look as though they had come out of their graves to transact some unfinished business, and could not find the way back, who yet declare that they are cured." In the occasional cures of the "healers," *The Advocate* sees only results of the strength of nature, concentrated by faith and encouragment, and the article concludes: "Religion, common sense, and experience are all united in one sentence, the author of which is unknown to us; the strongest confidence in the protection and favor of God does not preclude the use of any of the means of self-preservation and defense which His providence has put in our power."—[*New York Times.*]

[1] Dr. A. Chauffard, 21 rue de l'Ecole de Médecine, Paris.

Foreign News and Notes.

GREAT BRITAIN.

Dr. Conan Doyle, the well-known novelist, has definitely decided to go to the war. He has been offered and has accepted a post as secretary and superintendent of a private field-hospital—the Langman Hospital.

Mr. William Henry Power, F.R.S., has been elected principal medical officer of the Local Government Board in the room of Sir Richard Thorne Thorne, deceased. Mr. Power is a distinguished epidemiologist and no mean naturalist.

The man Hopwood, to whose methods as advance-agent of an affair called the "Anglo-American Insurance Company" we have already alluded (PHILADELPHIA MEDICAL JOURNAL, January 13, 1900) has been sentenced at Birmingham to 15 months hard labor.

Two Medical Men from Guy's Hospital.—Dr. Washbourn and Mr. N. Pedley and Mr. Raymond Johnson, of University College Hospital, have been appointed officers to the hospital for the Cavalry Volunteers, know as Imperial Yeomanry, now preparing for service in South Africa.

Mr. William Anderson and **Mr. B. Pitts** of St. Thomas' Hospital, and **Mr. W. H. Page** of St. Mary's Hospital have been admitted to the Court of Examiners of the Royal College of Surgeons of England, from which body Mr. Davies Colley of Guy's Hospital has resigned, owing to ill-health.

The Heroism of the British Royal Army Medical Corps.—The accounts of General Buller's serious reverse when attempting to cross the Tugela River near Colenso have now reached us in detail, and on one point all the correspondents, lay or medical, British or of any other nation, are solidly agreed—that the R. A. M. C. quitted themselves like men. They tended the wounded upon the field in the thickest fire, and in dressing stations well within range of shot and shell performed many operations of a difficult nature coolly and dexterously. Sir William MacCormac, who was present at the battle, has sent to the *Lancet* a graphic description of the medical work which followed the British disaster.

The Royal College of Physicians of London.—Dr. F. J. Waldo, medical officer of health of St. George's, Southwark, whose strenuous efforts to compel his vestry to have some care for the public health of the district, have gained him much κῦδος, has been appointed Milroy Lecturer of the college and will discourse upon the Causation and Prevention of Summer Diarrhea. Dr. P. Horton Smith, of St. Bartholomew's Hospital, will deliver the Goulstonian Lectures for the year; Dr. W. B. Cheadle, senior physician of St. Mary's Hospital, will deliver the Lumleian Lectures; and Dr. F. W. Mott, F.R.S., assistant physician to Charing Cross Hospital and pathologist to the London County Council asylums, will deliver the Croonian Lectures.

The Royal College of Surgeons of England.—The rasmus Wilson Lectures of the College will be delivered by r. E. Treacher Collins, assistant surgeon to the Royal Lon- on Ophthalmic Hospital, upon the Anatomy and Pathology the Eye; and the Arris and Gale Lectures by Mr. Berke- y Moynihan, assistant surgeon to the Leeds Infirmary, on the Rarer Forms of Hernia. During the spring, lec- res will also be delivered at the College by Dr. Arthur eith, demonstrator of anatomy at the London Medical hool, upon the Relationship of Man to Living and Extinct orms of High Primates; by Mr. Mayo Robson, professor of rgery in the Yorkshire College, Leeds, upon the Surgery the Stomach; and by Professor Stewart, F.R.S., curator of ie Museum of the College, upon the Protection and Nour- hment of the Young in Plants and Animals. Professor tewart's lectures are sure to be thoroughly good, for he is oth a learned man and an original thinker.

The public health of Dublin remains exceedingly ad. The death-rate for the third week in January was 40, nd an epidemic of influenza is causing a serious mortality om diseases of the respiratory organs. Typhoid fever eems permanent. The Lord Lieutenant of Ireland (H. E. arl Cadogan) has been in communication with the Local overnment Board concerning the sanitary conditions of ie capital of his vice-royalty, a display of official activity, hich is probably due to the fact that H. R. H. the Duke of onnaught has taken over Lord Roberts's Irish command uring the South African War, and now resides in Dublin. he Duke of Connaught is a dearly loved son of Queen Vic- oria, who has special reason to dread typhoid fever for her amily, inasmuch as typhoid fever cut off her husband in his rime, and only just failed to do the same for her eldest son. he duke is understood to have been deeply disappointed at ot being given a command in South Africa, for he is llowed on all hands to be an admirable soldier; but the overnment, in sending him to Dublin, are allotting to him very whit as dangerous a post as that of a general at the cene of the war.

The Correlation in Women Between the Sexual Function, Insanity and Crime.—The annual meeting of the British Gynecological Society was held on January 11, when Dr. Macnaughton-Jones, the retiring president, de- ivered a valedictory address, taking for his subject the corre- ation in women between the sexual function, insanity and crime. In the course of his speech he recommended that in the investigation of criminal acts committed by women either during menopause or while the menstrual function was active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman, her previous history and temperament being considered. With regard to climacteric mania the indicative symptoms should be remembered, viz., "moroseness and de- pression of spirits, attacks of hysteria, occasional hallucina- tions, delusions with regard to relations, unjust dislikes, un- founded apprehensions of some grave crime committed or injury inflicted on them, and suicidal tendencies." What Dr. Macnaughton-Jones asked his hearers to pay attention to is all very well known, but surely there is no lack in these days of readiness to attribute the crimes of females to sexual irregularity or a vicious menstrual function. It seems to us on the contrary that nowadays "hysteria"—the word is used in the broadest sense—is too often made the excuse for bad conduct of all sorts, from murder, satyriasis, and theft down to inattention to church and untidiness in attire. Dr. Macnaughton-Jones is succeeded in the presidency of the society by Dr. W. J. Smyly, a late Master of the Rotunda Hospital in Dublin, and an excellent obstetrician.

The Influenza Epidemic in London.—Influenza was certified as the primary cause of 342 deaths in London during December, 1899, and it is probable that this figure will be much increased when the total for January, 1900, is com- plete, for the epidemic had no real hold on the metropolis until just before Christmas Day. Of the 342 deaths—a number which we may say is exactly 242 above the cor- rected average number for the corresponding period in the preceding decennium—193 were registered during the last week in the month. Among the various sanitary areas of the city the greatest proportional mortality was registered in Paddington, St. George's (Hanover Square) and Marylebone, showing conclusively that it is the richer and upper classes who have suffered most severely, for all three districts are, as a whole, handsomely built, highly rated, and inhabited by well-to-do persons. It is a curious fact that nearly every prominent medical man in London resides in one or the other area. In addition to the 342 deaths directly attributed by death certificates to influenza, during December last nearly ten times that number of deaths, or 3,334, were re- ferred by certifying medical men in London to diseases of the respiratory organs during the same period. This number is an excess of 1,412 over the corrected average number. "The epidemic," says a well-informed correspondent, "is now (January 20, 1900) declining, but its after-effects have yet to show themselves and will be, judging by the results upon the health of the people after previous visitations of grip, very serious. The cases this time have been many of them typical, so that there has not been quite so general an exposure either of patients to unfit environments, or of the public to infection."

Antityphoid Inoculation.—In 1896 Professor A. E. Wright, professor of pathology in the British Army Medical School at Netley, made some investigations into the associa- tion of serous hemorrhages with conditions of defective blood-coagulability, in the course of which experiments were made upon horses and also upon certain officers of the In- dian Medical Service (who clearly had much faith in the experimenter) with injections of typhoid culture. The facts which Professor Wright then made known to the medical world had an obvious connection with Haffkine's methods of anticholera inoculation, and further communications have been looked for with interest. In 1898 Professor Wright proceeded to India as a member of the Plague Com- mission, and while in India he made a series of inoculations upon the British troops at the different military stations along the route followed by the Commission in its tour of inquiry. The results of these inoculations he has now made public, and the figures more or less support his by no means aggressive claim "that a certain measure of protection was conferred." The results were, moreover, better than the figures representing them because the inoculated men were almost without exception more likely by their circum- stances to catch typhoid fever than were the uninoculated, for the experiments were mainly conducted upon young men who had recently come out to India and not upon the older and more seasoned men. Professor Wright appends a sug- gestive note to his communication, referring to the fact that his attention had been called from several different quarters to the possibility that his method of antityphoid inoculation may confer a certain protection against malarial fever. "In the case of one regiment," he says, "I have been furnished by the commanding officer with lists personally prepared by the company officers giving with respect to each inoculated man particulars as to whether he had suffered from "fever and ague" (*a*) before inoculation; and (*b*) after inoculation. These lists, compiled six months after the date of inocula- tion, show that of 121 men who had previously suffered from "fever and ague," 111 declared themselves to have been quite free since, the remaining 20 declaring themselves to have been practically free. Only 2 men who had not previously suffered from "fever and ague" declared themselves to have suffered slightly since."

Clearly the matter is one that will have to be further in- vestigated. We may have here only a coincidence, and the *mens medica* will instinctively take that view; but because a thing is improbable it should not be held undeserving of attention.

The Member of Parliament for London Uni- versity ought to be a medical man, or a least a man of science. That is certain, for the medical and scientific graduates are the finest flower of London University educa- tion and form the most distinguished body of men in their *alma mater*. To represent them is to represent the best of the university. The election that will shortly take place of a representative in Parliament to sit in the seat of Sir John Lubbock—deservedly translated to the House of Lords—

bids fair to produce a triangular fight, a form of contest which notoriously leads to surprises. There are three candidates before the constituency, viz.: Sir Michael Foster, the ex-president of the British Association, the secretary of the Royal Society, and a world-famed physiologist; Dr. W. J. Collins, an ex-chairman of the London County Council and a sound ophthalmic surgeon; and Dr. Busk, a learned lawyer and chairman of Convocation of London University. The university, as we have said in these columns, is just undergoing reconstitution; it is being turned from a purely examining body into a teaching body. This change has not been without its opposers among the graduates of the university, and Dr. Collins, it is believed, will be the candidate to win the favors of those who see no virtue in the scheme of reconstitution. Dr. Busk is the representative of those who believe that the changes of design and scope will be of credit to the university and beneficial to the public. Sir Michael Foster's connection with Cambridge—distinctly a teaching university rather than an examining one—is so close that he also must be regarded as belonging to the party of reform. No one can guess which candidate will receive the most votes, but it is possible that unless Dr. Busk retires in favor of Sir Michael Foster these two will split one section of the votes, leaving Dr. Collins with a victory not expressing the sense of the majority of the constituents. Dr. Collins is a strong candidate. He was an admirable chairman of the London County Council, being businesslike, able, and painstaking, while his academic record at the university was a remarkably successful one. Of course, Sir Michael Foster is an ideal representative in Parliament for a university. He is a good speaker and a great thinker, his public position gives his voice weight, and his whole life has been a proof of his accurate knowledge of what should be university methods; but, although a London graduate, his career has been so completely run at Cambridge that the London voter may feel that in electing him he is sending to Parliament a second voice for Cambridge University instead of one for his own place. If this view is taken and Sir Michael Foster fails to obtain the seat for London University, it seems to us that the university will lose an excellent chance of sending to the councils of the nation a first-class man to speak upon all medical, scientific or educational matters.

The report of the Royal Commission on the water-supply of London, whose sittings commenced in May, 1897, and lasted nearly a year, has been issued after considerable delay. It is a thoroughly good piece of work within the limitation which the commissioners decided to place upon themselves, but to our mind the limitation vitiated much of their labors. The Commission, it may be remembered, was appointed to decide (1) If having regard to financial considerations the present metropolitan water-companies should be purchased; (2) if being purchased, they should be managed by one central authority; (3) if, not being purchased, more control ought to be exercised over the several undertakings; and (4) if some of the different systems could be connected in such a way as to reinforce each other in case of local famine. While the Commission was sitting a local famine occurred in the east of London, and the commission at once decided that an intercommunication scheme was necessary and must be made possible. They issued an interim report to this effect, their recommendations were adopted, and all immediate fear of a recurrence of scarcity of water in East London was removed—a decidedly good and prompt performance. They now report upon the other three points, the third question being answered in the reply to the other two. They advise purchase of the companies and their control being vested in a central board of thirty persons upon which the London County Council, the Thames Conservators—a body established to preserve the purity of the river and deal with gross pollutions—the County Council of the counties within which London stands—viz. Middlesex, Kent, Surrey, Essex, and Hertfordshire, and the Local Government Board should be represented. This is an old scheme revived, having been brought before the House of Lords some three years ago by Lord James of Hereford. The London County Council will regard the report as distinctly antagonistic to their views, for the London County Council have a magnificent scheme for bringing water from Wales by which all fears of water-famine in the metropolis would be abolished —at least for hundreds of years. This scheme the Commissioners have vetoed as being very expensive and needless, because the present supply furnished by the River Thames, the River Lea, and various deep chalk wells will, in their opinion, **last until 1941;** before which time some cheaper method of obtaining water for the city and its environment can surely be devised. And here is just where the limitations of the Commissioners' work tell against the value of their report. They made no inquiry into the actual water-producing powers of the present areas of supply, but accepted without question the results of a previous inquiry held into the matter by Lord Balfour's Commission. Now it is common belief that these results were entirely wrong, and that the supplying powers of the present areas were much exaggerated in the report of Lord Balfour's Commission. In that case Lord Llandaff's report now under consideration is advising the purchase of the companies upon false assumptions, and when the companies have been bought out with all their liabilities and contracts the people of London may find that a new supply will have to be acquired, cost what it may, at a much nearer date than 1941. It is obviously very regrettable that Lord Llandaff's Commission did not seek for themselves power to take evidence exhaustively upon every side of the question, so that when advising the purchase of the different undertakings they could have been in a position to know what the companies were really worth. To a certain extent they may have known, for one of the Commissioners, General Scott, was simply omniscient, but he died before the report was issued.

CONTINENTAL EUROPE.

A Finsen Light-cure Apparatus is to be installed in the University of Munich by Professor von Ziemssen who is at present investigating the curative effects of the x-rays.

At the Pasteur Institute a young crocodile has been inoculated with the strongest toxins without any appreciable effect. He has been used for the production of antivenene.

University of Bologna.—The Italian Parliament has voted a sum of 1,300,000 lire for the erection of new buildings in the University of Bologna. The work will be begun next spring.

Obituary.—SIR THOMAS GRAINGER STEWART, professor of the practice of medicine in the University of Edinburgh, Scotland, physician in ordinary to the Queen, and in 1898 president of the British Medical Association, February 3.

Foreign Associates.—The Society of Surgery, of Paris, has elected Drs. Esmarch and MacEiren foreign associates. As corresponding members they elected Drs. Jomesco, Mattakowski, Paci, Mayo Robson, Rydygier, and Sonchon.

Mlle. Eutz, a young Algerian girl, passed her examination in medicine on January 11, 1900, her thesis, "Consultation des Nourissons et Allaitement," being highly recommended by the jury who examined her. She intends returning to Algiers to practise.

Ophthalmologists of the Paris Hospitals.—After the two years' discussion, ophthalmologists are soon to be appointed, to go on duty at the larger hospitals, after an examination. It has also been decided to establish laboratories, to which chiefs are to be appointed.

The Society of Friends of the University of Paris, of which M. Casimir-Perier is president, held its first meeting for members, for this year, on Thursday, January 11. DR. BROUARDEL spoke upon **Tuberculosis.** He said, that in France alone, pulmonary tuberculosis causes 150,000 deaths a year; while the worst cholera epidemic, that of 1866-67, carried off in both years only 120,000. This he followed by a plea for the betterment of the conditions existing in France, with a description of how phthisis is treated in England and in Germany.

An Odd Predicament.—A young man of 20, recently brought forward to show cause why he should not serve his military service, produced his birth-certificate, in which he was registered as a girl. It will take a special decision of the courts to allow him to become a "man," and so to enter the army, due to the mistake of the medical man who officiated at his birth.

University of St. Petersburg.—By a recent ministerial decree, M. Sergejevich, whose unpopularity with the students is said to have been one of the chief causes of the disturbances that have occurred among them, has been relieved of his functions as Rector of the University of St. Petersburg. He has been succeeded by Professor Holmstein, who is credited with liberal tendencies.

The Bressa Prize.—According to the *Lancet* every four years the Reale Accademia delle Scienze of Turin awards the prize of 9,600 francs to the contemporary *savant* who in its judgment has deserved best of physical science or nature-study during the quadriennium. Since its foundation by Signor Bressa, a distinguished ornament of the subalpine seat of learning, 11 such prizes have been awarded. This, the eleventh of the series, has just fallen to Dr. Ernst Haeckel, Professor of Zoology in the University of Jena, for "valuable contributions covering the whole field of biological science."

University of Kasan.—The University of Kasan, which entered on its ninety-sixth year of existence in November, had, according to official statistics, a student population of 859 on January 1, 1899. Of these, 463 belonged to the medical faculty. The teaching staff comprised 117 persons. The expenditure of the university amounted, in 1898, to 403,163 roubles. Of this sum 258,485 roubles were applied to the payment of the staff, and 23,041 in bursaries and prizes for students, while 119,136 roubles were expended in books and apparatus. A sum of 2,500 roubles was granted as a subsidy for the research society of the university.

Precautions Against the Plague.—According to the *Lancet*, a series of lectures and practical demonstrations on bubonic plague are being held in the Berlin Institution for Infectious Diseases. The duration of each course is 10 days and the Government has arranged that the heads of the State, provincial, municipal, and other public laboratories, and those assistants who have been engaged already at least one year in bacteriologic work may attend the classes free of charge. The bacteriologists admitted to the classes at the expense of the Government are under an obligation to act as Government medical officers in the event of an outbreak of plague in this country. A number of non-official bacteriologists have also joined the classes at their own expense. Similar courses are held in the Imperial Health Office. In this way the Government hopes to have a staff of bacteriologists experienced in the recognition of plague.

Hygiene and Morals.—According to the *British Medical Journal*, the Berlin branch of a society called "International Federation," a short time ago proposed to hold two courses of lectures on hygiene in one of the chief public schools of Berlin, for the benefit of pupils in the more advanced classes. The lectures were to be gratis, and were to be delivered by a male doctor for a public of boys, and a lady doctor for a public of girls. So far so good; there seemed nothing to object to, and the magistrates granted the use of the required class-rooms. Invitations to attend the opening lecture were then sent out by the society to all the Berlin clergymen who prepare for confirmation, to the directors of youthful gymnastic courses, and to head-masters of the Berlin secondary schools (Fortbildungs-schuler). These invitations contained the announcement that in the lectures sexual hygiene would be touched upon with all tact, and the necessary enlightenment given, the "International Federation," whose object was the improvement of morals, considering it a duty to give the growing youth of both sexes enlightenment from the standpoint of hygiene, and thus to add an effective support to the doctrines of religion and morality. An answer to this declaration came in the shape of a municipal order, withdrawing the permission previously granted to use the class-rooms, "as it was feared that such lectures would be extremely dangerous to the moral sense of an audience of children."

Serumtherapy in Antiquity.—According to the *British Medical Journal*, at a recent meeting of the Société Impériale de Médecine of Constantinople, Dr. S. Stainaliades presented an analysis of a work by Dr. Nicolas Lambadarios of the University of Athens. The book, which is written in Greek, deals with serumtherapy, organotherapy, antirabic and antileprous treatment as practised by the old Greek physicians. It is shown that in treating leprosy Galen used, not indeed antivenomous serum as some recent workers have employed Calmette's antivenene, but the flesh of the viper's body, which he thought contained the virus in an attenuated form. Mithridates, as every schoolboy knows, made himself poison-proof not only by taking antidotes of proportionate strength, but at last by combining in one all the antibates known in his day. All his life he made experiments on himself and on condemned criminals; among the poisons against which he succeeded in making himself immune was that of snakes. For this purpose he added to his antidote the blood of animals which fed on venomous snakes, particularly Black Sea geese. Similar antidotes were used later by Attalus, King of Pergamus, by Andromachos, Nero's archiatrus, and by Galen. As regards rabies, the author finds an anticipation of the essence of the Pasteur treatment in Dioscorides who advised persons bitten by mad dogs to drink the blood and eat the liver of the animal which had bitten them.

Legislation with Respect to Private Laboratories.—The *Vossische Zeitung*, a Berlin periodical quoted by the *Lancet*, reports that a bill relative to laboratory work will be introduced by the government. It is said that the bill will contain provisions by which investigators will be compelled to take precautions against the escape of pathogenic germs. The memorable outbreak of plague in the hospital at Vienna has induced the German Government to anticipate possibilities of this kind. The above journal rightly condemns legislation by which scientific research might be hindered, and is especially opposed to suppression of bacteriological work in private laboratories as suggested by influential parliamentary combinations. It draws attention to the fact that important researches, not only in bacteriology, but also in other branches of medical science, have been carried on in private laboratories; for instance, the work of Professor Fritsch and Professor Hitzig on the localization of function in the brain. Professor Koch himself whilst holding the obscure position of a medical officer of health in the province of Posen made his investigations on the nature of anthrax and other infectious diseases in his residence in the small country town of Wollstein. Nowadays there are well-equipped private laboratories in nearly every town of Germany, and many medical men are prepared to examine sputa and other pathological material in their consulting-rooms. It would be very prejudicial to the profession if a new law prevented medical men from making bacteriological examinations elsewhere than in the State laboratories.

The Sense of Color in Antiquity.—According to the *British Medical Journal*, Dr. N. P. Benaky, of Smyrna, is the author of a work (in French) on the sense of color in antiquity which has recently been published by Maloine in Paris. He gives a large number of passages from classical authors which, in his opinion, prove that changes of meaning in the terms descriptive of colors that have taken place in the course of centuries depend on linguistic, not on functional, evolution. The author's researches have extended not only to all the written records of antiquity, but to the painted monuments and decorations which still survive, especially in Egypt, Chaldea, Syria, and Greece. All the colors mentioned in the Homeric poems are classified and compared in accordance with the strictest rules of criticism. The opinions of ancient philosophers on colors and on the structure of the rainbow are also discussed.

Society Report.

NEW YORK STATE MEDICAL SOCIETY.

Ninety-fourth Annual Meeting, Held at Albany, January 30 and 31 and February 1, 1900.

THE attendance at all the sessions was large and great interest was displayed in all the business and social sessions. At the closing session of the society the following officers were elected for the ensuing year: President, Dr. A. M. Phelps, of New York City; vice-president, Dr. George Seymour, of Utica; secretary, Dr. F. C. Curtis, of Albany; treasurer, Dr. O. D. Ball, of Albany.

President's Inaugural.—The first session on January 30 was opened by the inaugural address of President Macdonald. This was brief, yet at the same time filled with valuable suggestions, and was received with scrupulous attention. After expressing his thanks to the society for choosing him to preside over their deliberations he took up the topic of a legal definition of the term "the practice of medicine" and proposed cooperation with the New York Academy of Medicine in order to establish such an interpretation as will exclude all forms of quackery. He suggested that the approval of the society be withheld from State control of chronic infectious diseases until after the most careful consideration. He declared that the standards of the State Board of Examiners are the highest and most practical in the land, and their work deserves the highest commendation. As to the schism between the Society and the American Medical Association he said that the settlement was simple; let the association admit the duly Accredited delegates of the Society through the same door that was closed in the faces of the New York delegation at St. Louis; then the Association would be truly representative of the united medical profession of the United States. In his view of the field of national legislation on medical topics he took ground in opposition to the Gallinger antivivisection bill, and in support of the measure which Surgeon General Sternberg has proposed for the increase of the medical corps of the army.

Medical Examiners.—Following the president's address the State Board of Examiners through their secretary, Dr. M. J. Lewi, reported 836 applicants for medical certificates examined and 165 rejected.

Carcinoma of the stomach was the first subject presented to the attention of the Society. DR. A. MCFARLANE, of Albany, read a paper and submitted cases showing increased hydrochloric acid.

Age, sex and season, as factors in nervous disorders, were discussed in a contribution by DR. WILLIAM C. KRAUSS, of Buffalo. He showed how each period of the life of men and women had its particular diseases, how conditions that were at one time harmless became at another productive of the greatest harm, and therefore how necessary it was to take into account questions of age, sex, seasons and general surroundings.

A paper by DR. WILLIAM M. LESZYNSKY, of New York, on **facial paralysis** was read by title.

DR. D. B. ST. JOHN ROOSA, of New York, introduced the subject of **strabismus.** At the last meeting of the Society, he observed, he called attention to a new operation for the cure of this defect. By this operation both muscles were stretched and divided at one sitting. Professor Panassi, of Paris, had performed 20 successful operations in the way referred to before reporting results, and since then DR. ROOSA and his colleagues had also performed many cases with success. It was important to the general practitioner to know that specialists in eye-complaints could enter on these operations with knowledge as to what they were doing, and a large amount of certainty as to the result. In 95% of cases they could ensure the removal of the deformity.

DR. A. EDWARD DAVIS, of New York, followed with a paper showing what could be accomplished by means of non-operative treatment of strabismus.

The differentiation and treatment of **ocular affections** commonly met with in family practice, was dealt with by DR. FRANK VAN FLEET, of New York, who pointed out the great advances that had been made in connection with the treatment of ear-diseases since it had engaged the attention o specialists. There was no reason why general practitioner should not make themselves familiar with all that had beer ascertained in regard to the more common complaints, an so leave only the more obscure affections to be dealt with b specialists. DR. T. H. HALSTED, of Syracuse, called atten tion to the significance of earache in children.

The teaching of therapeutics was discussed i papers read by DR. ELI H. LONG, of Buffalo, and PROFESSO REYNOLD W. WILCOX, of New York, the former treating th subject in its bearing on undergraduates, while the latter re ferred to the instruction of postgraduates. Dr. Long sai there were two things they had to deplore—on the one hand growing scepticism as to the efficacy of drugs, and on th other an inclination to make a too ready resort to prepara tions. He thought they should protest against the dictatio of the commercial houses as to therapeutics. In teaching i was best to commence with a consideration of the physio logic conditions, and for this purpose the conference syste was best adapted. Professor Wilcox said the problem of ho to teach postgraduates was by no means a simple one. Thi was largely due to the fact that they had three classes t teach, first, those who hold teaching positions in the smalle schools, and who want the latest information in regard t the results of discovery and research in matters pertainin to medicine. Secondly, recent graduates who elected a pos graduate instead of a clinical course in order to complet their training for the practice of their profession. And, thirdl the practitioner of several years' standing, who wanted t learn all that was to be learned that would assist him i his practice. Postgraduate teaching was a failure unless i to some extent met the requirements of these heterogeneou classes. He confessed that 16 years' experience had no enabled him to solve the problem with satisfaction to him self; but one conclusion he had arrived at, was that so far a possible all such instruction should take the form of practi cal demonstration. Theories, new remedies, preparation etc., were for the teachers to investigate themselves; as re garded their teaching, what was most important was that the should urge their students to attend cases in wards, and giv them practical demonstration of what was being done.

The characteristics and symptoms of **Weil's diseas** were explained by DR. HARLOW BROOKS, of New York, wh also presented a pathologic study on the subject.

In a paper entitled **The treatment of temperature and heart-failure,** DR. A. JACOBI, of New York, describe the ways in which it had been attempted to reduce increase temperatures. High temperatures he showed were not alway dangerous, but, on the contrary, often exercised a minimizin influence on the disease. Where they were dangerous ther was no reason why they should not endeavor to reduce th temperature either by tonic treatment or by direct attac upon the microorganisms.

DR. JAMES H. CROOKS, of New York, read a paper on **Acut croupous pneumonia,** in which he discussed its patho genesis and treatment in the light of the newer patholog The efforts made to discover a serum for pneumonia, whil not altogether satisfactory, were encouraging so far as the went; and considering the brilliant results obtained by th treatment of diphtheria, as well as what had been actuall ascertained in regard to pneumonia, he thought there w good ground for believing that similar results would yet b achieved in connection with the latter disease. Incidental the reader of the paper took exception to the opinion e pressed in a published paper by Andrew H. Smith, that th condition of the lungs in pneumonia was not inflammatio but only a condition of germ-growth. Dr. Crooks agree with him that the process was one of germ-culture, but h thought that the condition might also be described as inflan mation, though not analogous to other kinds of inflamm tion. DR. ANDREW A. SMITH, in opening the discussion on th paper, said he was pleased to know that Dr. Crooks agree with him so far as he did. At the same time he adhered to h previously expressed opinion that pneumonia was purely germ-culture, and not at all properly describable as inflan mation. The most important thing, however, in connecti with the discussion of the pathology of pneumonia was th fact of the double circulation of the lung. This fact had be overlooked to a singular extent in connection with the on disease in which its existence had an important bearin DR. H. R. HOPKINS, of Buffalo, thought that until pathologis

nd therapeutists made up their minds as to what was the proper germ for the treatment of pneumonia, general practitioners should remember the advice given by Dr. Jacobi in relation to another disease, and that was not to lose sight of the fact that every patient represented a separate individuality. In other words, they should attend to the constitution of their patients, and above all should not neglect the hygiene and diet. DR. CROOKS, in replying on the debate, said he fully agreed with the last speaker as to the value of fresh air and diet; but while strengthening their patients' systems, it was also necessary to attack the cause of the disease by means of germicidal drugs or methods of treatment.

The classification of infectious diseases was the subject of a paper by DR. WILLIAM H. THOMPSON, of New York, in which he spoke of the harm that was done by labeling diseases infectious or contagious, and at the same time showed the confusion that existed even in the profession as to the use of these and other terms. Diseases of the kind usually thus described should in his opinion be divided into three groups. In the first should be placed diseases that are contagious and communicable, and for these the treatment should be isolation; in the second, diseases that are noncontagious but communicable, and in these the treatment should consist of the destruction of the carriers of the infection; and in the third, diseases which were inoculable, and these required specific treatment.

Prophylaxis in Gynecology.—A symposium of papers on this subject was next on the program, but, owing to the absence of several of the authors, some of the papers had to be read by title. The full list was as follows: "Introduction," Dr. Henry C. Coe, New York; "Prophylaxis before and during puberty," by Dr. W. Gill Wylie, New York; "Prophylaxis after marriage," by Dr. Ralph Waldo, New York; "Prophylaxis in obstetrics," by J. Clifton Edgar, New York; and Prophylaxis in gynecologic surgery," by Dr. William M. Polk.

State Care of Tuberculous Patients.—A special session of the society was held in the evening in the Assembly Hall of the State Capital for the purpose of considering the attitude that should be assumed to the State in regard to the care and treatment of tuberculous patients and the prevention of the spread of tuberculous infection. Members of the Legislature and the general public were invited to attend, and responded in goodly numbers. Several members of the Legislature took part in the speech-making, and the result was a lively debate, the honors being carried off by the doctors if the applause which they received was to be accepted as evidence of their success. Dr. Edward O. Otis, of Boston, Mass., was the first speaker. He began by remarking that the fact that pulmonary tuberculosis was the most prevalent and destructive of diseases was proved by the mortality statistics of all countries. It was the cause of about 7 of all deaths, the proportion being 3 in 22. It was worse where the people were crowded together; it was contagious and therefore preventable; and it was a constant menace to the public health because, in large measure, of the ignorance and carelessness of the people affected by it. The number of lives that could be saved would be the means of returning a large amount of the money expended in preventing the spread of the disease. Nearly all the countries of Europe had recognized the wisdom of making the matter one of state control, and several States in this country were now taking action in the same direction. The speaker then proceeded to describe the excellent results that had been obtained in Massachusetts, and expressed his hope that the people of New York State would succeed in their effort to get legislative action with the view to the establishment of a sanatorium and the adoption of other measures for caring for those afflicted with the disease and stamping out the disease itself. Dr. Vincent Y. Bowditch, Boston, followed with a detailed account of the work accomplished at the Massachusetts State Hospital for Consumptives, at Rutland. Dr. Edward R. Baldwin, Saranac Lake, gave a cheering report of the results of the climatic and sanatorium treatment of the disease in the Adirondacks. Since the institution at Saranac Lake was established 15 years ago, 1,200 cases had been treated. Of these three-fourths were in an advanced stage of consumption, and only a fourth in an incipient stage. The number of patients in an incipient stage was, however, continually increased, and so better results were obtained every year. In the last two years one-third had been in the incipient stage, and the results were: 25% were discharged cured; in 56 cases the disease was arrested; 19% were improved, and only 2% died. They were careful to distinguish between complete recoveries and cases in which the disease could only be said to have been arrested, because it was necessary to allow some time to elapse to see whether the improved symptoms continued. Inquiries, however, which were being made showed that a large proportion of those in whom the disease had been arrested would in course of time be properly added to the number of cured. Dr. George Blumer, of Albany, read a paper on the infectious character of tuberculosis and the prognosis of incipient pulmonary consumption, and Dr. Enoch Stoddart Rochester dealt with the subject from the point of view of the duty and interest of the State in preventing the spread of infection.

Hon. Horace White, a member of the State Senate, heartily supported the proposed plans for taking charge of tuberculous patients, but Hon. Otto L. Kelsey, a member of the Assembly, while expressing his personal sympathy in the movement, pointed out difficulties of a practical character that stood in the way, and made it extremely improbable that the Legislature would see its way to grant the desired appropriation. There were, the latter speaker observed, enormous demands on the State for education, the care of the insane, prisons, canals, and a variety of other things, and for it to take care of all the people suffering from tuberculosis in the State—their number being estimated at 60,000—was altogether too serious a matter to be entered on lightly. Dr. John H. Pryor, of Buffalo, replying to the last speaker, quoted figures to show that tuberculosis was increasing, and that the disease, accountable as it was for between 12,000 and 13,000 deaths a year, constituted such a serious state of matters as to call imperatively for State control. He ridiculed the idea that the burdens of the State were so great that it could not provide the small appropriation asked for, the object of which, he reminded the members of the Legislature, was not to make provision for all the tuberculous patients, but only to establish an experimental sanatorium in which incipient cases could be treated with the view of discovering the best way of checking the spread of the infection. Even on grounds of economy he ventured to say it would soon be found that the money had been wisely expended. A number of other speakers continued the discussion, the preponderance of the opinion expressed being in favor of joint action by the State and local authorities, the former to establish the experimental sanatorium, and the latter to provide hospitals for advanced cases, and also to lay down and enforce regulations for stopping the spread of the infection. Members of the medical profession were urged to agitate the question among their patients and acquaintances, so as to educate public opinion and get pressure brought to bear on the Legislature that would compel it to take action.

SECOND DAY'S PROCEEDINGS.

The second day's proceedings began with a visit to the new Albany Hospital, where clinical papers and reports were read as follows: "Catheterization of the Female Ureters," by Dr. Charles P. Noble, of Philadelphia; "The Modern Uretroscope; Its Valve and Limitations," by Dr. W. K. Otis, of New York; "A Unique Case in Obstetrics," by Dr. F. H. Parker, of Auburn; and "Uterine Fibroids, Complicated by Pregnancy," by Dr. W. F. Ford, of Utica.

In general session, the first subject to engage attention was **human and bovine anthrax,** on which a paper was read by DR. FRANK W. ROSS, of Elmira. Thereafter DR. JAMES LAW, of Ithaca, gave a contribution on **bovine tuberculosis,** and DR. V. A. MOORE, also of Ithaca, entered into details as to the preparation and use of tuberculin, with remarks upon the knowledge at present possessed of the difference between human and bovine tuberculosis. In the course of the discussion which followed DR. JAMES H. CROOKS, of New York, described the clinical experiments he had conducted with tuberculin on human subjects at the New York Postgraduate Hospital. The tuberculin had been obtained from the Board of Health, and everything possible was done to make the tests efficient, but the results were very unsatisfactory, and had quite discouraged him as to the utility of tuberculin in cases of human tuberculosis.

The medical examiner for life insurance and his responsibilities was the subject of a paper by DR. S. OAKLEY VANDER POEL, of New York, who showed that the medical officers of American insurance companies had been the first to commence the task of reducing physical disabilities and impairments to a scientific basis, the result being that now, instead of being compelled to reject a large proportion of the risks offered them, the companies were able to gauge the exact responsibility they were asked to undertake, and so knew what to charge for the risk they assumed.

Experience with the Angiotribe. Under this title DR. J. RIDDLE GOFFE, of New York, gave an account of various instruments that has been used for controling hemorrhages, and said the instrument he now showed had been used by him with almost invariable success. It was remarkable in these respects that it was only necessary to apply it for two minutes, and it had the extraordinary pressure of 3,000 pounds.

A paper by DR. EDWARD B. DENCH, of New York, on the importance of early recognition of **acute inflammation of the middle ear** by the general practitioner, afterwards read. The early and free incision of the drum was advised, and the use of ear-drops, such as oil and laudanum, as emphatically condemned.

The president's anniversary address was on **The relation of the clinical laboratory to modern surgery.** DR. WILLIS G. MACDONALD, in delivering this addresss said there was an impression that the work of the modern surgeon was easier than that of his predecessors. So it was, for surgery was now an art that was much more certain in its results than formerly; but this very fact increased the surgeon's responsibilities, because the loss of a patient would not be so readily overlooked. It was more than ever necessary to guard against everything liable to produce septic conditions, and in this connection it was advisable to have their instruments and apparatus frequently examined. The laboratory also was of great aid to the surgeon in the way of providing analyses of the blood, urine, etc.

DR. SAMUEL G. GANT, of New York, gave an exhibition of rectal instruments.

DR. F. H. PARKER, of Auburn, described a unique case in obstetrics, in which a dead fetus was removed from a woman after having apparently been in the womb for two years, and a few days after its removal she was delivered of a fully-developed and healthy child.

DR. ROSWELL PARK, of Buffalo, contributed the results of some further investigations he had made since the last meeting of the society into the cause of cancer. The information which was being collected at the State Laboratory went far, he said, to confirm the opinion as to the parasitic nature of cancer.

Dr. GEORGE H. FOX, of New York, described the method by which it was now found possible to effect a complete cure of leprosy. He mentioned a number of cases, among them that of a gentleman who was now carrying on business as a merchant in New York, in which the most happy results had been obtained. While not ignoring the importance of chaulmoogra oil, he insisted strongly on the benefit that was imparted to patients by a cheerful prognosis.

Some questions about the care of the hair were discussed by DR. GEORGE THOMAS JACKSON, of New York. Incidentally he advised against the custom of shaving the heads of patients in fever and other cases, the advantages being doubtful, and the results, especially to women, being much inconvenience and unnecessary annoyance. For the ordinary treatment of the hair he recommended the use of a little pure pomade. There was no custom more absurd than that of singeing the hair.

DR. ROBERT C. MYLES, of New York, contributed some remarks on the surgery of the nasal septum and the turbinal bodies, illustrating the same with anatomic specimens.

At this point in the proceedings, the REV. DRS. RAYMOND, President of Union University, and BUCKLEY, editor of the *Christian Advocate*, were introduced, and papers of an interesting popular character were delivered, Dr. Raymond pleading for the requirement of a more liberal education of medical students preparatory to their entrance on their purely professional studies, while Dr. Buckley made a scathing exposure of the Christian Scientists and their subtle methods for imposing on the public. A suggestion by the latter that the medical professio should undertake the task of bringing all classes of quacl to justice, called forth a protest from DR. JACOBI, wh remarked that the previous efforts it had made in th direction had been so unfortunate in their results as to co stitute a serious warning against their attempting anythin of the same kind again. The proposals of Dr. Raymond i regard to the more liberal education of medical studen were endorsed by Dr. Jacobi and others, and a standing vot of thanks was given to both reverend gentlemen for the addresses.

DR. A. M. PHELPS, of New York, exhibited a number braces that were commonly used in the treatment of hi joint disease, and among them the Phelps' brace, a mal child with the latter on his limb being shown, and the docto giving ocular demonstration of the fact that he could, so t speak, play football with the boy without causing him th slightest pain.

A paper on fractures of the walls of the maxillary antrum by DR. JOHN O. ROE, of Rochester, was read by title, as wa likewise one on surgical operations in hospitals for the in sane, by DR. WILLIAM MABON, of Ogdensburg.

DR. H. BEECKMAN DELATOUR, of Brooklyn, made a con tribution to the surgery of the stomach, in which he describe a number of cases of gastrotomy and gastrectomy.

DR. F. W. SEARS, of Syracuse, called attention to the larg number of instances in which sepsis was caused by th neglect of proper precautions in puerperal cases.

THIRD DAY'S PROCEEDINGS.

At the beginning of the third day's sitting a report wa presented from the committee appointed to consider th feasibility of getting a law passed to provide for the registra tion of medical experts. The opposition of the legal profes sion to any legislation of the kind proposed was so pro nounced that the committee did not see any prospect of an law of the kind desired being enacted, and therefore recom mended that they should be discharged, a suggestion whic it was agreed to act upon.

A motion was passed expressing approval of the experi mental work being done by the Cancer Hospital at Buffalo and providing for the presentation to the Legislature of memorial asking an appropriation.

DR. LUZERNE COVILLE, of Ithaca, presented a paper show ing the **Shape of the spleen and its relation to the chest-wall and abdominal viscera,** a subject on which he remarked, the teaching of the textbooks was vague, and to a large extent contradictory.

DR. I. S. STONE, of Washington, D. C., submitted a paper entitled **Supravaginal hystero-myomectomy,** accom panied by a series of cases in which tumors had been removed from the uterus.

A paper on **Atresia of the vagina** was read by DR. F. W. HIGGINS, of Cortland.

DR. W. FREUDENTHAL, of New York, described a case in which cerebrospinal fluid was discharged through the nose.

Among the remaining papers, most of which were read by title, was one by DR. THOMAS P. SCULLY, of Rome, dealing with radical hernia, and showing the comparative results of rational treatment by operation and treatment by injection. A larger percentage of cures by operation, he observed, could be claimed now than at any former period, but many persons preferred irrigations, and it was found that many cases could be successfully dealt with in this way. DR. A. M. PHELPS, in discussing the paper, referred to the large number of cases of relapse which he had been called upon to handle at the New York City Hospital, in consequence of inefficient treatment elsewhere by means of irrigations and trusses.

At the close of the program, votes of thanks were passed to the retiring president and others, and the new president, Dr. Phelps, having been installed, made a few happy remarks in appreciation of the honor conferred upon him, and promising his best endeavors to fill the chair with advantage to the Society.

In the course of their visit, the delegates were accorded a reception by Governor Roosevelt at the State House, and there was also a grand dinner at the new Ten Eyck Hotel, the attendance at which was unusually large, and the speeches of more than ordinary interest.

The Latest Literature.

British Medical Journal.

January 20, 1900. [No. 2038.]

1. A Clinical Lecture on Ulcer of the Stomach. ROBERT SAUNDBY.
2. Results which have been Obtained by the Antityphoid Inoculations, and Methods which have been Employed in the Preparation of the Vaccine. A. E. WRIGHT and W. B. LEISHMAN.
3. The Insane and their Treatment. J. B. SPENCE.
4. The Bromid Sleep: A New Departure in the Treatment of Acute Mania. NEIL MACLEOD.
5. A Case in which 300 Grains of Sulfonal were Taken in Two Doses. E. PERCY SMITH.
6. A Criticism of the Mechanical Hypothesis of the Origin of Carcinoma, with a Description of a Specimen of "Spontaneous" Carcinoma of the Uterus in the Rabbit. SAMUEL G. SHATTOCK.
7. Spasmodic Closure of the Larynx During the Administration of Ether, Preceded by Nitrous Oxid; Mitral Stenosis; Alternation of Murmurs. W. J. MCCARDIE.
8. Formic Acid and the Inhalation of Formalin as a Preparation for and Aid to the Open-Air Treatment of Phthisis. J. LARDNER GREEN.
9. A Case of Jacksonian Epilepsy Cured by Operation. H. DRINKWATER.
0. A Case of Imperforate Vagina. STEPHEN M. LAURENCE.
1. Twin Pregnancy with Central Placenta Praevia. COLLINGWOOD FENWICK.
2. Imperforate Anus. B. ORMROD.
3. A Case of Brain-Tumor Simulating Myxedema. DAVID SOMMERVILLE.
4. A Successful Case of Cholecystotomy. G. P. NEWBOLT.
5. A Case of Rupture of the Heart. JOHN SUTCLIFFE.

1.—Saundby discusses the etiology, symptomatology, prognosis, diagnosis, and treatment of **ulcer of the stomach.** He considers the proportion of women to men afflicted with his disease as 20 to 1, and considers anemia to be the really important etiologic factor. He has given up as unreliable the various chemical means of determining the motor capacity of the stomach. He regards the stomach as normal if after fasting it contains no traces of food, and after distention with air or carbonic-acid gas it occupies normal limits and lies in its natural position. He considers that the mortality of this disease does not exceed 1 in 20. Some cases of gastric ulcer are incapable of differentiation from anemic gastralgia. The treatment he adopts consists of absolute rest in bed, the administration of 1 ounce of milk and lime-water every hour, together with the tridaily administration of 40 grains of magnesium sulfate, 2 grains of iron sulfate, 15 minims of dilute sulfuric acid, and 1 ounce of peppermint water. The milk and lime-water, if borne without pain and vomiting, is increased every day or every second day up to 4 ounces every hour. The diet is then gradually increased by the addition of bread and milk and minced chicken and minced mutton at intervals, so that in about 20 days after treatment is inaugurated the patient is taking ordinary diet. Two or three days after this point has been reached the patient is allowed to get up. After hematemesis no food should be given by the mouth for 48 hours. The nutrient enemas used during this period should consist of 1 egg beaten up with 1 teaspoonful of brandy and diluted with milk to 4 ounces. This should be administered every 4 hours. For the hematemesis an ice-bag is applied to the epigastrium and small pieces of ice may be sucked. [S.M.H.]

2.—This communication relating to antityphoid inoculations has been published in part in the *Lancet* for January 20, 1900, an abstract of which appears in the present number of this journal. The remainder of the article relates to the method of preparation of the vaccine. [S.M.H.]

3.—Spencer's communication on the **insane and their treatment** is largely historic. He calls attention to the duty of members of the profession who practise outside of asylums, to study the symptoms which point to an attack of insanity, to early recognize the functional and more curable phases of mental disease and to educate the public in those preventive measures which may have a tendency to minimize the extension of insanity, and, above all, to study the same person from a psychiatric point of view. He advocates the placing of single patients under the care of medical practitioners without the certification which in many instances proves a barrier to arranging for the private care of patients for incipient or slight forms of insanity. Medical practitioners should certify to the necessity for the treatment, and the person who undertakes the management of the case should notify the Commissioners in Lunacy of the fact. The latter should have the power of watching and observing whether all that is necessary in such cases is being done in the interest of the patient. He recommends the establishment of clinics at asylums and large general hospitals adjacent to large towns for the special purpose of treating incipient forms and early stages of insanity. [S.M.H.]

4.—MacLeod recommends the **bromid sleep** in the treatment of acute mania. The method he uses to induce this condition is to give the drug only in the daytime, 2 drams in a half tumbler of water every two hours until an ounce is given the first day. On the second a similar amount is given in the same manner. This may suffice to produce the sleep which will not be at its deepest until the fourth or fifth day. It is a safe rule in any event to cease the administration of the drug for 24 hours, when drowsiness is so profound that the patient cannot be aroused, or if when aroused the talk is incoherent. The condition lasts from 5 to 9 days, during which time the subject sleeps day and night and cannot be aroused. He is unable to stand, sit or speak, or to carry on any of the higher cerebral functions. He will not eat or drink, nor is he capable of asking for either, being unconscious of such needs. He can, however, be sufficiently nourished with milk. He will pass urine and feces into the bed if left to himself, but can be prevented from doing this if placed on the commode and held there for a few minutes every six hours. During this sleep the higher nerve-centers are arrested to an extent that cannot be attained in any other way. The recovery is gradual and is complete in about 21 or 24 days. MacLeod has induced this condition safely 9 times, and with advantage, in the treatment of the morphin habit, the chloral habit and acute mania. One patient died on the seventh day of treatment from an attack of double pneumonia which was not thought to have any connection with the treatment. [S.M.H.]

5.—Smith reports a case of a woman who took 300 grains of **sulfonal** in two doses of 150 grains each. The prompt use of emetics and purgatives prevented any disastrous manifestations. He calls attention to the ease with which such dangerous drugs can be obtained. [S.M.H.]

6.—Shattock describes a specimen of **carcinoma in the rabbit.** No kind of experiment had been performed upon the animal. Multiple and extensive tumors were present in both uteri. Histologically the growths were of the columnar-cell kind, in places papilliferous. Between the growths the mucosa was nearly everywhere raised in complex papillary processes and from such areas the growth of the carcinoma could readily be traced. The mode of formation is similar to that of the columnar-cell carcinomas of the rectum. There were a few disseminated peritoneal growths. This case is specially reported because of its bearing upon the experiments of Lack, in which by laying open ths ovaries of a rabbit and scraping the surfaces and allowing a milky juice containing free epithelial cells to diffuse into the peritoneal cavity he caused the animal at the end of 14 months to become emaciated, weak and dyspneic. Postmortem examination showed the abdominal cavity to be studded with carcinomatous foci with other foci in the thorax. The condition of the ovaries was not stated, but the uterus was greatly thickened, its mucosa papilliform, and at one place in its wall was a tumor as large as a cherry. This result led Lack to the conclusion that the displacement of normal epithelium into a lymph-space or lymph-cavity is sufficient to bring about the growth of a carcinoma. Shattock's case, however, shows that an exactly similar condition can develop spontaneously in the rabbit, and this suggests the possibility of the result in Lack's case being purely coincidental rather than the result of the experiment. [S.M.H.]

7.—McCardie reports a case of **spasmodic closure of the glottis from the inhalation of ether.** The anesthesia had been started with nitrous oxide and under this

anesthetic the patient did very well, but after the ether, which was administered by Hewitt's apparatus, had been given a little while the conjunctival reflex was almost abolished, the quiet breathing suddenly ceased. A finger was pushed into the pharynx, thence into the glottis, which was felt tightly closed. After the glottis had been opened by the finger, respiration was reestablished and the anesthesia kept up with A.C.E. mixture. [G.B.W.]

8.—Green recommends the **inhalation of formalin** with suitable diet in the early stages of tuberculous consumption before the patient starts upon the open-air treatment, after which time the inhalation should be continued for a time at least. He believes such treatment will hasten recovery. The most satisfactory mixture of formalin for the inhalation is 1 dram of formalin, 4½ drams of glycerin in 5 ounces of water. It should be used in an inhaler 4 to 6 times in the 24 hours. When the air-passages are unusually sensitive, 10 minims of aromatic spirits of ammonia may be added to the mixture with good effect. [S.M.H.]

10.—Laurence reports a case of an **imperforate vagina.** A careful rectal abdominal examination failed to demonstrate the presence of a uterus, and no trace of a vagina could be found. An elongated thickening could be felt on both sides in the ovarian region. The vulva, mons veneris and mammae were perfectly developed. [W.K.]

11.—Fenwick reports a case of **twin pregnancy** with central placenta prævia. Both children were dead, but the mother made an uninterrupted recovery. [W.K.]

13.—Sommerville had under his care a man, aged 56 years, who complained of weakness in his lower limbs, some loss of memory, and slight general headache. Three months after coming under notice he fell in the street twice within a week. On each occasion he fell backward and to the right. His bodily weakness had much increased by this time, and his headache had become more localized to the occipital region and right side of the neck. The possibility of a **cerebral tumor** was considered, but the edematous condition of the skin, the slow perception, the cold, spade-like hands, the slow pulse and general weak bodily condition, the absence of optic neuritis and vomiting, suggested the likelihood of myxedema. He was given tabloids of thyroid extract, and after six weeks' treatment had so far recovered as to be able to walk alone, to take a journey by himself, and to remain absent for six weeks. Shortly after his return he again became ill and developed signs of paraplegia with loss of function of the bladder and rectum, and died shortly after. The autopsy revealed a large glioma, 3½ by 2¾ inches, situated superficially in the right occipital lobe. The thyroid gland was normal. [S.M.H.]

15.—Sutcliffe reports a case of insanity. The patient, aged 53 years, had been suffering from mania since he was 17 years old. Apparently in perfect physical condition he one night went into the lavatory, and within 15 minutes was found dead seated in the water-closet. His head had fallen forward, and there were no signs that he had struggled. Post-mortem examination showed the pericardium filled with very dark clotted blood. His heart was pale and anemic and showed much fatty deposit. About **the middle of the left ventricle a rupture of the wall** was discovered through which blood had escaped into the pericardial sac. Some of the vessels in the heart-wall had ruptured also. Sections made from the heart-wall showed infiltration of the muscular tissue with blood. The muscles had undergone much fatty degeneration, and there was some evidence of inflammatory change in it. It is suggested that there might have been a primary focus of inflammation which caused fatty degeneration and softening of the wall, and that this rupture occurred at a weakened spot on straining. There were no signs of syphilis or fibroid degeneration. [S.M.H.]

Lancet.

January 20, 1900. [No. 3986.]

1. Some Points in the Natural History of Uterine Fibroids. F. H. CHAMPNEYS.
2. On the Results which have been Obtained by the Anti-typhoid Inoculations. A. E. WRIGHT.
3. Plague in Relation to Singapore. MAXIMILIAN F. SIMON.
4. Case of Perforated Gastric Ulcer on the Posterior Surface of the Stomach; Operation; Recovery. SAMUEL DAVEY and FREDERICK EVE.
5. Further Experience of Operations under Local Analges Produced by Eucaine β. ARTHUR E. BARKER.
6. Tetanus Following Nephropexy. HENRY THOMPSON.
7. Some Facts Gathered from Experience Respecting Mi cible Black Carbolic Disinfecting Fluid and Carbol Disinfecting Powder. The Meaning, Compositio Mode of Taking Samples and Methods of Analyse FREDERICK W. ALEXANDER.
8. Tubercle-Bacilli in Milk, Butter, and Margarine. H. ANNETT.
9. The Feasibility of Carrying Out the Open-air Treatme of Consumption at the Patient's Home; with an A count of a Successful Case. T. A. SOMERVILLE ar EUGENE S. YONGE.
10. A Case of Severe Intrauterine Hemorrhage from Cyst Molar Pregnancy. J. H. TARGETT.
11. Ten Cases of Malignant Pustule. CHAUNCY PUZE DAMER HARRISSON, and R. W. MURRAY.

1.—Champneys, in an address on the natural history uterine fibroids, discusses their frequency, symptoms, mo tality and the details of a large series of operations. In 4 cases operated upon in London Hospitals the average mo tality was 17% in abdominal hysterectomy. [W K]

2.—Wright reports upon some **antityphoid inocula tions** done by him while on service in India, among th British troops in a series of military stations. The vaccir material consisted of lysolized, four-weeks-old cultures of virulent typhoid bacillus. The cultures had been prepare 12 months previously. The quantity employed for eac inoculation varied between 0.5 and 0.7 cc. In addition t this some vaccine material was prepared in Calcutta an Agra, consisting of virulent typhoid cultures which ha been grown for 24 hours in nutrient agar at a temperatu of 37°C. These cultures were sterilized at 60°C. The quai tity of this employed at each inoculation varied betwee 0.3 and 0.5 cm. Both varieties gave, in the quantities en ployed, fairly severe reactions in man. Taken as a whol the statistical material which was compiled from inform tion furnished by officers of the Royal Army Medical Cor actually in charge of troops in the various stations ar from the commanding officers of the various inoculated re iments, would appear to show conclusively that a certai measure of protection was conferred by the inoculation these quantities of dead typhoid culture. [S.M.H.]

3.—Simon concludes a communication on **plague** as fo lows: Plague is not readily transmissible by sea far south localities in which it is epidemic or endemic; if, in lat years, it spreads more towards the equator, it will do so prol ably by slow extension overland, the germ becoming grad ally acclimatized; (2) when removed from endemic enviro ment, the disease is not at all communicable from person person; (3) the danger of conveyance by cargo and baggag for any distance by sea, at all events below what has bee thought to be its boundary of latitude, is practically *nil;* an (4) unless a patient has received a very strong dose of infe tion, or unless the morbid process in the body has reached certain point, prior to embarkation (the disease has a tendenc to abort when a patient leaves an affected environment, an travels by sea towards the central tropical zone). [S.M.H.]

4.—A woman, 38 years old, who had had previous sym toms of indigestion and gastric ulcer, was seized with su den acute pain in the left epigastric region, immediatel over the cardiac end of the stomach. The abdomin muscles were rigid, there was pain on pressure, and th pulse was quick and small. Morphin was administered an hot applications applied, resulting in relief of the pain an lessened rigidity. Symptoms of collapse developed, an after consulting with Mr. Eve, operation was recommende for suspected **perforating gastric ulcer.** The a domen was opened in the median line below the ensifor cartilage, and turbid fluid escaped. No perforation w found on the anterior surface of the stomach, but on tearin through the omentum, and after dividing the rectus muscl to obtain more room, a perforation was found on the po terior surface close to the lesser curvature. The perforatio was closed with Lembert sutures, the stomach was sponge and the abdominal cavity thoroughly washed with boile water and a drainage tube was inserted. The patient mad an uneventful recovery and was up and about in a mont after the operation. [M.B.T.]

5.—Barker reports having used **local anesthesia** in a mber of extensive operations. A saline solution containg 1 to 1000 of eucain β was employed, and in long operaons as much as 5 or 6 ounces were injected without ill fects being noted in any case; but this method of anesthe- is unsuitable in the case of most children or timid adults in case the part to be operated upon is acutely inflamed. the intestine is to be resected, dragging on the mesentery ould be avoided, as it causes griping pain or even vomitg. The cases best suited for local anesthesia are those in ich there is danger of lung-complications from the use of neral anesthetics. Operations for empyema may be sucssfully performed by carefully and fully injecting the whole ea of the deeper structures to be dealt with. In some ses the operation has been completed under chloroform. rker has used local anesthesia in 53 extensive operations, cluding 15 operations for the radical cure of hernia, wiring e patella in 2 cases, the excision of varicose veins, in 5 ses, gastroenterostomy, resection of the intestine, empyema, c. [M.B.T.]

6.—An extremely neurotic woman, 47 years of age, had d symptoms of movable kidney for a number of years. peration for the relief of this condition was undertaken, ter the usual precautions in the preparation of the patient d instruments. Everything went well until the ninth day hen stiffness about the jaw developed. The symptoms of **tanus** did not become severe until the day on which death ok place, about 14 days after the operation. The possility of the idiopathic origin of this affection is discussed. M.B.T.]

8.—Annett reviews the literature relating to the discovery **tubercle-bacilli in milk** and **butter** and reports upon e results of his own work in reference to the discovery of is organism in **margarine.** In 28 samples of margarine, from Berlin and 13 from Liverpool, only one proved to ntain virulent tubercle-bacilli. The methods by which is product may become infected are: (1) From the orgal cattle; (2) from the butter and milk added, and (3) from ntamination during manipulation. But little work on the resence of tubercle-bacilli in margarine has been done. orgenroth examined 20 samples, in 9 of which he proved e presence of virulent tubercle-bacilli. [S.M.H.]

9.—Somerville and Yonge report a case of **acute tuberulous bronchopneumonia cured by open-air reatment at the patient's home.** They consider it ossible for any phthisical patient living in the country and ossessing a garden in which a small shelter can be erected carry out this treatment. Such cases should be under the rict supervision of a physician who should take the bodymperature as his guide as to the amount of exercise to be irected. The garden shelter should face to the south; it ould contain a couch or chair and should be provided with ovable curtains or shutters to keep out the cold wind and rifting rain. The treatment should not be intermittent but ntinued throughout the 24 hours, the windows being widely pen when the patient cannot be out-of-doors. [S M.H.]

10.—Targett reports a case of severe intrauterine hemorage due to a cystic molar pregnancy occurring in a multiara, aged 28 years. The uterus was dilated and empty, and lthough the hemorrhage was profuse, the patient subseuently made slow recovery. [W.K.]

11.—Detailed reports of 7 cases of malignant pustule are iven. Six of the patients were tanners and the remaining ne was a washerwoman who had been washing the clothes f a tanner. In some cases fluid from the vesicles was subcted to microscopic examination and the typical bacilli of nthrax were found in abundance. The pustule was freely xcised in all of the cases. The wound was then treated with ure carbolic acid and packed with gauze. Ipecac powder as administered in 5 gr. doses every hour, and on dressing ne wounds it was dusted over them. All of the patients recovered with the exception of a man who was suffering from ather severe constitutional symptoms at the time of the peration. [M.B.T.]

New York Medical Journal.

February 3, 1900. [Vol. lxxi, No. 5.]

. A Visit to the Plague Districts in India. LEWELLYS F. BARKER and JOSEPH MARSHALL FLINT.

2. Malarial Hematuria. BAT SMITH.
3. The Development of the Female Genitals and their Life History. BYRON ROBINSON.
4. An Experimental Research on the Tensile Strength of the Sciatic Nerve. GEO. W. CRILE and WM. E LOWER.
5. Aneurysm of the Subclavian Artery and Its Treatment. A. H. BARKLEY.
6. The Use and Abuse of Poultices. SAMUEL E. EARP.
7. School Hygiene. G. D. HAMLIN.
8. A Case of Neurosis of the Heart; Palpitation. ABRAHAM GOLTMAN.

1.—Barker and Flint give a very interesting description of the plague districts in India. [S M.H.]

3.—Robinson discusses the development of the female genitalia, and the relation of the embryology of these structures to malformations. [W K]

4.—Crile and Lower made some researches on the **tensile strength of the sciatic nerve.** They record 9 experiments on human bodies. The force was applied as nearly as possible in a manner similar to that in nerve-stretching. The nerve was exposed at a point where it is usually stretched and one end of a strong *S*-shaped hook was passed beneath it. The body was then turned on its back and the buttocks supported on one table and the knees upon another. To the lower curve of the hook weights were then applied until the nerve gave way. By this means the force was applied at right angles to the thigh, and by the rapid addition of weights until the nerve ruptured the force acted only, as in the operation, for a short time. They conclude that on an average a loop of the great sciatic would bear for a short time nearly the entire weight of the body. In 14 cases experimented upon the nerve broke 6 times at or near the point where the hook was applied. In the other 8 cases the nerve did not break, but its connections with the spinal cord and its membranes were detached. All the specimens thus obtained presented essentially the same appearance and consisted of the nerve-roots of the last lumbar and the second sacral nerves. These were torn at the point where they joined the spinal cord. Tracing these nerve roots down to the dura mater a small portion of this membrane was found connected with each pair of spinal nerve-roots a short distance before the latter joined. [S.M.H.]

5.—A man of 45 had been suffering from severe pain in the left side of the head and in the left arm and with difficulty in breathing, for about 6 weeks. He denied specific disease, and there was no evidence of endarteritis. The external jugular was much engorged from obstruction to the return of venous blood, the left radial pulse was small in volume, the left vocal cord was paralyzed and a bruit could be heard in the left sternoclavicular region. A diagnosis of **aneurysm of the subclavian artery** was made and operation for its relief undertaken. Incision was made half an inch above and parallel to the left clavicle extending from the outer border of the stermastoid to the trapezius; the tissues were divided on a grooved director until the subclavian artery was exposed; the scalenus anticus muscle was divided in its outer two thirds, avoiding wounding the phrenic nerve and jugular vein. It was found impossible to ligate the artery on the cardiac side, however, and the artery was tied near the junction of the first and second parts. Since the operation the pain has been relieved; lessened pressure on the laryngeal nerve is evident from improvement in the voice, and the patient is able to work. [M.B.T.]

6.—Earp believes the **benefits of the poultice,** *per se*, or as a medium, are: (1) To relieve congestion; (2) to reduce inflammation; (3) to promote absorption, favor resolution or hasten suppuration; (4) to diminish tension; (5) to soften incrustations; (6) to encourage tissue relaxation; (7) to stimulate healthy granulations; (8) to perform the office of a deodorant and, in a sense, of an antiseptic. [S.M.H.]

7.—Hamlin makes a plea for the better heating, lighting and ventilating of public buildings, particularly schoolhouses. [S.M.H.]

8.—Goltman reports the case of a woman, aged 28 years, who had been subject to attacks of "heart thumping" and nervousness since she was 14 years old. These attacks are more frequent during her menstrual periods and were aggravated by emotional disturbances, noises and frights. She had one child, aged 3 years. The heart-attacks had been more frequent since the birth of this child. She was anemic,

flushed readily, had a visible tremor of the hands and fingers, and was very emotional, nervous, and restless when sitting. Her pulse was rapid and increased while being noticed to 140 or 150 beats per minute. There were no heart-murmurs; the sounds were sharp and the second sounds were accentuated. The author considers the case one of **cardiac neurosis.** [S.M.H.]

Medical Record.

February 3, 1900. [Vol. 57, No. 5.]

1. The Significance of Intraocular Hemorrhage as to Prognosis of Life. CHARLES STEDMAN BULL.
2. Gastrectomy for Adenocarcinoma; Recovery. H. BEECKMAN DELATOUR.
3. Report of a Severe X-Ray Injury. PATRICK CASSIDY.
4. The Tonometer, a New Instrument to Determine the Amount of Blood-Pressure. HENRY L. K. SHAW.
5. Mucinemia, and Its Role in Experimental Thyroprivia. I. LEVIN.
6. Gonorrhea in Its Relations to the Male Adnexa. E. WOOD RUGGLES.
7. The Chemical Relationship of Colloid, Mucoid, and Amyloid Substances (A Preliminary Communication.) P. A. LEVENE.

1.—Bull concludes with the statements that subconjunctival hemorrhages are not of much importance in the young but in the aged point to weakened bloodvessel-walls. Hemorrhages into the interior of the eye are always pathologic, and in senile arteriosclerosis strongly suggest the probability of early cerebral apoplexy. Hemorrhages into the vitreous in young persons furnish a grave indication of degeneration of the vessels. Hemorrhages into the retina in chronic nephritis and diabetes render the prognosis grave.

2.—Delatour reports the case of a woman, 26 years old, who had suffered with symptoms of dyspepsia for about a year. Her condition finally became so bad that all food was rejected within a few hours and the woman rapidly lost 50 pounds in weight. On opening the abdomen a tumor was found which was limited to the stomach and the organ was freely movable. The operation of **gastrectomy** was performed; the omentum was tied and divided along the greater curvature; the lessor omentum was divided in the same manner; the duodenum was clamped and divided an inch from the pylorus, and after packing gauze about the stomach was removed by an incision extending well into the wall of the esophagus. The esophageal opening, which was larger than that in the duodenum, was reduced by sutures and united with the duodenum. The field of operation was thoroughly cleansed; iodoform-gauze drainage was inserted and the abomen closed. The patient reacted well and recovered without rise of temperature. Rectal feeding was maintained for 7 days, then food was administered by the mouth, and on leaving the hospital mixed diet was being taken and digested. At the end of 6 months the patient had progressively improved and had gained 30 pounds in weight. She was last heard of 17 months after the operation and was well, strong, and pregnant. The growth was pronounced adenocarcinoma by those to whom it was given for examination. [M.B.T.]

3.—A man of 40 was exposed to the **x-rays** for 45 minutes with the tube 5 inches distant, for the purpose of procuring a skiagraph of the left hip. During the exposure he suffered no discomfort, but 8 days later dermatitis appeared and a **mummified condition of the skin** developed. The area became extremely painful and there were marked constitutional symptoms with rapid wasting. An operation was undertaken to remove the diseased tissue which was as thick and dense as sole-leather. An area $7\frac{3}{4}$ inches in diameter was removed and skin-grafts were applied. The man has made a good recovery, although there is still a small ulcerated area left. [M.B.T.]

4.—The tonometer of Gärtner is described and its value in diagnosing cardiac hypertrophy, arteriosclerosis, nephritis, and other conditions associated with high blood-pressure is insisted upon in order to determine and control their effects. It is also useful in using certain drugs. [D.L.E.]

5.—Levin removed the thyroid gland from certain rabbits and then injected a solution of mucin in 1% sodium carbonate into these animals and others that had not been operated upon. The injection of mucin-solution had no effect upon the normal animals, while of 9 previously operated upon only one lived. Injection of mucin into a dog caused fall in blood-pressure even after cutting the vagi and splanchnics, the pressure rising after stimulation of the splanchnics. It was therefore decided that the fall in pressure was due to depression of the vasometer center in the medulla. From this work the conclusion is drawn that mucinemia is the condition of an organism when suffering from loss of the thyroid function. [D.L.E.]

6.—Ruggles discusses **gonorrhea of the male genital tract** without adding anything especially new to the subject. He reports 2 cases of prostatitis and 2 of seminal vesiculitis. [M.B.T.]

7.—Levene found that mucin is a compound of a protein and an ethereal sulphuric acid; the acid being nitrogenous and yielding chondrosin. Submaxillary mucoid and colloid from a colloid carcinoma also proved to be compounds of nitrogeneous ethereal sulphuric acid. The acid radical in amyloid is chondrotin-sulphuric acid, and hence the acids in all three substances are very similar, and Levene is now endeavoring to determine whether they are identical. [D.L.E.]

Medical News.

February 3, 1900. [Vol. lxxvi, No. 5.]

1. The Relation of the Clinical Laboratory to Modern Surgery. WILLIS G. MACDONALD.
2. Prophylaxis in Gynecology. HENRY C. COE.
3. The Etiology and Prevention of Uterine Disease Before and During Puberty. W. GILL WYLIE.
4. Prophylaxis in Gynecology; Obstetrics. JAMES CLIFTON EDGAR.
5. Diagnosis of a Case of Cerebral Tumor; Operation. O. M. STEFFENSEN.

1.—Macdonald calls attention to the utility of the **laboratory to modern surgery.** First of all in importance is the bacteriological department which has made aseptic surgery possible, and made the names of Koch, Pasteur, and von Bergmann famous. The examination of the urine and blood is today of such value that a surgeon who blunders through a failure to use this method of diagnosis, would perhaps be liable to a suit for malpractice. The surgeon of today must not be an operator alone, but must be widely cognizant of facts which can be determined in the laboratory alone. [G.B.W.]

2.—Coe discusses the main facts of **prophylaxis** as applied to **diseases of women.** He deprecates the tendency to attach undue importance to single symptoms and to lose sight of the intimate relation between pelvic lesions and the entire body. A proper comprehension of the causes of pelvic disease embraces an accurate knowledge of the normal anatomy and physiology of the pelvic organs and a study of their development from infancy to puberty, of the various sources of infection from without and of morbid processes within. Application of the principles of aseptic midwifery will minimize the dangers of puerperal sepsis. Malignant disease of the uterus is the *bete noir* of the gynecologist and still remains, from a prophylactic standpoint, hopeless as ever. Girls with serious pelvic trouble should be earnestly advised not to marry. Mothers should be taught to instruct their daughters in the importance of the sexual organs, the significance of the phenomenon of menstruation and the duties which lie before them. The early recognition and treatment of specific infection, whether gonorrheal or septic, before it has extended beyond the uterus, is another advance in prophylaxis. Careful attention to the patient during the climacteric when the tissues are liable to undergo malignant degeneration, will often avert or mitigate the disease. [W.K.

3.—Wylie discusses the etiology and **prevention of uterine disease** before and during puberty. He calls attention to adhesions to the clitoris as a factor in local and general disease, to functional diseases of the ovaries; to the habit of constipation; the proper dress of young girls and women; and proper care during the menstrual epoch. [W.K.

4.—Edgar continues the subject of **prophylaxis in gynecology** from the obstetric standpoint. A large proportion of cases of crippled pelvic organs owe their invalid con-

on to mismanagement or avoidable accidents of the gnant, parturient, and lying in states. He considers the ject under three heads: (1) as it relates to pregnancy; as it relates to labor; (3) as it relates to the puerperium. describes the pelvic binder employed, and claims the fol- ing results: (1) it prevents or corrects undue sagging of pelvic floor; this is especially noticeable in cases where, ing labor, the levator ani muscle has been subjected to ere or prolonged pressure, as in disproportion between head and the outlet; (2) it assists in the ultimate union evere lacerations of the pelvic floor, which have been re- red; (3) it preserves the woman's figure after confinement its support of the lower anterior abdominal wall and of pelvic floor; (4) it lessens the danger of displacements of pelvic contents; (5) it tends to prevent pelvic conges- n; (6) it usually adds to the comfort of the woman, giv- her a feeling of security and well-being, and allowing her btain needed exercise earlier and more freely than other- e would be the case. [W.K.]

5.—The patient, a man 32 years of age, had been suffer- for 3 years with gradually developing symptoms of **ebral tumor.** There was marked loss in vision, more ecially in the right eye. Choked disc was present. Patellar ex absent in left leg. Agraphia, aphasia, and alexia were present. A tumor, 7 inches in circumference and in- ving the angular, supramarginal and the base of the first apora-sphenoidal gyri was **removed by operation,** but patient died 2 hours afterward. [G.B.W.]

Boston Medical and Surgical Journal.

February 1, 1900. [Vol. cxiii, No. 5.]

Intestinal Indigestion, and Its Relation to Pulmonary Disease. CHAUNCEY REA BURR.
Cases of Cholecystotomy. EDGAR GARCEAU.
Some Points Suggested by the Clinical Study in 186 Cases of Valvular Heart-Disease. RICHARD C. CABOT.
Epilepsy. WALTER E. PAUL.
Notes from the Neurological Department of the Massachusetts General Hospital. Case of Combined Superior and Inferior Poliencephalitis. G. L. WALTON.

1.—Burr, in a highly theoretic argument, calls attention the various changes produced in the organs by the pres- e of toxins, etc., in particular the effect upon the respira- y system. Among the important symptoms are thoracic pression, diminished respiratory expansion, both of which y possibly be caused by the tympanites that is present, hough they may occur when the liver is not appreciably ed upward. Sometimes there is also a weak, hoarse ce, and a condition of paresis of the glottis and larynx. a result of the diminished expansion of the lungs there is endency to hypostatic congestion, an increase in the ex- tory material in the blood, and therefore a greater tend- y than normal to infection which may occur either by piration or through the blood. Bacteria may give rise ner to infection or coagulation necrosis. The latter, par- ilarly in pneumonia, is associated with the absorption of chlorids in the body and their disappearance from the ne. Burr believes that in this disease we should use in- inal alternatives, particularly podophyllin and calomel, in the very early stage as an abortant the phosphate of n with tincture of aconite. In addition, he calls particular ention to the great value of sodium chlorid, which should , however, be given in the early stage. He reports one e, in the death agony, in which hypodermic injection of 3 ins of sodium chlorid was given with immediate benefit, l prolongation of life for several months. [J S.]

2.—Garceau reports 3 cases of **cholecystotomy,** 2 of patients making good recoveries, and 1 dying shortly er the operation. In one of the successful cases a ght recurrence of pain had taken place several times, but the other a complete cure had evidently been procured. B W.]

3.—Cabot suggests, for the purpose of recording interest- symptoms of a series of cases, a book in which the first eet is left of normal size, and on the left margin the symp- ns to be studied or printed; all the other sheets cut off so t their free edge is in juxtaposition with this printed mar- n. A page is kept for each case, and thus several hundred cases can easily be recorded. The presence or absence of the different symptoms is indicated by a plus or minus mark. In regard to the **apex beat,** Cabot calls attention to the fact that the maximum impulse does not represent the apex of the heart, and is therefore inclined to locate it on the portion of the chest-wall furthest down and to the left in which pulsation can be felt. He also urges that distinction should be made between systolic retraction and systolic impulse. **Aortic murmurs** are usually heard best, undoubtedly, to the left of the sternum, in spite of the teaching of American textbooks, although, as he shows by quotations, later books are more accurate. In 44 cases the murmur was best heard to the left, in 36, to the right in 4, in the center in 2, and heard equally on both sides in 2 cases. He inquires, What is the positive evidence of aortic stenosis? And he denies that any particular form of hypertrophy is associated with especial valve lesions of the heart, and dwells on the insufficiency of epigastric pulsation as an evidence of hypertrophy of the right ventricle. He has found the murmur from aortic regurgitation, as has been described by Flint, frequently similar to the presystolic murmur of mitral stenosis, and is doubtful whether it is ever justifiable to diagnose mitral stenosis when it is certain that aortic regurgitation is present. [J S.]

4.—Paul calls attention to the difficulty of diagnosing attacks of **petit mal,** and the so-called psychic epilepsy. He believes that treatment is of value in the majority of cases; that when associated with insanity epilepsy is a grave disease, and that the associating conditions under which the epileptics exist are extremely unfavorable. In regard to the treatment, hygiene and diet are of extreme importance. He is in the habit of depriving the patients of all meat, excepting fish, eggs, and milk. It makes little difference which salt of bromin is employed, but the dose must be regulated with great care. In cases of bromidism, intestinal antiseptics are sometimes of value. [J.S.]

5.—Walton reports the case of a man whose sickness commenced with indistinctness of speech, followed by weakness of the movements of the lips, and difficulty in mastication. There was then ptosis, diplopia; the kneejerks were slightly increased; the eyes, aside from the paresis of the muscle, normal. Strychnia was steadily employed with considerable improvement in the symptoms. The diagnosis was made of **poliencephalitis** involving the motor nuclei of the pons and medulla; the bilateral character of the symptoms being the most important indication of central origin.

Journal American Medical Association.

February 3, 1900. [Vol. xxxiv, No. 5.]

1. The Code of Ethics. SAMUEL C. BUSEY.
2. Etiology of Non-Malignant Rectal Stricture in Women. REUBEN PETERSON.
3. Acute Suppurative Arthritis of Children. JAMES E. MOORE.
4. A Preliminary Investigation of the Theory of the Inoculation of Malarial Fever through the Agency of Mosquitos. ALBERT WOLDERT.
5. Spasmus Nutans. I. A. ABT.
6. Electricity in Diseases of the Nose, Throat, and Ear. W. SCHEPPEGRELL.
7. Bassini's Operation for Radical Cure of Hernia; Seven Successful Cases. G. M. WOODS.
8. Vasomotor System and the Importance of the Drugs which Act on it in Ophthalmology. DAVID W. STEVENSON.
9. Intranasal Angioma; Bleeding Polypus of the Septum. W. E. CASSELBERRY.
10. A Case of Carcinoma of the Nasal Passages. J. L. GOODALE.
11. Report of a Case of Echinococcus Cyst of the Nose. W. K. ROGERS.
12. Contributions of the Medical Profession to General Literature and Collateral Sciences. GEORGE R. HIGHSMITH.
13. Report of Recovery from Traumatic Tetanus. L. B. VAN CAMP.

2.—In discussing the etiology of **nonmalignant rectal stricture,** Peterson mentions pressure from without,

trauma, dysentery, gonorrheal tuberculosis, and syphilis as possible causes. Stricture not infrequently results from unskillful operations for piles or in failure to secure union after Whitehead's operation. In the examination of hundreds of applicants as pension surgeon, he has never found evidence that diarrhea or dysentery was a cause of the affection, and he believes that the evidence of its resulting from gonorrhea is insufficient; in a relatively large proportion of the cases there is a history of syphilis. A case is reported occurring in a woman, 35 years old, who had a negative history as to congenital or acquired syphilis, gonorrheal infection or ulceration. She had suffered from obstinate constipation for years and the condition had been neglected. On examination a tubular stricture was found one inch above the external sphincter and the thickened intestinal wall could be felt for some inches upward through the vagina. Nine inches of the rectum and sigmoid flexure were removed through an abdominal incision and an anastomosis was made between the upper and lower ends of the intestine by a modified Monsell method, and the patient made a perfect recovery. [M.B.T.]

3.—Acute or **suppurative arthritis of children** usually occurs as a complication or sequel of some other disease. Osteomyelitis is the most frequent cause, but it may follow the exanthemata, diphtheria, or typhoid fever, in which cases there is usually a streptococcus infection. The hip, knee, shoulder, and elbow are affected in frequency of order mentioned. A diagnosis of rheumatism is a common error. When the disease is recognized and promptly treated the prognosis is good, but if neglected the joint-surfaces are destroyed and the patient's life is endangered. Moore reports a case in which the left knee-joint of a child of 4 was affected after measles. Prompt recovery followed operation. The opening should always be free, and it is best to explore the joint with a finger to make sure that the trouble has not come from osteomyelitis. The joint is irrigated with normal salt-solution, and a drainage-tube is inserted and a moist dressing, which should be frequently changed, is applied. Two other cases are reported, both of them following osteomyelitis, with good recovery in each instance. [M.B.T.]

4.—Will be abstracted when completed.

5.—Abt reports 2 cases of spasmodic rhythmic movement of the head, or **spasmus nutans.** In the first case a child of 9 months fell from a high chair, and forward and backward movements began about 3 days later, and continued almost incessantly unless the child's attention was attracted and during sleep. The movements ceased after the child had remained in the hospital about 6 weeks and have not returned since. In the second case the movements were rotary, from side to side, the so-called gyrospasm. The child was 9 months of age and had had a purulent discharge from both ears previously. There was, however, no indication of suppuration or of perforation of the drum. In connection with the rotary movement there was also horizontal nystagmus of both eyes. Bandaging the head to keep out the light stopped the movement for a short time. The child remained in the hospital for 47 days. The best hygienic conditions and the administration of 3 grain doses of sodium bromid 3 times a day are recommended in the treatment of this condition. An interesting discussion of the literature of the subject is given. [M.B.T.]

Journal of Nervous and Mental Disease.

December, 1899. [Vol. 26, No. 12.]

1. The Common Forms of Meningitis and their Recognition, with Special Reference to Serous Meningitis. CHAS. L. DANA.
2. Notes on Three Anomalous Cases in One Family. HORATIO C. WOOD.
3. Acute Delirious Mania. FREDERICK J. MANN.
4. A Case of Subdural Hemorrhage Causing Anomia, without any other Form of Aphasia. GRAEME M. HAMMOND.
5. Motor Aphasia. J. FRÄNKEL and B. ONUF.
6. Anomia and Paranomia, with Some Considerations Regarding a Naming Center in the Temporal Lobe. CHARLES K. MILLS.

1.—Dana, after a brief account of the various **classifications of meningitis** that have been suggested, concludes that there are in reality but 9 that have an actual clinical existence or importance; and in ordinary hospital practice there are really only 5. He gives a brief account of cerebral and spinal meningitis, pachymeningitis, leptomeningitis, epidemic cerebrospinal meningitis, simple fibrinopurulent meningitis, tuberculous meningitis, and serous meningitis. He recognizes three forms of the latter; traumatic serous meningitis, usually following an injury to the head, and occurring about 24 hours later. It is characterized by stiffness in the neck, contraction of the pupils, rise of temperature, hyperesthesia, rigidity of the limbs, and perhaps constipation. Subsequently the patient usually gets completely well or there may be secondary pyogenic infection. (2) Alcoholic and toxic serous meningitis, usually following delirium tremens, characterized by mild delirium, high fever, some stiffness of the back, and twitching of the muscles. In the course of 5 or 6 days the neck becomes still more rigid and the temperature may become higher, followed by death or recovery. (3) The serous meningitis of Quincke and Boeninghaus which may be acute or chronic, is most common in children, and is characterized by symptoms of cerebral irritation, rigidity of the neck and limbs, but fever and even the characteristic symptoms, such as headache, etc., may be absent, and the disease can only be diagnosed by means of lumbar puncture. In the chronic form, the symptoms of cerebral tumor may be present. [J S.]

2.—Wood reports the clinical histories of two brothers and a sister. The first patient suffered from pain on the outer side of the left leg below the knee that came on gradually when walking, and in the course of ten minutes would oblige him to rest. There was no sensitiveness, but the flesh around the affected part was somewhat softer and flabbier than on the other side. There were, in all, three atttacks characterized by this symptom. The second patient, a brother, had a severe injury to the left leg, involving the periosteum of the tibia. Subsequently, after exposure, he had chills and fever followed by pain in the left hip and leg that could be relieved by rubbing, but would then appear in some other joint. In the course of three weeks the acute symptoms subsided leaving the left leg **paretic.** When examined a year later, there was marked atrophy of the muscles of the thigh, but not of the calf of the leg. The patellar reflex was lost. Electrical examination showed the presence of reactions of degeneration in the muscles of the calf, tibialis anticus, and in the thigh. There was marked contraction of the form and color-fields. The third patient, the sister, noticed tingling in the right thumb that involved the other fingers, then the shoulder and the scapula. Later there was numbness in the right leg, and pain in the hip and thigh. The arm was weak; there was some suggestion of claw-hand. The right lower extremities were weak, the muscles being particularly involved. There was ankle-clonus in the right foot and the muscles of the back were also paretic. The form and color-fields were contracted. Wood believes that there is probably some relation between these cases. [J S.]

3.—Mann gives a brief description of **acute delirious mania,** which he defines as an acute form of mental trouble of sudden onset, attended by fever, delirium and sensory hallucinations. It occurs usually in early adult life, and often follows a severe emotional disturbance. The course is characterized by an initial period of mental depression, restless insomnia, and perhaps incipient melancholia. Then the patient becomes suddenly delirious, there is more agitation, excitement, high fever, and marked motor and mental incoherency, the reflexes are usually exaggerated. In this state remissions may occur followed by slow defervescence and the patient may recover or pass into a state of dementia. Ordinarily, however, the excitement continues, and he passes into a state of coma with typhoidal symptoms that terminates in death. He reports 3 cases. One occurred in a woman of 30 who was markedly incoherent, but in the course of 6 weeks there was considerable improvement and probability of entire recovery. The second patient, a woman of 22, had received a violent emotional shock, was very restless, but had only moderate fever. She was discharged cured seven months after admission. The third patient, a man of 45, had already had one attack of brief fever and had since frequently complained of severe pain in the head. He suddenly became violent, excited and destructive, had delusion

l then passed into a typhoidal state and died. Mann then es a brief description of the pathology. He considers the gnosis difficult. The differential diagnosis is to be made m acute mania by the onset, but confusion is apt to arise lcoholism is present, with delirium tremens, although the mor and hallucinations are different. Treatment consists keeping the patient in a cool, dark, well ventilated room, eful nursing, and plentiful forced feeding. Among the st useful drugs for producing sleep are chloral and trional. ium is probably dangerous. [J.S.]

4.—Hammond reports the case of a man, 25 years of e, who was struck upon the side of the head with a whip ndle and was knocked down. He did not become uncon- ous, but a few hours later had a general convulsion, and en he recovered was found to have lost completely the **ility to name objects and persons.** There were no tor paralyses nor word-blindness, nor motor aphonia. He s able to say anything, or recall any expression excepting a me. He was able by gestures to indicate or describe ob- ts whose names he could not recall. He was able to read d to copy, but could not write nouns voluntarily. A diag- sis was made of subdural hemorrhage over the posterior rtion of the superior temporal convolution. The cranium s opened and beneath a linear fracture a clot was found vering the entire left superior temporal convolution. Be- ath this hemorrhage there was rupture of the cerebellar sue. A few days after the operation, improvement com- enced. Hammond does not believe that this so-called nam- g center situated in the posterior portion of the temporal nvolution is invariably constant in position. He regards as a sort of high auditory center. [J.S.]

Wiener klinische Wochenschrift.

August 24, 1899. [12. Jahrg., No. 34.]

Concerning a Vaginal Total Extirpation of a Uterus Ruptured—in the Sixth Month of Pregnancy—in a Highly Contracted Osteomalacial Pelvis. H. HÜBL.

How a Purulent Meningitis may be Mistaken for Perforative Peritonitis. ZUPPINGER.

Fibroma Molluscum (Virchow). *Conclusion.* P. MERKEN.

1.—Hübl reviews the literature upon this subject, claiming at Chrobak, in March, 1895, reported the first case of total ginal extirpation of the uterus a few hours after delivery. uhrssen, in his monograph, lays down this principle: "In case of operable carcinoma of the cervix, the interest of the other indicates the prompt delivery and the vaginal extir- tion of the uterus, in whatever month of pregnancy, or in hatever stage of labor the patient may be found." For **ptured uterus** there are 3 therapeutic measures: 1. ne conservative treatment with tampons with subsequent ture through the vagina. 2. Vaginal total extirpation of e uterus. 3. Laparotomy. Each method has its own eculiar indications. Olshausen says that only in cases of ry abnormally narrow birth-passage should abdominal tal extirpation be employed. Hübl gives a detailed history the case of a woman with a contracted pelvis, under the re of Braun, of Vienna, in which after delivery the per- stent hemorrhage from the ruptured uterus made its re- oval necessary, and Braun removed it with the adherent lacenta through the vagina and also resected the ovary. he operation was easily performed and with small loss of lood. Hübl concludes that it seems well worth knowing at the uterus with the placenta therein can be readily emoved through the vagina in spite of an osteomalacial elvis and an outlet 6 cm. in diameter. [W K.]

2.—A child, 3 years and 9 months old, **drank some austic potash,** causing ulceration of the mouth, pharynx, nd esophagus, which was followed by stricture. The stric- ure was treated by the use of esophageal bougies. After a reatment the boy walked home without any sign of injury, e played for some time with other children, but was sud- enly taken with pain in the head and abdomen; he vomited nd had chills, the abdomen was found moderately distended, ympanitic, and very sensitive to pressure. The child's con- ition became worse, and death followed the same evening, which the parents attributed to the use of the bougie. The ecropsy showed that the cause of death was **purulent neningitis** with acute internal hydrocephalus. [M.B.T.]

3.—The **origin of fibroma molluscum is unknown.** The condition must be looked upon as a malformation in the broadest sense, which has affinities with nevus, but can be separated from this and other malformations by its course, which, although for the most part benign, may be malignant. In some cases the disease is congenital; in others, it develops later in life as the result of a congenital predisposition. The tumors are formed by a proliferation of the connective tissue of the nerves of the skin, and, according to some authors, also of the connective-tissue sheaths of the vessels, hair-follicles, sebaceous and sweat-glands. There may be tumors on the trunks of the nerves and in the internal organs. Tumors may also be present with a perfectly intact skin. Their location in vital organs may cause death. Death may also be brought about by a malignant degeneration of one or more of the tumors. Disturbances of the nervous system, especially of a psychical nature, have been described. An exhaustive review of the literature and bibliography enhances the value of this article. [D.R.]

August 31, 1899. [12. Jahrg., No. 35.]

1. A Case of Cystic Degeneration of the Mucous Membrane of the Nose and Contiguous Cavities. F. SCHLAGENHAUFER.
2. Phenolum Natrosulforicinicum in Rhinolaryngology. E. BAUMGARTEN.
3. The Mechanism of Suffocation in Swallowing a Large Morsel. B. RISCHAWY.

1.—The patient, a man of 58 years, was brought into the hospital with symptoms of **meningitis** and died after an illness of four days. At the autopsy, in addition to the meningitis, there was found **cystic degeneration of the mucous membrane** of the sphenoidal cells, the nose, the antrum of Highmore, and of the ethmoid cells. There were also cysts at the base of the tongue and of the epiglottis, in the pharynx, and on the left lower eyelid. The meningitis was suppurative; there was also a thrombophlebitis of the longitudinal sinus and a lobular pneumonia. The author thinks that the meningitis was secondary to the cystic degeneration. The cysts of the sphenoidal mucous membrane had obstructed the right ostium sphenoidale, causing a stagnation of the secretion. The sphenoidal cells were dilated, but the antra of Highmore were not. There have been differences of opinion as to whether the mucous membrane of the nose and the accessory cavities contained mucous glands. Heidenhain had maintained that there were no mucous glands there, but only serous glands. The contents of the cyst in the present case were partly mucous and partly serum, which was proved by microchemic reactions with thionin and toluidin-blue. The author, therefore, concludes with Paulsen that the mucous membrane of the nose contains mixed glands which furnish a secretion which is part mucus and part serum. [D.R.]

2.—**Phenolum natrosulforicinicum** is a solution of synthetic phenol and natrosulforicinicum—a yellowish-brown, sirupy fluid, miscible with water. It is antiseptic, in odor similar to carbolic acid, and its application to the mucous membrane causes no pain. Baumgarten has used it in **laryngeal tuberculosis** in solutions of from 20 to 50%. He is well pleased with it, but has had no striking results. In tuberculous perichondritis with ulcers it was of but little use, nor was it of any value in pachydermia and papillomata. The best results were obtained in **chronic atrophic rhinitis,** with or without ozena. In hospital practice he employed it in a 30% solution, which was rubbed into the nose two or three times at a sitting with an applicator wrapped with cotton. In private practice the agent was used in the form of a spray. Patients can use it themselves in a 10% solution. It was also of value when painted on syphilitic gummata and perforating ulcers of the septum of the nose. In dry pharyngitis and nasopharyngitis it was of no value. [D.R.]

3.—There is but little literature on the subject of the **mechanism of suffocation** from the swallowing of large objects. Ordinarily, suffocation has been brought into relation with the size of the object, but Rischawy believes that suffocation may occur when the foreign body is not very large, and explains the mechanism under these circumstances in the following way: The object, even if it does not enter the respiratory organs themselves, and is not abso-

lutely too large to pass the esophagus, may bring about suffocation by causing an interruption of the act of deglutition at its height. The object being freed during this interruption, falls on the entrance of the larynx, and cannot be removed, because the resumption of the act of deglutition finds an insuperable obstacle in the presence of the foreign body itself. [D.R.]

Berliner klinische Wochenschrift.

September 18, 1899. [36. Jahrg., No. 38.]

1. The Formation of Sugar in Serous Membranes. U. ROSE.
2. Concerning the Evidence of Acetone in Urine and in other Fluids of the Body. C. OPPENHEIMER.
3. Castration in Fibromyomas. W. SCHÜLEIN.
4. Electrotherm-Compresses. E. LINDEMANN.
5. The Conservative Special Treatment of Chronic Suppuration of the Middle Ear. STETTER.

1.—Rose's patient was a shoemaker, 56 years old, an alcoholic who had never had syphilis. He had vomited a large amount of blood without any previous distress. The liver projected 4 fingers' breadths below the ribs; the spleen was palpable; there was no ascites; the urine was negative. A few days after admission the patient had a chill, rales appeared over the lungs, and he died in coma. At the autopsy, a glistening, whitish, cartilaginous plate was found over the upper part of the right lung. The upper surface and the anterior half of the lower surface of the liver were covered with a white coating, resembling icing. The spleen was likewise surrounded by a similar shining, whitish covering, and was bound to the stomach and diaphragm. It was greatly enlarged, but soft. Near the mesosigmoid there was a similar glistening, whitish thickening. Microscopic examination showed typical cirrhosis of the liver. The case was one of **polyserositis,** the principal feature of which is the **icing liver** (Zuckergussleber). There was also icing-spleen, icing-pleura, and icing-sigmoid. The pericardium was not affected. The question arises whether the perihepatitis was due to the cirrhosis, or whether it was part of a general fibrous polyserositis. The author adopts the latter view. As to the cause, the alcoholism of the patient might have been a factor. Some writers have denied that alcoholism and syphilis produce the icing-liver. It has been observed after infectious diseases; but it has also been found as an idiopathic affection. In some instances cholecystitis and cholelithiasis have preceded its development. [D.R.]

2.—Oppenheimer's **reagent for the detection of acetone** consists of yellow oxid of mercury, 50 cc.; concentrated sulphuric acid, 200 cc.; distilled water, 1,000 cc. The sulphuric acid is added to the water, then the mercuric oxid is added, and the solution allowed to stand 24 hours. A few drops of this reagent is added to 3 cc. of the unfiltered urine. In albuminous urine precipitation occurs at once; in normal urine, only after a considerable quantity of the reagent has been added. The precipitate that eventually forms consists of uric acid, creatinin, etc.; probably also in part of oxyproteic acid. As soon as the precipitate is permanent during agitation, a few drops in excess of the reagent is added and the tube allowed to stand 2 or 3 minutes, until the precipitate has settled. It is then filtered through a thick filter, and this is repeated if necessary, until the filtrate is clear. Another 2 cc. of the reagent is then added, and also 3 to 4 cc. of a 30% solution of sulphuric acid. The mixture is heated over the flame, or, more conveniently, in boiling water, for 1 or 2 minutes. If after 2 or 3 minutes a thick, white precipitate forms, acetone is abundantly present. The test has **two fallacies:** First, the precipitate only forms in very dilute solutions on the addition of alarge excess of reagent; secondly, most of the acetone-free urines give, when warmed after filtration, a precipitate which is due to partial reduction of the mercuric salt, to a mercurous salt. The precipitation can be prevented by acidulating again with 30% sulphuric acid solution. It is it best to add the acid to the filtered urine, not in the beginning. The test is very delicate and certain. It indicates also diacetic acid. The acid mercuric sulfate was also found to be a **test for bile pigment.** The urine turns green upon the addition of the reagent, the filtrate is green, and a precipitate does not form on warming. The author has not yet been able to study the effect of the reagent on beta oxybutyric acid. For quantitative purposes the test is performed as follows; From 5 to 25 cc. of urine is taken, precipitated with the reagent, filtered, and acidulated. A large excess of the reagent is then added, after which from 25 to 25 cc. of water are also added. The whole is then placed in a strong medicine bottle, which is corked and tied, and then heated for half an hour on the water-bath. The filtrate is collected on a weighed filter, which is then dried, washed thoroughly with cold water until the wash-water is no longer acid, then with alcohol and ether, and finally dried to a constant weight. The weight multiplied by the factor 0.055 gives the quantity of acetone.

3.—The **relative merits of castration and of removal of the uterus** by the vagina or by laparotomy, are discussed by Schulein, and statistics are given to show the comparative mortality. Lawson Tait reports 327 cases of castration with a mortality of 1.8%, and Péan lost only 2% out of 300 cases of vaginal total extirpation. From these and other apparently conflicting statistics given, Schülein concludes that the operator will usually have the best results from the operation of whose technic he is most complete master. He also coincides in the opinion of Olshausen, that many successful operators are induced by their brilliant operative results to resort to surgery when it is unnecessary. The great majority of fibromyoma may be treated with success medically and hygienically. He advises care during menstruation, abstinence from spiritous drinks, light nutritious diet, sitz baths, regular exercise in the open air, and no tight clothing, in addition to proper therapeutic remedies. If these measures fail, or there is any indication of a degeneration of tissue, then at once a choice of operations is imperative. The writer reports 9 cases in which he used castration for myoma, in three of which there was a complete shrinkage of the interstitial tumor with cessation of hemorrhages, and in the others general favorable results. Statistics are given showing that from 80 to 90% of cases of castration result in immediate cessation of hemorrhage, and gradual shrinkage of the tumor, though accompanied with the symptoms usually following the climacteric. In conclusion Schülein advises castration in preference to removal of the uterus: (1) In cases of interstitial myoma, which corresponds in size to a 4 to 7 months' pregnancy; (2) in all cases of small or large tumors, even when the growth is subperitoneal, when the patient is greatly weakened so that she is unable to bear the more severe operation. [W.K.]

4.—Instead of ordinary compresses, Lindemann employs **electrically-warmed compresses** (so-called **electrotherm compresses**), in which the temperature can be accurately regulated. The amount of electricity needed is small; an incandescent light, or a modern accumulator suffices to warm the compresses, with the exception of the very large ones. The wires in the compresses are isolated by means of asbestos. [D.R.]

September 25, 1899. [36. Jahrg., No. 39.]

1. Remarks on the Pathologic Anatomy and Operation for Trachoma. J. HIRSCHBERG.
2. Double-sided Echinococcus Cysts of the Lungs and Liver. V. STEINER.
3. Concerning the Indications of Weak Salt-springs (Kissingen, Homburg) in Stomach-diseases. C. DAPPER.
4. A Case of Tetany in Scarlatina in a Child. KÜHN.
5. Can Vaccination Wounds be Kept Aseptic? L. FÜRST.
6. Vaccination and Insect Bites. LUEDDECKENS.
7. Statistics of the Causes of Death. EHLERS.

2.—A young girl had suffered for 6 months with pain in the right side, cough and expectoration; there was costal breathing, bulging of the anterior thoracic wall, and dulness on percussion posteriorly from the seventh vertebra downward; pectoral fremitus and the respiratory murmur were lessened; liver-dulness began at the sixth intracostal space; the left lobe of the liver extended to the umbilicus, and on palpation felt nodular; the right lobe of the liver was also decidedly enlarged. On aspiration, clear **echinococcus** fluid was aspirated. Celiotomy was performed, and after stitching the left lobe of the liver to the abdominal wall the cyst was incised, and a large amount of fluid evacuated. The wound-cavity was packed with gauze, and resection of

tensive sections of the seventh and eighth left ribs were en undertaken. The pleura was found to be thickened, d was stitched to the lung; the cyst was then incised, and out 400 gm. of clear fluid containing echinococcus vesicles re evacuated. The cavity was as large as the urinary ıdder; it was packed with gauze. After the operation ere was a diffuse bronchitis, with elevation of temperature, several weeks. Six weeks later aspiration was performed the other side, and echinococcus fluid was evacuated. ter this there followed a bronchopneumonia with foul- ıelling expectoration, but the patient finally recovered, d left the hospital feeling entirely well, and having gained pounds in weight. The wounds had healed entirely, but ere was considerable sinking in of the right side of the oracic wall. [M.B.T.]

3.—The mild saline waters (Kissingen and Homburg) are dicated in the **hyperacidity of neurasthenics** and the peracidity of **chronic gastric catarrh** with atony of e stomach. [D.R.]

4.—A boy of 4½ years had typical **tetany** for 6 weeks. or 2 weeks of this time the symptoms were those of teta- ıs. The patient also had a scarlatiniform eruption with- ıt enlargement of the lymphatic glands and without rise of mperature. [We can hardly share the author's opinion at this was scarlet fever. It was more likely a toxic rash e presence of which may have depended upon the same use as the tetany. D.R.]

5.—Fürst recommends the use of an occlusive dressing r the vaccination-wound. [D.R.]

6.—Luddeckens vaccinated his own 18-months-old son on e right forearm. The following day, while the child was in e garden, it was stung in numerous places by gnats. Be- re precautions could be taken the child had scratched a ımber of these places. Soon a typical vaccinia developed ı them, leaving distinct scars, especially on the face. In ew of this, the writer advises that the scratching of insect- tes should be most rigorously prevented after children ıve been vaccinated. [D.R.]

7.—Ehlers complains of the looseness in terminology used reporting death in Prussia, which renders the statistics ıreliable. [D.R.]

Deutsche medicinische Wochenschrift.

November 9, 1899. [25. Jahrg., No. 45.]

The Nutrition of the Fetus. BONNET.
The Operative Treatment of Otitic Meningeal Inflammation. R. MÜLLER.
Concerning Spasms and Atony of the Esophagus. TH. ROSENHEIM.
Mors Praecox ex Hemorrhagia Cerebri Post Coitum. F. GUMPRECHT.
Choreiform Movements Following Varicella. MENKO.

1.—Bonnet gives a sketch of the manner in which the **mbryo is nourished** in many different mammalian fam- ies, such as bats, marsupials, gnawers, carnivora, etc., up) and including man, and arrives at the conclusion that as e ascend in the scale of animal life, the relation between ıe mother and the fetus becomes continually more and ıore intimate until, in the human species, the maternal lood is taken directly by the ectoderm as nourishment. W.K.]

2.—Müller reports two cases of **meningitis following ıastoid disease** which previous to operation had been iagnosed as otitic cerebral abscess. An interesting feature ommon to both cases was the cure of the meningitis by the peration. The first case was a meningitis serosa externa hronica occurring in a woman 23 years of age; 3 years ago he had had the mastoid antrum opened for mastoid disease nd at the same time the dura had been laid bare. The ound had healed but slowly, and for 2 years following she ad headache and dizziness. Sudden aggravation of the ymptoms with vomiting and symptoms of brain abscess alled for a second operative procedure. A radical oper- tion with trephining over the temporal lobe was therefore one, but without the discovery of any abscess. The only ıathologic condition found within the cranial cavity was the ıeningitis above spoken of. The operation was successful n that life was saved and the wound healed, but the lesser evils of headache, dizziness and such were not entirely cured. The second case was a woman 31 years of age suffering from meningitis serosa acute interna. From the symptoms in this case, as in the first, an abscess of the temporal lobe was diagnosed. At the operation, however, no pus could be detected, and the course of the disease after the operation indicated a large amount of exudate in the ventricles. The case did not improve much immediately after the operation, but ultimately made an absolute recovery. [G.B.W.]

3.—Rosenheim reports two cases of **spasms of the esophagus,** one being acute and the other more chronic. In the first case, a man 67 years of age suddenly had a bit of food stick in the esophagus 37 cm. from the incisor teeth. This remained in position, absolutely blocking the passage of food for 4 days, at the end of which, after appropriate treatment had been carried out, the function of swallowing returned, and the patient remained cured. The other case was a man 55 years of age, who had attacks of difficult swallowing, in some of which deglutition was impossible. The attacks lasted from 6 to 24 hours, and were never attended by pain. These attacks were accompanied by hemoglobinuria, and the whole condition seemed to be the result of catching cold. The point of constriction was found by sounding to be 23 cm. from the teeth. [G.B.W.]

4.—The case reported by Gumprecht is briefly as follows: a fatal hemorrhage into the pons took place immediately following a cohabitation; the patient was a married woman, 32 years of age, whose arteries were not especially sclerotic; she was not addicted to alcohol, and previous to the apoplexy was, except for a pyosalpinx, entirely healthy and strong. [G.B.W.]

5.—The case recorded occurred in a boy of 4, who had **varicella**, May 23. After passing through the disease, it was noticed, about 12 days later, that the child made constant grimaces, and that the head was moved about in an irregular manner. There was marked tremor of the head and the upper extremities. There was no nystagmus. The speech was not scanning but slow and rather laborious, and there were twitchings of the tongue. It was suspected at first that it might be a beginning multiple sclerosis. The child soon recovered under treatment, and it was decided that it was a case of **chorea minor.** [D.L.E.]

Münchener medicinische Wochenschrift.

August 29, 1899. [46. Jahrg., No. 35.]

1. Hydrops Hypostrophos. A Contribution upon the Theory of Acute Angioneurotic Edema. SCHLESINGER.
2. Concerning Syringomyelia. WETZEL.
3. A Case of Spondylitis Typhosa. KÖNITZER.
4. Neurologic Cases. WERNER.
5. Neuralgia Epidemica. WILLE.
6. Medical Travel-Reminiscences from Paris. SICHERER.

1.—Hydrops hypostrophos is the name proposed by Schlesinger as a substitute for **angioneurotic edema.** In the present article he reviews the variable localization of the disease, which may attack the mucous membranes, the skin, the joints, etc. The acute recurrent **edema of the lids** is a manifestation of hydrops hypostrophos; so also are some cases of **nervous coryza.** Whether the rare cases of acute recurrent exophthalmus belong to this group is still unsettled. The cases of acute recurrent **laryngeal** and **pharyngeal edema** are also of this character. Some cases of nervous edema are probably dependent on a similar condition. Angioneurotic edema occurs also in the stomach and intestine. The symptoms appear which usually precede a dermal angioneurotic edema, but the latter does not develop. Instead of that, there is tenderness in the epigastrium, loathing of food, and pain after the ingestion of food or drink; sometimes nausea, and even vomiting. The **periodic vomiting** of Leyden is also probably angioneurotic. Nervous diarrhea may be another manifestation. Intermittent dropsy of the tendon-sheaths also belongs to the group of hydrops hypostrophos. Some cases of *œdème bleu* of hysteria, as well as some **pseudolipomata** of the supraclavicular fossae, are probably instances of angioneurotic edema; possibly also some cases of polyuria, hemoglobinuria, and oliguria. In some cases of hydrops hypostrophos, tachycardia, angina pectoris, and dilation of the heart have been noticed.

Severe headache is a common accompaniment. Psychic states of excitation or depression may be present. Urticaria occurs quite frequently in patients with hydrops hypostrophos. Fever may be present, but it is not marked and is brief in duration. [D.R.]

2.—A very clear description of the symptoms of **syringomyelia** in connection with the report of three cases. [D.R.]

3.—Könitzer reports a case of **spondylitis typhosa.** The patient, a man of 25 years, had had typhoid fever, but had recovered and returned to his work as a blacksmith. After slight antecedent pains, the region of the loins became suddenly severely painful, the pains radiating to the back and towards the thighs. The patellar reflexes, at first exaggerated, gradually disappeared, and then returned to normal. There was some fever. There was no swelling in the lumbar or sacral region. The patient recovered, but pain on stooping persisted for some time. [D.R.]

4.—The first patient was a woman of 21 years, who had had syphilis and had led a loose life. The disease set in with severe pains in the soles of the feet, and tearing and pricking in the legs. There was marked motor weakness in the muscles of all the extremities, especially in the extensors of the legs. There were trivial disturbances in tactile sensation, and a marked hyperesthesia all over the region of the legs and feet. Muscular sense was preserved. There was no ataxia and no tremor. The **skin** and **tendon reflexes** were very **active.** The nerve-trunks were tender; eventually partial reaction of degeneration developed in the muscles. The patient died suddenly of apoplexy after having been in the hospital about 9 weeks. The author looks upon the **multiple neuritis** as alcoholic in origin. The interesting point is the **exaggeration of the tendon reflexes.** A study of the nervous system showed degenerative changes in the peripheral nerves, without any demonstrable lesion in the central nervous system. A large hemorrhage was found in the basal ganglia of the right side, which had burst into the ventricle. The degenerative lesions in the nerves were much more marked in the fresh preparations teased in osmic acid than in the hardened sections. The second case was one of **grave chorea** in an 18-year-old domestic, with a probable rheumatic history. The case is interesting, because the choreic movements persisted during sleep, and because there was an acute mental disturbance, characterized by numerous hallucinations. The case ended fatally; but a careful study of the organs, even with Marchi's and Nissl's methods, gave totally negative results. Cultures from warty vegetations on the mitral valve yielded the streptococcus. As the patient had died as the result of an erysipelas starting in the region of the occiput, the discovery of streptococci is not startling. The kidneys presented the lesions of acute parenchymatous nephritis, which was probably dependent on the erysipelas. [D.R.]

5.—Wille did not find any special influence exercised by wind, fog, or storm on the course of the neuralgia epidemic which he had observed. There was some parallelism between the frequency of neuralgia and the atmospheric pressure, and between its frequency and the relative humidity. There seemed to be no relation between the temperature and the morbidity. The female sex was more frequently affected than the male (57%:43%). Of the cases affected, 77% were engaged in agricultural pursuits; 20 were industrials, and 3 5% belonged to the learned professions. [D.R.]

September 5, 1899. [46. Jahrg., No. 36.]

1. A New Version of the Pathology of the Cell. ALBRECHT.
2. Gonorrhea and Marriage Consent. NEISSER.
3. Further Contribution upon the Operation of Hard Cranial Basilar Fibroma without Preliminary Operation; Including Remarks upon Certain Speech-Disturbances. HOPMANN.
4. Concerning a Case of Chronic Urticaria of the Mucous Membrane of the Throat Organs.
5. Neurologic Cases. WERNER.

1.—Albrecht has endeavored to fathom the **state of aggregation of living cells.** Living cell-protoplasm may present itself as a fluid body, as a solid body, or as a mixture of the two. By special methods carried out on the egg of an echinoderm, the author proved that the nucleus, as well as the nucleolus, and the nuclei of the segmentation spheres, were to be looked upon as drops of fluid within a fluid cell-body. In the study of the nature of protoplas both in animal and vegetable cells, a phenomenon term by the author "tropfige Entmischung" has proved its most valuable. If the capillarity constants of two or m homogeneous fluids—fluids which are in homogeneous so tion—are altered, one or more of the constituent bodies v appear suspended in drop form in the fluid. This is t tropfige Entmischung. As an illustration: Fat-drops saponified in alkalies and pass into solution, the drops of disappearing. If it were possible to regenerate from t solution the saponified fat, it would reappear as drops s pended in the circumambient fluid—the phenomenon tropfige Entmischung. The phenomenon probably cons tutes the physical basis of all secretory processes in whi there is a formation of drop like secretions (mucous ce sebaceous cells, and renal cells). These investigations le to the necessity of explaining physiologic changes in the fo of cells on physical grounds, as processes of mixing and dem ing fluids. These phenomena are important in the study pathologic states of cells, particularly cell death. Albre has studied from this point of view coagulation necro Weigert had claimed that this was a true clotting or coagu tion process. Virchow and others, that it was an inspissati of the cells. Albrecht concludes from his studies on the c of the kidney, that it is a true coagulation of the cell p toplasm. His studies, which seek to refer physiologic p cesses to physical changes, have a bearing upon the dispute between the vitalistic and the mechanic views of l This dispute, in the author's opinion, depends upon fa conceptions. Without, however, committing himself, t author gives expression to the following interesting thougl If the cell in any stage of its existence is a system of pa cles in a state of aggregation, either in a stable or an unsta physical equilibrium—an assumption that is necessary a almost self-evident—such a system must, in any precedi or succeeding stage of its individual existence, be in its pl sical behavior the necessary consequence of the conditi of the system as it was before, plus the character, mag tude, and place of the newly acting physical causes. other words, no matter what our biologic concept of the c as a living element, as a physical system, it is necessary interpret it on a completely physical basis. That in acco ance with the peculiar composition of living substance, th physical laws depart in many respects from those of inorga nature; that the formation of individual organizations in th origin, and in the reason of their being, are not explair thereby. These objections do not destroy the general p priety of the physical concept. [D.R.]

2.—A polemic discussion on the question of **gonorrh and consent to marriage.** Neisser believes that ev case of gonorrhea should be subjected to a constant mic scopic examination for gonococci in order to determine t treatment and its success and the disappearance of infecti [D.R.]

3.—Hopmann reports a case in which he removed a la **fibrosarcoma** from the vault of the **nasopharynx.** T tumor was growing from the base of the skull, and entir filled the nasopharynx and extended into the posterior na and down below the palate. The soft palate had been ready split, so that treatment with the electrocautery co be carried out. The tumor was removed through the mo by loosening it from adhesions with raspatory and fing and then by grasping it with a strong pair of resection f ceps it was torn by a twisting motion from its base of ins tion on the skull. The bleeding was not especially seve and the healing took place rapidly. [G.B.W.]

4.—A case of **chronic urticaria of the muco membrane** of the mouth, pharynx and larynx in a mar 34. Factitious urticaria could readily be produced on skin, but not on the mucous membranes. Treatment unavailing. [D.R.]

5.—Werner reports three cases of **hemiplegia wi negative findings in the brain.** One was a woma 85 years, in whom the autopsy revealed arteriosclerosis contracted kidney. The second case was a woman of 80 whom a small softened area was found in the brain, wh could not explain the hemiplegia. The cerebral vessels w markedly sclerosed. Nothing is said of the kidneys. Th had also been diabetes mellitus. The third case was tha a man 64 years of age, whose urine had never shown albu There was an alcoholic history. A totally flaccid palsy

ight side developed, and the patient died in apoplectic
. The central nervous system presented nothing ab-
ial, and the vessels were not markedly diseased. The
; was tremendously hypertrophied, especially on the
side, and was the seat of fatty degeneration. Such cases
explained on the view advanced by Jacobson, namely,
they depend on disturbances of the circulation, local
estions, or unequal distribution of the blood-pressure in
wo hemispheres, which disappear postmortem. The
or also reports two cases of **primary combined**
rosis of the spinal cord, both in women of 55 years
e. [D.R.]

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[Band 37, Heft 3 u. 4.]

icrophonic Examination of the Pulse and Heart-Waves. ANTON V. HOLOWINSKI.

n the Diagnosis of Cerebrospinal Lues and Its Relation to Multiple Sclerosis. L. KREWER.

n the Changes in the Spinal Cord following Peripheral Paralysis; also a Contribution to the Localization of the Ciliospinal Center and to the Pathology of Tabes Dorsalis. L. JACOBSOHN.

Contribution Concerning the Clinical History and Therapy of Tetanus. E. KRAUS.

n a Case of Carcinoma of the Pylorus with Continuous Gastrosuccorrhea, but with markedly decreased Excretion of Hydrochloric Acid. ALBERT STOLZ.

ıvestigations of the Pathologic Anatomy of the Human Stomach with Especial Reference to the Practical Value of the Diagnosis by means of Fragments of the Gastric Mucous Membrane. LEUK.

n the Various Forms of Functional Dissociation of the Heart. P. SCHATILOFF.

n the Influence of Chemical Counterirritants upon Inflammation. FRIEDRICH WECHSBERG.

—A technical discussion of the use of the apparatus
riously described and since improved by the author.
D.E.]

.—The case was that of a woman of 38 whose clinical
ory showed the occurrence of an **apoplectic attack**
he street after a previously healthy life. She had then
plete left hemiplegia, ptosis on the right, disturbance of
ch, paralysis of the pharynx, salivation and severe nystag-
; the patellar reflexes were increased. Sensation was
rely retained. There was a slight retention of urine
h soon disappeared. She had, soon after the attack, a
ching of the muscles on the right side of the face which
mbled tic convulsif. The use of antisyphilitic treat-
t caused rapid improvement in the hemiplegia, and
is disappeared, dysphagia was no longer noticed, the
ation disappeared, and the nystagmus became less
ked. The speech became clearer, but was still imper-
Gradually, new difficulties appeared in the motor
ere. A tremor of the head and body was noted, both
n sitting and walking; the gait became peculiarly spastic-
tic, sometimes ataxic; speech became scanning; there
a difference in the size of the pupils, but normal reaction
ght; the patellar reflex became stronger and clonus ap-
ed. Sometimes there was diplopia, sometimes this was
to be seen. Sensation and the functions of the sphinc-
were unaffected. These symptoms improved, but did
disappear entirely, and the individual showed a slight
sided paresis, immobility of the pupils, slight nystagmus,
-ataxic, half-scanning speech, ataxia in all extremities,
tremor of the head, with still a peculiar gait and in-
ased reflexes with foot-clonus. This is considered to be a
of **cerebrospinal syphilis.** There were some scars
looked like old syphilis, and the result of the treatment
he hemiplegia supported this diagnosis, although there
no history of syphilis. Also the existence of the alter-
ng paralysis of the oculomotor nerve is emphasized as
ery strong point in favor of a syphilitic lesion. There
e a number of points in which the disease varied from
ordinary picture of multiple sclerosis: First, the nystag-
s was one of the earliest symptoms, and was notable when
patient was admitted, and when there were no other
ns of multiple sclerosis; second, the speech was scanning,
but not typically so, and was more a stuttering, difficult speech. The difficulty of the speech also appeared much earlier than is common in multiple sclerosis. The final peculiarity was that the tremor affected only the head and body, while the extremities were entirely free. [D.L.E.]

3.—The case was that of a woman who had had **carcinoma of the mammae,** and had a secondary growth in the supraclavicular fossa, which had involved the whole of the brachial plexus on that side, and had caused degeneration of practically all of the nerves in this plexus, so far as shown in the microscopic preparations. This degeneration had extended toward the periphery, had caused complete motor and marked sensory paralysis of the left arm, and produced the so-called oculopupillary phenomenon. There was no evidence of involvement of the spinal canal or the spinal cord by the tumor, and therefore the changes found elsewhere than in the brachial plexus were purely secondary. The changes in the spinal cord were (1) degeneration of the large multipolar cells of the lateral cell group of the left anterior horn from the first to the fourth cervical segment; (2) of the medium-sized cells of the group which occupies the apex of the lateral horn at the junction of the cervical and dorsal portions of the cord; (3) a moderate degeneration of the anterior motor root-fibers of the left side in the lower portion of the cervical cord; (4) a marked destruction and disappearance of the extramedullary and intramedullary sensory root-fibers on the left side, which involved the first dorsal and the third lower cervical root, and reached upwards to Burdach's nucleus, and down to the sixth dorsal segment. The patient had shown narrowing of the fissure of the eyelid, contraction of the pupil, and general contraction of the eyeball on the left side. There were no other symptoms of involvement of the sympathetic. Since it was probable that the tumor had involved the ramus communicans of the first dorsal root, and there were marked changes in the cells of the analogous lateral horn, and Jacobsohn decides that it is extremely likely that this typical cell-group of the lateral horn at the junction of the cervical and dorsal cord is the so-called ciliospinal center. In comparing the changes in this case with those in cases of early tabes dorsalis, Jacobsohn notes the great similarity, and although distinct conclusions cannot be drawn from this, he thinks that it indicates decidedly that it is possible that tabes can arise in the periphery. The upper portion of the brachial plexus showed degeneration reaching to the spinal cord. This shows that when there is involvement in the course of the peripheral nerves, both the sensory and motor nerves reaching toward the periphery and toward the spinal cord in the course of time are destroyed. [D.L.E.]

4.—Eight cases of **tetanus** are reported; the essential part of the report being that the first 4 were traumatic cases; the subsequent 4 being instances of puerperal tetanus. The 4 first cases all recovered. Two of them were evidently of the severe form from the rapidity of the invasion, one was of moderate severity, and one was mild, but all belonged practically to the chronic form of tetanus, and all, therefore, seemed of good prognosis. Serum was used in 3 of the cases, in 2 of them combined with narcotics. The cases of tetanus of the puerperium ended in death in each instance, although serum was used in these cases. Kraus notes that puerperal tetanus is the most acute form of the disease, and the one in which the use of the serum is most likely to be valueless. He thinks that tetanus antitoxin is capable of causing recovery in uncomplicated traumatic tetanus, but that it is not to be expected that it will cause improvement of the symptoms that are already present; it will merely stay the cause of the disease. It is, however, advisable to use it as early as possible, and its use will undoubtedly cause an improvement in the mortality of the disease. He states that it is probable in puerperal tetanus, also that some decrease in the mortality will occur through the early use of serum. [D.L.E.]

5.—The case was that of a man of 56 who had the clinical appearance of a carcinomatous stricture of the pylorus with marked dilation of the stomach, and whose stomach always contained fluid in the morning, even when washed out with the utmost care the evening before, so that the fluid from the washing showed no remnants of food; it seemed, therefore, to have beeu a case of **gastrosuccorrhea.** Free HCl was absent from the stomach-contents at this time, and though the total acidity was high it was due chiefly to organic acids, and there were but small amounts of organic-

ally combined HCl; nevertheless pepsin was present. It was evidently a gastric juice which was extremely poor in HCl. It is notable that the chlorids were excreted in large amounts, in spite of the fact that HCl was markedly deficient. Gastroenterostomy was done upon the case, and the changes afterward are described. These consisted chiefly in the reduction of the acidity, as a result of reduction in amount of organic acids. The fixed chlorids and the HCl remained about as they had been before the operation. [D.L.E.]

6.—Leuk discusses the previous work that has been done upon the examinations of portions of the gastric mucous membrane, and the value of such examinations in the **diagnosis of diseases of the stomach.** He records 9 cases in which operation had been done, and portions of the gastric mucous membrane had been secured; and he also gives his experience in the examination of large numbers of fragments of mucous membrane obtained by washing the stomach. He notes in the first place the difficulty in deciding when there is a pathologic increase in the number of glands and in their length. He records his own results in counting their number in normal cases and in measuring the thickness of the various layers of the stomach-wall as follows: In the fundus, the number of glands to 1 mm. of mucous membrane, measured parallel to the muscularis mucosa, was from 16 to 18 μ; Lubarsch gives this as 20 to 25. The connective tissue lying between the necks of the glands is normally from 25 to 30 μ in width; the connective tissue between the lower portions of the tubules is 5 to 10 μ in width, while that between the main body of the gland tubules is 10 to 20 μ; the width of the glands themselves is from 30 to 40 μ About the pylorus the number of glands per millimeter is about 9, irregularly arranged; the width of the connective tissue between the necks of the glands is 35 to 50 μ; that between the lower part of the glands is about 50 μ, although sometimes it is about the same width as at the fundus; that between the central portions of the gland tubules is from 25 to 40 μ, the connective tissue is irregularly distributed; the width of the gland tubules is about 45 μ at the pylorus. He considers that the only valuable sign of an interstitial gastritis, even in the beginning, is an increase in the breadth of the connective tissue, but a localized increase of the connective tissue in a few sections with preservation of the normal relations of the epithelium, he does not consider really interstitial gastritis, but probably a temporary infiltration from various causes. It is comparatively easy to determine the existence of an interstitial gastritis in pieces removed by operation from the fundus, but from the pyloric region, it is an uncertain method of diagnosis, because the connective tissue is so irregularly distributed. Concerning fragments washed out from the stomach, he says, only an extremely high grade of interstitial gastritis may be diagnosed by this means, because sufficient of the mucous membrane is not obtained to enable one to see the changes properly. As to Hemmeter's scheme of the changes seen in the cells, (1) *i. e.*, either increase in the total number of the cells, the proportions of the principal and parietal cells remaining normal; (2) increase in the number of the parietal cells, and (3) a mixture of (1) and (2), Leuk decides that one can determine the presence of marked increase of both types of cells in the pylorus, but that this cannot be determined in the region of the fundus, since there is not sufficient room between the glands, and an increase in their number can cause only stretching and flattening of the mucous membrane, and one, in consequence, would find about the same number of glands to the millimeter. Also the condition cannot be complicated with an interstitial gastritis, for this would confuse the results obtained in counting the glands The normal variation between the number of parietal cells and the number of principal cells is so great that one must be extremely careful in drawing conclusions from any appearances seen. Sometimes normally, the parietal cells practically cover the small principal cells. He does not think that it is possible to distinguish between carcinoma and atrophic gastritis by examining fragments, unless one finds portions of actual carcinomatous growth, since the noncarcinomatous changes associated with malignant disease and those seen in atrophy are almost exactly the same. An early diagnosis of carcinoma through the examination of fragments of mucous membrane washed out from the stomach does not seem possible. [D.L.E.]

8.—The interesting experiments reported consisted first of repeated **painting of the shaven skin of dogs** **chemical counterirritants, chiefly tincture iodin, croton oil, and mustard,** and then ma microscopic examination of the changes caused in the These were marked edematous infiltration of the skin of the subcutaneous cellular tissue, and, in most of the c of the muscle lying beneath. Also a marked cellular tration in all cases of the deeper layers of the skin, usually of the muscle also, most strikingly seen with cr oil, and less marked with the tincture of iodin. After u the latter the cellular infiltration was localized chiefly in skin, and the postmortem of these cases did not show distinct edema of the deeper parts after application o counter-irritants. There was a marked hyperemia of vessels in the superficial area, and oftentimes small he rhages. To produce such a hyperemia, there would doubt, be compensatory anemia, and, therefore, there i question that the counterirritants do cause some hyper of the skin and probably of the parts lying beneath it; a more striking effect is probably produced by the ed which causes direct compression of the bloodvessels, therefore, certainly an anemia of the underlying deeper p These effects will be marked as a result of the action of t counterirritants that produce the most pronounced eff Further experiments concerning the question as to the a effect of counterirritants of this class upon inflamma processes produced either by destructive or chemical ag or by bacteria, were carried out. This matter was studie shaving the thighs of rabbits and injecting the same qua of oil of turpentine into each thigh. One of these areas received applications of iodin and the other was left to its own course, thus acting as a control. Thirty-eight experiments were carried out, 4 of these should be subtra from the number because of infection; in only 2 of th maing 34 cases was there no evidence of a favorable e upon the inflammatory process. The good results were tremely striking in many cases; and in some when irritation had not been too severe, the iodin prevented formation of an abscess on the leg that was treated, v the injection of the other side invariably caused the duction of pus. A similar study was made of the ef after the injection of a staphylococcus culture into the th and the same satisfactory results were reached. He de that the mechanical counterirritants unquestionably ha favorable influence upon inflammatory processes in t neighborhood. This is due to the changes in the skin subcutaneous connective tissue and in the muscles. T is undoubtedly a favorable influence upon pain after application of such counterirritants, and this is expla with a certain degree of difficulty. Some authors attempted to attribute the effects of local anesthetics to edema of the tissues which they cause and the conseq pressure upon the nerves, thus obtunding sensation. difficult, however, to accept this. Ordinary inflamma conditions are commonly accompanied by edema, but are decidedly painful. Wechsberg explains this by the s ment that inflammatory edemas are not accompanie ischemia, while the edema produced by local anesthetics anemic edema. And, too, it is of quite as much import that the infiltration of an inflammatory edema does rapidly become intense, and, therefore, it causes irritatio the nerves rather than paralysis of the sensory branc while, on the contrary, the edemas of local anesthetic pear very rapidly and are intense, and cause such st pressure as to reduce the sensitiveness of the nerves al at once.. The reduction of pain also seems, therefore. due to the anatomic alterations in the tissues. [D.L.E.]

Pays (*Zeitschr f. Orthopäd. Chir.*, 1899, vii, 338) repor case of **fatal fat embolism** following a forcible corre of double talipes equinus. There was no perceptible c as of breaking bone at the time of correction, but only a s ping sound like that heard when fascia or adhesions giving way. The patient died next day with symptor dyspnea and gradual heart-failure. At the postmort thymus-gland was found, though the patient was 15 yea age. A general fat-embolism was found especially ma in the lungs. [G.B.W.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Treatment of Puerperal Eclampsia.—Norris *peutic Gazette*, December 15, 1899) holds that the most it treatment of eclampsia is its prevention. Until ians realize that all pregnant women should be care- bserved throughout at least the latter half of preg- in order to recognize the first appearance of tox- this dread disease will continue to claim its victims. gravation of the common subjective phenomena of ncy will first call attention to a beginning toxemia. lgia, irritable temper, excessive vomiting, salivation, a y coated tongue, hebetude, and other signs of inactiv- the liver, are indications that the organs of defense imination are beginning to feel the strain put upon The urinanalysis at this early stage commonly shows ine to be free from albumin, but the percentage of decreased, and that of uric acid is increased. routine examination of the urine is not sufficient; ercentage of urea, the specific gravity, and the it voided must be determined, and even these only us a clinical index of the amount of waste products sfully excreted. The most important indications in es are to prevent, as much as possible, by diet, the ion of toxins; to aid the liver to destroy them, and cretory organs to eliminate them. When the urinary is and the constitutional signs of toxemia point to a deviation from the normal, he has found it sufficient lify the diet, eliminating nitrogenous foods, and direct- abundance of milk and water, and a mild laxative. laxative for pregnant women, calomel has great ad- es in being both an intestinal antiseptic and cholagog. ver cases most active treatment is demanded. This l include rest in bed, the patient occupying the genu- al position at intervals compatible with her comfort. clusive milk diet until marked improvement occurs is ual. The free use of normal salt-solution he has found atest advantage. The patient should be placed in the elenburg posture, and the colon daily flushed with at wo gallons of salt-solution. In very urgent cases hypo- clysis may be desirable. A hot air bath or a hot pack l be reserved for cases so alarming as to threaten the ity for terminating pregnancy.

ll drugs available for rapid elimination of waste products ost efficient are epsom and rochelle salts. If any single hore than another, can be our guide to determine the ity for terminating pregnancy, it is that the toxemia veloped steadily and slowly, and that the constitutional and urinanalysis keep pace with each other in giving ce of the accumulation of toxins. After observing the ss of a case over a period of a week or two, if the t's condition steadily improves the prophylactic res employed may be continued. If, however, the t's condition steadily grows worse, or after showing vement manifests at intervals suddden relapses, the safe course is to terminate the pregnancy. In the lsive stage the indications are, first, to control the con- ns; secondly, to hasten the elimination of toxins; and y, to deliver the patient as speedily as possible, but in dance with a conservative obstetric treatment. For con- convulsions chloroform is preferable to morphin ermically. A dram of chloral by enema, repeated 4 or s a day, if necessary, is always indicated. Whether m viride or venesection shall be employed depends in measure upon the character and frequency of the lsions, the strength of the patient, and the condition e circulation. In a few cases the pulse may be ak that strychnin and nitroglycerin are necessary. ext indication, to aid elimination, is best accomplished e injection of normal salt-solution under the mam- glands and into the rectum. In combination with ection, or the use of veratrum viride, the action of the solution upon the circulation in restoring tone to the is really remarkable. A hot wet pack, secured by ing the patient in blankets wrung out of hot water, will e action of the skin. The ill effect of heat upon the intracranial circulation will best be counteracted by an ice-cap on the head. The tendency in eclampsia to edema of the lungs contraindicates the employment of pilocarpin. Small doses ($\frac{1}{12}$ of a grain), however may be employed to start the action of the skin. As a purgative croton oil is useful. A rectal injection of turpentine 1 dram, epsom salts and glycerin each 2 ounces, water 6 ounces, is always to be employed. No drug is so efficient as rochelle or epsom salts. In cases comatose he has succeeded in obtaining free catharsis by introducing a large dose, 2 to 4 ounces, into the stomach through a tube.

All authors agree that labor should be terminated as soon as possible. Having delivered the patient and having controled the convulsions, the subsequent treatment during the puerperal period should consist in further elimination of the poison by hot-air baths secured by means of a shoulder of stove-pipe and an alcohol lamp. The cathartic action of epsom salts should be kept up. The citrate of caffein in 3-grain doses every four hours, watching for its intoxicating effect, is especially useful both for its diuretic action and its support to the heart, which has been weakened by the aggressive treatment employed during the convulsive stage of the disease. An exclusive milk diet is always necessary until the patient's convalescence is well established.

Iodoform in Phthisis.—Knopf (*Prophylaxis and Treatment of Pulmonary Tuberculosis*, 1899) states that iodoform has given much satisfaction in the hands of many therapeutists such as Flick, Daremberg, Ransom and De Renzi. It has been recommended for nearly all degrees of phthisis, and given as an inhalation in the form of 1 part iodoform to 10 parts of ether (20 minims of the mixture for each inhalation with respirator inhaler). It is administered as pills, according to the following formula:

℞.—Iodoform ..... ½ grain.
Codein..... ⅓ grain.
Extract of cascara sagrada..... ½ grain.

For one pill.

De Renzi's method of its administration is especially recommendable. If the patient is suffering from diarrhea he gives the following prescription:

℞.—Iodoform.....30 grains.
Tannin.....60 grains.

Divide into 40 cachets. From 2 to 4 cachets daily.

Foxwell (Essays in Heart and Lung Disease) writes: "Of iodoform I have had considerable experience during the last 8 years, and on the whole I consider it the most satisfactory of all the antiseptic drugs which have been used in tuberculosis. . . . My usual prescription was a 1-grain pill to be taken 6 times daily. It never exceeded this amount and was occasionally less, the average being 5 grains daily. In three cases only were any symptoms of poisoning detected, and these were merely of a mild gastric nature. . . . The conclusion I arrived at after a three-years' trial was a definite though by no means an extremely sanguine one. I believe that iodoform given by itself gave me better results than any other drug or combination of drugs that I had tried or seen tried. It soothed the nervous system of erethic subjects; it very greatly lessened cough and expectoration; it powerfully increased nutrition, the patients often becoming quite plump under its continued use; finally, there was as great if not greater improvement in the physical signs than I had seen accomplished by any other mode of treatment, except that of climate and hygiene."

Dilation of the Stomach.—Lichty (*Medical Press*, No. 3134, 1899, and *American Journal of the Medical Sciences*, No. 331, 1899), discusses treatment under four heads:

1. *Hygienic.*—All forms of corsets are condemned. Clothing is not to be suspended from the hips. Union undersuits are recommended, and waist so constructed that when skirts are buttoned to it the weight falls on the shoulder and not on the hips. To accomplish this there are three essentials: (*a*) The material for the waist must be so cut that the pull of the skirts is in the direction of the weave of the goods; (*b*) exact fit, allowing for respiration; (*c*) buttons for skirts must be high enough to prevent pulling below the line of smallest circumference of patient's waist.

2. *Dietetic.*— A rather unusual regimen is advocated—namely, two glasses of milk, with two raw eggs, at 8 A.M.,

1 P.M., and 6 P.M., and two glasses of milk at 11 A.M., 4 P.M., and 9 P.M. After these meals the patient lies flat on the back or on the right side for 30 minutes; the weight of the food is thus supported by the posterior wall of the stomach instead of the greater curvature. The kidneys become active, bowels become more regular, and there is gain in weight. When the normal weight is regained a solid meal is permitted at 1 P.M., consisting of a mutton chop and zwieback, with about four ounces of water. For the 4 o'clock feeding are substituted about 12 ounces of water. Gradual return to solid food is made. It is best to intermit the feedings of milk and raw eggs for twelve hours every ten days. During this time water is given in equal proportions in lieu of the milk. Foods causing fermentation must be avoided, and among these are potatoes, rice, and white bread. Raw fruits and excess of sweets and fats must also be excluded.

3. *Physical.*—Abdominal massage. Exercises to develop the abdominal muscles, electricity, alternate hot and cold packs, or douches applied to the abdomen. The intragastric electrode is mentioned, but percutaneous electric stimulation is considered equally efficacious.

4. *Therapeutic.*—Tincture of nux vomica (or strychnin) is very useful in atonic dilation. The addition of quinin sulfate is often of value. When there is diminished hydrochloric acid, small, often repeated doses of the acid are beneficial following the meals of solid food. Where hyperchlorhydria exists, sodium bicarbonate, calcined magnesia, and bismuth subnitrate are useful. If constipation persists in spite of the dietetic and physical measures above mentioned, glycerin suppositories are of service. Prognosis is good if full control can be had of the patient. The symptoms will often disappear long before the stomach resumes its normal size.

Therapeutics of Enuresis—Amat (*Bull. Gén. de Thérap.*, November 8, 1899, and *British Medical Journal*) putting aside all cases of nocturnal incontinence of urine due to objective causes, such as phimosis, adherent prepuce, calculus, etc., considers that the true neurotic type has several varieties demanding distinct treatment. He excludes the forms traceable to spinal disease, worms, and morbid urine. In his first variety the vesical muscular fibers are too sensitive to distention; the will masters them to a considerable extent during the day, but they contract just as the patient drops off to sleep. For this condition bromids, chloral, opium, and better still, belladonna, atropin, and antipyrin are indicated. Broca, twenty years ago, and Martin, of Colorado Springs, have both advocated gentle mechanical distention of the bladder, but the result remains doubtful. In the second variety there is actual hyperesthesia of the vesical and urethral mucous membrane, even when the bladder is almost flaccid. The catheter reveals this condition. It is improved or cured with bromids, valerian, asafetida, and ammonio-sulfate of copper. The latter seems better than iron and nux vomica. In one case, where a single woman, aged 28, had been subject to enuresis ever since infancy, cure soon followed the administration of three or four drops of a solution of 20 centrigrams of the ammonio-sulfate of copper in 15 grams of water. In a third variety, the ease with which the catheter can be passed through the membranous part of the urethra shows that the vesical sphincter is not irritable, but weak. Guyon lays stress on this variety of neuropathic enuresis. Strychnin, rhus aromaticus, and, above all, electricity are needed for its relief. There is a form of enuresis which seems to be purely mental; the child in such a case must be awakened and made to dress and get up to micturate two or three times a night. Powers' practice of applying a drop of collodion to the meatus at bedtime often proves efficacious. Physical exercise is much needed in these cases.

Recovery from Tetanus under Bacelli's Treatment.—Bussi (*Gaz. d. Osped. e. d. Cliniche*, September 24, 1899, and *Medical Review*, December, 1899) reports the following case: A young man accidently broke a blister in his foot and a slight abrasion resulted. That evening there were rigors, fever, and pain in the jaws, with difficulty of opening the mouth, owing to spasms of the masticatory muscles. Next morning, feeling rather better, he got up, but was obliged to return to bed; 24 hours later the trismus was renewed. After 48 hours he grew so much worse, with pain and rigidity of the extensors of the neck, that bending the head was difficult; walking was also interfered with. He was treated with chloral. He entered hospital 7½ h after the injury. All the characteristic symptoms were observable. The tetanus was continuous, but from time to time there were exacerbations, during which the pa perspired profusely, and complained of epigastric pain, probably due to spasm of the diaphragm. The temperature 106.9 and the pulse 108. There was obstinate constipa probably from rigidity of the abdominal muscles and i ference with peristalsis. There was insomnia, scanty u and great difficulty in swallowing even a little liquid i duced by a canula. It was determined to adopt Bac treatment by injection of carbolic acid, along with ch hydrate in clysters, and 3 cc. of a 5 % solution of car acid were injected every day. The injections were m into the substance of the gluteal muscles, and soon duced material benefit. The temperature fell to 97.5 with slight evening increase; the spasms grew less and violent; by degrees the rigidity diminished in the lower li then the mucles of the trunk and neck, and finally d peared entirely. The trismus also yielded and it was possible to administer the chloral hydrate by the m instead of by the rectum. After a few days solid food c be taken. The duration of the treatment is not stated.

Acute Bronchial Catarrh.

℞.—Fluid extract of cimicifuga..... ½ ounce.
Deodorized tincture of opium..... 1 dram.
Sirup of tolu .....11 drams.
A teaspoonful every 4 hours. —BARTHOL

Argentol.—Cipriani (*Allg. Med. Central-Zeit.*, Augus 1899, and *Medical Review* November, 1899), states that ar tol is obtained by the action of oxychinolin on silver is silver oxychinolin sulfate. It is an almost inso powder that easily decomposes when brought into co with septic substances into oxychinolin and metallic si both of which in nascent state are powerful antisep Hence its superiority over other new silver preparat which, on decomposing, form not silver but silver Rubbed gently in the skin it will cure the early stag dermatitis; rubbed energetically it produces a scab, w eventually peels off, leaving a local argyrosis. E sions of 1 in 3,000 have a gentle astringent actio the inflamed urethral mucous membrane. On ulce wounds, injected subcutaneously, it produces a gra white exudation and acts as an energetic antiseptic. O to the fact that it is dissolved and remains dissolve the tissue fluids its action is not confined to the wound extends beyond it. Prolonged internal administration sens metabolism, partly because it produces catarrh of digestive tract and diminished absorption, partly becau weakens the heart's action. Owing to these properties ar tol has been recommended as a dusting-powder or an ment for wounds, syphilitic and simple ulcers, skin dise etc., or an emulsion (1 in 1,000 to 1 in 3,000) to inje gonorrhea.

Since it is almost insoluble in the gastric juice, and s up into oxychinolin and silver in the intestine it appe to the writer that it would be probably an excellent intes disinfectant. Experiment showed that this was the cas during its use the urotoxic coefficient of the urine, even w previously greatly above the normal, fell below it. A same time the offensive stools became normal. In 3 c one with severe migraine, the second with epilepsy, an third with sciatica, all of which probably depended on intoxication from intestinal decomposition, these ner symptoms almost entirely disappeared. At the same the albumin which had been present in the urine disappe completely, and the appetite and digestion improved siderably.

It is very slightly toxic and the daily dose can be r without danger to at least 15 grains.

Chilblains.

℞.—Creasote ..... 10 minim
Solution of subacetate of lead.....10 minim
Extract of opium ..... ½ grain.
Lard..... 1 ounce.
—DEVERG

Original Articles.

LULOID YARN—A NEW MATERIAL FOR SUTURES AND LIGATURES.

BY SANITÄTSRATH J. PAGENSTECHER,

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T is well known that linen yarn has been recommended for surgical purposes in Germany by Linhart, r on by Trendelenburg, and in England by Lawson t. I myself have used this linen thread from the e that Trendelenburg drew attention to it in its inal form. It is advantageous in that it can be proed in large quantities at a rate so cheap and trifling o scarcely be worthy of consideration. But on the er hand there were certain disadvantages entailed by ough surface, its capacity of absorption and consent increase of bulk, also the inclination of the erent threads to get entangled.

he sterilization of this thread gave but little trouble. first I tried to make it more useful by waxing the ads, but asepsis suffered thereby, although the ad itself improved by being smoother and firmer equal to the waxed silk of ancient surgery. However, I did not like to give up the use of this thread, I d to impregnate it with a solution of celluloid, and experiment was brilliantly successful.

t is now four years since I have used this celluloid n, at first only for experiments and scientific reches. Besides this I employed for ligatures and ures the catgut, at times also silk and silkwormgut, n these appeared more suitable, but during the last years I have forsaken all other materials and now k entirely with celluloid yarn.

t the beginning the process was done by our nurses, in such small quantities the yarn could not be proed in perfect condition; it was often irregular.

t present the yarn is manufactured by Lütgenau o., of Krefeld, and when ready it is either packed the hank or in little boxes; and in the latter the ad is spooled on bobbins and drawn out from the es through a small opening according to need. terial and boxes are sterilized and ready for use.

n the great consumption in the surgical division of hospital (130 beds) I use it in skeins which are cut in able lengths, and every day sterilized afresh, toner with the bandages, in steaming vapor.

he sterilized yarn especially shows its good propes when dry, but any residues may be kept in good dition in alcoholic sublimate.

hrough the treatment that I recommend, the yarn uires great firmness and resistance, the surface is oth and brilliant, and its tendency to absorb pus ther secretions from wounds has completely ceased. nsequently the thread (after having been used) can unravel or expand. Knots, once made, hold with olute security. As the strength of the thread has inased by the addition of celluloid and is much greater n that of silk, we can use finer threads which, notwithstanding, will not break during the process of tting.

he special advantage accruing from this new terial is fully appreciated by the nurses, who find it ch easier of manipulation, especially for threading needle, as the new thread is rigid and easy to dle.

Thus, a manageable and reliable material has been produced which—as is also proved through experiments by independent parties—may be sterilized in steaming vapor without sticking together and without getting entangled, offering a smooth surface and not absorbing fluids; it is very strong and it is neither rough nor liable to swell, and does not act as an irritating medium. It has also to be considered, that the knots do not require excessive constriction, a point so necessary in the use of silk and especially in that of catgut, which at times cuts into the flesh. In case of deep sutures, of course it would also be better when using celluloid yarn never to take too large portions of the tissue, because necrosis might perhaps be induced. I always prefer to put in a greater number of sutures.

Since I possess in this celluloid yarn a reliable universal material, fit for all purposes and superior to all others, the results of my operations have improved immensely. When I say above, that I use my celluloid yarn for all purposes, this can be taken as absolutely correct; I employ it not only for sewing the skin, but also for the internal sutures on the bowels or the bladder (in fact for the sunk sutures everywhere), for reuniting the capsule of the joints, and I have even since used the material to sew up the torn ligamenta cruciata. In all these cases this new material has given me every cause to be gratified with the results.

The celluloid yarn is produced under the supervision of a medical manager in 5 sizes and in the following packages: (1) In little boxes, containing 2 gr. yarn, sufficient for small operations; (2) in hanks of 10 gr.; (3) in hanks of 20 gr.; (4) in hanks of 50 gr.; (5) in hanks of 100 gr. The small boxes are adapted especially for general practitioners, who have not often to make large operations; but for managers of infirmaries and hospitals I recommend the hanks of 10, 20, 50, 100 gr. as being more profitable. The sterilization before use can be done by boiling or by steaming vapor.

POSITION-SYMPTOMS IN JOINT-DISEASE.[1]

BY HARRY M. SHERMAN, A.M., M.D.,

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IN connection with all tuberculous joint-infections—the bones being the sites of the initial joint-lesions—there are certain sets of symptoms, viz., the positions which the limbs take, and the changes of those positions—which may be called the "position symptoms" of the joint-affection. These symptoms vary with the different joints, but for any one joint are generally fairly constant, both as regards the first position assumed and the subsequent changes of that position; and this constancy is so well recognized that divisions of the general course of the local disease into stages have been based on the sequence of changes.

Attempts to connect the different positions taken by the limbs with definite tissue-changes, pathologic or reparative in character, which are occurring in the joint, have not been entirely successful, and the general abandonment of the theory advanced by Bonnet, which was at one time generally accepted—that the position of the limb was due to the amount of effusion in the capsule or to the final rupture in the capsule—is an instance of failure of this kind. Barwell says "the cause

[1] Read at the meeting of the American Orthopedic Association, New York, May 31, and June 1 and 2, 1899.

of this change is quite occult,"[2] but at other times ascribes it to "neuromuscular phenomena,"[3] a term which is too vaguely descriptive to convey any definite idea of what Mr. Barwell meant, and in that respect is occult itself.

Hilton, in "Rest and Pain," quoted also by Bradford and Lovett, says "the irritated or inflamed condition of the interior of the joint (say the knee-joint) involving the whole of the articular nerves, excites a corresponding condition of irritation in the same trunks which supply both sets of muscles, extensors and flexors; but that the flexors, by virtue of their superior strength, compel the limb to obey them, and so force the joint into its flexed condition."

Lücke, according to Bradford and Lovett, agrees that the flexors are the stronger groups, but considers that the patient finds it most comfortable to "hold the limb in a given position," which explains nothing. Lannelongue is quoted as saying the same thing.

Of our own number, A. M. Phelps has offered explanations for the positions and their modifications, as seen in disease of the knee and hip. For the initial pathologic position, at each joint, he makes the suggestion that it is a voluntary act on the part of the patient; for the following changes he offers mechanical reasons, claiming that the limb moves towards the stronger group of muscles, and pointing out how, with changes of function of certain groups of muscles, due to changes of position of the limb, there are further definite changes of that position. The first part of Phelps' explanation cannot be accepted. The patient can no more maintain a fixed position by voluntary effort than a sound person can. The voluntary element in the maintenance of the position would utterly exhaust. The patient cannot voluntarily put the limb in the inhibited positions; nor can any one else, except by force against a spontaneous resistance, put it there for him. Furthermore, the position is maintained during sleep, when voluntary action of all kinds is abolished. Certainly a position from which the patient cannot voluntarily move his limb is not a voluntary position. For the rest, Phelps very rightly does not agree with Hilton and with Barwell, that the flexors at the hip and knee are primarily the stronger groups, but he demonstrates such changes in the relative strength of the groups, which come with increase of the initial flexion, as to give the flexors—more particularly the flexors of the knee—a mechanical advantage over the extensors and to make them practically the stronger. With this difference his explanation is identical with that of Hilton and may be classed with it for the present purposes. Against them both may be urged the objection that they imply—Hilton's words do more than imply—that there is a contest between the various groups of muscles for the control of the limb, that the flexors struggle against the extensors, the abductors against the adductors, and so on.

Now, with a normal cerebrospinal axis, a contest of this sort is something that does not occur; on the contrary, the relaxation of one group, as the extensors, is as definite, and as perfectly controlled by the nervous center, as is the contraction of the other group, the flexors—both flexor contraction and extensor relaxation being exactly coordinated to the production of the intended movement. Think for an instant of the condition of a man whose muscles, under physiologic or pathologic stimulus, actually did antagonize each other, really worked against each other for the control of t limb. The only apposite illustration is the victim strychnia-poisoning, and that picture is graphic enou for all purposes.

A peripheral bone-lesion does not alter the phy ology of the cerebrospinal axis, and there is no mo reason for believing that the muscles around a tuberc lous joint struggle for the mastery, than there is f thinking than in our ordinary daily going about o muscles are in combat, and that any one group wou oppose and prevent the action of any other group, if could do so. So far, then, as the explanation offer by Hilton and Phelps is based on one group of muscl being primarily or secondarily the stronger and don nating the weaker, it must be put aside.

No explanation of those quoted is really satisfactor for either it does not explain at all, or there is defe which negatives the effort and the result.

I do not know that I can do any better, but I b your attention to a simple statement of my conceptic of the matter.

I shall refer now only to the joints of the lower limb though what is said of them is equally applicable to t upper limbs, but with such modifications as are nece sary because of the great difference of function, t upper limbs being chiefly prehensile in work, whi the lower limbs are supportive.

In the three great joints of the lower limbs, the hi the knee, and the ankle, there are positions of greate stability, in which the joints are most able to be strain and least likely to be injured in doing it. both hip and knee this is a position of full extensic for at the hip the femoral head is then most firmly he in the acetabulum, and the heavy, overhanging, upp lip of this socket shows that it is the part best adapt to bear weight; and the knee is obviously most cap ble of bearing weight when the axes of the thigh a leg are in line. At the ankle the position of greate mechanical advantage is that in which the foot is right angles to the leg, and any departure from th position lessens proportionately this advantage, just any flexion of the hip or knee lessens the stability the limb and its ability to bear weight.

It is plain that the amount of the flexion determin on ordinary mechanical principles, the amount of t loss of functional efficiency for weight-bearing, and positions short of full extension, for the hip and kn are positions of comparative efficiency only; and th is true of the ankle as it moves in either direction fro a position in which it is at right angles to the leg.

By just as much as a joint receded from a position mechanical efficiency it approaches one of mechanic inefficiency, and the inefficiency is obviously inverse proportional to the efficiency; for in hip and knee supportive force can be exercised where full flexion attained, and at the ankle the joint is most liable overstrain and to injury in positions of full flexion extension.

When a joint is in a position of mechanical inef ciency it is in a position adapted to rest from mecha ical work, and the amount of that adaption seems to measured, up to a certain point, by the amount which the joint has been withdrawn from the dir line of force; beyond that point the adaption for r lessens and some work begins again. This is evide if we watch the changing conditions at the knee as passes from full extension to full flexion. To simpli the proposition the muscles may, for the moment,

[2] International Encyclopedia of Surgery, vol. 4, p. 388.
[3] *Loc. cit.*, p. 382.

nsidered to be entirely relaxed, and then, with full tension at the knee, the posterior and crucial ligaents must be to some degree tense, and this puts some essure on the bone; this position, consequently, eans work for the tense ligaments and for the bones sisting the pressure, even with muscular relaxation. ecoil from the position of full extension relaxes these gaments, and the pressure of the bone is lessened proortionately with the amount of that relaxation, and ssens directly with increase of the angle of flexion to minimal amount. When, however, the amount of xion is such that the ligaments and other tissues on e extensor side of the joint begin to become tense, niting flexion, the pressure on the bones begins again, d it now increases with the angle of flexion, until full xion and the maximal tension and pressure are ached.

The joint has passed from a position where the posrior ligaments were tense and caused pressure on the nes, to one where no ligaments were tense and there as no pressure on the bones, and then to one where e anterior ligaments are tense and cause pressure on e bones. As a tense ligament is a working ligament, sisting tensile force, and as a bone resisting pressure a working bone, the joint has passed from one condion of bone and ligament work, through a condition bone and ligament rest, to another condition of bone nd ligament work. And it has, at the same time, assed from a position of mechanical efficiency and bility to transmit weight from one bone to the other, a position in which, the two segments of the limb eing folded on each other, the mechanical inefficiency obvious.

The simple mechanical conditions which have here een detailed are somewhat complicated when the muses are in the normal state of activity, but in this relaon their function may be divided into two parts. In ne part they act as accessory ligaments by helping to nd the bones together, and by passively limiting otion when their maximal length by relaxation has een reached. In this part of their function they do ot complicate the question at all. In the other part of neir function they are active and not passive agents, as ney hold the limb in definite positions or move it from ne position to another. As the bones on which they act e levers, and as the joints are the fulcrums of these vers, their action necessarily entails pressure on the one, "interosseous pressure," and the resistance to this ressure is bone work. But the muscles have no indeendent action; their contraction and their relaxation is ontrolled by the spinal cord, whence come impulses hich are volitional or reflex in character. The pressure ne muscles cause on the bones is therefore only that mount which is necessary for the work required of nem, and it is no more, and it is to this extent that ney complicate the question of bone-rest and no further. ever do they complicate it by a contraction due to ostile antagonism between groups.

What is said of the conditions in the act of passing om extension to flexion at the knee is applicable to ne reverse act at the knee, or to similar acts at the hip anteroposterior, transverse or rotation directions, or any bone moving between antagonizing groups of uscles. At the limit of motion in any direction the gaments restraining that motion are tense, and if the notion is an active and not a passive one, the muscles ausing it are contracted. This imposes work on all arts of the mechanism of the joint, muscles, ligaments, and bones. Between this point and the limit of motion in the opposite direction are points which are means between extremes, where the work and strain on all the tissues are relatively less, and these are points of comparative rest for the tissues. They are, too, points of comparative mechanical inefficiency.

To make applications, we see that when a man stands on one leg, the other, resting, is flexed a little, rotated out a little and adducted a little at the hip, all these being a recoil from the position of greatest weight-bearing efficiency, and permitting relaxation of flexors and extensors, of abductors and adductors, and the rotators in and out; so far as the capsule is concerned these same motions together, each taking place to a minor amount, relax the capsule more efficiently than any one or two together could with the same amount of motion. In lying supine also there is some recoil from full extension at the hip, and there is a tendency of the limb to roll outward; this latter motion is especially noticeable in cases of fracture of the femoral neck, and shows that, normally, muscular control is needed to keep the leg with the toes pointed forward, and that when the inward rotators relax, the limb is permitted to roll outwards from its position of greatest efficiency. At the knee the recoil from full extension permits relaxation of the hamstring muscles and the posterior and crucial ligaments, and after a certain amount of flexion has taken place a rotation of the leg outwards on its own axis relaxes both crucial ligaments still more—and these positions of hip and knee are those commonly assumed by one who wishes to rest from ordinary fatigue.

At the ankle the natural position of rest is one of slight plantar flexion, this is the real flexion-motion for that joint, and the position of rest is, therefore, a recoil from a position of efficient extension, a position that cannot be maintained without muscular effort.

Now, when there is tuberculosis of either or any of the bones entering into the make-up of a joint, whether the tuberculosis be a single focus, or multiple foci, or an infarct, or a tuberculous sequestrum, the proximate effect is to destroy some of the osseous trabeculae, and so to lessen the functionating bone-tissue, to produce a structural weakness. There is no implication at this time of ligaments or other joint-structures, but there is, I think, an unconscious appreciation of the existence of this weak place in the skeleton, and an involuntary, but none the less definite, shrinking on the part of the patient, from putting work on it, even though there be no local pain.

The next step to involuntarily avoiding putting work on such a place would be the selection of a position in which the normal strain, incidental to its location in the skeleton, would be lessened; at first a little lessened and then lessened to a greater amount as the lesion increased and the structural weakness with it. As the first step in this, the position of maximal mechanical efficiency would be avoided, and at the same time, or very soon after, the limits of motion in other possible directions would be prohibited; later yet, as the lesion extended in size, or developed pathologically, the amounts of prohibited motion in the various directions would increase, until the arc of the prohibition of flexion would meet the arc of the prohibition of extension, and immobility in these two directions would ensue; prohibited abduction would meet prohibited adduction, and the same would happen to rotation in and rotation out, and as a result of all these we would

have joint-immobility, the object being to avoid arcs of motion in which bone-work was greater, and to seek rest in that position in which the strain on the affected bone was the least.

So long as the pathologic process was limited to the bone and had not changed its shape the mechanics of the joint would be unchanged, but as soon as the pathologic process had affected tissues other than the bones their demands for their rest would be added to that of the bone, and the position assumed would be the resultant of these demands.

Again, if the pathologic process had advanced to the point of destroying bone enough to alter the mechanical relation of the parts of the joint, the positions assumed would be just that much affected, but underlying them would still be the original motive, the selection of the position of least work, of the greatest rest, by the avoidance of positions of potential or actual greater work.

The first abnormality of motion which is usually noticed in the case of hip-joint tuberculosis is prohibition of full extension; at the same time, or very soon after, limitations of motion in other directions, but most markedly inward rotation and adduction. A little later there is definite abduction and rotation outward, associated with the flexion. This first assumed position is identical with that assumed by the normal limb at rest.

The common progress of the pathologic process and the increase of structural weakness in the bone results in the limb being still further flexed, abducted and rotated out; that is, more and more debarred from assuming a position of comparative mechanical efficiency, As flexion increases there is, as has been emphasized by Phelps, a change in the actions of the muscles, abductors becoming inward rotators, and outward rotators becoming abductors, but this change cuts no particular figure in regard to the pathologic position of the limb. It is a statement which is true of every normal joint. But the change from abduction to adduction does still further withdraw the limb from a more to a less efficient position for work or to a position of greater possible rest, until the final position of great flexion, adduction and rotation puts it into a condition of practically complete uselessness where rest is inevitable.

At the knee the conditions are less complex. The initial flexion is easily understood, it being a recoil from complete extension and a position of working efficiency. The increase in flexion—or the increase of the arc of prohibited extension—goes on pari passu with the pathologic progress, the extensors relaxing as the flexors contract. At the same time there is an arc of prohibited flexion, and this, too, increases until the two arcs meet and immobility results in a position in which it is impossible for efficient work to be done, and consequently in a position of comparatively enforced rest. Later, with extension of the process, there is relaxation of the ligaments and a subluxation of the tibia takes place in the same direction as the initial movement and the possibility of function is further lessened, the enforced rest made more absolute. With this movement is a rotation of the leg outward, and this in a direction to relax the chief ligaments, which limit normal extension, namely the crucial ligaments. The final position is one of marked flexion, rotation outwards and subluxation of the tibia backwards, a position of obviously complete mechanical inefficiency, of enforced complete rest.

(To be concluded.)

SOME CASUAL REMARKS ON PROSTITUTION AN VENEREAL DISEASES IN THEIR RELATION T THE PUBLIC.[1]

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> "Irregular relations of the sexes are at varian with the welfare of society, of the young and adults. In all respects the traits of the prim tive man—physical, emotional, intellectual- are immense hindrance to social evolution."- HERBERT SPENCER.

IN the very nature of things, the complement of righ is wrong. Dislikes intensify likes, and antitheses ar close upon the heels of similarities. The world grow better at one point and worse in another; at one ag and in another; in one way and in another; yet th balance of each of the two is always about equa Disease is a necessity to well-being, for without th comparison, well-being would be indeterminate. Morbi conditions are, therefore, always present; though nc essential, they create the desire for their relief, creat the ambition for perfection in health as in habit.

Exactly as with ideas, so in a practical way the worl has been fighting for its morals for all time, and th end is not yet. Prostitution and venereal diseases hav been grafted on the modern human race, because o their natural affinity and their natural submission to physical demand upon their instinct. The one, prosti tution, because of the need of it, and the other, venere diseases, because of the abuse of natural instincts.

Prostitution must be understood as the indiscrim nate abuse or use of the sexual instinct outside of th marital relation, and it must apply to woman and t man alike in its broadest definition. Usually prostitu tion is defined as the trade which fallen women follo for money or profit. I do not wish to go into the di ferentiation of the classes of prostitutes or of the fin distinctions, and as my remarks are meant to be casua aiming at the expression of my own ideas, I prefer ste ping aside from the routine deductions.

We may draw many conclusions from the study o recognizable prostitution, existing in all parts of th civilized and some parts of the uncivilized world. W realize that environment, instinct, accident, and heredit each plays its part in the determination of the prost tute. But does the study of these conditions teach u to remedy the evil? To know that so many millio of women have sold themselves to men does not help i preventing the next million from becoming slaves. M observation of these things has been perforce limited, bu there are many things which to me seem wrong in th world's method of handling the question of prostitutio Contrast Berlin with its methods of policing and reg lation and London's awful horde of outcast women, n even recognized sufficiently to be enumerated. Com pare Paris, its methods of hospitalization, its restri tions as to the limits of traffic in the human body an as to the degrees of degradation of its public women, an New York, where the only restriction imposed is th the police should be either respected or suborned.

Attempts at restriction have at all times made th trade more seditious and the traffickers more degrad because of defiance of the law, and the law stands f society and for morality. Restriction, except, and ev

[1] Presented to the Brussels Conference on the Prophylaxis of Syphilis, e September 4, 1899.

I might say, it is carried on in Paris, usually makes probability of disease greater, because of the timid- or apprehension at soliciting medical care in a pub- institution, on the part of those too poor to pay for s attention elsewhere. I believe that in a world ere the laws for man and for woman are differently de in the moral sphere, some means must be devised ereby the woman shall be raised, of her own will, to lane where the male parasite cannot reach his sexual d. The tendency on the part of womankind, in erica particularly, to rebel against the imposition on her physical and mental being, whereby she is w assuming place in all ranks of livelihood and life, e by side with men—all is doing much to emanci- te the next generation of women from man's control.

In what way is this being accomplished?

By education; by a knowledge of things, acquired a healthy way. The child untaught of physical ngs, reared in ignorance of sexual obligations to the ecies of which he or she may be a type, is scarcely be blamed when it discovers this information by cident, by environmental education, or by perversion, most often happens. The time has come when maud- sentiment should be cast aside and reform should w carry in its vanguard a flag of truth, emblazoned th the motto, "Knowledge is Health"—of mind as ll as of body. This may seem quixotic or chimeric, t I do not believe it. The pruriency incident to the owledge of sexual things children acquire at school d among themselves is reason enough for the educa- n in a wholesome way.

Where is the education to begin?

At home; in the asylums; in the prisons; in the phan asylums; among our legislators; among our alth-authorities—all directed at a knowledge of what e conditions are which are conducive to sexual abuse, e conditions which create the morbid instinct. Edu- te lawyers and doctors and ministers to the meaning the terms which they roll over with their lips and eth and which mean nothing to them. I had a lawyer wide learning, a judge of high position in his own y, tell me that he had never known, until I told him, at syphilis could be acquired in any but a venereal ay.

Instances abound from which comparative tables ve been drawn, showing exactly what proportion of omen have become strumpets from different causes, ost of them showing the preponderance of the scination the life offers from a standpoint of glare d glitter, with ease in doing nothing. I believe at if these were sifted down the result would ow environment and heredity responsible, either termining the instinct or the perversion. The most these women will give a family history replete with story of paternal profligacy or neglect, both deter- ining poverty and perversion in the offspring; temp- tion cannot alone be held accountable for all the rostitution extant.

My remarks have been somewhat at random, but ey are ideas with a strong suggestion of practicable pplication. The whole world is at all times interested improving its society, and each phase of society is pable of betterment. Because prostitution exists is o reason why it should flourish, and because it has xisted for almost all time is no reason why it should o on with the same ravenous maw, drawing into its et the women of the next generation.

I have said that woman is emancipating herself by raising the intellectual standard of her sex, and in time this must be the strongest factor in the reform of women. But society still will demand of its consti- tuted guardians, self-constituted if you will, some aid in the accomplishment of this end. I am not optim- istic or utopian enough to believe that prostitution can be abolished, for so long as man is provided with the sexual instinct made morbid by generations of hered- itary lustful gratification, the supply of material for that lust will be found.

I do believe that prostitution can be checked, and that its companion evils, venereal diseases, can be abated. Methods of restriction must in time be evolved to con- trol both conditions, but restriction only ameliorates the evils without checking them. People are slow to acknowledge the necessity for reform until they see the reason for it. Reforms are the result of gradual adap- tation and not of radical measures. Not that radical measures accomplish nothing; for they do this much, they open the way to enlightenment in the necessity for reform.

How can prostitution be checked?

1. By education of children before and as they become sexually mature. By teaching them physiologic laws in their application to animals and to mankind, espe- cially sexual laws. Pruriency flies before the knowl- edge of the truth.

2. By creating in the minds of civilized men and women a spirit of tolerance, instead of abhorrence, of fallen women; by offering opportunities of reform for them, not by public institutions advertising their for- mer lives, but by affording opportunities of education in lines of interest, opening unadvertised homes where they may be casual or permanent visitors, and where music, literary, and other occupations may be had; for the life of these women is full of every kind of occupa- tion except wholesome occupation.

3. Have the profession know that a sexual pervert is not a criminal but a victim of civilization, forced to the wall by the necessity for the morbid in the develop- ment of the pure. Recognize this class of individuals, from the mere prostitute, male or female, up to the pederast, Sadist, or fetich-lover, as victims of disease needing care and treatment just as much as, or even more than, others ill with familiar diseases. Let edu- cation be unrestricted, and where ignorance dictates a judiciary judgment upon the work and the author of the educational volume, let this be resented instead of upheld. Zola, Lombroso, Kraft-Ebing, and Havelock Ellis have committed no crime because they have pic- tured life and tried to make people know their kind. The very impugning of their motives has, through a false justice, created the very morbid desire which each of these men have sought to overcome by making a special sort of knowledge common property.

In the development of races from their savage state into higher civilization, into higher states of society, observation has noted a wide variety of sexual arrange- ment for the response to nature's law of the preservation of species and for the gratification of the male instinct. While some instances of polyandry are noted, in the majority of instances polygamy or polygny have pre- vailed. These antecedents have had a distinct influ- ence upon the establishment of a predilection for multiple intercourse in the present generation. The Orientals, and in this country the Mormons, have yet preserved the polygamous instinct and practice. Time, however, has recognized the community necessity for

monogamy, as not only a protection of progeny, but as making distinct species more exact in their lineage and types, and higher in their kinds in the grades of society.

Lower animals are trained only after generations of species have been born, and they lose or gain traits with difficulty. When these traits are instinctive or generic the training is more difficult and the effort must be the more direct and painstaking.

The public mind is not yet united in the belief that prostitution is an evil *per se*, and opinion is much divided as to the degree of offence against society the existence of prostitution entails. This may or may not be morbid opinion, because it is instinctive; the very demand for better society seems a strong enough reason for the education of the several social spheres to the need of restriction and of regeneration of that phase of society classed as prostitution. So far as venereal diseases are concerned, the public needs more exact protection, for here there is a tangible specific evil, productive of direct harm to individuals in society and to society as a whole. To have to acknowledge that some 18% of the American people are syphilized (Hyde) is a reflection upon the good morals of a people and a strong argument for some protection of the innocent.

The everyday practitioner of medicine does not have to study any but his own experience to realize the far-reaching disasters created by a simple case of gonorrheal infection. The long-suffering woman, with matricial disturbances, creating any degree of ill-health from painful function to operative treatment, bears the burden of the "youthful indiscretion" of her spouse. The insane asylums and the cemeteries are full of the victims of venereal diseases and their corollaries. The public is in large degree a child in the matter of protection from such consequences. A word of advice or a note of warning falls upon ears only tympanic enough to forget all as soon as opportunity offers.

The evils of venereal diseases have never been catalogued, while they have been strung out over centuries. The ruins of Pompeii, and the graven images of Peru carry the testimony of the early impression of syphilis and its ravages. The bones of the American Indian bear evidence of the early existence of syphilis in the aborigines of this country. Spain, France, and these United States carry the story of a long-time infection of their peoples in the milder character of the disease. China and Mexico bear witness to a recent infection in the severity of the types of syphilis observed. In the last five centuries, Italy, the Continental countries, and Great Britain have had succeeding instances of epidemic syphilis.

But this is the age of reform, and nature herself gives some aid in accomplishing relief from the burden of disease. The very tendency of some diseases to withdraw at the sign of sanitary measures shows this. Municipal and governmental control of venereal diseases has not yet made much headway in the United States. Even in Europe, where the autocratic character of the police power allows a wider enforcement of provisions of the law, little has been done in controlling venereal diseases. It is true that in Paris prostitutes are forced into St. Lazare, and every facility is afforded males affected to get treatment at the excellent hospitals, some especially equipped for these cases. In Leipsic, venereal cases are hospitalized, but these two are exceptional instances of partial control among a multitude of cities without any whatsoever. Germany has tried to restrict venereal diseases in her army b providing houses and prostitutes for her soldiery; th as yet has been done only in selected garrisons, notabl Strasbourg.

This conference has been projected with a view t devising some method of protecting the public agains itself, and for combating venereal diseases by meas ures of prophylaxis so that these measures may b adaptable in any community large enough, or sma enough, to be exposed to the dangers of infectio Venereal diseases must be considered as amenable t treatment and capable of being prevented, and on thes two lines of argument I submit the views whic follow.[2] In discussing venereal diseases, we refer t syphilis and gonorrhea, and in their various phase they represent a large part of the dispensary practic in a public hospital.

I believe that all cases of gonorrhea and its acut complications should be hospitalized. This applies, c course, to public patients, for this would not be possibl among the well-to-do. By this means, better car could be given, spreading of the disease would be pre vented, and after-results would in a large degree b discounted. The practice in most institutions in mos parts of all countries, of allowing most patients t treat themselves, increases the danger of other infec tion, and it creates an impression in the mind of th patient that gonorrhea is a disease of no particula importance.

So far as possible, syphilis should be likewise hos pitalized during the eruptive stage following th chancre, and at any acute manifestations of the disease If well treated, syphilis, to my mind, is not so muc to be anxious for, if evident eruptive symptoms ar removed. It is a disease amenable to treatment, an the extent of its existence and its ravages to-day ar largely due to the ignorance in treatment on the pa of the average practising physician. This seems broad allegation, but it is borne out by facts, attested by the evidence of patients themselves, and by th proclivity of a great number of physicians in thi country to shirk the responsibility of treatment b sending their patients with this disease to some othe point, usually Hot Springs, where they can be n better treated than at home, if ignorance of metho were not the reason.

Education in the dangers of gonorrheal infectio carries but little weight among those who are usuall affected. Any plan directed at the moral educatio with regard to venereal diseases must fall, for in spit of the popular horror of syphilis, and in spite of th absolute fear of contracting it, those afflicted expose themselves so as to have acquired it, and then exercis no particular care in protecting others. Restriction then, should be made and directed by legislation. Eac State, or government, should promulgate a law makin the spreading of venereal diseases an offense punish able by fine or imprisonment, or both. It would b difficult to enforce such a law, because the victim o the diseased individual would not be apt to apply fo redress. The educational effect, however, would accon plish a great deal, especially if an occasional examp were made.

That prostitution and venereal disease are concom tant evils, there can be no doubt, and that both mu be combated at the same time, there can be likewis

[2] See also *Municipal Control of Prostitution in the United States, etc.*, N. O. *Me and Surg. Jour.*, Dec. 18, 1899, and Transactions, Brussels Conference, 1899.

doubt. Whatever may be accomplished must needs e time, and with time methods will develop with the d for their improvement.

At any rate, the exploiting of ideas and suggestions do no harm and if one of mine has helped, I am ntent.

BUMINURIA, ITS SIGNIFICANCE AND DETECTION.[1]

BY THOMAS P. PROUT, M.D.,
of Morris Plains, N. J.
Pathologist to the State Hospital.

UNTIL within a few years the presence of albumin in e urine was considered characteristic of Bright's dise only. Since our knowledge has become exact it s been found that the occurrence of a particular pro- d in the urine carried with it a significance peculiar itself, and that albuminuria does not necessarily ean Bright's disease. We meet with no less than e distinct proteids in the urine, viz.:

1. Serumalbumin.
2. Serumglobulin.
3. Nucleoalbumin, or mucin.
4. Peptone.
5. Albumose, or propeptone.

Serumalbumin and *serumglobulin* are of special impornce on account of their association with nephritis. ney are normal elements of the blood in the proporon of from 4% to 6%, and also occur in lymph, chyle, nsudates, and many other pathologic fluids. They e usually associated with salts of sodium or potasum; in fact, when a fluid containing albumin is free om these salts there is evidence that the albumin ses its power to coagulate under the influence of eat.

Mucin is a proteid substance peculiar to mucus. It ntributes the ropy consistence to fluids containing it, d is present in small amount in all urine. Its exact mposition is unknown.

Peptone is the end product of stomach digestion, a roteid capable of being absorbed. In the blood, imediately after its absorption, it is rechanged to the bumins. Peptone, therefore, is never a normal conituent of the blood and should never appear in the rine.

Albumose, or propeptone, is an intermediate stage in e digestion of albuminous substances, being the stage ceeding acid albumin and preceding peptone. hen taken up by the circulation it also is changed albumin; when not so changed it acts as a foreign bstance and is eliminated from the circulation by e kidneys. Normally it should never appear in the rine.

The causes leading to the appearance of serumalbuin in the urine group themselves naturally under two eads, those of (*a*) renal origin, and those of (*b*) extraenal origin. When the presence of albumin is due to kidney lesion, it is designated as of renal origin. hen the urine acquires blood, the elements of tumors, permatozoa, or pus from the urinary passages, these ake but a partial solution with urine and quickly ubside to the bottom of a sediment-glass. Urine conaining these substances will give the albumin reacion, but on allowing the sediment to subside, the reaion in the clear portion is poorly defined or absent entirely. The renal or extrarenal origin of albumin is a distinction which we often have to make when urine is loaded with pus, as from a cystitis or urethritis.

Renal albuminuria may follow (1) certain febrile diseases, such as pneumonia, erysipelas, scarlet fever and diphtheria, and is due to an attempt on the part of the kidneys to eliminate certain toxins circulating in the blood. The epithelium is the portion most frequently attacked, and the lesion, therefore, is chiefly parenchymatous. (2) Nervous albuminuria occurs as a symptom in certain diseased conditions of the central nervous system, such as meningitis and abscess or tumor of the brain. It has also been noted after epileptic attacks, and also following the epileptiform seizures of paresis and organic dementia. It is thought to be due to vasomotor disturbances, the vascular tone in all these affections being seriously at fault. Between 70 and 80% of all cases of paresis present gross kidney lesions at autopsy. (3) Hematogenetic albuminuria occurs in those diseased conditions characterized by serious disturbance of the organs having to do with blood-formation, as pernicious anemia, leukemia, the hemorrhagic diathesis, and the cachexia accompanying cancer. In this last condition it is usually a late symptom. The appearance of albumin in the urine in this group of diseases is supposed to be due to fatty degeneration of the cells of the vessel-wall. (4) Toxic albuminuria occurs after the ingestion of certain organic and inorganic poisons, such as phosphorus, arsenic, potassium chlorate, salicylic acid, iodin, cantharadin, pyrogallic acid, turpentine, etc. These poisonous substances attack glandular tissues in general, the kidneys being affected along with the other excretory tissues. Their inflammation is due to an effort to rid the system of an irritating and poisonous substance. (5) The albuminuria occurring during the course of pregnancy has never been satisfactorily accounted for. Most views, however, converge toward the autointoxication theory first propounded by Senator. He suggests that the autointoxication giving rise to the symptoms of kidney involvement is due to pressure of the growing uterus upon the renal veins, and the consequent inability of the kidneys to remove waste products from the mother and child. The kidneys have an extra burden to bear during pregnancy under normal circumstances, and if this burden is unduly increased it seems reasonable to infer disaster as the result. (6) Congestive albuminuria occurs in valvular lesions of the heart during the period of broken compensation, or in any condition giving rise to venous stasis, such as emphysema, organic heart disease, pleuritic effusion or chronic tuberculosis. In these conditions mechanical obstruction to the circulation gives rise to the appearance of albumin in the urine. If long continued it gives rise to extensive destruction of the renal epithelium and a growth in the kidney of new tissue. Under these circumstances the kidney is only one among many other organs affected. (7) Albuminuria often follows long-continued exposure, which is one of the most common causes leading to nephritis. This condition is especially prone to follow exposure accompanied by alcoholic excess.

The foregoing are the principal etiologic factors leading to nephritis and attendant albuminuria. The amount of albumin present in the urine will vary, depending on the particular form and exact stage of the morbid process. In the acute condition the exudation of serum is apt to be considerable and the urine of small amount and dark color. The dark color is due

[1] Read before the Morris County Medical Society, May 9, 1899.

chiefly to the presence of considerable numbers of red blood-cells which microscopically present a washed-out, faded and swollen appearance, and are known as Traube's rings or shadows, from the fact that he first described them and pointed out their significance. Their presence is quite characteristic of acute kidney lesions.

In the chronic parenchymatous process we are apt also to have a large amount of albumin with normal or diminished amount of urine, of rather low specific gravity; but here again the microscopic appearance of the sediment becomes characteristic, in that it shows the presence of kidney epithelium in a condition of fatty degeneration, and casts containing fat droplets.

Chronic interstitial nephritis presents a different picture as regards the amount of albumin present in the urine. Most frequently there is but a mere trace; we may have, however, an entire absence of albumin, or albumin may be present at one time and absent at another, the so-called cyclic albuminuria. Under these circumstances the sediment will present characteristics in the way of casts, cylindroids, and epithelial cells, which will materially aid in the diagnosis.

PEPTONE.

As already noted, peptone, as such, is never a normal element of the blood, it being changed to an albuminous proteid as soon as it leaves the stomach. Its appearance in the urine, therefore, is distinctly pathologic, and is now looked upon as of considerable significance in certain pathologic states. It is found, for instance, in conditions presenting extensive destruction and absorption of pathologic tissues and fluids, such as occur in cancerous processes and the absorption of extensive exudates. Peptone being a normal element of pus, we naturally expect to find it in the urine in such conditions as empyema or extensive pus-formations in general. We may look for peptone in the urine, then, in the following conditions:

(*a*) Typhoid fever in the stage of ulceration. In order to cause peptonuria the lesion must be extensive.

(*b*) Suppurative processes, more especially suppurative meningitis, abscess of brain and liver, suppurative processes of bones and joints.

(*c*) Pneumonia at the crisis; due to the absorption of the exudate.

(*d*) After childbirth; due to the process of uterine involution.

(*e*) Carcinomatous affections, more especially those of the digestive tract.

(*f*) Phosphorus poisoning.

It will be seen that the diagnostic value of this test is chiefly limited to suppurative processes in general and cancerous conditions of the digestive tract, and that its absence from the urine does not necessarily disprove the existence of any lesion. However, the existence of peptonuria is corroborative evidence of considerable value.

ALBUMOSE.

Concerning albumose, or propeptone, there is comparatively little significance that we can attach to the presence of this substance in the urine at this time. Its presence is more curious than practical, but it has been detected in certain sèvere disorders of the stomach, some of the acute infectious diseases and in leukemia and tumors of the bone-marrow.

MUCIN.

The association of mucin with certain catarrha affections of the genitourinary tract has already bee mentioned. It is a normal constituent of the urine i small amount, but in urethritis, cystitis, or even pyeli tis, it may be so greatly increased that the urine wil readily respond to a test. Under these circumstance its presence becomes of important diagnostic signifi cance.

METHODS OF EXAMINATION.

One of the prerequisites of an examination for serum albumin is a clear urine, and this may be obtained b two methods: (*a*) filtration and (*b*) precipitation of th phosphates. In many instances the urine will clea sufficiently for practical purposes by simple filtratio through two or three layers of filter-paper; occasionally however, this will not do and we must precipitate th phosphates. This is accomplished by making th urine strongly alkaline by the addition of potassium hydrate. The phosphates separate almost immedi ately and are distinguished as flocculent masses floa ing in the urine. If they separate slowly the proces can be hastened by gently warming the test-tube an setting it aside for a short period. Care must be take not to boil the specimen. When distinct flocculi hav formed they are removed by filtration and the urin appears perfectly clear and transparent.

The detection of the proteids that occur in th urine is comparatively simple. I am accustomed t using six tests, and for convenience speak of them a the first, second, third, fourth, fifth, and sixth tests.

The first, which is simply the heat-test, consists i heating the top portion of a suspected column of liqui in a test-tube two-thirds filled. If haziness or a di tinct precipitate occurs which persists on the additio of a strong acid, albumin is present. It might b borne in mind that serumalbumin coagulates at 163 to 167° F., and that no other proteid substance (which we know anything coagulates at this tempera ture. The addition of a little common salt-solutio favors the precipitation of albumin.

The second test, commonly known as Heller's ring-tes consists in overlaying strong nitric acid with urine. am accustomed to doing this test in a conical glass b placing the urine in the glass first and then allowin the acid to slowly flow down its side. The conic glass is only advantageous in the greater ease wit which the test can be done. The presence of albumi is indicated by the appearance of a white band at th point of contact of the two liquids. This test possesse added value in that it sometimes suggests the presen of certain other substances in the urine. Thus the a pearance of a dark-red band is suggestive of a lar amount of indican, and a greenish band suggests th presence of undecomposed biliary coloring-matter.

The third test consists in making the urine strongl acid by the addition of an excess of acetic acid, shal ing the test-tube well and then adding a drop or tw of a 10% solution of potassium ferrocyanid. If alb min is present it follows the potassium ferrocyani down as a distinct cloud. In this test we distinguis mucin by adding first a drop or two of acetic acid. resulting precipitate under these circumstances mea mucin. This test is one of the best and is of speci value in that the completed test does not precipita mucin, peptone, or the alkaloids.

The fourth test (biuret) is used to indicate the presence of peptone because of the fact that it alone of these tests reacts on this proteid. In order to apply this test the urine must be free from albumin and mucin. This may be accomplished by boiling and repeated filtration or by the addition of a small quantity of 10% acetate of lead solution and boiling. Following this the urine must be filtered several times to make sure that no serumalbumin or mucin is present. The specimen is now made strongly alkaline by the addition of a strong potassium hydrate solution, and after a thorough shaking a few drops of a 10% solution of copper sulfate are added. The appearance of a purple or violet color means peptone.

The fifth test is used to distinguish albumose when present and is applied as follows: Add to the urine a solution consisting of equal parts of dilute hydrochloric acid and water in excess. Shake well and then add a 10% solution chlorid solution in excess. If albumose is present a precipitate is formed which becomes more distinct on heating and disappears on cooling. It is well to divide this test before heating and reserve a portion in one test-tube for comparison with the boiled specimen.

The sixth is the picric-acid test. It is applied in a similar way to Heller's nitric-acid test, and consists in underlaying urine with a saturated solution of picric acid. In order to be successful it must be carefully applied, the best way being to replace the picric acid in a test-tube and then allow the urine to flow down the slanting side of the test-tube from a pipet, regulating the flow by means of the finger applied to the large end of the pipet. A white or hazy ring at the point of contact of the two liquids shows the presence of albumin. It has been objected that this test precipitates mucin and certain vegetable alkaloids as well as serumalbumin, but these substances are distinguished by the fact that they disappear on applying heat to the test, while the precipitate due to serumalbumin persists and becomes often more decided.

In testing urine for albumin then we proceed as follows: Begin with the third test. If negative we have excluded nucleoalbumin, serumalbumin, and albumose. If positive we apply the first test (heat) when a precipitate means serumalbumin. No precipitate with the first test means either a very slight trace of serumalbumin or albumose. The latter we now distinguish by means of the fifth test.

If the above procedure is negative in all its stages, the only other possible proteid that can be present in the urine is peptone, which is distinguished by means of the fourth test.

LOCOMOTOR ATAXIA. RECOVERY IN A CASE REPEATEDLY SO DIAGNOSED.

By DAVID S. BOOTH, M.D.,
of St. Louis, Mo.
Neurologist to Missouri Pacific Railway Hospital and to St. Joseph's Sanatorium.

Owing to the generally recognized unfavorable prognosis of locomotor ataxia, on the one hand, and, on the other, the assertion of its curability by a minority of the profession,[1] among whom is a no lesser light than Prof. Eulenburg, of Berlin, who maintains that it is curable, so far as a return of function is concerned, in almost any stage, I report the following case without comment, save to say that the patient had been examined by quite a number of medical men[2] of professional standing and reputation, among whom were several neurologists of more or less eminence. Wonderful to say, they were unanimous as to diagnosis and prognosis, and described in detail how the disease would progress until the patient became bed-ridden, when death would finally end his suffering.

Mr. E. G. L., aged 37, married, no children, was first seen at my office February 2, 1898, when he gave the following history: Has been a locomotive fireman for 15 years, previous to which, he worked in lead mines for about 3 years, during that period he had lead colic three times. With the last attack he was incapacitated for regular employment for over 6 months, when he went to "railroading." He was injured January 8, 1896, by a derailed locomotive, sustaining contusions of head and chest; unconscious for 8 or 10 hours; made an uneventful recovery.

Again injured July 17, 1896, 6 months after first accident, when he jumped from a moving locomotive and struck on the left side of the head and the left shoulder, since which he has never been well. Some 2 months after the second injury, when just able to get about, and while reclining on a couch, he was attacked with left hemiplegia, which developed suddenly, but without loss of consciousness, from which he has not fully recovered, and of which he had periodical exacerbations.

About every 50 to 60 days, he has attacks which commence as a tickling sensation in the small of the back extending into the bowels, followed by the sensation of knots in the bowels, he then has a feeling as though his abdomen were 3 or 4 feet thick, and as if his back were not touching the bed. These attacks last about 15 hours, when he vomits what he and his wife say is "matter streaked with blood," after which he is confined to his bed with fever (pulse 105 to 110) for several days, and is unable to get about for two weeks. He has satyriasis, and usually retention of urine; he knows the bladder is full only when it so distends as to distress him; at times, he has incontinence of urine; the bowels are constipated; he is unable to strain in either act.

He is very irritable and quarrelsome, at times threatens the life of his wife, and would kill his cow and chickens were he not prevented by interference of others. He falsely accuses his wife of being untrue and imagines people plotting against him.

There is no history of lues and no evidence of its existence. He uses neither liquor nor tobacco. At times has sensation as though he were going to faint, at which times he makes active exertion to catch his breath.

Has spots before eyes; in reading, momentarily loses the place; flashes of light before eyes in the dark.

Pain in the sacral region of spine; neck-ache with sharp pains occasionally. At times has roaring sounds from back of the neck into the head.

Examination revealed a pulse of 82; temperature, $95\frac{2}{5}°$ F., a subnormal temperature, which, his wife stated, had been noted by others; respiration, 27; thirst, *nil*; bowels moving at present; urine evidently diminished in quanity; sleep disturbed. Loss of muscular (including weight and position), temperature, and pain senses. Tactile sensibility lost on left side, and blunted and delayed on right side.

Pupils equal and respond sluggishly to light and accommodation. Kneejerk lost; Romberg symptom present: afraid of falling in descending stairs; unable to walk at word of command; sincture feeling imperfectly defined; incoordination of arms and legs; unable to pick up pin.

Dynamometer (Mattheu's), right, 33; left, 38.

In walking, which he can do only by the aid of a cane and active assistance of a second person, has to watch his feet, and his gait, as he walked into my office, was such as led me to suspect locomotor ataxia.

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[1] Dr. L. Harrison Mettler, New York *Medical Journal*, October 15, 1898, writes: "Locomotor ataxia in the light of its newer pathology, and under rational methods of treatment applied in accordance with this newer conception of the disease, is far from being so hopeless an affection as it was once thought."

[2] At the instance of an insurance organization, patient was examined by two prominent neurologists of this city, and, upon their report of permanent disability, was paid a claim to which he was thereby entitled, as did also an insurance company upon the advice of its medical examiner.

Patient placed on treatment, which was kept up until February, 1899, when he accepted employment.

May 14, 1899, patient called to report. Has taken no medicine since going to work about 3 months ago. Sleep and appetite good; bowels regular; not irritable; sexual function normal; kneejerk returned; stands with feet together and eyes closed; walks a straight line; sensation normal. Dynamometer, each hand, 95. In short, can detect nothing abnormal in his present condition, and patient says he feels as well as he ever did in his life.

July 1, Mr. L.'s wife called to inform me that her husband had not only not lost a day's work since he began, but that before and after his regular day's employment he cares for a truck-farm which was purchased with the money received on account of his "permanent disability."

SYPHILITIC FEVER.

BY A. C. MORGAN, M.D.,
of Philadelphia.

THE report of a case of syphilitic fever by Dr. Prentiss (PHILADELPHIA MEDICAL JOURNAL, issue of July 29, 1899), prompts me to report a case of the same nature which occurred during my term as interne at the Philadelphia Hospital, on the medical service under visiting chiefs, Dr. W. E. Hughes and Dr. J. A. Salinger, who have given permission to use the notes in this case.

The literature is very meager with reference to this interesting condition, though, doubtless, many cases have occurred which have been overlooked on account of its somewhat infrequent occurrence.

The temperature-chart of this case shows nothing new, perhaps, but tends to establish the characteristic "type" of fever, as noted in Musser's Diagnosis and in Dr. Prentiss' case.

The history is as follows:

G. H., aged 34 years, single, admitted to medical wards February 12, 1898. Chief complaint, pain in chest, cough and night-sweats.

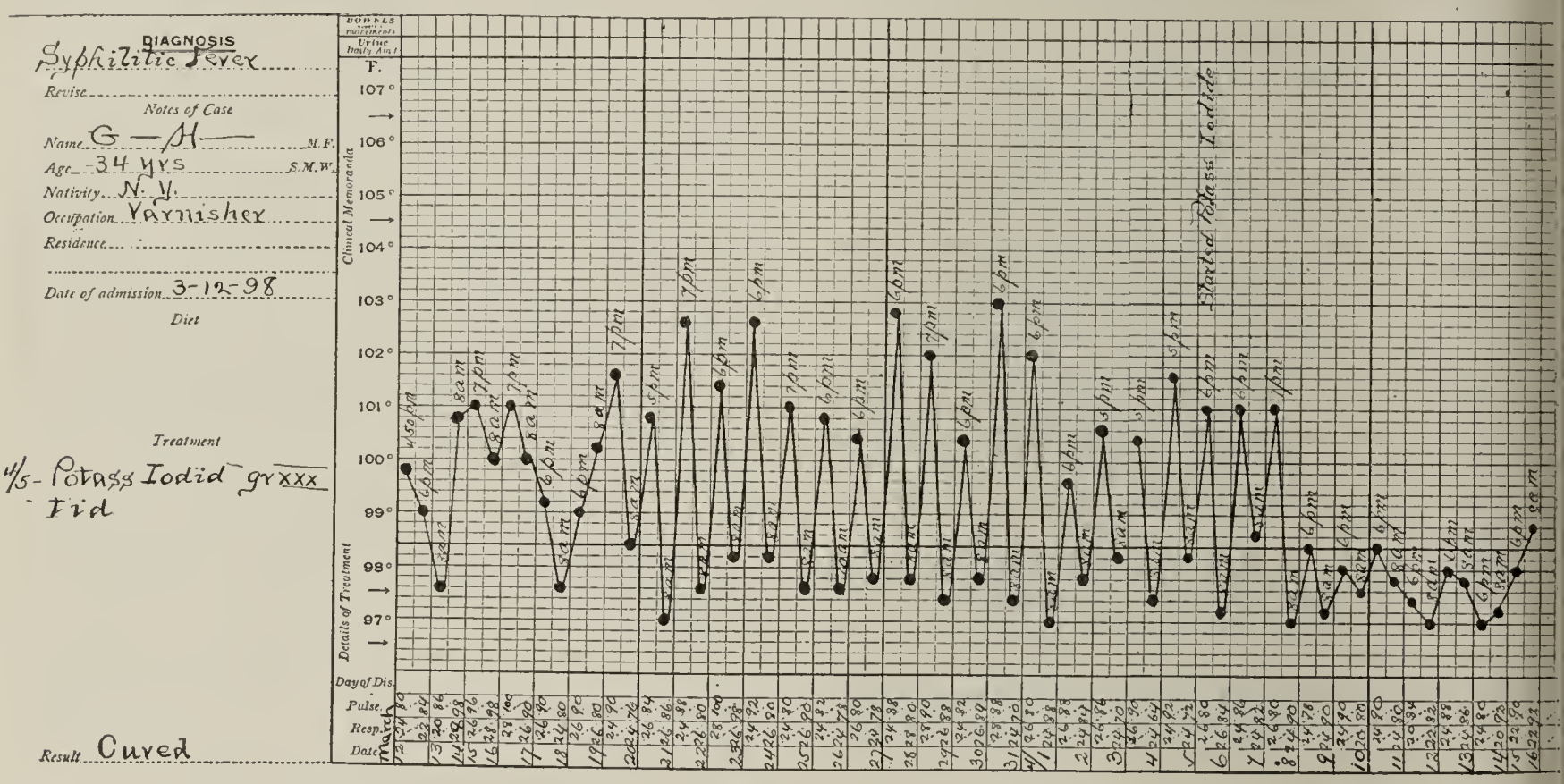
Family History: Negative.

Past Medical History: Malaria, 4 years ago; pleurisy of the left side, 2 years ago; has had several chancres, chancroids, and buboes, but never had an eruption on body. Uses tobacc moderately; alcohol excessively.

Present Illness: Began as a cold 6 months ago. Since the has had a cough, pain principally in right side of chest, an night-sweats. States that he has lost 20 pounds in weigh Cannot sleep on account of pain in chest, and shooting, i definite pains in legs. Appetite good. Digestion norma Voice has been husky for 2 years.

Physical Examination: Chest somewhat phthisical i outline, symmetrical, except for slight depression in eac inframammary region, more marked on left side, wher patient complains of soreness. Auscultation was negativ except over area just noted, which showed a little roughnes of breath-sounds, probably as a result of a previous attac of pleurisy.

Notes: Patient nightly complained of pains in chest, le knee, and both tibial regions, also of sore throat, becomin increased after getting warm in bed. Had profuse night sweats several times. On account of the general clinica symptoms, acute miliary tuberculosis was suspected, but re peated stainings of the sputum were negative The bloo was negative on examination for malaria. Urinalysis wa also negative. On April 5, the patient was put on potassiur iodid gr. 30, t. i. d., as a therapeutic test, the first night show ing no change; the second night, however, patient slep well, without sweating, and continued free from all pai



The patient left the hospital in good condition in few weeks, and was readmitted in January, 1899, wit the diagnosis of cerebral syphilis. He was given p tassium iodid in increasing doses until 330 grains p diem was reached, the cerebral symptoms being near controled. He was discharged from the hospital c March 29, since which time we have not had any repo from him.

The axiom quoted by Dr. Prentiss: "When i doubt, play trumps," *i. e.*, give antisyphilitic trea ment on general principles in obscure cases, will sol many problems which have hitherto baffled the pr fession.

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See Advertising Page 8.

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The U. S. Postal Department and Scientific Literature.—The Loud postal bill is again before Congress, changed considerably but still iniquitous. The clause that principally affects medical literature is that limiting the second-class rate to periodicals mailed to subscribers within 1000 miles (as carried) from the publishing office, and for greater distances double rates. Sample copies are not admitted at second-class rates. It is possible that stupidity is alone responsible for the opposition, but it is highly probable that stupidity is doubled by commercial and political knavery. The injustice against publishers in seaboard cities as compared with those in the Middle States is strikingly manifest. San Francisco, New Orleans, Boston, Philadelphia, and New York can only have the thousand miles at one side, while St. Louis and Cincinnati, for example, have them upon all sides. But the wrong is most evident when we consider the effect upon medical, scientific, and magazine literature of all kinds. The politics of the measure shows its cloven foot plainly in the provision that regardless of thousands of miles or value to civilization, all beneficial organizations and trades-unions have their literature exempted from the limitations. The literature devoted to the cure of disease or the health of the people, to public sanitation and hygiene, is taxed—for whose selfish benefit?—while periodicals of insurance clubs and trades-unions are free of the burden. Every physician should let his Representative and Senator at Washington know that this bill is not only a wrong to the profession, but to all other citizens as well.

Paying for clinical reports is a bad method of procedure. Physicians are receiving copies of the following letter written by a prominent manufacturing firm:—

> As in the introduction of our newer preparations we rely together upon the publication of unbiased clinical reports, we hope that when your time permits you will contribute your observations to some medical journal. We appreciate fully, however, that the preparation of such a clinical report is attended with considerable expenditure of time, which is always a valuable commodity to a busy physician, and in the event of your contemplating the preparation of such a report we shall be most happy to remunerate you adequately for your time and trouble as an act of simple justice We would esteem it a great favor to be informed of the results of your experiments, and hoping to hear from you at an early date, we remain,

We are confident that the plan will defeat its own object, because the profession sooner or later will find out that the writer of the report was hired to do the work; the suspicion is certain to arise that experiment under such conditions is equivalent to bribing the jury. Would the firm pay the writer of an adverse report?

Which Will be First?—Travelers in Europe often note the fine, dense forests that boder or surround many of the towns and villages; few inquire why the forests are there, almost within the dooryards of the houses; others learn that in each case the piece of woodland, small or great, is the savings bank or endowment fund of the community. Carefully managed and wisely administered it yields year by year, oftentimes more than enough to cover the whole cost of the local government.

But those patches of woodland have another value; one probably not anticipated by the founders, nor appreciated by the townspeople, yet none the less on that account. The woods are oxygenators of the air, breathing-spaces, grateful shades, to which many a visitor, from America perhaps, and to whom such things are unknown, goes with keen delight, marveling that such a spot can be a part of the little village, or perhaps town, in which he is stopping.

The point to our argument is, simply, why should not villages, towns, and cities in this country have such local forests? not necessarily for the revenue, although that is not impossible and is worth considering, but to provide a breathing-space, a fresh-air factory, so near to other sorts of factories that some of the loss that men and women suffer in the latter may be made up to them.

Town after town is taking up the fresh-air problem and spending all the money it can raise on a park or several of them; in many cases the expense of maintaining the park is found to be too great, and it runs down, giving for all the original outlay and necessary expenses only a neglected field. Now, in or near many a town a wood-lot can be found that needs only a little care and protection to convert it into an admirable grove; no expense for shrubbery and walks, no gardeners, no watering-carts; a little protection against fire and ill treatment, a little clearing out now and then, that can be paid for by the sale of the material cut, and perhaps some planting in bare places in the beginning will produce and maintain an ideal pleasure-ground at a cost that bears no comparison with that of a park in the ordinary sense.

Or, if the ready-grown wood-lot is not available, a convenient area can be planted with forest-trees for much less than it would cost to lay out and plant a park. After such planting the area would have to be protected and not used for several years it is true, but it would need no actual care and entail no expense, and as soon as the trees were large enough and freed of lower branches sufficiently to admit passage amongst them, the wood, for the purpose intended, would be established, and a park in its full sense well under way.

There is no question that many a town would be immensely benefited by having near it such a forest-park, nor any question that the establishment of one is possible in not a few places. *Which will be first?* This is an important question, in which physicians can well take the lead.

Stercoraceous Vomiting.—We have no wish to exaggerate the facts either as to the importance or as to the amount of smut masquerading as wit in some of the lecture-rooms, journals, and in the conversation of some physicians, but we think all bright and clean men will agree that there is altogether too much of it. We are confident that medical students are fully as free from the vice as any other class of young men, and in their behalf as well as on the score of professional decency such a purity should be guarded rather than broken down. But is there a practitioner that does not look back with shame and disgust to the nauseous "story-telling" of some shameless "professor" of his college days? A room full of young chaps will perhaps laugh and applaud—and then go away—at least the best of them—to loathe the teacher who thoughtlessly debases his office and corrupts his audience. We have known some of the highest officers of a great medical organization who wherever they went left behind the pollution of obscenity and nastiness. We have known a professor of the history of medicine who peppered his lectures with stories erotic and "tommyrotic" that showed how pitiable was his reading of history, and his conception of duty. If wit happens occasionally and accidentally to be touched with this diabolism, men of the world will not wince, and may even laugh the more heartily, but he is an ass and a knave who from choice and habit delights in pornographic reek. Surely it is time that we extruded such men from our colleges, our great medical associations and our meetings, where too often they have monopolized attention, and filled even banquet-rooms with the odor of their putrescence. It would be less degrading, cheaper, and far more amusing, to hire an expert—some commercial traveler or vaudeville clown—to do the dirty work for us, if we find pleasure in it, and are incapable of distinguishing between fun and filth. The medical profession as a whole is not of that stamp and should not be thus maligned and misrepresented. Every student in a lecture-room and every member of a medical association has a right to hiss, and when the slimy sexual story or allusion is lugged in he should exercise his right.

The Epileptic Colony Movement in the United States.—An interesting sociologic spectacle is afforded by the rapid growth of the movement for the public care of epileptics in the United States. Ten years ago these peculiarly unfortunate victims of a distressing malady were compelled to live at large as individual family burdens, or to find refuge in almshouses, or insane asylums. No charitable institution devoted especially to their charge was to be found in America although Continental Europe had long furnished convincing arguments for the segregation of epileptics particularly in the success of the large colony at Bielefeld, in Germany. A review of the arguments advanced for the establishment of institutions for the separate care of this class of afflicted individuals has been well accomplished in the newly-published work on "Care and Treatment of Epileptics," by the Honorable William P. Letchworth, formerly President of the New York State Board of Charities. In this publication Ohio is credited as the pioneer State in the Union to inaugurate agitation for the purpose of providing an establishment along the lines of the Bielefeld colony for the sole charge of epileptics; and the result, the Ohio Hospital for Epileptics at Gallipolis, is fittingly made the subject of the frontispiece of Mr. Letchworth's book, and entitled "the first State institution established in America for the exclusive care of epileptics."

The example of Ohio, both for legislative action public and professional agitation, was followed by New York, culminating in the foundation of the Craig Colony some three years after the first institution was in successful operation. Immediate success of this novel departure in State charities was witnessed in both these flourishing colonies, which have grown with remarkable rapidity, receiving ample endowment at the hands of their respective States. The attention of philanthropists in other States was attracted and steps were soon taken to extend the enterprise. At the present moment colonies for the exclusive care of epileptics are supported by the States of Ohio, New York, Massachusetts, New Jersey, Pennsylvania, and Texas; and legislative approval has been secured in Missouri and Illinois while the agitation in this direction is going on in a dozen other of the United States.

The Importance of the Study of Comparative Neurology.—In a recent number of the *Archives of Neurology and Psycho-Pathology* (Vol. 2, Nos. 1 and 2) Dr. C. Judson Herrick has contributed an important paper on the cranial and first spinal nerves of certain fishes. In his introductory remarks, Herrick points out the importance of comparative neurology as a field of research for illustrating the anatomy and higher functions

f the cerebrospinal system. This, of course, has long een recognized, just as Herrick says, especially in the minous treatise of Edinger, which is by far the best ork on nervous anatomy that the nerve-specialist pos-esses, and which owes much of its value to the broad undations which the author has laid for it in com-arative neurology. In former years almost all work in omparative neurology was done by members of the edical profession; but, as the various specialties have idened and become more engrossing and exacting, his field of research has been monopolized almost ex-lusively by nonmedical workers, such as the biologists nd morphologists, until now comparative neurology an scarcely be said to be any longer a familiar field to edical investigators. This may be inevitable, but it s nevertheless somewhat to be regretted. Herrick points ut that the method of pathology is of primary import-nce in the investigation of phenomena in this domain, nd calls attention to a fact not sufficiently recognized —that the modifications of the organs in the lower ani-nals, due to changes of habits and habitat, are prac-ically the same as those which the pathologist studies. Thus, according to this author, when an animal changes n aquatic for a terrestrial habitat, the disuse of aquatic ense-organs leads to atrophic processes which are anal-gous to pathologic processes; and, on the other hand, he hypertrophy of other organs which come into play, uch as the hypertrophy of the cervical cord in the sea-obin, or the vagal lobes in the carp, may be likened to what occurs when increased function induces pathologic ypertrophy. The especial advantages in such studies onsist in the fact that these changes are so gradual, ex-ending through many generations, that the successive tages may be noted much more clearly than in an rdinary pathologic process in an individual.

Herrick's paper, while largely morphologic, is one of reat interest to the nerve-specialist, as throwing light on he obscure province of the intramedullary connections f the cranial nerves, and illustrating how much human europathology is, and must continue to be, indebted o comparative neurology. The fact is especially note-worthy that such a purely scientific paper can be pre-ared and published in this country under the auspices f a State commission in lunacy, for this splendid peri-dical is issued from the State Hospital Press at Utica, nder the auspices of the New York Lunacy Com-nission.

The History and Purposes of Clinical Teaching.—Progress thus far made in clinical teaching has orig-nated in certain centers of teaching, and has spread nore or less widely from these. According to Prof. E. on Leyden, of the University of Berlin, the first efforts oward clinical teaching were made at the University of Pavia in Italy toward the end of the sixteenth century, but they were without definite results. The first suc-cessful teaching medical clinic was founded in Holland at the University of Leyden by Van Heurne and Schri-velius. In the *Berliner klinische Wochenschrift* for No-vember 27, 1899, Professor v. Leyden gives an interest-ing account of the development of this clinic and its effect on teaching methods.

Bedside teaching was begun in a very modest way, with at first not more than 7 beds; the patient was also brought before the entire body of students for examin-ation, which was easily possible because of their small number. After the investigation each one expressed his opinion as to the diagnosis, prognosis, and method of treatment; then the teacher expressed his opinions and criticised those of the students. It will be seen that this method was in no way dogmatic, but was based upon the thorough scientific method of investiga-tion first introduced by Hippocrates. The Leyden clinic rapidly reached a high and worldwide reputation under Franz de le Boë (Sylvius), and his work was continued by Boerhave and Boerhave's pupil, van Swieten. After Boerhave's death in 1738, however, the reputation of the clinic began to decline, and its most noted pupils were called to foreign universities. Van Haller went to Göttingen; van Swieten was called to Vienna, and somewhat later a second celebrated pupil of Boerhave's, Anton de Haen, was also called to Vienna. From the influence of these scientific men the University of Vienna soon gained a high reputation, and became in its turn the greatest medical center of the world. De Haen was the first to attempt to regularly measure the temperature, and first showed that the temperature of the blood is high during a chill; and it was through his influence that the medicine of Austria was freed from the old scholastic methods. After him came Auenbrugger, who first introduced the method of percussion in 1772. Previous to the time of Auenbrug-ger there had been a period of little progress, but with the stormy times of the French Revolution came a revival in medicine. Corvisart, the physician of Napo-leon I, applied Auenbrugger's method of percussion to investigation in heart-disease, and brought it into gen-eral recognition; then followed the discovery of auscul-tation in 1820 by Laennec, and at this time Paris be-came the great medical center, under the lead of the celebrated internist Louis. Laennec had combined physical diagnosis with a study of pathologic anatomy; but in Vienna there appeared, to mark the founding of the second Vienna clinic, two great men, Rokitansky and Skoda, who worked and taught in these subjects independently. These celebrated scientists laid the foundations for the modern work in pathology and diagnosis, and Skoda's comprehensive classical work still forms the basis of exact methods in physical diag-nosis. At about this time there was founded, in a very modest way, a medical clinic at the University of Berlin. At first there were only 12 beds, but with the lead of such men as Reil, Barend and Hufeland, rapid progress was made. The high-water mark in the development

of the exact scientific methods of modern clinical teaching was reached under the lead of Rudolf Virchow and Traube, and their work was aided by Hemholtz and du Bois-Reymond. In Vienna, modern scientific clinical teaching had originated, but from Vienna came also nihilism in therapeutics and distrust of the value of all medicaments. It remained for the Berlin clinic to combine scientific methods of investigation with therapeutic measures. Great advances were made under Frerich, and Traube's classical investigations as to the action of digitalis did much to restore confidence in medical means of treatment.

The therapeutics of to-day are no longer expectant—they are distinctively active and progressive. The modern physician must take into consideration everything touching his patient; scientific nursing and modern therapeutic measures have a wide field and certain results. It is the use of remedies apparently not important, and the attention to minor details in the care of the patient which often brings about the favorable result. The aim of the modern clinic should be, not only to teach its students to reach an accurate diagnosis, but to instruct them in the use of those therapeutic means and those minor details in the care of the patient which shall make him a well man. It is no longer considered, as was formerly taught at certain famous medical centers, that no case-history is complete without a necropsy.

Governor John R. Tanner and Osteopathy—A Correction.—On February 3, we quoted the *Philadelphia Journal of Osteopathy*, which gave a list of nine governors who had signed bills legalizing osteopathy in their respective States. We are glad to say that there are only eight to whom the glory should be given. Perhaps the "P. J. O." may be in error as to some of these, but at least Governor Tanner, of Illinois, should not have been in the list. On the contrary, he has the honor to have vetoed an osteopathic bill. Two other governors have also done the same—Adams, of Colorado, and Chandler, of Georgia.

Dr. Wyman's Circular on the Plague.—Surgeon-General Wyman has just issued a most instructive pamphlet on the bubonic plague, which we hope all physicians will read who have the opportunity. It deals with the pest from all standpoints, historical, epidemiological, clinical and pathological, and is, in fact, a quite complete little monograph on the subject. It is especially valuable for the practical knowledge it conveys about prophylaxis, serumtherapy, disinfection, and quarantine regulations. Dr. Wyman quotes a letter from Dr. C. W. Dabney, in which it is suggested that plague is so prevalent in the East because the population is so badly fed—their rice diet not furnishing more than 1,200 to 1,400 calories per man per day, whereas the normal supply should be as high even as 3,000 calories. The rat, according to Wyman, is th suspect everywhere; if plague accomplishes any goo it is by killing off the rats. The force of religiou prejudice and ignorance is especially manifested in thes plague epidemics. The high-caste Hindus will not sub mit to inoculation because the serum is prepared fron animals, their religion prohibiting the use of animal for food, while the Mohammedan resists a house-to house inspection, which violates the sanctity of hi harem. These characteristics are vividly painted b Barker in his recent paper in the *New York Medic Journal.*

Dr. Wyman says that the bacillus of plague, althoug very virulent, has a feeble resisting power to chemica disinfectants and to heat. It dies in half an hour kept at a dry heat of 176° F. It seems also to requir moisture, as it soon loses its virulence on drying. Th preparation of antipest-serum according to the method of Yersin and Roux, and of Haffkine's prophylacti has been commenced in the hygienic laboratory of th Marine-Hospital Service at Washington. Thus th Government is taking every precaution to be forearmed The value of these methods seems to be incontestable Dr. Wyman gives details of their use and tables prov ing their efficacy. The antipest-serum acts by intro ducing antitoxin into the blood and is curative, bu Haffkine's method consists in introducing an atten uated toxin itself and is merely prophylactic. It i not without danger if the person has already been ex posed to the plague and has become infected, hence should only be used on persons who have not alread been exposed. We trust this valuable brochure of D Wyman's will be widely distributed.

Non-Gonorrheal Infections of the Male Urethra —With the increasingly definite knowledge of th extent of the bacteriologic flora of the vagina shoul come a realization of the fact that all infections of th male urethra are not due to gonococci. There are ver many obstinate infections of the deep urethra especially which are due to the ordinary cocci of pus; there ar also not a few infections due to other than the pus organisms. Rod-shaped bacilli and cocci that grow i masses without causing pus may be found separate o mixed, in connection with tripperfäden that are forme of epithelial cells only. These are discovered in th urine of patients who suffer from frequent urinatio but who give no history of a true gonorrheal discharg from the urethra. As a rule the diagnosis of thes cases is only made after the lapse of months or years the deep urethral irritation is at first mistaken for ves cal irritability and the case classed among the indef nite ones as "catarrh of the bladder." The varieties cocci and bacilli which contribute to these deep inflam matory conditions are worthy of painstaking study i order that their separate roles in disease-productio may be properly appreciated. It is certain that chroni

ostatitis and vesiculitis may coexist with deep ure-
ritis as a result of the inflammatory actions brought
out by these microorganisms that are not accompa-
ed by pus. The diseased conditions so existing can-
t be truly designated as "gonorrhea," since they are
t caused by the gonococci, nor is there a running
scharge at any time Some bacteriologists choose
r the present to designate these unnamed organisms
"dirt bacteria," giving the natural inference that
fection has been acquired from an unclean vagina.
is probably true that some of the unnamed varieties
ve a causative relation to many of the non-gonor-
eal vaginal discharges included under the common
rm of "whites." In any case the problem of infec-
ousness is a serious one and is forcibly brought home
the surgeon who is asked to acquiesce in the mar-
age of a man so infected. The need of more wide-
read, and certainly more definite, knowledge of these
tricate questions of infection is emphasized every
me a patient asks his doctor: "May I marry with
fety?"

The Tuberculosis Problem Again.—In a previous
litorial note we considered a few of the practical diffi-
lties in the way of an enforced quarantine against
berculous disease. Briefly stated, these were:

1. The difficulty of discovering more than a small
roportion of the infected individuals;

2. The very large number of both doubtful and un-
oubted cases;

3. The great length of time during which it would be
ecessary to enforce quarantine, if it is to be effective.

To the preceding may added a fourth and most co-
ent objection to any measure in the line of State legis-
tion for the exclusion of infected persons. There
xists in the minds of some legal authorities the gravest
oubt of the power of any State legislature to enact a
uarantine measure of exclusion which is not coinci-
ent with the strictest quarantine measures of seclusion
f cases already existent within the borders of the State.
n other words, State legislation which seeks to show
avoritism by discriminating against an alleged infec-
ion in the persons of travelers or immigrants will not
ear the test of consideration by the United States
Courts, if the constitutional points involved are prop-
rly presented.

Sanitarians may justly inquire whether measures of
exclusion, independent of measures of prevention and
solation within the borders of any State, can be effec-
ive in lessening or avoiding the danger of infection?
The answer must be that such benefit can only be
oped for in localities at this time absolutely free from
infection.

Let us, then, accept as settled facts these conclusions:
State quarantine against tuberculosis at this time is (*a*)
not feasible, because not possible; (*b*) not possible, be-
cause the necessary conditions for police regulation are
unattainable; (*c*) not lawful, because proposed under
conditions that contravene the Constitution; (*d*) not
sensible, because it is based upon abstract scientific
reasoning that is a century in advance of public senti-
ment and intelligence; (*e*) not humane, because it seeks
to substitute the simple, passionless, theoretic problem
for the difficult and involved one of human desires,
human interests, and common human reason.

What have we to propose instead of the quarantine
measures thus summarily condemned? A progressive
movement of education of the public along the lines
already so well defined by a majority of practical sani-
tary workers. Every physician should be furnished
with leaflets, which he can give to his patients, in
which the methods of infection and the methods of
preventing infection (*e. g.*, proper disposal of sputa and
excretions) are set forth in language easily understood
by common people.

Apartments that have been occupied by tuberculous
people should be properly disinfected under the super-
vision of the physician or the health officer. Every
health office should hold itself ready to perform such
disinfection upon request, and every physician should
cooperate with the health officer of his community in
establishing the custom of such disinfection.

The tuberculin-test for cattle should be universally
adopted.

Rigid inspection of meats and milk should be the
rule in every community.

State hospitals for advanced cases of tuberculosis
and State and National sanatoria for less advanced cases
of the infection, should be established and suitably
maintained, especially in regions presenting favorable
climatic conditions.

Tuberculous persons should be excluded from a few
occupations (such as handling of foods and school
teaching), and provided with other more suitable em-
ployments in the open air.

These are a few of the imminent, sensible and urgent
measures upon national preventive lines. They must
all be in operation and demonstrating a reasonable
measure of success before State quarantine or kindred
measures should even be talked of. And if those who
so actively talk quarantine would as actively work for
the realization of these more immediate measures, it
would be a great outlet for their surplus energy and
productive of far greater results in immediate saving
of human life.

**Suggestions to Writers, No. 59.—Misunderstood
Proverbs** are constantly quoted even in medical
literature, by rote, by those who do not know the
meanings of the words they use, and people who
hear or read the quotations imagine these have
some significance, when in fact on their face and
without etymologic knowledge they have no signifi-
cance whatever. One of the most common of these

misused and misunderstood sentences is Shakespere's "One touch of nature makes the whole world kin." As Shakespere and his cotemporaries understood the line it meant something very different indeed from what the pseudoliterary quoter of today thinks. The word *touch* signified *defect* or *bad trait*, and not a good one as is supposed, reaching down to the elemental or primal quality of life and feeling. The word came into use from confusion with the word *tache*, sometimes misspelt *touch*. The whole passage (in *Troilus* iii, 3) as used by Shakespere shows he *reprobated* not *praised* the "one touch of nature."

One of the most senseless of these proverb-blunderings is the very common "The exception proves the rule," derived from the Latin *exceptio probat regulam*. Now any school-child must see that an exception invalidates, not proves, the rule. It positively disproves it. The explanation of the nonsense consists in the fact that the old signification of *proves* is *tests*, as when St. Paul advises that we should prove (*i. e.*, test) all things to hold fast that which is good. The Latin scholar also knows the definition of *probo*.

In the saw, "The more haste, the worse speed," a similar contradiction occurs if the words are considered apart from their history. In Old English, *speed* really meant *success*, and the proverb thus becomes luminous. So, also, "God speed the plough" has significance if we understand the word speed properly as *prosper*.

In "God sends the shrewd cow short horns," shrewd means ugly-tempered, or bad-dispositioned, not clever or intelligent; and in "Handsome is as handsome does," handsome does not mean beautiful, but neat in the sense of skilful.

Dynamic Ileus.—Leonard W. Bacon, Jr. (*Yale Medical Journal*, January, 1900), reports the case of a man, 33 years old, whose previous history was good. The attack came on after patient's becoming overheated and drinking ice-cold soda and some whisky. Great tenesmus, colic, diffuse abdominal pain, constipation and vomiting marked the attack, which continued for 3 weeks, before operation was performed. The pain and distress were somewhat intermittent, but gradually grew worse; the vomit later had a fecal odor. The bowel-movements, even after free use of strong cathartics, were small and fetid. The pulse was small and continually over 100, but never hard, bounding, or in any way indicative of inflammation. The pain was gradually wearing the patient out and relief by injections of morphin never lasted over 5 or 6 hours. The patient lost 50 pounds in the 3 weeks. Appendicitis and cholecystitis were ruled out in making the diagnosis on account of the absence of distinct localized pain. The incision was made from an inch below the ensiform cartilage to an inch below the umbilicus, and examination of the abdominal contents made. At 4 or 5 places in the small intestines the gut was contracted to the size of the index finger for several inches, followed by a part 6 to 8 inches long, contracted to the size of a lead pencil—hard and pale—this again followed by the first degree of contraction. It was estimated that one-third of the total length of the small intestine was in a state of contraction. The contractions did not yield until the intestinal wall was actually rubbed and teased between the fingers. The sole treatment consisted in completely disemboweling the patient, smoothing out the wrinkles in the gut, and returning the intestines to the abdominal cavity. The wound was closed and the patient made a good recovery.

Correspondence.

THE A. B. DEGREE PREPARATORY TO MEDICINE.

BY JAMES TYSON, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I CRAVE your indulgence briefly to reply to the inferenc allowable from Dr. Mitchell's statement in your issue of las week, that the State Medical Board has my full approval o its actions. I am far from believing that its methods canno be improved, and am sure that the Medical Board itsel holds that belief. I do not believe that any system of medi cal education or examination is such that it cannot be im proved, and that it is the duty of those responsible to b constantly on the alert to improve them. My feeling is tha the Medical Board has all along sought to improve it methods, and that anyone familiar with the history of th Board and the making of the law which created it will agre to this. I may not be satisfied with its *results*, while I may b satisfied with its *efforts* up to the present time. It was th severity of Dr. Mitchell's criticism which it seemed to m was hardly deserved in the light of what I knew the Boar had been attempting, which I regretted and desired to offse if possible.

A word again in answer to Dr. Beates' letter in your las issue. Of course no sensible person objects to a four years course of medicine. I should like to see a five years' cours if it was possible from every standpoint. But what some o us want now is to see more college men enter the professio with the mental training and habits of study, the self restraint and good manners which usually come from a well arranged four years' course, to say nothing of the knowledg acquired at college. The Deans of our medical schools wil tell you the number of these men is now decreasing. What with four years of college, four years in medicine, a year o more at a hospital and a year abroad, it is little wonder tha sometimes the silver hairs begin to show themselves amid the brown and black before our practitioner gets his firs patient in private practice.

On the other hand, I am just as much opposed to a sudden exaction of the A.B. degree or its equivalent before admission to the medical school. What would have happened last year, for example, if the University of Pennsylvania, following Johns Hopkins University, as Dr. Beates would apparently have it do, had suddenly demanded as much of its matriculates? More than half of our students would have been turned aside to second-class schools, and later entered the profession with inferior preparation. As it was, the increased requirement of the present year had a decided effect on the incoming class, and it is more than likely that the further increment to be called next year will have a similar effect.

Let me present a point of view which I think is often overlooked. Each year there are so many men in the United States who study medicine. An average number is needed by the country to treat the sick. Now, shall the great mass of these men be turned aside to the schools of inferior grade or admitted after a reasonable admission examination, gradually increasing in severity, to schools already well-equipped and conscientiously seeking to improve their equipment each year? The country is not ready as yet for the exaction of a college degree, or its equivalent, from all who study medicine. Young schools have a right to make such requirements as they desire, and to limit their entrance as they desire. Not so with the old and large schools, which

ave a broader obligation. On the other hand, if some inucement is given to the college graduate by admitting him) advanced standing while still requiring as much and ıore of him, he may be encouraged to finish his college ɔurse before commencing the study of medicine. Ultiıately, I hope to see the A.B. degree or its equivalent reuired of all who study medicine.

One gratifying feature of this discussion to which you have een lending your columns I think must be patent to those ho read it, which is that all are seeking one object, the improvement of the training and education of the medical ıan, and I am sure it will help toward its attainment.

HOME REMEDY FOR LEG ULCERS.

By G. V. BUEHLER, M.D.,
of Boston, Mass.

o the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

In reply to the many inquiries concerning the exact formla and method of preparation of the "home remedy for g-ulcers," mentioned some time ago, I desire to state ɔmewhat in detail the formula successfully used by ıe as prepared by my druggist. A pint of boiled linseed-oil heated thoroughly and in it is put a half pound of the red xid of lead and the mixture allowed to boil thoroughly, and fter cooling it is again boiled, and on cooling a second time, half ounce of gum camphor is stirred in. The oxid of lead, s I understand, is decomposed into a black oxid and the reeated boiling changes the consistency so that it can be ıade into a stick much after the fashion of diachylon laster and can be spread on a cloth by heating over an alcool flame.

I would like to emphasize particularly that my good reults have been obtained in indurated varicose leg-ulcers. I ave tried this paste on the syphilitic leg-ulcers with very ittle success.

THE STATIC ELECTRIC MACHINE.

By J. M. G. BEARD, M.D.,
of Fruita, Colo.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

The following may be of interest to some of your readers vho are using static electric machines, for x-ray or other ɔurposes. It sometimes becomes necessary or more conveıient to reverse the polarity of a static machine than to use it s it happens to start. The method which I shall describe I ıave never heard of being used by others, and it only applies o machines which have movable Leyden jars. The method s as follows:

Set a Leyden jar in contact with either prime conductor ınd charge it by revolving the plates and separating the liding-rods, then remove jar, being careful not to discharge t. Give the machine a few turns backward and touch the ɔrime conductors with the hands or a grounded electrode to emove all electricity, then set jar back on machine and in ɔntact with the prime conductor *opposite* the one from vhich it was taken, start machine into action and the polarty will be changed.

I find the above method very reliable and much more ɔnvenient than lifting one end of the machine and letting t drop, or pounding the floor or striking the cross-bars, vhich, after all, is very uncertain in its action. With my 3-plate 30-inch machine the above method rarely if ever ails.

LAY JOURNAL AND NOSTRUM ADVERTISING.

By G. U. HAY,
Managing Editor *Educational Review*, St John, N. B.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

DEAR SIR:—A friend has handed me a recent copy of the JOURNAL, in which is noted with approval the case of one paper, at least, which has excluded nostrum advertisements from its columns.

In the nearly 13 years that I have published the *Educational Review* no quack medicine (except two local ones in the earlier numbers) has been advertised in its columns; and though scarcely a month elapses that I do not receive offers, more or less tempting, to publish such advertisements, I have rigidly adhered to the rule. I find that it pays in the better standing that the *Review* has with regular advertisers. Certainly its pages are more decent. I send you a recent copy.

I wish you success in your crusade against what more than anything else tends to disgust newspaper readers, namely, the prominent position in reading matter and elsewhere given to the nostrum advertisement and its too frequent indecent particulars which are alike offensive to good taste and intelligence.

THE METRIC SYSTEM.

By J. M. RUBINOW, M.D.,
of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

HAVING read your editorial considering the introduction of the metric system into medical prescribing and being fully in sympathy with it (in fact using this system exclusively), I beg to offer a suggestion as to an eminently practical way of acquiring the metric habit. It may have been pointed out before, but has been "discovered" by me independently.

A two-ounce mixture is probably the most common prescription and will surely be acceptable to all. Two ounces are 60.0 (approximately) in the metric system. A teaspoonful is the usual dose. We have 15 to 16 doses in a two-ounce mixture. One gram (10) is equal to 15 to 16 grains. It follows therefore that every gram of the drug in the mixture will stand for one grain in the dose. As for instance:

℞.—Ammon chlor 2.0
Tinct. op. camph..... 4.0
Sirupa senagæ 6.0
Sirupa ipecac..... 6.0
Aqua q. s.....60.0
Mix. One teaspoonful t. i. d.

This will give 2 gr. of ammon chlor., 4 gr. tinc. op. camp., etc., etc., per dose. Remembering this simple rule any physician, even if totally unacquainted with metric system will be able to use it, and to get used to it. Putting 60.0 or ad 60.0 next to aqua he prescribes as many grams, as many grains he wants to give in a single dose. In fact if a practitioner has all his therapeutic ideas formed on the old basis, this will be the easier way still, as it does away with all calculations and at a glance indicates the doses prescribed. After a while he can try a four-ounce prescription, doubling the number of grams, and a one-ounce one, dividing them in halves. Even the one-ounce prescription will remain the most useful and simple one.

I hope this simple suggestion will prove of value to the younger colleagues, who are still open to argument.

NATIONAL THERAPEUTIC ASSOCIATION.

BY ELI H. LONG, M.D.,
of Buffalo, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

YOUR editorial entitled "A National Therapeutic Association," in the issue of November 25, 1899, opens a question that is certainly entitled to earnest consideration. It is unfortunate that we have to depend so largely upon commercial sources for a knowledge of the newer remedies, a condition of affairs that tends to prejudice us against many substances that might prove to be of value. Equally unfortunate is the tendency toward skepticism as to the value of drugs, which is rather aided by the kind of clinical lecture that gives to the therapeutics of a case too little time and no detailed consideration.

But it is agreeable to believe that, with an increasing knowledge of the actual causes of disease and with more work being done in experimental pharmacology, the branch of therapeutics will soon come to a position of more positive and of deserved importance. An association would aid greatly in this direction. A most urgent need of to-day, that might well fall within the province of such an association to supply, is that of sifting the good from the worthless among the host of new remedies. This will require careful chemical, pharmacological and clinical research that only a body that is scientific and commercially disinterested can properly direct. Who will undertake the work if not the therapeutists?

The formation of a therapeutic association, national in character, would just now be most opportune, in view of the coming convention for the revision of the pharmacopeia. Let it be organized some time *before* that convention, which meets in May, 1900, and let the U. S. Pharmacopoeia be a chief subject for discussion at the organization meeting.

RED NOSES AND VEILS.

BY EMMA L. BILLSTEIN, M.D.,
of Philadelphia, Pa.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

PLEASE grant me space to mention other causes of red nose besides the veil, and that which calls for "guarded questioning." The position of the hyperemia described in the editorial on "The Veil as a Cause of Red Nose in Women" agrees with that of acne rosacea, a disease of the face, usually confined to the middle third, affecting the nose and the area of the cheeks named by Hutchinson the flush-patch. Though seen in its severest form in men, acne rosacea is commoner in women. In its mildest grade it consists of temporary blushing of the nose and cheeks (or nose alone) after meals, exposure to changes of temperature, and, in women, before the menstrual period. "The main causes for both sexes," says Crocker, "is disorder of the alimentary canal . . . In women, also, uterine disorder is a common cause . . . Excess in alcohol in any form especially favors the worst forms of the disease, and occasionally it appears to be due to local irritants, *e. g.*, ill-advised cosmetics." A veil so tightly bound as to depress the tip of the nose possibly may act as a local irritant and etiologic factor in women predisposed to the disease by the character of their skin, enfeebled circulation, etc. If the veil be the exciting cause, improvement may follow its disuse in the early stage of the disease, before the sebaceous glands are involved. For anatomic reasons the nose is particularly susceptible to reflex vasomotor disturbance; and alcohol is but one of many causes of digestive derangement.

Red and hypertrophied nose in men in nearly all cases is said to be caused by chronic alcoholism; but H. von Hebra holds that it may occur in temperate men, and the worst case of acne hypertrophica I have seen was in a total abstainer a gentleman whose "facial eminence" rivalled that o Cyrano.

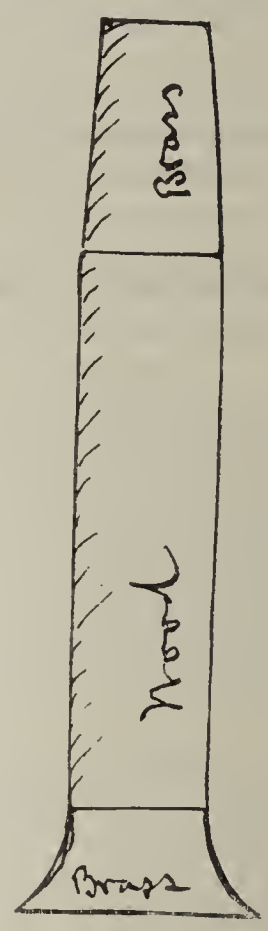
REMOVAL OF LARGE FOREIGN BODY FROM THE HEAD.

BY S. L. JEPSON, M.D.,
of Wheeling, W. Va.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN connection with the chisel case of Drs. Gamble and Tiffany the following case seems worthy of greater publicity that it has received. It occurred in the practice of the late Dr. John Frissell of this city, by whom it was reported to the State Medical Society, bnt, so far as I know, has never been published except in the *Transactions* of the Society for 1880. I give an abstract of the report.

M. F., aged 29, a millworker, consulted Dr. Frissell in July, 1875, for a running sore on his face, that originated in a fight three years before, when his antagonist struck him a severe blow with his umbrella. The wound had never healed, although but a small opening remained. The patient had been under the care of several physicians, all of whom failed to discover the cause of the suppurating sore. After several examinations Dr. Frissell detected a foreign body of metal and wood, which he succeeded in removing with forceps. This proved to be the end of the umbrella with its brass tip and ferrule. The accompanying cut represents the exact size and shape of this foreign body.



Dr. Frissell adds in his report: "In a quarrel 3 years before, this man had been struck with such force by the umbrella that the end of it penetrated the superior maxillary bone at the canine fossa, passing backward through the antrum, striking the pterygoid process of the sphenoid bone, and proceeding back to the side of the cervical vertebra a short distance below the atlas and the foramen magnum of the occipital bone. The ferrule, the end of the staff and the capping were driven in at least four inches. The staff was broken off close to the brass capping, and the skin closed over the whole, leaving only a small opening through which purulent fluid escaped. The man enjoyed tolerable health, and was able to work, with this mass of wood and metal in his head and neck for 3 years."

This man is still living, in excellent health.

FLUOROSCOPE VS. SKIAGRAPH IN FRACTURES.

BY CARL BECK, M.D.,
of New York City.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN your issue of January 27, Dr. Norman Roberts states hat "four good, clear skiagraphs were taken of an imper-ctly united tibia, before the line of separation, due to a and of fibrous tissue, was evident." This I fail to under-and. A good skiagraph *must* show the fracture line, except n a case like mine, to which Dr. Roberts refers. There was typical oblique fracture in the middle of the tibia, the acture-line running from below anteriorly to above pos-eriorly, and the upper fragment overlapping the lower nd. No lateral displacement having been present, it ill be understood why the rays, reaching the long axis f the tibia in a perpendicular direction, did not show he fracture line. But a very slight change in the osition brought out the fracture distinctly. So more than wo skiagraphs in two different positions would hardly ever e necessary in such a case.

That the fluoroscope is easier, quicker and cheaper than he plate is perfectly true, but that it should give "far more efinite information" I cannot agree to. The fluoroscope as its advantages and so has the plate. For a preliminary nd superficial examination the fluoroscope is indeed invalu-ble. For examining those organs which should be studied hile in motion—so, for instance, for observing the mechan-sm of the joints, the thoracic organs,—fluoroscopy is the eigning method. But the numerous fluorescing impressions, ucceeding each other with great rapidity, are apt to deceive he human eye, wherever the features of the lesion are not istinctly marked, while fixation on a photographic plate ives all the details exactly. Therefore fluoroscopy should e used in fractures as a preliminary procedure only. It alls attention to the seat of the fracture and determines the est position of the limb for proper fixation on the photo-raphic plate. Especially in joint-fractures it will select that ngle of flexion or extension, in which the injured portion an be brought out best on the plate.

It is the plate only which shows the details of the fracture xactly and which permits of the thorough study of the vari-us features of the fracture-type. Its comparison with the ormal skeleton will make the abnormalities evident at once nd will help the surgeon to a thorough judgment of the ase. And the value of a skiagraph for future information—ometimes for forensic purposes—should not be underesti-nated.

THE FALLACIES OF X-RAY PICTURES.

BY LOUIS A. WEIGEL, M.D.,
of Rochester, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

MY attention has just been called to the communication of Dr. Edward A. Tracy, on the "Fallacies of X-ray Pictures" in your issue of January 20. After a careful reading of this letter, I fail to find a single reason for modifying the wording of the paragraph in my paper which says, "In my opinion *many* (not all) of the alleged fallacies of the x-ray may be traced to improper adjustment of apparatus and tube in their relation to the subject." Even admitting that I may be wrong in my statement that the rays proceed from a point and are projected in a parallel direction, I do not see how Dr. Tracy can take exception to the further statement "that unless a sufficient distance is maintained between the source of light and the subject on the plate, exaggeration and distortion are unavoidable." The whole contention of your correspondent seems to hinge upon the question whether or not an x-ray picture is mathematically correct even down to the one-thousandth part of an inch, while my assertion is that radiographs may be made accurate, for all practical purposes, by observing certain precautions.

I was led to write the paragraph in question not because I fail to recognize possible fallacies, as Dr. Tracy's letter seems to intimate, but because this fact was strongly before me. The whole plea of my paper for extreme accuracy was based on this very point, and I wished to impress upon my readers the necessity of eliminating to the fullest extent all *avoidable* sources of error. Among the pictures sent to illustrate my article were two radiographs which were intended to demonstrate how easily a distorted picture could be made, but unfortunately lack of space prevented their reproduction.

I once attended a meeting where the subject of x-ray pictures was up for discussion. Dr. A., in reply to my remarks upon the care necessary to do reliable work, said, "I see no use in going to all this trouble in adjusting the tube in its relation to the plates, the subject, etc., I simply slap a plate under the part, put the tube over it and let it go at that." The next speaker, Dr. B., said, "I don't think the x-rays are reliable, because I took a patient to Dr. A. and his x-ray diagnosis was all wrong and the operation I did was useless." Is not the above actual occurrence a sufficient justification for the first part of the paragraph quoted?

Dr. Tracy also quotes another paragraph to which he takes exception. This paragraph, referring to the use of the fluoroscope, needs no more modification than the first one quoted. The concluding four lines which Dr. Tracy very unjustly omitted from his quotation, make my meaning in regard to the unreliability of the fluoroscope under certain circumstances perfectly clear. The whole paragraph from which he quotes has no bearing whatever on the question of the infallibility or fallacy of the x-ray, and your correspondent was not justified in quoting the few lines he did with the evident intention of proving that I failed to appreciate the important points he so kindly "hastened to bring . . . to the attention of the medical profession in the medical journal leading at that time."

I regret that some of your contributors did not accord to Dr. Tracy's paper, which he evidently considers unique, the recognition he thinks it ought to have. It may perhaps be just as well to state that other writers recognized possible fallacies even before his paper was printed. Thus, for instance, DeForest Willard, in a paper read before the surgical section of the American Medical Association in 1897, said, "Although skiagraphy is a most valuable assistant, a word of caution is necessary. It has been most conclusively shown that the position of the tube, the direction of the rays, the method and time of exposure, the magnification of portions of an object not in contact with the plate, the elongation of shadows from distant portions of an object, together with other varied conditions, may so completely distort the resultant image, that error is certainly possible." As early as May 1, 1897, Dr. E. A. Codman, of Boston, called attention to several distortions and inaccuracies, in a paper which your correspondent has undoubtedly read.

Dr. Tracy seems to find considerable comfort in the report of the bullet case referred to by Dr. Keen, and evidently thinks he has scored a point against me. Dr. Ames, who took the original picture of the case, well says: "A picture to tell

the truth must have the plate, the object to be photographed, and the tube in proper relation during the exposure." In this particular case it is evident that Dr. Ames did *not* observe these precautions, as a single glance at his radiograph is sufficient to show that the tube was far from being at right angles to the leg or the plate, when the picture was made. It would be interesting to have Dr. Ames state exactly how his patient was placed during the exposure, and what means he adopted to secure an accurate picture. This case may be another illustration of my contention that many times the operator and not the method is at fault.

The medicolegal aspect of radiography is an important topic, and in the near future I may have something to say on the subject. There are two sides to the question, and I fully agree with your correspondent that x-ray pictures should not be received as evidence in suits for malpractice against surgeons, especially if such radiographs are made by men who ignore even the most ordinary precautions.

Dr. Tracy would have you believe that I consider the x-ray absolutely infallible under all circumstances, and yet there is not a single line in my paper that justifies any such conclusion. Perhaps the doctor overlooked the following: "In radiographs all parts lying in different planes are projected into one, and stereoscopic relief is absent. It may be that the perfection of stereoscopic radiography will soon be reached, and overcome this *defect*." I flatter myself that no unbiased reader will fail to understand the motive of my paper, which, as its title implies, was intended to bring out a few practical points and to emphasize the necessity of thoroughly good and accurate work. Theoretical speculations were entirely foreign to the subject from my standpoint and hence were not considered.

In justice to myself I cannot let one other statement of your correspondent pass unnoticed. Dr. Tracy says, "I remember sending a reprint (of his paper) to Dr. Weigel by request," thus implying that I had no excuse for not referring to it in my article. In reply permit me to say that the doctor must be endowed not only with a wonderful memory, but with a lively imagination as well. I never had any correspondence with him, and neither asked for nor received a reprint of his unique paper. While I try to keep in touch with current medical literature, this particular contribution escaped me, which I greatly regret. If Dr. Tracy will kindly send me a copy now, I will peruse it with pleasure and try to digest all the food for thought it may contain. I will probably then be able to purge myself of "indefinite asseverations of suppositive conclusions" and qualify myself to "controvert my (his) position in a bold and frank manner."

Pylorectomy.—Theodore A. McGraw (*The Physician and Surgeon*, October, 1899) reports a case of pylorectomy in a man, 48 years old. The patient had been a dyspeptic for many years, and had learned to wash out his own stomach. He never vomited nor showed symptoms of obstruction. Two months before the operation a rapidly growing tumor was noticed in the epigastrium. During the past 6 months he had lost 40 pounds in flesh. Examination of the stomach-contents showed an excess of lactic acid but no HCl. On opening the abdomen the tumor was found to involve the entire lower third of the stomach, completely surrounding it. The diseased portion of the stomach and about an inch of the duodenum were removed. A gastroenterostomy, connecting the stomach and duodenum, was made. The patient died of shock within an hour after the operation. The case shows that carcinoma may completely encircle the pylorus without causing obstruction, the ulceration keeping pace with the growth of the cancer. In this case the pyloric orifice was even larger than normal. [M.B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending February 27, 1900:

Tuesday, February 20—College of Physicians, Section on Ophthalmology.

Thursday, February 22.—Pathological Society.

New Hospital Building at Jefferson Medical College.—The Board of Trustees of Jefferson Medical College have taken steps for the erection of a new hospital on the site of the old college property, at Tenth and Sansom Streets. The proposed building will be in harmony with the new college building adjoining, and the present hospital on Sansom Street will be converted into an out-patient department and nurses' dormitory.

Medical Society of Germantown, Philadelphia.—At a meeting held February 12, DR. A. O. J. KELLY read a paper on **The pathogenesis and diagnosis of aneurysm of the aorta.** Reference was made to the incidence of aneurysm at a comparatively early age, to the preponderating number of males affected, to the question of the etiologic relationship of syphilis, which seems to have been overestimated, and to the relative frequency of the aneurysm in various situations. Particular attention was directed to the importance of alterations in the median coat of the vessel in the pathogenesis of the condition. The consideration of the diagnosis bore particularly upon the recognition of latent aneurysm or aneurysm in its earliest stages, and the importance of signs connected with the larynx, the trachea, the esophagus, and certain intrathoracic nerves was pointed out. The significance of tracheal tugging, as contrasted with a mere pulsatile movement was insisted upon, as was also that of Carderelli's sign, persistent and especially localized substernal pain, pain in the region of the vertebrae, and various auscultatory phenomena.

Vital Statistics of Philadelphia for the week ended February 10, 1900:—

Diseases.	Cases.	Deaths.
Total mortality		531
Pneumonia 87, congestion of the lungs 6		93
Pulmonary tuberculosis		61
Nephritis 24, uremia 10		34
Heart-disease 31, neuralgia of the heart 1,		32
Apoplexy 19, paralysis 7		26
Diphtheria 23, membranous croup 3	126	26
Marasmus 15, inanition 4, debility 6		25
Bronchitis		21
Casualties 17, burns and scalds 2		19
Inflammation of the brain 16, congestion of the brain 2		18
Convulsions		18
Carcinoma 13, tumor 2		15
Gastroenteritis 13, cholera morbus 1		14
Senility		13
Scarlet fever	94	7
Typhoid fever	56	6
Cerebrospinal meningitis		3
Cirrhosis of the liver 7, measles 7, intestinal obstruction 5, rheumatism 5, septicemia 5, pulmonary hemorrhage 4, peritonitis 4, cyanosis 3, erysipelas 3, influenza 3, appendicitis 3, edema of the lungs 3, suicide 3, drowned 2, dropsy 2, epilepsy 2, pericarditis 2, pleuritis 2, ulceration of the stomach 2, pertussis 2, abscess of the brain 1, aneurysm of the aorta 1, alcoholism 1, asthma 1, parturition 1, diseases of the brain 1, puerperal fever 1, fracture of the skull 1, cerebral hemorrhage 1, cystitis 1, hepatitis 1, neuritis 1, jaundice 1, locomotor ataxia 1, opium poisoning 1, pyemia 1, sclerosis 1, tabes mesenterica 1 tetanus 1, ulceration of the bowels 1.		

College of Physicians of Philadelphia—Section on General Medicine.—At a stated meeting held February 12, DR. F. A. PACKARD read a paper on **Diet in typhoid fever,** in which he discussed the wisdom of increasing the variety of food, particularly with the advent of defervescence. DR. J. H. MUSSER made remarks on **the use of stimulants in typhoid fever,** pointing out the necessity for the use of alcohol in asthenic cases, when the

gue is dry, the secretions generally deficient, the e feeble and dicrotic, the heart-sounds faint, and ttering delirium are present. He enjoined care in avoidance of excess. DR. J. M. ANDERS read a paper on **e use of intestinal aseptics in typhoid fever.** I advocated an initial dose of calomel, the administration hydrochloric acid and of salol, and the judicious employ- nt of rectal injections. DR. JAS. TYSON spoke of milk as deal food, for a substitute for which he felt no need of xing. DR. JUDSON DALAND referred to the use of rec- a injections of salt-solution. DR. J. P. CROZER GRIF- TH expressed his preference for a milk-diet. DR. B. F. HL referred to modifications of milk for increasing its atability and overcoming its tendency to form large ds. DR. H. A. HARE stated it as his rule to include from 4 eggs daily in the diet in cases of typhoid fever, and ard the close of the disease also of corn-starch and ined rice. He pointed out a possible danger from undue of strychnin for more than a few days.

athological Society of Philadelphia.—At a meet- held February 8, the president, DR. F. A. PACKARD, orted a case of **hemorrhagic pancreatitis,** occurring n man, aged 63 years. He had suffered with severe pain he epigastric region, nausea, prostration, and died sud- ly. Examination after death revealed the lesions of nsive pancreatitis.

R. JAMES HENDRIE LLOYD reported a case of **hemato- elia.** The patient was a woman, of middle life, who fell n stairs, and was found paralyzed from the neck down- d. Motion and sensation were equally involved, but in course of several days there was some return of thermo- esiesia. and the kneejerk could be elicited. The lesions e thought to indicate a transverse lesion of the fourth fifth segments, and a partial involvement of the third ement. Postmortem examination revealed extensive morrhage into the anterior portion of the posterior lumns, and some hemorrhage also in one of the lateral lumns. The rarity of the condition was commented upon.

RS. M. P. RAVENEL and C. Y. WHITE reported a case of **perimental tuberculosis in a goat.** A pure culture he tubercle-bacillus of bovine origin was injected directly n the right lung. There resulted a diffuse pneumonia and eneral infection, as indicated by the fact that smear prep- rations made from any portion of either the liver or the een resulted in the detection of large numbers of tuber- lbacilli. Reference was made to the differences in his- logic details presented by sections as compared with the eons in human tuberculosis—no typical tubercles were nd, and there were no giant cells. The pulmonary al- li were filled with proliferated septal cells, leukocytes, d round cells. The case was considered of great impor- ace, as the goat is one of the most refractory animals to th natural and experimental tuberculosis.

DR. M. P. RAVENAL read a paper entitled **Experimental oculation of calves with syphilitic virus.** He ailed the results of experiments consisting in the inocu- ation of two calves with fresh syphilitic virus with negative sults in both cases.. When the animals were killed, after lapse of several months, there had been no infection with virus of syphilis, and it was impossible to detect the nt of inoculation.

DRS. HENRY D. JUMP and J. DUTTON STEELE reported a se of **thrombosis of a coronary artery, contracted dneys, and malformation of the liver,** of a woman, d 53 years, who had frequent attacks of uremia.

NEW YORK.

The Pollution of Streams.—The Assembly Commit- e on Public Health has reported favorably on Dr. Henry's ll, giving to the State Board of Health additional power in e matter of protecting the waters of the State from pollu- on.

Hospital for Deformed Children.—A bill is also fore the Legislature, providing for the establishment in or ar New York City of a State hospital for crippled and de- rmed children, and for a board of managers, one of whom all be an orthopedic surgeon of experience. An appro- priation of $15,000 is made for caring for such patients this ear in some New York hospital.

St. Vincent's Hospital.—As a testimonial to the memory of the late John Kelly, a number of his friends have begun contributing to a fund of $30,000 for endowing a non-sectarian ward in St. Vincent's Hospital. The first evening the project was discussed more than $15,000 were subscribed, and the whole amount would have been raised then and there had it not been thought proper to give opportunity for others who were absent to participate in the testimonial.

Recovery After a Broken Neck.—Two months ago, Bartholomew Moriarity, 65 years old, fell from a scaffold in Dobbs Ferry, and, although his neck was broken, and he was partially paralyzed, he walked to Yonkers, a distance of 6 miles, and entered St. Joseph's Hospital. Quite naturally, his story was at first received with incredulity, but an examination with the x-rays showed that the man had really sustained a fracture of the cervical vertebrae. His neck and shoulders were incased in plaster-of-paris after having removed the broken fragment, and satisfactory union of the fracture was secured. The plaster dressing was removed three weeks ago, and the man was discharged cured last week.

Dressing Burns With Silver Leaf.—A trial is being made at Bellevue Hospital of a novel method of dressing burns, first introduced at the Johns Hopkins Hospital. It consists in covering the burned surface with silver leaf, using no adhesive material. As far as it has been used in Bellevue it has given satisfaction. As it only adheres to the unbroken skin, it affords a good protective dressing which can be renewed without causing pain. This freedom from pain and shock constitutes its chief value as a dressing for burns. It is also being used at present in the new Albany Hospital for dressing the wounds in cases of abdominal surgery. The silver leaf is held in place merely by a retaining gauze bandage.

Gas Leakage and the Public Health.—A bill has been introduced into the Legislature which, if enacted into law, will compel all gas companies in the State to report semi-annually to the State Board of Health certain data regarding the percentage of gas unaccounted for, the size of the gas-mains and their total mileage. These reports are to be transmitted promptly to the Mayors of the citics and the boards of health of towns in which the gas companies making these reports are doing business, together with such suggestions as the State Board may think proper. Where it is found that the leakage of gas is excessive, or endangers life or property, the State Board of Health is empowered to investigate, and to take such steps as may be necessary to abate the nuisance. Provision is made for proceedings being taken against any company failing to make the required report.

The Long Island State Hospital.—The failure of Governor Roosevelt to reappoint on the Board of Managers of this hospital Dr. Truman J. Backus, a well-known educator, and a most energetic manager, has aroused much indignant criticism. The Governor refuses to disclose his reasons for such action at the present time, so they remain only a matter of conjecture, and while rumors are flying thick and fast, it seems probable that this unlooked for step is the result of a series of complaints that have been made regarding the disinclination of the management to carry out the expressed will of the State Lunacy Commission. However, Dr. P. M. Wise, the president of this commission will not admit this, and asserts that Dr. Backus was a most excellent manager, and one in whom the majority of the commissioners placed the greatest confidence. Mr. Bradish Johnson is his successor.

The Commitment and Custody of Children.—Assemblyman Marburger has introduced into the Legislature a bill providing that no child under 10 years of age shall be committed to any institution by any judge or magistrate in this State. All such children must be brought before the Superintendent of the Poor of the county, or to the Commissioner of Charities in Greater New York, for final disposition. Such child may be committed for proper cause to an institution of the child's faith or that of its parents for a definite period, the commitment being renewable at the expiration of the prescribed term if such action is warranted.

This bill also provides that these authorities, already mentioned, shall have full power to investigate the condition of all children in institutions wholly or partly supported by public funds, and if, in their judgment, the interest of such child would be better served by being discharged, this shall be done, two months' notice being given. If the institution fails to obey this order, public support of such child shall be withheld, and no more children shall be committed to such institution until the order has been obeyed.

Lepers in New York City.—The newspapers recently printed a statement from Dr. A. S. Ashmead, to the effect that as many as 100 lepers were at large in New York City, and that the Board of Health was disinclined to take cognizance of this fact. This provoked a reply, in the form of a personal letter from President Murphy, in which the latter threw down the gauntlet to Dr. Ashmead, and requested him to come to the Health Department and make good his assertion. Dr. Ashmead has replied, reiterating his former statement, and backing it up with quotations from such recognized specialists as Dr. Prince A. Morrow, and Dr. George H. Fox, which go to show that there are at least 25 lepers at large in the city, and that they go and come from physicians' offices like other citizens. He also directs President Murphy to the Bowery museums for examples of freak lepers, and reminds him that there is good reason for believing that since our war with Spain many lepers have come here from Cuba. Regarding the attitude of the Board of Health, Dr. Ashmead says that at one time when he reported a case of leprosy, he was informed that the board did not care for such information, as it took the ground that leprosy is a noncontagious disease, and does not require isolation. It may be recalled in this connection, that when Dr. George B. Fowler was commissioner of health he took this position, and publicly declared at the New York Academy of Medicine his belief that certain lepers then confined on North Brothers Island should be set free. Public opinion was not ripe for the official discharge of these persons, but within a week or two the newspapers recorded the fact that these lepers had "escaped."

To Modernize Quarantine Methods.—There has been introduced into the Legislature by Assemblyman Kelsey a bill, drafted by the Health Officer of the Port, Dr. Alvah H. Doty, which is intended to wipe out of existence certain moss-grown laws passed many years ago, and which are now a laughing stock to those versed in the sanitary science of the present day; in short, the bill, if it becomes a law, will harmonize and modernize the various components of the quarantine law, and will remove the conflict of jurisdiction between the Quarantine Commission and the Health Officer. It is true, that this contemplated legislation will greatly increase the powers of the latter officer, but these added powers will be chiefly discretionary, and he will be relieved of the onus of working under traditional, antiquated, and, for the most part, inefficient methods of procedure. This measure also provides that the incinerated remains of persons who die of infectious or contagious diseases shall be kept by the Health Officer until claimed by relatives or friends of the deceased, and that burials shall hereafter take place on Swinburne, instead of on Hoffman's, Island. In this connection, it may be mentioned that there has been lately a decided relaxation in the quarantine regulations concerning ships and cargoes arriving from plague-infected ports. For example, coffee ships from Santos are not to be required hereafter to unload their cargoes in the harbor on to lighters, but may unload at the city piers. This change in front has followed a conference with the authorities at Washington, but is due, Dr. Doty insists, chiefly to investigations which he has been conducting ever since the arrival of the first plague ship. Careful bacteriological research has failed in every instance to detect the plague germs in the rats removed from the holds of the suspected ships; moreover, not one of the men who have been engaged during the past three months in handling the cargoes of these ships has become infected with the plague. These two facts, together with a full appreciation of the teachings of modern sanitary science, are responsible for this letting down of the quarantine bars. Of course, this modification of the rules does not affect ships having on board suspicious cases of illness.

NEW ENGLAND STATES.

Typhoid Germs in the Milk.—On the route of o milkman at Brockton, Mass., 15 cases of typhoid fever dev oped. In Norwood, Mass., a similar outbreak has be traced by the State Board of Health to the well-water which the cans were washed.

Diphtheria at West Springfield.—The Massach setts State Board of Health is investigating the epidemic West Springfield. It is regarded as serious. In the last months that town has had 10 times as many cases of dip theria to each thousand inhabitants as Boston, and in Bost the rate is far ahead of any recent year. In Medford t of the large schools have been closed on account of dip theria.

Thurber Medical Association, Milford, Mass. At a regular meeting, held February 1, the following pape were read: **The evolution of the Hospital,** by DR. GRAND BLAKE, of Milford; **The treatment of go orrhea,** by DR. H. L. KEITH, of Milford; **The treatme of pleurisy with effusion,** by DR. N. C. B. HAVILAND, Holleston.

It was voted to offer a prize for the most meritorious pa read before the society during the year, the decision to made by vote of the members.

The Crematory Society of Boston is showing remarkable growth. Dr. James R. Chadwick, at the rec meeting of the society, reported that 230 bodies were incin ated in 1899. The number in 1898 was 167; in 1897, 160; 1896, 137; in 1895, 88; 1894, 87. The society has acqui ten acres adjoining their chapel, and thus placed their tablishment beyond the reach of future intrusion. There still a surplus of $5,428 in the treasury, so that the mana ment has decided to complete the interior decorations of chapel. The receipts from 230 cremations are $6,896; fr sale of urns, $423. The large number of notable pers who have chosen incineration shows that the sentiment its favor is growing very strong in Boston.

Suffolk District Medical Society; Surgical S tion.—At the last meeting DR. JOEL E. GOLDTHWAIT rea paper entitled **Operative surgery of the knee-joi in non-tubercular processes.** He reported 25 n tubercular aseptic cases, in which the knee-joint had b opened freely without disturbing the permanent functio use of the joint. Of the cases one was an ordinary lo cartilage; 7 were displacements of the semilunar cartil in which the cartilage was removed; 7 were exploratory cisions to determine the exact nature of the disease; 9 w cases of synovial fringes or masses of coagulated fibrin, wh were removed, and one was a case of extensive plastic surg to enable an old dislocation of the patella to be reduc In none of the cases did any unpleasant results follow ope tion. He emphasized the fact that under proper precauti the knee-joint or any of the other large joints can be ope with no greater risk than is occasioned by opening the abdo nal cavity. The popular impression that it is more danger to open the large joints than the other large cavities is d largely to the unfortunate results which attended such ope tions performed in pre-antiseptic days. He also maintai that in cerain types of joint-disease in adult life it is ab lutely impossible in the early stage to determine the ex nature of the disease. It is absolutely impossible at times differentiate between beginning rheumatoid disease and berculosis in the same stage, and also the so-called hydr and tuberculosis are frequently confused. Because of desirability and the great importance of determining at t time the exact nature of the disease exploratory incisi for diagnostic purposes were strongly urged. Cases w stated in support of this theory.

The Boston Society for Medical Improveme —At a meeting of this society, held February 8, DR. JAME STONE presented a paper on **Injuries about the sho der-joint during birth.** He said that obstetrical p alysis involving principally the deltoid and supra- and in spinatus muscles, together with the teres minor, bice brachialis anticus, and supinators is the most common s ous injury about the shoulder. Experiments show that i caused by stretching and in some cases by rupture of the fib of the fifth and sixth cervical roots of the brachial plexus n

ir junction, all of the paralyzed muscles being supplied these nerve-roots. This stretching is due to separation of head from the shoulder and is limited to these upper roots owing to the more horizontal course of the lower ts of the plexus. It is aided by the short course and at might be termed the distal attachment of the supra- pular nerve at the suprascapular notch and of the cir- nflex where it winds about the head of the humerus. paration of the cartilaginous head of the humerus is bably very common, impossible of certain recognition l unimportant clinically. Fracture of the humerus, of the clavicle cannot very often escape recognition r careful examination. The glenoid may experimentally broken off as a whole from the rest of the scapula. It is possible experimentally to dislocate the humerus owing the fact that other lesions occur first. Obstetrical paraly- is usually recovered from fairly promptly, but if decided provement does not occur within 6 or 8 weeks the prognosis comes more grave. Owing to contracture of the internal ro- ors backward luxation of the humerus is apt to occur, owing a gradual stretching of the posterior portion of the capsule. ere is in these cases no fracture of the glenoid and no ual rent in the capsule. Most cases of so-called congenital location of the humerus belong to this class which result m paralysis, though there are a few resulting from true trauterine lack of development. It may be possible in es of severe obstetrical paralysis to suture the bone nerves. cases where dislocation has occurred as a result of the alysis, the difficulty is not in reducing but in retaining the ad of the humerus within the glenoid cavity. Section of contracted pectoralis major is of benefit. Possibly trans- in the insertion of the latissimus dorsi may be useful.

New Departure in Teaching Physiology in Harvard.—On February 8, a new departure in the teaching of physiology was inaugurated at the Harvard Medical School. The first-year students, who, according to the new curricu- m, devoted the first half-year to anatomy, histology, and embryology, then turned to the schedule of the second half, which embraces physiology and physiologic chemistry. It is believed, that by concentrating the attention of students upon physiology during an entire half-year, more satisfac- ory results will be obtained than was possible when other nches divided the time for a whole year. The course sists of laboratory experiments from 2 to 4 hours daily, owed by lectures or recitations on the work of the day and the afternoon, lectures, demonstrations, or recitations in mistry, with laboratory exercises of at least 3 hours' du- ion. Dr. Henry P. Bowditch is at the head of the depart- nt of physiology, and is seconded by Dr. W. T. Porter in physiologic laboratory, and by Dr. W. B. Hills in the mistry of the study. The aim is to give the students as ch original, practical work as possible, and to that end laboratories are given a place of first importance. Porter outlines what the course seeks to offer as ows: "(1) A thorough experimental acquaintance with field, say the physiology of nerve and muscle, giving the nt of view, the general physiologic method, training in thnic, a basis of analogy, adequate knowledge of our living ue and thus the elements of all; (2) the fundamental mentary experiments in the remaining fields; (3) thorough erimental acquaintance with one special subject; (4) ious complementary gains of which may be mentioned erience in reaching the original sources and in marshal- facts, a certain degree of skill in the methods used by ctitioners, direct correlation between physiology and ctical medicine." In preparation for the new course two oratories have been fitted up with apparatus for 180 dents. Two students are assigned to each set of appa- us because very many experiments are best conducted two persons. The first issue consisted of 61 pieces, l included a capillary electrometer with box and mp, electromagnetic signal, gas chamber, heart-holder, luctorum, wheel interrupter, kymograph, muscle-clamp, uscle-lever with weight pan, nerve-holder, pole-changer h paper dish, rheocord, tuning-fork, etc. Much of the paratus was especially modeled by the laboratory mechanic the work it was to do, and then bids for 100 or more plicates needed were received in the open market. In s way the construction was economically made. The pe of the course can be illustrated by the program for the day. Suppose the subject is the control of the heart through the vagus-nerve. The student from 9 until 11.30 investigates for himself the action of the vagus on the heart of a frog, and makes notes of his observations, and studies as well the preparation and graphic records furnished from the collections of the department. The class then spends a half-hour listening to some thesis on the vagus-nerve prepared by some member of the class, and discusses the topic with the instruction. A brief lecture by the professor of physiology closes the morning program. Then class goes to the chemical laboratory and there works upon subjects connected with the morning topic. The subjects studied are the carbohydrates, the proteids in their comparative relationships, chemical properties; the chemistry of epithelial, connective muscular and nervous tissues, the chemistry of digestion; bile, blood, lymph, milk and urine. The class has begun its work with enthusiasm, and Professor Bowditch believes it will show results that will justify the advance in methods.

CHICAGO AND WESTERN STATES.

South Chicago Hospital.—A movement has been started to raise funds for the erection of a hospital at Calumet Heights. There is need of such an institution in that district.

Chicago Medical Examiners' Association.—At the annual meeting, held January 30, the following officers were elected for the current year: President, Dr. Denslow Lewis; vice-president, Dr. W. K. Harrison; secretary, Dr. George F. Butler; treasurer, Dr. J. Homer Coulter.

St. Luke's Hospital, Chicago.—February 16 an entertainment will be given at the Fine Arts Building for the benefit of this hospital. It is said, that, owing to its present limited income, this institution has been obliged for the last year or so to keep nearly 60 of its 170 beds empty to avoid a deficit.

Hospital for the Treatment of Consumptives, Chicago.—The citizen's committee, having in charge the erection of a hospital for the treatment of consumptives, has received nearly $15,000 towards its erection. The committee is working for a fund of at least $25,000. The hospital will be constructed to care for 300 patients.

Passavant Memorial Hospital, Chicago.—The proceeds of a recent entertainment given at the residence of Mrs. Potter Palmer were given to this hospital. This well-known charitable institution was founded prior to the great Chicago Fire of 1871 through the earnest and tireless efforts of the late Rev. W. A. Passavant. At first, its equipment was primitive, and its capacity limited to 15 beds.

Chicago Medical Society.—At a clinical meeting, held February 7, 1900, DR. A. E. HALSTED showed 4 patients. The first was a case of **ligation of the first portion of the right subclavian artery for aneurysm of the third portion.** The second case was one illustrating **Senn's method of closing an artificial anus.** The third, one of dislocated **semilunar fibrocartilage of the right knee,** treated by removal of the cartilage. The fourth case was one of **complete rupture of the quadriceps extensor tendon,** treated by suture of the tendon.

DR. E. J. SENN reported a case of **nerve-suture** showing an excellent functional result one year after the injury. He also narrated a case of **subtrochanteric amputation of the thigh** for diffuse carcinoma.

DR. J. HOLINGER exhibited 3 patients upon whom he had performed a **radical mastoid operation for chronic suppuration of the middle ear,** with gratifying results in all of the cases.

DR. J. RAWSON PENNINGTON exhibited an **inflating rectal specula with detachable tubes,** and gave a brief description of them. He also called attention to and exhibited a mechanical device known as an automatic valve clip.

Chicago Society of Internal Medicine and the Chicago Medical Society.—At a joint meeting of these societies, held January 31, the subject of **typhoid fever** was discussed from various aspects.

DR. FRANK BILLINGS read a paper on **The treatment of typhoid fever.** This will appear in the JOURNAL, March 3.

DR. WILLIAM E. QUINE discussed the subject of **The treatment of typhoid fever in private practice** under the following heads: Prevention, general management, diet, water, medicines, alcohol, antipyretic medicines, intestinal antisepsis, hydrotherapy. Theoretically the disease is preventable, and that without reference to antitoxin inoculations; but in private practice especially and in hospital practice to a large extent also, the measures of prevention perfunctorily employed are often a mockery of science and an insult to the conscience of the profession. As to general management, the patient is to be kept, when practicable, in a well-lighted and well-ventilated room as far from the living rooms and as near to the toilet-room as possible; and the distinction between day and night is to be maintained throughout the entire course of the disease. A good trained nurse is an invaluable coadjutor. In severe cases, when the circumstances of the patient admit of it, two nurses should be employed, one for the night and one for the day. In any case the nurse should receive a reasonable allotment of time for sleep and for outdoor exercise. Speaking of diet, he said that milk is to be given to the extent of 3 pints in 24 hours when it is the main support of the patient, or even more freely than this when it is well digested. Eggs are not as generally given in typhoid fever as they ought to be. The abundant internal use of water is essential to the good management of any case of typhoid fever. It promotes elimination, quiets delirium, subsultus and jactitation, and favors sleep. He thinks no intelligent physician will maintain that in ordinary cases of the affection the internal administration of medicines is an essential feature of good management; but, in practice, when confronted by such a case, who does not begin, at once, a vigorous therapeutic bombardment of it, which continues till the patient is dead or well? Alluding to alcohol, he believes that its indiscriminate use, in quantities sometimes that would actually imperil the life of a well man, is as irrational, reprehensible and disastrous as is the indiscriminate use of the coal-tar derivatives, which undoubtedly increases the duration of the disease, including the number of relapses; and it increases liability to intestinal hemorrhage. The idea that typhoid fever can be aborted by the administration of antiseptics and purgatives is a vain dream. But it by no means follows that intestinal disinfection and drainage are either unscientific in theory or useless in practice. Any good effects produced by medicines of this class are apparently ascribable to the inhibition of putrefactive processes in the bowel and of secondary intoxications of the blood. With reference to hydrotherapy he has had patients refuse the Brand method of treatment again and again. While there can be no question as to the practical success of the method in hospital practice, its acceptability in private practice in America is certain to be of slow growth. Two persons are required to administer a bath to a very sick adult; and if the patients be uncommonly heavy and helpless, and so sick as to require repetition of the baths every few hours night and day for weeks, the service cannot be commanded in poor families. No person will be attracted to the treatment by seeing it administered. The laboriousness of it; the upheaval of the household it usually occasions; the appeals, protests, commands and pitiful attempts at resistance of the patient; the shudderings and cyanosis and pinched expression of misery while in the bath, and the occasional occurrence of an involuntary discharge, together with the knowledge possessed by relatives of cases of typhoid fever not treated in this way which eventuated in easy recovery, oppose a formidable resistance to the general adoption of hydrotherapy in private practice, which can be conquered only by the slow process of education.

DR. FRANK S. JOHNSON contributed a paper on the **Hospital treatment of typhoid fever.** The hospital treatment of the disease he classed under three general heads: Expectant, intestinal antisepsis, and heat reduction. None of these plans alone is fully adequate. The invariable practice is a blending of two or all of them. The writer quoted statistics at great length from all methods of treatment, and it would appear from that data given that many facts have been firmly established with reference to the management of this affection. There is, however, still a broad field for investigation, and many details are as yet under judgment. Confusion in results seems to arise largely from the prot aspects of the malady.

DR GEO. W. WEBSTER discussed the **Treatment of t medical complications of typhoid fever.** He said t the most important complications in connection with circulatory organs are endocarditis, pericarditis, myocardi arterial and venous thrombosis, embolism, and hemorrha In the treatment of acute endocarditis, the most import factor is absolute rest—physical, mental—sufficient sleep, a reasonable freedom from pain. When the heart's actio becoming enfeebled, there is restlessness, some breathl ness, pain and anxiety, there is often a temptation to g digitalis. This should not be done because of its useless and danger. The same holds true with regard to myoc ditis. Opium in some form, either morphin or heroin, is most valuable drug in the treatment of acute endocardi The next in order of efficiency and value are strychnia, o gen, ammonia, caffein, camphor hypodermically in ste ized olive oil. Nitroglycerin is useful in cases in which blood pressure is too high. The speaker discussed the ot complications and their treatment at considerable length

SOUTHERN STATES

Dr. Charles R. Bardeen, Associate in Anatomy the Johns Hopkins University and a graduate of the med department of that school in 1897, has been asked to acc the Chair of Anatomy in the University of California.

The Medical and Chirurgical Faculty of Ma land held a special meeting February 9 to consider s amendments to the Medical Practice Act, which will urged for adoption by the Maryland State Legislature, in session at Annapolis. The most important features of amendments are: (1) A definition of what constitutes practice of medicine; (2) a raising of the standard so t applicants for the State Board examination shall have gra ated from a reputable college which provides the four y graded course as determined by the American Associatio Medical Colleges (the present law having been passed be the four-year courses were entered upon has given the s privileges to candidates from the three-year colleges a those of the higher institutions); (3) a reciprocity cla which allows for the registration without examinatio physicians who come from other states that have laws w requirements are equal to or greater than those of Maryl provided, of course, they have complied with those l requirements; and (4) some technical changes in the fo tion of the board and the manner of conducting the ex nations. The subjects of examination are also to be s what modified; for instance in chemistry, an applicant only be expected to have a knowledge of such chemistr applies to medicine and not as heretofore have to pre for an examination that might cover the whole field of eral chemistry. It is thought the amendments would v improve the existing law and every effort will be mad secure prompt and favorable action upon them by the l lature.

Johns Hopkins Hospital Medical Society.— meeting held February 5, DR. PENROSE presented a p entitled, **Further facts in the treatment of pul nary affections by the inhalation method,** in w he discussed the effects of inhalations of a mixture of sote, oil of turpentine, and compound tincture of benzoi various conditions of the respiratory organs, using st compressed air, or preferably oxygen as a vehicle. Th halations were accompanied by systematic exercise. thinks this method especially beneficial in chronic for bronchitis where pus-organisms are found in the spu and in catarrhal conditions of the pharynx and nasopha The antiseptic action of the inhalations is manifeste rapid disappearance of such organisms from the spu sweet breath and healthy condition of the tongue and m In cases of grip and acute coryza the action of such in tions were considered to be of great value.

Three cases were selected for exhibition as represe different conditions treated:

CASE 1.—Pulmonary tuberculosis, in which oxygen was 2 or 3 times a day, passing it through a pint of boiling w in which 1 dram of the inhalation mixture had been pl There was rapid diminution in the amount of sputum

ppearance of pus-organisms therefrom, less cough, and a in of 7 pounds in 2½ months of treatment.

CASE 2.—Chronic bronchitis of 3 years' standing, which d resisted various other treatments, but was cured in 5 onths by inhalations.

CASE 3.—Chronic infantile putrid bronchitis of twelve ars' duration and treated by various methods at different aces, including the mountains of Mexico and resorts in is country. Eight months' treatment by inhalations of xygen passed through the mixture mentioned produced a in of 28 pounds, an increase of 4 inches in chest circumrence, absence of all sputum, and the entire cessation of ver, which had been high and constant.

The mixture used by Dr. Penrose consists of creasote and l of turpentine, each 3 drams, with tinct. benzoin co. 3 nces, one dram to be used in a pint of boiling water.

DR. HURD asked if this method had been tried extensively tuberculosis, and DR. THOMAS referred to Dr. Trudeau's perience with various forms of inhalations, even including ydrofluoric acid gas, but stated that, other than a temporary sappearance of the tubercle-bacilli, he thought there had en no marked benefit. DR. PENROSE replied that he had ed the method in only one case of tuberculosis and did not ggest it as a cure of that disease, but merely to combat e secondary conditions due to pus-organisms and which e often so troublesome.

DR. PLATT exhibited a case of **congenital hip-joint islocation.** The patient was a child, 6 years old, who uld walk and run fairly well, but had a decided limp which d been present from the earliest attempts to walk. He so exhibited a case of **congenital perforation in the alato-glossal muscle of the left side.** The perforion was probably 10 or 12 mm. in diameter and one could e the tonsil through it.

MISCELLANY.

Obituary.—DR. WILLIAM H. CARSON, New Orleans, La., ebruary 3, aged 84 years.—DR. ERNEST G. METCALF, Brookn, N. Y., February 2. aged 49 years.—DR. FRANK HODGIN, of Chestertown, Md., in Wilmington, Del., January 30. DR. JOSEPH F. DEPPEN, Reading, Pa., January 28, aged 51 ars.—DR. EDWIN S. CUSHMAN, Washington, La., February aged 46 years.—DR. T. DANA FITZSIMMONS, Brooklyn, N. Y., ebruary 4.—DR. M. G. OLIVIER, Morgan City, La., January , aged 37 years.—DR. EDWARD LORENZO HOLMES, professor ophthalmology and otology, and for some time president Rush Medical College, February 12, aged 72 years.—DR ERALD D. MCMURRAY, Philadelphia, February 10, of mengitis, aged 30 years.—DR. ABEL PARKER RICHARDSON, at one me president of the Connecticut River Valley Medical Asciation, the Cheshire County Medical Society. the New ampshire State Medical Society, in Walpole, N. H., Febary 4, aged 65 years.—DR. CHARLES B. KENNEDY, Hollidaysrg, Pa., February 14.

Changes in the U. S. Marine-Hospital Service, r the 7 days ended February 8, 1900.

ASDIN, EUGENE, surgeon, on expiration of leave of absence to proceed to New York, N. Y., for orders. February 5.

ERTENBAKER, C. P., passed assistant surgeon, to proceed to Martinsville, Virginia, for special temporary duty. February 7.

MESSE, R. H., assistant surgeon, to proceed to Cleveland, Ohio, for temporary duty during the absence of Surgeon W. J. PETTUS. February 6.

BSON, R. H., hospital steward, is relieved from duty at South Atlantic Quarantine Station, and directed to proceed to the Gulf Quarantine Station, Mississippi, for duty and assignment to quarters. February 2.

GORMAN, T. V., hospital steward, is relieved from duty at Gulf Quarantine Station, and directed to proceed to Louisville, Ky., for duty and assignment to quarters. February 2.

CKAY, hospital steward, granted leave of absence for 5 days from January 29. February 2.

MFORT, N. C., hospital steward, to report at Washington, D. C., for special temporary duty. February 2. To proceed to Manila, Philippine Islands, and report to Passed Assistant Surgeon J. C. PERRY, chief quarantine officer, for duty. February 7.

Changes in the Medical Corps of the U. S. Navy r the week ended February 10, 1900.

LLIOTT, M. S., passed assistant surgeon, commissioned passed assistant surgeon, from October 6, 1899.

AWKE, J. A., medical director, commissioned medical director from September 24, 1899.

HARRISON, R. A., medical director, commissioned medical director from October 23, 1899.

DICKINSON, D., medical director, commissioned medical director from November 11, 1899.

DRENNAN, M. C., medical director, commissioned medical director from February 5, 1900.

STREETS, T. H., medical inspector, commissioned medical inspector from April 16, 1899.

HARMON, G. E. H., medical inspector, commissioned medical inspector from November 11, 1899.

WAGGENER, J. W., medical inspector, commissioned medical inspector from February 8, 1899.

BERRYHILL, T. A., surgeon, commissioned surgeon from April 9, 1899.

STONE, E. P., surgeon, commissioned surgeon from April 16, 1899.

SMITH, R. K., passed assistant surgeon, commissioned passed assistant surgeon from April 3, 1899.

BLAKEMAN, R. S., passed assistant surgeon, commissioned passed assistant surgeon from May 27, 1899.

ROSENBLUETH, J. C., passed assistant surgeon, commissioned passed assistant surgeon from October 14, 1899.

COSTIGAN, G. W., passed assistant surgeon, commissioned passed assistant surgeon from February 8, 1900.

BARBER, G. H., passed assistant surgeon, detached from the Naval Academy, February 10, and ordered home and to be ready for orders to sea duty.

Changes in the Medical Corps of the U. S. Army for the week ended February 10, 1900:

CROSBY, Major WILLIAM D., brigade surgeon, is granted leave for 3 months, on surgeon's certificate, to take effect on his arrival in the United States.

HOYT, Major HENRY F., surgeon, will report by letter to the commanding general, Second Division, Eighth Army Corps, and report to the commanding general, Second Brigade, that division, for duty, relieving Major Balch, surgeon.

BALCH, Major, surgeon, will proceed to Zamboaga, Island of Mindanao.

ROBINS, Captain ROBERT P., assistant surgeon, is relieved from duty at the Second Reserve Hospital, and will report to the commanding officer, Forty-seventh Infantry, U. S. Volunteers, San Pedro Macati, P. I., for duty.

CLAYTON, First Lieutenant J. B., assistant surgeon, is granted leave for 2 months, on surgeon's certificate, to take effect upon his arrival in the United States.

MARROW, First Lieutenant CHARLES E., assistant surgeon, is relieved from duty at the Second Division field hospital, San Isidro, P. I., and will report to the commanding general, military district of Mindanao and Jolo, and to the commanding officer, Jolo Island for duty thereat.

MILLHOFF, First Lieutenant CLARENCE B., assistant surgeon, will report to the commanding general, Second Division, Eighth Army Corps, and to the commanding officer, Seventeenth Infantry, for duty, relieving Captain Charles E. B. Flagg, assistant surgeon.

FLAGG, Captain CHARLES E. B., assistant surgeon, will report at the base hospital, Dagupan, P. I,, and assume command thereof.

WILSON, First Lieutenant J. S., assistant surgeon, is relieved from duty with the Fourth Cavalry, and will report to the commanding general, Second Division, Eighth Army Corps, and to the commanding officer, Ninth Infantry, Tarlac, P. I., relieving First Lieutenant E. W. Pinkham, assistant surgeon.

PINKHAM, First Lieutenant E. W., assistant surgeon, will report in person to the provost marshal-general, Manila, P. I., for duty with the military prisoners and the Sixth Artillery.

WOODHULL, Lieutenant Colonel ALFRED H., deputy surgeon-general, will proceed to San Francisco, Cal. He is granted permission to delay 2 months en route, at the expiration of which time he will report to the adjutant-general of the Army.

PATTISON, FRED L., hospital steward, is relieved from duty at the yellow fever hospital, Santiago, Cuba, and will report at Morro Castle, Cuba, for duty.

DAVIDSON, W. F., acting assistant surgeon, is relieved from duty at the district hospital, Puerto Principe, Cuba, and will proceed to Songo, via Santiago de Cuba, for duty.

WADHAMS, S. H., acting assistant surgeon, is relieved from duty at the post at San Juan, P. R., and will proceed to Humacao, P. R., to relieve First Lieutenant F. F. Russell; assistant surgeon.

RUSSELL, First Lieutenant, F. F., assistant surgeon, will proceed to San Juan, P. R., for duty.

DUCKER, Major ORLANDO, brigade surgeon, is relieved from duty in the office of the chief surgeon of the department of Havana, and will in addition to his duties as commanding Las Animas hospital, assume those of medical inspector of the department of charities and hospitals, Havana, Cuba.

HEIZMANN, Major, CHARLES L., surgeon, will proceed to Washington, D. C., and report to Major James C. Merrill, surgeon, president of the examining board, as witness in the case of Captain A. S. Polhemus.

JOHNSON, D. J., acting assistant surgeon, is relieved from duty at Fort Warren and will proceed to Plattsburg Barracks for duty.

TILTON, Lieutenant Colonel HENRY R., deputy surgeon-general, by operation of law, under the provisions of the act of Congress approved June 30, 1882, will retire from active service February 1, and will proceed to his home.

MUNN, Major, CURTIS E., surgeon, will retire from active service

February 2, by operation of law, under provision of the act of Congress approved June 30, 1882.

KELLY, JOHN P., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty on a government transport.

HYSELL, Major JAMES H., surgeon, is relieved from further duty in the department of Matanzas and Santa Clara, Cuba, and will proceed to Santiago, Cuba, and report to the commanding officer, department of Santiago and Puerto Principe, for duty as medical supply officer, to relieve Major Frederick J. Comba, surgeon. Major Comba will proceed to New York City and report by telegraph to the adjutant-general of the army for further orders.

DARNAL, First Lieutenant CARL R., assistant surgeon, is relieved from further duty in the division of Cuba, and will proceed to Governors Island and report to the commanding general, department of the East, for assignment to duty with recruits going to Manila, P. I., on the U. S. transport "Sumner," and upon arrival at Manila will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

HOWELL, EVAN P., acting assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the department of the Pacific, and will proceed to Fort Duchesne for duty, to relieve acting assistant surgeon Wm. O. Davies. Dr. Davies will proceed to San Francisco, Cal., for assignment to duty with troops going to the Philippine Islands.

LAZEAR, JESSE W., acting assistant surgeon, will proceed from Baltimore, Md., to Tampa, Fla., and report by telegraph to the adjutant general of the army for further orders.

LAZEAR, JESSE W., acting assistant surgeon, upon the completion of his duties at Tampa, Fla., will proceed to Havana, Cuba, and report to the commanding general, division of Cuba, for assignment to duty at Columbia Barracks.

SMITH, BAT, acting assistant surgeon, will proceed to Santiago, Cuba, and report to the commanding officer, department of Santiago, and Puerto Principe for assignment to duty.

SHATTUCK, EDWIN C., acting assistant surgeon, is relieved from duty at Fort Pickens, and will proceed to San Francisco, Cal., for assignment to duty with troops going to the Philippine Islands.

MEANS, GEORGE E., acting assisting surgeon, now on leave, is relieved from duty in the department of Santiago and Puerto Principe, and will proceed from Welford, S.C., to San Francisco, Cal., for assignment to duty with troops going to the Philippine Islands.

HIGGINS, AUBRAY F., acting assistant surgeon, is relieved from duty at Jefferson Barracks, and will proceed to San Francisco, Cal., for assignment to duty at the U. S. General Hospital, Presidio.

ANDERSON, ROBERT A., acting assistant surgeon, Coldwater, Miss., will proceed to San Francisco, Cal., for assignment to duty with troops going to the Philippine Islands.

MELDRUM, GORDON B., acting assistant surgeon, Washington, D. C., will proceed to San Francisco, Cal., for assignment to duty with troops going to the Philippine Islands.

SOUTHALL, EDWARD A., acting assistant surgeon, will proceed from Genesee, N.Y., to San Francisco, Cal., for assignment to duty at the U. S. General Hospital, Presidio.

HERMAN, MEYER, acting assistant surgeon, now at Hammond, La., will proceed to San Francisco, Cal., for assignment to duty with troops going to the Philippine Islands.

MACREADY, JOHN H., acting assistant surgeon, is relieved from further duty at the General Hospital, Presidio, and will preceed to Fort Thomas and report by letter to the Surgeon-General of the Army for annulment of his contract.

SMITH, BARTON B., hospital steward. now en route from Manila, P. I., to the Presidio, will be discharged upon his arrival.

MEISEL, JOSEPH, hospital steward, now at Presidio, will be sent to Fort Baker for temporary duty.

BLAKE, JOHN C., hospital steward, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

CLAYTON, First Lieutenant, JERE B., assistant surgeon, is assigned to duty at Fort Mason.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended February 9, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ALABAMA:	Mobile	Jan. 27–Feb. 3	1	
ARKANSAS:		Feb. 2	Prevalent.	
CALIFORNIA:	Los Angeles	Jan. 18	3	
DISTRICT OF COLUMBIA:	Washington	Jan. 23–29	3	
FLORIDA:	Jacksonville	Jan. 27–Feb. 3	5	
ILLINOIS:	Springfield	Jan. 21–27	1	
INDIANA:	Clay County	Jan. 28	Prevalent.	
"	Evansville	Jan. 27–Feb. 3	6	
LOUISIANA:	Calcasian	Jan. 20	5	
"	De Soto	Jan. 20	1	
"	Iberia	Jan. 20	3	
"	New Orleans	Jan. 27–Feb. 3	28	30
"	Shreveport	Jan. 27–Feb. 3	8	
"	Tangipahoa	Jan. 20	1	
MASSACHUSETTS:	Barton	Jan. 27–Feb. 3	1	
"	Lawrence	Jan. 27–Feb. 3	1	
MINNESOTA:	Minneapolis	Jan. 20–27	8	
NEW YORK:	New York	Jan. 27–Feb. 3	2	
OHIO:	Cincinnati	Jan. 27–Feb. 3	3	
"	Cleveland	Jan. 27–Feb. 3	27	
OREGON:	Portland	Jan. 23	1	
PENNSYLVANIA:	Philadelphia	Dec. 24–Jan. 27	5	
S. CAROLINA:	Greenville	Jan. 27–Feb. 3	1	
TENNESSEE:	Nashville	Jan. 27–Feb. 3	6	
TEXAS:	San Antonio	Jan. 1–31	2	
"	12 counties and localities	Jan. 17–23	43	
UTAH:	Salt Lake City	Jan. 27–Feb. 3	1	
VIRGINIA:	Portsmouth	Jan. 27–Feb. 3	4	2
"	Roanoke	Jan. 1–31	12	
WASHINGTON:	Spokane	Jan. 31	75	
W. VIRGINIA:	Calhoun Co.	Jan. 31	Reported.	
"	Gilmore Co.	Jan. 31	Reported.	
"	Mingo Co.	Jan. 31	Reported.	
"	Upshur Co.	Jan. 31	Reported.	
WISCONSIN:	Lafayette Co.	Feb. 3	1	
"	Lemonweir	Jan. 24–Feb. 3	5	1
"	Mauston	Jan. 20	1	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Jan. 6–13	5	
BELGIUM:	Antwerp	Jan. 6–13	5	1
"	Ghent	Jan. 13–20		1
EGYPT:	Cairo	Jan. 7–14		1
ENGLAND:	Liverpool	Jan. 13–20		1
"	London	Jan. 13–20	21	
"	Southampton	Jan. 13–20	1	
FRANCE:	Lyons	Jan. 6–13	2	
"	Nice	Jan. 13–20	2	2
"	Paris	Jan. 13–20		1
GERMANY:	Hamburg	Dec. 31–Jan. 13	4	1
"	Königsberg	Jan. 6–13	4	1
GREECE:	Athens	Jan. 13–20	4	1
INDIA:	Bombay	Dec. 26–Jan. 2		68
"	Calcutta	Dec. 16–23		3
MEXICO:	Chihuahua	Jan. 20–27		3
NEW BRUNSWICK:	Campbellton	Jan. 27–Feb. 3	8	
RUSSIA:	Moscow	Dec. 23–30		1
"	Odessa	Jan. 6–13	8	4
"	Riga	Nov. 1–30		15
"	St. Petersburg	Jan. 6–13	17	3
"	Warsaw	Dec. 31–Jan. 10		11
SCOTLAND:	Edinburgh	Jan. 13–20	1	
SPAIN:	Corunna	Jan. 6–13	3	
SWITZERLAND:	Zurich	Jan. 6–13	1	

YELLOW FEVER—FOREIGN.

CUBA:	Habana	Jan. 20–27	3	1
MEXICO:	Vera Cruz	Jan. 20–27		1

CHOLERA.

INDIA:	Calcutta	Dec. 16–23		26

PLAGUE—FOREIGN.

HAWAII:	Honolulu	Jan. 31	42	41
INDIA:	Bombay	Dec. 26–Jan. 2		244
"	Calcutta	Dec. 16–23		49
"	Kurrachee	Dec. 23–31	1	1
JAPAN:	Kobe	Dec. 26–Jan. 10	23	
"	Osaka	Dec. 26–Jan. 10	34	

Brain Tumor.—Hugh T. Patrick (*Chicago Medic Recorder*, November, 1899). A girl, 16 years old, 9 month previously had had 2 violent convulsions, after which intervals she had peculiar "fits" of one arm. This cond tion continued several months, during which time she b came depressed and changed in disposition. Later 2 viole convulsions occurred, followed by weakness on the left sid Headache was constant. She had left hemiplegia, conside able incoordination, and exaggerated reflexes on that sid There was no evidence of syphilis. An operation was pe formed exposing the arm-area, but nothing was discovere The patient was relieved for 3 months, her hemipleg nearly disappeared and her normal disposition was regaine Later the symptoms returned and she was relieved for time by specific treatment. She finally died and the necrop showed the surface of the brain to be normal, but on secti of the right hemisphere a glioma as large as an orange w revealed. It was situated immediately beneath the ar center, and came very near the surface, being subcortic [M.B T.]

Foreign News and Notes.

GREAT BRITAIN.

he influenza epidemic has considerably abated in don, but the disease is still rife in many large English s as well as on the Continent.

he Royal College of Physicians of London.—official lecturers for 1901 have now been announced. fessor Clifford Allbutt, Professor of Medicine in Cam- ge University, will deliver the Harveian oration. Dr. hibald Garrod will deliver the Bradshaw Lectures, and J. F. J. Sykes, the Medical Officer of Health for St. cras, will deliver the Milroy Lectures.

he Hull Smallpox Bill.—It may be remembered that l, last year, was visited by a severe epidemic of smallpox. recent meeting of the Hull Sanitary Committee a state- nt of the estimated expenditure showed last year's esti- e to be exceeded by £21,056. This should prove a erful factor in persuading the population of one of the t important English ports to be vaccinated and revac- ted regularly.

he new Midland University has received its charter. seat is to be Birmingham, of course, upon which it fol- s that its chancellor will be Mr. Joseph Chamberlain, , whatever his diplomatic shortcomings may be as onial Minister, has certainly been a good friend to his ve city. The Midland University, like all new educa- al bodies in England, will strive to be useful to the com- nity in which it is placed, and we may, therefore, be cer- that all the faculties of applied science will be well ed. Classics may go to the wall, but chemistry (particu- y in its relation to manufactures) and medicine (par- larly in its relation to public health) are certain to ive keen support. There is no name mentioned yet for office of principal, but the first dean of the faculty of licine, it is understood, will be Professor Bertram Windle, .S., at present professor of anatomy in Mason College, mingham. Mason College, Birmingham, the Midland nch of the Victoria University, will be the germ of the Midland University.

he Sophistication of Milk and Cream.—The sident of the Board of Agriculture, Mr. Walter Long, has ointed a Departmental Committee to inquire and report o what regulations, if any, may with advantage be made he Board of Agriculture under the existing Sale of Food Drugs Act for determining what deficiency in any of the mal constituents of genuine milk or cream, or what addi- of extraneous matter or proportion of water, in any ple of milk (including condensed milk), or cream, shall e a legal presumption, until the contrary is proved, that milk or cream is not genuine. The committee will be sided over by Lord Wenlock, and will have upon it, among lers, Major G. Craigie, Assistant Secretary of the Board of iculture; Mr. Shirley F. Murphy, the medical officer of lth to the London County Council, and Professor T. E. rpe, Principal Chemist of the Government Laboratories. s is a very strong committee, but in view of the ex- nely contradictory behavior both in regard to theory and ctice, that exists in Great Britain as to the adding of pre- atives and coloring matter to daily produce, no commit- can be too strong to deal with the matter.

he Royal Army Medical Corps Fund.—The wives widows of many prominent medical men have formed mmittee to raise a fund to supply the men of the Royal ny Medical Corps, who are doing splendid work in South ica, with such necessaries and comforts as can be sent out. on the committee are the names, among others, of Lady don Sanderson; Lady Reynolds, widow of the late Sir ssell Reynolds, president of the Royal College of Physi- ns of London; Lady Foster, wife of Sir Michael Foster; . Symonds, Mrs. Dawson Williams, wife of the editor of *British Medical Journal;* Lady Duckworth, Mrs. R. C. cas, Mrs. Davies-Colley, Mrs. Godlee, Mrs. Bryant, Mrs. lin, and Mrs. Berkeley Hill, widow of the late Mr. Berke- Hill. Lady Georgiana Curzon, who has helped in the anization of this committee, is one of the Churchill family, who are so prominent in serving their country in the present crisis. She was Lady Georgiana Churchill, a sister of Lord Randolph Churchill, and married Viscount Curzon. At the seat of war there are already the Duke of Marlborough, who married Miss Consuelo Vanderbilt; his two cousins, Mr. John and Mr. Winston Churchill, and Lady Sarah Wilson, née Curzon, their aunt, who is now at Mafeking after having been taken prisoner by the Boers. The adventurous spirt of the first Duke of Marlborough is cropping up.

The Limitations of Murphy's Button.—Mr. Jonathan Hutchinson, Jr., at the last meeting of the Clinical Society of London, read an instructive paper on resection of gangrenous intestine in cases of hernia based upon a comparison of 42 cases. In the course of his paper, Mr. Hutchinson remarked that it was probably the general impression that the use of Murphy's button had rendered primary resection of the intestine not only quicker but safer. To test this belief, he said he had collected from hospital records (including his own cases) 15 examples of primary resection for gangrenous gut where Murphy's button had been used, and 16 cases in which suturing alone had been relied upon. Of the former, only 1 had recovered, and of the latter, 6. The other 11 cases were treated by conservative measures without resection, and all died. Three out of the 10 fatal cases following upon suturing would, in his opinion, probably have recovered but for accidental complications; while a comparison of the postmortem records showed on the whole better union of the divided ends of the gut after suturing than after the use of Murphy's button. Mr. Hutchinson, in his cases of suture, used interrupted sutures of fine silk passed through at the tissues of the intestinal wall. In the debate which followed, Mr. A. E. Barker, surgeon to Uuiversity College Hospital; Mr. Howard Marsh, surgeon to St. Bartholomew's Hospital; and Mr. Charters Symonds, surgeon to Guy's Hospital, all took the same view as Mr. Hutchinson with regard to the comparative risks of suturing and using Murphy's button in these cases.

The Sick and Wounded in the South African War.—Many general and special hospitals, infirmaries and sanatoriums, are placing beds at the disposal of Government for the reception of the sick and wounded from South Africa who may be expected back in England in considerable quantities. The base hospitals at Cape Town will not accommodate more than 2,000 persons, and several transports full of sufferers have already been sent to England and now are on their way. Great preparations have been made at Netley Hospital for the reception of the men. The hospital is capable of receiving about 1,000 and is rapidly filling up, so that its capacity will have to be increased by the construction of temporary buildings. Fifty huts, each designed to receive 25 patients, are now being built. If expectation, formed upon the plight of these sick and wounded who have already arrived in England prove sound, the majority of the men will be convalescent by the time they arrive home, for the bullet-wounds tend to heal very rapidly, as all accounts show, while convalescence goes on apace on board ship. Still it will be well that Government should have at its disposal all the beds and nursing that are possibly available, for the country would not endure the idea of those who have bled in her cause being treated in other than the most thoroughly efficacious manner. So that although offer after offer reaches the War Office to place beds at the disposal of the sick and wounded, the generosity of every institution is thankfully accepted.

Eye-symptoms in the Detection of Malingerers.—In an interesting address on the value of eye-symptoms in the diagnosis of general diseases, delivered before the Harveian Society at the last general meeting of the Society, Mr. Henry Juler, ophthalmic surgeon to St. Mary's Hospital, the speaker, made reference to the confusion which a knowledge of ophthalmic methods on the part of the surgeon is likely to bring upon the malingerer. It is not an uncommon thing for a patient to pretend that he cannot see, and now that the Workman's Compensation Act has, in England, put a premium upon all forms of pretended illness, shamming partial blindness may become more frequent still. Mr. Juler's method for baffling the malingerer is as follows: Having found the pupils equal, active to light, and normal in size; having ascertained the absence of all such ametro-

pia as would cause blindness; and having examined the fundus ophthalmoscopically and proved it healthy, an empty spectacle-frame capable of holding lenses is placed upon the patient's face and he or she is told to read illuminated test-type in a dark room. Then a strong cover-glass is placed in front of first one eye and then the other, and he is asked to read. He does not know that the glass obscures his vision, indeed he probably thinks that it benefits his eyesight. As he is enjoined to keep both eyes open he does not know which eye he is reading with and soon proves to the medical man's satisfaction that he can read with both. It is undoubted that the recent legislation in behalf of workmen injured while in their masters' employ has much increased the simulation of diseases in the United Kingdom, especially of those surgical conditions which by wholly debarring the sufferer from earning his livelihood would entitle him to a large pension.

The British Medical Association —The Program for the Annual Meeting.—The presidents of the different sections at the sixty-eighth annual meeting of the British Medical Association, to be held at Ipswich on the last day of July, next, and the first three days of August, are now announced. They are as follows: *Medicine*, Dr. T. Buzzard, who is better known in neurological fields than in general medicine; *Surgery*, Dr. Howard March, surgeon to St. Bartholomew's Hospital; *Obstetrics*, Dr. Walter Griffith, a sound gynecologist, who is also president of the Medical Defence Union, a body which has done excellent service for general practitioners; *Public Medicine*, Dr. J. C. Thresh, Medical Offier of Health for the county of Essex; *Psychology*, Dr. Percy Smith, lecturer on psychologic medicine at the Charing Cross Hospital, and late resident physician at the Bethlehem Hospital (Bedlam); *Physiology*, Dr. W. D. Halliburton, F.R S., professor of physiology in King's College, London: *Pathology*, Professor Klein, F R.S., the well known minute anatomist; *Ophthalmology*, Dr. W. A. Brailey; *Diseases of Children*. Dr. Frederick Taylor; *Pharmacology*, Dr. Walter Smith, professor of materia medica in Trinity College, Dublin; *Laryngology*, Dr. Scanes Spicer; *Tropical Diseases*, Colonel K. McLeod, I.M.S. (retired); *Naval and Military Services*, Inspector-General Ninnis, R. N. The president for the year is Dr. John Ward Cousins, who was for a long time president of the Council of the association; while the president-elect is Dr. W. A. Elliston, senior surgeon to the Ipswich Hospital, the invariable plan of electing as president of the association a prominent medical citizen of the place where the meeting is held being followed. Three addresses are to be delivered in Plenary Congress, that in *Medicine* by Dr. Pye-Smith, F.R.S., consulting physician to Guy's Hospital; that in *Surgery* by Mr. F. Treves, who, it is hoped, will be back from South Africa in time; and that in *Obstetrics* by Dr. W. J. Smyly, a late master of the famous Rotunda Hospital, Dublin.

CONTINENTAL EUROPE.

Legion of Honor.—Dr. Gélineau, of Blaze, has been made chevalier.

Société de Kinesethérapie is the name of a new medical society, formed at Paris, January 5, 1900, to meet once a month. Dr. Lucas Championnière was elected president.

Laboratory for Radiography.—The Municipal Council of Paris has just accorded 6,000 francs to each of 3 hospitals, Necker, Baudelocque, and la Saltpetrière, for installing a laboratory of radiography and radioscopy.

Alcoholism in Alsace-Lorraine.—A law has just been passed in Alsace-Lorraine prohibiting the sale of alcoholic beverages before 8 o'clock in the morning. This has raised much comment, especially among the smaller tavern-keepers.

Delirium Tremens.—Dr. Quéun, surgeon at the Hospital Cochin, has instituted the treatment of these cases with injections of normal salt-solution (a liter at a time, in very grave cases; or 1,500 or 1,000 cc. for others), with very good results, both the delirium and agitation diminishing rapidly.

Sexual Power with Hypospadias.—Professor Brouardel recently spoke of a case in a servant, brought up as a girl, who became father of a child, born with hypospadias to another servant, who slept with him. The heredity of the hypospadias settled the doubt of the question as to the father.

Injection of Normal Salt-solution in Preliminar Tuberculosis.—Professor Combemale, of Lille, has ob tained great success in diagnosing early cases of pulmonary tuberculosis, by the rise of temperature following the in jection of normal salt-solution, in cases in which the diag nosis otherwise remained doubtful.

Influenza.—An epidemic now exists in Paris, havin followed that in London. In Rouen, also, it is so prevalen that many schools have closed. In Rennes over 15,000 ar ill with it. From Rome comes the report of 30,000 case Turin and the other Italian cities have been attacked by i too. In Amsterdam it has doubled the mortality-rate.

School for Nurses.—The first school for nurses i France opened January 29, 1900. Dr. Duclaux, director the Pasteur Institute, made an address. It is due altogethe to private subscriptions, mostly from doctors. They are t have 2 ye rs of instruction and are to spend the 3 followin years assisting in the practical work of the school. Afte that, France will have educated nurses at least.

Chemical Laboratory of the City of Paris.—Th laboratory was opened in 1879, with M. Charles Girard a director, who still serves in that capacity. In 1881, 4 chemists worked there; in 1889, 68. Since its establishmer no more strychnin is put into beer, nor is arsenic used t color wine. Both qualitative and quantitative analyses ar now made, and prices vary from 5 to 20 francs. Sixteen ex pert chemists are employed in inspecting the markets. M Chautard, professor at the Ecole Centrale, has just made report to the City Council, asking that more money be give that the laboratory may be augmented.

Foreign Mineral Waters.—The Russian *Archives Pathology* gives the following list of the number of bathe at the different hydropathic stations of Switzerland, Austri and Germany for the past year:

Carlsbad	84,211
Aix-la-Chapelle	44,863
Reichenhall	20,318
Marienbad	19,295
Baden, near Vienna	19,255
Ischl	17,894
Davos	14,051
Wildbad	12,256
Fanheim	10,529
Homburg	9,505

The Sale of Secret Preparations in Germany.—According to the *Lancet* a bill relating to the sale of secr preparations is being introduced by the German Gover ment. According to the *Pharmaceutische Zeitung* its pri cipal provisions will be as follows: The central authoriti of each State of the empire shall register the medicin compounds which are to be regarded as of secret compos tion. Substances which are contained in the German Pha macopeia or are generally recognized as remedies by medic science, or are intended only for disinfectants or cosmetic however, may be sold without registration. The publ advertisement of medicines of secret composition is prohi ited. The bottles, boxes, etc., must bear only the name the compound, the name of the maker, and the price. is strictly prohibited to affix to the bottles or boxes labe containing recommendations, professional opinions, expre sion of thanks by patients, or any other statement by whi a special action of the compound is announced. Licens druggists may sell secret preparations only on the writt prescription of a medical man. The sale of secret prepar tions which are prejudicial to health is prohibited. T medical journals generally are in favor of the new bi they recommend, however, that the registration of sec preparations should be undertaken not by the individu States of the empire, but by the Imperial Health Office the whole territory of the empire, so as to avoid the anoma that a compound may be regarded as a secret preparation one place whilst it may be sold without restriction in a neig boring town belonging to another State.

University Appointments.—BASLE: Dr. L. G. Courbisier, extraordinary professor of surgery, and Dr. K. Mellager, extraordinary professor of ophthalmology, have been promoted to ordinary professorships.—BRESLAU: Dr. Groebuw, privat-docent of ophthalmology, has been granted the title of professor.—BUDAPEST: Dr. Michael von Lenhossék, of Tübingen, has been appointed to the chair of anatomy in succession to the late Professor Mihalovics.—CLAUSENBURG: Dr. Sigler has been appointed extraordinary professor of hygiene.—COPENHAGEN: Dr. Rovsing has been appointed to the chair of surgery.—GENEVA: Dr. L. Bard, of Lyons, has been appointed professor of clinical medicine.—GRATZ: Dr. J. Haberman, extraordinary professor of otology, has been appointed professor.—IURIEFF (DORPAT): Dr. Muratoff has been promoted to the professorship of midwivery and gynecology.—LEMBERG: Dr. Oskar von Widmann, privat-docent of medical pathology, has been granted the title of professor.—MUNICH: Dr. Karl Schloesser, privat-docent of ophthalmology, has been promoted to an extraordinary professorship.—ST. PETERSBURG (Military Medical Academy): Dr. G. Rein, of Kieff, has been appointed to the chair of midwifery and gynecology vacant by the death of Dr. Slavianski.—ZURICH: Professor Billeter has been appointed director of the newly-established dental school.—PADUA: Dr. Ettore Truzzi, professor in the faculty of medicine of Messina, has been appointed ordinary professor of clinical obstetrics to succeed the late Professor Giovanni Inveradi.—PAVIA: Dr. Casimiro Mondino, professor in the faculty of medicine of Palermo, has been appointed professor of clinical psychiatry.

Criticisms Upon Incubators.—Incubators are today very generally employed in the Paris hospitals for the care of premature or weakly infants. According to the *Lancet*, M. Hutinel and M. Delestre have, however, recently communicated a paper to the Society of Obstetrics, Gynecology, and Pediatrics, in which the use, or rather the abuse, of incubators is sharply criticised. The object of an incubator is nominally to protect a weakly child against cold if it be so weakly as not to be able to keep up its own bodily heat by natural means. As a matter of fact, however, an incubator is a cultivation-chamber where microbes multiply with lamentable ease, and in which, consequently, children are infected with far greater ease than in the external air. M. Hutinel considers that when a child's temperature reaches 37° C. it is much better for the child to be kept in the air than in an incubator, for it will be found that cold is far more easy to fight against than are microbes. In his ward at the Foundling Hospital (Hôpital des Enfants assistés) M. Hutinel maintains the temperature of prematurely born children by hot-water bottles, leaving the windows on the sunny side of the ward open. Even if they fall ill he never places them in an incubator. By these means he reduced the mortality among such chidren weighing less than four and a half pounds from 35% to 14%. The only children then who should be placed in incubators are those in whom the temperature has not yet reached the normal—*i. e.*, 37° C.—and incubators should be frequently disinfected, and when in use the temperature should be perfectly even.

A Congress of International Hygiene.—According to the *Lancet* the invitation addressed to the European Governments by their Italian sister "to give an opinion as to the opportuneness and advisability of convening a Congress of International Hygiene similar to that held at Venice in 1897, to take measures for the defence of Europe against the pestis bubonica," seems, according to information derived from the Consulta (the Foreign Office), to have elicited replies favorable to such a project. From the same source it is learned that the Italian Government has had quite sufficient encouragement from the Powers to employ itself in formulating a "questionario" or schedule of debatable points in view of the Congress becoming a *fait accompli*. Among these points the chief are quarantine, and the rules to be enforced against the diffusion of plague or contagious maladies capable of assuming an epidemic form. Minor points for the consideration of the Congress are said to be "il commercio delle specialità medicinali, delle acque minerali, e degli altri articoli farmaceutici" (the trade in medicines of a special kind, in mineral waters, and in other articles sold by pharmaceutical chemists). On the completion and distribution of the "questionario" the Italian Government will next propose to the Powers the place at which the Congress shall meet and the time at which to hold it. This latter detail will be the most difficult to settle, as the tension between several of the great Powers is at present too severe to conduce to amicable discussion of such topics as "international sanitation."

MISCELLANY.

Obituary.—PROFESSOR MARION, professor of zoology in the University of Marseilles.—DR. DEVAY, physician to the Insane Asylum of St. John at Lyons, was assassinated by one of the patients, who plunged a dagger into the physician's abdomen. A laparotomy was performed soon after on account of perforation of the intestines, but the doctor succumbed.—DR. PIETRI, formerly physician to Napoleon III, January 24, aged 92 years.

Malta Fever in Manila.—Surgeon-General Sternberg has received a communication, dated January 2, 1900, from Acting Assistant Surgeon J. J. Curry, U. S. Army, assistant pathologist at the First Reserve Hospital, Manila, P. I., in which the probable existence of many cases of Malta fever among the troops is brought to the notice of the department. Dr. Curry states that:

1. Some time ago Dr. Strong, the pathologist, performed an autopsy on a man who had died after a continued fever of long duration. Postmortem examination was negative as to typhoid and to malarial fever. From the cultures of this case was obtained an organism identical to the coccus melitensis (the causative agent of Malta fever.) This organism was inoculated into monkeys and produced the typical symptoms of Malta fever. Autopsy on the animals inoculated showed typical lesions, with the development of the same coccus which in turn produced the same disease in other animals. Dr. Strong in some manner inoculated himself during these investigations and has now Malta fever.

2. At a postmortem examination on a case received from the Second Reserve Hospital, December 27, 1899, a similar condition was met with as in Dr. Strong's case, *i. e.*, no typhoid, malaria or other recognized pathological condition. Cultures from this case showed the coccus melitensis.

3. A case of continued fever in the officer's ward of this hospital, whose blood was negative repeatedly to malaria and typhoid, gave the reaction with the melitensis.

4. A patient on the hospital ship *Relief*, whose blood gave negative results as above, also reacted with the melitensis.

As the result of the investigations of Dr. Strong, showing the first case to be one of undoubted Malta fever, the second case being also one of undoubted Malta fever, and the positive results of the blood-serum reaction of the third and fourth cases, we have evidence that Malta fever prevails here to a considerable extent. It is probable that many of those cases of continued fever which fail to react to Widal's test for typhoid, and which are negative to malaria, are cases of Malta fever. There are a number of such cases in the hospital at the present time, and no doubt the same is true of other hospitals.

I will start at once the blood-examinations for Malta fever on all such cases in this hospital. This will mean considerable more work in the laboratory department, which, at the present time, owing to Dr. Strong's illness, is behind in its work. I would therefore respectfully suggest that a medical officer with at least some experience in laboratory work be detailed to assist.

Carbolic-Acid Injection Treatment of Hemorrhoids.—John L. Jelks (*The Chicago Clinic*, December, 1899), reports the terrible result following injection, by a quack, of carbolic acid for the cure of hemorrhoids. The case was that of a woman, about 40 years old, who had always been well. It appears she was annoyed by a small hemorrhoid, and applied to a quack for treatment. Carbolic acid was injected to cure the disorder. In a few days the pain became great, and still later pus was discharged from the bowel, sloughing began and continued for a long time. When Jelks and a fellow-practitioner were called to see the case they found the perineum had entirely sloughed away, the perineal half of the sphincters were gone, the pus had undermined all the muscles in this region, and the bowel protruded, engorged and inflamed, to the size of a large cocoanut, eroded and gangrenous. The hemorrhoidal tumor which was primarily the offending object, still remained. The woman will die of sepsis. [M.B.T.]

The Latest Literature.

British Medical Journal.

January 27, 1900. [No. 2039.]

1. A Clinical Lecture on Pericarditis. GRAHAM STEELL.
2. Pure-Air Treatment of Phthisis at Home. ARTHUR RANSOME.
3. The Application of Bacteriology to Public Health. WALTER C. C. PAKES.
4. The Continuity of the Toxic Process in Fatal Cases of Diphtheria. JOHN BIERNACKI.
   The Pathology and Treatment of Appendicitis. C. B. LOCKWOOD.
6. Cases Complicated with Mental Disorder Treated by Thyroid Extract. RICHARD R. LEEPER.
7. The Removal and Transport of Cavalry Wounded. T. F. S. CAVERHILL.
8. Poisoning by Sodium Salicylate. GORDON SHARP.
9. Poisoning by Oleum Eucalypti. FREDERIC C. WOOD.
10. Formalin in Rodent Ulcer. F. WYATT-SMITH.
11. Fracture of Both Clavicles. WM. SEMPLE YOUNG.
12. A Case of Enteric Fever with Acute Nephritis. H. REYNOLDS BROWN.
13. Two Cases of Gangrenous Appendicitis. JOHN MACPHERSON.

1.—Steell bases his diagnosis of **pericarditis** chiefly upon the results of percussion. He considers the earliest abnormality to be extension of the dulness upward. (The most recent experimental work and probably the most valuable seems to show that the earliest sign is extension to the right in the heart-liver angle, forming an oblique line on the right.) He mentions a case that presented a friction-rub without other signs, the friction soon disappearing, and notes the occasional occurrence of this sign without other evidence of pericarditis. [D.L.E.]

2.—Ransome's most notable point is that the residence of a subject of **phthisis** should be changed when one institutes fresh-air treatment. The previous residence is likely to have been greatly contaminated with tubercle-bacilli and thus offers constant opportunity for reinfection. Ransome also insists upon the necessity for good ventilation of rooms, plenty of rest with graduated exercise, rest being enjoined if there is much fever or the assimilative organs demand it and exercise being regulated by the vigor of the patient and the extent of chest-movement allowed by the condition of his lungs or pleurae. Other conditions necessary are detailed and medical attendance and proper nursing are considered essential. [D.L E.]

3.—For negative results from **diphtheria cultures** there may be several reasons—actual absence of the diphtheria-bacillus, poor medium, or crowding out of the specific organism by other growths. Diffuse growths other than the diphtheria bacillus should indicate the necessity for another culture. Pakes describes a new method of detecting the Eberth bacillus and the Bacillus coli communis in water. Glucose formate broth (Kitasato) is used. The water is introduced into test-tubes of this medium, the tubes are introduced into Buchner's tubes and examined after one day, two days, etc. A special apparatus for concentrating the bacteria of the water by filtration is described. Pakes doubts whether pasteurization of milk at 65° C. really kills everything but spores, and thinks that the temperature for sterilizing milk should be 100° C., or a little higher, and that exposure should be for about half an hour. He has often found 3,000,000 to 4,000,000 bacteria per cubic centimeter in London milk. [D.L.E.]

4.—The study of the blood-pressure in fatal cases of diphtheria showed that in the early stages of the disease the pressure was about normal; in the second stage a slight decline; in the third a rapid fall. Biernacki considers that the fatal symptoms are the outcome of a fall in blood-pressure. [D.L.E.]

5.—See abstracts of *Lancet*, same date.

6.—The first case was one of myxedema complicated by mental symptoms. Thyroid extract was used without effect for two months, after this marked and continued improvement occurred. The second patient, who had alcoholism and enlarged thyroid and was very gravely ill, grew rapidly better on thyroid when other medication had failed. The third case was one of delusional stupor. This patient's thyroid could not be felt, and thyroid was used, and rapid improvement occurred. [D.L.E.]

8.—Sharp believes that sodium salicylate, within reasonable limits, is not depressant, but often calmative to the circulation. [D.L.E.]

9.—Between 2 and 3 teaspoonfuls of oil of eucalyptus were swallowed. Severe stupor, myosis, and hypothermia followed—everything except absence of stertorous breathing resembling opium-poisoning. Recovery ensued. [D.L.E.]

10.—Wyatt-Smith reports a case of **rodent ulcer** cured by a 20% solution of formalin. Ten dressings were found necessary before the ulcer finally healed up. The dressings smarted a good deal, the pain lasting for about an hour after the application of the formalin. [G.B.W.]

12.—The case began with symptoms of nephritis, and is considered rare. [Reference to recent articles by J. C. Wilson and others will show that nephritic typhoid is a distinct type of the disease, and that the nephritis often ushers in the symptoms. D.L.E.]

13.—MacPherson reports two cases of **gangrenous appendicitis,** both of whom died. In the first there was no especial abscess, though the appendix was gangrenous at its tip, and the patient succumbed the day after the operation. In the second an abscess filled with fetid pus was found, but not the appendix until a second operation. The patient died 9 days after the first operation. [G.B.W.]

Lancet.

January 27, 1900. [No. 3987.]

1. Sleeplessness. WILLIAM H. BROADBENT.
2. The Process of Digestion after Resection of About Six Feet of the Small Intestine. CARL SCHLATTER.
3. Further Observations on Pernicious Anemia (Seven Cases); a Chronic Infective Disease; Its Relation to Infection from the Mouth and Stomach; Suggested Serum-Treatment. WILLIAM HUNTER.
4. Excision of the Spleen for Injury. O. ST. JOHN MOSES.
5. The Pathology and Treatment of Appendicitis. C. B. LOCKWOOD.
6. Deaths Under Chloroform. JAMES EDMUNDS.
7. The Use and Abuse of Preservatives. SAMUEL RIDEAL.
8. Myoidema in Pulmonary Tuberculosis. HUGH WALSHAM.
9. Depilation by Röntgen-Rays. NEVILLE WOOD.
10. A Case of Rectal Deformity. I. G. MODLIN.
11. Some Remarks on the Diaphragm. ROBERT LEE.
12. Potts' Disease or Fracture of Vertebra? W. R. TOWNSEND.
13. A Case of Compound Separation of the Lower Epiphysis of the Femur; Recovery with Useful Limb. E. W. ROUGHTON.
14. A Case of Ectopic Gestation; Abdominal Section and Removal of Unruptured Tube; Recovery. H. M. EARLE.

1.—Broadbent notes that **sleeplessness** is often due to coldness of the extremities resulting from weak circulation or overwork and fatigue. Rubbing the extremities, stimulants and the like usually overcome the trouble in such cases. In opposite conditions, with hot, burning feet, opium is often necessary, or antipyrin or similar drugs may be needed. But gout and allied troubles may be at the bottom of such conditions, and should be looked for and treated if present. High blood tension and low tension are frequent causes of sleeplessness. The former is usually well managed by aperients, especially mercury with coincident treatment directed to the cause of the high tension. Tonic treatment should be used for low tension. Indigestion is the most frequent cause of sleeplessness. Flatulence is an especially common cause of waking at some definite time and lying awake after this. Hot water and alkaline draughts are useful, but it is essential to get at and eliminate the cause of the dyspepsia. Influenza often causes sleeplessness. This should be treated for a short time with tonics since it is due to asthenia, but if tonics do not act soon one should have recourse to opiates. [D.L.E.]

2.—The patient was a man of 23 who was stabbed in a ight. Owing to injury of the intestine it was found necessary o resect a portion of the ileum that when contracted meas- ired 192 cm. The study of absorption afterward showed hat of 91.47 gm. of nitrogen taken in the food in 9 days .0.47% was lost in the feces, and of 781.78 gm. of fat there vas a fecal loss of 13.91%. Both percentages of loss are igh, particularly that for the fat, and in spite of the fact that he man gained largely in weight and seemed in excellent ealth there seemed evidence that his absorption from the ntestine was not quite normally active. Later it was found hat he was unable to tolerate solid foods at all and had lost a few pounds weight. It seems, therefore, that the teaching hat the removal of two inches of the ileum is not followed by serious disturbance of digestion is not always true unless proper and special food is provided. [D.L E]

3.—Hunter's further studies of **pernicious anemia** lead him to very striking conclusions, which seem improbable at irst sight. They are, that carious teeth are seen extremely ommonly in this disease; inflammation of the mouth and ongue is also exceedingly common, as are gastric symptoms; he gastric catarrh is of an infectious nature and is dependent upon the caries of the teeth. The original infection may usually be traced to the teeth. Sometimes to drain poisons, Hunter considers pernicious anemia a toxemia, the result of n infection of the digestive tract, especially of the mouth nd stomach, chiefly the mouth, the infection coming from arious teeth and leading usually to chronic atrophic hanges in the mucous membranes. The infection is more ikely to occur if the digestive tract is already diseased. The astric and intestinal symptoms are due to the local effects, he blood-destruction to the poison acting on the portal cir- ulation. The remissions in the course of the disease Hun- er attributes to partial immunity which is soon overcome gain. From these conclusions concerning etiology he de- ides that exact antiseptic care of the mouth, antitoxic reatment and gastrointestinal antisepsis are the methods hich will prove most effectual. The infection is, he be- eves, streptococcal. Cases to illustrate the points made are etailed and the paper is to be continued. [D.L.E.]

4.—A man, 45 years old, was brought into the hospital ith a severe wound in the right hypochondriac region, from hich a dark congested mass was protruding which was lentified as the spleen. As the patient had been brought a onsiderable distance and his wound had been exposed to the ontact with dirty clothing, a septic process was feared more han the dangers of operation. Chloroform was administered, he abdominal wound was enlarged and after ligation of im- ortant vessels the entire **spleen** was **removed.** An ex- ellent recovery followed and in 2 weeks the wound had ompletely healed. [M.B.T.]

5.—Lockwood has made a careful histologic examination f the appendix in 53 cases in which he has operated. Ac- ording to the pathologic condition found, he divides the ases into several groups. In those cases in which suppura- on was absent and there was no clear history of a previous ttack, with slight tenderness and disorder of digestion, the onditions found were as follows: The lumen of the appendix as filled with epithelium, mixed granular and crystalline aterial and numerous microorganisms. In certain cases he mucous membrane was ulcerated. In the case of catar- hal **appendicitis** the organ was engorged with blood, he mucosa was ulcerated, and the contents did not vary reatly from those in the previously mentioned variety. tenosis he considers the pathologic condition most closely ssociated with the clinical signs of appendicitis. With this ondition present, appendicitis is sure to recur. The accounts f natural cures given by certain authors are fanciful. The atients no doubt go to other hospitals, and are there included mong those suffering with the severer forms of the disease. ockwood discusses the diagnosis of appendicitis and details is method of operation. [M.B.T.]

7.—Rideal, with Fullerton, has found that 1 to 2000 boric id and 1 to 50,000 formaldehyd was sufficient to **keep ilk sweet** for 24 hours, even in warm weather. The high- st temperature to which the milk was subjected was 75 2° F. his is scarcely a sufficient test of the effect of American mmer weather. Rideal does not consider the use of the antity of preservatives mentioned to be dangerous, but inks that the milk should be marked as containing pre- rvatives, and that the dairyman himself, and no one else, should put in the preservative used. Experiments on kittens showed that they gained weight just as rapidly when fed on milk containing boric acid or formalin as when milk free from preservatives was used. [D.L.E.]

8.—Walsham decides from his study that **myoidema** may rarely be found in the first stage of phthisis, usually in such instances as a faint fibrillar contraction. In the second stage the fibrillar variety is almost constant, and the nodular variety frequent, while in the third stage the nodular form may nearly always be produced, except when the pectoral muscles are too much wasted. It is not of value as an early sign of phthisis, but is an indication of the condition of the muscular system of the patient, and of the amount of wast- ing that has occurred. The sign discussed is the contraction in the pectoral muscle upon percussing over it. [D.L.E.]

9.—The treatment was done for **removal of hair** from a woman's face. The parts exposed at 30 to 40 sittings were apparently permanently freed from hair, those exposed about 20 times were fairly free and easily subject to electrolysis on similar treatment, while only 10 exposures remained useless. [D.L.E.]

10.—A woman, 24 years old, was found to have an **anom- alous condition of the perineal region.** There was a slight dimple in the position of the anus; the rectum, urethra, and vagina opened into one common vulva or kind of cloaca. The woman had always suffered from constipa- tion-pain, and hemorrhage at defecation. An operation was undertaken for the relief of the deformity. An incision was made in the middle line of the perineum from the vulva to the normal situation of the anus; this was continued upward through the fibrous tissue filling in the space between the rectum and coccyx; the posterior wall of the rectum was then dissected away for about 2 inches, the sides of the rec- tum were separated and the rectovaginal septum was dis- sected up; this left the end of the rectum freely movable. It was brought backward to the region of the normal anus and sutured to the skin in the middle line. The flaps pro- duced by the first incision were sutured in the median line to form the new perineum. An uninterrupted recovery fol- lowed and the woman now has a firm perineum and perfectly normal vagina and perfect control over the bowels; defeca- tion occurs without discomfort. [M.B.T.]

11.—Lee refers the pain felt around the base of the chest in influenza to the diaphragm. The dry, spasmodic cough he considers to be due to spasm of the diaphragm. The same condition is thought to be the explanation of many cases of obscure sudden death. [D L E.]

12.—The case of a girl, 6 years old, is reported, who fell down stairs striking the back of her neck. A bony promi- nence developed soon after in the region of the sixth and seventh cervical vertebrae and the first and second dorsal vertebrae. There was a question as to the diagnosis, whether there was fracture of the vertebra or whether the condition arose from Potts' disease. [M.B T]

13.—A boy, 5¾ years old, was brought into the hospital in a collapsed state; he had been riding on the back of a cab and caught first his right leg and then his left leg between the spokes of one of the wheels. On examination there was found a simple fracture of the upper third of the left femur with **separation of the epiphysis** of the **right femur.** The bone protruded 3 inches through a wound of the popliteal space 5 inches in vertical length; the popliteal artery was not injured. The wound was cleansed, the de- formity was reduced, drainage inserted and the wound dressed in a flexed position. There was a rise of tempera- ture and delirium lasting for some time and a second opera- tion was undertaken to remove some sloughs. Suppuration continued until the child was in quite a feeble condition. A third operation was undertaken sawing off the lower half inch of the shaft of the femur which had necrosed. The wound was carefully cleansed and a plaster-of-paris dressing applied. Healing followed and the patient is now in very good condition. [M.B.T.]

New York Medical Journal.

February 10, 1900. [Vol. lxxi, No. 6.]

1. The Benefits of Medical School-Inspection. HENRY GRA- HAM MACADAM.

2. A Few Clinical Studies of Cardiac Diseases in Infancy and Childhood. JOHN ZAHORSKY.
3. Malarial Hematuria. BAT SMITH.
4. Recovered Consumptives who Remain Well. PAUL PAQUIN.
5. Fracture of the Patella. Complete Union by Open Operation Seven Months after Injury. JOSEPH B. BISSELL.
6. A Suggestion for Tablet-Triturate Manufacturers. CHAS. J. PROBEN.
7. A Case of Mixed Typhoid and Malarial Fevers. JAMES L. BEVANS.
8. Athletics in Public Schools. GARDNER SMITH.

1.—MacAdam recommends medical **school-inspection** as an added protection to public health. [S.M.H.]

2.—Zahorsky calls attention to the frequency with which **diseases of the heart** are overlooked in **infancy and childhood.** The following symptoms and signs sometimes occur in endocarditis in infants and children: pains in the epigastrium, rarely agonizing pain and anxiety resembling angina pectoris; malnutrition; various erythematous eruptions; purpuric spots in malignant endocarditis; brachycardia, occasionally. Irregular pulse is not infrequent in apparently healthy infants. Pericarditis with effusion sometimes gives rise to the diagnosis of tuberculosis on account of the accompanying dulness on percussion in the posterior portion of the chest; the knee-chest position will cause a disappearance of the signs of consolidation. Anemic murmurs in childhood are uncommon and the existence of accidental murmurs should be doubted unless in the presence of distinct anemia. He reports a case of heart lesion following the injection of diphtheria antitoxin, but seemingly does not attach any etiologic significance to the administration of the antitoxin. The harsh presystolic rumble of mitral stenosis can be heard in the back; and in severe mitral disease, the excessive breadth at the base of the heart is readily made out and indicates hypertrophy and dilation of the left auricle. This he considers a valuable sign in children and one which can be best made out by auscultatory percussion, a method by which the viscera of children can be readily and accurately defined. Disease of the aortic valve is more rare in children. Visible pulsation in a child or infant, unless emaciation is extreme, is an indication of hypertrophy. Accentuation of the second sound is considered unreliable in infants but of more importance in older children. [S.M.H.]

3.—Smith considers the histology, etiology, anatomical changes, symptoms and diagnosis of **malarial hematuria,** and reports a series of 6 cases which came under his care in the United States Army General Hospital in Santiago de Cuba. [S.M.H.]

4.—Paquin reports 29 cases of **tuberculosis** which were subjected to **serotherapy** after the failure of ordinary remedies. The serum used was an immunized product of the horse. The patients were treated under disadvantageous conditions of climate. The cases included tuberculosis of the lungs, throat, bones, joints, kidneys, and testicles. They were treated when the serum and the methods of application were comparatively crude. The results in all the cases were entirely satisfactory. By combining this treatment with proper climatic influences and other scientific measures, results not equalled by any other form of management and treatment are possible. Approved scientific methods of medication should be followed in connection with the serum-treatment. In some of the cases reported special symptom treatment was indulged in where indicated. [S.M.H.]

5.—A man, 48 years of age, fell while walking across the floor, **fracturing** his **patella.** He was treated for 5 months with adhesive plaster, coaptation apparatus, and fenestrated plaster-of-paris bandages. On examination there was found a transverse separation of the two fragments of about 2 inches. An incision was made over the middle of the joint, the adhesions were freed and the fragments were brought together by wiring. A perfect coaptation and union was obtained and the patella is now freely movable on the joint-surface. [M.B.T.]

6.—Proben recommends to the manufacturers of tablet triturates that they adopt for the more narcotic drugs, especially the alkaloids, a red coating as a signal of danger. [S M.H.]

7.—Bevans reports the following case: A soldier, aged 21 years, came under his care on October 3, 1899. During the previous year he had served in Cuba, and during his stay there had light chills, which continued after his return and until his re-enlistment in August, 1899. They then disappeared, recurring again about a month later. On October 1 he was taken to bed with headache, constipation, general malaise and light chills; he was pale, emaciated and cold; his temperature was 102.4° F., and his pulse 94. His tongue was coated, his abdomen tender, his liver and spleen somewhat enlarged. On October 7 rose-spots developed and he was in active delirium. He had light chills on the 6th, 7th, 8th and 9th, and on the 11th a prolonged and severe chill. On the day of this chill ringed forms of the malignant quotidian estivoautumnal malarial parasite were discovered for the first time, the blood having been examined on the 4th and 8th of the month. The temperature-curve and symptoms after October 13 were those of **typhoid fever.** The temperature reached normal on the 29th and was followed by slow convalescence. Quinin was given in large doses after the chill on the 11th, and no malarial organisms were discovered after that date. On October 13 a slight clump was evident in the Widal reaction, but the bacilli remained motile. On November 3 a few minute clumps were observed in applying the Widal test and it was considered as a possible slight reaction, but not until November 9 was a positive Widal test obtained. At this time there was marked reaction immediately. [S.M.H.]

8.—Smith recommends the inauguration of **athletics in public schools.** He advises that at least a half-hour be given each day to pure bodily improvement. A gymnasium should be introduced where possible, and in the upper part of the buildings where perfect ventilation can be secured. Teachers should know more of physiology and be able to teach athletic and gymnastic exercises under careful supervision. Children should be examined physically and placed in appropriate gymnastic classes graded to suit their physical condition. The exercises should be so varied as to interest the pupil. [S.M.H.]

Medical Record.

February 10, 1900. [Vol. 57, No. 6.]

1. Remarks on Subphrenic Abscess; with a Report of Three Cases. A. A. BERG.
2. The Results of the So-called Conservative Treatment of Appendicitis. SAMUEL LLOYD.
3. How the Milk-Supply of New York May Be Improved. HENRY DWIGHT CHAPIN.
4. A New "T" Bandage. W. O. GREEN.

1.—Berg discusses the literature of **subphrenic abscess** at considerable length and reports 3 cases which have come under his observation. No cause of the trouble could be certainly determined in two of the cases. In the third case the infection undoubtedly came from the uterus. The abscess was opened and drained in all cases and 2 of the patients recovered. Berg believes that it is particularly important to avoid opening the pleural cavity in these cases. [M.B T.]

2.—Twenty-five cases of **appendicitis** are briefly reported in which a treatment more or less conservative was followed. In 10 cases no operation was performed and 3 of the patients died. It is believed that had early operation been undertaken all of these patients might have been saved. Of the 15 cases which were operated upon 3 ended fatally, but the fatal results were attributed in some cases to delay. Early operation is considered the best, safest, and shortest method of treating this condition. [M.B.T.]

3.—Dr. Chapin recommends, in order to **improve the milk-supply** of New York, the formation of a Milk Commission whose duty it shall be to look into the source, care and method of distribution of the milk coming from the various dealers throughout the city. [S.M.H.]

4.—Green describes a new method of making **T bandage** from an ordinary rolled bandage. The end of the bandage is folded upon itself for about 3 inches and a slit is cut in this folded portion. The perineal portion is brought through the cut and placed in the center of the back, avoiding folding or rolling it into the form of a string; it is then carried under the perineum, passed under the waistband and tied with a reinforced bow-knot. [M.B.T.]

Medical News.

February 10, 1900. [Vol. lxxvi, No. 6.]

The Policy of the State Relative to the Spread of Tuberculosis. ENOCH V. STODDARD.
The Justo-Major Pelvis as a Factor in the Causation of Perineal Injuries. JOSEPH BROWN COOKE.
Report of Bacteriologic Investigations upon Yellow Fever. ARISTIDES AGRAMONTE.
Atresia Vaginae; Solid Uterus; Hematoma of Left Ovary. H. J. GARRIGUES.

.—Stoddard discusses the responsibility of the State for care of **tuberculosis**. He believes that the proper treatnt consists in the judicious use of various agencies for h individual case. He thinks that it is extremely imtant to have small local sanatoriums under the immediate rge of the local board of health, but under the general ervision of the State. The chief duty of the State then ld be the education of the inhabitants, especially in the ll communities, in regard to the proper measures to be lertaken to check the spread and to control the destrucn of tuberculosis. As an aid to this, tuberculosis should laced in the group of contagious diseases. [J.S.]

.—In discussing the justo-major pelvis as a factor in the sation of **perineal injuries,** Cooke arrives at the conion that owing to the abnormally increased caliber of t form of pelvis, the head does not "mold," and when vered it extends the maternal soft parts to an excessive ree. He believes that posterior positions of the brow, iput and face, compound presentations, prolapse of the d, and similar abnormalities fall to the share of the "large roomy pelvis," and that a guarded prognosis should be en in these cases. [W.K.]

.—Agramonte, like all who have worked with the Bacilicteroides, appears anxious to involve himself in the conversies which that unfortunate organism has aroused. carried on a number of investigations in Santiago de a and reached the conclusions that the specific pathoic microorganism of yellow fever is as yet unknown, that Bacillus icteroides is not concerned in the production of disease, and, when approved bacteriologic methods are ployed, does not appear in cultures from the blood of low-fever patients. It may also be found in the tissues of ients dead of other diseases. It is not affected by agglution-tests, nor is its virulence diminished by the previous ction of serum of convalescent **yellow-fever** patients. act, none of the organisms hitherto isolated can be looked n as the cause of the disease. Further, he believes that erimental evidence has shown that the serum of convaents will affect the course of the disease if injected before fourth day, and may confer immunity in susceptible ividuals. In his own work, Agramonte refers to 37 cases which cultures were made from the blood of the ear with- in any one of them obtaining the Bacillus icteroides. A at variety of contamination-bacteria, however, were obned. It must be confessed that Agramonte's method of ilizing the ear was inadequate. In 31 cases studies were de of the blood drawn from the vein and collected in ilized tubes. Contaminations were exceedingly rare, l this method appears to be very unsatisfactory. In none hese cases was the Bacillus icteroides found. Finally, 23 ausies were made and cultures obtained from various organs. e colon bacillus was obtained frequently; the Bacillus X Sternberg in 11 cases, chiefly in the liver; the Bacillus cyanous in 7 cases, the Bacillus icteroides in 7 cases, and er microorganisms less frequently. A number of cultures e made in cases of sudden death that were lying in the rgue, and the Bacillus icteroides found in one. It was found in two other cases, one of which was possibly of larial origin, but was recorded by Wasdin and Geddings case of yellow fever. Agramonte says that the cause of th was enterosepsis of undetermined character, and tes the opinion of various clinicians and others regarding nature. The typhoid bacillus was also found in this case, l malarial parasites were discovered in the tissues. The ure of the other case is not stated, and the notes of the opsy are too indefinite to enable judgment to be formed. ramonte vouches for the fact that it was not yellow er. [J.S.]

.—Garrigues reports the exceedingly rare case of **atresia of the vagina** with no trace of an opening in the uterus. The patient was 20 years of age, and had suffered from epileptic convulsions followed by some loss of intelligence. Laparotomy was resorted to and revealed a uterus of normal size and shape, normal right ovary with fresh corpus luteum, and the left ovary changed to a large hematoma, which nearly filled the cavity of the pelvis. [W.K.]

Boston Medical and Surgical Journal.

February 8, 1900. [Vol. cxlii, No. 6.]

1. The Massachusetts State Hospital for Consumptives at Rutland; Its Purpose and the Work Accomplished during the First Year. VINCENT Y. BOWDITCH.
2. Bradycardia, with Report of a Case. RICHARD F. CHASE.
3. A Brief Note on Some of those Grave Abdominal Lesions which often Defy Diagnosis. THOMAS H. MANLEY.
4. A Case of Multiple Cerebral Hemorrhages from Chronic Lead-Poisoning with Necropsy. J. W. COURTNEY.

1.—Bowditch gives a very interesting report of the work done at the **sanatorium in Rutland** during the past year. Altogether there were 214 cases, but only 114 can properly be considered as having remained long enough in the Institution to be benefited by his treatment. Of these, the disease is classified in 35 as having been arrested, and in the remainder as either improved or not improved. The average residence in the hospital of the arrested cases was 4½ months. The average gain in weight was 15⅜ pounds. The greatest gain 45 pounds. As arrested are considered those in which all active symptoms such as cough, expectoration, and fever had disappeared, and when the general symptoms indicate complete restoration to health, even although a few abnormal sounds remained in the chest. Bowditch notes that his percentages are about the same as those obtained in other places. The methods of treatment are almost exclusively hygienic, life in open air, or in well-ventilated rooms, pulmonary gymnastics, and plentiful food. He does not believe in large institutions, but thinks that it is desirable to multiply smaller institutions in various parts of the State. He has not found that the patients became depressed by living together, or were not unwilling to enter general wards; in fact, the morale of the inmates is excellent. [J.S.]

2.—Chase reports the case of a man, aged 75, without previous history of disease, but a great drinker of tea and coffee, and a user of tobacco to excess. He complained of edema in the legs, and there was slight cyanosis. The viscera with the exception of the heart were normal. The arteries showed no atheroma, but the pulse varied between 26 and 34, being more frequently below than over 30. When excited there was occasionally slight irregularity. The heart was apparently not enlarged, the apex-beat being in the normal situation. The sounds were strong and labored, and there was a soft-blowing systolic murmur, best heard near the apex. The other valvular sounds were indistinct. The patient was under observation over two months, and during the last few days had several spells, characterized by pallor and unconsciousness, followed by cyanosis and fever. He died in a severe attack. There was no autopsy. Although it could not be ascertained with certainty, it appears that the duration of symptoms were somewhat less than a year. Chase gives a brief description of this symptom, confining himself to Riegel's classification, and giving in tabulated form 35 cases that he has collected from the literature. He reaches the conclusion that a pulse-rate under 60, synchronous with the heart-systole, constitutes **bradycardia;** the condition is not uncommon, and more frequent in males than in females. There are three clinical types. The case reported belongs to the so-called idiopathic class, which deserves attention on account of its almost invariably fatal termination. [J.S.]

3.—Manley, in speaking of the treatment of **obscure abdominal lesions,** says: "If in doubt don't interfere." The latest surgical reports from the war in South Africa and also those of the Hispano-American imbroglio tend to show that conservative treatment is in general a safer plan than operation. But often hemorrhage or perforation so urgently demand interference that to do otherwise than operate would be an inexcusable mistake. [G.B.W.]

4.—Courtney reports a case of a man, 41 years of age, a

painter by occupation, who complained of intense headache, muscular tremor, and dizziness. Occasionally he had attacks of nausea and vomiting. There was a blue line on the gums, and the urine contained a trace of lead. The eyes were carefully examined and showed gradually increasing haziness of the discs. A gumma was suspected, but mercury produced no improvement in the symptoms, and did cause stomatitis. He died suddenly. The brain was hardened in formalin, and then transverse sections made through it, which revealed the presence of small hemorrhages in various parts of the cortex and pons. The convolutions were flattened, and the whole case was probably one of **lead encephalopathy.** [J.S.]

Journal American Medical Association.

February 10, 1900. [Vol. XXXV, No. 6.]

1. Strangulated Hernia; Some Practical Remarks Concerning Its Diagnosis and Its Proper Management. PARKER SYMS.
2. Treatment of Strangulated Hernia. JOHN F. ERDMANN.
3. Diagnosis of Strangulated Hernia. HENRY ROTH.
4. Radical Cure of Strangulated Inguinal and Femoral Herniae. IRVING S. HAYNES.
5. Strangulated Hernia in Children. W. B. COLEY.
6. Centrifugal Analysis of Urine. CHARLES W. PURDY.
7. Contribution to Treatment of Spinal Caries, with Special Reference to the Woven Wire Corset. GEORGE R. ELLIOTT.
8. Improve the Species. H. C. CROWELL.
9. Family Diseases. WHARTON SINKLER and F. SAVARY PEARCE.
10. Uncommon Pyogenic Infection of the Middle Ear. ROBERT SATTLER.
11. A Preliminary Investigation of the Theory of the Inoculation of Malarial Fever Through the Agency of Mosquitos. ALBERT WOLDERT. (Continued.)
12. Clinical and Pathologic Notes on Sympathetic Ophthalmia. H. GIFFORD.
13. The Value of Cycloplegia in Optometric Examination. C. M. CULVER.
14. Contributions of the Medical Profession to General Literature and Collateral Sciences. GEORGE R. HIGHSMITH. (Concluded.)
15. Foreign Body in Urethra. L. M. GREENE.

1.—Syms discusses the diagnosis and treatment of **strangulated hernia.** He is opposed to the employment of taxis whenever it is possible to operate. All that should be done in the way of expectant treatment is to place the patient in a position which most favors spontaneous reduction, to apply cold by means of an ice-bag or cracked ice wrapped up in cloths, to withhold all food from the patient until relieved, and if these measures do not succeed in accelerating spontaneous reduction of the hernia, operation should be resorted to before any of the more severe symptoms set in. [M.B.T.]

2.—Erdmann believes that we should always try to reduce **strangulated hernia** by taxis, but the efforts should be continued only a few minutes. He favors incision with a view to performing a radical operation by Bassini's method. Local anesthesia by 1% eucaine B solution, in normal salt-solution, is advocated instead of general anesthesia, after which there is danger of vomiting. Omentum should be cut off if inflamed or gangrenous. If the gut is in questionable condition it should be covered with hot gauze or towels for a full half hour; and if there is no evidence of return of vitality the gut should be resected if the patient's condition permits; if not, an artificial anus should be established. [M.B.T.]

4.—Haynes advises an attempting the **radical cure of hernia** in such cases operated upon for strangulation, as the condition of the patient and the parts seem to warrant permanent closure of the wound. He prefers to cut the sac away rather than to make a pad of it, for he believes that such a pad may act as a wedge to reopen the orifice. Excision of the veins of the cord, as in Halsted's method, with Bassini's method of suturing the parts is advised. Haynes protests against the use of absorbable suture material, and advises care not to handle the tissues roughly and to arrest all oozing. [M.B.T.]

5.—Coley finds **strangulated hernia** by no means r among **children** and infants; he has operated upon patients under the age of 2 years, with one death. In 4 these cases the sac contained the cecum. The duration strangulation is of special importance in infants. W scarcely an exception herniotomy in all cases of strangulat hernia in infants and children may be supplemented by attempt at radical cure. Coley has employed this proced in all of his cases but one, without any recurrences up to t present time. [M.B.T.]

6.—Purdy believes that **centrifugal analysis of t urine,** if carried out by refined methods and improved ap ratus, may readily reach results that are entitled to rank w older standard methods. He describes this method of det mination of the percentage of chlorids, phosphates, and s fates. The double arm motor is employed, carrying f tubes. Three percentage tubes are filled to the 10 cc. mark w the urine—this having been previously filtered if not cle To the first tube is added 1 cc. of strong nitric acid, and 4 of standard solution of silver nitrate. To the second tub added 2 cc. of 50% acetic acid and 3 cc. of uranium nitra solution. To the third tube is added 5 cc. of the stand barium chlorid-solution. The tubes are inverted 3 or 4 tim to insure mingling of the urine and the reagents, and allow to stand 3 minutes to secure precipitation. To balance t arm of the centrifuge, the fourth tube is filled to the 15 mark with water. The centrifuge is operated at a speed 1200 revolutions a minute for exactly 3 minutes. The tub are then removed and the percentage of precipitates is re off on the scale. No. 1 gives the bulk percentage of chlo of silver; No. 2 the bulk percentage of uranium phospha and No. 3 the percentage of barium sulfate. The bu percentages are converted into their equivalent values percentages by weight and grains per ounce by means of tables which are given in the article; and from th the grain or grams of total chlorin, phosphoric acid and s phuric acid are readily calculated by a glance at anot table arranged for this purpose. [M.B.T.]

7.—See PHILADELPHIA MEDICAL JOURNAL, Vol. III, p. 1

9.—" " " " Vol. III, p. 1

11.—Woldert describes the characteristics of many rieties of mosquitos, their manner of propagation, the b methods of keeping them alive for study, etc. He gives d derived from numerous dissections and the study of s tions. The paper will be valuable to those who are mak a study of the relation of mosquitos to malaria; it is imp sible to give an adequate review of the paper in abstr [M.B.T.]

13.—See PHILADELPHIA MEDICAL JOURNAL, Vol. IV, p.

15.—A man of 43 had been manipulating the inside his penis with a **lead pencil,** and it escaped **in urethra.** When seen 9 days later there was exten extravasation of urine throughout the perineal and pu regions, extending to Poupart's ligament. There had b dribbling of urine, but none had been passed naturally f days. An incision was made an inch anterior to the anu the median rephe. The pencil had passed entirely thro the pendulous urethra and ulcerated into the ischiore fossa of the left side. The pencil was removed and lacerated and ulcerated urethra was trimmed and sutu over a metal catheter, which was left in the bladder 2 we The wound healed in 6 weeks. A sound was passed for 3 months, and the man is now in perfect health. [M.B.T.]

Archives of Pediatrics.

September, 1899. [Vol. XVI, No. 9.]

1. The Renal Complications of the Acute Enteric Disease Infancy. JOHN LOVETT MORSE
2. Enlarged Bronchial Nodes—A Manifestation of Lym atism. J. PARK WEST.
3. A Case of Sarcoma of the Cerebellum. SAMUEL S. AD
4. Congenital Heart Disease—A Study of Thirty Cases. C W. TOWNSEND.
5. Acute Articular Rheumatism in Infants Under One Y with Report of a Case. D. J. MILTON MILLER.
6. On Chorea. GEORGE MONTAGUE SWIFT.
7. Sequel to Case of Spontaneous Recurrent Dislocatio Kneejoint. J. W. BALLANTYNE.

1.—Morse examined **the urine** of 70 infants ill with **uncomplicated diarrheal diseases.** The urine was seldom examined more than once in the same case. All of the infants were under two years of age, 47 being under one year. The urine was always obtained by catheterization. He concludes from these studies that it is probable that more or less marked degenerative changes occur in the kidneys in many if not in most cases. These changes are due to the action of bacteria or of toxins, almost always to the latter. Inflammatory changes are rare. Albumin and renal elements may be found in the urine, albumin occurring in about 15% of all the cases. The sediment contains casts, usually hyaline and fine granular, in about 60% of the cases in which albuminuria is present. The presence of albumin and casts does not justify the term nephritis. Nephritis is a very unusual complication of acute diarrheal diseases of infancy. The occurrence of albumin and renal elements in the urine is not dependent upon any other symptoms or combination of symptoms. It is not of bad prognostic import. Concentration of the urine is common; it varies with the temperature rather than with other symptoms. It is probable that more marked pathologic changes, possibly somewhat different in their nature, occur in cholera infantum, and that the resultant changes in the urine are also more marked. It does not seem probable, however, that their prognostic importance is much greater. [S.M.H.]

2.—West has had under his care 8 children in whom the diagnosis of enlarged bronchial nodes was made. The oldest of the cases observed was 6½ years and the youngest 7 months. The general condition in all the cases but one was poor. Only one case had a slight fever. None of them suffered from rickets, but 4 showed evidence of having had the disease. There were two cases in each of two families. Either one or both parents in each had had rickets or adenoids or were below the normal as to health in some particular. The peculiar cough was the most prominent symptom. It was like in all but one, being harsh, hoarse and hollow. There would be from 2 to 8 sharp, short barks. The paroxysms varied greatly and occurred with equal frequency day and night. One child had a whoop added to his hoarse cough which was rarely heard at night. One child at times breathed with effort. There were no voice-changes in any of the cases. One child had had his cough for 9 months, one for 4 months, and the others for from 2 to 5 weeks. All were treated with ½-drop doses of creasote given three or four times daily, with the result that in from four to six weeks the cough ceased. In 3 cases it recurred and 2 of these had a third attack. The superficial veins of the upper chest were evident in every case, and to a lesser extent in the neck. There was puffiness of the face, particularly under the eyelids, in proportion to the venous enlargement. In the severe cases the puffiness remained similar at all times, in the milder ones it varied. Dulness over the upper breast-bone was distinct in 3 cases, extending a little to each side in one; no dulness was made out in the back. Weakness in the respiratory sound on the right side was very noticeable in 2 cases; to a less extent in 2 others. In every case there was a loud venous hum over the upper sternum with the head thrown back; in some it was heard with the head erect. The diagnosis of enlarged bronchial nodes was based on the character of the cough, the enlarged superficial veins, the venous hum, the dulness over the sternum, the swollen face, the weak respiration over one lung, and the absence of physical signs of other disease. Every child had enlarged cervical nodes. In 6 there was in addition enlarged axillary nodes, and in 5 large inguinal nodes. All had large tonsils; 2 had adenoids interfering with nasal respiration; the follicles of the tongue were present in 3 cases; in 2 the thyroid was made very distinct by throwing back the head, and in 3 the spleen could be felt. West considered the enlargement of these nodes in all to be a **simple hyperplasia occurring as a local manifestation of the status lymphaticus.** [S.M.H.]

3.—Adams had under his care a girl aged 4 years; she was intelligent; well-nourished; her digestive organs were in good condition. She suffered from the following nervous phenomena: Peevishness, frequent complaint of pain in the head, and slight rigidity of the lower extremities. She could stand upon her feet if supported, but could not stand alone. In attempting to walk she developed crossed action. Some weeks after coming under observation she lost her sense of sight. Ophthalmoscopic examination seemed to throw no light upon the condition. At the time of loss of vision her head became enlarged—shortly followed by crossing of the legs, which remained perfectly rigid, so that great force was necessary to abduct or flex them, and the attempt was accompanied by great pain. A few weeks later the arms became rigid, showing the same symptoms when any attempt was made to move them. The child never had any fever. She had paroxysmal attacks of vomiting, and in the latter part of her illness had frequent convulsions which at times were confined to groups of muscles, at other times were general. The child finally died about 9 months after the onset of her illness, a diagnosis of **tumor of the cerebellum** having been made. The autopsy showed the head to be very large and widely separated in every cranial suture. The brain weighed 39 ounces, and showed such dilation of the lateral and third ventricles that the brain itself seemed a mere shell, being distended by a pale fluid. The cerebellum was much enlarged, its middle portion being converted into a rather soft tumor which also involved much of each hemisphere, and by extension had involved some portions of both pons and medulla, having practically obliterated the fourth ventricle. Above the tumor was a broad, flat cavity which contained a yellowish fluid and white flocculi. The ventricular dropsy was thought to be due to pressure on the venae galeni. Microscopic examination showed the tumor to be a **sarcoma.** [S.M.H.]

4.—Townsend made a careful study of 30 cases of **congenital malformation or disease of the heart,** paying special attention to the duration of life, the amount and character of the cyanosis, the cardiac signs and the condition of the blood. His conclusions were as to duration of life, of 19 cases kept under observation, 13 died at an average age of 3 years, the youngest being 3 hours, the oldest 9½ years. Of 6 living cases, the youngest was 4 months, the oldest 28 years. Cyanosis was present in all cases with one exception. The cardiac signs were absent in one-third of the cases, two of these coming to autopsy and showing marked cardiac malformation. In two-thirds of the cases murmurs were present, generally diffuse and systolic in time, with or without a thrill and loudest either at the base or apex. The blood-examination showed the number of red blood-corpuscles to be increased in all but one of 14 examined. The exception occurred in the only case devoid of cyanosis. The average blood-count in 13 cases was 7,573,585 red blood-corpuscles per cubic millimeter. [S.M.H.]

5.—Miller agrees with the majority of authorities in considering **acute articular rheumatism** infrequent in infancy, but he believes that the rheumatic state does occasionally exhibit itself in very early life in the form in which it is commonly seen in adults, namely, the arthritic. He reports the following case which he rightly believes an illustration of the condition. The child was a female aged 9 months. She sickened with fever and painful swelling of the knees. A few days later the left ankle was attacked; after a week a similar condition was noticed in the left wrist. When first seen the left knee was swollen, reddened, and very painful. The right knee was less swollen and without redness. There was slight painful swelling of the left wrist. The body-temperature was 103° F. Two days later the swelling had left the knee and the right wrist was red, swollen and painful, a slight swelling still persisting in the left wrist. The child was given salicylate of sodium, first in doses of 1 grain, later in doses of 2 grains, every 2 hours. No cardiac lesions were discovered. A little more than three weeks after the onset of the illness the temperature was almost normal and the joints were materially improved. At the end of another week the child was practically well. When examined three weeks later, no cardiac lesion was evident. The child's parents had never had rheumatism and there was no history of cold or exposure to dampness. In the absence of signs of syphilis or scurvy, or the presence of any focus of suppuration or other infection the conclusion was reached that the case was a genuine one of acute polyarthritis. A careful search of the literature showed many cases reported as cases of acute articular rheumatism, but only a small percentage gave satisfactory evidence of being rightly classified. But 19 instances of unmistakable acute articular rheumatism under one year could be collected. Two of these cases had pericarditis during the course of the rheumatic infection, while two others developed cardiac disease at a later period. [S.M.H.]

6.—Swift considers **chorea a condition of exhausted nerve-control.** Upon this theory the association of chorea and rheumatism seems to the author to be readily explained. As a result of the rheumatic poison there occurs a failure in the nutrition of the nerve-cells regulating and balancing muscular movements, and thus in certain individuals of neurotic tendency rheumatism becomes the causative factor of chorea. By overcoming this blood-condition and restoring the nutrition of the nerve-cells the condition is cured. For this purpose arsenic, as has been satisfactorily shown, is one of the best remedies. The occurrence of endocardial murmurs depends upon the severity of the rheumatic poison and has nothing whatever to do with the chorea. If the condition is promptly recognized and the patient put to bed, kept quiet and abundantly fed he quickly recovers. The so-called posthemiplegic chorea in later life is due to failure in nutrition of the cells of the cerebrum and is to be explained on the same basis. A large majority of cases of chorea occur in children who are thin, pale, and badly fed. The next most frequent class is that associated with rheumatism. These cases most commonly get well, the endocardial murmur, when present, in some of them apparently disappearing. When the rheumatic poison is slow in losing its activity the chorea is slow in disappearing. If the disease of the heart becomes permanent and the anemia recurs the chorea is apt to recur also. In another class of cases of chorea the failure of nutrition is due to the action of some other poison on the blood. It may be the malarial organism, and in these cases the indication for treatment is different. In all cases the blood-condition should be improved. By accomplishing this the patient will be enabled to regain proper nervous control. [S.M.H.]

7.—Ballantyne, in the April number of the *Archives*, described a case in which a boy, 11 months old, was able to slip his knee out and in by simple pressure of one leg upon the other, dislocation being accomplished by a slight click. It was also easily possible to cause the displacement of the joint-structures by seizing the leg and pressing the head of the tibia outwards. The sequel of this case is that the child is now 16 months old and is walking quite well. There is no longer any tendency for the **dislocation of the knee** to take place, nor is it possible by moderate pressure on the joint to cause the displacement. The cure has been gradual, the dislocation taking place with less and less frequency, and the retention-apparatus which was used was quickly abandoned as no longer necessary. In a search through the literature only two other cases at all resembling this were discovered, from which it may be fairly concluded that spontaneous dislocation of the kneejoint is one of the rarest of known malformations. The congenital laxity of the capsular and ligamentous structures of the kneejoint seems to be the only explanation of recurring, voluntarily induced dislocations of that articulation. [S.M.H.]

Münchener medicinische Wochenschrift.

September 12, 1899. [46. Jahrg., No. 37.]

1. The Treatment of Chlorosis with Enemas Containing Iron. Jollasse.
2. The Antitoxic Properties of the Gall in a Tetanic Case. Vincenzi.
3. A Case of Simultaneous Intrauterine and Extrauterine Pregnancy. Mond.
4. A Case of Congenital Multiple Atresia of the Small Intestines. Thorel.
5. The Plaster-of-Paris Dressing in General Practice. Riedel.
6. The Treatment of Cardiac Asthma. Abée.
7. The Reform of the German Naturalist- and Medical-Convention. Biedert.

1.—Jolasse puts his cases of **chlorosis** to bed and treats them with either Blaud's or Vallet's pills. He has tried the method of giving iron in suppository, but he found that the results were not satisfactory. Given in the form of enema, a better success was obtained. He employs citrate of iron in doses of .1 to .6 grams (1.5 to 9 gr.) in 50 grams (1⅔ oz.) of starch, giving such an enema thrice daily. But the treatment by enema cannot be compared with the treatment by mouth, and is to be employed only when there are reasons, such as gastric disturbances, on account of which iron cannot be given by the stomach. Quincke has employed the subcutaneous injection of citrate of iron and has seen good results. In suitable cases administration through the rectum may be used as a substitute for the subcutaneous method. [D.R.]

2.—Vincenzi was not able to find antitoxin in the blood in a severe case of tetanus terminating favorably. In another case ending fatally he found that the **bile** possessed decided **antitoxic properties.** Experiments on guineapigs which had been injected with a fatal dose of tetanus-toxin showed that the bile of the animals contained antitoxic substances eight and three-quarter hours after the injection of the toxin and before the appearance of any tetanic phenomena. An interesting case of tetanus is reported in connection with these experiments: A peasant had sustained an injury to the nose leading to severe epistaxis. To stanch the bleeding he used some fresh water which he found in a stable. Within 24 hours the first symptoms of tetanus appeared. He was admitted to the hospital three days later and died in five days, with all the symptoms of tetanus. Antitoxin was apparently not employed. The tetanus-bacillus could not be obtained from the nose, nor was it possible to produce tetanus in guineapigs by injecting cultures made from the nose or material obtained at the autopsy. An interesting feature of the autopsy was the contracted condition of the heart. The heart-chambers were practically obliterated. The **bile** from this patient was able to neutralize, in mixture, a fifty-fold fatal dose of tetanus-toxin. Normal bile has no action on tetanus-poison. The bile from this case of tetanus, although possessing antitoxic properties, had no power to immunize animals. The brain and spinal cord did not show any diminution of their antitoxic properties. A microscopic study of the nervous system was made, among others, by the following valuable method: A little of the medulla was teased in the fresh state with a few drops of salt-solution. A drop of the emulsion was placed on a slide and covered with a cover-glass. A little methylene-blue was then allowed to flow under. In a few minutes the Nissl bodies were deeply stained. The results of the investigation by this method and by the various methods of fixing and staining were negative. There was no degeneration of the Nissl bodies nor swelling of the nucleolus. [D.R.]

3.—After mentioning the different cases of **simultaneous intrauterine and extrauterine pregnancy** in literature Mond describes a case which came under his own observation in Kiel. The patient was a woman, 28 years old, married 8 years, and had had 5 normal confinements. On examination the uterus was found enlarged, and to the right of it, reaching 2 finger-breadths above the umbilicus, was a large, solid tumor, easily movable, and readily separated from the uterus. On performing laparotomy the uterus was found to correspond in size to a 3-months pregnancy. The right tube was swollen at its middle to the size of a hen's egg, was ruptured and partly embedded in a large hematocele. After the removal of the tube and hematocele, the patient fully recovered and 5 months later was delivered of a living child. [W.K.]

4.—Thorel reports an interesting case of **congenital atresia of the intestine.** The child was poorly developed, weighed but 4½ pounds, and only lived 15 days after its birth. It became greatly emaciated, and death was evidently due to starvation. At the postmortem the upper part of the intestine was found dilated almost to the size of the adult intestine, but about 80 cm. below the pylorus it ended in a blind ampulla. Following the intestine down, 8 more stenosed portions are seen varying from 3 to 5.5 cm. in length, some of them absolutely occluding the intestine. The narrow stenosed portions of the lower part of the intestine presented a spiral appearance, so that it seemed as though the intestine was twisted on itself. The cecum was normal in form but considerably atrophied, being only about the thickness of a lead-pencil. [G.B.W.]

5.—Riedel suggests the use of extension during the application of a **plaster-of-paris bandage** to the lower leg. The limb should be shaved and well oiled and the bandage then placed directly on the skin. A great advantage is to have a stiff gauze bandage cut in short strips, which should be immersed in a plaster-of-paris mush just before using. These strips can be applied with more neatness than the ordinary roller-bandage. [G.B.W.]

6.—Having noticed that patients suffering from heart-dis

e are apt to place their hands over the precordia in order ecure ease and comfort, Abée conceived the idea of using **isc-shaped compress** which should take the place of pressure of the hand. This compress is buckled around body and comes to lie over the apex. The results have n very satisfactory. [D.R.]

September 19, 1899. [46. Jahrg., No. 38.]

Convention of German Naturalists and Doctors in Munich. Tuberculosis and Malformations. A. HEGAR.
Specific Epithelial Immune-Serum. V. DUNGERN.
The Action of Mucilaginosa. V. TAPPINER.
The Treatment of Gonorrheal Epididymitis with Salicylates. BETTMANN.
A Case of Uxticaria Pigmentosa. V. STORCK.
The Early Diagnosis of Measles. ROLLY.
Toxic Action of Extractum Filicis Maris Æthereum and Its Prevention. GRAWITZ.
Concerning the Treatment of Obesity. V. HOESSLIN.
Medicinal from Constantinople. V. ZIEMSSEN.

.—Hegar thinks that **tuberculosis** in the individual, ore or at the beginning of puberty, seriously **interferes th the proper development of the sexual organs,** ulting in many malformations; and that other malforma- is date from the intrauterine life and are caused by erculosis in the parents. He gives an interesting review literature on this subject. Landouzy, after making a dy of tuberculous families, states that the children were n with miserable constitutions and a peculiar disposition infection and imperfect development. Fournier found ong children of consumptive parents a great proportion of lformations, such as deafness, kelshaped skulls, defective ates, anencephalus, as well as a great variety of sexual ormities. Other authors report unusual combinations of le and female sexual characteristics, a hermaphroditism he widest sense of the word. Hegar asserts that as alco- and metallic salts are known to pass through the blood- am to the testicles and ovaries and thus injure the germ new life, so tubercle-bacilli may act in the same manner. , however, admits that there are many gaps as yet in the owledge on this subject, but thinks that a practical inter- may lead to wider results. [W.K.]

2.—The author injected **ciliated epithelium,** obtained carefully scraping the trachea of recently killed cattle l mixed with salt-solution, into the **peritoneal cavity guineapigs.** He found that a large number of the cells nained alive for a long time, as was demonstrable by ob- ving the movements of the cilia and the changes in shape the cells. Life endured, even when the dose injected was y small, at least several days. If the same guineapig eived another injection of ciliated cells in from 10 to 12 ys, it was found that the cells died within 18 hours, even en the quantity injected was very large. It appears then t the preliminary injection of epithelial cells augments epithelium-killing function of the body of the guineapig. is function is dependent upon the formation of an "anti- dy" capable of attacking the epithelial cells—a body that n be demonstrated in the blood-serum. This body is much re active in the organs than on the outside, in which it fers from the globulocidal body, which is more active *in vo* than in the organs. The globulocidal body which is veloped when foreign red corpuscles are injected into the ritoneal cavity of an animal is not identical with the epi- elium-killing constituent of the serum, nor has the former y action on epithelial cells, while the serum with epithe- l-killing properties is capable of dissolving red corpuscles. e solution of the red corpuscles by the epithelium-serum ay occur in one of two ways: either the epithelial cell ntains two different immunizing bodies, of which the one curs in the epithelium alone; the other also in the ery- rocytes of the same species of animal, or there may be a gle antibody in the epithelial serum which, in addition to specific affinity to epithelial cells, also has a nonspecific inity for the red corpuscles. Experiments prove that the ter is the correct explanation. If red corpuscles and ithelial cells *together* are placed in the epithelium-immune rum (*i. e.*, the epithelium-killing serum), no solution what- er of the former takes place. If epithelial cells are added specific globulocidal serum, the globulocidal function of e latter is in nowise influenced. The author believes that his experiments may be of value in the treatment of carcinoma; since it is possible to produce an antibody acting on epithelial cells, it is not improbable that the epithelial cells of tumors may be influenced specifically without doing damage to other tissuues. The application of such specific serum would have to be local, not through the circulation, and would be best after the surgical removal of all visible tumor-tissue. For the treatment of carcinoma in man, it would be necessary to inject the animals in which the antibodies are to be developed with human epithelial cells. The author is at present engaged in producing immunization with milk which contains the immunizing body of epithelium. [V. Dungern uses the terms epithelium-immune body or immunizing body as synonymous with epithelium-killing (epithelicidal) body, probably because it is developed by a specific reaction of the body after the injection of epithelial cells. D.R.]

3.—Will be abstracted when finished.

4.—Bettman has employed the **salicylates locally in** the treatment of **gonorrheal epididymitis.** One part of methyl salicylate is mixed with two parts of olive oil, and of this 6 to 8 cc. are laid on some cotton which is applied to the scrotum and covered with gutta-percha paper; about this a padded suspensory is placed. Objectively very little benefit could be observed, but subjectively there was **marked influence upon the pain.** After 3 or 4 days the pain had subsided sufficiently to permit the application of a pressure-bandage. [D.R.]

5.—The author reports a case of **urticaria pigmentosa** occurring in a one-year-old male child. Regarding the nature of the pigment in the patches, the author believes that it is not of hematogenous origin. Mastzellen were present in abundance in the subepidermal portion of the spots. Treatment of urticaria pigmentosa is unavailing. It is possible that phototherapy may possess some value. The covering of large portions of the skin with a compressing ichthyol plaster might also be worth a trial. [D.R.]

6.—Among 78 cases of measles, Rolly found **Koplik's sign** in 24 before the appearance of the eruption. The majority of the spots were situated on the mucous membrane of the cheek, opposite the molar teeth. There were a few on the lips, none on the tongue, or the hard or soft palate. The majority were smaller than a pin-head. They were slightly elevated, bluish-white, round, sharply circumscribed points, surrounded by a small narrow ring of red mucous membrane. Toward the end the spots disappeared without leaving any lesions. They had no tendency to coalesce. The sign is pathognomonic and permits a diagnosis to be made as early as 4 or even 6 days before the appearance of the eruption on the skin. The author says a few words about the claim of different authors to priority in the discovery of this sign. The eruption was probably first noticed by Gerhardt in 1877, although the latter did not recognize its value for the early diagnosis of measles. [D.R.]

7.—Grawitz points out that the anthelmintic principle of **filix mas** is also toxic and has a deleterious influence upon nearly all the organs of the body, on the nervous system, the blood, the gastrointestinal tract, the kidneys, and the liver. The dose of the extract should not exceed from 8 to 10 grams for an adult, and for children over 6 years, one-half of this. It should not be given with oily laxatives or vehicles, since the poisonous filicic acid is especially soluble in oily menstrua; castor oil therefore is to be avoided. All depressing influences on any organ or on the whole body should be eliminated; hence it is well **not to starve the patient** before giving the vermifuge. Grawitz permits his patients to eat their usual meals the day before the treatment; on the morning of the day he gives Carlsbad or Epsom salts on an empty stomach, and after the evacuation of the bowels the felix mas with coffee. Sometimes he avoids a laxative altogether. [D.R.]

8.—The author has abandoned Oertel's treatment for the **cure of obesity** and now employs the following plan: First, alimentation with a purely proteid-fat diet, after the principles of the Ebstein gout antifat diet; secondly, stimulation of metabolism by hydrotherapy; thirdly, the administration of thyroid in tablets; fourthly, the increase of oxidation processes by increase of exercise. The quantity of fat and meat, 180 grams, is quite large, and often exceeds the amount of meat taken by the patient before treatment. The patient is also not required to endure thirst. The author

gives a specimen diet-list for one week for the noon and evening meal. Instead of ordinary bread, bran bread is employed, 15 grams for each meal. Compots are made without sugar, sometimes with saccharin. All sweet fruits, such as apricots, strawberries, and pears, are excluded; likewise the sweet and starchy vegetables, as beets, sweet peas, etc. For breakfast, tea, or coffee is given without sugar, and a tablespoonful of thick cream to each cup; in addition, a slice of bran bread with much butter. As beverages, Moselle, Tyrolese, or Bordeaux wine, water, or mineral water; beer is not allowed. Metabolism is stimulated by hydrotherapeutic measures, principally by cold effusions, cold sponges, cold douches, a cold half-bath, or a cold full-bath. In addition, the Turkish bath is given. The hydrotherapeutic plan is constituted as follows: At 6:30 in the morning, on rising, cold sponge at 10° C. (40° F.); at 8:30, a half-bath at 18° C. (64° F.) lasting 1½ minutes, followed by a cold affusion, and alternated every second day with a sweat-bath for one-half hour; at 6 in the evening a fan douche at 12° C. (54° F.) lasting one-half minute. In the summer, instead of this, a bath in a stream of ten minutes is given. The thyroidin tablets are a valuable adjunct to the antifat treatment. The author employs tablets of .5 of a gram, one or two being given a day. As exercise the patient takes regular walks, plays lawn-tennis, rides horseback or bicycle, saws and chops wood, and practises on the ergostat and on the resistance apparatus. Where possible, mountain climbing, hunting and rowing are employed. Cases are cited illustrating the results obtained by the different measures. [D.R.]

September 26, 1899. [46. Jahrg., No. 39.]

1. Natural Immunity-Arrangements of the Organism, and Their Protective Influence upon Infectious Processes. BUCHNER.
2. Extirpation of a Large Retrobulbar Tumor, Krönlein's Operation-Method, with Retention of Sight, a Good Setting, and Good Mobility of the Eye. WEISS.
3. Concerning the Retention of Bromin in the Animal Body. FESSEL.
4. A Case of Intermittent Albuminuria. SCHIROKAUER.
5. Concerning the Action of Mucilaginose. V. TAPPEINER.

1.—One of the most widespread phenomena of adaptation among the higher animals is that **self-protection against bacterial agents** without which warm-blooded animals could not exist. To explain this self-protection, Metschnikoff offers his theory of phagocytosis. The leukocytes are, however, primarily not fighting-cells, but are absorption cells, the function of which it is to remove foreign and useless particles. Incidentally they also act as protecting cells—as alexocytes—in that they furnish entirely or in part the bactericidal alexins of the serum. Such bactericidal agents seem, however, to be contained in the majority of the body-cells, although they are present in greatest quantity in the blood. The bactericidal power of the blood is destroyed by heating to 55° C. This fact the author uses to controvert the views of Walz and Jetter. As to the nature of the bactericidal bodies, Buchner believes that they are of the type of **proteolytic enzymes,** and that their action on the bacteria is nothing more than a **form of digestion** which is comparable to the globulocidal action of blood-serum. Indeed, he believes that the bactericidal and the globulocidal substances are identical. The pointing of abscesses, he thinks, is due to the proteolytic effect of the leukocytes, rather than to any other cause. The metamorphosis of insects, the maturation of the larvae of batrachia, in which leukocytes are known to play a great part, are also to be explained as the result of histolytic enzymes contained in the white cells. A similar phenomenon is the absorption of catgut in aseptic wounds. The solving action in all these cases is not due to the alkalies contained in the fluids. The proteolytic enzymes are probably constituents of every cell, and Hahn has shown their presence even in yeast-cells, in the typhoid-bacillus and in the tubercle-bacillus. Every body-cell probably contains two main components—constructive or assimilating, and destructive or disassimilating. The former are probably always connected with organized structure, while the latter, the proteolytic bodies, may appear in solution in the body-fluids. The question arises, Why is the proteolytic action exerted more strongly against foreign bodies, such as bacteria, than against the body-cells themselves? Such a question can at present only be answered in a teleologic sens *i.e.* from the standpoint of the theory of self-preservation. Th organism is not all-powerful for its self-protection, and wa of aiding it may be found. The practical application of th experimental results depends on the thorough comprehe sion of the function of the blood. Hitherto the blood h been looked upon principally as the medium for nutritio and its absorptive power has been underestimated. Jacob has made some experiments on the influence of artifici hyperemia of the lung on pulmonary tuberculosis, and Bie on the effect of hyperemia on local infectious processe especially the effect of artificial passive congestion. It not, however, the passive congestion that is so much d manded for the cure and absorption of local disease as more active local change of blood. [D.R.]

2.—The patient, a coachman, aged 32, had been sufferir from a gradually developing exophthalmos which started a parently as the result of an injury to the eye a quarter of year ago. The symptoms and course of the disease pointe to a **retrobulbar tumor** and such was the diagnosis. A the trouble was rapidly increasing in severity an operatic was decided upon, so accordingly an incision was mad beginning just above the supraorbital ridge running dow ward to the superior border of the zygoma and then along this border to about half way across the arch. Th periorbital fascia was then carefully separated from the bor along the outer surface of the orbit, and a wedge-shape osteoplastic flap turned downward from the outer wall the orbit. Through this opening the tumor, which measure 30 x 23 x 19 cm., was easily removed. The bony flap w restored to its proper position and the wound united. Som slight suppuration took place, but the final result was mo satisfactory. [G.B.W.]

3.—Fessel has studied the effect of the **bromids** upon th body. The results of his studies are as follows: The tox action of the bromin salts is more marked on cats than o dogs, but even the latter present symptoms of bromism large doses are given from the beginning. The eliminatic of bromin in the beginning is far behind the ingestion, whi there is a marked elimination of sodium chlorid. It increas gradually until the organism is in a state of bromin equili rium, so far as the given doses are concerned. If the quanti administered is increased, the relation of elimination to i gestion is changed. The capacity of the organism, then, not predetermined, but varies with different doses. Sodiu chlorid given at the same time exerts no special influenc If large doses are given, the time of elimination may be co siderably shortened, which may be of value in the treatme of bromism. Under ordinary conditions, the elimination bromin is exceedingly slow. The largest quantity of brom is found in the blood, where it, in part, seems to take th place of the sodium chlorid. It is probable that there is al destruction of blood-corpuscles, as the urine in the author experiments was found to contain abnormal quantities iron. Of the organs, only the brain has so far been demo strated to take up bromin. Whether the thyroid gland tak up bromin instead of the iodin is still to be determined. [D.R

Berliner klinische Wochenschrift.

October 2, 1899. [36. Jarhg., No. 40.]

1. Profuse Discharge of Cerebrospinal Fluid Continued Fi Weeks without Brain-Phenomena. A. LUCAE.
2. Concerning Pus in the Stomach. H. STRAUSS.
3. A Case of Chronic Trional-Poisoning. K. VOGEL.
4. The Theory of Reduplication of the Heart-sounds. F DOLL.
5. A Case of Chronic Swelling of the Parotid Continuin during Pregnancy. G. FREUDENTHAL.
6. The Physiology and Pharmacology of the Caffein Grou G. COHN.

1.—A boy, 17 years old, had suffered from severe **sup purative middle-ear disease** which was allowed to g untreated for some time. Finally the mastoid operation w performed and a subdural abscess was also found. The di charge was lessened but cure did not result. After som months of treatment by syringing the ear no improvemer followed and for 5 weeks there had been a profuse discharg of cerebrospinal fluid. An incision was made in the scar

the old operation over the mastoid process and a defect was found in which there was an irregularly shaped sequestrum of the size of a cubic centimeter; this was carefully removed and an opening was found in the dura through which cerebrospinal fluid was flowing. The discharge of **cerebrospinal fluid** and of pus gradually ceased and the boy left the hospital in good condition. It is particularly emphasized that during the 5 weeks before the operation there were absolutely no symptoms which could be attributed to this loss of the cerebrospinal fluid. [M B.T.]

2.—Strauss reports an interesting case of **gastric carcinoma,** associated with a **subphrenic abscess,** in which the material evacuated from the empty stomach always contained pus, the amount of the latter reaching at times 250 cc. There was no reduction in motility; hydrochloric acid was absent; lactic acid was usually absent, occasionally present in traces. The indican in the urine was enormously increased, and the ratio of ethereal sulfates to total sulfates was 1:4. Albumose was also present in the urine. In the beginning the amount of pus was slight and was explained on the existence of an ulcerating tumor. Later, when the quantity increased, a subphrenic abscess was suspected. On two occasions H_2S was found in the gastric contents. Blood-corpuscles were also found at times. Strauss discusses exhaustively the significance of the presence of pus and blood in the stomach-contents. A few leukocytes are always found in the wash-water from the stomach, but macroscopic quantities of pus are rare. He has only seen them in carcinoma of the stomach and in the present case, in which the carcinoma was associated with a subphrenic abscess. Four cases in which **pyorrhea gastrica** had been present came to autopsy. In all there was an extensive soft carcinoma with ulceration of the surface. During life there had also been a tendency to hemorrhage. Ordinarily in these cases motility is not disturbed. Pus can of course occur in cases with disturbed motility, but in them the finding of the pus is rendered difficult on account of the presence of stagnating food. Strauss believes that the repeated discovery of pure pus in an empty stomach is a diagnostic sign of carcinoma. If the amount of pus is very large, it indicates the existence of an abscess-cavity communicating with the stomach. The presence of blood in an empty stomach, either pure or mixed with mucus or pus, in cases of suspected carcinoma, is a valuable diagnostic sign. The author advises that when the stomach-tube is introduced—and the tube should be a soft one—gentle, scraping movements should be made, in order to test the vulnerability of the mucous membrane. The end of the stomach-tube used for this purpose should be blunt-pointed. The repeated discovery of blood or of shreds of tissue by this method is in favor of carcinoma, as against achylia gastrica. In addition to these diagnostic helps, the author suggests the use of the dried currant fermentation-test previously proposed by him, and the determination of the total gastric contents. A positive result with the former tests, without increase of gastric contents, is in favor of carcinoma. [The discovery of rare metastases, as, for example, in Douglas' pouch and in the mediastinal prevertebral lymph-glands, which he has found in some cases by means of the x-ray, is also a valuable aid in diagnosis. D R.]

3.—To the cases of **chronic trional poisoning** in the literature, which he quotes, Vegel adds one of his own. The principal symptoms in the patient, a young woman of 28 years, were great prostration, colicky pains in the abdomen, a feeble, rapid pulse, marked pallor, diminution in tactile sensibility of the lower extremities and sacral region, constipation, and Burgundy-red urine, containing a pigment similar to hematoporphyrin. The electrical reactions in the lower extremities were diminished and there was a marked tendency to attacks of cardiac failure. Recovery was achieved in about four months. The treatment consisted in the withdrawal of the trional, the administration of sodium salts (bicarbonate and sulfate), and the use of camphor for cardiac weakness, and morphin for the colics. [D R.]

5.—Freudenthal describes a rare case of **chronic inflammation of the parotid gland** in a woman of 32 years which had continued through her pregnancies, but without causing any cessation in the flow of the saliva, which was clear and without pus or shreds of fibrin. The skin under the ear and over the gland was reddened and itched intensely and the swelling became of the size and shape of an oyster-shell. [W.K.]

October 9, 1899. [36. Jahrg., No. 41.]

1. Contribution upon the Theory of Natural Immunity. P. BAUMGARTEN.
2. The Veil a Cause for Nasal Redness. O. ROSENBACH.
3. Do Gonococcus Develop upon the Mucous Membrane of the Female Genital Organs without any Clinical Appearance of Gonorrhea? H. SCHILLER.
4. The Theory of Reduplication of the Heart-Sounds. K. DOLL.

1.—Baumgarten is an opponent of the **phagocytosis and alexin theories of immunity,** and on the strength of researches made by two of his pupils, Jetter and Walz, affirms his belief that the apparent bactericidal action of blood-serum, seen when it is mixed with bacteria, and these then transferred to culture-media, is principally dependent upon **disturbances of assimilation and osmosis.** When bacteria are transferred from blood to plate cultures, a reduction of growth occurs, and at times a destruction of the bacteria. The loss of bacteria may in part be attributed to the disturbances of assimilation, in consequence of which growth ceases; and during the pause in the growth those bacteria will be destroyed, the life of which naturally terminates during this time. Furthermore, some of the bacteria will be in a state of starvation and suffer from mechanical injury during the pouring of the plates. But these factors cannot alone explain the enormous loss of bacteria, and the author therefore calls upon another factor—disturbance of osmosis. This is due to the fact that in the new medium the bacteria are subjected to a different osmotic pressure from that of the old. It was shown that the salts of the blood obtained by dialysis had the same bactericidal effect as the blood-serum itself. A microscopic study of the bacteria that had been subjected to blood-serum showed plasmolytic changes. If, for example, the anthrax bacillus is taken from a bouillon culture and placed in fresh blood-serum, **plasmolysis** occurs in the bacteria in a few minutes, or at least in a half-hour. The process consists in contraction of the protoplasm, separation of the cell-wall, and fragmentation into the small spherical particles. On the addition of water or watery solutions of methylene-violet, the original bacillary form is restored. The typhoid bacillus, bacillus coli, and the cholera bacteria behave in a similar manner, except that some of them show in addition the phenomena of agglutination, which has nothing to do with plasmolysis. Buchner had attributed the bactericidal action of blood-serum to enzymes. This led Baumgarten to try the effect of the well-known ferments, trypsin, pepsin, etc., and he found that the phenomena produced were merely those of plasmolysis. The ferments probably do not kill the bacteria. Plasmolysis is the most important cause of the disappearance of bacteria in the plate cultures after contact with blood-serum. While it may not of itself be the cause of death, the bacteria affected with plasmolysis are probably more sensitive to external conditions, such as rapid changes in the medium, sudden differences in temperature, etc., than normal bacteria. The loss of bacteria then occurs not in the serum, but in the gelatin or the agar. It might be averred that this theory is disproved by the fact that when the serum is heated to 55° C. the loss of bacteria does not occur; Baumgarten believes, however, that the heating modifies the serum. He thinks that it gives rise to a certain amount of peptone, which makes the serum a better medium than it was before, and that with a better medium plasmolysis disappears more quickly. He found that when a small quantity of peptone was added to fresh serum, its bactericidal action upon the typhoid bacilli was almost completely suspended. Moreover, if the bactericidal substance was an enzyme, heating would remove the bactericidal action for all bacteria; but Walz showed that while heating destroyed the bactericidal action on the typhoid bacilli, it did not destroy that on the anthrax bacilli. The typhoid bacilli grow much more actively in the heated serum than in the unheated, and plasmolysis is much less marked and lasts a much shorter time in the former than in the latter. The author doubts whether it will ever be possible to demonstrate bactericidal substances as the cause of immunity. It is difficult to conceive how such substances, which are supposed to act chemically, can be harmless to the organism in the blood of which they circulate; nor is the assumption that these bodies exist necessary.

A better theory, the author thinks, is his **assimilation theory,** which asserts that immunity depends upon the absence of a proper soil—that the bacteria do not find the chemical composition necessary for their life and growth. These differences in chemical composition may be very slight, yet sufficient, especially when it is remembered that small quantities of substances like peptone, sugar, glycerin, etc., added to media of the same composition, have a marked influence upon the development of bacteria. [D.R.]

2.—See editorial, PHILADELPHIA MEDICAL JOURNAL, January 20.

3.—Neisser had maintained that gonococci could be found on the mucous membrane of the genitalia of women without the presence of clinical signs of gonorrhea. Schiller examined 300 women without knowing anything of their previous history and found gonococci in 57; that is, in almost 20%. In every case in which the gonococcus was found there was some pathologic secretion from the mucous membrane. [D.R.]

October 16, 1899. [36. Jahrg., No. 42.]

1. Concerning the Presence of Arsenic in Skin-Scales, Hair, Sweat, and Urine, from a Biological Standpoint. W. SCHOLTZ.
2. Experimental Examinations of Meat and Fish Preserved with Salt. A. PATTERSON.
3. Concerning the Number of Red Blood-Corpuscles in Two Cases of Suprarenal Diseases. A. A. CHRISTOMANOS.
4. Concerning Tropon. A. LICHTENFELT.
5. The Theory of Reduplication of the Heart-Sounds. K. DOLL.

1.—Not being able to find arsenic by Marsch's test in the scales of a case of psoriasis receiving large doses of arsenic hypodermically, Scholtz had recourse to an interesting **biologic test** based upon the fact that **certain fungi** growing on arsenical media **give rise to gases having a garlicky odor.** A little agar was mixed with some scales and inoculated with the penicillium brevicaule. The addition of 0.1 gram of scales sufficed to develop the characteristic odor. By this method arsenic was also found in the urine and sweat of a psoriasis patient who had had no arsenic for two weeks, but who had received large doses previously. [D.R.]

2.—Salt has been used from time immemorial in conserving food. It has generally been believed that its value depends upon an antiseptic action. The present experiments were made with meat and fish, salt being added in strength of from 5 to 23%, the materials being kept at a temperature of mid-summer heat. It was not possible to note any inhibitory action on the growth of microorganisms until the salt had a concentration of 20%. Bacilli were found to be more sensitive than cocci. It is probable that the peculiar taste, odor, consistency, and color of certain articles of food preserved in salt (herring, anchovies, etc.) is due to particular kinds of microorganisms. [D.R.]

3.—The author reports two cases of **Addison's disease,** one a typical instance of caseous degeneration of the adrenals with melanoderma, the other one of malignant disease of the suprarenals without discoloration of the skin. In both cases the blood-count was high. In the first the red corpuscles numbered from 6,500,000 to 7,200,000; in the second, 5,400,000. As to this **polycythemia,** the author believes that it may be explained in the following way: The disease of the adrenals and neighboring lymph-glands involves the nerve-plexuses. The involvement of the latter brings about a disturbance in the distribution of the blood, causing stasis in the abdominal vessels and an oligemia at the periphery. The peripheral tissues, therefore, receive less fluid than normally; and as the amount of plasma needed for the nutrition of the tissues corresponds to a less quantity of blood, the latter will become thickened and will show an increase in red corpuscles. This polycythemia might be of diagnostic value. [D.R.]

4.—The addition of **tropon,** concerning which substance we have published a number of reviews, in the author's opinion enhances the extent to which the ordinary foods are utilized. [D.R.]

5.—Doll discusses the **double apex-beat**, and reviews the literature in an exhaustive manner. There are practically two views of the nature of the double beat. One, that it is a bigeminy, which implies a short diastole and a precipitous second systole, causing two beats to follow each other immediately; according to the other view, the double beat is due to a hemisystole, that is, an asynchronous action of the two ventricles. There were weighty physiologic reasons against the second view, but cases are on record that can scarcely be explained on any other ground, although it is probable, even then, that the second ventricle, which is supposed to be resting while the other is beating, is undergoing a slight, imperceptible contraction. The author's case of double beat concerns a man of 76, with moderate arteriosclerosis, in whom the double beat was found for only 2 days; on the morning of the third day the patient died. At the autopsy a rupture was found at the apex of the first ventricle in an aneurysmal bulging. Doll explains the double beat in this case as follows: The aneurysm was distended and ready to burst. With each diastole it became filled and passively distended, causing the first apex-beat. The second apex-beat was nothing more than the normal systole of the heart, strengthened by the increased tension in the already bulging aneurysmal sac. The pulse corresponded with this second beat. This case proves that no one explanation of the double beat is applicable to all cases. The author believes that under some conditions the double beat may have diagnostic value, inasmuch as it might be considered as indicative of a threatened heart-rupture. Its prognostic value in that case would be great. [D.R.]

Deutsche medicinische Wochenschrift.

November 2, 1899. [25. Jahrg., No. 44.]

1. Concerning Basophile Granulations of Red Blood-Corpuscles. M. LITTEN.
2. The Injection of Fluids and Air into the Stomach from the Esophagus. G. KRÖNIG.
3. Death under Chloroform. A. SIPPEL.
4. A Case of Renal Hemorrhage of Angioneurotic Origin. W. POLJAKOFF.
5. The Course and Prognosis of Tuberculous Pneumothorax. W. ROSE.
6. Color-Technic for Exhibiting Caryochromatophilic Granules in Blood of Inhabitants of Malarial Districts. A. PLEHN.

1.—Litten has devoted considerable attention to the **basophile granulations of the red corpuscles,** and has observed them in numerous corpuscles in 9 cases of anemia, 4 of them pernicious anemia, and 3 others severe secondary anemia following gastric ulcer, typhoid fever, and uterine carcinoma, all of which were complicated by hemorrhage. The other cases were anemias without hemorrhage, one carcinoma and the other chlorosis. The granulations increased as the patients grew worse and decreased as the patients improved. They varied from fine, scarcely visible specks to large granules. They were found in all forms of red blood-corpuscles; they are found in all varieties of anemia, and the only conclusion that can be drawn from their presence is that the blood is from anemic patients. They are of no prognostic value. He found that they were stained best with the methylene-blue group of stains and with toluidin-blue and thionin; alum hematoxylin also stains them well when used for a long time in weak solution. The triacid mixture does not stain them. The difference between these stains and the basophile granulations of the mast-cells is that the latter are metachromatic while the granules of the red blood-cells are orthochromatic, taking a pure deep blue; this is most marked when they are stained with kresyl-violet R R. The question has been as to whether these granules were the result of breaking down of the nucleus or of anemic degeneration of the protoplasm and alteration of the hemaglobin. Litten has been until recently of the latter opinion, but he details a case which he lately observed which makes this seem doubtful. It was one of pernicious anemia in a woman of 53. Her blood showed large numbers of these granules, and in some of the nucleated red cells there were very irregular nuclei which stained poorly and were surrounded by collections of nuclear fragments beside the granules which are under discussion. These increased during the latter part of life, and there were also large round cells filled with these granules so that the protoplasm could

cely be seen, and there was no other appearance of a eus or fragments of a nucleus. The examination of the -marrow showed marked destruction of the nucleated cells, and the remnants of the nuclei showed extremely ed forms. There were undoubted kariolytic changes in nuclei of the cells in the marrow. Hence, it is possible these granules may be the result of nuclear degenera-. [D.L.E.]

—Krönig has found that he can pass a sound or tube ugh a **contracted esophagus** with much less pain and danger of injury when its use is preceded by injecting oil ugh a catheter about 15 cm. in length which is intro-ed to the point of junction of the first and second quarters he esophagus. The oil penetrates the stricture in all ctions and makes it much easier to pass the sound for-d and also prevents injury. Krönig has used for some e the method of inflation of the stomach by introduction tube into the upper part of the esophagus only, as was ntly recommended by Fürbringer; and he has also d that an analogous procedure can be used for provid-nourishment for patients with stricture of the esophagus. uids that cannot be swallowed may be injected slowly the stomach by introducing the catheter to the point tioned and injecting under gentle pressure. He has t patients alive in fair nutrition by this method over a siderable period when they were unable to swallow. It ell to precede the food-injection by the injection of 10 to c. of oil. [D.L.E.]

.—Rose continues his article, discussing first the cure of **rous pneumothorax,** which occurred in a patient with respread phthisis. Such cures are very uncommon. He collected only 10 from the literature. Pneumothorax out effusion is of relatively good prognosis, cures occur-; quite frequently. Two such cases are reported, one of n with but slight disease of the lungs and normal pleura idly recovered. Similar cases of tubercular pneumo-rax without effusion which resulted in entire recovery are racted here. The whole number collected is 12. Bilat-pneumothorax without effusion was present in one case. h an occurrence is extremely rare, this instance being arently the 14th reported. The case ended in death idly, since both sides were involved within a short time. L.E.]

.—The staining method recommended is the use of lich's hematoxylin. The preparations should be left for east an hour before this in absolute alcohol, to which it best that some dried copper sulfate should have been ed. It is also best that a stock-solution of the stains uld be kept, and that small portions of this should be d in carrying out the individual stainings. The staining es from 8 to 12 hours and should be carried out in a ered dish in order to avoid loss of acetic acid. [D.L.E.]

Wiener klinische Wochenschrift.

September 7, 1899. [12. Jahrg., No. 36.]

1 Transplantation of the Ureter. GEORG LOTHEISEN.
2 Diseases of the Bronchial Glands. A Case of Cryptogenetic Septicopyemia. E. FERRARI.
3 Perforating Gunshot Wound of the Abdomen; Celiotomy; Recovery. E. PERNITZA.

1.—A woman, 56 years old, who had never been ill until hin a short time, had been suffering from frequent cramp-e pains in the region of the uterus. Her menopause came 48, and after six years, without menstruation, a bloody charge appeared again. She had grown extremely anemic d had lost greatly in weight. Tissue cureted from the erus showed that the growth was carcinoma. Total extir-tion of the uterus was undertaken, together with the re-val of the growth which had infiltrated neighboring tissues, d during the operation 3 cm. of the right ureter was re-cted and the separated end of the ureter was transplanted the bladder. A recurrence of the growth occurred in the mph-glands of the inguinal region 7 months later, and ath followed more than 8 months after the operation. uring all this time there had been absolutely no disturb-ce of the urinary tract. A very thorough review of the erature on **transplantation of the ureter,** with an tensive bibliography, is given. [M.B.T.]

2.—The patient, a man 75 years old, died with symptoms of a **cryptogenetic septicopyemia.** At the autopsy there was found a septic thrombophlebitis of the left pulmonary vein, which had arisen from the perforation of an abscess of a bronchial lymph-gland, and had led to a gangrenous abscess of the lung. The abscess communicated also with the esophagus. There were also emboli of the meninges and the brain, and a few beginning meningitis; likewise emboli in the kidney and a suppurating infarct in the spleen. In the pus of the lymph-gland, cocci and bacilli and also long filamentous rods were found. The same elements were discovered in the pus of the meninges and in the brain-abscess, which was situated in the right occipital lobe. The thread-like organisms could not be cultivated, neither erobically nor anerobically. The fungus was also found on histologic examination. On examination of a meningeal artery the seat of thrombosis showed rupture of the elastic coat and the formation of an acute mycotic aneurysm. It was impossible to determine the cause of the breaking down of the bronchial gland; it was probably a necrosis of an anthracotic lymph-gland which had become adherent to the esophagus, had perforated the latter, and had in that way become the seat of putrid infection. There might have been a preexisting traction diverticulum of the esophagus. Perforation of the bronchial lymph-glands is not very rare, especially as the result of tuberculous disease. The glands may perforate into the bronchi, rarely into the vessels. The perforation of softened anthracotic glands into neighboring organs is not infrequent; usually nothing is discoverable, however, except the scars or the presence of coal-dust in the spleen and liver. Adhesion to the esophagus may lead to traction diverticulum. Perforation into the esophagus may occur even without previous softening of the gland, in a way pointed out by Kolisko. The calcified gland becomes adherent to the esophagus and produces a gradual erosion by pressure. The author refers briefly to a second case of abscess of the bronchial lymph-glands, communicating with the esophagus and the left bronchus, in a woman of 50. Such abscesses may perforate also into the pleura or the pericardial sac. In perforation into the air-passages, fetid bronchitis and pulmonary gangrene dominate the clinical picture. Perforation into the vessels leads to a violent, generally fatal, hemorrage. Only when the perforation occurs into the cellular tissue in the parenchyma of the lung, with formation of thrombi and their disintegration in the vessels, the picture of cryptogenetic septicemia is developed. [D.R.]

3.—A boy, 19 years old, had received a **gunshot wound of the abdomen** from a Flobert rifle. On opening the abdomen it was found that three coils of small intestine had been perforated, making six openings in all. There was also a tear in the mesentery. The perforations were sutured, the abdominal cavity was carefully sponged out and closed, leaving gauze-drainage. A perfect recovery followed. [M.B.T.]

September 14, 1899. [12. Jahrg., No. 37.]

1. Chronic Ostitis of the Skull. E. PAYR.
2. Concerning Koplik's Spots in Mealses. J. WIDOWITZ.
3. Multiple Adenocarcinoma of the Stomach in the Course of Progressive, Pernicious Anemia. A. KROKIEWICZ.
4. Comments on the Open Letter of R. R. v. Töply in *Wochenschrift,* No. 33 (page 841). "Our Scientific Knowledge in the Opinion Abroad." J. PAGEL.
5. Reply. R. R. v. TÖPLY.

2.—The author has made a study of **Koplik's sign of measles,** and has come to the following conclusions: Koplik's sign is found in the majority of cases of measles, in many instances before, usually, however, simultaneous with the prodromal symptoms. Occasionally they are also found in rötheln and other diseases (catarrhal inflammations of the respiratory mucous membrane and follicular angina). They are very valuable, but not absolutely sure early symptom of measles. A diagnosis cannot be based on them alone. [D.R.]

3.—A case of **pernicious anemia** in which at autopsy, among other lesions, a **multiple polypoid adenocarcinoma of the stomach** with lymphatic metastasis was found. The author does not believe that the pernicious anemia was secondary to the adenocarcinoma, because the microscopic examination of the latter showed that it had

begun as a benign adenoma and had become malignant only shortly before death. He believes that the chronic lesions in the digestive tract which were found, namely, a fibrous change in the mucous membrane of the stomach, atrophy of the tubules and atrophy of the intestinal mucosa, had brought about the pernicious anemia. In consequence of this anemia and the disturbed physiologic equilibrium of the tissues, the adenomatous epithelial cells had begun to proliferate and to form cancer-nests. He believes with Grawitz that it is not the microscopic picture of the blood, but the clinical course that is decisive for pernicious anemia. It is possible also that on the basis of a primary pernicious anemia, a secondary anemia may arise. If the patient had lived, the development of the cancerous process would probably have added secondary to the already existing pernicious anemia. [D.R.]

September 21, 1899. [12. Jahrg., No. 38.]

1. The Mechanotherapeutic Reaction-Capability of the Brain-Center. F. GREBNER.
2. The Treatment of Old Luxations.. E. KARCHESY.
3. An Alveolar Sarcoma of the Sacrum. F. KERMAUNER.

2.—The first question in cases of **old dislocations** is whether it is possible to effect reposition without operation or whether the functional results will be better if the bone is not replaced. If in cases of dislocation of the shoulder-joint good movement is possible; if no nerves or vessels are pressed upon, and if the capacity for earning a living is not interfered with, no operation is undertaken but electricity and massage are used to strengthen the muscles of the arm and shoulder. The same is true in old dislocations of the hip in which there are adhesions, and ligaments are firmly fixed if there is no pain and function is possible. In old dislocations of the elbow-joint the movability is usually so interfered with that improvement must be sought through reposition either with or without operation. Old dislocations of the knee are very rare; in case they are present we may seek to improve the functional result by placing the leg in a favorable position and keeping it there until adhesions have taken place. Whenever reposition is undertaken in patients under 18 years of age, it must be remembered that epiphyseal separation is likely to occur if much force is used, while in people over 60, fractures may follow. The method of reposition by forcible traction is not approved. Karchesy considers the various methods of operative treatment and states that in case they fail to reduce by manipulation, arthrectomy is always resorted to at the Lemberg clinic, and in case this fails they resort to resection. Subperiosteal resection is preferred because in this way there is not as much danger of forming a flail-joint. Notes are given on one case of old dislocation of the head of the humerus, 3 of the hip, 5 of the elbow, and one of the knee. [M.B.T.]

3.—A man, 43 years old, entered the clinic with a tumor in the region of the sacrum the size of a child's head; it was slightly movable, the skin was stretched over it but movable and there was no disturbance of motion or sensation. An operation for its removal was undertaken in which the entire **coccyx and the sacrum** as high as the first vertebral foramen was **removed.** The growth had a distinct capsule and it was easily possible to separate it from the rectum and sphincters. The vertebral canal was opened widely, the tissues in the neighborhood of the growth were detached with a Paquelin cautery and the wound was packed with gauze after a few sutures had been taken. The wound closed by granulation somewhat slowly, but a good recovery followed and the patient is living 1½ years after the operation, although there is no definite information as to whether recurrence of the growth has occurred. Microscopic examination showed the case to be one of alveolar sarcoma. [M.B.T.]

September 28, 1899. [12. Jahrg., No. 39.]

1. Concerning Motor Tracts and the Origin of Epileptic Attacks. E. BISCHOFF.
2. Radiotherapy in Skin-Diseases. L. FREUND.
3. A Case of Acute Leukemia with a Thymus-Tumor in a Girl Nine Years Old. H. REIMANN.
4. The Mechanotherapeutic Reaction-Capability of the Brain-Center. F. GREBNER.

1.—Bischoff's experiments were made for the purpos finding answers to the following questions: (1) What r do the pyramidal tracts play in motility and epileptic c vulsions? (2) What is the relation of the tegmentum cortical movement and convulsions? The animals (dogs a cats) were kept alive for about two weeks after the lesi which was made in the cerebral trunk (Hirnstamm.) At end of that time the cortical motor areas were exposed a the conditions tested with the faradic current. Afterwa the animals were killed and brain and cortex examined serial sections, after Marchi. The more important resu are as follows: (1) The interruption of the pyramidal pa in the dog produces more or less hindrance to the excitat of muscular contractions in the contralateral limbs, wl the irritation is applied to the motor areas on the side of pyramidal section; (2) isolated movements in the con lateral extremities can, however, be produced; (3) desp section of one or both pyramids, persistent **irritation of t motor cortex** produces **true epileptic convulsions;** whether the pyramidal paths in the dog and cat are capa of conveying from the cortex the impulses necessary for development of epileptic convulsions, cannot be definit decided; it is, however, unlikely; (5) the pyramidal pa of the dog have a certain motor function, for their fara irritation produces tonic contraction of the musculat of the contralateral extremities. A connection betw the pyramid and the homolateral extremities cannot demonstrated; (6) An isolated lesion of the tegmentum d not seem to have an influence upon the production isolated contractions in the extremity on the opposite s of the cortex irritated. (7) After destruction of the op thalamus the hypothalamic region and the pyramidal p on one side, faradic irritation of the homolateral motor c tex remains without effect. (8) Bilateral extensive lesion the tegmentum and pyramids at the level of the pons stroys totally the motor-conduction. (9) Hemilateral sect of the tegmentum, with lesion of the pyramid on the sa side, or of both pyramids, at any point between the op thalamus and the proximal end of the vagus nucleus, moves the possibility of producing, by faradic irritation the cortex of the operated side, epileptic convulsions. (Persistent irritation of the motor cortex of the operated s produces an epileptic attack in the homolateral extremit together with tonic contraction in the contralateral extre ties. (11) It is always possible to produce epileptic conv sions in the limbs on the same side as the lesion by irritat of the contralateral hemisphere. (12) It is probable tha the cat the cortical impulses do not only pass in the t mentum centrifugally, but that complicated transformati take place in the latter, *i. e.*, in the tegmentum. (13) E half of the tegmentum is connected with the hemisphere the same side and with the contralateral extremities. T paper concludes with a discussion of the results obtained Hering. [D R.]

2.—Freund recommends **radiotherapy** in various d eases of the skin. In hypertrichosis, sychosis, lupus vulga and lupus erythematosus. Good results were obtained in **hypertrichosis** of the face in women. After from 17 to sittings the hair fell out without any serious complicatio The alopecia persisted for two months, when there wa tendency to return of hair. By subjecting the patients 3 or 4 exposures every 6 weeks, the growth of hair co be kept in abeyance. The author also suggests the use the x-rays in ichthyosis, vitiligo, scleroderma, keloid, phantiasis, and perhaps in leprosy. [D.R.]

3.—Reimann reports an interesting case of acute **leuk mia** in a girl of 9 years. The disease set in after so indefinite symptoms lasting 3 weeks, with repeated n bleed and diffuse purpura of the skin. The spleen, liver a lymph-glands became enlarged, and the blood presented characteristic changes: an enormous leukocytosis, affect primarily the polymorphonuclear cells toward the end lymphocytes; the eosinophiles were increased also. differential count is given. There were frequent feb attacks, and toward the end a general pigmentation of skin. Death occurred 6 weeks after the first manifestati of illness, and 3 weeks after the development of severe sy toms. The last count of the blood showed 450,000 red c and 200,000 white cells; hemoglobin, 8%. Toward the mination of the disease, the spleen, as well as the lym glands, became reduced in size. This was coincident w

reduction of polymorphonuclear, and the increase of onuclear leukocytes in the blood. This case, and the 56 s collected by Fussell, Jopson, and Taylor, in 1899, to- er with others since reported, makes a total of 62 cases rted in the literature. At the autopsy the most inter- g discovery was marked enlargement of the **thymus nd,** and the author brings this in relation with the dis- . [D.R.]

—Grebner has studied the psychophysic effects of the var- methods used in **mechanical therapeutics.** The con- ions are as follows: (1) The fostering movements always inish reaction time; (2) active resistance movements in thy persons diminish almost constantly the reaction ; (3) passive movements are indifferent in this respect; utoinhibitory movements increase the reaction time; erebral neurasthenia is categorized by relatively long tion time. As the disease improves the reaction time mes less. [D.R.]

Centralblatt für Innere Medicin.

November 18, 1900. [20. Jahrg., No. 46.]

n the Influence upon the Constitution of the Blood Exerted by Short Exposure to Cold. E. GRAWITZ.

—Grawitz's work is particularly directed to combating the lts of Reineboth and Kohlhardt, who found that there was arked decrease of the hemoglobin after short exposure to , which was first due to a decrease in the hemoglobin in individual cells and afterward to a reduction in the num- of cells. Grawitz attributes these results to the fact that authors mentioned took the blood from veins in which circulation was slowed by constriction. He therefore iders the results untrustworthy. He repeated his earlier riments, dropping rabbits into ice-water and then taking d from unconstricted veins and determining the specific ity and the question of the presence of hemoglobin in serum. He was unable in any case to find hemoglobin e serum either by mere ocular examination or by ex- nation with the spectroscope. Therefore he decides that f exposure to cold does not produce hemoglobinemia. re was a decided decrease in the specific gravity of the d. He therefore decides that there was a transudation ymph from the capillaries into the tissues as he had pre- sly taught. Much of the effect of cold baths followed by m douches is, he believes, to be attributed to this exuda- of serum into the tissues and the subsequent return of fluids to the bloodvessels upon the use of warmth. .E.]

Centralblatt für Gynäkologie.

November 11, 1899. [23. Jahrg., No. 45.]

he Theory of Hydrorrhea of the Gravid Uterus. W. STOECKEL.

What Importance Shall We Place upon Disinfection of the Hands in Bacteriologic Examination? KRÖNIG.

—Stoeckel, after speaking of the comparative rarity of a e or less continuous flow of a clear, serous fluid from the gnant uterus, discusses its causes and dangers. Some man obstetricians deem this phenomena the result of an mmation of the decidua, while Mauriceau and the ch school consider it a hemorrhage of the real liquor nii. Other writers, as Stapfer, distinguished between the morrhagic and catarrhal forms. From authors of both ses he reports cases in a large proportion of which, notstanding a more or less severe hydrorrhea, the fetal life tinued to its normal conclusion, and living children were ; but the fetal life had been completed either extra- niotic or extra-membranous, as the membranes, after ture, had shrunk so as to be entirely incapable of con- ing the growing fetus. Neugebauer, in an article on pic gestation, asserts that the fetal membrane should ain intact is a matter of secondary importance so long he placental circulation is not altered or interfered with. kel concludes that in these cases the danger arises when **hydrorrhea** is caused or accompanied by premature ac- lab r-pains, since these have a control over the fetal heart- ts through pressure of the vessels. But the danger from hydrorrhea is very small when the lesion of the fetal membranes occurs from other causes which produce no change in pressure or injury to fetal circulation. [W.K.]

2.—Krönig reviews the opinions of several authors on the subject of disinfection, and ascribes their different conclusions to the fact that they have experimented with different kinds of bacteria, some using weak, vegetative forms; others, such forms as the anthrax-bacillus with much greater power of resisting the disinfectants employed. [W.K.]

November 18, 1899. [23. Jahrg., No. 46.]

1. Bacteriologic Examination of the Blood in Eclampsia. M. LEVINOWITSCH.
2. The Cleft and Fixed Speculum. C. WEBER.

1.—Since the publication by Döderlein of the results of 8 bacteriologic examinations in cases of **eclampsia,** most authors have agreed that this disease might have its origin from bacilli. Since May, 1898, Levinowitsch has made systematic bacteriologic examinations of the blood in cases of eclampsia with the following results: 1. In fresh blood from 44 cases, large, regular cocci of round and oval forms were found which showed extraordinary activity. The round forms were smaller than the oval ones. 2. The cocci were often arranged in twos or as diplococci. 3. In 28 cases the eclamptic blood was placed in bouillon, gelatin and agar, and 25 times a complete culture was obtained. 4. The micrococcus flourished at the normal body temperature and on such nourishing substances as the placental tissues. 5. The micrococci were colored with aniline colors. 6. In 3 or 4 days the culture showed large oval cocci arranged in twos or fours and exhibited extreme mobility. By the coloring, cilia were developed. 7. Old cultures showed curiously involuted forms with many oval ones of considerable size. Other cocci had a central, uncolored portion (umbilicus or spore?) while another form had a long thread-like attachment which moved as a winding tail; finally one form was shaped as a dumbbell. 8. These cocci was mostly found in blood taken during the first seizure, and blood was also taken at some suitable time within 2 days after the last attack. 9. In 2 days after the last attack the involuted forms were found with the central uncolored portion. 10. The micrococcus is pathologic in guineapigs. In 28–30 days after subcutaneous injection of the clear culture, acute anemia was produced following hemorrhagic endometritis. 11. In one case of injection of the clear culture in a dog, transient convulsive attacks were observed in the muscles of the vagina. 12. In one case the same coccus was observed in the blood of the newborn of an eclamptic mother. In 2 newborn, attacks of eclampsia were observed. 13. In the blood both of pregnant women and those at term who had by no means had typical eclampsia but had nevertheless suffered from headache, edema, vomiting, etc., the same microorganisms were found in very small numbers. 14. The dumbbell form appears sometimes in cell-life of the mono- and polynucleated leukocytes, where they show distinctly when a fresh blood-preparation is examined under a covered glass. [W.K.]

2.—Weber believes that the split and fixed speculum may become a valuable instrument, but must first undergo an essential narrowing of the blades. The freedom allowed to the operator's hands is its principal advantage. [W.K.]

November 25, 1899. [23. Jahrg., No. 47.]

1. Two Cases of Conservative Cesarean Section. ERNST PETERSEN.
2. A New Treatment of Coccygodynia. H. ROSE.

1.—Petersen reports two cases of **cesarean section,** both resulting in the birth of living children and the recovery of the mother. In both he used the transverse fundal incision and Sippel's method of suturing, which method can be used only when the site of the placenta has been previously determined and so avoided in making the incision. In cases in which, as in the second instance reported, the uterine walls bear the scars of a former operation, or when a myoma or firm adhesions render it unsuitable for the longitudinal incision, Petersen greatly prefers the transverse fundal incision and thinks that in it we have a helpful method which will ever remain a part of our operative technic. [W.K.]

2.—Rose reports three cases of **coccygodynia** cured by massage. The painful symptoms on bending, walking, etc.,

were accompanied by a sensitive swelling in the sacral region, which gradually yielded to massage-treatment consisting of light, circular rubbing movements, and a complete recovery resulted in a few months. To prevent a return of the trouble, Rose advises the patient to avoid all undue filling of the pelvis, and especially to make sure of the easy, daily emptying of the bowels. In some cases coccygodynia is caused by difficult labor, in others it accompanies genital troubles and disappears spontaneously with the healing of these. Rose found that these were instances in which massage had no curative effect. [W.K.]

Neurologisches Centralblatt.

November 1, 1899.

1. Contribution to the Analysis of the Function of the Posterior Columns of the Spinal Cord. Munzer and Wiener.
2. Contribution to the Relation of Pick's Bundle to the Pyramidal Column, with a Note upon the Staining of the Myelin Sheaths. Ransohoff.
3. Contribution to the Pathogenesis and Pathologic Anatomy of Internal Hydrocephalus of the Horse. Dexler.

1.—The **posterior columns of the raphe** consist of four sets of fibers: (1) The fibers that pass through the posterior columns and enter the central gray matter of the spinal cord, the myelopetal posterior root fibers; (2) the fibers composing the posterior columns, the bulbopetal posterior root fibers; (3) the system of the endogenic fibers (*a*) the short endogenic fibers; (*b*) the long endogenic fibers. The following facts are of importance in determining the functions of the fibers. Irritation of the posterior roots of a normal animal causes active attempts at flight or defense. If the abdominal aorta is ligated, irritation of the roots below this level remains without result. If the central gray matter is destroyed by injections made through the lateral columns in order to avoid injuring the posterior columns, irritation of the posterior roots entering into the region that has been destroyed causes no reaction. If the posterior roots are cut, and then after several days the spinal cord is irritated where they enter, signs of irritation occur. As under these circumstances only endogenic fibers are preserved, it seems certain that these are capable of conveying impulses of pain. The authors, therefore, in order to determine this point separated the posterior columns from the central gray matter by an incision, and then inserted mica plates. Under these circumstances, the bulbopetal fibers were not injured, while the endogenic fibers were separated from their origin, and irritation of this portion of the posterior columns caused no reaction whatever. Section of this portion also produced no reaction, but irritation of the region above and below this part gave rise to vigorous efforts at flight. The conclusions are: The sensory nerve-roots divide into two parts: one conveying painful sensation, the other passing into the posterior columns. The greater portion of the fibers that convey pain pass upward in the lateral columns. The bulbopetal fibers in the posterior columns convey the sensation of muscle-movement. [J.S.]

2.—**In the brain** of a stillborn child, born of an insane woman, **an abnormal bundle** was found lying near the median border of the substantia gelatinosa of the fifth nerve and just back of the facial nucleus. This continued to pass downward on the inner side of the substantia gelatinosa until it reached the cervical portion of the cord, then it turned toward the central portion and joined the fibers of the pyramidal column. It corresponded to the column of Pick. Ransohoff recommends the employment of Mallory's hematoxylin instead of Weigert's for staining the myelin sheaths. [J.S.]

3.—Dexler believes that **internal hydrocephalus** is produced as a result of the projection through the opening of the ossified tentorium of a portion of the occipital lobe, a sort of pressure-tumor, as he calls it. This compresses the aqueduct of Sylvius and causes dilation of the third and two lateral ventricles. He therefore regards the internal hydrocephalus of the horse as a secondary or mechanical condition. [J.S.]

Deutsches Archiv für klinische Medicin.

May 30, 1899. [Bd. 63, Heft 1 and 2.]

1. Contribution to the Knowledge of the So-Called Endoth lial Tumors of the Pleura and the Mucor Mycos Podack.
2. The Diazo-Reaction of the Urine. Clemens.
3. The Excretion of Methylene-Blue Through the Kidney Müller.
4. Latent Fever in Chronic Tuberculosis. Mircoli.
5. Spontaneous Gangrene in a Child Resulting from Vasc lar Disease. Goebel.
6. Two Cases of Tetany. Ast.

1.—Podack reports 2 cases of **endothelioma of t pleura,** 2 cases of **tuberculosis of the membran** secondary to the puncture of tuberculous pleurisy, and case of **fibrosarcoma** arising from the hilum of the l lung. In the second case of pleural endothelioma, a nodu was found containing clefts and cells of mucor corymbif The first patient, a man of 39, had suffered for sever months from slight dyspnea which had gradually becon more severe. There was complete dulness on the left side far as the second interspace, with loss of the breath-soun but no other very distinct signs. Puncture into the l pleura evacuated 3½ liters of a hemorrhagic liquid contai ing red and white corpuscles and other large cells collect in masses containing vacuoles and fat-drops. These pun tures were frequently repeated. The patient usually f relieved by them, but the liquid returned very rapidl There was some cyanosis, and later there appeared the region where the puncture had been made, son small nodules about the size of a pea. The twelfth a last puncture evacuated almost pure blood. The patie died of exhaustion. In the last fluid were found son cells containing glycogen. The diagnosis was rather difficu tuberculosis was excluded, and then a malignant growth the pleura was suspected. This was subsequently confirm by the appearance of the small nodules about the punctu At the autopsy, the left pleura was found thickened, fir and densely adherent to the thoracic wall at the upper a median surfaces. The right lung was normal. The surfa of the non-adherent pleura was covered with varying size white, hard nodules. A diagnosis was made of primary end thelioma. The left lung was atelectatic. Microscopical the pleura showed marked hyperplasia of connective tiss large clefts and cavities filled with proliferated endothel cells, some of which contained vacuoles, and some, more less glycogen. Cell enclosures were also detected, usually the form of a ball, but occasionally lying extracellul There was proliferation of the epithelium lining the alve of the lungs, and infiltration and partial degeneration of t muscles through which the puncture had been made. T diaphragm was completety infiltrated with tumor-cells. T second patient, a man of 68, had fallen 2 years previous striking the right side of his breast upon the edge of a boa He immediately commenced to cough and to expectorate mucopurulent substance. Subsequently, he received anoth injury in the same spot, and the pain and cough becam more severe, and the expectoration more abundant. Up physical examination, the signs of pleural effusion the right side were detected, and a puncture evacuat a yellowish-red cloudy liquid. The thoracentesis w repeated several times. In the liquid were found besi red and white blood cells, large round cells with vesicul nuclei, often showing vacuolization and fatty degeneratio and occasionally containing glycogen. These were som times collected in groups. Many of the cells at the e of 24 hours showed curious projections. Subsequen the patient became dyspneic, had severe fever; the was anasarca, cyanosis, and finally death from exhaustio Tuberculosis of the pleura being excluded, the presence karyokinetic figures and the other characteristics of t cells in the exudate led to the probable diagnosis of mal nant neoplasm. At the autopsy, this was found to be endothelioma with metastasis to the retroperitoneal glan and the left kidney. The pleura was thickened, rough, a filled with numerous clefts and blisters containing prolif ated cells. The thickened stroma was infiltrated with rou cells, many of which showed multiplication of the nucl

odack now discusses the important characteristics of this sease, and comes to the conclusion that it can be recogzed by attention to the following characteristics of the eural exudate: (1) The quantity of blood it contains; (2) nount of fat; (3) presence of small tumor particles in the quid; (4) the fact that cells containing glycogen with or ithout mytotic figures are frequently found. All of these iaracteristics, however, may fail. Two cases of tuberculos of the pleura with secondary invasion of the adjacent uscles are reported, and the difficulty of the differential iagnosis between the two conditions is mentioned. Usually, tuberculosis, the contraction of the affected side is much iore pronounced than in endothelioma. Finally, Podack eports the case of a man whose disease commenced with ight dyspnea, loss of appetite, then increased dyspnea with yanosis, anasarca, and the presence of a large exudate in ie left pleural cavity. Thoracentesis evacuated a strongly emorrhagic fluid. Nevertheless, the symptoms continued progress and the patient died. A huge fibrosarcoma was ound beneath the pleura arising from the hilus of the left ng. The lung itself was atelectatic. Microscopically, the ppearance of the growth was quite characteristic. An interesting feature in the second case of endothelial carcinoma as the presence just beneath the pleura in one situation of fungoid growth composed of a dense network of fibers, ome of which pushed into the substance of the lung. The rrounding lung-tissue was slightly involved, but when the iycelia became thinner it was more normal. This is probbly a primary mucor mycosis, favored by a very prounced emphysema of the lung; it probably bore relation the endothelioma. [J.S.]

2.—Clemens contributes an exhaustive article upon the **iazo-reaction of the urine,** including under this erm all those reactions that occur with the diazo comounds. The essential radical of all these groups is N=N; iat is to say, molecule containing two free valences. This adical may be united in a great variety of ways, of which number of examples are given. The diazo bodies may be roduced by the action of acids upon the aromatic comounds. The most interesting bodies of this group are the midoazo compounds, and the oxyazo compounds. In rder to produce a color-reaction, it is necessary to have first n acid; second, an alkaline; third, a primary amin of the romatic series; fourth, nitric acid in a nascent stage; and ifth, some body either of the fat or aromatic series that will erve to produce the combination. This reaction may be used or recognizing the nitric acid or the primary aromatic amin y their transformation into the diazo combinations, and for he purpose of recognizing various poisons that are excreted n the urine, particularly the anilins. Acid anilin of itself ives no reaction, but after cooking with hydrochloric acid is eparated from the acetyl radicals. Exalgin, the substance losely related to this, cannot be separated from its methyl adical, and therefore gives no reaction. Phenacetin gives he reaction after heating with hydrochloric acid. Orthoorm gives the reaction at once. Various aromatic amins nay be recognized in pathologic urines; in normal human irine they never occur. In Clemens' own investigations, he ound them in 8 of 28 cases of pulmonary tuberculosis, in ne case of peritoneal tuberculosis, in 5 cases of typhoid ever, and in 1 case of gangrene of the lungs and empyema; lso, in a case of mitral stenosis, with hemorrhagic infarct nto the lung during the febrile period, in 3 cases of measles, nd in a case of Hodgkin's disease. Numerous other infectious and noninfectious diseases were examined with negative result. Therefore, it appears that the reaction has no diagnostic value, but pathologically and chemically it is of great interest. In acid solutions, only two substances are known to give this reaction. The first is an unknown substance, and gives promptly an intense yellow color, and apparently occurs most frequently in pneumonia. The substance giving the reaction can be extracted with ether, appears to be transformable into a substance somewhat similar to bilirubin, which can be produced by an excess of sulphodiazo benzol. It is frequently found in diarrheic stools, and appears to be associated with icterus of the skin. Second, the bilirubin reaction; that is, an intense dark discoloration which often occurs after the first few drops of the reagent have been added. In alkaline urines, a number of substances give the reaction, among which are grouped sugar, acetone, free acetic acid, tanrocin (although Ehrlich's results are opposed to this view) and peptone. The great difficulty in analyzing the statistics of this substance lies in the fact that different investigators use solutions of different strengths. The following formula is given for the typical reaction: Sulfuric acid, 1; hydrochloric concentrated acid, 50; water, 0.2; the reagent, 2; cerian nitrite, 0.5; and distilled water, 100. The amount of the sodium nitrate is rather important; the amount of the substance indicated by the reaction must invariably be a small fraction of all present. Chemically, all substances giving rise to the typical reaction of Ehrlich, are soluble in water and alcohol; in ether, acetic acid, chloroform, etc., they are not soluble. They cannot be removed from the tissues, even by prolonged digestion with acids. They resist heating if the media in which they are found is acid; otherwise they succumb easily; they withstand drying. They only unite with hydrogen, peroxid and heating serves to a limited extent to keep them in solution. There is a brief review of the clinical aspects of the literature on this subject. The reaction occurs in typhoid fever, in typhus fever, in measles, scarlet fever, tuberculosis of the lungs, and particularly in miliary tuberculosis. No case of chlorosis, anemia, or diabetes, hitherto known, provided it was without complications, gave the reaction. In the urine of some of the lower animals, the reaction arises in some hitherto unexplained way in another part of the body. It does not appear to be due to the action of microorganisms, but to the blocking of the circulation, and therefore the diminution of the oxidation of the infectious granulomas. [There is voluminous literature appended to the article. J.S.]

3.—Müller classifies the various **substances derived from methylene-blue that may occur in the urine** into methylene-blue, oxydized methylene-blue, leukomethylene-blue, a reduced form, and various sub-varieties of these produced by bacteria, by the addition of acetic acid, and by cooking. The oxydized form is distinguished from methylene-blue by its solubility in chloroform, and it appears to be formed in the kidneys by the oxidation of the reduced methylene-blue passing through them from the blood. In order to test the amount produced by the injection of methylene-blue, a series of solutions ranging from one part to a thousand to one part to a million were prepared. By means of these solutions and various chemical reactions performed in the urine, it was possible to estimate fairly accurately the various forms and quantities in which the methylene-blue was present. Tables and curves show the various relations between the excretion of urine and the forms of methylene-blue excreted. In normal kidneys, the first appearance occurs twenty minutes after the injection. It reaches its maximum in about one and three-fourths hours, and then gradually diminishes. Usually the quantity of urine and the intensity of the color bears a sort of inverse ratio. Tests made upon a number of patients with diseased kidneys showed slight retardation in cases of interstitial nephritis, and a considerable acceleration in a case diagnosed as chronic parenchymatous nephritis. Müller attempts to classify these results by supposing that in chronic parenchymatous nephritis the cubical cells of the tubules have less resistance to the passage of the methylene-blue; and in chronic interstitial nephritis, on the other hand, the same condition occurs with reference to this substance that occurs with reference to those producing uremia. [J.S.]

4.—Mircoli has made a careful experimental study of the **effects of tuberculous infection on the temperature** of guineapigs. He believes that the tubercle-bacillus contains or produces proteids that cause elevation of temperature, toxins that usually diminish the temperature, and organic products usually the result of the necrotic activities of the organs that in general cause elevation of temperature. He experimented upon 120 guineapigs, injecting from 1½ to 25 miligrams, and found that with the larger injections there was usually a rise of temperature in the second week, and that death occurred between the 20th and 30th day. With medium injections, there is at first an elevation of temperature, then a period of apyrexia, and finally just before death in the second and third month, a second elevation. Third, with mild injections, the whole course of the disease is usually characterized by apyrexia. Death occurs after 4 or 6 months. Therefore, the acute forms are associated with temperature. A curious fact was observed in tuberculous animals. The external application of warmth caused a

diminution in the internal temperature; the external application of cold, an elevation. This may be a paradoxical phenomenon. In rabbits, who are more refractory to tuberculosis, fever may occur if there is a mixed infection with the staphylococcus and the streptococcus, or in the last period of the disease when the cheesy foci can be reabsorbed. Mircoli believes that tuberculous infection in human beings may be entirely latent, or at most characterized by loss of appetite, a tendency to perspiration, and perhaps emaciation. In human beings in this period, the temperature is usually subnormal, ranging between 36.4° and 37.2° C. An injection of serum from patients suffering with apyrexia and tuberculosis into other patients with a similar condition produced a fall in the temperature. There is usually considerable difference between the internal and the superficial temperatures, measured in the rectum and axilla. In some cases, as for example in cardiac disease, mechanical congestion of the lungs may produce rise of temperature in latent tuberculosis, and the same is true of influenza. These patients have also a very marked tendency to perspire freely. In conclusion, Marcoli speaks of the results of the serumtherapy as carried out by Maragliano. In cases with slight elevations of temperature, these disappear; then the tendency to perspiration diminishes; there is not so much reaction to fatigue or errors in diet, and less difference between the internal and external temperatures. Mircoli calls attention to the importance of recognizing tuberculosis before fever occurs. [J.S.]

5.—Goebel reports the case of a child, 1½ years of age, who had suffered occasionally from **bronchial catarrh.** After a severe attack of this, his parents noticed that the left leg was apparently paralyzed or painful. Later there was swelling of the tonsils and an eruption upon the body. When admitted to the hospital it was found that the leg was cold, rotated outwards, flexed, and when in motion was apparently intensely painful. Subsequently gangrene appeared in the foot and rapidly extended to the thighs. Pneumonia developed and the child died. The **thrombus** was found in the abdominal aorta just below the renal arteries which extended as far as the left popliteal artery. On the right side it was less extensive. Microscopically, proliferation of the intima was found occupying an area about a centimeter long in the lower portion of the aorta. In this region the subendothelial layer was composed of a fibrillar tissue, poor in nuclei, consisting chiefly of fine elastic fibers; that is, the case represented a **local endarteritis.** In 3 of 20 cases of other children similar changes were discovered. In the other regions, where the clot was adherent, the proliferation of the elastica could not be discovered. [J.S.]

6.—Ast reports 2 cases of **tetany.** The first occurred in a girl of 18, who had suffered from symptoms since the removal of her thyroid gland. All the symptoms were typical, excepting Chvostek's and Trousseau's signs. The symptoms rapidly disappeared after the administration of thyroid extract. The second patient, a girl of 15, had suddenly developed **tonic cramps** in the hands, and subsequently in the feet, associated with a **girdle sensation.** In a period of 2 hours, eight of these cramps were observed. They were painful; the hand assumed the typical position; there was contraction at the elbow-joint, and adduction at the arm. The patellar reflexes were absent. Trousseau's sign and Chvostek's symptom were both present. The muscles reacted rather irregularly, but in general showed greater susceptibility. Certain peculiar reactions were observed; thus, the cathodal closing tetanus in the ulna and crura certain other muscles could be elicited with 1 A.A. Fibrillary contractions by continued applications of the galvanic stream were replaced by wave-like contractions passing along the muscle. Treatment with chloral and electricity in time produced favorable results. The first case was remarkable on account of the absence of Chvostek's and Trousseau's signs. In the second case, an interesting and perhaps important feature was the appearance of herpes labialis, apparently indicating an infectious disease. Concerning the classification, Ast believes that his first case represents the tetany of thyreo priva, and the second an idiopathic form. He believes the lesion is situated in the intramedullary portion of the peripheral neurons. He calls attention also to the fact that a sister of the second patient had Chvostek's sign, and some eruption, without any other manifestations of tetany. [J.S.]

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[Band 59, Heft 2.]

22. The Connection of Pigmented Nevi to Neurofibromatosis. SOLDAN.
23. The Preservation of the Karyokintic Figures after Death and After Extirpation and Their Importance to the Transplantation of Tissue. HEINRICH WOLFF.
24. The Walking Treatment in Severe Complicated Fractures of the Lower Extremities. WÖRNER.
25. An Operation on an Ovarian Cystoma of Unusually Large Size. WÖRNER.
26. The Treatment of Club-Foot. G. NEUBER.
27. Histologic Research Over the Healing of Krause's Skin-Grafts. WILHELM BRAUN.
28. Experiences as to the Therapeutic Application of Superheated Air. F. KRAUSE.
29. The Operative Treatment of Severe Occipital Neuralgia. F. KRAUSE.
30. Nerve-Regeneration after Extirpation of the Gasserian Ganglion as the Cause of Recurrent Trigeminal Neuralgia. C. GARRÉ.
31. Successful Intraperitoneal Inoculations of Animals with the Echinococcus. C. GARRÉ.
32. A Peculiar Form of Hernia Cruralis (Praevascularis) Caused by the Bloodless Treatment of Congenital Hip-Dislocation. A. NARATH.
33. Experimental and Clinical Researches over the Sterilization of the Skin. EMIL SENGER.
34. The Pathogenesis and Therapy of Rectal Prolapse. K. LUDLOFF.
35. Experimentation as to the Importance of (1) Air Inspection on the Treatment of Wounds; (2) Interstitial Pressure in the Infection of Wounds. P. L. FRIEDRICH.
36. Hemophilic Joints and Their Treatment. HERMANN GOCHT.
37. The Anatomy and Etiology of Coxa Vara Adolescentium. Also a Contribution to Our Knowledge of the Architectural Structure of the Head of the Femur. PAUL SUDECK.
38. The Modern Treatment of Congenital Dislocation of the Hip. A. HOFFA
39. The Treatment of Habitual Luxation of the Patella. A. HOFFA.
40. The Treatment of Old Empyemas by an Extensive Plastic Operation on the Thorax. M. GERULANOS.
41. Resection of the Descending Colon with Fixation of the Tranverse Colon in the Anal Ring. HERMANN KUMMELL.

22.—Soldan gives the following as the results of his study of the relation of **pigmented nevi to neurofibromatosis**: (1) The pigmented nevi are, in the majority of cases, the first recognizable sign of fibromatosis of the connective tissue of the cutaneous nerves. (2) The pigmentation is probably a result of the fibromatosis of the connective tissue of the nerves. (3) The nests and columns of cells occurring in nevi, as described by Unna and others, are neither epithelioma nor lymph angiofibroma, but most probably are neurofibroma. (4) Out of the fibromatous process of the pigmented nevi cutaneous tumors develop, such as soft warts, soft fibroma and lobulated elephantiasis. (5) The fibromatous process does not remain limited to the nerves of the skin, but can develop at almost any point of the peripheral nerve-system, and then lead to the formation of the so-called false neuroma and to the plexiform neuroma. (6) The difference in the form of the neurofibromas is brought about by the anatomic relations and by the capability for growth possessed by the tumor. [G.B.W.]

23.—Wolff has shown, that the presence of **mitosis** in the human tissues, whether pathologic or normal, can be seen after death or after extirpation, just as long as, and under favorable circumstances longer than, it is possible to recognize the finer structure of the rest of the tissue. He also says that his present findings demonstrate with a large degree of certainty, that neither a progression after death of a karyokinesis already begun or the setting in anew of the same, cannot take place. As a histologic proof of the vitality of a graft of skin, the presence of a few karyokinetic figures are essential. [G.B.W.]

24.—Wörner's **walking apparatus for treating**

ctures consists in the making of a plaster-of-paris cast of limb. From this a model is cast, over which a celluloid n is made which is jointed to a celluloid sole, in such a nner as to allow the foot to hang free so that no support arried through the foot. Windows for dressings may be lily cut through the celluloid without essentially altering effectiveness of the apparatus. [G.B.W.]

5.—Wörner reports 4 cases of unusually large ovarian s, the first contained 20 liters, the second 30–35 liters, d 30 liters and fourth 48 liters. From a study of these 4 es, Wörner concludes that the operation for the removal hese cysts is a relatively dangerless procedure; even when ere complications are present the best of results may be ained. As to the danger following the sudden withdrawal the cyst-contents, he believes it not great enough to over- ance the increased duration of operation which the slow thod would necessitate. The greatest danger from the noval of so large a tumor is the influence which its ex- pation has on the thoracic viscera, but this can be greatly ieved by pressure properly exerted by assistants during operation, and by well-placed bandages afterwards. B.W.]

27.—The histologic examination of skin-flaps which had n cut free and transplanted, showed that if **Krause's ethod** of operating is strictly followed out, the flap grows t in almost its entire extent, thus affording an almost rmal cuticle. The examinations were made at different riods of time, from 4 days to 3½ years, after the operation. e Krause method adapts itself especially to the severer es, as many of the cases successfully treated had been eviously operated on after the Thiersch method without ccess. [G.B.W.]

29.—In severe **occipital neuralgia** the nerves involved e occipitalis major, minor and tertius, probably also the ricularis-magnus, and occasionally the subcutaneous colli ferior and supraclavicularis. The symptoms of this dis- se are, first of all, severe pain, equal to that of trigeminal uralgia, and extending over the side of the head and neck. ne pain is increased by motion, noise, pressure, or light. here is generally jerking of the muscles, and spasms and listing of the head, also eye-symptoms, dizziness, nausea, d vomiting may be present. The treatment is the extirpa- n of the diseased nerves. This operation is of especial fficulty because of the variation in the position of the rves. The operation is as follows: An incision is made, ginning 3 cm. below the inion, carried to within 2 cm. of e mastoid process, and turning downward runs for 7 cm. ong the posterior border of the sternocleido muscle. This cision is carried through only the skin and fascia, which are refully dissected free for 1 to 2 cm. in each direction. If a perficial branch is found it may be carefully traced into the eeper structures. The occipitalis major appears superfici- ly about 2 cm. below and from 1.2 to 4 cm. sidewise from ne external occipital protruberance. This nerve, when und, is followed down through muscle and fascia to its exit om the intervertebral foramen. The occipitalis tertius is und 1 to 2 cm. from the major, and more superficial and enerally united to it by a number of anastomotic branches. he occipitalis minor and auricular magnus nerves are und at the posterior border of the sternocleido-mastoid uscle at about the level of the hyoid bone. These nerves re also to be traced out to their exits from the intervete- ral foramen. The section of the different nerves is to be ade as far centralwards as possible, care being taken not to jure important branches, such as the phrenic, which may ise from the same spinal nerve-trunk. The peripheral ortion of the nerve is to be removed to as large an extent s possible. The motor destruction of the muscles of the eck by this operation is scarcely recognizable because of he multitudinous nerve-supply of these muscles. Of 3 cases hus operated on 2 remain cured up to date, for one this is 1 ear and for the other 1½ years. [G.B.W.]

30.—Garré reports a case of trigeminal neuralgia in which, in spite of **resection of the Gasserian gan- glion,** and of the third and second branches of the trigemi- nus (the last included twice) a complete regeneration of hese nerve-structures had taken place with a return of the euralgia. As to the question as to the seat and causes of euralgia of the face, Garré believes this case goes to show he lesion to be a central one and that the neuralgia is not due to changes in the peripheral nerves. [G.B.W.]

31.—Garré has demonstrated that echinococcus taken from the human liver and put into the peritoneal cavity of a rabbit will infect the peritoneum and proliferate. [G.B.W.]

32.—Out of 47 cases of **congenital hip-luxation** treated by the bloodless method, in 4 **femoral hernia** followed as a sequel to the operation. In all the cases, the hernia showed one and the same type. The hernia may be described as "prevascularis," but under Linhart's classification it would be put down as hernia cruralis externa. The position of the hernia was directly above the femoral artery and it made its descent to the outer side of the epigastric artery, between the superficial and deep layers of the facias lata. [G.B.W.]

33.—Senger's article is a rather extended research as to the utility of the various methods of **sterilizing the skin.** When alcohol is used mixed with carbolic acid, both of these agents lose in their germicidal qualities. Also for practical purposes, diluted alcohol is of more value than the 96% or absolute drug. Senger has shown that cocci placed in either a 1% solution of KMnO4 or in a 1% solution of HCl for 5 minutes still lived, but that when placed first in the HCl, and then into the KMnO4, were killed. On this observation he bases his so-called "Reactions-methode der Disinfection," which is as follows: (1) Wash the skin with hot water and soap for 5 minutes; (2) wash in 40% to 60% alcohol for 1 to 2 minutes, but this washing in alcohol may be left out if desired; (3) rub the skin with warm (30°C.) 2 to 5% hydrochloric-acid solution; (4) rub the skin with warm (30°C.) ½% potassium-permanganate solution for 1 minute; (5) remove the stain by rubbing the skin for a few seconds with sulfurous acid. [G.B.W.]

34.—**Prolapsus recti** and **prolapsus ani et recti** are different degrees of the same disease, and are really **perineal hernias,** the posterior wall of the hernial sac being formed with the rectum. Consequently their treatment should be conducted with attention to their hernial nature. Irreducible and incarcerated prolapsus recti should be resected after the method of Mikulicz. For reducible prolapse it is recommended first to try for 14 days the Thure-Brandt's massage; if in this time there is no betterment, anterior colopexy should be done, and when this fails Mikulicz's resection. Prolapsus coli invaginati should be treated as an intestinal invagination; when high up, laparotomy with Barker-Rydygier's operation, and when low down, Mikulicz's resection are indicated. Prolapsus ani is an ectropion of the mucous membrane, and is best treated by cauterization, or when the prolapse is very large it may be excised after the method of Treves. [G.B.W.]

35.—The gaining of **air-bacteria** into the general circulation through the wound during an operation is scarcely possible, and there exists no case to illustrate such a happening. Bacteria which exist in a suspended and dry state in the air require a certain time after lodgment on a moist wound surface before they begin to develop, about 7 to 8 hours. This latent period affords the organism a chance to produce a reaction which helps greatly in resisting the invasion of the bacteria. A series of experiments carried out on mice with anthrax, seemed to show that a general infection would not take place when all possibility of pressure on the wound or bacteria was removed, even when the wound was bathed in a virulent emulsion of the anthrax spores. This result demonstrates the necessity of carefully considering the mechanical factors in the treatment of wounds. [G.B.W.]

36.—The **joint-disease** occurring in hemophilic individuals may be divided into 3 stages: (1) The stage of bleeding, the hemarthros of bleeders; (2) the stage of inflammation, the panarthritis of hemophilic joints; (3) the regressive stage, that stage which leads to deformity of the joint, the contracted bleeder's joint. Numerous hemorrhages may take place into a joint and be absorbed before one finally leads to a permanent deformity. In the diagnosing of a hemophilic joint we must bear in mind the close resemblance it possesses to a hydrops fibrinosus tuberculosus. As to treatment: General constitutional treatment of the hemophilic is of course indicated. When the hemorrhage occurs, rest is probably the best treatment, though moderate use of the joint apparently does no harm. After a few days massage should be carefully begun in order to excite resorption. In the inflammatory stage orthopedic treatment may be properly adopted.

Puncture, and even washing out the joint with carbolic acid, has been done without being followed by any serious results. Apparatus which have for their purpose the prevention of contractions, etc., should be applied, but the patient should not be kept chained to the bed. After contractures have formed, an apparatus fitted with a spring, so placed as to gradually overcome the deformity is indicated. [G.B.W.]

37.—The arrangement of the bony trabeculae of the head and neck of the femur is such as best prevents the bending of the head downwards or backwards. The bending in **coxa vara adolescentium** is in these two directions and the disease may therefore be termed an insufficiency of the bony trabecular arches. In adults there is an accumulation of bone beginning at the joint-cartilage of the head of the femur and stretching down over the upper part of the anatomic neck. This thickening is wanting in children. The theory that coxa vara depends on a pathologic condition of the bone, such as rachitis, is not retainable. The bending is due to a lack of development of the bone on the upper part of the supporting arches, the accumulation above spoken of; in other words, the child-structure is carried over into adult life. [G B W.]

38.—For a bloodless method of treating **congenital dislocations of the hip,** Hoffa recommends the following modification of Mikulicz's method: Under anesthesia without any preliminary extension, an effort is made to reduce the head by Lorenz's method. When the head has snapped into the acetabulum, the leg is straightened and abducted. Strong pressure is then exerted over the trochanters and with a boring and twisting motion the head is forced against the acetabulum so that the tissues there may become thoroughly stretched. The leg is now lightly abducted and rotated inwards and thus the head can be felt in its proper place. A plaster of-paris bandage is carefully put on while the leg is in this position and firm pressure is being exerted over the trochanters by an assistant. For children under 2 years this method is preferable; over that age, Schede's or Paci's may be used. If the bloodless methods fail, resort may be had to an operative method of reduction, provided the child is not over 8 or 10 years of age. [G.B.W.]

40.—This **radical cure for old empyema** consisted in the removal of the greater portion of the ribs on the left side so that the pericardium diaphragm and shrunken-up lung were laid perfectly free. The third to the eleventh ribs were resected 8 cm. of the third and 16 cm. of the eleventh with corresponding amounts of the intervening ribs. The soft tissues were folded in and sutured in such a manner as to completely cover the enormous defect. The flaps healed well and the patient finally made a perfect recovery. [G B W.]

41.—Kümmell reports 2 cases of **resection of the descending colon** with suturing of the transverse portion into the anal ring. The first case was a woman, 20 years old, who had tuberculous ulceration of the rectum. An abdominal incision was made and the descending colon freed from its mesocolon. The abdominal wound was then closed and an incision made around the anus, through which some 30 cm. of large intestine were pulled down and excised. The gut was sutured in this position. The patient made a good recovery, but developed tubercular peritonitis, also there was considerable incontinence of the bowel. The second patient had had a artificial anus made previously because of rectal stricture. The diseased portion of the colon and as much more as was required to obtain free mobility were freed from the mesocolon. One-quarter of the whole of the colon was brought out through the anal ring and resected and the gut was sutured in place. This patient made a complete recovery and retained good control over the bowel. [G.B.W.]

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[Band 37, heft 5 u. 6.]

1. On the Influence of Medicaments upon the Secretion of Gastric Juice. FRANZ RIEGEL.
2. On the Results of Serum Therapy in Tetanus. H. HOLSTI.
3. On the Reactions for Pentoses. FERD. BLUMENTHAL.
4. The Influence of Local Abstraction of Blood upon Inflammation. R. WEIL.
5. A Contribution to the Diagnosis of Tumors of the Lung. H. HELLENDALL.
6. Experimental Studies of Functional Mitral Insufficiency. FERDINAND WINKLER.
7. An Analysis of the Irregular Pulse. K. F. WENCKEBACH.
8. On the Clinical Value of Schmidt's Fermentation of the Feces. SEYMOUR BASCH.
9. Basedow's Disease, with Especial Consideration of Its Pathogenesis and Treatment. H. J. VETLESEN.
10. On the Question of an Internal Secretion from the Kidneys and Suprarenal Glands. M. LEWANDOWSKY.
11. On the Excretion of Uric Acid in the Urine During Acute Attacks of Gout. LEOPOLD BADT.

1.—Riegel has made investigations of the **effect of atropin and pilocarpin upon the secretion of gastric juice** by operating according to the method of Pawlow since by this means the gastric contents can be most satisfactorily obtained without serious disturbance of the stomach. He then presents a series of tables in which he compares the gastric juice obtained after simply feeding with milk with that obtained with the same food when atropin was given. The result was a very evident and decided decrease in the secretion of the gastric juice after the administration of atropin. The amount of the secretion was much less and the acidity was much lower. Pilocarpin had exactly the opposite effect; the stomach was much irritated, and often showed even small hemorrhages, and there was a pronounced increase in the secretion. These two drugs are therefore, antagonistic in their action upon the stomach as they are upon the action of many other glandular organs. These results cannot, of course, be immediately considered as representative of the effects in man, but a series of cases is reported in which the gastric contents were examined after an ordinary test-breakfast, and after the administration of atropin or pilocarpin. The effects were entirely similar to those observed in the animals. A decided decrease occurred after the use of atropin, while a very notable increase occurred after pilocarpin. [D.L.E.]

2.—**Two cases of tetanus** are reported, both of which were **treated by serum.** Neither was a very severe case, both had had rather long incubation period; both recovered. The serum was thought to have had no definite curative effect, but no ill-effects were noticed. Holsti then considers the records of 124 cases in which he has investigated the time after the outbreak of the tetanus at which the antitoxin treatment was begun. He finds that in the first two days, 49 cases were treated, and 69.4% died; between the third and seventh day, 49 cases were treated, and 28.8% were fatal. Later than one week 26 cases were treated and only 7.7% died. Hence there seems to be a greater mortality when the antitoxin was used very early in the disease. This seems however, to be explained by the fact that the severe cases are brought for treatment much earlier than the mild cases; hence this table has comparatively little importance. One point of interest to which he calls attention is the fact that the Italians have had astonishing good results in treatment with serum; all of 23 cases reported having recovered, while the mortality with the serum has varied from 41 to 64.7% in Germany, Austria, Switzerland, and France. Holsti suspects that this may be due to Tizzoni's serum being much more active than those usually employed in the northern countries of Europe. [D.L.E.]

3.—**Tollens' reaction,** as subsequently modified by the author, using the alcoholic extract for spectroscopic purposes is unsatisfactory because the color becomes dark so soon. Salkowski found that extracting in amyl-alcohol was much more satisfactory, but an objection to this method, as a reaction for pentoses, is that glycuronic acids give the same reaction. When the reaction is applied to normal urine, Blumenthal has found the typical bands in the spectrum, which he says may be taken as an indication that normal urine contains either sm all quantities of pentoses or moderate amounts of combined glycuronic acids. The reaction may be used for the presence of nucleins, since no other albuminous bodies, except nucleoproteids, give the reaction, while the slightest amount of nuclein will cause it to be marked. It is carried out in this case by putting a small portion of nuclein in water, and the same volume of concentrated HCl, and then some phloroglucin. The test-tube is heated, and soon there appears a bright strawberry or cherry-red color. It should then be shaken at once with amyl-alcohol, and the spectroscope will show bands between D and E. In the extraction

nucleo-proteids from organs with ammoniated water and bsequent precipitation with acetic acid, Blumenthal und that nucleins and pentoses were set free, and that these ve the reaction. He has also investigated the reaction ith HCl and orcin, and carries it out as follows: Five cc. urine are put into a test-tube, "a knife-point portion" of cin added, 5 cc. of concentrated HCl then poured in, and e whole heated. It will become distinctly blue-green. hen it is shaken with amyl-alcohol, and examined with a ectroscope, when one will see a band in the red toward e yellow, and further over in the red a somewhat less pro-unced band. The test can be carried out by distilling urine which HCl has been added, and testing the distillate with cin and HCl. Then it will be found that a good many ormal and diabetic urines will give the reaction. It was und to be not due to the grape sugar in the urine, and it as decided that since normal urine and diabetic urine are oth free from combined glycuronic acids, at least if the rine has not been more than moderately heated, and since ee glycuronic acid is never present in urine, the orcin test positively indicative of the presence of pentoses. It can lso be used as a test for nucleo-proteids, placing some of the ucleo-proteids in water and adding 2 cc. of HCl and some rcin. A greenish-blue color appears and extraction with myl-alcohol and the use of the spectroscope shows a band etween C and D. [D.L.E.]

4.—The investigations consisted in **causing inflammation and subsequently observing the effect of application of leeches, venesection, or wet-cupping.** From 1 to 2% of croton-oil, strong sodium chlorid olution, and weak acetic acid were used as irritants upon he mesentery of the frog, and the changes were observed; nd then leeches were applied or blood was taken from a ein. The practically regular effect was an almost immeiate lessening of the stasis. In those vessels in which the lood had not already stagnated, the blood-corpuscles that ad collected were washed away. One notable thing was hat the nearer the point of involvement the application of he leech was made, just so much more prominent was the esult, and the opening of a vein had much less marked ffect than the action of the leech. This last was explained artly by the fact that if the blood was abstracted from a ein it was taken from a much more distant point, and therefore had much less mechanical influence upon the conditions present; and, further, in such a case, the blood does not flow with the force with which it is driven out when aken from near the congested point of inflammation, and herefore it does not relieve the area so rapidly. Similar nvestigations were carried out on rabbits, both ears being painted with croton oil; to one ear leeches were applied, while the other was left to take its own course and thus to act as a control. In all cases when bacterial infection was excluded, the ear to which the leech was applied always showed much less marked reddening and infiltration on the following day than did the control; a less marked result was obtained from blood-letting directly from a vein. Further investigations were carried out with chemical and bacterial irritants, using turpentine or staphylococcus aureus cultures. Blood-letting always caused a striking decrease in the effect of the irritant, whether bacterial or chemical, as compared with the control side of the same animal in which the same irritant was injected without subsequently abstracting blood. Weil decides that local abstraction of blood has an unquestionable good influence upon inflammatory processes. The mechanical effect of withdrawing blood is undoubtedly of importance in this, as it tends to cause further movement of the half stagnating contents of the vessels in the inflamed areas. There has been some question as to whether the use of leeches and cups did not directly abstract the bacteria from the area and limit the inflammation in this way, and not act through the real mechanical influence of blood-letting. Weil has, however, investigated the fluid obtained by cupping and blood-letting, and has been unable to find bacteria in it. Cups undoubtedly have some effect through the suction, as after injecting potassium ferrocyanid under the skin he was able to obtain the Berlin-blue reaction with the fluid withdrawn by cupping. [D.L.E.]

5.—Three cases are reported as evidence of the great **diagnostic value of aspiration of the tumor itself in the diagnosis of growths of the lung.** In the first case reported, the trouble had been present for 6 years, and the disease began as if it were phthisis. Subsequently, the continued expectoration of blood led to a suspicion of heart disease, but there was no evidence of this, and the suspicion of tumor arose. Afterward the man had difficulty in swallowing; dyspnea; he constantly expectorated brownish sputum, the thorax became prominent on the right side, the liver was displaced, the heart pushed out of place, the suprarenal veins became very prominent, there was an extensive dulness on the right side, and general dropsy, followed by unilateral dropsy. An aspiration with a hypodermic needle was made directly into the tumor, and some small particles were obtained, which, upon microscopic investigation, proved to be sarcoma. The postmortem showed a primary round-cell sarcoma of the lungs. The second case was a very much more rapid one. There had been a sarcoma in the gluteal region, and the operation for this had been followed by a typical pneumonia; but a few days after the crisis, fever had appeared again, and the signs of infiltration in the lung became more marked. There were severe attacks of dyspnea, and the signs of tumor rapidly increased, and four weeks later the patient died. The postmortem showed a widespread secondary carcinoma of the lungs. In this case an aspiration was done, and again the exact diagnosis was made before death through the examination of the particles obtained. The third case presented a left-sided hemorrhagic pleurisy, with displacement of the heart. The cause of the bloody pleurisy could not at first be determined. He improved but returned to the hospital later with a right-sided pleurisy, in the exudate of which there were masses of cells which were thought to be sarcoma. There was also extensive exudation into the pleural cavity, which was chylous and contained many very fatty degenerated cells. He grew rapidly worse, general dropsy appeared, and death occurred within a month and a half. The diagnosis of malignant tumor had been made positive by the discovery in the pleural exudate of the portions of the tumor. However, the tumor proved afterward to be a carcinoma of the stomach with secondary growths. [D.L.E.]

6.—Winkler has carried out a series of experiments by introducing a string through the heart-wall into the left ventricle and bringing it out again, fastening it to a cork at one end, and tying it over a piece of rubber at the other end; the purpose being to avoid, so far as possible, wounding or in any way implicating the mitral valves, but to transfix, if possible, one of the papillary muscles to see the result of this upon the heart. He examined the hearts after death, and tested them with water for insufficiency of the mitral valve. Auscultation of the heart was carried out with a Basch drumstethoscope, since this permitted of the avoidance of pressure upon the heart. Considering first those hearts which proved sufficient, he found that there was a marked decrease in the arterial pressure, while in half the instances the pressure in the left auricle rose, in the other half it sank. By comparing the pressure in the carotid and that in the left auricle, he found that the "heart work" was decidedly depressed in all instances. The presence or absence of regurgitation in the heart had no definite relation to the presence or absence of murmurs. In 3 cases in which the valves were found insufficient, the conditions of arterial and auricular pressure were practically similar to those in which the valves were found sufficient to the water test. If the **increase in the auricular pressure** had been found only with a **mitral insufficiency,** it might readily have been decided that increase in the pressure was absolutely dependent upon regurgitation, but the results showed that this was not true. Even if the valves were entirely insufficient, there was not necessarily an absolute increase in the auricular pressure, and sometimes when the valves were sufficient there was an increase in the auricular pressure. If insufficiency of the mitral valves were to be left out of the question, one might decide that the injury to the heart work was the result of insufficiency of the heart muscle. Insufficiency of the heart muscle will reduce the heart work to be sure; but since an increase in the auricular pressure could be absent, Winkler feels that mere insufficiency of the heart-muscle is not enough to explain the conditions, and that regurgitation has a definite place in causing the conditions found. To explain the varying conditions in the left auricle, and particularly the decrease in pressure that was often observed, he accepts the existence of an action by the introduction of the string upon the

depressor nerve from the heart to the arterial system. The conditions in the pulmonary artery were practically those in the left auricle; the pressure rising, as was to be expected, with the increased pressure in the auricle. The work so far reviewed caused Winkler to decide that the murmurs heard were due to actual mitral insufficiency, but further work convinced him that this was the case, since in taking a record of the auricular movements and comparing them with the cardiograms taken at the same time, this examination being repeated after the string was introduced into the heart, it was observed that a rise in auricular pressure followed depression of the same much more rapidly after the introduction of the string than it did before; that the pause between the lowering of pressure and the rise was very much shorter; also, that the auricular pressure reached its second maximum much more quickly after the string was introduced than before. He believes that this is sufficient proof that in all cases, whether the postmortem showed sufficiency or insufficiency of the valves, a regurgitation of blood had taken place during life whether the string had involved the mitral valves or merely the papillary muscles. This insufficiency is undoubtedly properly termed a functional insufficiency, since it is due to the parakinetic alterations in the ventricular contractions; but Winkler considers that we have no right clinically to speak of accidental or anemic murmurs which are accompanied by complete sufficiency of the mitral valves, since these experiments prove that some mitral insufficiency occurs with relatively slight disturbance of the circulatory organs, and when the disturbance had given rise to practically no other symptoms. He seems to consider it probable that in all these cases an actual regurgitation takes place. [D.L.E.]

7.—Wenckebach discusses a case of **rhythmical arythmia or allorythmia** which was accompanied by distinct evidences of insufficiency of circulation, though there was no further physical sign of organic heart trouble than some dilation. The point noticed especially was that the radial period varied in a rhythmical way, and when a frog's heart was wounded and the irregularity which afterward occurred subsequently was analyzed, it was found to correspond exactly with that seen in this case. He, therefore, decides that this gives proof that rhythmical arythmia is due to damage of the propulsive power. In studying this case, he found that there was no evidence in the sphygmographs or from auscultation of extra systolae. Hence, he decides that extra systolae are merely an indication of irritability of the heart, while irregularity without extra systolae is an evidence of damage to the heart's propulsive power. The practical point deduced from this is that since digitalis is known to reduce the propulsive power of the heart through irritation of the vagus, the good effects of digitalis are due merely to the regulation of the wild contractions that are usually taking place when this drug is ordered in valvular disease. In regular arythmia, however, there is not so much necessity for calming the heart, and the effect of the digitalis in depressing the propulsive power would be most marked, and, therefore, he decides that digitalis is contraindicated in regularly intermittent pulse. [D.L.E.]

8.—Basch has investigated a series of cases to find whether the condition of the **feces fermentation** is the same in the same disease; whether it is the same in the same patient at different times during the course of the disease; and, finally, to determine whether this method has any great superiority over the other diagnostic methods we have previously used. Forty cases were investigated, but of these 40 cases difficulties appeared that required 22 cases to be excluded in drawing conclusions, and even of the remaining 18, repeated tests had to be cast out as of no value. These 18 cases included a case of dysentery, 2 of typhoid fever, 1 of acute enteritis, 1 of carcinoma of the duodenum and liver, and 1 of atrophic gastritis and enteritis with pernicious anemia, besides a number of other diseases in which there was no primary gastrointestinal affection. He tabulates the results obtained and reaches the following conclusions: (1) The fermentation test can be carried out in a clinic or in private practice only with intelligent patients. (2) It requires a good deal of time if it is to be carried out exactly, and a serious difficulty is the constipation which is so likely to follow the special diet required. This constipation is likely to lead to a disturbance of the results obtained. (3) Only a positive result of the test is of any value. (4) Even a positive result give no information concerning the nature of the disease. (5 The result is not constant with the same disease, nor in th same patient; nor, finally, in the same test if a control i used. (6) The clinical value of the test for the determina tion of the severity of disturbance of the intestine is no yet entirely clear; the number of cases in which it is o decisive value in the diagnosis seems to be small. (7) It i absolutely necessary to use other methods of investigatio at the same time in order to accomplish valuable result [D.L.E.]

9.—Vetlesen's discussion seems to be chiefly "impres sions." He is, in the first place, impressed by the fact tha **exophthalmic goiter** is such a disease as might probabl be due to a primary affection of the nervous system, whic is followed by an intoxication from excess or perversion o thyroid secretion; his impression being such, he make some unpleasant remarks about Möbius. In discussing th etiology of a number of cases of his own, he finds that in 7 c 13 there was hereditary neuropathic tendency; in one cas the disease occurred after fright and emotional excitement in another after severe examinations; in the third after ove work in teaching, and in 3 after influenza; 6 of the typica cases had typical hemicrania. As to the treatment of th condition, he discusses the various medicaments that hav been used. He has had some good results in the use o iodin, but thinks that it should always be used as unguentu iodatum. Sulphur has also given him good results in som cases; in others it was of uncertain effect, but he advises it further use. He speaks particularly strongly concerning th value of sodium phosphate; he has found this drug useful i general neurasthenia also, and in other functional nervou conditions. He thinks that it has some definite influenc upon the nervous system. He has never felt called upon t use thyroid preparations. Thymus he has used in 4 case with uncertain results. In 4 cases operation was done and in summarizing his results he states that the uncertai effects of operation are probably to be attributed to the var ous changes that take place in the remains of the gland tha are left behind; in satisfactory cases it probably undergoe a retrogressive change, and the toxic secretion is hindere In other cases it proliferates, and at any rate continues t secrete toxic matter. However, when medical treatme has not been of use, and when life is of little value to th patient, or is merely a continued suffering, operation shoul be undertaken. [D.L.E.]

10.—The paper is chiefly a criticism of those authors wh have believed that they have found evidence of the existen of an **internal secretion from the suprarenal gland and kidneys.** Concerning the suprarenal glands, Lewa dowsky says that his own experiments with removal these organs have shown him that it is such an extremel severe operation that any immediate results obtained a quite as likely to be due to the severe shock of the operatio as to the loss of the suprarenals themselves. And concer ing the existence of an internal secretion from the kidney after reviewing the literature, he stands firmly upon the r sults of Tigerstedt and Bergmann, who were unable to obser an increase of blood-pressure from the injection of bloo from the renal vein. Such a rise in blood-pressure had bee previously observed and had been attributed to an intern secretion, but he believes that the careful work of the tw observers mentioned has destroyed all apparent evidence an internal secretion, and that we must at least admit th any proof of such is wanting. [D.L.E.]

11.—Badt records 3 **estimations of urine, acid, an total nitrogen in each of 5 cases of typical gou** the estimations being carried out in each case during th acute attack on adjacent days; another investigation w made about a month later in order to compare the conditio present during and after the attack. The method used w that of Ludwig-Salkowski. The result was another blow the older teaching concerning gout. In the first place, th urine was not decreased during the attack, excepting in o case, and in this case there was some considerable prob bility that the apparent decrease was due to a loss in colle ing the urine. In one case there was a pronounced increa in the urine in the midst of an attack, and the 5 cases wit out exception showed no decrease in the excretion of u acid. In 4 cases, on the contrary, it was increased above t normal. Badt, however, is quite willing to admit that t

int symptoms in the acute attack are due to a collection of ates about the joints, and thinks that the best method of ercoming this is frequent massage and gymnastic move- ents, together with the use of mineral water. [D.L.E]

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. Experimental Research Over the Etiology and Therapy of Epilepsy. H. ITO.
). The Histology of Osteomyelitis Experimentally Produced. ENDERLIN.
). Return of Prostatic Hypertrophy Following Castration. RICHARD WOLFF.
1. Carcinoma of the Abdominal Wall in the Epigastric Region. RUDOLF GÖBELL.
2. A Case of Anuria from Stone in the Ureter Lasting 8 Days. DOEBBELIN.
3. Clinical History and Convalescence of a Case of Resection and Extirpation of the Gasseran Ganglion. Return of the Neuralgia after the Extirpation of the Ganglion. P. L. FRIEDRICH.
4. The Etiologic Connection Between Trauma and the Development of Tumors. HANS LENGNICK.
5. The Recognition of Metastasis of Prostatic Carcinoma and Its Diagnostic Value. RICHARD WOLFF.
6. Book Notices.

9.—Enderlin has carried out a series of very interesting xperiments on the **histologic pathology of osteo- nyelitis.** The animals used were rabbits and guineapigs nd the inflammation of the medulla was produced by rauma through an opening drilled in the bone. His con- lusions are as follows: (1) Degeneration follows injury to he bone-marrow and this degeneration seems to attack all he cells of the injured spot. (2) The necrosis is not very xtensive, not spreading into the neighboring tissues at all. here are practically no appearances which might be regarded s a reactive inflammatory infiltration. (3) The first signs of he degeneration are to be found in the connective tissue ells, and may appear within 24 hours after the injury. (4) he growth of the connective tissue cells is very active and preads quite a piece along the vessels into the surrounding issues. (5) Eosinophiles and pseudoeosinophiles must be arefully distinguished from each other. (6) Neither of hese two forms of cells or other of the medullary cells pro- luce the spindle cells. (7) Fat-cells can be found in the oung connective tissue. (8) The new formation of fat-cells egins at the end of the first week and from thence on makes apid progress. (9) At the same time there is a wandering n of medullary cells from the neighboring tissue. (10) This oncentration of the medullary cells continues, and the cells which have already penetrated multiply themselves. (11) From these medullary cells giant cells develop. (12) The dislocated bone-splinters perish and furnish cause for the development of the giant cells of foreign bodies. [G.B.W.]

10.—Wolff reports a case of a **redevelopment of prostatic hypertrophy** following castration. The man was 66 years old, and suffered from retention of the urine, accompanied by edema of the leg. The prostate was hard and large. He was castrated June 21, 1896, and 3 months later was discharged as cured. For 3 or 4 months more the patient was fairly comfortable, but then frequent and painful urination began and gradually grew worse until the patient died from bronchopneumonia. At the postmortem the condition of the urinary organs was as follows: Hydronephrosis, with miliary abscesses, dilation of the ureters, hypertrophy of the bladder, and cystitis chronica, hypertrophy of all 3 lobes of the prostate, especially in an upward direction, and stenosis of the prostatic urethra caused by the hardness of the gland. [G.B.W.]

11.—Göbell reports a case of colloid cancer of the abdominal wall occurring in a man 60 years of age. The growth was about the size of a hickorynut, and was situated in the linea alba in the epigastric region. The tumor was at first taken for a fibrolipoma, and only by microscopic examination after its removal was its true nature ascertained. [G.B.W.]

12.—Doebbelin reports a case of anuria lasting 8 days and due to impaction of a stone in the left ureter not far from the kidney. The ureter was reached through a lumbar incision, and the stone was dislodged and pushed down into the bladder. Relief from the anuria followed gradually, and in 10 days after the operation the patient was passing a normal amount. The nonexcretion of urine from the right kidney was not readily explained. It might have been due to a second stone blocking the right ureter. [G.B.W.]

13.—The two sources of danger in the operation of **resecting the gasserian ganglion** are the profuse hemorrhage and the liability of infection, and even if the operation is successful the surgeon may be confronted with a return of the neuralgia. In the 3 cases reported by Friedrich there was one case of complete return of the neuralgia, the other two remaining so far free, one 18 months and the other 19 months. As to the hemorrhage Friedrich says: (1) That the approach to the gasserian ganglion is comparatively easy, if the meningeal artery has been destroyed by a previous ligature of the internal maxillary; (2) that the meningeal hemorrhage due to laceration of the artery as it comes out of the foramen spinosum, may be controled by inserting the point of a silver probe into the foramen spinosum and leaving the probe in situ for a couple of days; (3) that, in Case 2, the venous hemorrhage had demanded tamponing and as a result there was pressure-paralysis of the oculomotor nerve, lasting about a week. [G B W.]

14.—Lengnick says that **traumatism** plays a more important role in the **production of tumors** than was previously supposed. Out of 579 cases of malignant growths occurring in the Königsberg clinic, in 31 there was a history of trauma. And of these 31, in 7 there was no connection between the trauma and the growth of the tumor, in 12 there was a probability of some connection between trauma and tumor, and in the 12 remaining there was almost certainly some direct connective factors presented by the trauma. [G.B W.]

15.—Wolff reports a case of **carcinoma** of the **prostate** with metastasis to the pleura and lung, and what is of especial interest, metastasis to the sacrum and adjoining part of the ilium. The man was 67 years old and had been castrated for supposed prostatic hypertrophy. He died 3 or 4 days after the operation. The postmortem showed an enormous prostate gland, but it was regularly enlarged, being almost round in form. Cancer nodes were found in the lungs and pleura. The microscopic appearance of the bone-metastasis was identical with that described by Recklinghausen, and its presence goes to show the readiness of cancer of the prostate to give metastasis to the osseous structures. [G.B.W.]

The new German Society for Hygiene for the Masses (Volkshygiene), according to the *British Medical Journal*, held its first public meeting last week in the town hall, Berlin. Dr. Boediker took the chair, and there were delegates present from the German Ministry of the Interior, and from the municipalities of Berlin and Charlottenburg, and from the government of the Province. Professor Fuchs, rector of the University, and Prof. Riedler, rector of the Technical High School, were also present, and many medical men of distinction, among them Professors v. Leyden, Jolly, Ewald, Rubner, and Lassar. In his introductory address, the president described the objects of the new society. By aid of meetings, he said, by popular writings, and by personal intercourse with the sanitary authorities, by always keeping in touch with modern technical improvements, it hoped gradually to spread knowledge of hygiene, and to make applied medical hygienic science a blessing for the masses. Other speeches on the subjects connected with the aims of the society followed, and finally Prof. Rubner made some interesting remarks on mortality statistics. He said that we were all inclined to think the state of health in Germany more favorable than was actually the case. It was true that mortality had gone down from 26% to 21%, but every effort should be made to bring it as low as 17% or 15%. He spoke of disease from the point of view of political economy, and said that the decline of smallpox, typhus, and consumption was a proof of the efficacy of hygienic measures. A short discussion followed, in which Frau Morgenstern (the well-known foundress and organizer of the Berlin people's dining-rooms) demanded that women should be allowed to participate in the new work, and Herr Messmer pleaded for recognition of "natural medicine" by the society.

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

The Symptomatic Treatment of Phthisis.—Yonge (*Therapist*, January 15, 1900) states that restraining the desire to cough will do much to relieve it. Sedative applications to the throat are also of value. The matutinal paroxysm is necessary to remove the products which have accumulated in the tubes during the night, but the cough can be much shortened by administering a glass of hot milk, or a cup of hot water to which sodium bicarbonate (15 grains) has been added. The following combination, recommended by Murrell, it useful for the hacking, irritable cough of phthisis:

℞.—Codein ..... 4 grains.
Dilute hydrochloric acid ..... ½ dram.
Spirits of chloroform ..... 1½ drams.
Sirup of lemon ..... 1 ounce.
Water to make ..... 4 ounces.

Make an emulsion. A teaspoonful frequently when cough is troublesome.

In the later stages of consumption, when cavities have formed and there is much accumulation of secretion, full doses of aromatic spirits of ammonia will do much to shorten the paroxysm.

When *night sweats* are prominent, the patient should wear a light flannel night-dress, as the cotton garments when soaked with perspiration have an unpleasant, clammy feeling. As regards the treatment by drugs, the writer has had the best results with agaracin in $\frac{1}{12}$ gr. doses and upwards; it is free from the after-effects of atropin, which drug has also been strongly recommended. Chloralose has proved of value when the consumptive suffered from both sweating and insomnia. Acetate of thallium has been recently recommended; it appears to be exceedingly useful in excessive sweating from almost any cause, but the remedy possesses the disadvantage of exposing the invalid to the risk of rapid and total alopecia if exhibited for prolonged periods; and it must be distinctly trying for a patient to have to decide between the alternatives of keeping his night-sweats or losing his hair. It is not advisable to prescribe the drug for more than four days in succession, its effects persisting for from eight to ten days. The daily amount is 1½ to 3 grs., administered in pills.

The *vomiting* is a symptom of considerable importance. (In connection with this subject we may briefly mention the nausea which is not uncommonly present in the early stages of phthisis. This is apt to be a matter of great distress to the patient, and it is best allayed by small doses of calomel and soda.) A variety which is common, is that which follows a meal, and is generally preceded by a paroxysm of coughing. This form appears to owe its origin to a hyperesthetic and irritable condition of the pharynx or the mucous membrane of the stomach, but more particularly the former. Berthier has obtained good results by the application to the fauces of a 2% solution of cocain, which is applied on a piece of lint or absorbent cotton-wool, the procedure being carried out twice daily just before an attack of vomiting is anticipated. As a result of this treatment, the hyperesthesia disappears in a few days, and usually does not return. Ferrand employs a solution of potassium bromid (10%) in glycerin, topically for the same purpose. Excellent results are obtained by administering small pieces of ice immediately after food; also by the exhibition of chloroform water and menthol after food; attacks of cough are thus lessened or suppressed, and do not cause vomiting (Haviland Hall).

For the *insomnia* of phthisis the writer has found trional to be of value; it is important that a sufficient dose (at least 20 grs.) be taken on the first night, and it is best exhibited in warm fluid. On succeeding nights a dose of 15 grs. will suffice. Choralose has also proved efficacious.

Aortic Incompetence.—Broadbent ("Heart Disease," 1900) writes as follows: "When compensation fails and symptoms become more continuous and severe, they will arise from and take their characteristics from one of two causes: either (1) failure on the part of the left ventricle to maintain a sufficient movement of blood in the capillaries, or (2) backward pressure in the veins, the result of right ventricle failure secondary to that of the left. In the former case sudden death from syncope with little warning or apparent cause is liable to occur; failing that there may be sleeplessness of a peculiar harassing kind, or painful dyspnea, unexplained by any interference with the entry of air into the lungs or by want of aëration of the blood. The face will be pale and have an anxious and suffering expression; the patient will be very restless and weary. Dropsy, if present, will be slight. Under these circumstances the object of treatment is to sustain the failing heart by nourishment, stimulants, and such remedies as may contribute to this end—nux vomica or strychnia, with ammonia and ether, to which belladonna or atropin often makes a valuable addition; sometimes digitalis may be of service, but it must be used with caution; or strophanthus, which theoretically ought to be safer as having less contractile influence on the arterioles. Morphia, hypodermically, is often of the greatest possible benefit, giving quiet sleep, which is not only an inexpressible comfort to the sufferer, but frequently recruits the strength, and by rendering the recumbent posture possible, so far relieves the heart that it proves the starting-point for a temporary recovery. . . . Morphia or opium administered by the mouth is much less effectual, bromids are mostly useless, chloral is positively dangerous. . . . Whatever tends to strenghthen the heart or relieve it from work will tend to prevent the onset of anginoid symptoms, and when such threaten, treatment must be directed to these two points. Arsenic, and more especially phosphorus, have had in my hands a very beneficial influence as cardiac tonics in such cases. When the preponderating character of the symptoms is that of venous obstruction, purgatives should be given in full doses, but judgment and caution must be exercised in their administration, as unfavorable effects may develop abruptly. It is under such conditions that digitalis finds its opportunity in aortic regurgitation, and justifies the statements of those who find this remedy of the same service in aortic as in mitral disease."

Amenorrhea.—According to the *Therapeutic Gazette* Lutand has found the following combinations useful in amenorrhea when there is debility and anemia:

℞.—Bichlorid of mercury, Sodium arsenate, Strychnin sulfate, of each ..... 1 grain.
Potassium carbonate, Iron sulfate, of each .....30 grains.
Make into 60 pills, and give one after each meal.

Or:

℞.—Iron arsenate..... ..... 2 grains.
Extract of nux vomica ....15 grains.
Manganese sulfate ..... 1 dram.
Make into 60 pills, and give one after each meal.

When there is marked constipation the following may be prescribed:

℞.—Carbonate of iron, Ammoniac, Aloes, of each ..... 1 dram.
Sirup ..... q. s.
Make into 50 pills, and give one or two a day after meals.

When there is obesity a useful formula is as follows:

.—Aloes ..... 15 grains.
Rue, Savin, Saffron, of each .....5 grains.
Make into 10 cachets, and give one twice or thrice a day.

Spartein.—Carrien (*La Semaine Médicale*, No. 45, 1899) speaks very favorably of spartein with potassium iodid in cardiopathies with arteriosclerosis. In these cases spartein is often preferable to digitalis, since, unlike the latter, it stimulates the heart without increasing the peripheral resistance. The following formula is suggested, the amount to be taken in divided doses during the day:

℞.—Spartein ..... 1½ grains.
Potassium iodid..... 7½ to 15 grains.
Julep..... 3 ounces.
Sirup of orange peel..... 1 ounce.

hthalbin as a Substitute for Ichthyol.—Wolfe *ck's Archives*, January, 1900) draws the following conclu- from his experience with ichthalbin: ichthalbin is non- and nonirritant to the stomach, admitting on this unt, practically unlimited dosage. It is an intestinal eptic, a stomachic tonic, and an aid to constructive me- ism. It has no odor and almost no taste, properties h make it easy of administration without combination isguise. Wherever ichthyol is indicated for local use, where a dry, odorless powder is more easily applicable herwise preferable, ichthalbin should be used. When- ichthyol is indicated internally, ichthalbin should be erred. In phthisis, secondary and tertiary syphilis, nic rheumatism, and septic and pyemic conditions ich- oin may be considered among the most available drugs. ll conditions of the mucous membranes when hyperemia. eased and perverted secretion, or suffocation appears, halbin is a decidedly efficient agent. In florid and in- matory dermatoses it is among the best internal rmedies.

ethylene-Blue.—The *Lancet* (December 30, 1899) gives following summary of the uses of methylene-blue: ylene-blue administered in the form of pill with about its weight of powdered nutmeg, and in doses of from to six grains three times a day, owing to its recognized tive affinity for the nerve-cells and axis-cylinders in liv- nimals, has proved of considerable value in such affec- as sciatica, migraine, neuralgia, and herpes. In diabetes itus methylene-blue appears to act somewhat in the e manner as antipyrin. When given in full doses up to grains three times a day during a period of six weeks r has been found to disappear from the urine. Locally drug diminishes the pain of cystitis and gonorrhea, the e being highly charged with the drug and acquiring a nt green or blue color when it is given internally. In s of gonorrhea complicated with rheumatism or neuritis s proved of special advantage. In simple rheumatism drug has also been given with good effect, as it has in mittent fever both in the acute stage and for the relief e after-effects such as enlargement of the liver and en. The general effects of the drug resemble those of pyrin and salicylic acid; when given after food with dered nutmeg it excites little irritation in the stomach, most noticeable feature at the time being the coloration e urine, of which patients should be warned.

rgical Treatment of Dilated Stomach.—Bidwell *Lancet*, January 13, 1900) at a recent meeting of the West don Medico-Chirurgical Society stated that the principal es of dilated stomach were: Cicatricial contraction of pylorus, malignant disease, adhesions outside the rus, gastroptosis, spasm of the pylorus, floating kidney he right side, and atony. The indications for operation he dilated stomach were: Pain usually localized to the ric region and felt in the back, signs of dilation of the ach, vomiting of solid food, absence of free hydrochloric from the vomit, some emaciation, and obstinate consti- on. The surgical procedures which were undertaken for relief of dilated stomach were, for malignant diseases: rectomy, and gastroenterostomy. In nonmalignant ste- s: Pyloroplasty, gastroenterostomy, Loreta's operation, rectomy, and division of the adhesions. In neurotic s: Lavage, massage, gastropexy, and an operation for inishing the capacity of the stomach by folding in a por- of the redundant wall. The paper was illustrated by 16 s operated on by Bidwell and arranged in tabular n. Eleven were cases of malignant disease; five of these il within a fortnight, the remaining living for some nths. There were 5 cases of nonmalignant stricture ch were all cured by operation. Of the malignant cases ere gastroenterostomies with three deaths, 3 were pylo- omies with one death, and 1 was a case of pyloroplasty ch proved fatal.

alol in Smallpox.—Begg (*Lancet*, January 27, 1900) at a nt meeting of the Edinburgh Medico-Chirurgical Society, narrating his experience of smallpox in China, stated that had found salol very efficacious in that disease. As the drug ned to lessen irritation in various skin-affections he was to try it in smallpox. The experiment proved successful. re was no desire to scratch the skin and so the danger to eyes was greatly avoided. This freedom from cutaneous ation allowed of the patient sleeping and consequently exhaustion was prevented. Salol also almost always prevented the vesicles from maturing into pustules. Nearly all vesicles ended as such. In one case, that of a European, who had only been once vaccinated in infancy, confluent smallpox occurred and only two groups of vesicles ended as pustules. In almost every case the lymph dried up and the eruption so ended. No dangerous effects from the use of the drug in daily doses of one dram continued for a long period manifested themselves. The cases should be brought at an early period fully under the action of the drug, and when properly so treated little scarring resulted. The foul odor which smallpox patients exhibited was entirely masked by the fruity odor which the drug manifested during its elimination by the skin.

Neuralgia.—Saundby recommends the following ointment:

Menthol	15 grains.
Cocain	5 grains.
Chloral hydrate	3 grains.
Vaselin	1 dram.

To be rubbed gently over the seat of the pain.

Diphtheria.—Sheffield (*New York Medical Journal*, December 30, 1899) writes that in using germicides care must be exercised that they do not act simultaneously as escharotics. The author applies to throat on a cotton swab a combination of carbolic acid and camphor dissolved in alcohol and glycerin, together with papain as a solvent for the membrane. Eight grains each of carbolic acid and camphor are used in a two-ounce solution. The throat is painted with this every 2 hours and a new swab used each time.

For the nose the author advises the following:

℞.—Hydrogen peroxid	4 drams.
Sodium borate	2 drams.
Glycerin	2 ounces.
Rosewater to make	4 ounces.

One tablespoonful to be instilled into the nose every 2 hours in the presence of diphtheric membranes in the nares, and every 4 hours in their absence.

For internal use the author recommends:

℞.—Tincture of ferric chlorid	2 drams.
Tincture of myrrh	2 drams.
Glycerin	2 ounces.
Sirup of ginger to make	3 ounces.

One teaspoonful every 3 hours to a child 3 years old.

℞.—Strychnin sulfate	1 grain.
Solution of iron and ammonium acetate	3 ounces.

One teaspoonful every 6 hours to a child of 3 years.

Arsenic as a Preventive of Thyroidism.—Ewald (*Die Therapie der Gegenwart*, September, 1899, and *Medical Review*, December, 1899) confirms Mabille's observation that arsenic obviates the unpleasant symptom excited by thyroid preparations. In 5 cases of idiopathic goiter, in a case of obesity, and 1 of infantile myxedema, iodothyrin was given in progressive doses of from $3\frac{4}{5}$ to 30 or $38\frac{1}{2}$ grains daily. At the same time arsenic was given, either in pills or as Fowler's solution, in doses increasing proportionately to the iodothyrin of $\frac{1}{64}$ to $\frac{1}{10}$ or even $\frac{1}{8}$ grain daily. The results fully confirmed Mabille's experience, for though the 7 cases took respectively 231, 111, 86, 320, 108, 296, and 125 iodothyrin tabloids, containing nearly 4 grains each, beyond occasional increased frequency of the pulse no symptoms of thyroidism appeared, so that the course could be continued uninterruptedly. Arsenic, therefore, appears to suppress thyroidism with greater certainty than atropin does iodism, and it is now possible to give iodothyrin safely in doses and for a period capable of producing definite therapeutic effects.

Granular Conjunctivitis.—Bloebaum (*Deutsche Medizinische Zeitung*) has found the following ointment highly efficacious:

℞.—Copper sulfates, Salicylic acid, Cocain	of each 1 part.
Vaselin	100 parts.

Epilepsy with Weak Heart.—According to the *Therapist*, the following combination is useful:

℞.—Potassium bromid	5 drams.
Sirup of acacia	4 drams.
Infusion of adonis vernalis to make	16 ounces.

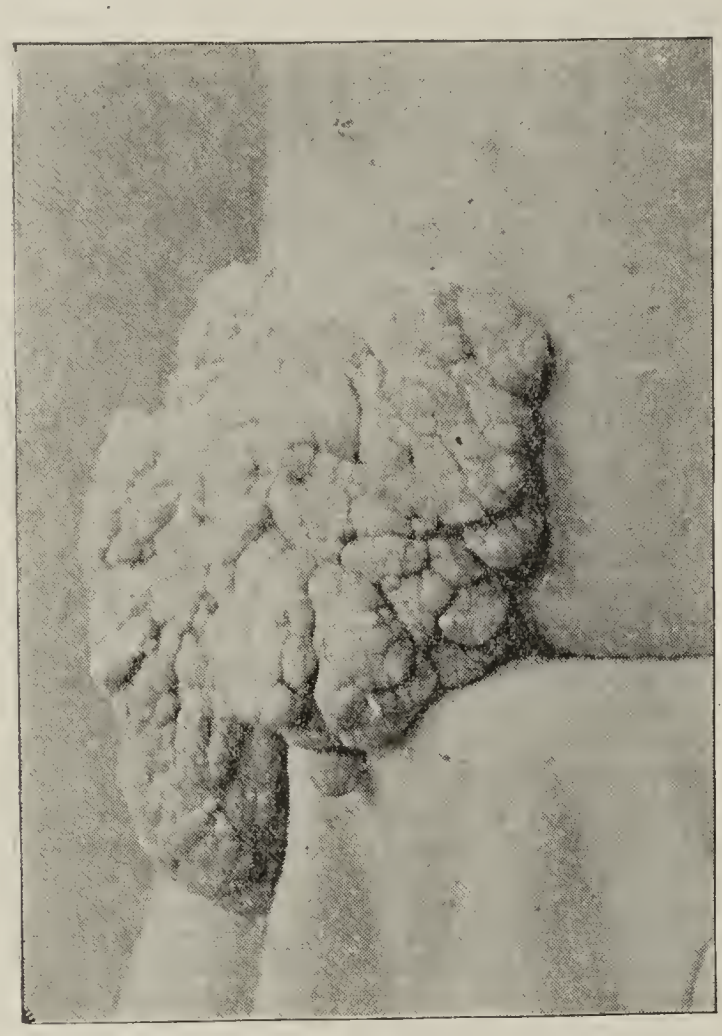
A tablespoonful in water after meals.

Original Articles.

AN UNUSUAL CASE OF MOLLUSCUM FIBROSUM.[1]

By DANIEL H. WILLIAMS, M.D.,
of Chicago, Ill.
Attending Surgeon to the Cook County and Provident Hospitals.

SMALL fibromas are common, and are frequently seen in the skin clinics of the larger medical centers of this country. The possibility of this being the largest specimen of the kind ever reported in the United States, makes the case interesting. It does not differ from other tumors of the same class. Several slides were made by Dr. J. M. Beffel, in the Northwestern Pathological Laboratory, and in a note he states that there is nothing strange in the structure of the tumor. It is a papillomatous growth, with a considerable connective



tissue stalk, this connective tissue extending out into all of the branches. The connective stalk is completely covered by a thin epidermal layer.

The patient, A. H., aged 23 years, a German, at the age of 7 years first noticed a flat mole over the lower lumbar region. It had grown steadily, until at the time of its removal, its weight was 12½ pounds, its longitudinal diameter 15 inches, and the transverse 18½ inches.

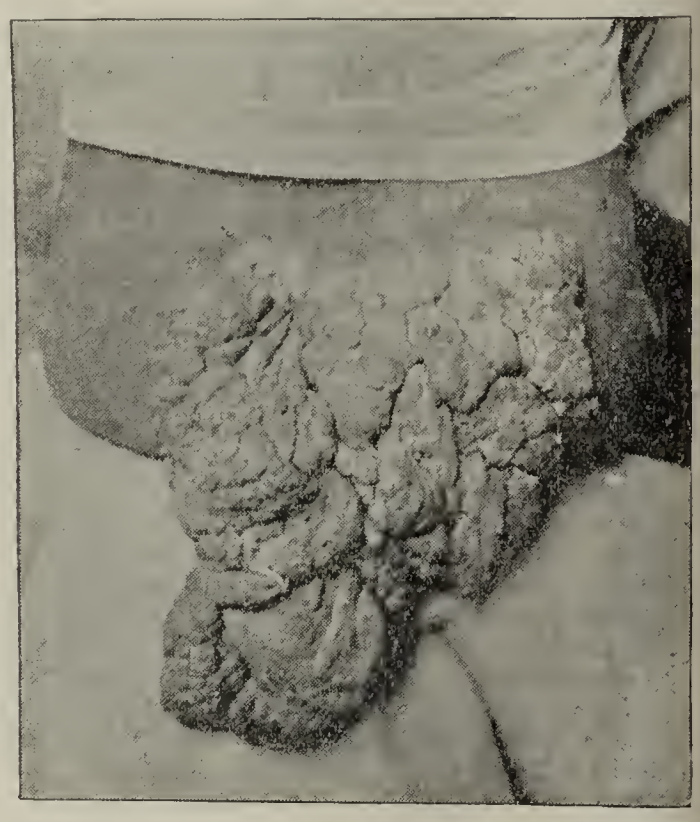
Soft fibromas, or (Molluscum fibrosum, also called Molluscum pendulum), are characterized by sessile or pedunculated, soft or more firm, round tumors, distinctly circumscribed, and usually covered by normal skin. They vary in size from that of a small pea to tumors of several pounds weight (sometimes as high as 15 or more pounds), though more rarely the neoplasm is single. When fully developed, the tumors become sessile, pedunculated, or largely pendulous growths,

[1] Presented to Chicago Medical Society, December 20, 1899.

hanging from the parts to which they are attached, as to resemble a cherry, a nipple, a pea, or a sausag In this patient's case the neoplasm felt soft and gela inous in quality, and this in early life is believed to proportionate to the age of the subject. The growt produced no subjective symptoms beyond the more less uncomfortable tension caused by the weight.

The etiology of these tumors is unknown. Heredi is said to play an important role. A low standard development, both physical and mental, has been not in many cases. The statistical frequency in Ameri is 0.075.

The tumors originate from the deeper layers of t cutis, a fact first pointed out many years ago by Rok tansky. Virchow, Kaposi, and Duhring, maintain th they arise from the connective-tissue framework arou the fat lobules. To this class of soft fibromas al belong bulky, folded tumors of the skin, known Galenus as leontiasis, occurring in the face. Th affection is, as a rule, a combination of lipoma wi fibroma.



Bland Sutton, in his work on tumors, gives so rare specimens of growths of this character. P. Merk recently advanced an argument in favor of the conge ital nature of this affection. He says that, "17 cases on record which are known to be congenital, and t the influence of heredity is unmistakably apparent many others," that the "largest number develop youth and especially in early childhood." He c attention to the "frequent coincidence with pigmen patches," and the "frequency of coexistent mental turbances." He considers it "a deformity similar nevus in many respects, but differing by its progress character, which stamps it as a neoplasm—genera benign, but with a tendency to malignancy—the c genital deformity consisting in the tendency of the c nective tissue to unlimited proliferation." Klebs clai that the nerve-fibers themselves are changed to fibr bundles.

The prognosis as regards life is favorable. The tr ment is purely surgical. In this case I removed tumor by simple elliptical incision and covered site by undermining and stretching the skin.

he specimen was beautifully prepared by Prof. niel S. Lamb, pathologist in the U. S. Army Medical seum, Washington, D. C. To him I am indebted its preservation. Its number is 11458.

NGRENOUS STOMATITIS TREATED WITH ANTI-STREPTOCOCCUS SERUM.

By W. C. CAHALL, M.D.,

of Germantown, Pa.

ICHAEL M., of Italian parentage, aged 7 years, was ad-ted to the medical wards of St. Timothy's Hospital, May 1899, suffering with typhoid fever of rather severe type. was thin and poorly nourished. His temperature, shortly r admission, reached 104° F., when he was put upon the ndt treatment, with the addition of salol gr. 2, every 3 rs, internally. He presented most of the symptoms of cal typhoid fever, viz., delirium, epistaxis, iliac tender-s, rose spots, and, in the third week, blood in stools.

is blood gave the Widal reaction early. His urine was mal and gave positive diazo-reaction. The accompany-abbreviated temperature-chart gives only morning and ning temperatures. For two weeks the case presented ning unusual. About the fourteenth day after admission mucous membrane became dry and cracked, from defi-t secretion, and his nose and lips bled from picking. this, turpentine emulsion was administered. On the day owing there was some bleeding from the mouth. On the ning of the sixteenth a swelling of the left cheek, and nsive breath, were noticed, when, upon examination, a ll, purplish spot of gangrene was discovered upon the cheek, one inch within, and on the line of the angle of mouth.

he gravity of the case was recognized, and the spot thor-hly cauterized with pure carbolic acid and tr. ferri chlorid. inistered internally. By the seventeenth day, fresh areas angrene were seen surrounding the original site. The case transferred to the surgeon for operation, but through a understanding it was two days before the curetment was formed. In the meantime the destruction of the slough by bolic acid and repeated spraying with H_2O_2 was continued. Within 48 hours after curetment the disease reappeared rapidly perforated the cheek and loosened the teeth.

he boy was now in a most desperate condition, restless and rious, pulse 135 to 160, and refusing nourishment. It is eworthy, however, that the fever-range of the typhoid cess was not conspicuously disturbed.

n the twenty-second day the boy was prepared for radical ration. Dr. James Sibbald removed all the diseased cture, going well into the healthy tissue in order to ire, if possible, no return.

his necessitated a most extensive operation. It amounted he removal of the entire cheek from the angle of the uth to near the articulation of the lower maxillary bone, from the upper border of the lower maxilla to the malar e; the removal of all the teeth of the left upper maxil-, from the canine tooth backward, together with the olar process, and all that portion of the superior maxil-bone, including the antrum, and up to the floor of the t, but leaving the roof of the mouth intact. The day after operation the temperature dropped to nearly normal; remained low afterwards, this being due partly perhaps to natural decline of the typhoid fever, but chiefly, I think, he operation, by lessening the amount of toxins to be orbed. For exactly one week the wound (See Fig. 1) re-ned free from gangrene, although the granulations did appear healthy. At the end of this time the gangrene peared at the lower posterior border of the wound, and frightful rapidity burrowed down and around the lower illary bone, and denuded it of its periosteum. It also e out at the upper posterior angle, burrowing upwards veen the malar bone and the cheek. The right ear also n to discharge a suspicious and offensive ichor.

o have surgically removed the disease now would have essitated the dissection of the lower maxillary bone on left side.

was at this juncture that I decided to resort to the use of the antistreptococcic serum, and 10 ccm. was injected into the right flank on the evening of the thirty-second day.

The effect was immediate. Within 12 hours, the gangrene, no longer spreading, began to separate, and in 24 hours had disappeared, leaving a healthy-looking wound. On the thirty-fourth day, a second injection of the same dose was given as a safeguard against return. From that point healthy granulations appeared over the wound, a healthy color of the skin returned and the boy made a rapid recovery, having, however, a dreadfully disfigured face. After waiting several weeks for any possible return of the disease, the case was transferred to the surgical wards for restoration of the cheek by Dr. Otto Rath The plastic operation by Dr. Rath was very successful, as may be seen by Fig. 2.

My own experience with this disease was so small that I naturally turned to the literature of the subject, and I found this was also scant. The disease is a rare one indeed. · In the Mary J. Drexel Home for children there have been no cases since 1890, and in the Children's Hospital 10 cases, with 2 recoveries, in the same time. The Board of Health has received since 1890 148 certificates of death from this disease under the various names of noma, cancrum oris, and stomatitis gangrenosa, distributed over the following years :

1890	24 cases.
1891	13 "
1892	9 "
1893	16 "
1894	19 "
1895	18 "
1896	22 "
1897	20 "
1898	7 "

And since the fatality is always very great, the number of cases in Philadelphia for these years can be very little higher than these figures. As a result of this rarity the studies of the various reporters have been based usually upon 1 case, and occasionally upon 3 or 4, and since the cases are almost uniformly fatal, the studies have been chiefly etiologic, and, particularly within the past 10 years, in reference to the bacteriologic factor.

Schimmelbusch[1] in 1889 obtained a bacillus from the necrotic tissue and the contiguous living tissue of a case of noma. These bacilli had round ends, joined often in long filaments, and stained best with aqueous solution of gentian-violet, but not with Gram's method. It was aerobic, non-liquefying. Cultures injected in rabbits produced local abscesses only and proved not pathogenic for mice or pigeons.

Lingard[2] studied 5 cases, in each of which he found a bacillus similar to that of Schimmelbusch, and growing freely in the living tissue near the necrosis. When inoculated into the ear of rabbits, swelling and redness followed with death on the tenth day.

Foote[3] reports one case, admitted to the New Haven Hospital, which he studied bacteriologically both before and after death. His smear-cover-glass preparations revealed vast numbers of staphylococci, streptococci, and diplococci, and very few long bacilli, often in groups, and stained faintly by Gram's method, but more deeply by other methods.

The blood-examination showed 1,600,000 red corpuscles and 36,363 white, mostly polynuclear leukocytes, but showed no bacteria.

Repeated cultures from various deep parts of the sloughing tissue gave uniform results. There were found staphylococci pyogenes, streptococci pyogenes, and diplococci in plenty, but no bacilli.

Rabbits, inoculated with the slough, lived, but de-

veloped abscesses, in which were numerous micrococci and staphylococci, and few single long bacilli.

A section of skin, including both necrotic and healthy tissue, was hardened and stained. Here bacilli were found, growing in greatest abundance along the border of the necrosis, and also infiltrating the sound connective tissue. The bacilli stained well with Gram's method, thus differing from those of Schimmelbusch. In the necrotic areas were found also micrococci and streptococci.



FIG. 1.

Grawitz[4] in 1890 found in sections of the border of necrotic and healthy tissue many bacilli which grew in long threads, but no micrococci.

In 1891 Masterman[5] found micrococci in the lymphatics of one of his two cases.

Cornil and Babes[5] have found streptococci, and Ranke found the same streptococci described by Koch as producing progressive necrosis in field-mice.

In 1892, Bartels,[6] in one of his two cases found a slender bacillus in the gangrenous tissue and also in the kidneys, lymph-glands, spleen, and heart-muscle.

In 1893, Elder[7] found long bacilli in the tissues, and Barnabsi[7] found the staphylococcus pyogenes aureus in a case of noma with septico-pyemia.

Babes and Zambilovici[8] in two cases found a slender bacillus that caused gangrene in the cheek of rabbits, but in other animals septicemia and abscesses.

Siegel[9] reported in 1894 the presence of a short bacillus, in a case of noma, which grows on gelatin without liquefaction, which does not stain with Gram's method, and which was pathogenic to doves, cattle, and pigs.

Bishop and Ryan[10] in one case of noma and one case of stomatitis ulcerosa, found present a bacillus which morphologically and in staining properties was identical with the diphtheria-bacillus, but which upon inoculation in rabbits and guineapigs did not cause death. There was also present in the stomatitis ulcerosa the staphylococci pyogenes aureus. In a section of the tissues in the case of noma, there were at the necrotic border, besides the bacilli mentioned above, which stained by Gram's method, other larger bacilli and micrococci.



FIG. 2.

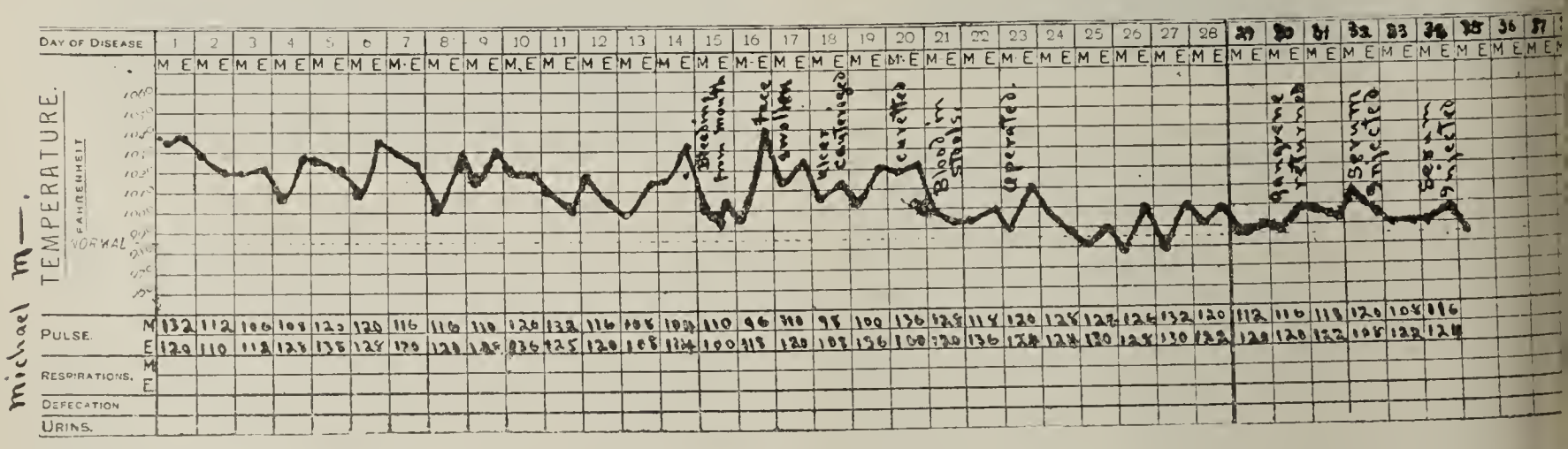
Coltmann[11] reports having had the extraordinary experience of treating 35 cases, all fatal, of noma in 6 months at Pekin, China, where it seems quite prevalent among the miserably nourished children of that highly malarious city. All the cases had enlarged spleens and profound anemia, and he believed the disease to be due to malarial infection.

Le Count[12] reports one case of noma complicating amebic dysentery, in which he found the necrotic margin swarming with slender bacilli, which took Gram's stain.

Freymuth and Petruschky[13] had one case of noma in a child of 8 years, following typhoid fever, in which they found the diphtheria-bacillus, together with the pseudo-diphtheria-bacillus, and the staphylococcus aureus.

Perhaps the most elaborate bacteriologic examination of the disease is that which was carried out on 4 cases by Guzzetti.[14] Here was also found a bacillus, similar to the diphtheria-bacillus of other observers, together with staphylococci and streptococci.

Rotch[1] describes a case which recovered after radical surgical treatment, in which no bacilli were found, and which yielded in culture a few streptococci.



mong this mass of conflicting testimony, wherein bacilli present are evidently not identical in all s, there was one factor almost constant, at least more tant than any other. This was the repeated find- of the streptococci.

ccording to the suggestion of Foote, that the dis- is probably due to a double process,—that of osis and also a gangrene, which require the presence he bacteria of putrefaction—it may readily be be- ed that there is a double infection, and that the ido-diphtheric bacilli and the streptococci may play their role.

ince the virulence of the streptococci in other dis- s is so great it appeared to me to be the factor of ter danger, and for this reason I resorted to the streptococcic serum.

thought I found some justification for this view from ssage in Sternberg's "Manual of Bacteriology," p. : "In diphtheritic false membrane this strepto- us pyogenes is very commonly present, and in cer- cases attended with a diphtheric exudation, in ch the Bacillus diphtheriae has not been found by petent bacteriologists, it seems probable that strep- ccus pyogenes is the pathogenic microorganism re- nsible for the local inflammation and its results. s in a series of 24 cases studied by Prudden in), the bacillus of Löffler was not found, 'but a strep- ccus apparently identical with streptococcus pyo- es was found in 22.' Chantemesse and Widal have reported cases in which a fibrinous exudate resem- g that of diphtheria was associated with a strepto- cus."

y mind was further biased by finding in Gould's erican Yearbook, for 1898, that Stoos[16] has investi- d the etiology of aphthous stomatitis and thrush. 5 cases of the former he found regularly, besides r bacteria, a large diplostreptococcus that stained by Gram's method and formed clusters. As he never found this in healthy persons or in other dis- s he is inclined to regard it as pathogenic. In ish he has invariably found staphylococci and strep- cci.

is to be regretted that no bacteriologic examina- was made in my case, but the diseased tissue was aturated with carbolic acid and hydrogen dioxid no conclusions could be expected, and, as a matter act, death, which seemed so imminent, but which unately did not come, promised a better opportunity thorough examination.

he successful treatment, like a bacteriologic report ne case, cannot be very decisive, but the cases are are that it appears there is no other way to increase knowledge of the disease than by the accumulation hese single reports, and that is my justification for rting this.

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POSITION-SYMPTOMS IN JOINT-DISEASE.[1]

BY HARRY M. SHERMAN, A.M., M.D.,
of San Francisco, Cal.

[Concluded from page 354.]

WITH tuberculosis at the ankle or in the tarsus there is first a limitation of real extension (dorsal flexion), so that the foot is prohibited from assuming the position of efficient extension; later, flexion at the ankle is limited (plantar flexion), and with the progress of the disease, or its extension, both these arcs of prohibited motion increase until they meet and immobility results, and the foot is always then in the normal position of rest, and from it it does not move.

Now, if the position ordinarily first selected for rest of the hip-joint is identical with the earliest assumed position in hip-joint tuberculosis, it is reasonable to argue that the selection in the latter instance is made for the sake of securing rest for the affected tissues. Again, if the earlier smaller arcs of inhibited motion would lessen bone-work, the later larger arcs are for the same purpose, and finally the limb is held in the position of least bone-work, whatever that position may be. At this point we touch the generally accepted idea, that the complete immobility of the later stages of joint tuberculosis is for a conservative purpose.

Reasoning backward from this point; if the complete immobility of the later stages is for a conservative purpose, the minor prohibitions of motion in certain arcs in the earlier stages are for the same purpose. In the earlier stages the lesion is a focal tuberculosis in one of the bones, its effect is to produce a point of structural weakness. It is to protect this point from undue pressure that the motion in these arcs is prohibited, for in these arcs there is greater strain on the components of the joint, even in a healthy state.

The mechanical conditions being originally the same in all cases of a given joint the method of inhibiting bone-work would be by a uniform plan for all ordinary cases, but unusual locations of the lesion and consequently uncommon changes of the final shapes of the bone might result in "erratic" or atypical positions, but still there would be, for those cases, positions of least work for bones and joints.

In all stages of the lesion, up to the point of definite ankylosis, it has been the custom for a long time to speak of muscular "spasm" limiting joint-motion and finally immobilizing the joint, but the term is inaccurate. I do not believe a muscular spasm occurs at all in the ordinary meaning of the word spasm, which is a convulsive contraction. It is perfectly true that often violent muscular action takes place, but it only does so when the muscle, which has been preventing a limb from entering an arc of prohibited motion relaxes, the prohibited motion takes place and the limb, by reflex stimulus of the muscle, is forcibly withdrawn, so forcibly that it may pass its original position into another arc of inhibited motion, when the other group of muscles would wake to its duty. We see this action in the ordinary "night startings" or "night cries," and similar results in some cases during waking hours, but it is not an uncontrolled muscular spasm, it is an action with a purpose, the removal of a limb from prohibited positions, or the prevention of its assuming them, and its violence is measured by the intensity of the stimulus, and that is in response to the need of the joint, and the

[1] Read at the meeting of the American Orthopedic Association, New York, May 31, and June 1 and 2, 1899.

whole series of acts has a definite and finally an useful end.

Coming back to the earlier stages again we should not say of them that motion is limited to such and such an arc, but rather that motion in such and such arcs is prohibited, for this is the symptom, and the permission of motion in the intervening arc is simply the persistence of the normal condition; and later we should think, to think logically, not that the joint was immobile, but that no motion was permitted, for in both these cases, except reparative action has made a partial ankylosis, anesthesia will remove this inhibition by paralyzing the appreciation of the local weakness, the reflex activity of the spinal cord and the tonic contraction of the muscles, and motion will be possible.

In brief, the symptom is not that motion has a limited range in one part of its arc, but it is that there is no motion permitted in other parts of its arc; and, similarly, Lücke and Lannelongue, who say that the given position was assumed because it was most comfortable, had better have said it was assumed because it was the least uncomfortable; for pathology implies discomfort at any rate, and a limb in search of rest because of a pathologic condition would progressively exclude positions of greater discomfort, and so finally arrive at the position of least discomfort, the position of least work.

THE STATE CARE OF CONSUMPTIVES.

By CHARLES E. NAMMACK, M.D.,

of New York.

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In the eager hunt for new diseases with their corresponding microorganisms, we are apt to forget that pulmonary consumption, the great white plague of our Atlantic seaboard, still claims its savage mortality of one person out of every seven who die from any cause. When it attacks a person who is well-to-do, one who can secure for himself all the advantages of medicine, nourishment, climatic change, hydrotherapy in all its modifications, ingenious mechanical devices for regulating air-pressure, rest, and the most skilful professional advice, it is at best but a sad disease. But when it seizes upon the poor man, perhaps the breadwinner of a family, who can command few or none of these, then it becomes indeed a tragedy. No apology is therefore needed for its discussion by a deliberative body like the New York Academy of Medicine, and no excuse need be offered for expressing in emphatic tones the convictions of this body and its members.

Our country, usually in the vanguard when measures of public health are concerned, lags wofully behind some of the European governments in provision for the unfortunate consumptive, and the spread of empire is likely to cost millions of dollars, while the spread of tuberculosis cannot be attacked because of the lack of a few thousands. Private philanthropy, always ready and eager to be of service to the suffering poor, is led away to the construction of magnificent hospitals for other diseases where more brilliant medical and surgical statistical results can be shown, and where the unhappy consumptive is turned away from the door. And this is largely true because of the prevalence of the erroneous belief, that consumption is unpreventable and incurable. That consumption is incurable was known to be false even in the time of Hippocrates[1], and is now disproved every day on the postmortem table, but the possibility of cure needs to be emphasized, not only for the benefit of the laity, but for that of the doubting Thomases of our own profession. The prevention of consumption will also require a vast amount of educational work, since there are some consumptives who are unclean, unscrupulous, and unintelligent. For these, and for these only, compulsory registration with the sanitary authorities should be insisted upon, for the clean, conscientious, intelligent, tuberculous patient is not a menace to the community, after he has been carefully instructed in the dangers of infection by inhalation, by ingestion, and by inoculation. It is not the least of the glories of New York that she should have been the first to begin this campaign of education among those already affected with tuberculosis, but her crowning glory will not come until every child of the State has, in school and at home, abundant sunlight and pure air, free and full instruction in physical culture, and gratuitous swimming baths at all seasons of the year. Then will tuberculosis begin to fade from the face of the earth, for even this is in the power of man.

But, meanwhile, what can be done for those who are now afflicted? A reference to the results obtained by private benevolence in the establishment of sanatoriums and special hospitals will best answer this question. The first of these in America was the Adirondack Cottage Sanatorium at Saranac Lake, established in 1884 by the personal efforts of Dr. E. L. Trudeau, aided by the late Dr. Alfred L. Loomis, whose deep interest in the consumptive was shown by measures to be carried out after his death. Patients here pay $5 per week, which is less than the actual cost of maintenance, the deficiency being made up by various means. The excellent results obtained here have led to the establishment of other similar institutions in the State, including one near Paul Smith's station in the Adirondacks, the Loomis Sanatorium at Liberty in Sullivan County, the Dominican Sisters Sanatorium at Monticello, the Seton Hospital at Spuyten Duyvil, and others. In all of these, the favorable results of outdoor life and climatic treatment have been abundantly demonstrated, yet all require a weekly payment for board, besides incidental expenses for clothing, laundry work, medicines, and extra nursing and meal service whenever the symptoms of the disease compel the patient to remain in bed. These charges, while reasonable enough in themselves, amount in the aggregate to a sum which is very hard to realize by the class of people most in need of sanatorium treatment and climatic change. More than one sad instance of this hardship is known to me.

The Loomis Sanatorium at Liberty is a magnificent monument to the memory of that great and good physician whose name it bears. It is not a charitable institution. Its aim is said to be to reach a class of patients who are able to pay their way absolutely and with the present financial condition of the institution a minimum charge of $12 per week seems to be necessary. This excludes at once the very poor.

Other private citizens have given generously to other institutions, but these individual contributions, noble though they be, only furnish a commencement to grapple with the situation, and are entirely inadequate to control it. The sum of $60,000 was given by the last municipal administration to the Board of Health for the treatment and care of consumptive patients

an arrangement was made whereby the Seton Hos- l undertook this care upon an allowance of one ar per day for each patient. This provided during year 1898 for about 164 persons each day out of a ulation of 3,500,000.

'he 350 beds of St. Joseph's Hospital for Consump- s were constantly occupied during the same period, persons of every nationality, race, or religion, with- charge, but hundreds of others could not secure iission because of lack of room.

Iassachusetts opened the first State Hospital for sumptives on October 1, 1898, but it admits only h patients as are deemed not too far advanced to iit of reasonable hope of radical improvement. h patients are charged 50 cents per day, and no ca charges are allowed under any circumstances. s institution promises well, but it must be evident t it fills only a portion of what is needed. The sumptive in an advanced stage must again turn ay from its doors.

Torth Carolina contains a number of sanatoriums, they are private enterprises. Colorado, that Mecca consumptives, has some beautiful refuges, but they the result of private or denominational efforts for d.

anada seems to be keenly alive to the necessity for olation, treatment and care of persons affected with monary disease," and an association of its philan- opists purpose to establish a number of sanatoriums, which the first, on the shores of beautiful Lake skoka, has already been opened. But here again cost to the patient is six dollars per week, and only able cases are received.

t will be seen from these facts that State care of the sumptive, up to the present time, has been more iored in the breach than in the observance. Every te in the Union, almost without exception, has some ce within its borders where pure, dry atmosphere, l some elevation, with protection from winds, can be ured. It is not desirable that consumptives should sent long distances from home, for it is now well iblished that cures obtained in the home climate of atient are more durable than those effected away n home. In fact, climate in itself has no specific ative quality, except in so far as it allows patients to nd time in the open air, and English and Irish phy- ans have recently demonstrated that in cities noto- isly unfavorable for pulmonary diseases, much may accomplishd by open-air treatment and by widely ned windows during the day and night.[2]

ir Samuel Wilks[3] says that the most useful remedy "air, air, fresh air," and he commends Diogenes for ing directed Alexander to get out of his sunshine. erican physicians lay similar stress upon the neces- for abundance of air as the first consideration, l consider medicinal treatment as of comparatively ht importance. The problem, therefore, is to furnish of which the State has undoubtedly plenty, and d, of which it ought to have an abundance, to those o need it for their restoration to a state of useful- s to the community, but who are powerless to com- nd the means to secure the proper air and proper d for themselves.

'he ideal sanatorium should be placed "where it do the most good to the largest number,"[4] and its rness to a large center of population is not necessa- a drawback, and may be an advantage. How much it do in reducing the death-rate per million is shown by the figures of the Registrar-General in England and Wales, viz., from 2,410 in 1870 to 1,307 in 1896. If this can be accomplished by relatively few institutions, better results may be looked for when their founding has become more general. Without their establishment in this country, the outlook for the consumptive laborer or mechanic is not encouraging. We all know that in his tenement-house he is not only doomed to an early grave himself, but that he is a possible means of infection to others, and particularly to the younger members of his family. If, by perseverance or influence, he succeeds in securing admission to one of our general hospitals, he finds his chances of securing abundant air, sunshine out-of-doors, food enticingly cooked and served, aerotherapeutics, hydrotherapeutics, and graduated exercises, to be reduced almost to a minimum. His treatment naturally resolves itself into a question of euthanasia. And besides the little help which he derives, his presence in a general hospital is undoubtedly a menace to his fellow-patients, by reason of his infective qualities, to those whose power of resistance is reduced by other diseases. On the contrary, sanatoriums or special hospitals can furnish all the medical and sanitary advantages necessary, and the cost to the State need not be greater than that of his maintenance in a general hospital. The scrupulous precautions against infection, observed in well-regulated sanatoriums, will not only assist the patients themselves, but also be valuable object-lessons to the public. The statistics of these institutions will prove that at least 50% of cases admitted during the incipient stage cannot only be cured, but returned to the community as workers. The economic and social advantages of this are obvious and form an additional argument against attempts at treatment in general hospitals which claim few, if any, cures.

But it is not alone with the individual already tuberculous that the State should be concerned. The children of tuberculous mothers, as well as the mothers themselves, should receive treatment, and this treatment should be begun early, even prior to the birth of the children. Later in life such children should be educated in special schools attached to fully-equipped sanatoriums.

The tuberculosis of childhood can best be treated at seashore resorts. Of course, the proper treatment of the tuberculous poor by the State would mean some expense, but that it would be an outlay yielding large dividends is equally certain. Of course, also, in this department of public charity, as in others, would be found the undeserving applicant for benefit, the man who could well afford to secure adequate medical advice and treatment without appealing to State aid, but he need not long remain an unworthy recipient of the State's bounty. Investigation, organization, and cooperation of the various sanitary and charitable bodies would soon weed out the deadhead.

The experience of the State insurance societies of Germany, some of which have put up special sanatoriums of their own, proves that, in the long run, a State would be the gainer, rather than the loser, by proper measures for preventing the spread of consumption. But, in this country, paternalism on the part of the government is viewed with alarm by many worthy citizens. It is confounded with socialism, in whose name many crimes are committed, and which has a dreadful sound to the ears of the multitude. Struggling agriculturists can obtain State aid to make their lands fertile, stock-raisers

can secure legislation to advance their business interests, rich railroad corporations can receive magnificent land subsidies, but the poor, struggling consumptive is left to fight his own battle, except where private philanthropy steps in. The instances of the latter are many and noble, but, alas! they are not enough and our great white plague goes on. If a tithe of the deaths annually caused by consumption were due to yellow fever, cholera, or the bubonic plague, what a howl would go up! How soon would the entire power of the Government be put into operation to check their spread! Yet we know the parasite of consumption better than we know the parasites of the others, and when the intelligence of man is pitted against it and the statesman, philanthropist, sanitarian and physician work together, we may yet realize Pasteur's hope that it will disappear from the world. And this, in spite of the fact that all the other infectious diseases together do not claim one-half so many victims as consumption does.

But "something more than academic resolutions passed by medical societies, or even than committees of inquiry, is required to make a struggle against such an evil successful."[5] It is not enough that we "do nothing in particular, even though we do it very well."

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[1] Knopf, S. A., Pulmonary Tuberculosis, p. 17.
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[3] *Practitioner*, June, 1898, p. 573.
[4] Knopf, S. A., Pulmonary Tuberculosis, p. 204.
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THE EARLIEST RECORDED AUTOPSIES IN AMERICA.*

BY FRANCIS R. PACKARD, M.D.,
of Philadelphia.

THE earliest mention of an autopsy performed in America is to be found in "An Account of Two Voyages to New England," published at London in 1674 by John Josselyn, an Englishman who had spent some time in New England. He writes: "A young maid that was troubled with a sore pricking at her heart, still as she leaned her body or stept down with her foot to the one side of the other; this maid during her distemper voided worms of the length of a finger, all hairy with black heads; it so fell out that the maid dyed; her friends desirous to discover the cause of the distemper of her heart, had her opened, and found two crooked bones growing upon the top of the heart, which, as she bowed her body to the right or left side would job their points into one and the same place, till they had worn a hole quite through."

Dr. S. A. Green[1] refers to this case and mentions several others which he found. Thus, in the records of Roxbury Church, on August 20, 1674, is the following: "John Bridge, died of ye Winde Collick and was buried the day following. His body was opened. He had sundry small holes in his stomak & bowels, & one hole in his stomak yt a man's fist might passe through, wch is thought was rent wth vyolent straining to vomit the night before he dyed, for the watchers observed yt something seemed to rend wth in him, and he said of it I am a dead man."

Green also found in the records of the Essex County Court, on leaf 46 of the thirtieth volume, the accounts of two other autopsies.

On June 1, 1676, an examination was made of the body of Jacob Goodale in the complaint against Giles Corey. The jury's finding was: "Several wrongs he hath had done on his body. as upon his left arme and upon his right thigh, a great bruise. wch is very much swold and upon the reiyns of his backe. in colour. differinge from the other parts of his body we caused an incision to be made much bruised and Run with a gelly and the skin broke upon the outside of each buttocke.

Sworne to 30: 4 mo. 76.

Cotton Mather[2] says of this case, "That about Seventeen Years ago Giles Cory kept a man in his House that was almost a Natural Fool; which Man Dy'd suddenly. A Jury was Impannel'd upon him, among whom was Dr. Zorobbabel Endicot; who found the man bruised to Death, and having clodders of Blood about his Heart."

The other autopsy was held on May 2, 1678, the report on the result was made by the "Chirurgeon," "Search the Body of one called Edward Bodye: I made Incision upon the parte of his Body which was most suspitious which was upon the Temporall Muscle I layd the Bones Beare: wee could nott find any fracture in the least neither was the flesh in any wise corrupted or putrified."

Judge Sewall[3] in his famous Diary mentions an autopsy performed on the body of an Indian who had been hung. The postmortem took place on September 22, 1676.

Dr. Toner[4] thought that the first autopsy recorded in this country was that performed on the body of Governor Slaughter, of New York. The Governo died in 1690 under circumstances which pointed to hi having been poisoned. The examination of the body was made by Dr. Johannes Kerfbyle and five othe physicians.

We have seen, however, that there were at least fou prior to this.

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[1] Centennial Address before the Massachusetts Medical Society, 1881.
[2] Wonders of the Invisible World.
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* Read before the Pathological Society of Philadelphia, December 28, 1899.

THE PLEURAL FRICTION-SOUND: MANEUVERS FOR ITS ELICITATION.

BY ALBERT ABRAMS, A.M., M.D.,
of San Francisco.

IN the average patient, the recognition of the pleural friction-sound is not difficult, although its acoustic impression is subject to great variation. It is frequently difficult and often impossible to distinguish it from rale, and this difficulty is especially enhanced when pleural friction-sounds and rales coexist. In the differential diagnosis, the following points are usually recognized.[1]

1. Rales are continuous; friction-sounds, a series of interrupted jerks.

2. Coughing changes the character of rales, while friction-sounds are not influenced.

3. Rales are diffused, friction-sounds confined to limited area.

4. Pressure with the stethoscope increases the loudness of the friction-sounds, whereas rales are uninfluenced by the same maneuver.

5. Friction-sounds are superficial and increased by forced inspiration.

The loudness of the pleuritic friction-sound varie

[1] Abrams: Manual of Clinical Diagnosis, p. 50.

not a few instances even the trained ear will not de- it. In other instances it is audible at some distance n the chest. Cases are on record in which the nds have been heard by the patient, and their inten- interfered with sleep. Very loud friction-sounds manifested by palpation (pleural fremitus). Pres- e with the stethoscope by approximating the pleural ers artificially intensifies the sounds. Deep and ac- rated respiratory movements will accomplish the ne result, although, after a varying period of time, h forced respirations, by smoothing both pleurae, se the temporary disappearance of the friction- nds. When, owing to pain, the respiratory excur- ns of the affected breast are superficial, or owing to retarded movements of a hepatized lung, as in inous pleuropneumonia, the pleural fricton-sounds not audible by auscultation. The pleural friction- nds are usually heard during inspiration, or during piration and the early part of expiration. At times y are only heard at the height of inspiration, and st often only during expiration. All these modifica- ns are dependent on the fact that the inspiratory force the respiratory movements is decidedly more vigor- than that of expiration. Laennec taught that the tion-sound is conducted in definite directions. Dur- inspiration the sound is conducted from above vnward, while during expiration it is conducted in reverse direction. This clinical fact is in accord h the physiologic movements of the lungs.

f in a rabbit, the costal pleura is sufficiently ex- ed to enable the experimenter to observe the move- nts of the underlying lung, one observes, that ring inspiration the pleura glides in the direction from ve downwards and from behind forwards. In the location from above downwards, the lung apex repre- ts almost a fixed point. The diffusion of the pleuritic tion-sound is usually limited. It is most diffused he lateral, and least diffused in the upper region of thorax. The conditions for the generation of the tion-sounds are more favorable as we recede from lung hilus, for the reason that the excursions of the ural layers become more and more pronounced. rely are the friction-sounds to be heard over the ces of the lungs, because the latter enlarge more by trifugal distention than by dislocation. The dura- n of a friction-sound varies. As a rule it gradually comes less loud as forced respirations are continued, ntually disappearing for a variable period of time. nen any rhonchi and friction-sounds coexist, the ter are not heard, owing to the loudness of the for- r. In such instances the inhalation of amyl nitrite frequently afforded me signal service in differential gnosis. Bronchospasm is commonly associated with dry rhonchi; in fact, many of the auscultatory enomena are dependent on the coexistent broncho- sm. Amyl nitrite by inhalation will cause the appearance of the dry rales, leaving the friction- nds uninfluenced. Bruen[2] directs attention to the ue of making the chest immovable. When the chest fixed, especially at the lower two thirds, by the nds of an assistant, and the stethoscope is applied er the doubtful sounds, they will be found to have appeared if of pleural origin, but to be still present rales. He further suggests that the patient should line to the side opposite to that diseased, and place hand of the affected side to the head; this puts the ura in a state of tension, and will often obliterate a

friction rale. My experience with this method of diagnosis has been limited, although in nearly every instance in which it was applied it has proved unsatisfactory. There are three maneuvers which I believe to be original with me in eliciting the pleuritic friction-sound, and which make a differentiation of the latter from endopulmonary sounds possible. They are, in order of importance, as follows: (1) The arm maneuver. (2) The decubital maneuver. (3) Pressure in an intercostal space. Before describing these methods, I wish, at the outset, to emphasize the errors which may arise in the employment of the very soft rubber tip of our stethoscopes in the auscultation of the finer acoustic phenomena of the thorax. Some time ago I was in the same predicament as the hapless weight of Holmes, who for the first time had employed a stethoscope. In a succession of individuals whom I examined in the course of several days, I dictated to my amanuensis for record in my case-book the presence of crepitant rales in nearly every patient examined. Investigation speedily demonstrated the error of my observations. It was found that the slightest shifting in the position of the rubber tip of my stethoscope, owing to the excursions of the thoracic parietes in breathing, would yield a sound not unlike the crepitant rales or the pleuritic friction-sound. This error was especially manifest when the skin of the thorax was moist. No maneuver, whether it was drying of the skin or rubbing it with alcohol, was successful in obviating the error. The only expedient which was really successful, was to keep the pectoral end of the stethoscope fixed, although, even here, one had to eliminate the noises produced by the rubber in fixing it to the chest. Since this occurrence, whenever supposed crepitant rales were auscultated, I confirm the observation by auscultating with the buttoned rod of my phonendoscope.

The Arm Maneuver.—The patient suspends respiration after full inspiration, after ordinary breathing or at the end of expiration. Then the arm on the affected side is raised while in extension, either by the patient, if intelligent, or otherwise, by the physician, until it reaches the side of the head. The movement described corresponds to the Sylvester method of artificial respiration. During the time the arm-excursions are made, the suspected area is auscultated. By the arm maneuver, the movement of the parietal against the visceral pleura is opposite in direction to that occurring during the respiratory act, and for this reason the pleuritic sound may often be elicited after the sound has been exhausted in the ordinary act of breathing. It soon exhausts itself like the pleuritic friction-sound elicited in the conventional way. In obtaining the friction-sound after this method, care must be exercised lest the patient breathe. The sound thus obtained can only emanate from the pleura and this fact alone establishes its value in differential diagnosis. The elicitation of the pleuritic friction-sound by this method is less constant than its development by forced inspiration. It is heard most often when respiration is suspended after deep inspiration and least often after forced expiration.

The Decubital Maneuver.—Let the patient lie on the affected side for one or two minutes, then direct him to rise quickly and suspend respiration. Now auscultate the affected area, at the same time directing the patient to take a deep breath. If pleuritic friction-sounds are present they will be greatly intensified or be made to appear, when not detected in the usual manner. One error is likely to suggest itself by this

[2] "Pocketbook of Physical Diagnosis."

method, and that is, the creation of atelectatic crepitation. In almost any individual atelectatic crepitation may be induced by the same maneuver. If, however, the lungs have been fully expanded, prior to the execution of the decubital maneuver and the lateral posture is only of short duration, the danger of misinterpretation will be reduced to a minimum. A little experience soon enables one to pick out the characteristics of atelectatic crepitation and make confusion with pleural sounds impossible. This method is based on the fact that the position adopted by the patient approximates the two layers of the pleura, or, to use a homely though suggestive phrase, sticks one layer of the pleura to the other.

Pressure in an Intercostal Space.—Pressure with the stethoscope usually intensifies the friction-sound. As employed ordinarily, pressure is made on the ribs. If, however, pressure is made in an intercostal space, and not on the rib, we can more certainly approximate the costal to the visceral pleura, the actual principle on



which this method rests. To carry out this method successfully, the arm on the side to be auscultated is first raised; this act materially widens the intercostal spaces. In the intercostal space over the region to be auscultated, we place the buttoned rod of the phonendoscope. Experience has taught me that the phonendoscope is not adapted to this method, for the reason that when the patient is instructed to take a deep breath while pressure is exerted with the rod in the intercostal space, adventitious sounds are created with the phonendoscope, which interfere with correct auscultation. To obviate the latter difficulty, and it is a great one, I use the buttoned rod of the phonendoscope in association with my stethoscope. Fitted around the hard rubber bell of my stethoscope and covering its mouth is a piece of tin, in the center of which is screwed the buttoned rod of the phonendoscope. The button at the end of the rod may be easily moulded after slight heating in a flame to make it narrower so that it will easily fit into an intercostal space. The latter fact is of especial importance in the case of children in whom the intercostal spaces are decidedly less wide than in adults. The accompanying illustration suggests the method of making the phonendoscopic attachment, which may be fitted into any stethoscope.

Tetanus Treated by Carbolic-Acid Injections.—H L. Nietert and R. F. Amyx (*St. Louis Medical Review*, December 30, 1899) report 4 cases of tetanus treated at the St Louis City Hospital by the carbolic-acid method. Three of the patients died. *The first* was given in all 19 injections of 2% solution of carbolic acid; $\frac{1}{30}$ gr. was given at each injection to begin with, then increased to $\frac{1}{15}$, later to $\frac{1}{12}$, later to $\frac{1}{8}$ and finally to 3½ grs. During the 84 hours in which treatment was continued 21½ grs. were given. There was no carbolic acid poisoning. The patient died. *The second* patient was treated for 30¾ hours, during which 11 injections were given amounting in the aggregate to 11¾ grains. The solution was 2%. The patient died as the first. *The third case* was treated for 16 hours, receiving 9 injections of a 2% solution, amounting in the aggregate to 8 grains. The patient died. The fourth case was treated 8 days, received 93 injections of a 10% solution, and a total of 267 grains. At first the injection was 10 drops, later 20, then 30 for the remaining period of time. The patient was not poisoned by the carbolic acid and made a good recovery. The last patient received 9 grains of carbolic acid during the first 24 hours, without producing untoward effects. The explanation of this possibility lies in the fact that, according to these men, toxins of carbolic acid and the tetanus bacillus are direct antidotes to each other. [M.B.T.]

Antistreptococcic Serum for Puerperal Septicemia.—J. A. G. Hamilton (*The Australian Medical Gazette*, August 21, 1899). A few days after confinement the patient developed puerperal septicemia. She was treated by curetment, swabbing, irrigation, and packing with iodoform gauze. Her temperature ran high, her condition was serious and she was confined to the hospital for 9 weeks. She was again confined 2 years later, and again developed puerperal septicemia. The local treatment was carried out as before and in addition she was given daily injections of antistreptococcic serum of 10 cc. each for 8 days. Each injection was followed by a marked fall in temperature, which lasted for some time. The second illness was more violent than the first, and lasted but 3 weeks. The result warrants the conclusion that the added treatment did good. The serum was from the Pasteur Institute. Hamilton states that in some other cases he has not found the antistreptococcic serum so beneficial. [M.B.T.]

Laryngectomy.—Jacob Frank (*The Chicago Medical Recorder*, December, 1899) reports the case of a man, 39 years old, whose health up to 9 years previous was good. At that time an attack of pneumonia resulted in hoarseness and inability to speak aloud. Treatment by a specialist afforded him no relief, but 5 weeks spent at Hot Sorings, Ark., resulted in a partial restoration of the voice. The benefit lasted for about 2 years, when he was again troubled. Tracheotomy was performed and a tube inserted. He remained in this condition for about 1 year, when the tube was removed, the edges of the opening freshened and the wound closed. About a year later tracheotomy had to be again performed to afford him relief from dyspnea. The patient remained in this condition until about ten months ago. At that time a hard, painful, swelling developed on the left side of the neck. A short time afterwards this was removed, and in the operation the internal jugular was ligated. A microscopic examination of the tissue removed showed it to be tuberculous. A rapid recurrence followed. Tissue from the last operation was found to be carcinomatous; laryngectomy was then performed. A portion of the esophagus and of the thyroid was removed. A plastic operation closing the esophagus did not succeed. The trachea was sutured in the lower angle of the wound and most of the latter packed with iodoform gauze. A stomach feeding-tube was used for a month, after which the patient ate and drank in the normal way. A few glands removed under local anesthesia, since the principal operation, were found to be carcinomatous. An interesting feature of the case is the long time since the symptoms first appeared. Was the growth malignant from the beginning or was it tuberculous at the beginning, and did the continued irritation cause the malignancy? [M.B.T.]

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The club-list of books of the Philadelphia Medical Journal published in our advertising pages deserves the attention of subscribers. It differs in two essential particulars from similar offerings: (1) The books are new and standard ones by authors of the highest professional ability and authority; (2) the opportunity is open to old and new subscribers. In other words, we have not chosen works that have proved commercial and professional failures for the publishers, and therefore costing little or nothing (and worth no more), but we have selected the freshest, best, and most authoritative textbooks. Moreover, to prove that our motive is not solely to gain an increased circulation of our JOURNAL, we have made it possible for old subscribers to secure the bargains. Those who have remitted the yearly subscription price of the JOURNAL in advance since January 1, 1900, or who shall do so in the future, may make their selection from the list. The plan is an earnest of our declared purpose that our JOURNAL stands for the dissemination of the most and the best medical literature at the least possible expense to the purchaser. The JOURNAL itself is furnishing more than twice as much matter at $3 as some of its competitors at $5. It now gives its friends the opportunity to save the entire subscription price, and even twice or thrice this amount, by ordering from us the books which should be in the library of every practitioner.

"The Medical Trust," is the name applied to the regular profession by osteopaths, (un)Christian (non)scientists, and all the multifarious swarms of antimedical ranters and ignoramuses. Nothing more strikingly reveals the psychologic make-up of these people and their rank demagogery than this charge of "monopoly" and "trades-unionism," with which every second sentence of their writings against us—and all their writing is against us—is filled. We can only wish that our sociologic condition were within hailing distance of the time when there shall be sufficient *esprit de corps* to beget the merest semblance or beginnings of a "trust." Perhaps the "soul of good in things evil" may in this case be found in a reaction against the far better realized unity of the antis. So well-organized are these that we must soon learn that we shall have to abolish the fatal individualism which threatens us with professional extinction. As of old, if we do not hang together we may (if our bloodthirsty enemies have their will) be forced to hang separately.

The Medical Stenographic Reporter.—We call the attention of the officers of medical societies to the special article of Mr. Wessels printed in this number of the JOURNAL. There seems to be a strange indifference to the reporter and the conditions upon which perfect reports can only be made. Every contributing member of a medical society has a personal interest in the report, the society itself as a whole, and beyond these the profession and professional literature are also seriously concerned. But of this everybody seems indifferent. Before the sessions begin the officers should see that proper arrangements have been made. It is not uncommon that the reporters and officers are placed behind the speaker when he faces his audience, whereas they should never be there, and the reporters' table should always be near, either in front, or at the side of the speaker. The caution as to speakers' names is most timely. The presiding officer should never fail to announce them in advance, and so distinctly that every one in the room can hear his voice. They should also be written on a blackboard placed so that the reporter can see it as well as the audience. Every speaker should be compelled to come forward in front of his audience, regardless of protest and modesty. The reporting of our scientific meetings has produced a distinct class of stenographers, and the inherent difficulties of their important tasks should be lessened as far as possible, not only for their sakes, but for our own.

"400 Per Cent. Clear Profit."—One reason why the nostrum-business will not down and why large bribes can be paid to willing doctors to exploit secret preparations is illustrated by an advertisement appearing among "Business Opportunities" in a highly reputable and widely circulated morning newspaper published in a large city. In this advertisement $50,000 are sought "to further advertise a Popular Proprietary Medicine already having a large sale; many astonishing cures; there is 400% clear profit." This is even better than many monopolies offer.

A disgusting exhibition of greed is made by a paper, the *Youth's Companion* (the New England edition

of February 15, 1900), which devotes its appropriately yellow covers largely to nostrum advertisements. One entire outside page is given over to *What the Doctors say* of "Ayer's Cherry Pectoral." Who these 42 "doctors of medicine" are, and what kind of characters they have, we do not know, but for professional representatives, we caution the editors of this "family newspaper" that they should make more careful and diligent inquiries. "Cough balsams," headache, sore-throat, epilepsy, and stammeriug cures, "Kings of Pain"—such are the things recommended by the formers and educators of the characters of the American youth. Two revolver advertisements also show that these wise guides take it literally that they are to teach the young idea how to shoot. Does this paper go into the family of a single physician? We trust not!

Railway Hygiene and Sanitation is a matter to which little attention has been devoted in the past. Such matters as the imperfect ventilation of coaches, the avoidance of draughts of cold air in winter, lessening the dirt, dust and cinders, and avoiding contagious diseases are, or at least should be, matters of direct personal interest to a large number of people. W. W. Grant (*Journal American Medical Association*, February 17, 1900), surgeon of the Chicago, Rock Island and Pacific Railroad, describes the conditions which he has found on investigating these matters, and suggests some needed improvements. The State Boards of Health, the American Public Health Association, and the General Baggage Agents have formulated rigid rules governing the transportation of dead bodies, but aside from this there seem to be no regulations with regard to railroad hygiene. Grant tells of two cases which recently came to his notice illustrating the necessity of more positive action to protect the public against infectious diseases during railway travel: A patient with scarlet fever lay in the berth of a Pullman coach all day, exposing every one to the disease, to say nothing of those who might occupy the berth soon after, while a patient with advanced tuberculosis, too feeble to sit up, was constantly coughing and expectorating in a berth specially prepared for her. On correspondence with the authorities of the Pullman Company it was found that no printed instructions or regulations are given to employes relating to hygiene, protection of patients from contagious diseases, nor in reference to car-cleaning. Instructions were issued in 1898, however, that all cars running into Colorado and California should be fumigated at least once a month, presumably because of the large number of consumptives traveling over those lines. Grant states that the present method of cleansing cushions, blankets, etc., is by compressed air forced through a hose with a nozzle. Dust and loose dirt are thus effectually removed, but this does not meet the indications as to disease-germs. Blankets are seldom washed, and no systematic effort is made at fumigation. Grant suggests a valve-like arrangement of ventilators, to regulate the air-supply, which is usually much influenced by the motion of the cars; a fine wire screen arrests coarse dirt and cinders, and provision is made to prevent direct currents of air on the passengers. Complete combustion of fuel and smoke would do much to remedy the evils of dust and cinders, while sprinkling the road-bed with crude petroleum prevents much dirt arising from that source. Grant believes the time will come when special compartments will be furnished for patients with contagious diseases. At present the one considerate course for railroad companies to pursue and the only safe one for the public, is to clean carefully and disinfect all the coaches and furnishings with every trip.

The Statistics of Carcinoma.—Following the lines of Roswell Park's strong argument that carcinoma has increased in prevalence and fatality, Betton Massey contributes to the *American Journal of the Medical Sciences* a collection of statistics from certain American cities. On the face of the figures an overwhelming increase is evidenced. But the very extent of the argument from figures, in itself causes one to hesitate in accepting the conclusions at which he seems to arrive. One cannot help thinking that there is a very substantial basis for the objection already voiced by Dr. Edmund Andrews, of Chicago, that the increase is largely apparent instead of real. No inquiry so far made has been painstaking enough or has sufficiently considered the validity of certain modifying conditions due to modern advancement in surgery. As Dr. Andrews has very truthfully asserted increased accuracy of diagnosis in recent years must be largely responsible for the apparent increase in deaths from carcinoma. Just what percentage of mortality formerly attributed to dropsy, anemia, chronic digestive troubles, senility, and kindred obscure and illy defined causes were really due to carcinoma, can never be known. Certainly the number was very large. Again he has pointed out that the number of persons now living who reach the age at which carcinoma usually becomes operative is much greater than formerly. This is because of the generally increased average age due to lowered mortality from diseases of early life. It seems fair to assume that the unusual increase noted by Dr. Massey in San Francisco since 1866 is very largely due to the fact that the population of San Francisco in 1866 contained an undue proportion of young adults, insusceptible to carcinomatous diseases. Consequently the rate of that city at that time was below the average of most cities; with the attainment of a ripe old age by that element of her population, San Fancisco has not only shown a rapid increase of deaths from carcinoma, but the present total is somewhat in excess of other cities. It would be most interesting to know whether a similar experience has not been the lot of our other rapidly growing western cities, such as

Chicago, Denver, Kansas City, Minneapolis, and St. Paul. If the supposition is correct then San Francisco and cities similarly influenced should show a small but definite decrease of mortality during the next decade or two. All the arguments thus far presented by either side to the controversy have failed to take note of the proportion of imported carcinoma fatalities in large cities. The hospital facilities to be found in cities are responsible for the gathering in them of very many persons from small towns or from the country districts. These people contribute an undue proportion to this mortality of every large city, and no statistic argument can be accepted as valid until they are reckoned with and excluded or in some proper manner offset. The important thing in connection with the whole discussion is that we must realize the very many factors that influence a final verdict. That final verdict must be long delayed until all the evidence is in and carefully analyzed.

Dark Meats, White Meats, or Less Meat?—The opinion has been generally prevalent, not only in the medical profession, but with the general public, that light meats are more easily digestible, that they contain less of deleterious constituents than the dark meats, and that therefore they are better suited for the nourishment of sick people in general, and for those suffering from gout, uric-acid diathesis and certain forms of kidney disease in particular. This supposition was based no doubt upon the statements which may be found in medical literature, that the dark meats contain very much more nitrogenous material and extractives than the light meats. In numbers 43, 44, and 49 of the *Berliner klinische Wochenschrift*, Offer and Rosenquist publish the results of a series of careful analyses which do not agree with those of the older analyses. They show some of the fallacies of previous investigators, and come to the conclusion that while the white meats of poultry, fish, etc., do in certain cases contain less nitrogenous and extractive materials, the average amount does not differ greatly enough in the white and dark meats to make either preferable. In concluding their article they state that if it is desirable to limit the amount of these deleterious food-constituents, we may accomplish the result much more certainly by limiting the amount of meat taken rather than by forbidding dark meats.

It is a well-known fact that almost all the food materials contain a proportion of waste matter, and this is desirable; most foods also contain constituents which in large quantities are deleterious, but in smaller quantities may be beneficial. The extractives of meat, among the more important of which are lactic acid, butyric acid, acetic acid, etc., are by no means harmful if taken in small quantities as is ordinarily the case, and the same is true of the nitrogenous constituents. There can be little doubt, however, that these constituents do have a bad effect among certain people who eat large quantities of meat, and this evil is without question more prevalent in America than in almost any other part of the world. It arises from the fact that the meat-supply is comparatively large with us, and the people are relatively prosperous and can afford to buy larger amounts of meat than people of most other nations. Three heavy meat meals in a day is nothing unusual among certain classes of people, and on nearly all of the bills of fare of leading restaurants and hotels the list of meats is as great or greater than that of vegetables. We would not decry the use of a reasonable amount of meat, but believe that disorders arising from uric-acid diathesis would be less frequent if we were accustomed to use the meats less freely.

The Epidemic Dysentery of Japan.—Dr. Stuart Eldridge has submitted to the Surgeon-General of the Marine-Hospital Service an interesting report (*Public Health Reports*, January 5, 1900) on the severe epidemic of dysentery which has been prevailing in Japan for the past twenty years. Beginning in 1878 in the south the disease has gradually spread from island to island until it has invaded practically the whole extent of the Japanese empire. It has been attended by a very high mortality and this mortality throughout the whole epidemic has been remarkably constant. The total number of reported cases is 1,136,096 with 275,308 deaths, the percentage for the whole period being 24.23. In some periods the mortality has risen as high as 27%. So far but little success, according to Dr. Eldridge, has attended the efforts of the officials to control the disease or to limit its extension. Recently the General Government has taken the matter out of the hands of the local authorities, and in consequence the prospect of thorough sanitary control is brighter. The chief difficulty in Japan, as in so many other oriental countries, is the absolute ignorance and indifference of the populace. The people pollute the streams by throwing the dejecta into them, and then drink from these contaminated sources. It is gratifying to know, however, that the Japanese, who are reputed to be a bright people, are beginning to appreciate the fact that the sanitary regulations of the Government are for their good.

The disease itself is evidently a virulent form of bacterial infection. It is attended by bloody and purulent discharges, which are the evidences of an acute catarrhal and ulcerative process in the colon and rectum especially. A nervous type of the disease is seen, in which the patient is overwhelmed by systemic intoxication. The Japanese pathologists, Kitasato, Shiga, and others, have studied the disease with scientific care and accuracy. Shiga has published in the *Centralblatt für Bacteriologie*, Band xxiv, the results of his studies. He believes that he has found the specific cause of this epidemic in a short rod of about the same size as the bacterium coli communis and morphologic-

ally very similar to the bacillus of typhoid fever, but not identical with either. Shiga has prepared an antitoxic serum which has proved successful, reducing the mortality as low as 8%, while hospital cases under the ordinary medicinal treatment were giving a mortality as high as 37%. The cost of the serum is the great obstacle to its extended use. Dr. Eldridge, in conclusion, states the reasons for believing that this epidemic dysentery is distinct from both plague and cholera; it is also not to be confused with ordinary amebic dysentery.

Progress in Medical Education.—At the meeting of the Allied Scientific Societies held recently in New Haven, one of the principal topics the subject of general discussion was laboratory instruction in colleges and professional schools. Although the growing importance of laboratory instruction has been recognized for some time, no more rapid adjustment to such methods has been found in any class of schools than in that of medicine; indeed, the laboratory idea has begun to dominate medical teaching to such an extent that in so far as they are applicable, its methods, not only in letter but in spirit, can be seen exemplified in the modifications which the teaching of clinical subjects has undergone.

As compared with the methods of teaching clinical medicine in vogue some years ago, the present methods of our best medical schools are little short of revolutionary. The main stress in teaching is directed to small groups of students who are brought into direct association with patients, and afforded opportunities for the practical study of disease by taking the history, examining the patients, forming independent judgments with regard to the diagnosis, assisting at operations, etc. But that greater benefit may be reaped the student is tested in conferences, where the cases are reported, papers on assigned subjects read, and the quality of his knowledge generally ascertained. The laboratory method and the personal attention have also been considerably extended in the teaching of anatomy, physiology, and chemistry. The development of anatomy along the lines of embryology and histology has necessitated as great changes in the modes of instruction as at present obtain with regard to physiology, which in recent times has been brought from a didactic to a laboratory basis. In the domain of chemistry which, but a short time ago, consisted largely of inorganic chemistry, expansion has been equally great—more particularly on account of the large amount of attention chemical physiology and pathology have demanded and received. Many of us who graduated but a few years ago hardly appreciate the alterations recently inaugurated. Such changes indicate a change from stationary homogeneity to progressive heterogeneity and bring the conviction that the better the preparation for medical work on the part of the prospective student, the better must be the quality of work provided by the medical school.

But it is not only in undergraduate work that changes indicative of progressiveness are taking place. In certain medical societies, the great field for postgraduate study for the body of medical men, equally important alterations are being inaugurated. The joint meetings of allied scientific societies, already alluded to, is a most hopeful sign. The Pathological Society of Philadelphia, at a recent meeting so amended its constitution and by-laws as to provide for the election to active membership of a limited number of those not necessarily physicians, but interested in allied subjects, such as biology, veterinary medicine, dentistry, etc. The University of Pennsylvania Medical Society, the organization of which was noted recently in our columns, is designed for the promotion of medicine and allied sciences, and it is hoped to enlist actively the cooperation of all attached to the medical, biological, dental, and veterinary departments, the University Hospital, the Veterinary Hospital, the Laboratory of Hygiene, and the Wistar Institute of Anatomy and Biology. All these facts, as well as the establishment a few years ago of chairs of comparative pathology in the University of Buffalo and Harvard Medical School, indicate a wide appreciation of the necessity for change, and are signs most hopeful for the future of medical science.

Operation for Tumors of the Spinal Cord.—It is curious in view of the extreme accessibility of the spinal cord that the surgeon has attempted so few operations upon it for the relief of various pathologic conditions. The brilliant operation following the equally brilliant diagnosis of Gowers in 1885, with the excellent result that ensued, seemed to indicate that spinal tumors, particularly those pressing upon but not involving the cord, would probably become matters of small importance provided they were not malignant in nature. But the subsequent results of this operation, which has been performed relatively very few times, do not seem to confirm this expectation. Altogether, Bruns has been able to collect 20 cases with beneficial results in only 6. The operation is comparatively simple when carried out under antiseptic or aseptic precautions, and entails practically no danger upon the patient excepting that of the anesthesia, and the results obtained, although not promising, certainly justify its more frequent performance in view of the absolute hopelessness of all other methods of treatment. It is refreshing, therefore to find that Schultze[1] has been sufficiently courageous to hazard the diagnosis and insist upon the operation in two cases of this condition, in both with excellent results. The first patient, a woman of 49, after a variety of symptoms, possibly neurasthenic, or hysteric in nature, gradually manifested

[1] *Zeitschrift für Nervenheilkunde*, vol. xvi, No. 1, December 7, 1899.

the syndrome of compression of the spinal cord, that ultimately assumed the type of complete spastic paraplegia. In addition, there was hypesthesia, but never dissociation of sensation. At the operation, a tumor was found extending from the fourth to the seventh dorsal vertebrae, lying between the spinal column and the dura, which was removed without difficulty. Immediately after the operation, and for a period of over a week, the symptoms were much worse than previously, but from this time gradual improvement occurred, and the patient, in the course of months, became able to resume her occupation and to walk freely. The second patient, a man of 28, presented essentially the same symptoms of spastic paraplegia, without any signs of deformity in the spinal column. An incision was made through the sixth dorsal vertebra, and a tumor found lying between the dura mater and the spinal cord that was readily removed. Again, in this case, the symptoms were considerably worse immediately after the operation; in fact, what had been really paresis now developed into an almost total paraplegia, although the sensory disturbances were not any more severe. From this time, however, the patient gradually improved, and in the course of some months had practically completely recovered, being able to work at his trade as gardener. These two cases, as Schultze remarks, make a considerably improving addition to the statistics of the operation, and lead us to believe that, when more attention is paid to the diagnosis of spinal tumors by general clinicians, these growths will be found quite as successfully and as readily removed, providing, of course, that they are extramedullary, as tumors in any other part of the body. In fact, in view of the utter hopelessness and misery of expectant treatment there is every reason why an operation should be performed, and particularly why it should be performed early, although the power of recovery from pressure upon the spinal cord appears to be very much greater than experiments have led physiologists to suppose.

The Etiology of Carcinoma.—The problems at present awaiting solution in internal medicine and pathology are sufficiently numerous and sufficiently important to occupy the attention of the entire medical profession for many years to come. Certain of them, however, are apparently of such paramount importance that, could anything be gained by more absolute concentration of effort on the part of the whole medical body, it would seem almost advisable to neglect the others for a time. Thus, in internal medicine, a cure for tuberculosis that was specific and effective, would perhaps confer a greater benefit upon the human race than anything hitherto done for it by medicine. In pathology, there are at least two subjects of great and serious interest, the etiology of carcinoma and of syphilis. The former has been repeatedly investigated and the investigations are continued today apparently with unabated vigor, but, as Councilman remarked in an address recently delivered by him, we know nothing more of tumors than we did 25 years ago. It would be some satisfaction to be sure that carcinoma is or is not a parasitic disease. There are many reasons from analogy that would lead us to suspect the affirmative, and the greatest variety of experiments have been devised and performed with the hope of determining this point, but all have been absolutely inconclusive. That carcinoma is to a certain extent contagious, we know from the fact that metastases occur; and that it can be transferred from one animal to another is rendered likely by the results of the inoculation-experiments of Hanau and others; but these do not prove, as has been repeatedly stated, that the secondary growths or the growths following inoculation are not merely the result of continued activity of perverted cells, just as the growth of the epithelium of skin-graft upon an ulcerative surface is the result of continued activity of normal epithelial cells. Numerous attempts have been made to stain parasitic organisms in the cancer-tissue,—Russell with his fuchsin bodies, Pfeiffer with his coccidia, and others entirely too numerous to mention, and all unfortunately have obtained only discordant results. The majority of pathologists believe today that all these cell enclosures are really nothing but the products of cellular degeneration. Cultures have been made from cancer-tissue under all conditions by all methods, but the results are quite as unsatisfactory as those of the microscopic examination. Any quantity of bacteria have been found by some observers, and found repeatedly in different specimens, but the confirmation of any of these results is lacking, and, in fact, all attempts in this direction have been negative and lead only to skepticism. Blastomycytes have been discovered, and occasionally inoculations of microorganisms seem to have given rise to a cancer-like growth, but again confirmation is needed to enable us to put some credence in the results. As for the older theories of the origin of tumors, particularly Cohnheim's, it has been variously modified by subsequent writers, particularly Ribbert and Kahane, but rests upon as scanty a basis as it did in the beginning. In regard to syphilis, we are not quite as much at sea. Practically every one admits that it is a microorganismal disease, and we are merely awaiting some lucky chance, or shrewd design, that will discover to us the peculiar and particular medium upon which the specific microorganisms will grow. Whether this is the bacillus discovered by Lustgarten or whether it is something entirely different, we shall not know until pure cultures can be obtained; and perhaps, when we have found under what conditions the organism can be rendered parasitic for the lower animals, the problem of a speedy and radical cure will not long be unsolved.

Suggestions to Writers, No. 60. The Need of Exactness and Proper Terms in Descriptions is illus-

trated in one way or another in almost every contribution to medical journals. "As big as a walnut," or "a fist," "an orange," a "croquet ball," etc., are terms used of tumors, cysts, etc., instead of inches or centimeters. Every man has an approximate inch measure in his thumb, and inches divided by 0.4 give centimeters near enough for practical purposes in many cases. The descriptions of the feces, of pus, and of sputum often seem calculated to make even doctors disgusted with food, and to banish forever pea-soup, rice and sago, starch puddings, prunes, egg-sauce, and other such things from the dining table, and the dietary of sick and well. Surely these things need not be if clinicians are not color-blind. In a recent article the motion of a wheel in a machine-shop was described as "revolving with the hands of a watch." Was the plane of revolution horizontal?—one is compelled to ask. If so, of a watch face down, or face up? In describing anything we should ask ourselves if all others will surely understand the terms we use. All fists, oranges, pecans, walnuts, finger-breadths, etc., are not of the same size, all ordinary colors have accurate names, and the various degrees of fluidity, viscosity, and solidity may be appropriately designated without making the gorge rise in rebellion. A color-chart and a pocket-rule should be included in every physician's outfit.

Medical Sermonets, No. 13. Egoism or Meliorism.—The old terms pessimism and optimism have become meaningless and useless. No one now believes that this is either the best or the worst of possible worlds. The question of a man's attitude toward the universe or toward society has shifted from that of absolute dissent or assent, and is now based upon what may be called egoism or meliorism. That things are bad all but the sillies admit; that they are not hopelessly bad all but the stupids admit; that they may be bettered all but the hopelessly corrupt will assert. The crux of the whole matter is therefore the active adoption or rejection of the doctrine of meliorism. This is the test question as to the worth of a man's character and the value of his life. This in fact is the essence of the whole matter either as to religion or ethics. For we have long outgrown the judgment as to creeds. A professing Christian even of an honored life may be at heart a deplorable wretch, and an atheist may be the best of men, or the reverse; and this is true because the faith assented to may not lead logically to correspondent living. In religion and morals it is as to the vital and motived action that we have to inquire, not as to clothing and assumed life. Is the rich man, the lawmaker, the president, the lawyer, the minister at heart a self-worshipper and self-seeker, or is he devoting some tithe of his energies, some excess of life, to altruistic objects? All his religion, all his success, all his power, are as naught and worse than naught if his vital faith is egoism; all his failure and uninfluence are glorious and richly effective if it is meliorism.

If this is true as regards men in general life, it is, of course, true as regards physicians. The cure of individual disease is and remains the physician's business, and by it he lives, and so far his work corresponds to that of the trade, occupation, or profession of ordinary men. As he does it well or ill is he a good or bad craftsman. But he can do it as well as the best and still remain essentially an egoist and self-seeker. With him as with the trader, if his life does not look beyond this aim, if he has not, nor seeks to have, any influence upon and relation with his profession and with the world beyond this,—then he remains essentially a disciple of the religion of egoism. It is true there is a beautiful altruism as it were implicate in the individual cure that serves to dignify and ennoble the work of the medical man, and that not seldom draws men out of their innate and natural selfishness, and that marks our profession with a purity and beneficence more than that of others. But this will by no means transmute the personal life and character of a physician in the way that a vivid and hearty acceptance of the religion of meliorism will do. The *unum necessarium* for him as for every one is to place, if not his life (this is quixotism in our world and for the most of us), then some of its relations, some of its excess of energy, at the service of the world, and in such a way as to better the world. The degree to which this may or must be done will depend upon individual power, intellect, and opportunity, but it may be assured that not even the humblest has any right to refuse some (and most, many) relations to professional and public ends. Every doctor is a citizen with taxes to pay, and hence with the citizen's relations to his community, to his State and to his nation. As little as such may be assumed or enlarged, they exist. But to the health of his town and State and nation he has a direct and professional duty to perform, for which his intellect and training enable him to be of a peculiar and distinctive service. To his profession, however, he owes the chief part of his melioristic energy, and as he accepts or rejects this duty is he an honor and a benefactor. The strange habit of the age is a stupid and contemptible contempt for medicine and medical men, and when we come upon the scene we find that our world has inherited much of this disdain. It is often ludicrous and it is always short-sighted. The best proof of it is the century-long warfare we are waging against the greatest evils of the world, and yet the appalling vogue of quackery, and the sympathy of the world for all the antis of medicine. We have a daily fight against law-making in the interests of every breed of quack the imagination can conceive, against the very foundations of public sanitation and preventive medicine, vaccination, vivisection, and the rest. Now the first duty of every physician is to help in this professional battle, not passively, but actively, and he cannot help unless he unites with medical societies and brings his influence to bear through these upon the law and its execution. Even when this can be done but partially and slowly, there remains a great field in which the physician's religion of meliorism may find work to do. He can cast his influence against a hundred forms of debasement and quackery within the profession, against the nostrum-shame, against the commercialization of his medical journals and literature, against the newspaper-doctor, against the lethargy which permits a hundred abuses that might be made to vanish before his earnestness and good will. To join the church of the meliorists is to link one's life to that of humanity and to attain professional immortality.

Antirabic Inoculation in Berlin—During 1899, the number of persons treated in the Berlin Antirabic Institute was 384. All these had been bitten by rabid dogs and cats. Of the whole number 6 died. Among these were 3 men who came to the institute after the disease had already developed.

Correspondence.

)NCERNING THE GROWTH OF THE FINGER-NAIL.

) the Editor of THE PHILADELPHIA MEDICAL JOURNAL:

IN view of the French observations on the growth of ıger-nails (noted on p. 149 of the current volume of the)URNAL, January 20, 1900), the following may be of some in- rest: While opening a box on July 31 last, a small nail punc- red the upper visible border of my thumb-nail, also nicking e skin. The resulting scar in the nail has, just now, Feb- ıary 6, reached the lower border of "the quick." The dis- nce being precisely one centimeter and a half, and the me 190 days, while I am 58 years old, but in fair physical)ndition. This is 31 days longer than the longest you have)ted, and over double the shortest (88 days). Of course we ıould expect wide ranges of difference—the most important ctors being individual vitality and climatic conditions.

A. R. B.

LOCOMOTOR ATAXIA.

BY FRANK E. SIMPSON, M.D.,

of Chicago, Ill.

o the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE read with considerable interest Dr. David S. Booth's :port of "Locomotor Ataxia. Recovery in a Case Repeat- lly so Diagnosed," published in the PHILADELPHIA MEDICAL)URNAL, on page 359, of the issue of February 10, 1900.

Without desiring to be captious as regards the diagnosis ; Dr. Booth, and the "several neurologists of more or less minence," who believed it to be a case of locomotor ataxia, would merely like to ask if the features in the case so well)served and described are not amazingly like those of ysteria?

The history of injury and of sudden hemiplegia, involving ıe same side of the body that had been injured; the sen-)ry and psychical phenomena; the absence of certain ssential features of locomotor ataxia; and, above all, the ıarvelous recovery would lead one, viewing the case in erspective, to surmise that a classification of this case as ne of traumatic hysteria might serve a useful purpose. Iay I inquire through the medium of your valuable corre-)ondence columns upon what evidence the minority of the rofession bases its belief in the curability of locomotor taxia?

KIRKE'S HANDBOOK OF PHYSIOLOGY.

'o the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN 1896 I had to call attention to the fact that Messrs. Wm. Vood & Co., of New York, were publishing an unauthorized dition of Kirke's well-known Manual of Physiology.

I have recently obtained a copy of the fifteenth edition of heir work bearing date 1899, and having on the title-page he names of Mr. Morrant Baker and Dr. Vincent Harris as ditors.

The facts are as follows: Mr. Morrant Baker (who is now ead) and Dr. Vincent Harris gave up the editorship of the enuine work four years ago, and even before that time Iessrs. Wood never had permission to use their work or heir names. Since 1895–96 Professor W. D. Halliburton has)een sole editor of the handbook; he has almost rewritten the work from beginning to end, although Kirke's name has been retained.

One of the special features of our book is a series of colored illustrations of blood-corpuscles, blood-crystals, etc. These, together with many alterations and improvements, both in cuts and text, which have been introduced by Professor Halliburton, have been adopted by Messrs. Wood without any acknowledgment of the source whence they were derived, and in the teeth of a protest by Professor Halliburton and myself (who am the proprietor of the book).

Not only have Messrs. Wood "conveyed" a large amount of Professor Halliburton's original work, but they have also issued their book under the name of Mr. Morrant Baker and Dr. Vincent Harris, who have nothing to do with it.

I think it is but right that I should again call the attention of the American medical profession to this glaring and persistent case of literary piracy, for the present U. S. law gives me no other redress.

The only authorized and complete edition of Kirke's Physiology sold in America is that published by Messrs. P. Blakiston's Son & Co., of Philadelphia, in conjunction with my firm. I am sir, yours faithfully,

50 Albemarle Street, JOHN MURRAY.

London, W., February 8, 1900.

THE PRIVATE PHYSICIAN AND EDITORIAL CRITICISM.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

As bearing on a recent editorial in the *Medical News* which, in my estimation, resolves itself into an unwarranted personal attack, I desire to have this correspondence recorded, which will show the futility of my efforts to obtain from the editor of the periodical in question any form of redress. These copies of the original letters will doubtless explain themselves:

I.

GALLIPOLIS, O., January 23, 1900.

DR. J. RIDDLE GOFFE, New York.

Dear Dr. Goffe:—May I ask of you the author of the editorial in the last number of the *News*, on "Fads in the Study of Epilepsy"?

Very sincerely yours,

A. P. OHLMACHER.

II.

To the Editor of the *Medical News*.

My dear Sir:—Receiving no reply to my letter of January 23, 1900, asking of you the author of the editorial in the *News* of January 20, 1900, entitled "Fads in the Study of Epilepsy," I wish to record this protest against what appears to me manifest unfairness on your part.

I complain that you, the editor of a presumably fair and reputable medical journal, should open your *editorial columns* to an unscientific and undignified personal attack, such as the article in question proves to be, thus sheltering its author by the anonymity of an editorial.

Very sincerely yours,

A. P. OHLMACHER, M.D.

The Ohio Hospital for Epileptics,
Gallipolis, O., January 23, 1900.

III.

GALLIPOLIS, O., January 31, 1900.

DR. J. RIDDLE GOFFE, New York City.

Dear Doctor:—I herewith submit a communication bearing on a recent editorial in your journal, and I respectfully request that you insert it at once, providing you decide to publish it. Should you conclude not to insert it, will you please notify me promptly?

Very truly yours,

A. P. OHLMACHER, M.D.

Ten days later this letter was received by me:

IV.

NEW YORK, February 8, 1900.

DR. A. P. OHLMACHER,

Ohio Hospital for Epileptics, Gallipolis, O.

Dear Doctor:—Your favor of recent date, with enclosure for publication, duly received. I am unable to give place to your communication in this week's *Medical News*, but will do so in the issue of February 17. Very truly yours,

J. RIDDLE GOFFE.

That Dr. Goffe has failed to keep this tardy agreement anyone can see by consulting the *Medical News* of February 17.

Very respectfully yours,

A. P. OHLMACHER, M.D.

Gallipolis, O., February 19, 1900.

CREMATION.

BY J. M. SHAFFER, M.D.,

of Keokuk, Iowa.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

WHAT disposition does your city make of the 500[1] people who die in it (and out of it) every week—25,000 a year? You bury them, 4,000 on an acre; that demands 7 acres a year. Where do you find the ground? Ah! where will you find it in a very few years hence? You, perchance, bury your dead in layers, one on top of the other, as is the necessity 300 miles west of you, and only that far distant. Your JOURNAL is emphatic and prominent in its ethics, in medicine, in political economy, in sanitation, in its morals throughout, in its every feature. But what will you do as an educator—and you are potent in that, in the medical profession of the country,—as to getting rid of the dead? That is a question that confronts your city, yourself, me, and everyone. Shall you enlarge your cemeteries? Shall you further pollute the air we breathe and the water we drink by burying the 25,000 dead every year? Shall you cultivate the utterly senseless sentiment of tombstones, and burying grounds, and epitaphs, and that immeasurable nonsense of "keeping alive the memory of the dead" by any sort of external environment? Shall you, and your city, some day, and that not far off, dig up the bones in Laurel Hill and elsewhere, and house them in the worked and abandoned coal mines along the Schuylkill, even as the idiotic Romans filled old quarries with the bones of the millions dead and forgotten; or Paris filled its subterranean caverns with millions more because these bones had to give place to other millions dead? What will your city do with its 25,000 dead every year, and its constantly increasing number? Your city cannot afford to furnish acres for burying the dead. These acres are for the living, for their work, and use for trade and growth; they should not be polluted by the dead. All cemeteries are a waste and a menace. Whether Arlington or Père la Chaise, or Mt. Auburn, or the "God's Acre" hard by every village, they are the sublimation of an irrational sentiment. Why do people bury their dead? To get rid of them. How long do people care for the dead after they are buried? Being purely a matter of emotion, it lasts as long as the sentiment lasts—a month or a dozen years.

Your city should begin to be educated to burn its dead. So should every other city and town, and neighborhood. Cremation is certain to come. The thought and the act grow slowly but surely. Of the 1,000,000 dead in the United States in 1899, only 9,000 were cremated, or 1 in 1,000. That is a splendid growth in 30 years. There is not a single argument against cremation that has not been answered. There is not a single argument for cremation that has not been answered. Dr. Samuel D. Gross, the greatest of surgeons in his day, author, teacher of thousands of medical men—understood it. He did not care for any greater monument than his own work and duty, and he had his body cremated as a useless thing. And Professor William Pepper, known like Dr. Gross, as teacher, scholar, author, all over the earth, he understood it also, and with the courage of his conviction ordered his body to be incinerated. It was done. No need of a graveyard or monument for such men as these, or for anybody else. For all substantial reasons these, our teachers, were cremated; for all reasons, too, you, your city, should make like provision, when it is said of one, he is dead.

Farewell to all ghastly and ghostly burying-grounds with their mockery of tombstones and epitaphs, and that stuff; and hail the day, when a body is dead, it shall be burned to ashes, and these ashes kept if desired in a columbarium, or in the home, or scattered to the winds. Better so than piled up in hideous and revolting shapes in catacombs; or mummified and after the ages carried across the seas, and ground into dust as fertilizers; or buried to pollute the earth. "Dust thou art and unto dust shalt thou return."

Cremate your 25,000 dead in Philadelphia every year! Reduce these dead in an hour, instead of submitting them to the slow combustion of "Cold corruption, earth and worms," lasting for years. You and all must come to it—dust. Let it be by the refining fire of an hour. Your city must look the problem squarely in the face. There is but one rational solution: Cremate your dead.

Twenty years ago I contracted with the Le Moyne Crematory at Washington, Pa.—the first erected in the United States—for the incineration of my dead body. My living friends give me the assurance that it shall be done. Not at Washington, Pa., my birthplace, perhaps, but at Davenport, Ia., or St. Louis, Mo., where there are facilities for cremation that for the present meet all demands.

And begging indulgence for personal mention of myself, I remain yours,—for truth, that which seems to be highest and best.

[1] All figures in this paper are in round numbers, approximate only.

Surgical Operations on Lunatics.—J. Paul Bush (*British Medico-Chirugical Journal*, September, 1899) reports 5 cases of lunatics on whom he performed surgical operations. The first was that of a young woman whose mind had become unbalanced, it was thought through disappointment, and who had been under restraint for 3 years. Two badly ingrown toenails were removed, and she completely recovered her mental condition within 3 months. The second was that of a man 70 years old, who was suffering with cystitis and dysuria. A stone in the bladder was discovered. Suprapubic cystotomy was performed. He was cured of this mental malady within 6 months. In the third case a woman had been in an asylum for 2½ years with melancholia and suicidal impulses. Six months previous to operation she began to have retention of urine and menorrhagia. She became anemic and a large fibroid of the uterus could be made out. An operation per vaginam removed this, and she made a complete recovery, mentally and physically, and was discharged from the asylum after 6 months. [M.B.T.]

Reviews.

ompend of the Practice of Medicine. By DANIEL E. HUGHES, M.D., Chief Resident Physician, Philadelphia Hospital; Physician-in-Chief, Insane Department, Philadelphia Hospital. Sixth Physicians' Edition, Thoroughly Revised and Enlarged, Including a Section on Mental Diseases and a Very Complete Section on Skin Diseases. 12mo; 625 pages. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price, $2.25.

l the good qualities of the first five editions of this work ontinued in the sixth edition. The work is well done, it mpact and very available for rapid reference. It aims he practical. A description of each disease is given, ding the definitions, etiology, pathology, symptoms, nosis and treatment. Surgical diseases, ophthalmology obstetrics, gynecology are not treated, the volume deal- hiefly with fevers, diseases of the abdominal organs, and e respiratory system; nervous diseases and diseases of spine. It is well printed, and bound in a flexible cloth gilt edge. It is a practical, synoptical work, suited to needs of the practitioner, and is an excellent review of ects coming within the province of the physician.

nders' Question-Compends, No. 4. Essentials of Medical Chemistry, Organic and Inorganic; containing, also, Questions of Medical Physics, Chemical Philosophy, Analytical Processes, Toxicology, etc. Prepared especially for Students of Medicine. By LAWRENCE WOLFF, M.D. Fifth edition, thoroughly revised by Smith Ely Jeliffe, M.D., Ph.D. Published, 1899. Philadelphia: W. B. Saunders. Price, $1.00 net.

the tenth edition of Wolff's Essentials of Medical Chem-, the chief change has been in the chapters dealing in discussion of physiologic chemistry. Those parts deal- with physics and inorganic chemistry have been but tly altered. There is much additional matter in the ter dealing with organic chemistry. New facts of vital ortance have been rapidly accumulating, and these are fly outlined, particularly as regards the knowledge of the nical constituents of the human body. The volume is nged in question and answer style, and will doubtless be reat value to students.

e Urine and the Clinical Chemistry of the Gastric Contents, the Common Poisons, and Milk. By J. W. HOLLAND, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Sixth Edition, Revised and Enlarged. 12mo, 41 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price, cloth, $1.00 net.

his laboratory manual, designed for the use of the practner as well as of the student, has reached its sixth edi-, revised and enlarged. It contains a vast amount of rmation in a most compact form, and is interleaved with nk leaves for memoranda, although all that is necessary in ief course of study is given in large type. Ample provision nade for more thorough study by the explanations and ntitative processes given in small print. The volume is tly bound in cloth, and in form convenient to the pocket handy for reference. Dr. Holland's book will command arge sale, not only among the students directly, but ong all interested in the medical education.

actical Text-Book of Midwifery for Nurses and Students. By ROBERT JARDINE, M.D., Physician to the Glasgow Maternity Hospital, Glasgow. With 36 illustrations. 238 pages. New York: The Macmillan Co. Price, $1.50.

This little volume is based on the lectures the author has ivered to the nurses in the Glasgow Maternity Hospital; l although it is intended primarily as a textbook for rses, yet it is a valuable book to place in the hands of medical students and young practitioners. The writer has secured the best results from the aseptic rather than the antiseptic methods in his obstetric work, and has laid down strict rules for the observance of these methods. The splendid instruction which has of recent years characterized the training of nurses can be aided and supplemented by the employment by teachers and directors of training schools of this little volume. The meddlesome midwife and nurse of the Sarah Gamp type cannot be too quickly rendered extinct; and this can best be done by sending out numbers of well-trained scientific nurses. The obstetric nurse, particularly, requires firmness, watchfulness and self-possession. The first principle she has to learn is what is meant by surgical cleanliness or asepsis, and if she fails to grasp this principle she will never be successful; while, on the other hand, if she carries it out fully, she may confidently expect good results. We thoroughly recommend this work as an aid in securing this desirable end.

A Practical Treatise on Diseases of the Skin, for the Use of Students and Practitioners. By JAMES NEVINS HYDE, A.M., M.D., and FRANK HUGH MONTGOMERY, M.D. Fifth and revised edition. Illustrated with 111 engravings and 24 plates in colors and monochrome. 863 pages. Philadelphia and New York: Lea Brothers & Co. 1900.

In this revised edition of Dr. Hyde's well and favorably known work are found new chapters on porokeratosis, and the rare but important disease which, for want of a better name, is generally designated blastomycetic dermatitis. The chapters on General Etiology, General Therapeutics, Eczema, Purpura, Alopecia, Lupus Erythematosus, Granuloma Fungoides, Xanthema, Pellagra, Impetigo, Dermatitis Herpetiformis, and several other diseases, have been considerably changed or enlarged from previous editions. We also note new and original illustrations throughout the work. The author's long and wide experience with skin diseases and the noteworthy care taken in the preparation of the pages go to make the book one of great value to all interested in the study of the subject. If any criticism were made, it would be on the lines that the authors do not give enough of their *own views and experience*—especially as to etiology and therapeutics. The especial value of a work devoted to a specialty is the author's *own* experience rather than that of other authorities, however valuable the latter may be. We commend the work most cordially to both students and practitioners, but especially to graduates in medicine.

Therapeutic Electricity and Practical Muscle-testing. By W. S. HEDLEY, M.D., M.R.C.S., Eng., in charge of the Electro-therapeutic Department of the London Hospital. With more than 100 illustrations. 8vo, pp. ix, 278. Philadelphia: P. Blakiston's Son & Co., 1900. Price, $2.50.

There are in medicine few specifics and no panaceas. No restrictions as to source are placed upon the selection of therapeutic agents. All force must after all be referred back to the "nature" from whence it sprung. We may be able to do things whose mechanism we are unable to explain. Want of knowledge is the parent of mystery. Bearing these considerations in mind it becomes possible to rate electricity at its proper value as a therapeutic and diagnostic agent. Electricity has certain well-defined uses and applications and with the importance of these it is well to recognize also its limitations. To these ends the volume before us is calculated to contribute. The work is divided into 3 parts, with a brief introduction and an appendix. Part I deals with electro-motive force in its various aspects and the different kinds of currents. In Part II are considered the electro-therapeutic outfit, the human body as a source and a conductor of electricity, electro-diagnosis, the motor points, and the action of muscles and the consequences of their paralysis. Part III is devoted to the therapeutic applications of electricity, as well as its employment for purposes of illuminating the cavities of the body. The presentation of the subject is entirely temperate and satisfactory, and it should aid in the better understanding of a subject often surrounded by much lack of precision and perhaps not a little superstition.

The Surgical Diseases of the Genito-Urinary Tract, Venereal and Sexual Diseases. A Textbook for Students and Practitioners. By G. FRANK LYDSTON, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois; Professor of Criminal Anthropology in the Kent College of Law; Surgeon-in-Chief of the Genito-Urinary Department of the West-Side Dispensary; Fellow of the Chicago Academy of Medicine; Fellow of the American Academy of Political and Social Science; Delegate from the United States to the International Congress for the Prevention of Syphilis and the Venereal Diseases, held at Brussels, Belgium, September 5, 1899, etc. Illustrated with 233 Engravings. 6½ x 9¾ inches. Pages xvi–1024. Philadelphia: The F. A. Davis Co., Publishers. Extra cloth, $5.00, net; sheep or half-russia, $5.75 net.

Dr. Lydston is a very well-known contributor to medical literature, and a textbook giving in more comprehensive form his views on genitourinary surgery is certain to be welcomed by his friends and pupils. He divides his subject into ten parts, and in the first of these is discussed the general principles of venereal pathology and therapeutics. The chapter on genitourinary and sexual hygiene should be read by every practitioner, it contains much commonsense advice about diet, the use of tobacco and stimulants, bathing, rest, and exercise; matters often overlooked or neglected, but fully as important as medicinal and operative measures in the treatment of disease. Two paragraphs seem to deserve quotation: "The best moral educator for young men is the gymnasium. We may alleviate sexual irritability and excessive desire through the physical system, by giving the patient some occupation that will necessitate muscular exercise, diverting his superfluous nervous energy in the direction of his muscles." "The custom of prescribing virgins for worn-out roués and men suffering from physical ills, infectious or otherwise—conditions for which the patient alone is responsible—is more popular than it should be. Pure women should not be considered as remedial agents to be prescribed solely with regard to the interests of the consumer." Perhaps the latter evil has arisen largely from carelessness on the part of physicians in distinguishing between the more or less imaginary sexual woes of neurasthenic men and real disease. The second part is devoted to nonvenereal diseases of the penis; the third part to diseases of the urethra and to gonorrhea. Lydston believes that, when practicable to employ it, the permanganate irrigation method is best of all in the treatment of subacute cases and acute cases in the declining stage. The use of soluble bougies is considered illogical and injurious; if sufficiently stiff to permit introduction they produce mechanical irritation; it is impracticable to combine germicidal drugs with them in sufficient strength to destroy gonococci, and there is danger of carrying infectious material into the deeper portion of the canal. The same objections apply to the introduction of catheters or other contrivances for irrigation In the part on chancroid and bubo and their complications, preference is expressed for the method of treatment of chancroids by cauterization by the actual or galvanocautery, after thorough cocainization. In the fifth part seven chapters are devoted to a very thorough discussion of syphilis. Lydston believes in the germ origin of syphilis, but regards the bacillus claimed to have been discovered by Lustgarten as yet to be proved. Not all will agree with him in advising the use of mercury before secondary symptoms have appeared. The sixth part takes up diseases affecting sexual physiology; there are six chapters on differentiation of sex; diseases of the sexual function and instinct; masturbation, sexual excess and unphysiologic coitus; impotence and sterility; spermatorrhea, etc. Five chapters are given to diseases of the prostate and seminal vesicles. It is believed that castration for the cure of prostatic hypertrophy is losing ground as a routine procedure. The advantages of early surgical intervention in prostatic disease are urged and several operative procedures are described without preference being given to any particular method. The remaining three parts of the book are devoted to a discussion of diseases of the urinary bladder, surgical affections of the kidney and ureter and diseases of the testes and spermatic cord.

The book is well printed and bound, and there are numerous illustrations, many of them original and of much interest and value. The proportion of space allotted to some subjects seems unnecessarily great, while other matters of equal interest deserve more attention; but while there are a few occasions for criticism and disagreement, the book, as a whole, is worthy of commendation as an adequate and trustworthy guide for the student and practitioner. Its clean moral tone and the interesting style in which it is written deserve special mention.

American Year-Book of Medicine and Surgery By Representative men of the American Medical Profession. Edited by GEORGE M. GOULD, M.D. In two volumes. 1216 pages. With illustrations. Philadelphia: W. B. Saunders. 1900. Price, cloth, $3.00 per vol.; half morocco, $3.75 per vol.

Since issuing the Year-Book for 1899 editorial changes have been made in three departments: Dr. David Riesman has taken entire charge of the section on Pathology, the removal of Dr. Guiteras to Havana rendering necessary his resignation as one of the editors of this department Owing to pressure of other duties, Drs Griffin and Tillinghast have been compelled to give up the department of Materia Medica, Experimental Therapeutics, and Pharmacology Subscribers are congratulated upon securing Dr. Reynold W. Wilcox, of New York, and Dr A. A Stevens, of Philadelphia, as editors. Professor Abel has also found it impossible to continue editing the section on Physiologic Chemistry, and has suggested the engagement of Dr. Reid Hunt and Dr Walter Jones, of the Johns Hopkins Medical School, and these gentlemen have accepted the appointment To make the work less tiresome to hold in reading, as well as for the convenience of specialists, the publisher has issued it in two volumes, a change which will be appreciated by subscribers.

The Schott Method of the Treatment of Chronic Diseases of the Heart, with an Account of the Nauheim Baths, and of the Therapeutic Exercises. Illustrated. By W. BEZLEY THORNE, M.D., M.R.C.P. Third Edition. 8vo, pp. 132. Philadelphia: P. Blakiston's Son & Co., 1899. Price, $1.75 net.

It is, perhaps, a natural human trait in the performance of a duty to select the easiest method, though this may not always be the best It thus comes about that physicians are too often content with the use of drugs, to the neglect of manipulative measures; although there is a possibility of extreme in the other direction. It has been amply demonstrated that the Schott or Bad-Nauheim treatment of chronic diseases of the heart is capable of much good in properly selected cases, but we fear it has not been employed as generally as it deserves to be. Some marvelous results have been described by competent and trustworthy observers, and the principles of the treatment should be better understood and more widely applied. To this end the admirable little manual before us is calculated to contribute. The subject is considered under the following headings: Nauheim and its waters; Baths, therapeutic movements; Conditions that govern the application of the methods; Conditions to which the methods are applicable Conditions not primarily cardiac to which the methods are applicable; The exercises, with detailed description and illustrations; Illustrative cases with diagrams.

Typhoid Fever at St. Cyr.—Much discussion followed a newspaper article which made the statement of a typhoid epidemic in the military school at St. Cyr. Investigation proved no single case, though 18 cadets out of 1,070 had had slight gastrointestinal symptoms, probably due to the absorption of contaminated water for one day. The water supply has been changed, and those patients have recovered. The only illness now is the influenza, which has a few victims in the school, too. Paris is full of it.

Special Article.

DIFFICULTIES OF MEDICAL REPORTING.

By FRANCIS E. WESSELS,
of Philadelphia.
Official Stenographer.

SINCE medical reporting within the last decade has be-me a distinct, progressive, and important science in it-lf, and since precise adaptability of stenographic writ-g to medical terminology has become a permanent ecessity among medical men, in scientific debates, pert medical testimony, etc., it is quite evident that e position of the official medical stenographer is one especial responsibility and dignity. It is on a plane th that of the official court reporter in the essential quirements of accuracy and official record. In fact, om a standpoint of education and nomenclature, the ork of the official medical stenographer must of ecessity be intellectually higher, and require greater ill in execution, in point of mental acuity, tenacity, id extended vocabulary.

There are practically no "bugbears" to judicial re-orting as compared with the reporting of scientific ebates, for the reason that in taking sworn testi-ony, the court reporter is empowered to interrupt e witness, if his remarks are not intelligible or if they e inaudible. Why should not the same prerogative e extended to the official medical reporter when the eech of the medical man is not clear? This is nec-sary in order to secure a perfect pen-picture of the oceedings.

It may be conservatively estimated that one-third of ie medical men who speak in public are ignorant of ie factors which combine to make their remarks some-mes impossible of intelligent interpretation. The day as come when the medical man and the medical sten-grapher must work hand in hand, in order to conserve scientific literature a truthful record of progress id discovery. I, therefore, venture to point out the ifficulties under which the official medical sten-grapher labors in endeavoring to take down scientific ebates.

There are many types of indistinct speakers, the ost pronounced being of that class who have poor unciation; there is another class whose members, hile they have no oral defects, lack essential carrying-ower of voice. These gentlemen, knowing their weak-esses, would materially add to the correctness of a eport by speaking within "ear-shot distance" of the enographer, or, at least, in tones loud enough to be nmistakably heard at the stenographer's table. Rarely ie speaker will get too close to the stenographer. He as, however, been known deliberately to stand with is back turned, place two hands upon the table, or, ith one hand resting on the table or on the sten-grapher's chair, impart a friendly to-and-fro motion of ie body, much to the chagrin of the scribe. This has een known to produce symptoms simulating paralysis gitans or agraphia—sometimes even resulting in an psetting of the ink bottle! I remember on several ccasions being "rocked in the cradle" of deep despair y such a procedure. A reliable *stenographic* report can-ot be made when the speaker stands with his back to he stenographer.

Sometimes a noted professor, seated at the back of he auditorium, will address a national assembly and the presiding officer will request him to step forward, so that his remarks may be accurately reported. But with that modest bashfulness only known to those who have already won their laurels, in his still small voice, he will decline to come forward, stating, "Mr. President—I really have not much to add to the very interesting paper of Dr. ——," but nevertheless he will talk inaudibly for perhaps a half hour and then look for a verbatim report of his speech. The stenographer, the while, with eyes, nose, ears, mouth, and eustachian tubes open, endeavors to jot down unheard things! The country practitioner, however, who is unused to testing his vocal powers more often assumes this role. Hon. Thomas B. Reed, in his book on "Parliamentary Rules," in speaking of qualifications of a certain official, says:

> "Either he or his assistant should be a good reader, with a clear voice, capable of being heard in all parts of the place of meeting, even where there is considerable confusion. *Too much stress cannot be laid upon this qualification, since bad reading, ill understood, breeds confusion, disorder, and misunderstanding.*"

This obviously applies to all classes of public speakers.

Mention might briefly be made of the fact that not infrequently one will hear a 300-word-a-minute talker. It is very interesting to listen to a rapid speaker when he comes in contact with a long word, for instance, *monotrichloracetyledimethylphenylpyrazalon* (hypnol)! The speech of the average rapid talker is likely to be incoherent, testing, to the utmost, the mental capacity of the *auditor*, as well as the stenographer.

Perhaps the most annoying custom which unfortunately prevails in some well-regulated societies is a conversation carried on at or near the stenographer's table between the secretary and a member, or perhaps between two members seated near-by, on an extraneous subject, while an important discussion is in progress. Sometimes the stenographer is directly interrupted by a question from a thoughtless member or newspaper reporter, thus rendering a report defective. This is inexcusable and should be prohibited. The stenographer has but *one* ear under these circumstances and that is for the speaker.

The informality of several persons talking at once, each presuming the other has obtained the floor, is another unparliamentary feature of many meetings. "Wherever there is an assembly there is need of parliamentary law, so that the assembly may proceed in orderly fashion, with as little jar and discord as possible, and accomplish the work to be performed. . . ."[1]

The drowning of a speaker's voice by the hum of a trolley-car heard through an open window, or by the coughing or sneezing of a member, or by the scraping of chairs, banging of doors, etc., should be noted. If the subject, perhaps an important noun in a sentence, is smothered by such noise, the word is irreparably lost. The remedy consists in a proper location of reporter's table, rubber-tips placed on chairs, etc., and members should be required to do all coughing, sneezing, and banging of doors before the meeting begins!

Just in proportion as the careful surgeon in planning and carrying out a major operation observes every detail in the procedure, the stenographer likewise requires, in taking a scientific report, the best location and all facilities at hand—a table, distinct and separate from any other, a light on the table, not reflected from

[1] Honorable Thomas B. Reed, "Parliamentary Rules."

chandeliers above, as this often insures the annoyance of writing each penstroke in a shadow three inches long and two inches wide. Notes under those conditions are often made illegibly and are, therefore, not official nor reliable.

Finally, a most unparliamentary form of procedure that is admitted in many national, State, and local medical organizations in the country, is the non-observance, strictly speaking, by the presiding officer of requesting—and if not complied with, then, demanding—that each speaker, always and in every instance, shall, upon rising, announce his name and the city from which he comes. In a moderate debate this is dismissed from the minds of chairman and speakers, and never even thought of in the heat of debate, when the stenographer has no chance of correctly verifying, mentally or verbally, any method he may devise of *numbering* speakers or *denoting* them as, *e.g.*, "red whiskers, 1;" "black hair, 2;" "long nose, 4;" "shorty, 5;" "lengthy, 6." Here is the authoritative statement of ex-Speaker of the House of Representatives, Hon. Thomas B. Reed :

"Whenever a member desires to introduce business, he rises in his place and addresses the presiding officer by his title as 'Mr. Chairman,' 'Mr. Moderator.' *The Chair thereupon recognizes the member and says, 'Mr. A. has the floor,' or simply, 'Mr. A.'* . . . It will be seen by the proceedings just described that the member, in order to introduce business, must first obtain the floor and *in order to obtain the floor must first be recognized by the Chair.*'

Undoubtedly the value of a speaker's remarks is dependent upon the record of his name. His remarks might be strikingly brilliant or brimful of research and scientific investigation, yet their value would be an unknown quantity in the absence of authority, *i. e.*, the name of the speaker. To insure accuracy the name and city should also be written upon the blackboard by the Secretary. The inability to get speakers' names, or the responsibility imposed upon the stenographer to get them himself the best way he can, undoubtedly has a deteriorating effect upon note-taking. Parliamentary law, as above intimated, requires that each speaker shall be recognized by the Chairman before he is allowed to speak, which means not only that he may have the floor, but, in addition, that he must be recognized by name, and this recognition is not to be made in one or two instances, but throughout the entire meeting, when any speaker addresses the Chair. The presiding officer is not expected always to know by name every one present; therefore, a duty devolves upon each member to announce his own name. In judicial proceedings the full name of the witness is required to be announced before he is sworn so that the stenographer may make due note of same. The testimony of a medical man in scientific debate is often as important as the testimony of a witness in a legal case, and his name should invariably precede his remarks. There is no rule so uniformly perfect and reliable as that parliamentary mandate which requires the name of the speaker to be announced. This is particularly noticeable in reporting the proceedings of a body composed of foreign delegates. I had the honor to be the official stenographer to the International Commercial Congress of 1899, and anticipating, as usual, the lapses of the various chairmen in parliamentary etiquet, who from day to day were appointed, I devised the scheme of circulating among the delegates cards to the effect that the speaker should kindly step forward to a convenient place near the stenographer and hand him his card or announce his name. This plan was a failure, simply because it was not heeded. Telegraph messengers were likewise employed to watch the speakers and get their names as they finished speaking. This plan could not be relied upon, because, owing to the complexities arising during a heated discussion, the boys would become utterly bewildered. So that in many important debates two stenographers were compelled to "take" simultaneously, not only for the purpose of check-noting speakers whose remarks were partly inaudible, but also for the purpose of assisting each other in obtaining the long foreign names and titles. The time has arrived when public speakers everywhere must recognize the *minutiae* that the stenographer is required to observe, in order to do his work properly.

I remember superseding a recognized competent stenographer in a certain medical society, because it was claimed that he did not "get all"—not even names! The stenographer's just excuse was that the majority of the speakers were inaudible, owing to the fact that they occupied seats in the rear. I said that I could not do any better than the other stenographer *under the conditions described.* The meeting came off at the appointed time, with these prefatory remarks from the chair: "I would suggest that members desirous of indulging in discussion occupy the front seats, so that the stenographer can hear." The result was a satisfactory and full report of the proceedings, due entirely to that one feature.

Distinct pronunciation of polysyllabic words is a prerequisite to intelligent comprehension of phonetic sounds and, therefore, a precise recognition of spoken words. Especial attention should likewise be given to the pronunciation of *materia medica terms* and persons' *names.* The past tense of verbs, adjectives, etc., should be decidedly expressed, as in *trustèd*, *blessèd.* The *-ing* should never be slurred over to sound like a *en* or *in.* The stenographer is ever on the alert for the most delicate inflection or accentuation, and opportunity should always be given him for the accomplishment of his responsible task.

Women in the University of Paris.—The Medical School at Paris has 129 women students, of whom only 29 are French. Ninety-one are Russian, 5 Roumanian, 2 German, 1 Swiss, and 1 English. In the college department are 206 French women students, and 57 foreigners, Germans, Russians and Americans in the main. In the Paris Law School are only 4 women students, 2 French, and 2 Russian. In the Scientific School are 21 French women, and 14 foreigners. In the Course of Pharmacy are 19 French women and 1 foreigner. In the Theological School only are there no women students.

Operation for Cirrhosis of the Liver.—Emil Reiss (*Chicago Medical Recorder*, November, 1899). The case was that of a woman, 38 years old, who had the symptoms of cirrhosis of the liver. An operation was decided upon. The disease was found very extensive, the liver containing deep furrows. There was no disease of the stomach nor intestines, though there had been the usual gastrointestinal disturbances. The liver was found connected to the parietal peritoneum over the right lobe, by numerous adhesions, with considerable enlargement of the bloodvessels in them. These adhesions of course were not disturbed. New adhesions were made by stitching the omentum to the anterior abdominal wall for a considerable extent. The incision was closed by suturing in layers. The object of the adhesions was to establish a collateral circulation between the digestive organs and inferior cava; this blood escaping the liver and portal vein. The patient made good progress. She has gained 17 pounds since the operation, and does laborious housework. [M.B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

The annual report for 1899 of the Department of haritics and Correction was recently made public by ayor Ashbridge. Attention is called to the overcrowded con- tion of the insane department of the Almshouse, and the ecessity for greater accommodation is urged upon Councils. t the Almshouse the expenditures for the year were $497,- 6.17. In the census of children under the care of the ureau the number is shown as 10,973, of which number 005 were discharged or left the institution during the year. the out-wards of the Almshouse there were received 1,837 upers, hospital admissions were 8,043, with a mortality rcentage of 13%. To the insane department 607 patients ere admitted. Deaths to the number of 310 and 307 dis- harges from the department are recorded for the same riod. With the patients remaining from 1898 the total mber enrolled on December 31 was 1,370. Thirty-six rses were graduated from the training-school, and the out- or regular physicians made 36,206 visits, to 12,631 patients, r whom 35,212 prescriptions were compounded. The meopaths had 6,035 patients, made 22,781 visits and gave ,530 prescriptions. The expenditures for the House of rrection for the year were $166,831.86. The earnings from e sale of truck, stone and other products, were $30,217.23. he number of prisoners received was 6,928, and the number scharged from the institution was 7,137. The daily aver- e population was 944 males and 182 females. The cost of bsistence, pro rata, was 11 $\frac{39}{100}$ cents per day.

Philadelphia County Medical Society.—At a meet- g held February 14, DR. THOMAS J. MAYS exhibited a num- er of patients with **phthisis** who had been treated with jections of silver nitrate over the course of the pneumo- astric nerve with most satisfactory results.

DR. B. FRANKLIN STAHL read a paper entitled **Copy the for- ula on the label.** He made a plea for the extension of e practice of copying the formula on the label in selected ses, believing it the most available substitute for bedside tes and a valuable means of determining at a glance the sults of certain therapeutic measures that may have been stituted, but not well remembered in the exigencies of eryday practice. He believed that the objections to its e were outweighed by its advantages in the majority of ses. In the discussion PROF. JOSEPH P. REMINGTON stated is opposition to the practice, believing that it would lead to discriminate self-medication.

DR. JOHN H. GIBBON read a paper entitled **Rupture of he plantaris (lawn-tennis leg).** This will appear in a ture number of the JOURNAL.

At the previous meeting, the recently elected president, r. John H. Musser, announced the appointment of the fol- wing Board of Directors: Dr. A. O. J. Kelly, chairman; r. John G. Clark, Dr. Charles A. Oliver, Dr. Addinell Hew- on, and Dr. Emma Musson. Publication Committee, Dr. . A. Eshner, chairman; Dr. Hermann B. Allyn, and Dr. oseph Spellissey, editor. Committee on the Antivivisection ill, Dr. H. A. Hare, chairman; Dr. Edward Martin, Dr. H. I. Hulshizer, Dr. W. L. Rodman, Dr. Henry Beates, Jr., and eporter, Dr. Ross H. Skillern.

University of Pennsylvania Medical Class of '75. -The Executive Committee of the Society of the Alumni as appointed the undersigned to endeavor to secure a eunion of the Class of '75 at the coming Commencement in une. As many as possible of the class are urged to be pre- ared to come to a social gathering to celebrate its twenty- ifth anniversary. Members of the Medical Class of 1875 who may see this are requested to send at once their present ddresses and some brief account of their doings since grad- ation to Charles W. Dulles, 4101 Walnut Street, Philadel- hia.

NEW YORK.

A Wee Waif.—The population of the Borough of Brook- yn has been augmented by a tiny girl, who is said to weigh nly 2½ pounds. Her wrist is only 1⅞ inches in circumfer- nce, and her foot measures 1⅝ inches in length. In spite of er diminutive proportions, she is said to be thriving.

Hospital Relief for the Transvaal.—A company of 57 persons left this port on the *La Gascoigne* en route to the Transvaal to serve as a hospital corps. They are going at the expense of the Irish-American societies of the United States, and with the approval of the Red Cross Society of America. They carry with them a letter from Miss Clara Barton.

Amputation Follows a Hypodermic Injection.—Three or 4 days after a woman had given birth to her seventh child it became necessary, for some reason, to give her a hypodermic injection. This was done by her family physician, and the next day the left arm became swollen and painful in the vicinity of the needle puncture. Soon erisypelas developed, and the disease spread so rapidly that it became necessary to amputate the arm. Her condition is said to be very critical.

Sale of Drugs in Department Stores.—Mr. Gale has introduced into the Assembly a bill to prohibit the sale of drugs in the department stores of New York City. The opponents contended that it was entirely too radical in its provisions, and even questioned its constitutionality. Mr. Gale defended the measure, asserting that it was drawn in the interests of the public health, as drugs were sold in these stores by children. By a vote of 65 to 40 the bill was advanced to the order of third reading.

Conflict of Authority Over State Hospital Buildings.—State Architect Heins, in view of the claim of the Police Department of New York City to the right of inspecting and licensing the boilers to be used at the Manhattan State Hospital on Ward's Island, and the claim of the Buildings Department of the city to authority over the erection of a wooden icehouse at the Long Island State Hospital at Flatbush, requested an opinion from Attorney-General Davies. Mr. Davies holds that the city of New York has no jurisdiction over these constructions, even though they are situated within the corporate limits of the city.

The Long Island State Hospital.—Governor Roosevelt has now come out with a statement of his reasons for not reappointing Dr. Backus as one of the managers of this institution. As already stated in the JOURNAL, his chief reason for such action was the receipt of complaints to the effect that there was friction between the managers of this hospital and the Lunacy Commission, and that the main source of the discord was Dr. Backus. The allegations made to the governor did not reflect in any way on the character of Dr. Backus as a man, but only upon his efficiency as a manager of that particular institution. His idea in appointing Mr. Bradish Johnson as Dr. Backus' successor was to have some one of means and leisure, who took a lively interest in charitable work, and who would be entirely apart from the past disputes and differences. The chief fear seems to have been, that if a change in the Board of Managers were not made, politics would be allowed to creep in, much to the detriment of the service.

New York Academy of Medicine—Surgical Section.—At the meeting, held February 12, DR. PARKER SYMS presented a paper on **Acute intestinal obstruction; its diagnosis and treatment.** He pointed out that the diagnosis hinged upon the recognition of the following symptoms, viz.: pain, vomiting, constipation, tympanites, and the evidences of abdominal shock—small, rapid pulse, pinched and anxious countenance, and the peculiar mental state indicated by a combination of fear and braggadocio. His conclusions were: (1) Acute intestinal obstruction is a fatal condition if not promptly and properly relieved; (2) it should rarely be fatal if promptly recognized and appropriately treated; (3) acute intestinal obstruction is a mechanical condition, and as such, must be relieved by mechanical means; (4) the symptoms are absolutely characteristic and distinct, and the diagnosis can always be made unless the clinical picture has been obscured by the administration of opium, and (5) an early laparotomy is the only plan of treatment in which reliance should be placed.

DR. WILLY MEYER read a paper entitled **The hockey-stick incision—a typical mode of entering the abdominal cavity in certain complicated cases of appendicitis.** He advocated the use of an incision beginning half an inch above a point midway between Mc-

Burney's point and the anterior superior iliac spine, and extending straight downward to within half or three-quarters of an inch of Poupart's ligament, at the point where the femoral artery could be felt pulsating. His experience had taught him that such an incision corresponded, in 95% of all cases, to the direction of the fibers of the fascia of the external oblique muscle. Having made this incision it was his practice to enter the peritoneal cavity at the lower end and, with his finger inserted as a guide to the position of the epigastric artery, to enlarge the incision downward and inward in a curve. This gave to the complete incision the shape of a hockey-stick. Such an opening afforded free access to the pelvis, making it perfectly feasible to palpate through it the left ovary and tube.

Charities Commissioner "Disciplines" a Hospital Physician.—Mr. John W. Keller, Commissioner of Public Charities, seems to take delight in showing his authority and power at all times, but it is with an especially keen relish that he flaunts it in the faces of those physicians who happen to come under his jurisdiction in connection with the public hospital service. He has just afforded an example of this in connection with one of those periodical rows which are prone to occur in all hospitals and similar institutions. Dr. Campbell, the house-physician of the Harlem Hospital, and Miss Gainsford, a newly-made superintendent, came into conflict on certain questions pertaining to the management of the hospital. Dr. H. A. Haubold, the visiting surgeon, supported the superintendent. All three were called before the Commissioner, and during the hearing at his office Dr. Campbell so angered Dr. Haubold by the manner and character of some of his statements that Dr. Haubold retorted hotly and in not very polite language. The result of the interview was, that the Commissioner reprimanded the superintendent for her lack of firmness, suspended Dr. Campbell for three months for his part in disturbing the harmony of the hospital management, and then suspended Dr. Haubold for one week for the heinous offense of having lost his temper and compromised his dignity during the hearing. These are the plain facts, and we would not waste space in calling attention to such an insignificant affair were it not that every member of our honored profession living in this city can readily read between the lines a lesson which is full of significance—a truth which is deeply humiliating. It is this: The profession has allowed itself to be so long hoodwinked and trampled upon by managers of hospitals and dispensaries, and has laid itself open to derision and contempt for the proverbial haste with which hospital positions, *vacated on principle*, are filled by professional brethren—save the mark!—that they have lowered themselves in the eyes of the rest of the world, and are too often regarded as easy marks for the designing. We certainly would not charge Mr. Keller with having used the exact language attributed to him in the newspaper report of the hearing above referred to, but we desire to direct attention to the verbiage, which is significant of the estimation in which physicians are held, no matter by whom the words may have been written. The quotation is this: "Mr. Keller said last evening that the physicians *and other subordinates* had been quarreling among themselves." May physicians generally "read, mark, and inwardly digest" the words which we have italicized!

CHICAGO AND WESTERN STATES.

Women Nurses in the Medical Department of the Army.—The Chicago Medical Society recently endorsed a bill urging the appointment of women nurses in the army.

Filters in Evanston.—The question of a city supplying pure drinking water to its people by putting a filter in each residence in the city was thoroughly discussed recently by the Evanston City Council. The cost of putting in a filter in each house and maintaining it for twelve years would be $72.45, while the rental of each for the same period would be $72.00. University professors and physicians endorsed the use of filters at this meeting. It is believed that a filter will be put in each house.

A New Sanatorium for Tuberculosis in St. Louis.—The Sisters of St. Mary, who have been so successful in hospital work in the West and South, have undertaken to found and care for a hospital for consumptives. They have secured a large tract of land on the river front south of St. Louis, and in addition to the buildings already erected will build a fine sanatorium in the Spring. It will be called Mount St. Rose Throat and Chest Hospital. The Sisters will have the entire care of the institution and Dr. William Porter will have the medical charge.

Considerable Money Found in the Clothes of a Supposed Charity Patient.—A few days ago, a charity patient by the name of Sam Besick, 60 years of age, died at the Chicago Baptist Hospital, and was believed to be penniless. Money and securities were found sewed in his clothing amounting to $5,000. His tattered coat and waistcoat were literally lined with gold and silver coins. There were fifteen one-hundred-dollar bills sewed in an inner pocket, and a leather purse containing two hundred dollars was found under his coat collar. The money had been there so long that the coins were worn smooth and the purse was half full of gold dust.

Visiting Medical Schools.—A committe of Rush Medical College, consisting of Drs. E. Fletcher Ingals, J. M. Dodson, Frank Billings, and Arthur Dean Bevan, headed by President Harper, of the University of Chicago, recently returned from the East where they visited and inspected the Harvard Medical School, the new school of Columbia University, and the Johns Hopkins School at Baltimore. It is said that a new building will be erected on the property of Rush Medical College within the present year, provided the trustees can secure enough money to make up the balance needed, and this building will be devoted entirely to lecture rooms and laboratories.

Death of Dr. Edward L. Holmes.—Dr. Holmes died February 12, of pneumonia. He was born at Dedham, Massachusetts, in 1828. He was graduated from Harvard at the age of 21. In 1854 he obtained his degree of Doctor of Medicine from the Harvard Medical School. Dr. Holmes was prominent in Chicago medical circles from the moment of his arrival in this city in 1856. In 1858 he founded the Illinois Eye and Ear Infirmary. His association with Rush Medical College began in 1860, when he was appointed a lecturer on eye and ear diseases. In 1867 he was given a professorship; in 1890 he was President of the College. He was a member of nearly all of the local medical societies and of the Illinois State Medical Society.

Chicago Pathological Society.—At a meeting, held February 12, DR. ALICE HAMILTON presented a paper on the **proliferation of elastic fibers in new growths.** The growths examined were benign connective-tissue tumors, fibrosarcoma and alveolar sarcoma, carcinoma simplex and scirrhus. In all classes of growths, although not in every individual case, elastic fibers were found in the stroma. These fibers varied in abundance, the number apparently being in direct proportion to the richness in elastic fibers of the organ in which the growth occurred. The fibers could seldom be traced to bloodvessels. They were most abundant in epithelial growths which showed a well-developed stroma and were often found in large numbers in rapidly-growing tumors. The proliferation of elastic fibers in new growths is not mentioned in any of the textbooks on pathology.

Twenty-five-Year Lease of the Chicago College Physicians and Surgeons.—This college has procured a lease for its building from the University of Illinois for a term of 25 years, at an annual rental of $12,000. The contract provides that the University shall have one-third of the net earnings of the medical school, and the stockholders the remainder.

Chicago Medical Society.—At a meeting held February 14, the subject for discussion was the **surgical affections of the kidney.** DR. L. L. MCARTHUR discussed the symptomatology, diagnosis, treatment, and prognosis of neoplasms of this organ. DR. M. L. HARRIS followed with a paper on renal calculi. He spoke of the etiology of kidney-stones, their experimental production; the influence of bacteria in the formation of stones. He pointed out the analogy between kidney-stones and stones of other ducts and organs; also the difference between primary and secondary stones. The value of pain and urinary changes in the diagnosis of stone was touched upon. The x-ray and urine

regator were referred to as diagnostic aids. Finally, he elt upon the necessity for operation, methods and results. D. N. EISENDRATH discussed the pathology of renal neo-sms, their etiology and frequency, the general character renal growths, methods of extension, relation of renal wths, simple or benign forms, sarcomas and carcino-s, and the relationship of renal growths to adrenal ictures. DR. M. HERZOG spoke on the peculiar mixed nors of the kidney. He said that the kidney is a peculiar an from a histogenetic point of view. It is preceded by temporary embryonic structures. It is therefore *a priori* at all improbable that we may find in it peculiar embry-c inclusions which may become the matrix of tumor-mation. Tumors of the kidney are frequently puzzling, l the histology and histogenesis of such neoplasms have merly baffled pathologists not a little. Among the most eresting of renal neoplasms are the mixed tumors, contain-epithelial as well as connective-tissue elements. The hor advanced the views held as to the origin of these xed tumors or embryonal renal adenosarcomas, and sed his paper by reciting his own theory as to their his-genesis.

Cleveland, Ohio, Medical Society.—At a meeting ld January 26, 1900, DR. O. T. MAYNARD of Elyria, read a per upon **Treatment preparatory to parturition.** DR RALPH J. WENNER read a paper upon **Foreign bodies the maxillary sinus.** He said textbooks give little ention to the subject of foreign bodies in the antrum. To termine their relative frequency 250 letters were sent out men interested in this line of work. As a result it was nd that in 68 of 3,409 cases, or 2% of antral disease, foreign dies were present, in many cases not the cause of the dis-se. In 30 cases, less than 1%, the foreign bodies were the use of the antral disease. In 14 cases, $\frac{7}{11}$ of 1%, teeth re found. It is evident that the presence of foreign bodies es not invariably cause empyema. His patient was aged years and the illness began with purulent discharge from e nose, followed by bulging of the left eye and left roof of e mouth. Acute empyema of the antrum being deemed obable, hot fomentations with the administration of bella-nna and strychnin reduced the amount of discharge and e prominence of the eye. The case for a month passed to other hands. The condition was then more grave, with creased discharge from the nose, swelling of the face and elids, purulent conjunctivitis and keratitis, temperature 1° and pulse 150. The right arm was not moved except ider the stimulus of pain. Cavernous sinus, thrombosis, npyema of the sphenoidal sinus and of the ethmoid sinus ere excluded. Pus and a tooth were found in the left itrum. The eye was enucleated. Another tooth was found ter. A growth in the roof of the mouth increased rapidly size and death finally occurred. The growth proved to be ant-celled sarcoma. DR. H. G. SHERMAN said that at the me he saw this case, the conditions were even more exag-erated than Dr. Wenner had described. The eye was eatly bulged, as were also the hard and soft palate nd the lateral area of the throat. The temperature at that time ranged from 101° to 104°, and the child had ad a series of convulsions. It was entirely unable to ove its right arm and right leg, even under the stimulus of ain, and he had regarded the case as one necessarily involv-ig the cerebrum about the base of the lateral lobe near the ssure of Rolando. The antrum in a child of that age is very dimentary, and he could scarcely comprehend how it was rge enough to hold a tooth, as it is a space not capable of eing distended without rupture. The child having then een unconscious for some 10 days, he gave it as his opinion hat the case was entirely inoperable. The tooth that had een removed was a most extraordinary one, as it had 4 rongs. The case could be diagnosed as one of cerebral ab-cess, or as an almost typical case of disease of the cavernous inus. DR C. J. ALDRICH asked which side was paralyzed, nd DR. SHERMAN replied that it was the side opposite to the oint involved. DR J. M. INGERSOLL was particularly inter-sted in the number of cases from which reports were btained in response to the circular letter, showing that oreign bodies occur in the antrum more frequently than is sually supposed. He had himself seen 3 cases in the last hree years. He had seen at least a half-dozen adult skulls vith supernumerary teeth in the antrum that had apparently caused no trouble. He had seen one case of polypus in the antrum in which discovery was not made until necropsy. Such cases may very readily be overlooked and sometimes they cause no trouble at all. He thought it was a question whether the tooth was the primary cause of the trouble in Dr. Wenner's case, or whether the teeth had not become necrotic and kept up irritation in the antrum. DR. J. N. LENKER said that he was present at the time Dr. Wenner removed the teeth from the antrum, and was even then surprised at the smallness of the sinus when compared with its contents. Dr. Wenner said that the parents had not given him any statements of the child having had convulsions until after the administration of the anesthetic, even when questioned closely. While it is true that the antrum is usually small, it is also true that the kidneys are usually small, but we not infrequently find both large-sized and horse-shoe kidneys. The leg was not paralyzed during any of the time he had the case under observation, and the child was able to move the arm under the stimulus of pain. He thought that Dr. Sherman had been misinformed in regard to the child being unconscious for 10 days. He said he should not be held responsible for the size and shape of the teeth. In regard to the first cause of the case he thought it fair to suppose that it started in the antrum as the first symptoms noted were pain over the jaw and the discharge of pus from the nose. Following that came the enlargement.

DR. I. W. BARD read a paper upon **Puerperal pyemia** with report of a case.

SOUTHERN STATES.

Mississippi's Gratitude.—A motion was recently introduced in the Mississippi State Legislature to vote money to the New Orleans Charity Hospital, a State institution of Louisiana. For the past forty or more years this hospital has been a constant refuge for the sick poor—in a great many instances for those who were *not* poor—of Mississippi, Alabama, and several other neighboring States; patients applying for admission from these sources having always been readily and indiscriminately taken in. The present instance is unique and redounds greatly to the credit of Louisiana's charitable institutions, which credit is long due.

The Louisiana State Board of Medical Examiners has recently succeeded in securing the conviction of two flagrant and persistent violators of the law governing the practice of medicine in this State: Dr. S. S. Prosser, who advertised in the daily press under the name of "Abbo," and Dr. Fowler. Both of these parties were, up to the time of their conviction, openly violating the law. Prosser fought to the last ditch, and the case attracted no little attention; while Fowler was practising regardless of a former fine and enjoinment from so doing by the courts. These instances will go far toward causing the law to be more duly respected by the unqualified and unlicensed in the future.

Orleans Parish Medical Society.—At a meeting held February 10, DR. O. JOACHIM read a report of two cases of **phlebitis of the lateral sinus, of otitic origin.** An ophthalmologic report upon the second case was read by DR. M. FEINGOLD, the patient being exhibited. DR. CHAS. CHASSAIGNAC lectured upon the **diagnosis and treatment of gonorrhea in the male.** DR. J. N. ROUSSEL reported a case of **dermatitis herpetiformis** in a young child, in which phimosis was the sole etiologic factor, as was conclusively proven by the fact that a complete cure was accomplished by circumcision. Dr. Roussel claimed priority in the recognition of phimosis as a cause of this affection, as a search through literature had failed to reveal any such case on record.

MISCELLANY.

"Sir" Jonathan Hutchinson—In a recent reference in these columns to Mr. Jonathan Hutchinson's fish theory of leprosy, it seems we made a grievous error in dubbing him a knight. We are somewhat proud of the mistake, although we hasten to correct it. If Mr. Hutchinson is not Sir Jonathan he certainly ought to be, and in spite of his views on leprosy we do not hesitate to endorse him for that honor. On this democratic side of the Atlantic Ocean it is rather difficult to keep an accurate record of England's medical

knights. What with those who are knights, those who ought to be knights, those who want to be knights, and those who have no business to be knights, we are sometimes confused and our references may be a little mixed. As for Mr. Hutchinson, he would honor the title more than the title could possibly honor him, and we trust that before another jubilee arrives he will have joined the narrow circle of the knightly elect.

Obituary.—DR. GUSTAVE MOZART STOECKEL, Norfolk, Conn., February 15, aged 51 years.—DR. Z. K. BROWN, Duluth, Minn., February 2.—DR. C. B. WOODS, Victory, Ga., February 4.—DR. ABBIE HAMLIN, MacIvor, N. Y., February 8, aged 58 years.—DR. T. DANA FITZSIMMONS, Brooklyn, N. Y., February 4, aged 26 years.—DR. FRANK STANDISH BRADFORD, Morristown, N. J., February 8, aged 70 years.—DR. WOOLSEY HOPKINS, New York, February 15, aged 32 years.—DR. CHARLES CARROLL SMITH, Philadelphia, February 5, aged 60 years.—DR. SAMUEL H. FORMAN, Jersey City, N. J., February 19, aged 64 years.—DR. L. F. SCHMINKEY, Harrisburg, Pa., February 19, aged 67 years.

The Trip of the "Missouri."—Surgeon-General Sternberg has received a report from Major William H. Arthur, of the medical department, giving an account of the trip of the United States hospital-ship *Missouri*, which left New York October 2 last and, after a short stay at Manila, proceeded to San Francisco, where it arrived a few days ago. Two men died while the ship was in Manila harbor—one of consumption and the other of dysentery. Two more men died subsequently during a trip to Vigan, where the ship was sent after patients. The *Missouri* returned to Manila December 22. Patients were sent in rapidly from the shore hospitals and the hospital-ship *Relief* until December 31, when there were 288 patients on board, the majority of whom were ill with dysentery and diarrhea. In compliance with orders from Chief Surgeon Greenleaf, the *Missouri* started December 31 for San Francisco, via Nagasaki and Honolulu. The weather between Manila and Nagasaki was trying. High winds and head seas retarded the progress of the ship and made the patients uncomfortable. It became quite cold as higher latitudes were reached, and heavy underclothing was issued to all the patients. Overcoats were also supplied to those able to be on deck. A good deal of rough weather was encountered between Kobe and Honolulu. Honolulu was reached January 28, and found to be an infected port, plague having been declared epidemic. Yet it was imperatively necessary to obtain coal there. Stringent orders were issued forbidding all communications with the shore, and were enforced by a constant watch kept up night and day. No one was allowed to go on board except the pilot and the health officer. The ship was coaled from lighters, though it was necessary—the harbor being a very open one—to bring the ship close to the dock, where there was some protection. Much time was lost waiting for a vacant berth, and it was not until February 2 that the ship was put to sea again. By that time the ship's bottom had become very foul, and her speed considerably reduced. Though there was considerable sea running when the ship left Honolulu the patients did not suffer much inconvenience, and the weather soon became fair, and remained so until the vessel's arrival in San Francisco, February 13.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended February 16, 1900 :

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ALABAMA:	Mobile	Feb. 2–10	5	
FLORIDA:	Jacksonville	Feb. 2–10	1	
GEORGIA:	Brunswick	Feb. 5	46	
INDIANA:	Evansville	Feb. 2–10	8	
KENTUCKY:	Atchison	Jan. 27–Feb. 10	9	
"	Mound Valley	Jan. 5–Feb. 8	17	
LOUISIANA:	New Orleans	Feb. 3–10	89	7
"	Shreveport	Feb. 3–10	12	4
MISSISSIPPI:	St. Louis	Jan. 22–Feb. 3	13	
OHIO:	Cincinnati	Feb. 2–9	1	
"	Cleveland	Feb. 3–10	30	
"	Youngstown	Feb. 3–10	1	
S. CAROLINA:	Greenville	Feb. 3–10	2	
TENNESSEE:	Nashville	Feb. 3–10	8	
UTAH:	Salt Lake City	Feb. 3–10	2	
VIRGINIA:	Portsmouth	Feb. 3–10	10	

SMALLPOX—FOREIGN.

			Cases.	Deaths.
AUSTRIA:	Prague	Jan. 13–20	4	
BELGIUM:	Antwerp	Jan. 13–27	11	7
"	Ghent	Jan. 27–Feb. 3		1
CHINA:	Hongkong	Dec. 16–23	1	1
COLOMBIA:	Barranquilla	Jan. 22–27	1	1
ENGLAND:	Leeds	Jan. 27–Feb. 3	1	
"	Liverpool	Jan. 22–27	1	
"	London	Feb. 22–27	24	
"	Southampton	Jan. 13–27	2	
FRANCE:	Paris	Jan. 22–27		1
GERMANY:	Königsberg	Jan. 13–20		1
GREECE:	Athens	Jan. 22–27	3	1
INDIA:	Bombay	Jan. 2–16		96
"	"	Jan. 9–16		143
"	Calcutta	Dec. 22–Jan. 6		13
JAPAN:	Formosa, Tamsui	Oct. 1–31	6	
MEXICO:	Chihuahua	Jan. 27–Feb. 3		6
"	Mexico	Dec. 24–Jan. 28	69	41
"	Vera Cruz	Jan. 27–Feb. 3		1
RUSSIA:	Moscow	Jan. 13–20	2	
"	Odessa	Jan. 13–27	26	
"	St. Petersburg	Jan. 13–20	21	5
"	Warsaw	Jan. 13–20		4
SPAIN:	Corunna	Jan. 22–27	1	1
"	Madrid	Jan. 20–27		13
TURKEY:	Smyrna	Jan. 7–21		3
STRAITS SETTLEMENTS:	Singapore	Dec. 13–30		2
SWITZERLAND:	Geneva	Jan. 6–13	1	

YELLOW FEVER—FOREIGN.

			Cases.	Deaths.
CUBA:	Havana	Jan. 31–Feb. 6	1	2

CHOLERA.

INDIA:	Bombay	Jan. 2–16		7
"	Calcutta	Dec. 22–Jan. 6		34

PLAGUE—UNITED STATES. (Insular Possessions.)

HAWAII:	Honolulu	Dec. 12–Jan. 23	52	41

PLAGUE—FOREIGN.

CHINA:	Hongkong	Dec. 8–23	5	5
INDIA:	Bombay	Jan. 2–16		752
"	Calcutta	Dec. 22–Jan. 6		97
"	Kurrachee	Jan. 1–14	13	8
JAPAN:	Formosa	Oct. 1–Nov. 30	48	27
"	Kobe	Nov. 11–31	9	7
"	"	Dec. 23	12	9
"	Osaka	To Jan. 7	41	38

Changes in the U. S. Marine-Hospital Service.

CARTER, H. R., surgeon, upon expiration of leave of absence, to report at Washington, D. C., for special temporary duty. February 13.

GLENNAN, A. H., surgeon, to proceed to Mobile, Ala., as inspector of unserviceable property. February 9. To proceed to Searcy, Ark., for special temporary duty. February 15.

MCINTOSH, W. P., surgeon, to proceed to Pensacola, Fla., for special temporary duty. February 9.

ROSENAU, N. J., passed assistant surgeon, to proceed to Philadelphia, Pa., for special temporary duty. February 9.

CUMMING, H. S., passed assistant surgeon, granted leave of absence for 14 days from February 21. February 9.

TABB, S. R., assistant surgeon, granted extension of leave of absence for 14 days on account of sickness. February 14.

BURFORD, HUGH, acting assistant surgeon, granted leave of absence for 2 weeks from February 15. February 10.

KEYES, J. M., acting assistant surgeon, granted leave of absence for 60 days from January 15. February 10.

MONCURE, J. A., acting assistant surgeon, relieved from duty at Gulf Quarantine Station, and directed to proceed to proceed to South Atlantic Quarantine Station for duty and assignment to quarters. February 15.

Changes in the Medical Corps of the U. S. Navy.

SIMONS, M. H., medical inspector, commissioned medical inspector, from September 24, 1899.

WELLS, H., medical inspector, commissioned medical inspector, from January 15, 1900.

SIMONS, M. H., medical inspector, detached from the naval recruiting rendevouz, New Orleans, La., and ordered to the "Philadelphia," as fleet-surgeon.

STREETS, T. H., medical inspector, detached from the "Philadelphia" as fleet-surgeon on reporting of relief, and ordered to the New York Navy Yard.

ROSENBLEUTH, J. C., passed assistant surgeon, ordered to the naval recruiting rendevouz, New Orleans, La.

HARRIS, H. N. T., surgeon, commissioned surgeon from October 21, 1899.

OHENSORG, KARL, assistant surgeon, appointed from January 27, 1900.

BER, G. L., passed assistant surgeon, ordered to the "Kearsarge," February 20, 1900.
BE. D. G., assistant surgeon, detached from the "Petrel" and ordered to Port Isabella.
PHY, Jos. A., assistant surgeon, appointed February 16.
ESBURG, KARL, assistant surgeon, assigned to temporary duty at Naval Academy, February 19.

hanges in the Medical Corps of the U. S. Army

the week ended February 17, 1900:

RIS, Major HENRY S. T., brigade surgeon, is relieved from duty with the Third Brigade, First Division, Eighth Army Corps, and will report to Brigadier General Theodore Schwan for duty with his command.
RE, H. S., acting assistant surgeon, will report by letter to Brigadier General Samuel B. M. Young, and in person to the commanding officer, Third Cavalry, for duty, relieving Captain ROBERT BURNS, assistant surgeon.
NS, Captain ROBERT, assistant surgeon, Forty-ninth Infantry, U. S. Volunteers, will report to his regimental commander for duty.
DWELL, R E., acting assistant surgeon, is granted leave for one month, with permission to return to the United States.
TER, T. C., acting assistant surgeon, is assigned to duty at Cabana Barracks, Havana, Cuba.
NALL, First Lieutenant CARL R., assistant surgeon, is relieved from further duty in the division of Cuba, and will report to the commanding general. department of the East, for duty with recruits en route to Manila,
CHER, MARION O., acting assistant surgeon, is granted leave for 20 days.
ANS. GEO. E., acting assistant surgeon, leave is extended 10 days.
VENS, WM. L., acting assistant surgeon, will proceed from Orange, Va., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
RDEN. Captain WM. C., commanding the U. S. general hospital, Washington Barracks, is relieved from further duty at that post.
IFORD First Lieutenant BAILEY K., assistant surgeon, is relieved from further duty in the department of Puerto Rico, and upon the expiration of his present leave, will report at Washington Barracks for temporary duty.
NNEDY, Captain JAMES M., asistant surgeon, is relieved from further duty in the department of California and will proceed to Manila, P. I., and report to the commanding general, department of the Pacific and Eighth Army Corps, for duty.
ODRUFF, Major EZRA. surgeon, is detailed as a member of the examining board at the Army Building, vice Major TIMOTHY E. WILCOX, surgeon, relieved.
ER, IRA, acting assistant surgeon, is assigned to duty at Fort Wood and with recruits destined for the Philippine Islands, with a view to accompanying them to their destination, and there report to the commanding general, department of the Pacific, for assignment to duty.
BLE, GEORGE L., acting assistant surgeon, will proceed from Fostoria, Ohio, to Fort McIntosh, for duty, to relieve Acting Assistant Surgeon James T. Arwine.
WINE. JAMES T., acting assistant surgeon, will proceed to Vancouver Barracks, and report to the commanding general, department of the Columbia, for temporary duty at Vancouver Barracks, until such time as he may be able to proceed to Fort St. Michael, Alaska, under such instructions as he may receive from the commanding general, department of Alaska.
BSON, Major ROBERT J., surgeon, is relieved from further duty in the department of California, and is assigned to the command of the U. S. hospital ship "Missouri," to relieve Major Wm. H. Arthur, surgeon.
RTHUR, Major WM. H., surgeon, will report to the commanding general, department of California, for assignment to duty.
AL, HOWARD W., acting assistant surgeon, is relieved from further duty on the transport "McClellan," and will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
ASER, ARTHUR M., acting assistant surgeon, now in New York City, is assigned to temporary duty on the transport "McClellan."
ITH, HARRY C., acting assistant surgeon, will proceed from Hughesville, Mo., to San Francisco, Cal., and report to the commanding general, department of California, for duty.
LDWELL, ROBERT E., acting assistant surgeon, is relieved from further duty in the department of Puerto Rico, and upon the expiration of his present leave will proceed from Dublin, Va., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty on a transport when a vacancy occurs.
FRY, Captain JAMES A., leave is, on surgeon's certificate, extended 1 month.
AGLES, JAMES, acting assistant surgeon, is relieved from further duty at Vancouver Barracks, Washington, and will proceed to Fort Stevens, Oregon.
PE, Lieutenant-Colonel BENJAMIN F., deputy surgeon-general, is relieved as a member of the board of medical officers appointed by paragraph 12, S. O. No. 15, January 18, 1900, and from the operation of so much of that order as directs him to report to the commanding general department of the Pacific, and Eighth Army Corps, for assignment to duty.
BRADLEY, Captain ALFRED E., assistant surgeon, is detailed as a member of the board of officers appointed by paragraph 39, S. O. No. 36, February 12, 1900, to meet at Fort Snelling, Minn., for the mental and physical examination of such candidates for the Military Academy as may be ordered to appear before it.
PHILLIPS, Captain JOHN L., assistant surgeon, now on temporary duty at Governor's Island, New York, will report in person, on Tuesday, March 6, 1900, at 10 o'clock A.M., to Major JAMES C. MERRILL, surgeon, president of the examining board appointed to meet at the Army Medical Museum Building, Washington, D. C., by S. O. No. 291, December 15, 1899, for examination as to his fitness for promotion and upon completion thereof will return to the place of receipt by him of this order.
HALL, Major WILLIAM R., surgeon, is detailed as president of the board of medical officers convened by paragraph 12, S. O. No. 15, January 18, 1900.
STUNKARD, THOMAS C., acting assistant surgeon, is relieved from further duty at the U. S. General Hospital, Presidio of San Francisco, Cal., and will proceed to his home, Terre Haute, Ind., and upon arrival there report by letter to the Surgeon-General of the Army for annulment of his contract.
LA GARDE, Major LOUIS A., surgeon, is granted leave of absence for 10 days, to take effect on or about February 22, 1900.

Société Anatomique.—Dr. Letulle has been appointed to represent this society at the Medical Congress of 1900.

The French Academy of Medicine has just appointed Dr. Kapsi, of Vienna, Dr. Erb, of Heidelberg, and Dr. Hansen, of Bergen, foreign correspondents.

Pancreatitis in Abdominal Surgery.—W. H. Carmalt (*Yale Medical Journal*, November, 1899) reports 2 cases of fatty necrosis of the pancreas and omentum. A man, 50 years of age, was taken with colicky pains after indiscretion in eating. Castor oil moved his bowels, but this did not relieve the pain. For the next 3 days, unsuccessful attempts were made by the mouth and rectum to get free evacuation of the bowels, and to relieve the pain and vomiting. The family physician, suspecting intestinal obstruction, called a consultation. The patient's pulse was rapid and weak, the abdomen uniformly tender and tympanitic, and the abdominal muscles rigid. Exploratory laparotomy was undertaken, but nothing was found requiring interference. The omentum was studded with spots, varying from the size of a pin-head to that of a split pea, of yellowish-white color, surrounded by a red areola. Two tags of omentum were removed for examination, and Dr. T. M. Prudden reported that the lesion was typical fat-necrosis. The patient recovered from the effects of the operation, but continued ill, and died on the second day. At the necropsy, about 4 ounces of clear serous fluid were found in the abdominal cavity, the intestines were distended with gas, and the whole posterior portion of the mesentery showed whitish foci in various stages of deterioration from the first stages of necrosis to purulent degeneration. There were several pus-cavities that would hold a dram. The head of the pancreas was firmly bound down as a result of inflammation from these foci of necrosis. The liver showed the changes of amyloid degeneration. In a second case, a man, 35 years old, who was addicted to alcohol, was attacked after a spree with gastrointestinal disturbances. His abdomen was distended, there was general tenderness, a weak, fluctuating pulse, deficient respiratory action, and general slight cyanosis; he was persistently vomiting a suspiciously fecal fluid. All the usual means had been tried to produce a movement of his bowels, but in vain. Exploratory celiotomy was advised. Incision was made in the median line above the umbilicus, and a small amount of clear, amber-colored serum was evacuated. The intestines were congested, but not markedly, there was no peritonitis, the appendix was normal, but the omentum was dragged up into a matted mass lying as thick as a cord across the abdomen; it was of dark reddish color, and was studded with minute whitish points about the size of a pin-head. The hepatic flexure of the colon was compressed by the contracted omentum, and below this the colon was collapsed and empty. The constriction was relieved, and operation completed in the usual manner. The patient died, however, before he was removed from the table. At the necropsy, a piece of the head of the pancreas and some omental tissue were obtained. The microscopic examination showed fatty necrosis both in the pancreas and omentum. There was also fatty infiltration of the liver. [M.B.T.]

Foreign News and Notes.

GREAT BRITAIN.

Neale's Digest.—An English correspondent writes: "Probably you do not make so much use of Neale's Digest as we do in England, for the majority of the periodicals so carefully indexed in that excellent book of reference are English. But I imagine that all your literary medical men consult the Digest when they want to know **what any of us over here have ever said upon any medical subject.** The author has given four hours per diem for 50 years to his self-imposed task and it is a monument of industry. But his chief reward has been fame, and fame of rather a limited character, for the sale of the work has never been profitable. A strong movement has just been initiated to present a suitable testimonial to Dr. Neale as a recognition by his professional brethren of his long and valuable labors in the cause of science, and it will be in my opinion a little discreditable to the members of the medical profession in Great Britain if a substantial response is not immediately made."

Child Study.—According to the *British Medical Journal*, Dr. Francis Warner delivered an address on Child Study—its Scope, Aims, and Usefulness, on January 25, at University College, Liverpool. Dr. Warner said that the study of child life had been actively carried on for years in America, Germany, and England, and had given most interesting records of the sayings, doings, and thoughts of young children. The hopeful signs of mental aptitude and capacity for educational training in children were (1) plenty of spontaneity capable of momentary inhibition; (2) control of sensory impressions by coordinated action under guidance: (3) indications of retentiveness (memory). A knowledge of children, based upon scientific principles, was, he considered, of primary importance in the training and preparation of teachers. Referring to the Liverpool Branch of the British Child Study Association, Dr. Warner expressed his anxiety to further its objects, and he trusted that his visit to Liverpool would result in enhanced membership.

The Statistics of the Medical Profession in England.—That excellent book of reference, the *Medical Directory*, made its appearance for 1900 at the beginning of February; its publication having been delayed by a fire at the printer's establishment. From this we learn that the total number of British practitioners for 1900 is 35,651; this figure being an increase of 657 over the total for 1899. The total is thus made up: London, 6,102; Provincial England, 15,794; Wales, 1,127; Scotland, 3,462; Ireland, 2,559; abroad, 3,875; army and navy, 2,705; names received too late for classification, 27. In every department there has been an increase save among the London men, whose number has declined. It should be mentioned that the list of medical men residing abroad does not include in any extensive manner the practitioners in the colonies. Many Canadian, South African, and Australian medical men do not place their names in the English *Medical Directory*, while hundreds of Indian graduates probably have never heard of the publication.

The Dublin Health Committee of Inquiry.—The committee appointed at the instance of the Lord-Lieutenant of Ireland, to inquire into the cause of the terrible death-rate now prevalent in Dublin—to which we have made frequent reference in these columns—is a strong one. It consists of Mr. C. P. Cotton, who was formerly chief engineering inspector to the Local Government Board of Ireland; Dr. Theodore Thompson, a medical inspector to the Local Government Board of England; Dr. J. W. Moore, president of the Royal College of Physicians of Ireland; Mr. R. L. Swan, president of the Royal College of Surgeons in Ireland; and two aldermen of the Dublin Corporation, viz., Mr. J. Mead and Mr. Dowd. Sanitary, medical and municipal interests are well represented on this strong committee, and it is to be hoped that a better condition of public health in the Irish capital will result from the deliberations. But the members of the committee have a hard task before them; in fact, they will find their labors useless, unless they rigidly resolve to pay no heed to political or religious s issues.

Plague in British Dominions.—The reports of spread of plague in hapless Bombay would have caused a m widespread concern in England had not the attention of been fixed immovably upon the South African war. But medical man can read the figures relating to plague for first weeks of this year without shuddering, and to centuate the horror the luckless city of Indian merch princes has been attacked by an epidemic of both small and measles. Smallpox began to show itself in Decem and in Christmas week there were 36 deaths. In the w ending January 2 the number of deaths from this cause r to 68, and for the week ending January 9 the number 96. The total number of deaths in Bombay in the t week in January was 1870, which is equivalent to a dea rate of over 115 per 1,000 per annum, and of these, altho the official return gives the number as 324, probably o 1,000 were due to plague. In Australia there is a gr plague scare, for the disease has broken out in the Fre penal colony of New Caledonia, whose port, Noumea, is o three and a half days distant from Sydney, the capital New South Wales, and in constant communication with i

The Royal Army Medical Corps Fund, which been started to supply the officers and men of the corps v are fighting in South Africa with a few comforts and luxur bids fair to prove a success. The first meeting of the c mittee was held on February 5, at the home of Sir D Duckworth, M.D., when the Chair was taken by Surge General Jameson, the Director General of the Army Med Staff. A strong committee was appointed and it was nounced that a substantial measure of support had b already promised. It was decided to appeal to the pu for subscriptions, and to express a hope that the contributi would come in small sums from many subscribers rat than from a few wealthy and generous people, though do not suppose that any change, however large, would be turned to the donor. This fund has excellent chances cause the Royal Army Medical Corps have come out t oughly well in every engagement that has so far been fou while the powers of organization displayed in the man ment of the various hospitals have been very high. Th facts have been testified to by all the war correspondents mentioned in the general's dispatches, so that the pu know well the debt which it owes to the military med service and will probably be alert to do something for service in return.

The Otological Society of Great Britain has been formed and held its first meeting on February 5. objects of the society are as detailed in its rules: (1) The hibition and demonstration of patients, models, drawi and specimens, (microscopic or otherwise), illustrating anatomy, physiology, pathology, and therapeutics of ear. (2) The reading of papers and the discussion of q tions in otology, previously approved by the Council. The investigation by committees—(*a*) of matters of pu importance relating to otology, and (*b*) new methods of vestigation or treatment of diseases of the ear. The President of the new Society is Sir William Dalby, cons ing aural surgeon to St. George's Hospital, and the mem could not have made a better choice of a man to direct th towards a sound scientific position. There are too m medical societies in London, but as long as London is w out an Academy of Medicine, it is best that every specia should have its own well-managed society, whereby reading of papers, the comparison of opinion and searching investigation of committees, the wisdom of specialists may be collated and refined. Less than ten y ago a scheme for the establishment of a Central Socie *i. e.*, an Academy of Medicine—looked like coming i practical effect, but that energetic physician, Sir And Clark, was at the head of the movement, and since death no one has carried it on. Most allow that such institution is wanted, but it cannot be started wit immense faith, and the man to give the time has yet t found. When he is found he will probably be some s terribly overbusy man as Sir Andrew Clark was, for s men are the only men who ever have leisure.

The Late Sir Thomas Grainger Stewart.—By the ıth of Sir Thomas Grainger Stewart, which occurred on urday morning, February 3, at his residence in Edinrgh, British medicine loses one of its best known and est exponents. Grainger Stewart was born in Edinburgh years ago, and was educated at the high school and iversity of his native town. He graduated in medicine th distinction soon after coming of age, and departed for continent to study in foreign schools, Paris and Vienna, example, where the technic of pathology at that date s more thorough and systematic than at any English, sh, or Scotch school. On his return, and at the early age 25, he was chosen to be pathologist to the Royal Inmary at Edinburgh, which had always enjoyed a famous putation both as a hospital for the sick and as a center of entific teaching. At this same time he became lecturer pathology at the Edinburgh Surgeons' Hall, which then gaged daily in practical and theoretical pathology, he ade a special study of diseases of the kidney and their sults, and the outcome of his work was a treatise upon ight's disease, which from the day of its appearance sered for him a high position as an observer. He was ortly afterwards selected physician to the Edinburgh Hostal for Sick Children, and assistant physician to the Royal firmary, and in 1873 began to lecture upon the "Practice Physic" at the extra normal school. His class room at ıce became congested, for he had all the qualities necesry to attract the student. His theoretical and clinical ıowledge were accurate and extensive while his methods imparting it to others were singularly happy in their oroughness and lucidity. Upon his great success as a acher his election to succeed Laycock as professor of edicine in the University of Edinburgh followed, and alıough many deemed him to have been a very fortunate an in securing the position, it was soon allowed on all ınds that the new man was the right man for the place. 'ith his appointment to the chair the classes within the ıiversity became enormously large and the number of exllent young physicians which he turned out marked dinburgh as the most successful medical school of that day Great Britain. Honors and wealth now rapidly accrued Grainger Stewart. His private practice became very large, is opinion being especially sought in cases of renal and ervous disease. He succeeded Sir Robert Christison as hysician-in-ordinary to the Queen in Scotland, and in 1890 as elected president of the Royal College of Physicians of dinburgh, and later president of the British Medical Assoation. He was chosen a Fellow of the Royal Society of dinburgh, Aberdeen University made him an honorary L.D., Dublin University gave him its Doctorate, and in 1894 e was knighted. In the public capacities that he ever filled e proved an unequivocal success. He had a good presnce, a happy way of expressing himself, real learning, and n inexhaustible fund of common sense, so that the public uestion which had Sir Thomas Grainger Stewart as its adocate was sure of a respectful discussion.

His death, though sudden at the end, was not altogether nexpected, for he had been for some months more or less f an invalid. A serious attack of rheumatism had left him ith an impaired heart, and recurring attacks of influenza ound him without the force to resist them. The chair of edicine which he filled so worthily is a valuable one and lready speculation is rife as to his successor. The names re mentioned, as those of the most probable persons, of Dr. . A. Gibson, the well-known author of "Diseases of the Heart and Aorta," and Dr. Byrom Bramwell, whose excelent researches into the pathology of aphasia have been ost useful to his profession. But just as Sir Thomas rainger Stewart was himself elected to the coveted position omewhat unexpectedly, so there may be again a surprise n store for Edinburgh University.

CONTINENTAL EUROPE.

University Appointments.—COLLEGE DE FRANCE: Dr. Henneguy has been appointed professor of comparative emryology in the place of the late Dr. Balbrian.—HALLE: The chair of internal medicine has been offered to Professor Kast, of Breslau, but he has declined to migrate.—MUNICH: Dr. Otto Walkhoff, of Brunswick, has been appointed to the chair of operative odontology.—PADUA: Dr. E. Truzzi, of Messina, has been appointed professor of clinical midwifery in succession to the late Dr. Giovanni Inverardi.—PAVIA: Dr. Casimiro Mondino, of Palermo, has been appointed professor of clinical psychiatry.

The "Penetrating Flea" in Madagascar.—At the last meeting of the Academy of Medicine, January 29, 1900, Dr. Blanchard reported the recent introduction of the sarcopsylla penetrans into the northwest of Madagascar. Thanks to the sandy character of the soil, it multiplies with extreme rapidity. Its effects upon natives and Europeans, all of whom are as yet unused to it, are often severe. The female, pregnant, burrows under the skin, causing abscesses, ulcers which serve as entrances to other enemies, the different microbes, especially that of tetanus. This parasite, well known in South America (where I suffered from its unpleasant effects), reached Africa in 1872. Dr. Blanchard had prophesied its coming appearance in Madagascar.

Limiting the Output of Doctors in Russia.—The Russian Government has grappled with the question of the overproduction of medical practitioners in drastic manner peculiarly its own. By a recent decree of the Minister of Education the admission of first-year students by the several medical faculties throughout the empire is restricted to a fixed number. The University of Moscow is limited to 250, Kieff to 200, Charkow to 175, Dorpat to 150, Warsaw to 100, Tomsk to 120, and Kasan to 100. The total number of first-year medical students in the dominions of the Czar must therefore not exceed 1,095. This number does not include the students of the St. Petersburg Medico-Military Academy, which is allowed to admit 250 first-year students.

Decrease of Medical Students in Hungary.—While elsewhere the rush of young men into the medical profession cannot be checked, in Hungary it appears to be necessary to attract students by the offer of free education. The Hungarian Minister of Education, in view of the yearly decreasing number of students entering the medical faculty of the University of Buda-Pesth, has ordered that the fees for lectures and classes be remitted on a more liberal scale than has hitherto been the case. The Senate of the University has accordingly recommended a considerable number of students for exemption in the second semester of the present academic year. If this measure fails to accomplish the desired object, it looks as though the Hungarian Government may be driven to offer a bounty to induce men to enter the profession.

The Discoverer of the Therapeutic Usefulness of the Wet Compress.—According to the *British Medical Journal*, Dr. S. G. Zervos, of Athens, claims for Hippocrates the honor and glory of having discovered the therapeutic usefulness of the wet compress, which is generally attributed to Preissnitz, the apostle of the water-cure. In proof of this claim he cites the following passage from the Father of Medicine (Littré, *Œuvres Complètes d' Hippocrate*, t. ii, p. 269):

> In pain of the side . . . it is not inappropriate to use in the first instance fomentations with the object of relieving it. Of fomentations, the most potent is hot water enclosed in a leather bottle. . . . It is well also to apply a large soft sponge steeped in hot water, and squeezed out; the fomentation should be covered with cloth; in this way the heat will be longer maintained.

MISCELLANY.

Obituary.—PROFESSOR TOURDES, vice-president of the Association of the Physicians of France, dean of the Nancy Medical School, at Nancy, aged 90 years.—DR. JOHANNES VON STEINAU STEINRÜCK, of the Bethany Hospital, Berlin, of heart-disease, in his fiftieth year.—PROFESSOR ALBERT MOOREN, of Düsseldorf, whose name is known not merely as an ophthalmologist, but as a historian.—DR. ANTONIO VALENTI, lecturer on general pathology in the University of Rome.—Dr. ORSI, professor of clinical medicine in the University of Pavia.—DR. BRUNETTI, formerly professor of pathological anatomy in the University of Padua.—The MARQUESS ANDRÉS DEL BUSTO, formerly professor in the Medical Faculty of the University of Madrid.—DR. CONSTANTIN VOROSHILOFF, formerly professor of physiology in the University of Kazan.—DR. PHILIP KNOLL, professor of general and experimental pathology in the University of Vienna.—DR. OSCAR WIDMAN, Extraodinary Professor of medical pathology in the University of Lemberg.

The Latest Literature.

British Medical Journal.

February 3, 1900. [No. 2040.]

1. Some Cases of Dilation of the Stomach Considered from the Surgical Aspect. WILLIAM H. BENNETT.
2. Two Cases of Colectomy. F. T. PAUL.
3. A Case of Gastrostomy by Franck's Method. COLIN MACVICAR.
4. Renal Papillectomy: A Contribution to the Study of Painless Unilateral Renal Hematuria in the Young Adult. E. HURRY FENWICK.
5. A Case of Abdominal Nephrectomy for Renal Sarcoma in a Young Child. CHARLES A. MORTON.
6. Cases of Operation for Intestinal Obstruction. JAMES TAYLOR.
7. Removal of a Submucous Fibroid by Section of the Uterus (Myomectomy). JAMES BRAITHWAITE.
8. On Removal of the Cancerous Uterus by the Abdominal Route. T. HENDERSON POUNDS.
9. On Suture of Fractured Patella by an Improved Method. R. GLASGOW PATTESON.
10. The Disposition of the Utero-Vesical Pouch of Peritoneum in Cases of Distention of the Vagina and Uterus. W. MCADAM ECCLES.
11. Note on a Splint for Use After Amputation. A. MARMADUKE SHIELD.
12. A Case of Sodium-Salicylate Poisoning. H. H. SCOTT.
13. Kernig's Symptom in Meningitis. W. J. BUCHANAN.
14. Hemorrhage Through the Lachrymal Duct After Plugging the Nares. D. RICHMOND.
15. Complete Atresia Vaginae. W. E. FOTHERGILL.
16. A Case of Guinea-Worm Causing Suppuration of the Knee-joint. H. INNES.
17. Intestinal Obstruction Produced by Large Gall-stone. P. CLENNELL FENWICK.

1.—Bennett, in speaking of **dilation of the stomach,** says that such a thing as idiopathic dilation seldom if ever occurs. There may be, and quite often are, cases where at the postmortem no cause for the dilation could be found, but if these stomachs had been examined during life, spasm of the pyloric sphincter or other temporary occlusion of the pylorus would in all probability have been discovered. He reports several cases which very prettily exemplify this. Dilation of the stomach may be divided into two main classes—the persistent and the intermittent. Speaking generally, persistent dilation is the result either of continuous pyloric obstruction, or of adhesions or other gross pathologic conditions, which prevent the stomach-walls contracting in the normal manner. Intermittent dilation depends upon recurrent temporary pyloric obstruction (*a*) from spasm of the pyloric sphincter, or (*b*) from the occurrence of intermittent mechanical obstruction in the lumen of the pylorus. The intermittent dilation is more frequently due to irritation of abnormal conditions outside the viscus than internal lesions. Movable kidney is probably the commonest cause, although any floating abdominal tumors, especially if occurring on the right side, may give rise to the requisite irritation. Bennett does not place much reliance upon the succusion splash as a diagnostic symptom, because of the difficulty in differentiating between that of a dilated stomach and that of a distended colon. In considering the treatment of dilation of the stomach we must bear in mind that there are three stages. In the first stage, that of mere irritation, no surgical interference is justifiable. In the second class, where there is much pain accompanying the beginning of dilation, exploratory abdominal incisions are often necessary. In operating for dilation of the stomach in general, the object should be to seek to remove all external causes first and then proceed to other operations as indicated. When nothing has been found which may be held accountable for the condition the anterior gastric wall should be incised, and if any contraction of the **sphincter pylori** be found, it should be stretched until the pylorus will admit 2 or 3 fingers. [G.B.W.]

2.—The operation of **colectomy,** as done by Paul, may be described as follows: A free incision is made over the seat of stricture and the bowel exposed. The mesentery is now divided well beyond the growth on each side, which procedure allows the tumor to hang well out of the wound. The mesentery is then sewn together in an opposite direction so as to make the looped-up bowel lie closely together for some 3 inches or more. Two small incisions are made in the gut, one above and one below the growth, and through the upper incision a large glass drainage-tube is introduced and ligatured in place, and through the lower a smaller tube. Finally, the loop of the bowel containing the tumor is cut away. The tubes are left in for 7 days, when after their removal a pair of dressing-forceps are introduced, one blade into each opening, and the handles fastened together with rubber tubing. In a few days the forceps will have cut through the spur for the depth they were introduced and the lumen of the bowel restored. [G.B.W.]

3.—MacVicar reports a case of carcinoma of the esophageal opening of the stomach treated by **Franck's method of gastrostomy.** The operation consists in procuring a cone of stomach-wall through a primary incision and then carrying it subcutaneously to a second incision one inch higher up, where it is brought out, and fixed by 2 or 3 catgut-sutures. After closure of the first incision the stomach is opened and a tube left in for 3 days or so. In the case reported, there was some infection of the wound but a very good result was obtained, no leakage through fistula during coughing or retching, and only a little overflow when the tube was withdrawn. [G.B.W.]

4.—Fenwick says that the **painless hematuria occurring in young adults** is very often due to an engorgement of the papillary part of the malpighian pyramid and to a plexiform mesh of dilated vessels covering the papilla itself. The vascular change is due probably to a localized patch of interstitial nephritis, impeding the circulation in the boundary layer of the pyramid. The site of the disease is only apparent on opening the renal pelvis, when a vivid red papilla assuming the aspect of a tiny villous growth may be seen standing out in strong contrast to the pale papilla around. Fenwick asserts that the removal of this vascular papilla with a sharp scoop is sufficient to arrest a renal bleeding which no drug can control. He reports two cases successfully treated by this method. In the first the hematuria had existed 5 years before operation, but disappeared after the removal of the diseased papilla, and did not return as long as the case was watched, which was 3 months. In the second, the duration of the bleeding was only 14 days, but at the operation the hemorrhage was seen coming from one of the renal papillae. This diseased papilla was scooped out and the hematuria was cured. [G.B.W.]

5.—The patient in this case of **abdominal nephrectomy** was only 18 months old. She had hematuria and a large lobulated mass could be felt on the left side. The growth was exposed by an incision in the left semilunar line, and after ascertaining the normal condition of the other kidney, the diseased one was removed. The growth removed was about the size of a cocoanut, and, on microscopic examination was seen to consist of both round and spindle sarcomatous cells, also some glandular tissue-adenosarcoma. The patient died 5 months later, but at the postmortem no local recurrence was found, death being the result of miliary tuberculosis. [G.B.W.]

6.—Taylor reports 7 cases of operation for **intestinal obstruction,** 3 of which made good recoveries and 4 died. [G.B.W.]

7.—Braithwaite reports the successful removal of a submucous fibroid of the uterus by abdominal myomectomy. A rubber tourniquet was applied tightly around the cervix so that the operation was almost bloodless. A drainage tube was passed from the uterine cavity into the vagina after the tumor had been enucleated. The patient made an uninterrupted recovery. [W.K.]

8.—Pounds believes that the removal of the **cancerous uterus** is a justifiable operation for the following reasons. First, the immediate mortality does not forbid it; second, recurrence is not more rapid than after other operations for cancer; and lastly, death after recurrence is not attended with so much suffering, the rectum and bladder being seldom perforated. He prefers the abdominal route in a small percentage of cases, either because of the bulk of the uterus or the extreme narrowness of the vagina, or the fixity of the

rus from old peritonitis due to diseased appendages or to lignant infiltration. [W.K.]

).—Patteson advises that in **suturing the patella for icture,** the surgeon should wait until the more acute nptoms have subsided; that the open method be used l the recesses thoroughly cleansed from clots and syno- l membrane; that a single and sufficiently strong suture used; that the fibrous tissue be sutured over the suture, l finally, that early passive movement should be resorted [G B W.]

0.—Eccles finds that in cases in which the vagina is dis- ded with fluid, the bladder is drawn up out of the pelvis, uterus also rising on the summit of the vagina, and thus t the natural relationship of the uterovesical reflection of peritoneum is preserved. It is usual in this class of cases the urethra to be elongated, and for it to be pressed upon ween the distended vagina and the pubic bones, and thus se retention of urine. In instances of distention of the rus, apart from the vagina, as in normal pregnancy, the dder is not raised, and the uterovesical pouch of the peri- eum, therefore, becomes considerably stretched and flat- ed out. [W.K.]

1.—Shield recommends in the treatment of large and by **amputation stumps,** the use of a fenestrated int fastened directly to the leg by adhesive straps. The inage-tube projects through the fenestration, which is of ficient size to allow of the application of proper dressings. B W]

4.—In this case of plugging of the nares the blood not y came through the lachrymal ducts but also appeared in right ear, coming through the eustachian tube and out ough an old perforation in the drum. [G.B W.]

5.—Fothergill reports a case of complete atresia vaginae. K]

6.—The patient, when a boy, had suffered from the pres- e of a **guinea-worm** in his left leg. On July 16 he veloped pain in right knee and noticed a guinea-worm truding from an orifice below the knee. The joint was ened and a piece of guinea-worm 4 inches in length was en out. Drainage was established and the patient made apid recovery. [G.B W.]

7.—The **gallstone** in this case had for some time sed irritability of the bladder by pressing on the neck ile the symptoms of intestinal obstruction were of only ays' duration. The stone weighed 252 grains, and after removal from the intestine the patient made a good recov- . [G.B W.]

Lancet.

February 3, 1900. [No. 3988]

The Value of Eye-Symptoms in the Diagnosis of General Diseases. HENRY E. JULER.
Some Complications Following on Injuries about the Elbow-Joint and their Treatment. H. LITTLEWOOD.
Day-Terrors (Pavor Diurnus) in Children. GEORGE F. STILL.
Some Reflections upon Appendicitis. J. O'CONOR.
Further Observations on Pernicious Anemia (Seven Cases); a Chronic Infective Disease; its Relation to Infection from the Mouth and Stomach; Suggested Serum-Treatment. WILLIAM HUNTER.
Some Experiments on the Sterilizing Properties of Unconfined Superheated Steam. L. COBBETT and J. H. C. DALTON.
Septic Lymphangitis along the Ureters Affecting the Kidneys Treated with Antistreptococcic Serum; Recovery. J. W. STENHOUSE.
The Treatment of Imperforate Rectum; an Analysis of Ten Cases, in Nine of which Colotomy was Performed. W. P. MONTGOMERY.
A Case of Fibromyoma of the Uterus; Left Hydrosalpinx; Cardiac Dilation and Degeneration; Total Abdominal Hysterectomy; Death on the Tenth Day from Perforation of a Latent Duodenal Ulcer. THOS. WILSON.
A Case of Dislocation of the Head of the Tibia Backwards, Upwards, and Inwards, and of the Patella Upwards and Outwards. E. A. MILLS-ROBERTS.

1.—Juler emphasizes the value of **eye-symptoms in the diagnosis of general diseases.** A bacteriologic study of the discharges in purulent ophthalmia will oftentimes enable one to recognize the fact that the condition is dependent upon the existence of a specific urethritis or possibly of diphtheria. In acquired syphilis the eye may be the point of entrance of the infection. This initial chancre may be mistaken for tuberculous ulcer of the palpebral conjunctiva. For this reason it is well not to commence the constitutional treatment for suspected chancre of the eyelid until the diagnosis is confirmed by the secondary manifestations of syphilis, since the use of mercury which is so very beneficial in the syphilitic lesion is liable to act injuriously in tuberculous cases. Syphilitic iritis resulting from acquired syphilis is a very common lesion and one the origin of which is not often recognized by the patient. Interstitial keratitis is most commonly of syphilitic origin, resulting occasionally from acquired syphilis, more often from the inherited form. Influenza gives rise to many conditions in the eye which seem to occur in direct proportion to the severity of the previous attack. The author has observed paresis of the external rectus muscle, causing internal strabismus, acute glaucoma, hyperemia of the conjunctiva with or without discharge, paresis of accommodation, embolism of the central artery of the retina, optic neuritis and neuro-retinitis, single and double. The value of the ophthalmoscope as a means of diagnosis in general diseases, in the author's opinion, is not sufficiently appreciated by the general practitioner. He recommends its more constant use and points out that it will be of great value in gaining additional data toward the making of a diagnosis in many obscure conditions, citing in the way of illustration the various renal diseases and more especially diseases of the nervous system, intracranial or otherwise. [S.M H.]

2.—Littlewood described a form of injury to the elbow-joint resulting in extension of the wrist with strong flexions of the interphalangeal joints which no reasonable amount of force appears to be capable of straightening. When the wrist is flexed to a right angle, however, the interphalangeal joints may be easily extended. It was at first thought that this condition resulted from nerve-injuries, but he now believes that the deformity results from some severe injury of the flexor muscles. After these are torn the muscular tissue is replaced by fibrous tissue, thus producing contraction. In one slight case benefit resulted from massage; in two other cases **lengthening** of the **tendons** was performed. The superficial flexor tendons were exposed, a scalpel was thrust into the middle of each tendon dividing it for about an inch in a longitudinal direction; at the lower part of this incision a transverse division of the tendon was made in outward direction; a similar division was made inward as the upper end of the slit; the amount of lengthening is determined by the ability to extend the fingers with the wrist in an extended position; the tendons are united with fine silk. [M.B.T.]

3.—Still reports 3 cases of **day-terrors** occurring in children aged 6½, 3 and 4½ years. He quotes 2 cases recorded by Henoch. He attracts attention to the fact that the subject has received very little attention in literature. It is very closely related to night-terrors, and in 4 cases out of the 5 referred to night-terrors were or had been present, and it would seem that the day attacks may be associated with them or replace them. The symptoms of this condition are fairly constant. A nervous, excitable child in the midst of his play, or while sitting quietly in a room with other people, suddenly, without any apparent cause, begins to scream and look terrified. He sometimes thinks imaginary persons are after him or that he hears something which frightens him, or possesses some other form of hallucination or delusion. He rushes to someone for protection, and all attempts to soothe have no effect in pacifying him. In the cases recorded there was never any loss of consciousness. The children became pale. The duration of the attacks varied from a few seconds to a quarter of an hour. Their frequency varies from one in a fortnight to 20 in a day. The etiology of the condition is as difficult to determine as is that of night-terrors. The subjects of the condition are children of excitable nervous temperament, and in the author's 3 cases there was a family history of rheumatism. Some writers have considered night-terrors as closely allied to or identical with epilepsy. The occurrence of similar attacks in a waking condition might be thought to favor this view. It might be suggested that in

day-terrors one has an epileptic condition in which only the psychical symptoms corresponding to the aura of the major attack are present. There is as yet, however, no evidence that these children are especially liable to ordinary attacks of petit mal or major epilepsy as one might expect if these attacks were indeed a masked form of epilepsy. The results of treatment in the two conditions are also different, day-terrors being easily cured by very simple treatment. Such treatment as an alkali to remedy the digestive trouble which is present in some cases or the removal of thread worms or of any other local irritant is sufficient. Day-terrors are allied to epilepsy only in that they are a form of paroxysmal neurosis. There is obviously only a narrow line between day-terrors and some forms of insanity. The immediate prognosis in day-terrors is good; cure is permanent so long as the exciting cause, whatever it may be, is avoided. [S.M H]

4.—O'Conor advocates **operation in all cases of appendicitis** from the reason that he believes that spontaneous cure or the formation of protective adhesions after perforation are very uncertain; the operation is simple and devoid of risk, and he is skeptical as regards expectant cures. He advises removing the appendix in all cases; thorough cleansing by continued gentle sponging is of great importance. [M.B.T]

6.—Cobbett and Dalton report some experiments on **the sterilizing properties of unconfined superheated steam.** They conclude that the sterilizing effect of superheated steam at atmospheric pressure upon the interior of articles of bedding is identical with that of saturated steam at 100° C., but that its action upon living germs upon the surface of these things is inferior. In practice, however, it will generally happen that the surfaces of articles get a preliminary exposure to saturated steam which will result in the destruction of the living germs upon the surface. The superheated steam may be relied upon to leave articles exposed to it for a sufficient length of time drier than before. The length of time necessary to obtain this result is, in the case of those articles which ordinarily require sterilization, not inconveniently long. [S.M H.]

7.—The case of a woman, 28 years of age, is reported, who suffered from what was believed to be septic lymphangitis affecting the kidneys. The condition arose from infection after childbirth, 7 years previously. The patient was successfully treated with antistreptococcic serum. [M B T.]

8.—Montgomery reports 10 cases of **imperforate rectum** in which he has operated; in 4 cases he made attempts to find the lower end of the intestine, but without success; in one case the perineal operation was done successfully and in 5 other cases immediate **colotomy** on the left side was performed. Seven of the patients died. Colotomy is preferred to the perineal operation from the reason that in many cases it is difficult to find the lower end of the intestine, and feeble children are not proper subjects for prolonged operations. It is believed that there is better chance of relief of distention of the bowel by the abdominal route, and that an inguinal anus is more comfortable and more easily attended than a noncontrolable anus near its normal position. [M B T]

9.—Wilson reports a case of **abdominal hysterectomy** for a fibroid tumor of the uterus in which death occurred on the tenth day from the perforation of a latent duodenal ulcer. A careful necropsy showed the opening on the posterior wall of the first part of the duodenum about half an inch beyond the pylorus. The heart-muscle was soft and flabby and was uniformly brown in color, with a somewhat hyaline appearance. The writer calls attention to the frequency of serious cardiac affections in cases of uterine fibroids. A fibroid may give rise to heart affection by reason of the anemia which is often present, or, in a more direct but less easily understood manner, by setting up hypertrophy that only later leads to dilation and degeneration. A somewhat analogous relation to the later may be found in the hypertrophic dilation of the heart that arises during pregnancy, but there is the important distinction that the causing condition in this later case is of definite duration, whereas in the case of the fibroid the duration is indefinite. The question of the connection between the affection of the heart and that of the uterus has an important bearing upon the treatment of the latter. If the affection of the heart in any case appears to have arisen as a consequence of the growth of the uterine tumor, and if it is progressive in spite of medical treatment, the condition of the heart becomes an urgent indication for the removal of the tumor by operation. [W.K.]

10.—A slate miner, 55 years old, while suspended by a rope on the face of a quarry, was struck by some debris causing him to swing out and back, when his foot and leg were caught between two stones; at the same time debris came down and struck him on the back and shoulder wrenching his leg severely. On examination it was perfectly evident that there was a **dislocation** of the **head of the tibia** backwards and upwards and inwards and of the patella upwards and outwards. The dislocation was easily reduced by extension; a long posterior splint and evaporating lotion were the treatment for the first three weeks, then passive movements and massage were begun, these being discontinued on the least sign of inflammation. The man now wears a supporting apparatus, and is able to follow his occupation without inconvenience. [M.B.T.]

New York Medical Journal.

February 17, 1900. [Vol. lxx, No. 7.]

1. Studies on Internal Antisepsis. EDWIN KLEBS.
2. The Importance, both Medicolegal and Clinical, of the Early Recognition of Certain Organic Affections of the Nervous System, including Paresis. J. LEONARD CORNING.
3. Overstudy. LEROY M. YALE.
4. The Therapeutic Value of Alcoholic Stimulants. F. A. CASTLE.
5. Digitalis and Aconite; Their Physiologic and Therapeutic Action. F. O. HAWLEY.
6. The General Treatment of Phthisis Pulmonalis. GEORGE A. EVANS.
7. A Plea for the More Extended Use of Antitoxin for Immunizing Purposes in Diphtheria. JOHN S. BILLINGS.
8. Four Cases of Diabetes Mellitus of Apparent Bacterial Origin, and their Successful Treatment. J. P. SHERIDAN.
9. Skin-Manifestations of Influenza Observed in the Present Epidemic. J. EDWARD HERMAN.

1.—Klebs has studied the weight, the temperature, the local conditions, and the condition of the blood in infected animals when tetra-iodo-phenol-phthalein and its sodium salt were used locally or by injection. He found that much less weight was lost than in control-animals similarly infected, but untreated, the temperature was much more regular (less septic), there was a much more pronounced leukocytosis, and especially locally in wound-secretions there was a very large number of eosinophiles. **Eosinophilia** he considers the **evidence** of a **healing process.** [D.L E.]

3.—Yale believes that **overstudy** is responsible for much less damage to children than is commonly supposed. He directs attention to the fact that most cases of breakdown occur in the earlier and easier years of study and few in the hard years of professional study and special work. (This would seem to be survival of the fittest.) He thinks that breakdown during study is the result of inherent weaknesses etc., rather than of the excessive study itself. [D.L E.]

4.—Castle states that alcoholic beverages should be placed in small bottles and well corked so that their volatile constituents may not escape through the imperfect bottling or through frequent opening of the container. These volatile ethers he considers of much therapeutic worth. [D L.E]

5.—Hawley discusses the physiologic and therapeutic action of **digitalis** and aconite and directs attention to the marked quantitative variation seen in their action. He considers this due to the varying strengths of the preparations sold and insists that all preparations should be physiologically standardized. [D.L E.]

6.—Evans has had good results from the **inhalation of compressed air.** The best antiseptic in his experience is crystallized carbolic acid in 25% to 35% solution in equal parts of glycerin and water used as a spray. He publishes a scheme of general dietetic and hygienic rules which he distributes to patients. [D.L E]

7.—Billings publishes a table showing that the deaths from **diphtheria** in New York have declined from over 2,000

to 1894, to 1087 in 1898, and the mortality from 36.7% 891, and 40.6% in 1892, to 13.1% in 1899, and 12.2% in 3. Antitoxin was given free of charge to 1902 patients 1899, with a mortality of 12.3%, or with 91 moribund s deducted, 7.8%; 1093 patients were immunized in the 9 months of 1899, and among these only 6 cases of diph- ia occurred after 24 hours and within 30 days. He ks fever cases would have occurred after immunization if units instead of the usual dose of 150 units had been n. He believes that immunization is an important aid hecking the spread of the disease, and that its use is lected. [D.L.E.]

.—The eruptions which Herman has noticed have **simu- ed scarlet fever, measles, and herpes.** The mea- eruption looks papular and may be widespread or con- d to the cheeks. The herpetic eruption is often called carial, but Herman considers it to be more often prop- termed herpetic. [D.L.E.]

Medical Record.

February 17, 1900. [Vol. 57, No. 7.]

The Inoculation of Malaria by the Mosquito; A Review of the Literature. IRVING PHILLIPS LYON.

Observations on the Surgery of the Brain, Based on Clinical and Experimental Evidence. GEORGE W. CRILE

Splenic Extract and the Splenic Function. CHARLES RAYMOND CARPENTER.

.—Lyon gives an interesting review of the literature, ch of which has previously been abstracted by this de- tment. He ends by mentioning that **mosquitos may exterminated** by draining the pools, by introducing into them and by placing such chemical substances as roleum on the water. The first and last methods are very ctual. Lyon believes that active cases of malaria should solated by netting or otherwise, so that they cannot be en by mosquitos and that a case of malaria should be sidered a menace to the public health if the anophiles mosquito which seems usually to transmit the disease) ound in the same locality, as the reappearance of malaria the same district is probably due to transmission from individual indirectly to another. [D.L.E.]

.—As the result of experiments and clinical experience le believes that there are no decided symptoms of **intra- nial pressure** unless the brain has been subject to a pression of about 5% of its volume. Such intracranial ssure produces a slow full-pressure pulse; when a rapid se alternates with a slow pulse it is a sign of injury of the diac center, and operations under such conditions are rly always fatal. Ice is mentioned as a powerful inspir- ry stimulant and heat a powerful expiratory stimulant ich may be used in case of sudden respiratory failure un- he skull can be opened, for relief of intracranial pressure, en normal respiration will usually be resumed. He has nonstrated experimentally that the first effect of a blow l resulting intraventricular pressure is respiratory failure. roducing a needle connected with a normal salt-solution l allowing the fluid rapidly to fill the lateral ventricles l cause almost immediate arrest of respiration. In one shot experiment the animal died of respiratory failure hout the ball touching any portion of the brain. Arti- al respiration should be the first aid in brain-injuries. m experimental and clinical experience Crile regards part of the cerebellum as a safe field for exploration or ration. He finds no evidence of any injury resulting to brain from jarring when opening the skull with a mallet l chisel. A case is reported in which a 22-caliber bullet k effect just above Reid's base line on a vertical plane h the anterior border of the ear; the bullet was readily moved. No other part of the brain was injured. The y symptoms resulting were inability to name common ects; it seemed that the name-center had been destroyed the bullet. The observations are based on **47 brain op- tions** and a series of **experiments on animals,** the nber of which is not noted. [M. B. T.]

.—Carpenter uses **splenic extract** in those infectious dis- es which are associated with a **decrease of leuko- es,** or absence of leukocytosis, since splenic extract has been shown to produce a leukocytosis under some circumstances and thus, he believes, overcomes the toxemia. [D.L.E.]

Medical News.

February 17, 1900. [Vol. lxxvii, No. 7.]

1. An Improved Operation for Acute Appendicitis or for Quiescent Cases with Complications. ROBERT F. WEIR.
2. The Bubonic Plague. EDWIN KLEBS.
3. A Consideration of Acute Inflammatory Rheumatism. W. H. NEILSON.
4. Two Cases of Rupture of the Right Lobe of the Liver; Laparotomy; Recovery. H. BEECKMAN DELATOUR.
5. Report of Bacteriological Investigations upon Yellow Fever. ARISTIDES AGRAMONTE.
6. A Case of Post-Epileptic Amnesia. DAVID TRUMBULL MARSHALL.

1.—The method of **operating on appendicitis** by incising the external oblique fascia and then forcibly separating the muscles is so superior to the older method of cutting through the muscle in the prevention of hernia that it is the operation *par excellence* in many cases. It, however, does not provide sufficient room for the complicated cases and the incising of the intermuscular space upward along the border of the rectus has proved unsatisfactory. Weir proposes to gain the necessary room by tearing the denuded fascia of the external oblique from the sheath of the rectus quite up to the median line. The anterior sheath of the rectus is there divided transversely in a line continuous with the opening made in the peritoneum by the original muscle-separation operation. The rectus muscle can now be retracted medianwards and after ligation or retraction of the epigastric vessels, the posterior sheath and peritoneum can be cut in a direction similar to the anterior sheath. The procedure allows the greatest access possible to the right iliac fossa. The sheaths of the rectus should be closed with catgut. [G.B.W.]

2.—Klebs gives a brief review of the literature concerning the **bubonic plague.** He describes the bacillus discovered by Kitasato and Yersin, mentioning particularly its tendency to show involution forms. It is easily destroyed by heating and chemicals, but resists drying fairly well. It is possible that fleas and mosquitos, as well as rats and mice, are capable of conveying the contagion. Haffkine's protective inoculation and Yersin's curative serum may prove to be of considerable value. The epidemic manifestations of the disease should not be very difficult to control. [J.S.]

3.—Neilson describes the various theories regarding the nature of **acute inflammatory rheumatism.** He believes apparently that an excess of lactic acid (?) in the blood is more likely to be the cause than anything else. He is by no means unfavorably disposed toward the microorganismal theories, and apparently regards bacteria as possibly the cause of the excess of the lactic acid. The best treatment is salicylic acid or its compounds in full doses. [J.S.]

4.—A woman, 21 years of age, was struck by a rapidly moving train. There were several fractures of extremities, and two ribs were broken. A laparotomy for intra-abdominal hemorrhage revealed a rent in the under surface of the liver, 2½ inches long, and 1½ inches deep, also several small rents in the spleen. From none of these, however, was there any active hemorrhage; so the abdominal wound was closed and the patient made a rapid and uninterrupted recovery. The second case was a man, 44 years of age, caught between two cars while at work. When operated upon, a rent in the under surface of the liver was found, which was slowly but steadily bleeding. The hemorrhage was checked by pressure with gauze, and the abdominal wound closed. This patient also made a rapid and good recovery. [G.B.W.]

5.—Agramonte continues his article upon **yellow fever,** and describes a number of experiments in which heart-blood obtained from persons dead of yellow fever was injected into guineapigs, the results being in all cases negative, with the exception of a few instances of accidental infection. Agglutination of the bacillus icteroides was tried with the blood of 33 persons convalescent or sick of the

disease, in several instances a number of specimens being obtained. In 5 cases there was arrested motility of the microorganisms, but no agglutination. Therefore, it seems likely that the Bacillus icteroides can only be agglutinated in the proper dilution and time-limit by the serum of animals infected with itself. Serum was also obtained from convalescent yellow-fever patients and injected into various guineapigs, that were then inoculated with the Bacillus cteroides. There was absolutely no protective effect manifested. Finally a series of experiments were made in line with those of Klemperer and others upon pneumonia, scarlet fever, etc., in order to determine whether it was possible to use the blood-serum of the patients convalescent from yellow fever for the purpose of curing the disease when established in other persons. The blood-serum was collected in convalescence under the most elaborate aseptic precautions, and only from patients having absolutely no taint of chronic disease. A number of patients were injected with this serum, but in some of them other treatment was used. Of 5 of the cases selected for the report 4 recovered, and all showed absence of a hemorrhagic tendency, and very rapid convalescence. The fifth, admitted on the fifth day of the disease, died. One of the patients had probably in addition to his yellow fever a chronic malaria. Although Agramonte is unwilling to draw positive conclusions from this small number of cases, he is rather inclined to believe that the disease is modified by the injections. [J S.]

6.—Marshall reports the case of a girl, 22 years of age, who, at the age of 16, had had attacks of fainting, with occasionally more general convulsive seizures. These attacks were not preceded by aura, nor followed by dulness nor sleeplessness. The last attack began by the patient fainting, falling on the bed, and then, when aroused, becoming violent. She was unable to recognize her relatives, and was only quieted by large doses of morphia. At the end of 3 days, she became quiet, but believed she was 15 years of age, and called her friends by the names of people she had known at that time. There was complete loss of memory for all events subsequent to that period. On the tenth day she recovered without recollection of anything that had occurred during the period of amnesia. [J S]

Boston Medical and Surgical Journal.

February 15, 1900. [Vol. cxiii, No. 7.]

1. A System of Clinical Instruction.—For the Simultaneous Instruction in Small Sections of a Large Number of Students. A. H. WENTWORTH.
2. The Case of a Man Who Swallowed His Suspenders; Removal by External Esophagotomy; Recovery.—Other Similar Cases. MAURICE H. RICHARDSON.
3. The Clinical Value of Oliver's Hemocytometer. DAVID D. SCANNELL.
4. Diffuse Peritonitis from Acute Appendicitis in a Girl Aged Thirteen Years; Operation; Recovery. J. COPLIN STINSON.

1.—Wentworth describes the method of teaching employed in the Harvard Medical School, particularly in his own department of pediatrics. This method is essentially clinical, the students being assigned in groups of 3 to particular cases, each group of men examining the case that has been allotted to it, and reporting on the same to the instructor with a provisional diagnosis. This diagnosis is then criticised, and the students permitted to ask questions. An important feature is the fact that the students are forbidden to ask any questions of the patients excepting such as relate directly to the physical examination, and are, therefore, obliged to make the diagnosis without reference to the history. They are supposed to report also upon the condition of the normal organs as well as upon those that are diseased. The class is divided into sections of 9 men, and when 3 men have been assigned a case and completed their study, the remaining 6 are allowed to look at it, and, if they wish, to form independent opinions. Wentworth concludes by an elaborate roster which is designed to show how this work is performed in the Harvard Medical School, and how it could be performed elsewhere. He thinks a practical examination is important. [J S.]

3.—Scannell describes Oliver's method for estimating the red blood-corpuscles, which consists essentially in rendering a given quantity of blood transparent by the addition of sor fluid that holds the corpuscles in suspension. It is necessa that this transparency should be seen in a tube of very sm caliber, or in an ordinary sized tube that is flattened. T instruments consist of a flattened tube containing a scale small capillary pipet holding exactly 10 ccm., a mixi pipet, a mixing solution, preferably Hayem's, and sor source of artificial light, a small candle being the most sat factory. The presence of a considerable leukocytosis w alter the reading slightly, but ordinarily, unless there is mo than one white cell to 500 red cells, the difference cannot detected by the eye. The technic consists in thorou cleansing of the lobe of the ear, puncturing, collecting t drops in the capillary pipet, and washing it into the fl tened tube with a scale. This is then held between t thumb and forefinger against the light, and the dilut liquid added until at the sides of the tube, as it is rotat slightly on the axis, a slight transparency appears. The liqu is then added very cautiously until a horizontal line of lig appears all the way across the tube, and the reading shou then be made. Twenty-seven cases were tested by tl method, and the estimations controled by very thorou counts by the Thoma-Zeiss instrument. It was found th aside from two cases in which there were very pronounc leukocytosis, the greatest difference was 74,000 cells, the le difference 4,000, and the average 35,000 cells, a number th is not greater than is ordinarily found in the successi Thoma-Zeiss counts. [J.S.]

Journal American Medical Association.

February 17, 1900. [Vol. xxxvi, No. 7.]

1. The Hockey-Stick Incision. WILLY MEYER.
2. The Bubonic Plague. EDMOND SOUCHON.
3. Bilharzia Hematobia. EDWIN WALKER.
4. Corneal Corpuscular Activity. JOSEPH E. WILLETTS.
5. Eviscero-Neurotomy. J. G. HUIZINGA.
6. Railway Hygiene and Emergency Equipment. W. GRANT.
7. Operative Treatment of Chronic Glaucoma. ALEX. STIRLING
8. Why the Negro Does Not Suffer from Trachoma. W WICK M. COWGILL.
9. Convergent Strabismus. WILLIAM B. MEANY.
10. Mucocele in the Newborn. CLARK W. HAWLEY.
11. The Maddox Rod or Phorometer; Which? ALVIN HUBBELL.
12. Treatment of Septic Conditions in Children. EDW ROSENTHAL.
13. Eosinophilia in Dermatitis Herpetiformis (Duhrin MARK A. BROWN.
14. Have We in Nature a Basis for a Science and Art in Me cine? H. J. HERRICK.

1.—See news columns, this week.

3.—A slender delicate woman of 28 was taken ill ab 9 years previously with pain in the right inguinal region. cystic ovary was removed and she remained well 1 ye when she was taken with pain in the region of the blad with hemorrhages which were supposed to come from t uterus. The hemorrhage was found later to come from t bladder. A cystic ovary of the left side was removed wi out incident, but after recovery from the operation the p and hemorrhage returned. The abdomen would become d tended, tympanitic and sensitive, then suddenly there wou be a gush of fluid of a specific gravity of 1.001 to 1.006 c taining almost no urea. The amount of fluid varied amount from a few ounces to a gallon, and was accompan with a discharge of gas. In the sediment of this fluid w found the ova and embryos of **bilharzia hematobia**. T small young worms were also found. No means have been found for the removal of the worm from the blood of the ova from the tissues. The irritability of the blad should be treated by injections of boric-acid solutions, v lent exercise should be interdicted and demulcent drin should be given. Surgical intervention is rarely necessa [M B.T.]

6.—See editorial columns.

10.—See PHILADELPHIA MEDICAL JOURNAL, Vol. IV, p.

11.—See PHILADELPHIA MEDICAL JOURNAL, Vol. IV, p.

12.—See PHILADELPHIA MEDICAL JOURNAL, Vol. IV, p. 12.

13.—A case of **dermatitis herpetiformis** is reported which there was coexisting eosinophilia. The examination of the blood seemed to indicate that with improvement the dermatologic condition there was an effort of the system at regeneration of the blood. Cabot has also observed case of this kind. [M.B T.]

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merican Gynaecological and Obstetrical Journal.

October, 1899. [Vol. xv, No. 4.]

Are the Dangers of the Menopause Natural or Acquired?—A Physiological Study. ANNA M. GALBRAITH.

An Addition to the Enucleation Method of Ovariotomy, Hysterectomy, Etc.; Broad Ligament Forceps used as Temporary Hemostatics, Levers and Tractors while the Enucleation is proceeded with. Illustrative Cases. J. COPLIN STINSON.

Inversion of the Uterus. W. M. DONALD.

The Technic of Antisepsis and Asepsis in Gynecological Surgery. CHARLES GREENE CUMSTON.

1.—Galbraith, in an address before the Alumni Association f the Women's Medical College of Pennsylvania, presents a udy of the **menopause and its dangers.** The nerve- ieory of menstruation is based upon the following views: (1) hat menstruation is a process directly controled by a nerve- enter situated in the lumbar region of the spinal cord. (2) hat the menstrual impulses reach the uterus either through ie pelvic splanchnics, or the ovarian plexus; probably both. 3) That menstruation is the result of nerve-irritation, vas- ular congestion, and subsequent relief of these by hemor- iagic discharges. (4) That hemorrhage from the uterus is ither the result of a local uterine condition, or of influences utside the uterus acting directly on the center. (5) That emoval of the appendages arrests menstruation by prevent- ig the propagation of uterine impulses to the center. By ie menopause is understood the whole period from the eginning, irregularities in the time of appearance of the ienstrual flow until its actual cessation. The average dura- on of the menopause is two and a half to three years. It is physiologic and conservative process. Galbraith describes ie general phenomena of the menopause and the anatomic hanges which occur at this period of life. The most fre- uent and serious disturbances at this period are those of he nervous system. The rich suffer more from these ele- ients than the poor. In regard to treatment, the recently cquired knowledge of the therapeutic action of the thyroid nd other gland-extracts favors the belief of a special gland- ecretion, which would suggest that gland-extracts given in ertain morbific conditions would aid in restoring what is acking in the system, until the economy has become accus- omed to effect the necessary metabolism independently. osberg advises for the vasomotor disturbances 5 grains pal- tinoids of ovarian gland. If gynecologists would watch wo- nen as carefully through the menopause as obstetricians ow watch women through pregnancy, even in that class of vomen liable to suffer, much of the sufferings and many of he dangers would be averted and the woman would be pre- ared to enjoy a healthy and useful postclimacteric period f life. [W.K.]

2.—Stinson gives a further contribution on the **enuclea- ion method of ovariotomy, and hysterectomy,** with he employment of broad ligament forceps as temporary emostatics while the enucleation is being done. In cases where the enucleation is difficult on account of the friability nd size of the uterus, long forceps were clamped successfully n the broad ligaments close to the uterus. The latter was rom time to time separated from the former by blunt dissec- ion, aided at times by cuts of the scalpel, keeping very close to he uterus. By making slight traction of the several portions f the broad ligaments, using the forceps as levers and trac- ors, the cut edges could be brought well into view so as to nspect the stumps for open mouths of vessels, which were lamped with small forceps and ligated with fine catgut. He reports three additional cases, which illustrate the points on his enucleation-method when aided by broad ligament for- eps. [W.K.]

3.—Donald reports a case of **inversion of the uterus.** This is one of the rarest of obstetric accidents. In the clinics of Braun and Spaeth not one case of complete inversion oc- curred in 250,000 births, while in the Dublin Rotunda it was observed but once in 191,000 deliveries. In the case reported as a primipara, aged 23 years, hemorrhage occurred after delivery. The placenta was delivered quickly by the combined method, though the traction of the cord was of the lightest character. The hemorrhage continued, and vaginal examination revealed uterine inversion. The organ was quickly replaced in its natural position by the use of the finger, combined with the force of a stream of very hot water. The patient made a rapid and uninterrupted recovery. [W.K.]

4.—Cumston discusses the **technic** employed in his **gynecologic surgery.** The hands are thoroughly scrubbed with hot water and green soap for ten minutes. During the process of scrubbing the water is frequently changed. After scrubbing the hands and forearms they are washed thoroughly with ether; after this they are scrubbed in alcohol at 90°, and afterward in a 1:2000 solution of sublimate. The sublimate is then removed by rinsing them in sterilized water. The use of rubber or cotton gloves has been abandoned in the majority of cases. Special attention is devoted to the toilet of the beard and hair in order to avoid as much as possible this source of infection. He wears a linen cap to which is attached a small bag, completely enclosing the beard, moustache, and mouth. After the vagina has been carefully washed with ethereal soap it is irrigated with hot water, followed by a 1:2000 sublimate solution or a 1:3000 solution of citrate of silver. Under the consideration of sterilization of suture-material and ligatures, he advises the use of medium-sized twisted silk, as he considers that braided silk is liable to slip along the vessel walls, and produce a possible post-operative hemorrhage. Regarding antiseptic gauze to be used for tamponing the vagina or other cavities, he employs certain bismuth salts exclusively, because they can be sterilized in steam without undergoing any chemical change, and are very weak in their toxic properties, even when employed in large quantities, and are odorless. Iodoform gauze is only used in tubercular lesions. The three bismuth salts selected are xeroform, carbolated bismuth, and subgallate of bismuth, the antiseptic gauzes containing 20 per cent. of their weight of one or the other of these salts. He reports 74 gynecologic patients, with a single unsuccessful result. The case presenting the complication was one of gonorrheal metritis, in which the uterus was removed by vaginal hysterectomy. Four weeks after the operation the abscess which had developed in the left broad ligament ruptured. The case subsequently made good recovery. [W.K.]

November, 1899. [Vol. xv, No. 5.]

1. Fractures and Other Injuries of the Child during Delivery. DAVID JESSUP DOHERTY.
2. Incontinence of Urine; Report of a Peculiar Case. EMIL RIES.
3. Ovarian Cyst with Twisted Pedicle; Report of a Case. REUBEN PETERSON.
4. The Treatment of Cystocele and Uterine Prolapse after the Menopause. T. J. WATKINS.

1.—Doherty discusses **injuries to the child** occurring during delivery. He thoroughly reviews the literature on the subject. Indications for version are of 3 classes:—Those conditions which demand rapid delivery: (1) eclampsia, (2) concealed hemorrhage, (3) placenta previa; conditions which simply jeopardize the child's life—(4) face or brow presentation, (5) prolapse of funis, (6) prolapse of arm or foot alongside of head; conditions which make unaided delivery improbable—(7) high arrest from inertia uteri, large head, constriction of uterus, Bandl's ring or rigid soft parts, (8) pelvic deformity, (9) transverse presentation. If any injury or dislocation is found after delivery it should be treated according to the usual surgical methods, though some modifications must be introduced to suit the condition and needs of the infant, especially in fracture of the femur. The difficulty is to get counterextension. Smellie advised simple bandaging, and placing the child on its side on cushions high enough to reach the mother's breast. Diesterweg used pasteboard splints. Credé, after several attempts at fixation, finally passed a bandage under the knee, and kept the thigh flexed against the trunk for 14 days. Johnson used an ingenious device for getting extension and counterextension.

He laid the baby on a cushion in a rocking chair, from the back of which several rods had been removed. He suspended the limb, splinted with cardboard, to a rod nailed transversely to the arm of the chair. This apparatus served as a cradle, allowed access to the infant for toilet purposes, and kept the limb immovable. The chief motto of the obstetrician should be *Festina lente*—make haste slowly. [W.K.]

2.—Ries reports a peculiar case of incontinence of urine occurring in a patient, 38 years of age. The incontinence was due to the dilated condition of the urethra. The finger could be introduced one-half its length into that canal without difficulty. Ries relieved the case by a plastic operation upon the urethra. [W.K.]

3.—Peterson reports an operation upon an ovarian cyst with a twisted pedicle, and calls attention to the differential diagnosis between a right sided ovarian cyst with twisted pedicle and an ovarian cyst complicated by an acute attack of appendicitis. [W.K.]

4.—Watkins advises three operations for the relief of **cystocele and uterine prolapse** after the menopause: (1) Plastic vaginal operations, either anterior or lateral colporrhaphy, and posterior colporrhaphy if indicated. (2) Vaginal plastic operations combined with abdominal suspension. The suspension is usually accomplished by the fixation of the uterus to the abdominal wall or by shortening of the round ligaments. (3) Hysterectomy. He considers hysterectomy for prolapse and cystocele an unjustifiable operation. In cases after the menopause the propriety of the operation is questionable. Removal of the uterus after the menopause, without resorting to other operations, as is frequently done for prolapse and cystocele, does little or no good, as the prolapsed atrophic uterus is only a small part of the disease. If the uterus is removed in those cases the prolapsed anterior vaginal wall should be sutured to the stumps of the broad ligaments and posterior colporrhaphy made if indicated. It is unadvisable to remove the uterus unless it is the seat of disease, which indicates its extirpation. [W.K.]

Archives of Pediatrics.

October, 1899. [Vol. xxi, No. 10]

1. Urticaria of the Mucous Membranes, Especially in Connection with Asthma. FREDERICK A. PACKARD.
2. The Increase of Weight in Infants Fed Artificially. HENRY KOPLIK.
3. Congenital Cystic Kidneys with Report of Case. EDWIN E. GRAHAM. Pathologic Report. W. M. F. COPLIN.
4. Case of Porencephalus. GEORGE N. ACKER.
5. Report of Case of Anuria. A. C. COTTON.
6. Clinical Diagnosis Chart and Record: A Guide to Bedside Diagnosis for Use in Medical Schools and in Practice. AUGUSTUS CAILLÉ.
7. Angioneurotic Edema Involving the Tongue and Lower Lip. CHARLES GILMORE KERLEY.
8. Deaths in Children Under Five Years in the Largest Cities in the State of New York. GEORGE W. GOLER.

1.—Packard communicates an article on **Urticaria of the mucous membranes, especially in connection with asthma,** and reports several cases of urticaria of the bronchial mucous membrane and a case in which the patient had frequently recurring attacks involving one or both lips with constant involvement of the mucous membrane of the tongue, cheeks, gums and throat. On one occasion, also, after complete subsidence of all visible manifestations there developed continuous hoarseness and a sense of deep obstruction to swallowing, lasting for several days, which was without any adequate explanation other than a probable swelling of the mucous membrane of the larynx and esophagus. He suggests it as possible that some of the gastrointestinal symptoms present with urticaria indicate not the persistence of the cause of urticaria but the existence of urticaria of the mucous membrane of the stomach and bowel. Involvement of the genitourinary tract is more rare. A case of what he believes to have been this condition Packard observed in a man who had marked hematuria which ceased quite promptly as he became covered with a profuse crop of typical urticaria. He had previously had frequent attacks of hives, but never had had hematuria before. The relative infrequency of urticaria of the mucous membranes is probably best explained by the irritation of the skin induced by the clothing and the unwarmed air. A excellent review of the literature bearing upon this subje is included in the paper. [S.M.H.]

3.—Graham and Coplin report a case of **congenita cystic kidneys.** The child was delivered at full term, w well developed but distinctly cyanotic. It died 45 minut after birth. There was nothing of importance noted at th autopsy except the cystic condition of both kidneys. The was no kidney tissue demonstrable. The cystic fluid had specific gravity of 1009; it was clear and contained albumi a trace of urea, a few cholesterin crystals, a few leukocyt and some broken-down cells. There were distinct cyst walls lined by columnar epithelium, in some instances th tall form, in others the low columnar type. Other cysts we lined by flattened epithelium. [S.M.H.]

4.—Acker reports **a case of porencephalus** in a co ored boy aged 4 years. The points of interest show at the postmortem were **atypical fissuration.** The rig Sylvian fissure was distinctly marked; the left lost in th porencephalic depression. The Rolandic fissure was reco nizable in its normal situation, but above, beginning about inch in front of the normal situation there was on the rig side an unusually deep but irregular fissure, and on the le the porencephalic depression. The lower end of each seeme to correspond in position to the normal lower end of th Rolandic fissure. If this was the Rolandic fissure then the was an overdevelopment of the parietal lobes, or better, a underdevelopment of the frontal lobes. The study of th convolutions was difficult on account of the peculiar fissur tion. There was on the left side either an absence of th ascending frontal convolution with progressive absence the other frontals from above downwards, or there was pa tial absence of both ascending frontal and parietal and low frontal. If the former supposition is correct there shou have been more or less paralysis of motion on the right sid of the face, arm and leg, with or without loss of sensatio and probably motor aphasia. The lateral ventricle on th right side appeared normal; on the left side it communicate with the rather funnel-shaped depression mentioned. Th third and fourth ventricles were normal. The basal nerv were present and seemed normal except the left olfacto tract and bulb and right bulb and part of the tract, whi were probably disturbed in removing from the cranium. Th occipital notch on the right side was sharply marke [S.M.H.]

5.—Cotton reports a case of an infant born at term whi upon examination seemed to have no deformities or malfo mations. At the end of 24 hours, **no urine having bee voided,** a surgical probe was introduced into the urethr and easily passed into the bladder. The child never uri ated. On the fifth day the infant became markedly cya otic. Just before death, which occurred on the fifth day, th convulsions were almost continuous. During the last hours the child was in a deep stupor. The autopsy showe a defective septum, between the pulmonary artery and th aorta; a patent ductus arteriosus, and a patulous forame ovale; cyanosis of the skin; sub-pleural ecchymosis; fat cirrhosis of the liver; uric-acid infarction of the kidneys a general infection with the bacillus mucosus capsulatus. Th right ventricle of the heart was much larger than the le which was situated more behind the aorta than usual. Th walls of the ventricles were of about equal thickness, b the cavity of the right was much larger than that of the le The tricuspid and pulmonary valves were normal. The d fective septum between the pulmonary artery and the aor caused the beginning of the aorta and pulmonary artery have a common trunk, from which emerged in the usu places the right and left pulmonary arteries and the branch of the aorta. The part of the aorta distal to the ductus art riosus was wider than the transverse part proximal to th duct. There was extensive hemorrhagic infarction of th lungs, the alveoli and bronchioles in places being filled distention. [S.M.H.]

7.—Kerley observed a boy who immediately after taki a small dose of muriate ammonia and sirup of ipecac d veloped enormous swelling of the tongue and lower lip. half-hour later they were swollen to several times their n mal size. The mucous membranes were tense and reddene The thickened tongue protruded between the teeth, rend ing swallowing impossible. The presence of adenitis se ously interfered with breathing. The swelling subsid

ler treatment. The case was considered one of angio-rotic edema, involving the tongue and lower lip. [S.M.H.]

5.—Goler gives a table showing the percentage of deaths ler 5 years of age for the 9 largest cities in the State of w York, covering a period of 10 years. In nearly all cities the rate shows a distinctly downward tendency, ich may be attributed to the improvements made in the vention, diagnosis, and treatment of infantile diseases, ticularly those of the digestive and respiratory tract. M.H.]

The Practitioner.

November, 1899. [Vol. lxiii, No. 5.]

Dr. MacCormac as one of the Pioneers in the Open-Air Treatment of Consumption. SAMUEL WILKS.
Clinical Lecture Illustrating Progress in the Surgical Treatment of Deformities. A. H. TUBBY.
Incompatibility and Some of its Lessons. WALTER G. SMITH.
The Plague. JAMES CANTLIE.
A New Chloroform Inhaler. GEORGE FLUX.

1.—Sir Samuel Wilks finds that Dr. Henry MacCormac, of lfast, the father of Sir William MacCormac, was one of pioneer advocates of the open-air treatment of consump-n, recommending it first in a book published in 1855. [D.R.]

2.—In a clinical lecture Tubby discusses in a thorough l interesting way hallux valgus, Dupuytren's contraction, don transplantation for paralytic clubfoot, and other ormities, without adding anything specially new to the ject. [M.B T.]

3.—Smith points out the more important chemical incom-ibilities to be avoided in prescribing. The article does lend itself to abstracting. [D.R.]

4.—This is a very concise description of the **plague.** e term bubonic, so frequently used to designate the true gue, does not apply to all cases, for buboes are by no ans an essential sign. The disease is variable in type; following are the most important forms: (1) *The bubonic m.* Buboes develop in the groin, neck or axilla, or the largement of the glands may be well-nigh confined to the lomen. As a rule, the first outbreak of plague in a com-nity is bubonic in type, whatever it may become after-rds. (2) *The pneumonic form.* (3) *The intestinal form. The cerebral form.* (5) *The puerperal form*, in which there hemorrhages from the uterus and miscarriages. (6) *The ic and fulminating forms.* (7) *The typhus type*, implying a emblance between plague and malignant typhus fever. *Pestis ambulans.* (9) *Pestis minor*, which may precede, concurrently with, or flourish after an epidemic of true gue. The **cause of plague** is the bacillus discovered by tasato in 1894. This organism is found during life in the od, the feces, the urine, and the pus from the buboes. It ows best in a 2% alkaline solution of peptone containing of gelatin. The danger of healthy human beings be-ming infected by persons ill of plague is remote, but that ey can be *inoculated* by plague is established. The channel which plague is acquired may be the alimentary canal, respiratory tract, or the skin. The **rat** and the **mouse** the most potent factors in the spread of the plague. The ubation-period is from three to five days. On board ship ive-days' voyage ought to be sufficient to guarantee immu-y from attack, except in cases where infected rats are on ard. In infected grain the bacilli die out in six days; and clothing, wool, etc., in about the same time. Where there grain in quantity, there are rats; and where there are ts, plague-bacilli will live; therefore, in grain stores and board ship, grain may remain infected indefinitely. A pical attack of plague is ushered in by a severe rigor, head-he, and sudden prostration. The skin is hot and dry, the untenance dusky, the eyes sunken, and the features drawn. ere may be delirium or apathy. The temperature may ddenly rise to 104° F. or more, or it may reach its maxi-um only after two or three days. In 70% of the cases e superficial lymph-glands are enlarged and tender. As rule, one group of glands alone is affected, and it may but one gland in the group that shows signs of adenitis. inety per cent. of the buboes suppurate. Constipati n ay rule, or it may alternate with loose dejections, with without blood. The spleen is always and the liver is usually enlarged. There may be bronchial catarrh or pneumonia of a septic type. The renal symptoms vary. During a first epidemic albumin is rarely present in the urine, while during a recurrence albuminuria may be found in 95% of the cases. The nervous symptoms may from the first assume a wild, delirious form; in other cases there is apathy. Death may occur within 24 hours, but the third or fourth day is the most fatal period. Should the patient survive the sixth day, there are hopes of his recovery. The death-rate in plague among the Chinese and the natives of India is terrible—90% and over. Under care in European hospitals the mortality is slightly less, but even then it is over 80%. Among Europeans it is 50%. The symptoms of plague are often so misleading that it is well nigh impossible to hazard a prognosis. The diagnosis may be difficult, and may be only possible by the aid of the microscope and bacteriologic investigation. From the standpoint of prophylaxis, in a plague-threatened community the rats ought to be destroyed before the advent of the disease. The **prophylactic inoculations** of Haffkine have given very good results. Segregation, isolation, and disinfection are the means to be adopted when plague breaks out in a community. The moment plague breaks out in the dwelling, the patient should be removed to an especially constructed hospital. Persons who have been in actual contact with the patient, and all persons in the dwelling and in the houses immediately adjacent, should be removed to special camps and detained there for at least seven days, being in the meantime examined medically once or twice daily. Should any of the "contacts," as the exposed persons are termed, in the isolated camps develop plague, the building or tent must be evacuated, disinfected or destroyed, according to the material of which it is composed. Should the contacts consent to vaccination by Haffkine's prophylactic they may, after the custom of the Indian government, be granted inoculation certificates, entitling the holder to exemption from plague rules for a period of 6 months. For ships with cases of plague on board, special landing-places should be selected. At the landing place, a hospital for the sick, an isolation camp for the contacts, and a supply of Haffkine's prophylactic should be at hand. The ship and her cargo must also receive attention. The grain should be thrown overboard. Wood from a plague-infected ship should be allowed to float in the sea for a week or two before being landed. A cargo of sugar should be thrown overboard. Cotton, silk, and wool should be landed in specially isolated sheds; every box or bale should be carefully examined for rats, and all those showing traces of rats should be immediately destroyed. The sound cotton, silk, or woolen goods should be opened out, exposed to free ventilation or to the sun, and frequently turned over during at least 10 days. The ship must be thoroughly disinfected. When plague breaks out in a city, the latter must be apportioned into sanitary districts, over each of which an officer in authority is placed. This officer must have ample punitive powers. The disease can be stamped out with fair completeness, if the hands of the medical and sanitary authorities are in no way tied. The old systems of quarantine and cordons are to be condemned. As to the medical **treatment,** it is entirely symptomatic. The curative serum of Yersin has met with but little success in the Orient, but at Oporto it has, according to Calmette, reduced the mortality to nil. [D R.]

5.—A chloroform inhaler is described consisting of a cylinder, in which a cotton wick is lightly packed, together with a rubber bulb and tube, which connects the cylinder with the mouthpiece. By means of the bulb air is sucked through the cylinder, passing over the chloroform, with which the wicking is saturated. The amount of air entering is regulated by a slot, between the bulb and the cylinder. It is claimed that with this apparatus but a very small quantity of chloroform is necessary for anesthesia, and that the amount of chloroform and air can be accurately regulated. [M.B.T.]

Edinburgh Medical Journal.

October, 1899. [N. S., Vol. vi, No. 4.]

1. Jaundice in Some of Its Aspects. T. LAUDER BRUNTON.
2. Principles of Reflex Action. G. A. GIBSON.
3. The Clinical Aspect of Iritis. C. D. G. HAILES.

4. The Relative Excretion of the Nitrogenous Waste Products in a Case of Liver Abscess. WM. BAIN.
5. Spasmodic Asthma. W. B. BELL.
6. The Etiology of Graves's Disease. GODFREY CARTER.
7. Unusual Case of Ascites. JOHN DOUGALL.
8. Operation for Radical Cure of Hernia. CHARLES A. STURROCK.

1.—Brunton, in the course of a lecture on **jaundice** in some of its aspects, reports the following case: E. C., aged 55, complained of weakness, jaundice and pain in the back. She had been well until 4 months previously. Soon after this her stools became white, her skin yellow and her urine dark in color. She had no severe attacks of paroxysmal pain. Her abdomen was swollen and she had very persistent vomiting, never vomiting blood. She lost flesh persistently. A rather unexpected condition was the presence of some bile in the stools. Physical examination showed the liver-dulness beginning at the fifth rib in the right axillary line. The liver was palpable below the costal arch. The spleen was not enlarged. The abdomen was greatly distended. It was tapped and 9 pints of fluid deeply bile-tinged were removed. The relief was only temporary, and the abdomen quickly refilled. Death occurred shortly after. Postmortem showed some gallstones in the gallbladder. There was a growth present upon the portal vein and upon the hepatic duct. The growth was malignant and seemed to have started around the gall-duct. This growth was probably secondary, as the whole of the abdominal cavity was studded with new growths, which were attributed to a ruptured ovarian cyst which had acted as an irritant in the peritoneal cavity. [S.M.H.]

2.—Gibson defines **reflex action** as depending upon the integrity of the reflex arc composed of neurons belonging to the lower level. A stimulus received by the sensory arborization of the neuron of the posterior root is transmitted by the contiguity of its dendrites to the neuron of the anterior grey matter, whence it passes by the emergent axon to the corresponding muscle or group of muscles. The neurons of the upper level, however, play an important part in ordinary reflex action by the exercise of a controling influence. The neuron of the posterior root ordinarily transmits an impulse to the large neuron of the cortex, whence it is reflected downwards to the multipolar cell of the anterior spinal neuron. When these are rendered incapable of receiving and transmitting impulses the reflex actions carried out by the neurons of the lower level become increased in their intensity. Nothing is known of the effects arising from the centripetal neurons in this connection, but it is known that any interference with the axon of the great cortical neuron increases reflex action. Thus the conclusion is obvious that the upper level neurons exert a controling or inhibitory effect upon those of the lower level. Former lesions of certain portions of the brain, instead of increasing the reflexes cause their diminution, or even their total abolition. This suggests a still higher mechanism by means of which the neurons which habitually inhibit reflex action are themselves controled. The different reflexes are divided into three classes: organic, or those on which life itself depends; the cutaneous or superficial, by which we largely adapt ourselves to our surroundings; and the deep reflexes, which are intimately associated with the integrity of the muscular system. [S.M.H.]

4.—Bain reports a case of **liver abscess** in a man aged 31 years. The patient had previously had an attack of dysentery. When first seen the liver-dulness was found to begin above at the fifth rib, in the nipple line, and extended downward to the umbilicus. The same day the liver was exposed but not explored. Four days later a trocar and canula were inserted into the liver and about 40 ounces of chocolate-colored pus escaped. This discharge consisted of necrosed liver-cells. The patient became progressively weaker and died on the 23d of December. At the autopsy, incision into the right lobe of the liver showed the presence of six abscess-like areas, mostly solid, and commencing to soften in places. These areas were about the size of an orange, rounded in form, grayish-white in color, and were distinctly marked off from the surrounding liver-substance. The left lobe of the liver was entirely free from such areas, and it contained a few firm white nodules about the size of a pea. The substance of the right lobe was mottled red and white in color. Analyses of the urine were made to determine the total daily excretion of urea, uric acid, phosphoric acid, ammo and alloxur bases. For the estimation of urea the hy bromite method was used; that of Hopkins, for estimat uric acid; that of Schlösing, for ammonia, while phospho acid was determined by titration with uranium nitr Salkowski's recent method was used to determine the allo bases. Taking into consideration and excluding lactic a the results obtained were regarded as coming within normal physiologic limits. Notwithstanding the negat character of these results, they were considered interest in that they showed that although portions of the liver w distinctly diseased, yet its functions were apparently e ciently performed. [S.M.H.]

5.—Bell holds the view that **asthma** is caused by act vasodilation, the pulmonary terminations of the va nerve producing when irritated directly or reflexly vaso-d tion. He believes that there are in the pulmonary ves vasodilator muscles as opposed to vaso-constrictors, that vasodilation is not a mere relaxation of the va constrictors by the dilators which are supplied by the vag This vasodilation causes obstruction of the small bronchi producing the signs so well known to constitute an asthma attack. These deductions are based on an analysis of actions of the various drugs which have been used to reli the symptoms of asthma, and particularly on the action ergot, which he has found most beneficial in its acti Ergot produces contraction of the involuntary muscles the arteries and uterus and these are constrictors in ch acter. The causes giving rise to active dilation are, direct causes in the lungs: (*a*) mechanical and toxic irr tion, exteme; (*b*) mechanical and toxic irritation, intern (*c*) pathologic conditions of the lungs; (2) indirect cau (*a*) gastric irritation; (*b*) nasopharyngeal and aural; cardiac; (*d*) central. It is not at all uncommon to see t or more classes of causes at work, which suggests that unsatisfactory result of the treatment of one class sho lead to the treatment of another. [S.M.H.]

6.—Carter considers the pathologic lesions to be accoun for in **Graves' disease** as being connected with either affection of the sympathetic nervous system, a toxe from hyperemia of altered secretion of the thyroid gland the introduction into the system of a poison from witho possibly a protozoon. This last hypothesis is supported very wide circles of diffusion which suggest its being a g eral disease, such as urticaria, mania, epistaxis, edema of conjunctiva; fleeting edemas; general anasarca; pulmona intestinal, meningeal and cerebral hemorrhages; vomit with intense prostration and intermittent albuminuria. thinks it by no means an unknown thing for a person begin with simple endemic goiter, to persist with it fo time and then to drift into the exophthalmic form. [S.M.

7.—Dougall had under his care a man, aged 30 years, w had suffered from a 7-weeks' attack of **remittent fev** During the seventh week secondary manifestations of syph appeared. During the subsequent 6 weeks he had health, after which he had frequent fits of sickness and vo iting. During the succeeding 7 months he was conside to have and was treated for an enlarged liver. The vom ing, abdominal swelling and pain increased persistently. had never had hematemesis, melena, nor jaundice. Ph cal examination showed the liver-dulness to measure 7 inc in the nipple line, and transversely from the axillary lin inches. The peritoneal cavity was much distended w fluid. The spleen was greatly enlarged. His temperat was persistently subnormal. The specific gravity of urine was 1020; it was scanty and albuminous and contai a mere trace of bile; otherwise it was negative. The po circulation was considered to be absolutely blocked judg from the general symptoms, the number of abdominal t pings and the short intervals between these and the qua ties of fluid drawn off. An unfavorable prognosis was giv but much to everyone's surprise the patient not only liv but after the twenty-sixth tapping and the withdrawal o gallons of fluid from his abdomen, and after having bee months under treatment, the ascites ceased; his stools came markedly bilious; his urine clear. After anot month in the hospital he left, apparently well, except tha had a slight trace of albumin in his urine. The case considered one of simple **induration of the liv** [S.M.H.]

8.—Sturrock has devised an **operation** for the **radi**

ıre of hernia, the steps of which are as follows: A short cision is made from the external abdominal ring, dividing e tissues down to the hernial sac, which is isolated as far the internal abdominal ring, carefully avoiding division of y of the muscles forming the anterior boundary of the guinal canal. The sac is incised at its most dependent rt and a pair of forceps is passed through the incision into e abdomen, the tip being placed at a point an inch above e spine of the pubes midway between the external and ternal borders of the rectus muscle; a second incision is ade at this point into the abdomen, a pair of forceps is in-ɔduced into this opening, the hernial sac is grasped where was incised and pulled through the incision in the rectus ıere it is temporarily clamped. The hernial opening is ɔw closed, then the sac is ligatured and excised and a ıtch is inserted into the rectus including the stump. The lvantages claimed for the operation are that no pad or mple of peritoneum is left in the vicinity of the internal ıg, which is an important factor in the recurrence of ernia. There is also no extensive division of the abdominal uscles, the cord is left in its normal situation, and the weak ace in the abdominal wall is removed from the inguinal gion to an area in the rectus abdominis, a region in which ntral hernia is practically unknown. [M.B T.]

Wiener klinische Wochenschrift.

October 5, 1899. [12. Jahrg., No. 40.]

Pseudo-Leukemia and Lympho-Sarcomatosis. W. TÜRK.
Infantile Pseudo-Bulbar Paralysis. H. v. HALBAN.

1.—The patient was a man, 56 years of age, syphilitic, ho on entrance to the hospital presented symptoms of ıemia and an irregular and low fever. There was a bean-sized ɔdule in the left supraclavicular fossa, an enormous en-rgement of the spleen, and an enlargement of the liver. ıe blood showed signs of a grave anemia, without leuko-ɣtosis. The clinical diagnosis made was **splenic pseudo-ɛukemia** eventuating in **sarcomatosis of the spleen** ıd of the **retroperitoneal lymph-glands,** splenization the bone marrow, enlargement of the liver, probably from mphatic infiltration, general syphilitic lymphadenitis, old ıberculosis of the apex of the right lung, and myocardial ɛgeneration. Death occurred from heart-failure. The ıagnosis at autopsy was **lymphosarcoma** of the **retro-eritoneal glands,** the malpighian follicles of the **spleen,** ıd the posterior **mediastinal glands,** of a right-sided ronchial glands, of the supraclavicular glands, and of the ervical glands on the left side; chronic splenic tumor; ɔlenization of the bone-marrow; infarction of the spleen, ıd cloudy swelling of the liver and kidney. Microscopi-ally the splenic tumors consisted of small mononuclear mphocytes, with very slight reticulum and without any dis-nct separation from the pulp. The lymph-glands presented n appearance similar to that of the spleen, but there was also ıvolvement by the neoplasm of the surrounding adipose con-ective tissue. The liver showed nothing of moment save loudy swelling and congestion. The large lymph-gland in the upraclavicular fossa was not sarcomatous, but merely sup-urating. The case is considered one of primary lymphosar-omatosis of the spleen and lymph glands. In connection with the author discusses the subject of lymphatic tumors and yperplasias in general, including pseudoleukemia and leuk-mia. He proposes the following nomenclature: (1) **Lympho-ıatosis partialis,** for regional, not destructive hyper-lastic lymphomas; (2) **Lymphomatosis universalis,** ɔr the generalized forms of lymphomas; (3) **Lymphoma-osis destruens,** for the generally or partially destructive ɔrms, approaching lymphosarcoma; (4) **Lymphosarco-ıatosis,** for that malignant form arising locally and pri-narily, not on the basis of a general lymphomatosis. The erms of Nos. 3 and 4 are perhaps interchangeable. The ɣeneral conclusions are as follows: (1) The term pseudo-eukemia, as it does not express a single morbid process, is o be deleted. (2) In addition to the frequent partial or gen-ıralized lymphomatous tuberculosis of the lymphoid appa-ɛatus, there is a peculiar, obscure hyperplasia of the lymphoid ɣstem. (3) These peculiar types, which hitherto have been ɔlassed partly with pseudoleukemia and partly with lympho-ıarcomatosis, and to which also lymphatic leukemia belongs, are generally closely connected, and there is an imperceptible transition among the different forms. (4) For this reason all these should be classed under the term **lymphomatosis,** and their separate types designated lymphomatosis partialis, lymphomatosis universalis, lymphomatosis destruens, and lymphosarcomatosis. (5) The cases hitherto diagnosticated as primary splenic pseudoleukemia are nearly always to be classed with lymphomatosis destruens. [D.R.]

2.—It is sometimes difficult to separate infantile cerebral palsy from multiple sclerosis and Friedreich's disease, especially when there are bulbar symptoms. Such cases with bulbar symptoms have been described by Oppenheim under the title of **infantile form of cerebral glossopharyngolabial paralysis,** and by Koenig as the **pseudobulbar form of infantile cerebral palsy.** A case of this type is reported by v. Halban. The patient was a little girl of 9 years who after birth presented symptoms of cerebral trouble. She could not take the breast and drooled saliva. At the age of 6 months she had a seizure of some kind. She did not begin to walk until she was 4 years old and never learned to talk, her entire vocabulary consisting of but two or three words. With all this, she heard well and was quite intelligent, and progressed fairly well at school. She could not take solid food and never masticated. By disposition she was very irascible and vivacious, and generally disobedient. There were signs of a left-sided facial paralysis, some retardation of the development of the left arm, and weakness of that member. Both patellar reflexes were much exaggerated. The gait was normal and sensibility was not disturbed. The patient learned to write without difficulty. Regarding the origin of the cerebral trouble, the author thinks that it was congenital (prenatal), and not produced intrapartum, because the labor was easy. The cause of the condition, however, could not be determined. Regarding the pathology it is surmised that it is identical with that of prenatal diplegia, and probably consists in extensive porencephaly or defective development of large parts of both hemispheres. This was the condition in the only case that has come to autopsy, that of Oppenheim. [D.R.]

October 12, 1899. [12. Jahrg., No. 41.]

1. To what Extent is Alcohol an Albumin-Preservative? T. R. OFFER.
2. Nursing and Digestion. ESCHERICH.
3. An Investigation of Casein-Flakes. W. KNOEPFELMACHER.

1.—Offer finds that **alcohol ingested conserves albumin.** The saving which it produces is very small; it is, however, as great as that of an equivalent of fat, if not greater. But more important than its albumin-conserving power is its fat-conserving power. Whether the alcohol conserves the albumin directly, or whether by protecting fat from destruction, it causes this conserved fat to guard the albumin against decomposition, is a point not yet settled. [D.R.]

2.—Escherich does not believe that it is always wise to feed an infant at regular intervals, and contends that the crying of a child that has just wakened up hungry, but which is not fed because it is not yet time, is decidedly harmful. He has studied the act of suckling and its influence upon digestion, and his observations are interesting. The act consists of three movements, inspiration, depression of the lower jaw, and depression of the tongue. The inspiratory sucking is acquired late in infantile life; in the earlier periods suction is produced entirely with the mouth. The exit of the milk is not produced, however, by the suction, but by the **compression of the nipple** by the lower jaw. The suction act serves the purpose of filling the milk sinuses from the gland, and of attracting and holding the nipple. In bottle-fed children, if a small rubber nipple is used, the sucking act is entirely in abeyance. By a special device the author caused infants to suck, and determined the **maximum suctional pressure.** He also found that it was possible to cause an increase in the suction-energy by practice. The meals which were taken by act of suction lasted longer than those administered by the mere pouring in of the food; but the children were always more comfortable and slept better after the former. Regurgitation and vomiting were also rarer. Some experiments were made to determine the rapidity of the digestion in infants fed in different ways. One series was fed in the ordinary way, with a large

nipple; another set of children had to overcome a certain resistance by suction, and in some others the food was introduced directly into the stomach through a tube. In from 60 to 90 minutes the contents of the stomach were evacuated and examined. It was found that after the active meal, smaller quantities were obtained than after the passive feeding. The act of **suction** unquestionably **stimulates** the **secretion** of the **gastric juice.** By means of a suitable contrivance, bottle-fed children can be taught to take their food actively through suction. The old fashioned nipple with a long tube serves the purpose fairly well, but has in ordinary polyclinic practice decided disadvantages. Allen & Hanbury's bottle answers to some extent, but not completely. [D.R.]

3.—A study of the **casein curds** in the stools of infants and milk-fed older persons proves that these curds show distinctly in their solids, their fats, and their albumins, the influence of the digestive processes, and perhaps, also, of bacterial processes. The degree of this influence varies; hence the curds do not always have the same composition. There is no unchanged casein nor paracasein in curds. [D.R.]

October 19, 1899. [12. Jahrg., No. 42.]

1. Primary Prostatic Tuberculosis. G. KAPSAMMER.
2. Perforation Peritonitis from the Biliary Passages. F. v. WINIWARTER
3. Cicatricial Contraction of the Esophagus following Peptic Ulcer. A. FRAENKEL.

1.—A boy, 17 years old, had noticed 10 months previously a painless enlargement and hardening of the right testicle; at the same time there appeared difficulty in urination. His condition became gradually worse until he was obliged to urinate almost every 15 minutes. Two weeks before admission to the hospital he had noticed blood in the stools for the first time, and 8 days previously he had passed a mass of pus by the anus. The urine was very cloudy and mixed with masses of pus. Nothing pathologic was found on examination of the lungs, but on examination of the rectum there was found a loss of substance in the anterior wall into which one could insert 2 fingers; the seminal vesicles were enlarged and hardened on both sides. A sound was passed through the urethra, did not enter the bladder, but passed out through an opening into the rectum. The urine contained numerous white and red blood-corpuscles, pus-cells and tubercle-bacilli. The boy was treated by the injection of guaiacol iodoform into the bladder and into the abscess cavity. Soon after entering the hospital there was evening rise of temperature; the signs of tuberculosis of the lungs developed later, and the patient died 3 months after entrance. At the necropsy there was found **tuberculosis** of the entire **genitourinary tract** as well as of the lungs.

In another case a man, 57 years of age, had been taken with slight fever 3 months previously; within 2 weeks there appeared a swelling one-half the size of a walnut in the perineum; the skin over the tumor was reddened and edematous, there were no other special symptoms, and the urine was not clouded nor bloody. Three weeks after the beginning of the trouble an incision was made and a mass of stinking pus was evacuated. Two weeks after the incision urine began to trickle from the wound and a fistula remained after healing. The internal organs were normal. On rectal examination there was found a depression in the surface of the prostate into which the tip of the finger could be inserted. Under an anesthetic it was found that the fistula connected directly with the posterior urethra. The fistula was split up to its opening in the urethra and a mass of granulation-tissue was found, from which there were many sinuses in the region of the prostate. The thickened tissue about the fistula was excised and a catheter inserted. Histologic examination showed the growth to be made up of tuberculous nodules. Guaiacol iodoform was applied and the granulation-tissue soon gained a normal appearance. The wound lessened in size slowly until, at the time of the man's discharge from the hospital, only a few drops escaped. The condition was thought to be primary, solitary tuberculosis of the prostate.

In a third case a man of 22 had been healthy until 1½ years previously. Two weeks after coition he noted the escape of pus, containing small particles, from the urethra, and there was pain and frequent urination; the condition became worse until he passed urine about every half hour, and finally dribbling of urine set in; there was slight fever, and later the urine escaped from the anus. By rectal examination it was found that the entire right side of the prostate had disappeared, and in the place of the left lobe there was a small elastic swelling. The patient's bladder was washed out daily with boric-acid solution and guaiacol iodoform injected. After remaining in the clinic 5 months he was discharged much improved. There was nothing to be felt of the prostate, the patient urinated every 2 hours without difficulty. It is believed that the infection was from coition. [M.B.T.]

2.—Three cases are reported, occurring in women, in which symptoms of **biliary colic** had lasted 4 years in each case, there was sudden, severe abdominal pain, with repeated vomiting, followed by severe collapse, and the symptoms of **perforative peritonitis.** Operation was performed in all of the cases, in one patient on the second day after perforation; the perforation was not found, and the patient died from sepsis. In the other 2 cases the operation was performed on the eleventh and thirty-seventh days, respectively, after perforation, and consisted mainly in opening and cleansing a subphrenic abscess. Recovery followed in both of these cases, after a severe illness. From the experience in these cases, early operation is recommended in all conditions of this kind. [M.B.T.]

3.—A man, 58 years old, had suffered for a number of years with difficulty of digestion and later, symptoms of **stricture of the esophagus** appeared. For 8 days before entering the hospital the man was unable to swallow anything. A sound passed to the level of the cardia when a hard obstruction was met. Syphilis was denied and a diagnosis of scirrhus of the esophagus was made. Gastrostomy was performed and the patient survived only about 3 weeks. At the necropsy there was found a cicatricial stricture of the esophagus just above the cardia with enormous dilation. The condition had developed very gradually, and it is believed that it arose from extensive ulcerative processes of the mucous membrane. A second case is reported in which a man of 47 was suddenly taken with severe pain, constipation and abdominal distention 9 years previously. This illness lasted 6 weeks, after this the patient had been in good health with the exception of occasional pain in the stomach until within 3 months, he was then taken with very severe pain and vomiting after eating, his condition became gradually worse until weakness compelled him to abandon his occupation, there was vomiting of coffee-ground material. The man denied specific infection. The test-breakfast showed free HCl but no lactic acid, there were, however, numerous yeast organisms and lactic acid bacilli. Death followed and at the necropsy there was found an ulcer involving the lower part of the esophagus and the cardiac end of the stomach. Fraenkel finds records of 20 similar cases in literature which he considers **peptic ulcers.** [M.B.T.]

October 26, 1899. [12. Jahrg., No. 43.]

1. The Etiology of Sydenham's Chorea. R. v. KRAFFT-EBING
2. The Operative Opening of the Middle-Ear in Chronic Suppurative Middle-Ear Disease. V. HAMMERSCHLAG
3. The Pathogenic Significance of Friedländer's Pneumonia Bacillus. P. CLAIRMONT.

1.—Von Krafft-Ebing has collected 200 cases of **chorea** the etiology of which was fairly well established. Of these cases 64 were in the male and 136 in the female sex. The influence of **heredity** as a factor was distinctly noticeable. Among the individual **predisposing causes** were hereditary taint, abnormal conditions of the skull and brain produced by general diseases in infancy (rickets), and a highly nervous constitution. The number of cases of anomaly of the skull was very marked; it was only exceeded by that in epilepsy. Hydrocephalus was most common. The cranial anomalies were nearly all due to rickets. Masturbation and overexertion are also factors in the production of chorea. Cerebral concussion was the factor in some cases. In 6 out of the 136, pregnancy played a part. The **exciting causes** were articular rheumatism and other infectious diseases, and psychic traumata. In 58 cases out of the 200 there was rheumatism or other infectious diseases in 17; psychic trauma in 66; and unknown causes in 59. In the cases due to rheumatism and other infectious diseases, the predisposing causes played

aller part than in those due to psychic trauma. The chic trauma was principally fright; in 4 cases it seemed e a terrifying dream. The possibility that chorea may e entirely from endogenous causes must be admitted. able is also given of the total number of cases of chorea n in the dispensary during 8 years. The percentage of es was 1.62, and the relation of male to female sex was as 2.12. It should be remembered that before the neurotic gin of a case of chorea is admitted an infectious genesis st be excluded; and a case is cited in which the chorea med to be psychic in origin, but in which at autopsy an ite varicose endocarditis of the mitral valve was found. R]

3.—Clairmont found **Friedländer's pneumobacillus** the cause of a pericholecystitic abscess and of a cholan- s in a woman of 79 years. He refers to an interesting nt regarding the staining of these organisms, namely, t although the organisms do not stain by Gram's method en obtained from cultures, they stain in tissues by that thod when they have been fixed by Müller's formol solu- n. [D.R.]

Münchener medicinische Wochenschrift.

October 3, 1899. [46. Jahrg., No. 40.]

Peritoneal Sepsis and Shock. KÜSTNER.
Plastic Operation following Amputation of Carcinomatous Breast. MAISS.
Soson: An Albuminous Preparation Produced from Meat. NEUMANN.
The Employment of Orthoform. WUNDERLICH.
The Increase of Red Blood-Corpuscles in High Altitudes. GOTTSTEIN.
Reply to Turban's Paper Counting Blood-Corpuscles at High Altitudes in Meissen's Cleft-Chamber. SCHRÖDER.
Natural Protection—Arrangements of the Organism and Their Influence upon Infectious Processes. BUCHNER.

1.—Küstner is of the opinion that post-operative sepsis in peritoneum should be called peritoneal sepsis in distinc- n from septic peritonitis arising from other causes; and claims that it may run its course without the cardinal nptom of peritonitis, rise in temperature. He considers ock as a rapid peritoneal sepsis. Laparomyotomy gives portunity for the deposition of active and virulent germs. is poison in the peritoneum and the degenerated condi- n and atrophy of heart-muscle often accompanying oma are the chief causes of what is generally designated death from shock. [W.K.]

2.—Maiss describes in detail two cases in which plastic rgery was used with favorable results after the breast- mputation for carcinoma, the wounds healing rapidly and thout fever. [W.K.]

3.—**Soson** is an artificial, albuminous product, which its nufacturers recommend as a substitute for meat. A care- metabolic study leads Neumann to the conclusion that son is capable of replacing the albumin of meat, and other ods; that it is tasteless, and can be used for an indefinite riod; that it does not disturb the general system, and that, proportion to its proteid content, it is cheaper than meat. R]

4.—Wunderlich reports 4 cases, in which **orthoform,** plied in the form of an ointment, produced disagreeable al results. Used in powder, the orthoform did not pro- ce such effects. Its anesthetic action on the nerves prob- ly deprives the latter of their regulatory influence upon e vessels, so that erythema, eczema, and gangrene occur. R]

5.—The dispute as to the nature of the **increase of the d corpuscles in high altitudes** is still unsettled. ttstein attributes the primary and immediate increase that curs to physical causes. At first he thought it was due to e lessened pressure on the cover-glass of the Thoma-Zeiss paratus, whereby the counting chamber was enlarged. He s, however, abandoned this view, and while still maintain- g that the increase is apparent only, offers no explanation r it. To prove that the increase was apparent, he sus- nded yeast-cells in a 5% solution of formalin and counted e cells with a hemocytometer daily for two weeks. He thus determined quite accurately the number of yeast-cells in a given number of squares of the hemocytometer. He then traveled to the Riesengebirge to different altitudes and found marked increase in the count with increase in altitude. The only explanation is that there must have been some change in the apparatus used. [D.R.]

6.—A reply to Turban's article (see PHILADELPHIA MEDICAL JOURNAL, vol. 4, p. 513). Schröder insists that the Thoma-Zeiss counting-chamber is under the influence of the external atmospheric pressure, while the slit-chamber of Meissen is not and is an improvement on the former. [D.R.]

7.—The mechanical means of controling infectious processes are, first, **venous congestion by elastic bandages.** This has been used by Bier in joint-tuberculosis, gonorrheal rheumatism, and ordinary articular rheumatism. Secondly, **arterial hyperemia,** obtained by high temperature, as hot air, hot water, hot sand, etc. Thirdly, **mixed hyperemia,** produced by dry cupping. This has been employed in chronic articular rheumatism and in lupus. Fourthly, the use of **liquid air,** suggested by Campbell White, of New York. Fifthly, **alcohol compresses.** Although slightly antiseptic, alcohol acts principally by producing an increased flow of blood to the part. The alcohol acts upon the nerves of the vessels of the part to which it is applied, but also upon the nerves at some distance with which it is not directly in contact. An alcohol compress applied to one arm will produce in the radial of that arm a decided increase in the pressure over that of the other arm. Buchner believes that in **caries of the teeth** alcohol is of more value than anything else. It should be applied in strength of 45%. The toothbrush is to be thoroughly moistened with it and used twice a day. At his suggestion, alcohol compresses were employed in ten cases of **joint-tuberculosis.** All ran a very favorable course, and two were entirely cured. 96% of alcohol was used for the compresses in all cases except one in which a strength of 50% was employed. He suggests the use of such compresses in phlegmonous inflammations, abscesses, furuncles, felons, dental caries, and local tuberculosis. The benefit in these diseases is dependent upon the local hyperemia, just as the cure for peritoneal tuberculosis by laparotomy is solely a consequence of the secondary hyperemia induced. Probably gargling with dilute alcohol could be useful in tonsillitis. In cholera alcohol applications might be of value when applied to the abdomen, and in plague when applied to the inguinal and axillary glands. The value of alcoholic hair tonics is probably dependent upon the presence of the alcohol, and not upon that of the other ingredients. [D.R.]

October 10, 1899. [46. Jahrg., No. 41.]

1. The Theory of Agglutination. M. GRUBER.
2. Chronic Ankylosis from Inflammation of the Spine. G. KIRCHGAESSER.
3. The Theory of Ankylosing Inflammation of the Spine. L. R MÜLLER.
4. The Surgical Treatment of Elephantiasis. C. STERN.
5. Diazo-reaction in Urine, and Bacterial Conditions in the Blood of Consumptives. (Conclusion follows.) W. NAEGELSBACH.
6. Cases of Pneumothorax in Health. LEVISON.
7. Comments upon Professor Buchner's article, "Natural Protective Arrangements of the Organisms, etc." R. EMMERICH.
3 Reply to H. Buchner's article, "Natural Protective Arrangements of the Organisms, and their Protective Influence upon Infectious Processes." K. WALZ.

1.—**Agglutination,** Gruber states, has nothing to do with the death and the solution of bacteria, as is proved by the fact that bacteria, that have been agglutinated by a serum, at once begin to multiply when the serum is deprived by heat of its bactericidal power. Bacteria which, together with such heated agglutinated serum, are transferred to liquid media, grow in a peculiar manner. They leave the culture-medium clear, and form a cloudy sediment, in which it is found that the daughter-cells and the later descendants are not entirely separated, but are united in chains and threads for several generations. An instructive way, also, of studying agglutination is to apply the agglutinating serum to a "Klatsch preparation" of the bacteria. The various

theories offered in explanation of the phenomena of agglutination are then considered by the author, and all but two are rejected. The one is that first suggested by himself, namely, that the bacteria become sticky under the influence of the agglutinants of the serum. He attributed this "glabrification" to a swelling of the bacterial membrane, but this view he now abandons. The second is Paltauf's theory that the agglutination depends on the presence in the medium of specific substances furnished by the bacteria, which substances are precipitated by the serum, the precipitate carrying down the bacteria in a mechanical way. Some support is furnished this theory by the discovery of Kraus, that agglutinating serum produces a specific precipitate in the filtrates of bacterial cultures; but a number of experiments are cited, showing that agglutination cannot be due to the formation of a precipitate in the fluid in which the bacteria are suspended. Such precipitation can occur in the fluid, but is not the principal phenomenon. Agglutination depends on a **change in the bacteria themselves,** perhaps a **glabrification.** The immune sera probably render certain substances in the bacterial membranes insoluble, and cause shrinking and elimination, whereby the surface of the bacteria acquires a sticky roughness. This glabrification, or this alteration in the outer membranes, renders the growth in chains and threads, as well as the behavior of the bacteria in Klatsch preparations, understandable. [D R.]

2.—Kirchgaesser reports two cases of **chronic ankylosing inflammation of the spinal column.** The first case was an unmarried woman, 24 years of age, who had always more or less tendency towards curvature of the spine. At the age of 16 she developed stiffness and pain in both legs, which was followed a little later by swelling in both hips and inguinal regions, so that it became impossible to move either leg. This acute condition got better, more or less motion returning to all the joints. On examination there were a few slight spinal curves and almost absolute rigidity of the lower and middle parts of the spine. The hip joints were also greatly limited in their motions, especially rotation or abduction. Pain was present to a moderate degree only. Treatment was of no use in bettering the condition of the joints. The second case was that of a girl, 20 years of age, who had been rachitic as a child, and since the age of 14 had had trouble in walking, but without the presence of pain. She had had at various times several slow-healing ulcers. Examination showed a moderate lateral curvature with absolute rigidity of the lower dorsal and lumbar vertebrae, the rest of the spine being almost so. The hip-joints were somewhat affected but not so much so as in the first case. Treatment in this case as in the first was of no avail. [G.B.W.]

3.—Müller reports a case of **inflammatory rigidity of the spine** occurring in a man 28 years of age. The patient had had an attack of acute inflammatory rheumatism 3 or 4 years ago which attacked the joints of the spine and hip instead of those usually affected. On examination the whole of the spinal column was found as rigid as a rod of iron. There was a lordosis of the upper cervical vertebrae, with a marked kyphosis of the lower cervical and dorsal. The hips were greatly limited in motion, though not entirely so. Therapeutic measures were followed by no improvement. [G.B W.]

4.—Stern reports two cases of **elephantiasis.** The first one was of the penis and scrotum, and was reduced to almost normal proportions by two plastic operations. The second was of the foot and was treated by amputation at the request of the patient. [G.B W.]

5.—The authors have studied the **diazo-reaction** in cases of **pulmonary tuberculosis.** Among 101 cases, they obtained a positive result in 12. They found that the reaction in the course of chronic pulmonary tuberculosis was a **bad prognostic sign**, but not all cases in which the prognosis was bad gave it. Therefore, the test does not render other methods of diagnosis and prognosis superfluous. (The article will be conclued in the next number.) [D.R]

7.—Emmerich claims that he and Löw were the first to suggest the enzyme nature of the bactericidal substances. [D R.]

8.—An acrimonious answer to Buchner's disparaging remarks concerning the author's theory on the natural protective means of the body. [D R.]

October 17, 1899. [46. Jahrg., No. 42.]

1. Recent Investigations Concerning the Psychical Action (Alcohol. KRAEPELIN.
2. Concerning the Irritation of Gasphlegmon. (Conclusio Follows.) FRAENKEL.
3. Concerning a Simple Method for Clothes-Disinfection wit Formaldehyd for the Practising Physician. \ ROSITZKY.
4. Some Experiments Concerning the Action of Heroi upon Respiration. SANTESSON.
5. Large Heroin-Doses Without Intoxication-Signs. KLINE
6. Concerning Chronic Ankylose Inflammation of the Spin G. KIRCHGAESSER.
7. Diazo-reaction in Urine and Bacterial Conditions in th Blood of Consumptives. SCHRODER and NAEGELSBACH
8. Reply to the Comments of Rudolf Emmerich, and to th Reply of Dr. Karl Walz. BUCHNER.
9. The Treatment of Angina and Diphtheria in Caeli Aurelianus. L. A.

1.—A number of investigations have been carried out u der Kraepelin's direction on the **psychic effects of alco hol.** Ach has studied the influence of alcohol upo **perception,** the person under experiment being require to read through a small slit a continuous series of meanin less syllables and monosyllabic and dissyllabic words, whic were written on a revolving drum. The administration 30 cc. of alcohol greatly reduced the perception. Vogt i vestigated the effect upon **mental distraction.** H found that normally his working capacity for calculatin was lessened, if at the same time he had to react to the bea of a metronome. He noticed, to his surprise, that whi alcohol lessened the ability to reckon accurately, the wor was easier, despite the distraction, than before alcohol w taken. The explanation given is as follows: Alcohol faci itates voluntary action, especially that of a rhythmic natur It would therefore render reaction to the metronome easie and hence would diminish the latter's power to distract th attention. The effect of alcohol on **physical exercise** wa also studied. There is a difference of opinion among thos who have experimentally investigated this subject. Th studies were made on an ergograph. Glück found that th capacity for work increased about one-third after the inge tion of alcohol, but in ten minutes this increase had almo entirely disappeared. It was found that alcohol did not reall increase the strength, but only the frequency of the lifting ac required by the ergograph. Without going into the details the experiments, we may state the conclusions reached, whic are as follows: Contrary to the popular opinion, heavy work i not made lighter by alcohol. When alcohol is added to th fatigue products of the muscles the depressing effect b comes very marked. If an individual is able to rest aft the ingestion of alcohol, he will not suffer any noticeabl diminution in strength; but if the action demands the uti ization of his entire strength, then fatigue rapidly comes o The laborer who earns his livelihood by the exertion of hi muscles destroys the source of his strength by the use alcohol most effectually. Other experiments, made b Rudin, showed that the effect of alcohol varied remarkabl in different men, and that the degree of sensitiveness to th poison might at times be less in those not addicted to its us than in those accustomed to it. The experiments als showed that the effect of a single dose of alcohol taken i the evening persisted until the morning and noon of th next day. Kurz's experiments were conducted through 2 days in the following manner: On the first 6 days no alcoh was taken; and the following 12 days he consumed eac evening 80 grams of alcohol in water; then followed 5 day without alcohol, 2 with alcohol, and finally 2 alcohol-fre days. On each day he made one series of association an perception experiments, and added and studied for half a hour. He found that after the 12 days alcohol period ther was a decided diminution in the day's work in calculating as well as in studying. This effect persisted until the fift day of the alcohol-free period. The general conclusion Kraepelin is that whoever knows the effects of alcohol wi not class this substance among the harmless "Genussmittel. Alcohol injures the perception of external impressions an the association of concepts. It facilitates the performanc of movements, but lessens the power of mucular work; an this the more the greater the demands on the latter and th

eater the muscle-fatigue. A single large dose acts for 24 d even 48 hours, and the regular use of such doses pro- ces, even in a few days, a permanent reduction in work- g capacity. [D.R.]

2.—Will be abstracted when concluded.

3.—A simple method for **disinfecting clothing** with **rmaldehyd.** The apparatus is figured. The clothing is ng in a closet, into which a rubber tube with a spray- tachment is connected, the other end of the tube being ixed to a receptacle in which steam is generated. The ray attachment is connected with a vessel containing malin, and the escaping spray carries the formalin with For a closet having a capacity of 1 ccm. (over 9 cu. ft.) e apparatus is kept working for a half-hour. The alcohol- np which generates the steam in the outer kettle is then tinguished. Nine hours later the clothing can be removed. smells but little of the formalin, and this slight odor can avoided by allowing ammonia to enter the closet for half- hour before removing the clothing. [D R.]

4.—Santesson found that **heroin** even in small doses de- eased the frequency of respiration in rabbits to a marked gree, without deepening the respiratory movements. [D.R.]

5.—Unintentionally two patients received three times ily .05 of a gram of **heroin** by the mouth (about five- ths of a grain, but no harmful effects were noticed. It ust not be concluded from this, however, that heroin is an different body. [D.R]

6.—Kirchgaesser in this the second part of his article on **flammatory ankylosis of the spinal column** re- rts 4 more cases and gives his conclusions from the study these cases briefly as follows: This disease of the spinal lumn belongs to chronic joint inflammations which tend result in ankylosis. The disease of the joints of the rtebra shows a marked tendency towards the rapid involve- ent of the rest of the spinal column so that the most char- teristic symptom is the stiffness of the whole of the back- ne. This stiffness is generally accompanied by various rvatures and torsions of the spine. An anterior curvature the upper dorsal and lower cervical vertebrae is most mmon. The most frequent complication is involvement the hip-joint, also the chest and shoulder joints may suffer. ie gait of these patients is characteristic, resembling some- iat the waddling of a duck. Pain is not a prominent mptom of this condition. The true etiology of the condi- n is not known, though a congenital predisposition, eumatism or the gonococcus may play important roles in causation. [G.B.W.]

7.—The author's conclusions, to one of which we have eady alluded, are as follows: 1. Ehrlich's **diazo-reac- on in the urine of phthisical patients is a bad prognos- c sign.** It is contributory evidence to, but not a substitute , the clinical means of making a prognosis. It has some lue in predicting the time of death. 2. The association of e diazo-reaction in the urine and bacteria in the blood can- t be demonstrated in phthisis. 3. The entrance of bac- ia, especially pyococci, into the blood of phthisical patients only an agonal phenomena, and is of no value in explain- g hectic fever. [D.R.]

Berliner klinische Wochenschrift.

October 23, 1899. [36. Jahrg., No. 43.]

White and Dark Meats as a Means of Nourishment in Disease. OFFER and ROSENQUIST.

Alexander's Treatment of Phthisis through Injection of Oleum Camphoratum. CRIEGERN.

The Etiology of Diseases of the Central Nervous System, Especially of Multiple Selerosis through Trauma. COESTER.

Atrophy of the Base of the Tongue in Tertiary Syphilis. ALFRED GOLDSCHMIDT.

.—Von Criegern has used injections of **camphorated** l after the method suggested by Alexander for the treat- ent of **phthisis,** but he finds that it has no advantages er the other balsamic preparations, and that it is distinctly ntraindicated in nephritis and in tendency to hemorrhage. o noteworthy results were obtained. [D.R.]

3.—The patient, 36 years old, and previously healthy, ile digging sustained an injury through the falling of earth upon him. Several months later nervous symptoms manifested themselves, which eventually developed into those of **multiple sclerosis.** On account of accident insurance, the case came into court, and various expert opinions were given. Coester believed that the trauma was the cause of the multiple sclerosis, differing in this respect from some of the other experts in the case. [D.R.]

4.—Atrophy of the base of the tongue in tertiary syphilis was first described by Virchow, in 1863, and since that time is has been found in 103 cases out of 6,583 necropsies, at Berlin Pathologic Institute, that is, in about 1.5% of all necropsies. In 69% of these cases syphilis was also present. Goldschmidt has undertaken a series of investigations to endeavor to determine whether this form of **atrophy** of the **base of the tongue** is a pathognomonic sign of **syphilitic disease.** He has investigated 200 cases of syphilis, 94 of them men and 106 women, 57 of these were suffering from late tertiary syphilis, and 3 from congenital syphilis. In these 60 cases 18 were found with moderate atrophy, and 10 with a slight degree of atrophy; in 3 other cases he has also found atrophy of the base of the tongue in which there was no history nor evidence of syphilis. As a result of his investigations he states his belief that this condition cannot be considered a pathognomonic sign of tertiary syphilis, for the atrophy, as was seen in the latter 3 cases, may result from a lack of development of the entire tongue or of the glands at its base, without any tertiary syphilis being found present. [M.B.T.]

October 30, 1899. [36. Jahrg., No. 44.]

1. Our Combat Against Tuberculosis. F. HUEPPE.
2. The Traumatic Origin of Paralysis Agitans. C. LINOW.
3. Concerning Motor Disturbances in the Larynx. GRABOWER.
4. A Simplified Clinical Ferrometer. A. JOLLES.
5. White and Dark Meats as a Means of Nourishment in Disease. OFFER and ROSENQUIST.
6. Idiosyncrasy Against Diphtheria-Antitoxin. KAUPE.
7. The Civilians' Law-book and the German Physicians. GÖTTE.

1.—The gist of this article is that we should not neglect to combat the **predisposition to tuberculosis,** which Hueppe considers a verv important factor in the development of the disease. He thinks that under the egis of bacteriology tuberculosis congresses have magnified the importance of the bacillus. Every physician should become a sanitarian and do his best to improve the condition of the people. Legislation should regulate the duties of employers to employed, particularly with reference to workingmen's dwellings. Attention should also be bestowed upon the food of the nation, so that every one may have albumin in sufficient quantity and in proper form; and the physical education of the youth, especially in large cities, should be fostered by sports and athletic exercises. [D.R.]

2.—Linow reports a case of paralysis agitans in a man of 60, resulting from **trauma,** viz., a fall. The disease reached its full development within three years.

3.—A man, 40 years of age, without hereditary taint, but infected with syphilis, was examined laryngologically by Grabower, on account of hoarseness. The right vocal band was abducted and a space of from 1 to 1½ mm. was left during phonation between the cords. Although the condition at first suggested paralysis of the right abductor, the cricoarytenoideus posticus, a further examination proved that the condition was due to an **ankylosis of the cricoarytenoid joint,** with fixation of the joint and its attached vocal band. This was probably due to a healed ulcer in that location. [D R.]

4.—Jolles describes an improvement of the clinical **ferrometer.** This instrument, it will be remembered, estimates the quantity of iron in a given amount of blood. The blood is incinerated, the oxid of iron formed is dissolved with acid potassium sulfate, and the solution treated in a graduated vessel with hydrochloric acid and ammonium sulfocyanid. The intensity of color is measured by the wedge of a Fleischl hemoglobinometer, and the amount of iron determined by means of a scale which Jolles has worked out. [D.R.]

5.—It has been customary in certain morbid conditions, especially rheumatic and gouty states, to permit white meats, and to forbid the dark meats, the belief being that the latter contained more extractives. These nitrogenous extrac-

tives—creatin, xanthin bases and meat acids—were supposed to be irritant to the kidneys. However, exact investigations proving that there was a difference between the two varieties of meat have been lacking. Offer and Rosenquist have, therefore, estimated the extractives in various kinds of fish, fowl, in white meats as veal and pork, in red meats as beef, mutton, deer, and in various smoked meats. They found almost as much difference in the amount of extractives between different samples of the same species of meat as between different species. The least quantities of extractives were contained in fish and deer, and when it is desired to eliminate extractives as far as possible from the food, these two should be given. But it is doubtful whether the small amounts of nitrogenous bases contained in meat have any therapeutic influence, either *pro* or *con*. In 300 grains of meat they amount to no more than 0.3 grain. Moreover, they are not eliminated as bases, but are to a large extent converted into urea. Hence, it follows that the distinctions upon which, in gouty and rheumatic conditions, the prohibition of dark meat and the allowing of white meat are based, can no longer be maintained, and it is needless to burden patients with restrictions regarding red and dark meats. [D R.]

November 6, 1899. [36. Jahrg., No. 45.]

1. Asepsis and Antisepsis in Gynecology and Obstetrics. R. OLSHAUSEN.
2. Tuberculosis of the Upper Air-passages. O. CHIARI.
3. Tuberculous Skin-diseases. J. JADASSOHN.
4. White and Dark Meats as a Means of Nourishment in Disease. H. SENATOR.
5. Accidental Division of the Optic Nerve. F. MENDEL.
6. Electrolysis, Especially in Nasal Operations. A. BOCK.

1.—While the fundamental principles of asepsis and antisepsis are the same in all surgery, the conditions of their application in gynecology and obstetrics are often peculiar and require special consideration. Olshausen says that the disinfection of the vaginal tubes is attended with many difficulties; but that, happily, without the desired sterility of the operation field, most vaginal operations result favorably unless such dangerous complications as pyometra, pyosalpinx, etc., are present. He queries whether the vagina has not a certain self-cleansing power, its secretions weakening the virulence of the infectious microbes, and refers to the fact that the abdominal cavity is often left with an opening connecting it with the vagina and no infection follows therefrom. In his opinion the danger from infection from vaginal examinations during pregnancy is comparatively slight; but that in labor or the puerperium the case is far otherwise. He thinks that in many emergencies the risk to the patient from the delay necessary for minute disinfection of hands, instruments, etc., may be greater than the danger from any infection; that severe hemorrhage or failing heart-action may make rapid action so imperative that only cleansing of the hands with soap and water, with subsequent rubbing of them and the instruments with alcohol, may be the best procedure that time will permit. One should remember that Spencer Wells performed 1,000 ovariotomies without any antiseptic means and 75% recovered. Olshausen states that in operations consuming a long time there is greater danger of infection, either from the microbes found in the deeper layers of the epidermis, from atmospheric infection, or from the greater shock making the patient more susceptible to infection. The disinfection for the more serious operation is naturally more rigorous, but let it not consume so much time that before the operation is ended the patient has succumbed to the combined work of preparation and operation. All excess is injurious, even excessive disinfection; still the approved technic, wherever possible, especially in the more serious operations, secures the best results. [W K]

4.—See editorial columns.

5.—Six cases of **division of the optic nerve** are reported from Hirschberg's clinic. Mendel states that the injury most frequently follows attempts at suicide. In the cases reported, however, the injury resulted from a stick of wood flying from a rapidly revolving machine; from falling onto a nail; the running into a sharpened stick; in 2 cases from rapier wounds, and, in another case, from an injury with a hayfork. Total blindness resulted in every case but one. This is the usual result of the injury, although after a pe of blindness there is sometimes improvement, usually a greater or less defect in the field of vision. [M.B.T.]

6.—Bock considers that the chief advantages of **electrolysis** in the treatment of **diseases of the nose** are slight pain which it causes, the freedom from bleeding disagreeable after-effects, the fact that it does not pre the patient going about his usual occupation, and that h ing follows almost always without perforation and infect [M.B.T.]

November 13, 1899. [36. Jahrg., No. 46.]

1. Protozoan-Enteritis. H. QUINCKE.
2. A Case of Infusorial Diarrhea. H. SOLOMON.
3. A New Method of Administering Mercury. A. BLASCH
4. Tuberculosis of the Upper Air-Passages. O. CHIARI.
5. Tuberculous Skin-Diseases. J. JADASSOHN.

2.—Solomon reports, from Quincke's clinic, a case **infusorial diarrhea.** The patient in the beginning from 10 to 12 thin movements a day, with borbory There was loss of weight and gradual failure of he The movements were either watery or mushy, yellow brown in color, and had only a slight odor. Blood was present except when calomel was given. Microscopically stools contained masses of pale, shining, round, and pyrif bodies with flagella, of which as many as six could be s The parasite varied from .01 to .18 mm. in length. The cleus was double. In addition to these bodies, others found about half the size, sometimes round and someti oval, with a slightly granular protoplasm, and very acti motile. Very small forms possessing a lively rotary mo were also found. The infusoria were very resistant and vived in stools kept cold for several days. At room tem ature they remained motile for from 5 to 6 hours; at incub temperature, for 10 hours. Cultures were negative and oculation of lower animals produced no results. The tient's stools also contained, in varying quantities, trichomonas intestinalis. Various forms of treatment tried without much benefit. Under calomel the stools tained only encysted parasites in small numbers. U enterokresol the infusoria disappeared, leaving only l oval cysts. A sister-in-law of the patient had a sim diarrhea with the parasites in the stools. The parasites c not be demonstrated in the drinking water consumed by two patients. [D R]

3.—Blaschko suggests that in some cases of syphili which mercurial inunctions are ordinarily used, the mer be incorporated into a lint to be worn in the form of an a or protector on the chest. A manufacturer has made him a peculiar lint called "Mercolint," which is impregn with a mercurial ointment. The system is brought u the influence through the inhalation of mercury and through its entrance locally. The protector is worn n and day or only at night. The method is indicated e cially in the milder cases, as in relapses for after-cur syphilitic anemia, in pregnant women, in infants, and i weak and debilitated patients. The author also believes the constant wearing of such a mercurial chest-shie likely to prevent relapses and dispenses with the periodi repeated courses of treatment. [D R]

4.—**Tuberculosis of the tonsils** may be primary, usually appears in the form of isolated nodules, which erally begin in the depths of the follicles. Diagnosis is difficult, at times only possible microscopically. The sec ary form is easily recognized by the presence of superf ulcers, which may, however, be mistaken for syphilis. the primary form the treatment is the prompt remov the tonsil; and in the secondary, the condition of the tient, especially the existence of pain on swallowing, is guide. The various ways in which the tonsils can bec infected are described. Seifert mentions the blood, lymph, the spleen, the inspired air, the food, and infectio continuity. **Tuberculosis of the nose** is not very quent. It may be either primary or secondary. It pre itself under the following forms: (1) As an ozena-like ch catarrh; (2) as tuberculous ulcers; (3) as tuberculou mors. **Tuberculosis of the larynx** is most frequ secondary. Primary laryngeal tuberculosis is possible, can be demonstrated only with great difficulty. The h trophic forms of tuberculosis are more benign than th

erative. Lupus may occur in cases of tuberculosis of the ace. In tuberculosis of the larynx infection is brought about nost frequently through the sputum. [D.R.]

5.—Jadassohn, in the present article, discusses those **skin-affections,** the **tuberculous nature** of which has been proved in part by clinical, and in part by histologic evidence, but in which the complete proof of their tuberculous character has not been sought in all cases. These affections have been termed **paratuberculous dermatoses,** and the French are accustomed to attribute them to the toxins of tubercle-bacillus. Among these affections are mentioned **lichen scrofulosorum,** which is unquestionably connected with tuberculosis. A second group is characterized by acne-like efflorescence, and has been described under various names (hydrosadenitis, acnitis, folliculitis exulcerans, granulome innominé, necrotic granuloma, etc.). The principal manifestation consists in small, sharply-defined, deep-seated nodules, which gradually approach the surface, necrotize, and finally heal with scars, and which are especially located on the ulnar side of the forearms and hands. They may also appear as suppurating superficial nodules which are transformed into soft granulation tissue. Lupus erythematosus is still a much-debated ground. There are two forms, lupus erythematoses discoides and the acute disseminating form. The author does not deny the possibility of the tuberculous nature of lupus erythematosus discoides, but states that it has not been proved. The nature of the other form of lupus is still more difficult to determine. Another skin affection is that described by Bazin as **erythème noueux des scrofuleux.** This appears in the form of firm, bluish, deep-seated nodules, especially on the lower extremities of young, scrofulous girls who are compelled by their occupations to stand for long hours. Occasionally the nodules ulcerate. Their tuberculous nature seems to have been proved. A roseolar erythema has occasionally been seen at or before the beginning of an internal tuberculosis; it may be toxic in origin. There are other skin diseases the connection of which with tuberculosis is very doubtful, as the pityriasis rubra of Hebra, the cachectic gangrene of the skin of children, certain forms of pigmentation of the skin, and scrofulous eczema. At times tuberculosis of the skin is the only manifest, perhaps the only existing symptom of tuberculosis, and a generalization of the disease from the skin may occur, usually in a chronic way, rarely acutely. Of the tuberculoses of the skin, lupus, scrofuloderm, and lupus scrofulosorum are chiefly, not exclusively, affections of youth. The **prophylaxis** of dermal tuberculosis corresponds with that of tuberculosis in general. In the **treatment** the general measures used in tuberculosis are applicable. Under tuberculin the author has seen improvement, but never complete cure. The best treatment, especially in lupus, is early excision. Caustic applications have been useful, particularly that made with pyrogallic acid. [Concerning the most modern treatment, namely, Holländer's **hot-air treatment,** the **Roentgen-ray,** and Finsen's **photo-therapy,** the author does not express a final judgment. D.R.]

Deutsche medicinische Wochenschrift.

November 16, 1899. [25. Jahrg., No. 46]

1. Chronic Muscular Degeneration of the Heart. HOCHHAUS and REINECKE.
2. A Multiplicity of Diseases Caused by Potatoes Containing Strong Solanin. E. PFUHL.
3. Cases of Hidden Foreign Bodies. WENTSCHER.
4. Spasms and Atony of the Esophagus. (*Continued.*) TH. ROSENHEIM.

1.—The authors have studied especially the correctness of the statements of Dehio and his students that myofibrosis is a common lesion of the heart, this term being used to indicate widespread interfascicular and interstitial increase of connective tissue, which does not advance from the vessels or the pericardium, but seems to be an independent growth between the heart-fibers. Dehio found this condition particularly in the hearts of the aged, and a similar description has been given by Boy-Tessier and Sesques. Hochhaus and Reinecke have examined a number of hearts from patients with infectious diseases, and several from aged subjects. In none of these subjects were they able to discover the general myofibrosis described by Dehio, and they decide that if this occurs it is seen only occasionally, and is by no means to be generally expected. [D.L.E.]

2.—The epidemic occurred in one regiment after there had been a change in the supply of potatoes. From May 29 to June 1, inclusive, 56 men were overcome with the symptoms of an acute gastroenteritis, beginning with chill, fever, headache, pain in the abdomen, diarrhea, and some prostration, sometimes associated with vomiting and sometimes with syncope. In some cases there were convulsions. The patients were usually soporous, and commonly there followed a jaundice with a slowing of the pulse. Herpes labialis was common. The fever lasted for about 3 days, fell rapidly and commonly on the fourth day the patients were free from fever. There was commonly a trace of albumin in the urine, but no sugar or bile. The patients all recovered after a few days, 47 of the 56 returning to service on the third day of June. The treatment was symptomatic. The appearance of the cases was entirely similar to that seen in the previous epidemic of poisoning from solanin seen in Strassburg, and all of the men with the exception of 5 had eaten of the new stock of potatoes on the day before taken ill; the 5 excepted had eaten the potatoes on the preceding day. The potatoes were investigated by Schnell, and were found to have about 6 times the amount of solanin commonly found in potatoes, and the cause of the epidemic was thus made evident. Schnell found some peculiar grayish spots on the potatoes, and upon investigating these found that they contained about ⅓ more solanin than the remainder of the potatoes, and considers that such an appearance is of some value as an evidence that they contain more solanin than normal, and are therefore likely to cause poisoning. [D.L.E.]

3.—Wentscher reports 3 cases of **foreign bodies** hidden in the human body. The first case was that of a man who had been stabbed over the sternum with a penknife. The blade broke off and the wound healed over it. Here it remained for more than a year, when on opening a small abscess it was found and removed. The second case was that of a man who was stabbed in the right temple. The wounding was followed by hemorrhage from the nose, and by ptosis. On examination there was also found moderate exophthalmus, laming of the rectus superior and rectus externus, and anesthesia of the left forehead in region supplied by the frontal nerve. The blade was found firmly driven in the bone under the fibers of the temporal muscle, and was only with difficulty removed. The patient made a good recovery. The third case was that of a 13-months' old baby, who was suddenly taken sick with what appeared laryngeal diphtheria. Tracheotomy was necessary and the patient then became quiet. Attempted removals of the tracheotomy-tube were, however, followed by symptoms of suffocation, until finally, during one of the attempts, a piece of plum-stone was coughed out of the wound and the patient then made a good recovery. [G.B.W.]

4.—Rosenheim contends that in a certain number of cases of atony and ectasia of the esophagus these conditions are primary, and spasmodic closure of the cardia is a secondary condition brought about and continued by the irritation of the mucous membrane in the dilated portions. A case is reported in which there was apparently for years only an atonic condition of the muscle-wall of the esophagus, but which was followed by overstretching of the tube and finally by marked spasm of the cardia. Direct treatment of the cardiospasm with the sound caused little improvement and seemed to indicate that cardiospasm was not the immediate cause of the condition and was secondary to the other disease. The treatment recommended for such a condition is nourishment of the patient three times a day with the sound, so as to avoid irritation of the esophageal mucous membrane and washing the mucous membrane of the esophagus first with water and then with silver nitrate solution. If this does not cause cure he advises gastrostomy. He describes a special electrode with which he applies electricity to the esophagus to overcome the spasm of the cardia. He also overdilates the ring at the cardia by using a Schreiber sound. Important points in the diagnosis are the observation by the esophagoscope of large folds in the esophagus which are easily pressed away, and the fact that the tube may be moved about more freely than normally in the esophagus. The diagnosis of atony of the

esophagus is made from the fact that fluids pass without any difficulty because they require no muscular action to advance them toward the cardia. The result of sounding the esophagus shows that there is no stenosis. The examination with the esophagoscope shows an abnormal wideness of the lower third of the esophagus with projections and relaxations of the wall. In the two cases of atony of the esophagus recorded in this number gastritis was present. Treatment of gastritis, when it exists, is considered an important aid to improvement in the esophagus because of the betterment of the general condition which ensues from improvement in the condition of the stomach. [D.L.E.]

November 23, 1899. [25. Jahrg., No. 47.]

1. The Influence of Infectious Diseases upon Leukemia. E. KÖRMÖCZI.
2. Achieving Support-Capability in Stumps through After-treatment. H. H. HIRSCH.
3. A Contribution upon Ophthalmia Electrica. L. ALEXANDER.
4. Concerning Spasms and Atony of the Esophagus. (*Conclusion.*) TH. ROSENHEIM.

2.—Hirsch has in 3 or 4 cases of **amputation** by a proper after-treatment made good useful stumps capable of bearing the weight of the patient. His method of procedure is as follows: The patient remains in bed with the stump elevated, even after the wound is healed. Once or twice a day the leg is massaged, at first dry, but later with olive oil acidified with 1 part of salicylic acid to 200 of oil. After each manipulation the limb is redressed with cotton and gauze. A box is put in the bed and the patient practises stepping by pushing against the box with his stump. These movements should be made for 5 or 10 minutes every hour or so. The patient should exercise the muscle of the stump by straightening and flexing it. Every evening the limb should be bathed in a hot soda-bath. [G.B.W.]

3.—Alexander reports a case of **ophthalmia electrica** occurring in a man, 22 years old, who had received a shock from a current of 200 amperes under light pressure. For 15 minutes after the receipt of the current he was unable to open his eyes because of intense pain on trying to do so. When he finally did open them he saw very strongly blue and yellow spots, which lasted for a half-hour or so. Twelve hours later intense pain set in, which continued for 6 hours, gradually diminishing. On examination there was marked conjunctivitis with a very active excretion of tears; left cornea was normal. On the right a fine paracentral macula was seen. The visual field peripherally on both sides was perfect for both white and other colors, and also centrally for the right eye. But on the left side there was a central scotoma. The patient did not return for further treatment than the instillation of a 2% solution of cocaine, so it was taken for granted that the eye recovered rapidly. [G.B.W.]

4.—Rosenheim states that atonic ectasies of the esophagus may end in death, and that under any circumstances ectasy constitutes a dangerous condition which is likely to disturb nutrition greatly. There is always a possibility that what has begun as a simple neurosis may end as a severe anatomic change, and may be transformed into carcinoma. There is always danger in considering that a case is not carcinoma merely because the symptoms have existed for a long time. A case is detailed in which the long duration of the symptoms made it probable at first that the stenosis was non-malignant. Examination by the esophagoscope, however, showed at once that a carcinoma was present. In another case the chronicicity of the case and the youth of the patient together with the readiness with which even large sounds could be passed through the esophagus led a number of men to make a diagnosis of simple nervous disturbance. This case, however, proved to be due to organic change, and required gastrostomy, and the patient finally died as the result of the trouble. The histologic examination showed that it was a chancroid. In this case no method of examination proved of any value excepting the esophagoscope. [D.L.E.]

November 30, 1899. [25. Jahrg., No. 48]

1. An Introduction to Psychiatry. E. MENDEL.
2. A Case of Spontaneous Rupture of the Abdominal Wall and Protrusion of Intestines. DOEBBELIN.
3. Gastrostomy and Jejunostomy. G. KELLING.
4. Some Experimental Observations on the Thyroid Gland. J. KATZENSTEIN.

2.—The case of **spontaneous rupture of the abdomen** reported by Doebbelin occurred in a woman 49 years old. Five years before she had been operated on for a left sided inflamed hernia. Since then, up to the time of the present trouble, she had had no trouble, not even wearing a truss. One day she noticed a soft swelling in the left inguinal region which was easily reduced by pressure. While doing her ordinary housework this broke open and 30 cm. of small intestine came out. Five hours later she was operated on, the intestine cleansed and put back into the abdominal cavity. She made a perfect recovery in spite of the fact that numerous colonies of staphylococcus aureus grew on the agar plates inoculated from the prolapsed intestine. [G.B.W.]

3.—Kelling has shown that the internal pressure of the stomach during digestion is only very slight and that the pressure does not alter with the different degrees of fulness. When the stomach is well filled the muscular walls relax, and when on the other hand the stomach is empty the walls contract, thus keeping up an equilibrium of pressure. So when a **gastric fistula** is to be made after the manner of Witzel it is much better to have the stomach full, the walls consequently being relaxed. If at the time of operation this condition is not present, it is best to first make a small opening in the stomach, insert a rubber tube and dilate the organ with air, and when the walls are sufficiently relaxed to proceed with the sewing of the walls over the tube. The jejunal fistula is made in the same manner, and it should be made as high up as possible and the tube should be sewed in in the direction of the peristalsis. The straightening of the Witzel fistula which follows after a lapse of time, is due to sudden abdominal contractions such as coughing or movement of the bowels, causing increased internal gastric pressure. [G.B.W.]

4.—Katzenstein in his experimental work upon dogs removed the thyroid gland of one side, severed the connection of the other side, with the vessels and connective tissue, and wrapped it in various materials so that it might not become adherent again and then observed the results. He bases his conclusions chiefly upon the results in 10 cases, in which the remaining portion of the gland was enveloped in fish-bladder. Three of these animals died at once and were excluded from consideration. Of the remaining 7, four withstood the bilateral thyroidectomy—57.3%. These results are not sufficient to allow of absolute conclusions, but they show, he thinks, that the thyroid gland is not an essential organ. Some interesting results were obtained by cutting the nerve-branches leading to the thyroid after having carefully determined the nerve-supply of the gland. The gland was freed from the surrounding tissue and the nerves divided. In the 16 cases in which this was done he noticed two stages of degeneration, the first lasting about 77 days and the second stage advancing from this time on. In the first stage there was gradual degeneration of the epithelial cells. The brain cells and the colloid cells could not be well differentiated, and the whole mass came to have the appearance of homogeneous colloid. In the second stage, owing to the degeneration of masses of epithelium as well as from the development of numerous cavities, the whole mass had the appearance of folds of intestine. Hence, by cutting the nerves of the thyroid gland, one may cause entire degeneration of the gland and complete exclusion of its function. Some interesting results were obtained by the examination of the cut nerves. The degeneration of the nerve began in the neighborhood of the Ranvier's contraction. This part first showed lack of staining, and hence it seemed evident that degeneration of the nerve fibers begins in this region. The length of the individual cells in nerve fibers, that is the distance from one contraction to the next, is usually said to be from 1 to 1½ mm. Katzenstein found that this varied from .059 to .552. [D.L.E.]

Centralblatt für Gynäkologie.

December 2, 1899. [23. Jahrg., No. 48.]

1. The Simplification of Gynecologic Assistance. MENSING
2. Longcontinuing Amenorrhea in Nonnursing Wom

After Normal Delivery and Puerperium. B. FEINBERG.
Two Cases of Duplex Vagina and Uterus. J. BALIN.

1.—Mensinga advocates such modification or arrangement instruments as will enable the physician to do his work h the fewest assistants possible. He also recommends the atment of gonorrhea with fresh brewer's yeast, having nd that the introduction of 1 or 2 spoonfuls of it into the gina, or its application by tampons, had a most beneficial ect; and adds that in some cases yeast-plant used in conerable quantities had shown a remarkable power over the ococcus.

2.—Feinberg gives the history of 3 cases of amenorrhea ntinuing from 6 months to 2 years after delivery in women o did not nurse their children, and discusses the cause. e patients presented no abnormalities, nor any disease, of genital organs; neither did there appear any other suffint cause, and he concludes that the reciprocal influence brain, nervous system, and the genital organs is still very perfectly understood. [W.K.]

3.—Balin reports 2 cases of double vagina and uterus, in h of which pregnancy occurred; in the first case, result- the birth of a dead child, though delivered without great ficulty; in the second, in normal labor and birth of a ng child. Both mothers recovered. [W.K.]

December 9, 1899. [23. Jahrg., No. 49.]

Eleven Conservative Cesarean Sections with Transverse Fundal Incision. A. HAHN.

.—Hahn reports in detail the history of 11 cases of transse fundal incision occurring in the clinic of Breslau Unisity, from April, 1898, to October, 1899. Of these 2 died peritonitis; but after a lengthy consideration of the adntages and disadvantages of this method as compared with ro's method, he concludes that its advantages are so at that he can well recommend it to his many colleagues. K.]

December 16, 1899. [23. Jahrg., No. 50.]

A Case of Acute Septicemia Treated with Marmorek's Antistreptococcic Serum. R. DE SEIGNEAUX.
Regarding the Slit Speculum. E. PREISS.

.—Seigneaux reports a case of puerperal infection treated Marmorek's antistreptococcic serum with very successful ults. Other drugs were used with no beneficial effects; , upon beginning the serum treatment, improvement was dy and rapid, and 4 days after the first injection the perature was normal. [W.K.]

.—Preiss describes some further modifications of the slit culum with devices which obviate the necessity for an stant in minor gynecologic operations. [W.K.]

Neurologisches Centralblatt.

December 15, 1899. [18. Jahrg., No. 24.]

Muscle-Tone and Tendon Reflexes. MUSKENS.
The Histogenesis of the Cellular Elements of the Cerebral Cortex. Preliminary Communication. PATON.
Optic Neuritis as a Complication in Diseases of the Nervous System. SCHUSTER and MENDEL.

.—Muskens, after a history of the question of **muscle-** **ne,** gives the following list of facts which appear to him indicate the existence of a true reflex tonus; (1) That r section of the posterior roots in frogs, hypotonia oc-. (2) In cases of unilateral facial paralysis, the face is wn toward the sound side; in profound sleep this inality of the two sides of the face disappears. (3) The that the sphincter ani remains contracted in sleep or in derate narcosis. (4) An experiment of Sherrington's, who nd that the external strabismus produced by section of third and fourth cranial nerves could be abolished by ct stimulation of the frontal lobes, indicated the inhibi- of the tonus exhibited in the muscles supplied by the ucens. (5) The fact that curare diminishes the tonus nta'ned in the muscles by the nerves. (6) The fact that ocomotor ataxia, hypotonia of the triceps of the thigh is ent. The second portion of the paper discusses the nature of the **tendon-phenomena,** particularly the relation between them and the muscle-tonus. Experiments have been carried out on 400 patients, 20 suffering from chronic internal disease, and 75 from **chronic organic nervous disease.** In each case the following points were observed: (1) the tonus as measured with Musken's tropometer; (2) the Achilles-tendon reflex; (3) the kneejerk; (4) the direct mechanical muscular inability; (5) the plantar reflex. These patients were divided into 3 groups; those with hypertonus, those with normal tonus, and those with hypotonus. In 90% of the cases of hypotonia, the tendon reflexes were diminished; in 10% they were increased; 63⅓ % of the cases of hypertonia had increased kneejerks. It appears, therefore, that there is some relation between the degree of tonus and the activity of the tendon reflexes, although there are exceptions to this rule. In 200 cases, of whom 66.3% showed alterations of either cutaneous or tendon reflexes or both, over 100 had a distinct divergence in the degree of alteration in these two types of reflex. These were about equally divided between cases of exaggerated tendon phenomena and normal or diminished cutaneous reflexes, and the contrary. As a result of these studies, it appears to Musken that it is probably necessary to accept the view that the ten don phenomena are not true reflexes, although he admits that it is impossible to determine this, and that we still need a more careful study of the mechanical irritability of the muscles. Finally, Muskens suggests the following modification of Jendrassik's method of reinforcing the kneejerk. At the moment of the blow upon the patellar tendon, the patient is instructed to make vigorous voluntary movement; for example, the patient is instructed to give a vigorous pull upon the clasped hands and the blow follows in a fraction of a second. It is useful in testing the reflex contraction of olher muscles in addition to the quadriceps. [J.S]

2.—Paton gives in brief form the results of 3 years of work upon the **histogenesis of the cellular elements of the cortex,** as follows: (1) The cortex develops from the simple layer of epithelium that forms the wall of the telencephalon. (2) In this layer there are three types of cells—the germ cells, the spongioblasts, and the indifferent cells. No transitional cells can be found. (3) There is no reason to believe that the germ-cells are actually different from the indifferent cells. (4) The inner layer may be called the layer of ependymal cells; the outer the layer of ganglion cells. Between them is found the neuroglia layer. (5) The elongated cells in the ependymal layer are probably destined to form neuroblasts. The make a half-turn in passing outward from the ependyma. (6) Until this half-turn has been completed, it is also difficult to distinguish the neuroblasts from the glia elements. (7) As soon as the cortex has developed, the number of spongioblasts diminishes rapidly, and they are supplanted by glia-cells. (8) The first process of the neuroblasts is apical, and this may appear before the turn is completed. (9) The development of the cortex may be divided into two periods, that of the cells of proliferation and differentiation, and that of the growth of the neuroglia tissue.

3.—Schuster and Mendel report the case of a man, 23 years of age, who had suffered for many years from **epilepsy.** The symptoms commenced with impairment of sight in the left eye, and five days later left optic neuritis was discovered. The case showed a curious clinical course, which, at the autopsy, was found to be due to the existence of a **disseminated myelitis;** the foci being grouped around the blood, vessels. The second patient, a woman 32 years of age, shortly after miscarriage, noticed failure of vision in the nasal field of the right eye, which rapidly developed into neuritis, and then various paralyses appeared, until she was completely helpless. At the autopsy there was found diffuse recent hemorrhagic myelitis. Finally, he reports the case of a man, 35 years of age, who developed spastic paraplegia, disturbances of sensibility, ataxia, and weakness of the arms and ptosis. The eye-grounds remained normal. A diffuse myelitis involving the whole of the spinal cord was found, and commencing neuritis retrobulbaris. It seems therefore, that in certain cases the optic nerves form a region of lessened resistance. [J. S.]

Deutsche Zeitschrift für Chirurgie.

August, 1899. [Band 52, Heft 5 u. 6.]

17. On the Etiology and Therapy of Epilepsy. H. ITO.

18. The Histology of Osteomyelitis Experimentally Produced. ENDERLEN.
19. The Surgical Treatment of Duodenal Ulcers. ERNST PAGENSTECHER.
20. Hernia of the Bladder. M. ZONDEK.
21. Total Removal of the Bony Shoulder-Girdle. KÖNITZER.
22. A Case of a "Central, Epithelial, Solid" Tumor of the Upper Jaw. A. FRECH.
23. Smaller Communications: A Case of Multiple, Stenosing Tumor of the Intestine of Tuberculous Nature; Intestinal Resection Done 3 Times with Favorable Termination. ALI KROGINS.
24. Book Notices.

[The numbers are volume numbers and correspond with those in the Zeitschrift.]

17.—This article by Ito on **epilepsy** is a most exhaustive treatise, contains both a discussion of the literature on the subject and the reports of 15 experiments on rabbits and dogs. Ito gives as the result of his experiments the following conclusions: 1. By purely mechanical means, it is impossible to produce in dogs a lasting epileptic condition. However, it is most probable that a secondary or later epilepsy can be excited by a chronic inflammatory process, especially when it is of an infectious character. 2. On the other hand, with guineapigs it is possible by mechanical means to cause an epilepsy. Frequent tapping on the head of these animals will produce a marked hyperemia of the cortex of the brain with increase of the intracranial pressure, which is followed by epileptic seizures. An operation which enlarged the confines of the brain was followed by improvement in the condition of the animal, and at the same time lessening of the cerebral pressure. [G.B.W.]

18.—(Continuation.) In this part of his paper Enderlen treats of the **suppurative inflammations of the bone-marrow.** The mode of producing the disease was to lay bare the femur of a young rabbit, drilling a small hole in the bone and infecting the marrow with a very small quantity of a pure staphylococcus culture. As regards the abscess which follows this procedure are given the following conclusions: (1) The cells at the point of inoculation degenerate from the direct influence of the staphylococci; (2) the cell-masses occurring in the center of the degenerated area, originate from a wandering in of the neighboring medullary cells; (3) a diapedesis of the white cells from the bloodvessels has not been ascertained; (4) in the abscess membrane are found (*a*) small and larger medullary cells (most numerous), (*b*) eosinophiles (moderately numerous), (*c*) large medullary cells (rare), (*d*) young connective-tissue cells; (5) among these cells found in the abscess-wall should also be placed the giant-cells; (6) the granulation-cells possess phagocytic properties; (7) the eosinophilic cells do not change into connective-tissue cells; (8) suppuration in the bone medulla is in a number of ways different from that occurring in the subcutaneous tissues. As to the injected staphylococci, there is an increase in the number with a consequent deleterious influence on the infected tissues. The suppuration does not remain localized, as in a case of chemical poison, but shows a tendency to spread to a rather extensive degree. [G.B.W.]

19.—Duodenal ulcers are found most frequent in that part of the duodenum where the action of the gastric juice is most intense, *i. e.*, before it is diluted with bile and pancreatic fluid; therefore, it seems most probable that the gastric fluid is to be blamed for the production of the ulcer, but only after some predisposing agent, such as traumatism, spasm of the muscles in the walls of the pylorus, or embolism of the nutrient arteries. Perforating duodenal ulcers open not only into the peritoneal cavity but also into the areolar tissue and into other hollow organs. As the duodenum is covered only partially by peritoneum, the position of the ulcer determines greatly whether a general peritonitis is to result from the perforation or not. The anterior wall is the seat of predilection for the ulcer. Hemorrhage is a frequent symptom of duodenal ulcer. Emaciation, pain, disturbances of digestion, retention of food in the stomach, and vomiting occur, just as in gastric ulcer. Stenosis of duodenum sometimes follows the healing of the ulcer from contraction of cicatrization; especially are bad results the necessary sequence when the ulcer happened to be situated near the opening of the bile-duct, as the cicatrix is thus liable to block the flow of the bile. A case is reported where the ulcer perforated into the gallbladder, establishing a fistula between the two organs. As to the results of treatment duodenal ulcers the following conclusions are given: Without or with only medicinal treatment: Of 70 cas where Perry had made postmortem examinations and foun either ulcers or the scars, in 33% of the cases death was du directly to the ulcer, in 10.4% healing, *i. e.*, cicatrization ha taken place, and in the remaining the ulcers were still ope *B.* With surgical treatment: (1) 28 perforating ulcers, 4 r coveries, 24 deaths; (2) 5 cases of chronic ulceration, which 1 died in ¼ year, ulcer healed; 4 were respectively years, 1 year, ½ year, ¼ year free from all symptoms; (3) cases of cicatricial stenosis operated on; 1 death from oper tion, and 3 recoveries; (4) scar with chronic icterus, mar edly improved. [G B.W.]

20.—Zondek reports 2 cases of **hernia of the bladde** The first was a man 52 years of age who for 2 years h. suffered from difficulty in passing his urine. Over the le external inguinal ring an elastic tumor was seen which at t operation was found to be a part of the nrinary bladde inclosed in a hernial sac. The hernial sac was cut close at its base, a portion of the bladder-wall resected and the re returned into the abdominal cavity and the pillars of t external ring sutured together. The patient made a comple recovery. The second case was a woman, aged 40, who, 1896, had suddenly been seized with fever, vomiting, a pain in the left inguinal region. This was followed by t gradual development or a swelling in this region whi proved at the operation to be a small hard tumor attach by a narrow pedicle to a prolapsed portion of bladder-wa The thinned-out portion of the bladder was resected and t organ returned to the abdominal cavity. The patient was d charged a month later cured. [G.B W.]

21.—Könitzer rehearses briefly the history of 5 cases **complete removal of the bony shoulder-girdle.** these 5 cases, in 4 the operation was undertaken because sarcoma, and in 1 because of extensive tuberculosis. Of t 4 sarcomas 3 were healed and 1 died shortly after operatic For 1 of the healed cases 20 months has elapsed since t operation, and for the other 2, respectively, 5 and 3 montl In the tuberculous patient, the final result, a year after t operation, could not be determined, but he was discharg from the hospital with a healed wound and firm, clean sc [G.B.W.]

September, 1899. [Band 53, Heft 1 u. 2.]

1. The Catgut Question RAFAEL MINERVINI.
2. A Research as to the Indications and Methods of Ope tion Relief of Brain-Pressure. S. BEREZOWSKY.
3. The Malignant Tumors of the Prostate, with Particu Attention to Carcinoma. RICHARD WOLFF.
4. The Pathology and Diagnosis of Movable Kidney. WUHRMANN.
5. Book Notices.

1.—Minervini has carried an exhaustive series of exp ments to determine the **value of catgut** as a suture ligature material. As to the durability of catgut it was fou that dry heat up to 150° C. did not affect it, in any way, when heated above 160° deterioration could be found. Wa even at normal temperature alters its form and cohesiven Some chemical substances as chromic acid or formalin h den the fibers until they are much less easily affected water, and only slightly so by boiling water. In fluids wh boiling points are under 100° C., such as alcohol, ether, chloroform, the catgut may be preserved indefinitely may be boiled in them without deterioration. Substan such as oil of turpentine, xylol or glycerin, whose boi point is above 100° C., also preserve the gut, and t may likewise be used to sterilize it, if the temperature be raised above 150–160° C. As to the question of sterilizat Minervini says that by dry heat or by heating in indiffer fluids such as alcohol, ether, chloroform, xylol, carbohydr be it by normal or increased pressure, the more robust sp will only be killed when the temperature has been bro up to 140–150° C. Because this temperature approaches height where deterioration of the gut begins one can n by this method of sterilizing be sure of strong and at same time sterile catgut. The method depending on the tion of carbolic acid and the anilin dyes is not posi enough. The method which is based upon the use mercuric chlorid, formalin, chromic acid or juniper

es absolute sterility provided the gut be left in the solutions g enough. The "mixed method" of preparing the gut is able of producing a sterile article, but it is too compli- ed. So that the simplest and surest method of sterilizing pears to be that in which bichlorid or juniper oil is used. gut is not absorbed as quickly as is generally used, and no tter what method of preparation was used its presence in tissues of the dog could be detached 125 days after its oduction. When sterilized with sublimate or chromic d the gut is much more durable than when dry heat, juni- oil or formalin are used. In the former the phagocytosis elayed so that the surrounding exudation has time to or- ize and form a fibrous capsule. Minervini concludes that is of the utmost difficulty to render catgut absolutely rile and at the same time have it retain its strength. Also t the antiseptic catgut is much less easily absorbed than aseptic. [G.B.W.]

3.—Berezowsky's article on **operative methods of lieving cerebral pressure** is a most exhaustive treatise l concerns especially the use of such a procedure in the tment of epilepsy. The article is divided into several pters, two being in the present number of the *Zeitschrift.* ap. 1. *Experiments as to the influence of extensive removal of cranium on the central nervous system.* The healing of the ect in the skull is accomplished by the periosteum, the a mater and the medullary substance of the diploe, the mer two, however, playing by far the most important t. The healing is due to the formation of bone through apposition of the dura and periosteum, though in a few es to an enostosis. In order that the formation of bone y take place in a normal manner it is essential that the a and periosteum be restored to their proper anatomic itions. The most sensitive to a disturbance in the ana- ical relations is the dura mater. The loosening of the a around the edges, the trephine opening tends to so dis- b the circulation and the nutrition of the dura, as to ck its bone formative properties. On the other hand the iosteum can be temporarily stripped from the bone with ative impunity, and when its edges are neatly sutured and s restored to its normal position the membrane soon takes its active part in the restoration of the bone defect. hen both the dura and periosteum have been stripped back m the edge of the trephine opening, these edges are wly absorbed, becoming thin out into a wedge shape. for some reason the cranial defect is not filled out h bony tissue, there is a production of connective ue takes its place. If the convalescence of the craniec- y has run an aseptic course, even when large pieces of dura have been excised, the brain will remain apparently affected. Division or even excision of the dura does not d to prolapse of the brain, when normal conditions st. Extensive wounding of the dura with more or less voidable wounding of the brain may lead to the appear- e of a temporary serous exudation which soon goes ay spontaneously. Chap. 2. *Clinical observations as to the cess of healing in cases of extensive, accidental, and operative ury to the cranium, brain, and meninges.* As far as the dura s concerned, Berezowsky found about the same phenomena in his experiments on animals. He, however, records ne very interesting clinical observations as regards epilepsy. uperficial cicatrix such as results from operations on the a is not to be feared as an etiologic factor in the produc- n of epilepsy. On the other hand, such deep penetrating rs as result from cerebral abscess, because of the accom- ying destructive degeneration, may give rise to epileptic acks. Another cause of traumatic epilepsy are cysts, and surgeon in operating for the relief of epilepsy must not get the possibility of this pathological condition being sent along with the cicatrix, and the leaving of the cyst ind will cause a return of the attacks. These cysts are sed by a laceration of the brain-substance with at the ne time an opening of the subarachnoidal space. The ects in the skull due to operative procedures may be left en without any bad results; indeed the filling in of the de- t at the operation is more apt to be followed by serious ditions. Prolapse of the brain is to be fought by reliev- the intracranial pressure and not by trying to stop with eoplastic procedures the defect in the skull. [Unfinished. W.]

3.—Wolff's article on **malignant tumors of the pros-** te is based on the personal study of two cases and a care- ful rehash of the literature on the subject. He says that carcinoma of the prostate occurs generally after the age of 50 years, and very often develops in persons who have been suffering for a long while from prostatic hypertrophy. This combination often makes the diagnosis of carcinoma most difficult. The cancerous prostate may cause mechanical retention of urine or it may exert pressure on the bowel, or In a very few cases it may cause no mechanical disturbance. in these last cases the diagnosis is difficult, and especially so as the first symptoms may arise from a metastatic growth. This metastasis is most frequent in the bones. Sharp attacks of pain in the region of the prostate with the discovery by bimanual examination of a large, hard nodular prostate are symptoms very suggestive of cancer. Cystoscopic examination, except when the middle lobe is involved, does not give much information. There is also a form of carcinoma which presents a smooth surface due to an even infiltration of the whole of the gland. In cases where the growth presses upon the urethra, catheterization is painful as is also the retention of a permanent catheter. This is an important sign in old prostatic cases. In some cases even after death the prostate is found to be cancerous only after a microscopic examination has been made. In one rare form of carcinoma of the prostate the atypical nature of glandular arrangement is hard to prove, and its malignant nature is only shown by metastasis taking place. Because of the difficulty of an early diagnosis the prognosis is most fatal and the treatment purely symptomatic. [G B.W.]

4.—For the palpation of **movable kidney** we can place the patient in various positions. Lying down either on the back or as suggested by Israel on the side is probably the most usual method, but bimanual examination with the patient sitting up or, better, standing, generally gives more positive signs. In the upright position the kidney is encountered at its maximal position of displacement, and therefore more easily palpated. The pain sometimes elicited by pressure on the displaced kidney is due to the twisting which occasionally happens when the organ falls forward, and because this twisting is intensified by the pressure. The development of movable kidney takes place in 3 stages: 1. Loosening of the kidney from its supports, caused by (*a*) pregnancy, etc.; (*b*) prolapse of the bladder, uterus, etc.; (*c*) cachexia, (*d*) increase in size of kidney; (*e*) coughing, vomiting, and constipation, and (*f*) trauma. 2. Twisting and beginning sinking of the kidney due to (*a*) tight corset-lacing; (*b*) severe trauma; (*c*) coughing, etc.; (*d*) retching and (*é*) sudden strong contracture of the muscles. 3. Sinking of the movable kidney downwards due to the weight of the organ, exaggerated by standing, walking, etc. [G.B.W.]

Archiv für klinische Chirurgie.

[Band 59, Heft 3.]

42. Pancreatic Apoplexy. W. J. ROSUMOWSKY.
43. The Arterial System of the Kidney and Its Relation to the Pathology and Surgery of the Kidney. M. ZONDECK.
44. Multiple Angiosarcoma. FRITZ KÖNIG.
45. Resection of the Vertebral Arch in Cases of Spondylitic Paralysis. F. TRENDELENBURG.
46. The Indications for Surgical Interference in Appendicitis. E. SONNENBURG.
47. The False Intestinal Diverticulum. ERNST GRASER.
48. A Few Important Surgical Complications and Sequelae of Influenza. FELIX FRANKE.
49. Brain Surgery, Especially as Regards the Etiology and Surgical Treatment of Epilepsy. OTTO SCHÄR.
50. A Contribution to the Recognition of Torsion of the Spermatic Cord. SASSE.

[The numbers are volume-numbers and correspond to those in the *Archiv.*]

42.—Rosumowsky reports a case of **apoplexy of the pancreas.** The patient was a physician, 29 years old, and had a small ventral hernia. He had during his student days suffered with dyspeptic symptoms, particularly after eating butter or fat meat. One day, after some indiscretion in diet, he was seized with a dull pain in the upper abdomen, which gradually increased in severity until morphin could scarcely control it. There was slight distention of the upper abdomen and dulness on percussion, especially in the right medullary line. The pulse became threadlike and the general condi-

tion of the patient extremely bad. After a few days, however, the symptoms began to improve and the patient was able to be moved. On examination the epigastric tumor was found to stretch almost to the umbilicus, it was not especially tender, on percussion gave a dampened tympanitic note, and by palpation showed slight fluctuation. The diagnosis of an encapsulated exudate resulting from perforation of a gastric ulcer was made and operation performed. A large quantity of altered blood was found encapsulated under the inner and lower border of the liver. This exudate contained cells resembling those of the pancreas, and there were groups found still keeping the glandular formation. The diagnosis made after the operation was pancreatic apoplexy. [G B.W.]

43.—The bloodvessels of the kidneys are so arranged that an incision which stands the least chance of causing severe hemorrhage should be made ½ to ¾ cm. backwards from the ordinary postmortem incision. The cut should be carried on slightly obliquely directly towards the hilum of the kidney. [G.B.W.]

45.—The paralysis of **spondylitis** is due to pressure on the spinal cord caused by either abscess, caseous mass in the spinal canal, granulations and scars of peripachymeningitis or by a narrowing of the lumen of the spinal canal through a sharp flexion of the spine. The last factor is a much more frequent cause than is generally accepted. The resection of the vertebral arch, in suitable cases, gives a better prognosis than formerly thought and is more especially indicated in cases of almost or entirely healed cases of spondylitis. In cases of either a complete paralysis or where the paralysis is of long standing, the results are not satisfactory. The good results are often very slow in development and it is often a half or even a whole year before the lameness is entirely cured. [G.B.W.]

47.—From the study of a preparation made by injecting the inferior mesenteric artery, it was seen that the protrusions of the intestine, which were the beginning of **false diverticulum,** occurred where the greatest number of arteries had their entrance and exit through the muscular coats of the intestinal wall. Especially at the points of exit of large veins does there seem to be a predisposition for the development of these diverticulums, and in connection with this idea is the fact that congestion of the intestines is a most important etiologic factor. [G.B.W.]

48.—Among the **complications and sequela of influenza,** true appendicitis sometimes with the formation of pus holds an important place. Neuritis of the various peripheral nerves often affords opportunities for mistakes in diagnosis, especially when the intracostal and abdominal nerves are involved, when pleuritis, pericarditis, gastric ulcer, appendicitis and other conditions may be closely simulated. Severe pain and tenderness of the sole of the foot may be due to ostitis of the tarsal and metatarsal bones or to inflammation of the plantar fascia. The osseous system is very often attacked by influenza, an osteoperiostitis being the most frequent disease. [G B.W.]

49.—In this article Schär has made a rather exhaustive review of the literature on the **surgical treatment of epilepsy,** besides reporting in full some 20 cases treated in Professor Kocher's clinic. After a careful study he comes to the following conclusions: Operation for epilepsy should always be advised when medicinal and hygienic treatment does not quickly bring about favorable results. The small mortality attending the operation is of no practical importance as compared with the unbearable existence of the disease. One should err rather on the side of too much operating than too little, and the epileptic should be brought to the surgeon as early as to the man of medicines. But the surgeon must not forget that, in order to effect a permanent cure, medicinal and hygienic aftertreatment is a most essential factor. Alcohol should be strongly forbidden, even to total abstinence. Children, the subjects of cerebral traumatism, should be treated on the same general principles as a nerve specialist would apply to an hereditary neuropathic condition. Epilepsy following injury of the skull can, in the majority of cases, be avoided with almost absolute certainty, if only proper and active treatment be instituted at the time of injury. [G.B.W.]

50.—Sasse reports an interesting case of **torsion of the spermatic cord.** The patient, 48 years of age, had had for 4 or 5 years back a slowly developing tumor in the left half of the scrotum. Recently, while doing heavy lifting, he was seized with a sharp pain in the right side which g worse and was accompanied with nausea though no von ing. On examination the scrotum was greatly swoll hanging down almost to the lower quarter of the thi Palpation revealed two elastic tumors in the scrotum, left being three times as large as the right; the right s however, was tender, and showed signs of slight inflam tion. At the operation on the left side were found two la cysts which were easily enucleated, while the normal test was left in position. On the right side the testicle and didymus were found swollen and somewhat necrotic attached by a very thin and twisted pedicle which contai the vas deferens and spermatic vessels. The tunica vagin was filled with a thick blood-tinged fluid in which the test lay. On section of the testicle and epididymus a typi picture of a hemorrhagic infarct presented itself. [G.B.W.

Sundry French Journals.

1. The Therapeutic Action of Sodium Cacodylate. REN and A. GAUTIER. (*Sem. Méd.*, May 31, and June 7, 18 19me Année, Nos. 24 and 25.)

1.—Cacodylic acid, which enters into the formatio sodium cacodylate, is derived by the oxidation of an orga combination of arsenic, dimethylarsenic or cacodyl. **Sodi cacodylate** contains arsenic in an organic form and in v high proportion. Very soluble in water and, consequen easily dialyzable and readily absorbable, it presents the vantage of being completety deprived of toxicity. Furth more, it has no irritating action on the tissues. In all ca in which, on account of a wasting process, the intersti nutrition becomes hyperactive and tends to run into a p cess of excessive destruction, sodium cacodylate is indica It is useful in the treatment of the pretuberculous period localized, but incurable tuberculosis, of diabetes, of exophtl mic goiter, etc., when given by the rectum or hypodermica In a case of splenic leukemia, treated by this remedy, Ren saw the red blood-corpuscles, which had previously falle 600,000 per cubic millimeter, increase in less than 20 day 3,038,000; and to the normal figure, 4,030,000, in 3 mon At the next meeting of the Académie de Médecine, Renaut said that he had used sodium cacodylate successfu in cases of profound anemia, of malaria, and of well-mar tuberculosis. Gautier differs from Renaut concerning danger of **cacodylic medication.** One hundred part cacodylic acid represent 72 parts of arsenious acid, and arsenic is present in a latent form, that increases the phy the chemic, and the physiologic properties possessed by ordinary arsenic preparations. Its administration redu slightly, but regularly, the fever of tuberculous processe the same time that it stimulates assimilation and incre the body weight. The stomach will retain a dose of from to 20 cgm. (1½ to gr. 3) per day for an indefinite period, it is possible to give almost the same dose hypodermically patients who would not tolerate .002 gm. (gr. ⅓) of arseni the form of Fowler's solution. He called attention the investigation of Besredka, who showed that w arsenic was injected into the subcutaneous tissue or i the peritoneum it was at first absorbed by the leukocy and converted into an organic form so that it was abl exert its influence on the cells of the ecomomy, particul on the cells of the nervous system. It has also been sh by Besredka that unmodified metallic arsenic is 100 ti more poisonous than that which is carried by the bloo the nervous centers after having been converted into organic form by the leukocytes. The administration cacodylic acid tends to increase the reproduction, the ac ity, and the vitality of the leukocytes, and to increase number of the red blood-corpuscles. It is, therefore, the remedy for the regulation of the oxidizing processes, consequently will serve to renew the vitality of the bl and of the tissues constantly and keep them in a nor condition. In tuberculous cases it is better to admini sodium cacodylate by hypodermic injection than by mouth and the maximum dose should be 10 cg. (1½ daily. After continuing these injections for seven or e days they should be suspended for about one week and t renewed. The symptoms of overdose are like those of o dose of the metallic preparations of arsenic. Part of the is eliminated by the kidneys and the remainder is abso by the leukocytes and carried to the nervous tissues. [J.

Practical Therapeutics.

Under the charge of

[A. A. STEVENS, A.M., M.D.

'he Therapeutics of Tuberculosis.—Flick (*Thera-'ic Gazette*, January 15, 1900) states that the most impor-t factor in the recovery from tuberculosis is resisting ver or immunity. Whatever makes for resisting power xes for recovery. Nothing ought to be given which irri-s or interferes with an organ. Cough medicine, stimu-s, and depressants must all be used with caution. Drugs ch may be useful in building up resisting power for the ent by regulating the various organs of the body are: rchnin, digitalis, animal and vegetable digestive fer-nts, mercury, nitroglycerin, mineral and fruit acids, vege-e tonics, iron, bismuth, charcoal, and diffusible stimu-s. Strychnin is one of our most useful remedies. It bably acts by overcoming in some way the inhibition ch the irritated nerve-ends of the vagus exercise upon rition. Digitalis is a very useful remedy in the treatment uberculosis, but it should only be used when there is a tive indication for it. Incompetence in the circulatory em, whether in the bloodvessels or the heart, calls for use of digitalis. Contraindications to the use of digitalis an overacting heart and constricted bloodvessels. If chy food is not properly digested diastase in some form uld be used before or during meals. The best indication the use of diastase is fermentation, as shown by gaseous tations. The clinical indications for the use of either sin or caroid are labored or incomplete digestion, as wn by dry, irritable cough, heavy, languid feeling after ng, a tongue which is slightly coated and subnormal in sture, and want of appetite or dislike for food. The clin-indication for pancreatin is intestinal fermentation, as cated by distended bowels. Pancreatin should be given or three hours after meals.

ne indication for the use of calomel is the symptom-com-known as biliousness. Nitroglycerin is our best remedy emoptysis, and should always be thought of when there is much constriction of the vessels or an overacting heart. linical indication for its use is a rapid, thready pulse. eral and fruit acids should be used freely in the treat-t of tuberculosis. The vegetable tonics are of service very stage of the disease for stimulating appetite. An ir or a tincture of one or another serves as an excellent cle for pepsin and hydrochloric acid, or for strychnin, alis, corrosive sublimate, or any of the mineral acids. indications for the use of iron are pale lips and pale ds. Iron phosphate and reduced iron are the writer's rite preparations. When there is an irritated condition ne digestive tract, as shown by a dry, furred tongue, and ll, semi-liquid, rather frequent stools, bismuth and coal are our best remedies. The chief indication for sible stimulants is a depressed state of the nervous sys-, as manifested by feelings of melancholy and a disposi-to fret and worry. The author's first choice is aromatic t of ammonia, his second brandy, and third whisky. ammonia should be given in large doses, ½ to 1 dram y 3 or 4 hours. Of the drugs which make for immunity most valuable is iodin. He prefers inunctions of euro-1 in olive oil. Europhen is rich in iodin and decom-s readidly. He believes that iodin used in this way ractically a specific in early phthisis. The treatment of rculosis as predicated upon disease-germs which set up ed infection opens up a large and very interesting field tudy, which as yet remains almost uncultivated. We ample evidence that tuberculosis, pure and simple, is a very fatal disease, and that many people have tuber-sis without developing enough symptoms to arrest atten-. Mixed infection, in which the pus-producing germs part, is the most serious condition into which a tuber-us subject can fall, and offers the greatest difficulties to herapeutist. With it come chills, fever, sweats, distress-cough and profuse expectoration. In this condition sote in large, well-sustained doses will greatly reduce ring and will conduce to recovery. Since the writer has ied to use creasote properly he has rarely to resort to s for chills, fever, sweats, and coughs. The best way to give creasote is in large draughts of hot water some time before meals. The dose should be gradually run up to forty or fifty drops three times a day, and as the dose of creasote is increased the quantity of hot water should likewise be increased. With the maximum dose of creasote he usually gives a pint of hot water. The water is a good diluent and does not burden the digestive and execretory systems.

Chloretone a Safe Hypnotic.—Donald (*Therapeutic Gazette*, January 15, 1900) has experimented with this drug as a hypnotic in a number of cases, with varied pathologic conditions, and has found it to be of considerable value in well-selected cases, and with moderate doses—10 to 15 grains, repeated within two hours, if necessary. He reports the following case, illustrating the harmlessness of the drug when used in doses far in excess of those mentioned above. A morphin *habitue*, suffering from insomnia and great depression, partly induced by numerous abcesses in different parts of the body, secured a liberal supply of 3-grain chloretone tablets, and determining to have sleep at any cost, took one night 24 grains of the drug. He had a fair night's rest. During the following day he took four doses of 12 grains each, and slept in consequence for 24 hours. On the third day he took in all 120 grains. The following morning he was so profoundly asleep that he could be roused only with great difficulty. He would articulate a word or two and then immediately drop off into deep sleep again. All food was refused, but water was taken greedily, the patient rousing at intervals sufficiently to walk to the bath-room for a drink and also to secure a movement of the bowels and passage of the urine. During the night he vomited considerable bilious matter, soiling his bedding and clothing. He remained in this state for two days, when he began to respond to stimulating treatment; a mild general anesthesia, however, still persisted, so that an abscess upon his leg was opened without any evidence of sensation on his part. Sleep lasted almost continuously for about six days. During all this period, except when roused for nourishment or for a bath, there was complete oblivion. When aroused the patient became partly conscious of his surroundings, and afterwards referred to incidents happening during these periods of intermission of his hypnosis.

That chloretone is a hypnotic, five to six days' sleep from the administration of the drug will testify; that it is a *safe* hypnotic this period of sleep from the use of 120 grains of the drug, with no bad nor untoward effects, should be ample evidence.

Pruriginous Eczema of the Aged.—Jonathan Hutchinson (*Medical Review*, October, 1899) has found applications of chinosol of value in pruriginous eczema. He advices:

℞.—Chinosol ..... 10 grains.
Hot water..... 1 pint.

Use freely as a wash for the affected parts, and after bathing apply the following ointment:

℞.—Chinosol ..... 12 grains.
Lard ..... 1 ounce.

Bloodletting in Dilated Heart.—Allyn (*University Medical Magazine*, December, 1899) in discussing the treatment of dilation of the heart states that bloodletting has long been accepted as a very important remedy when the heart is dilated and there are passive congestions and dropsy. It is especially valuable in dilation of the right heart when there is still considerable tension. It probably acts on the arteries in two ways,—by lessening the total volume of blood to be propelled, and so diminishing the labor of the overstrained heart, and also by removing some poisonous products of defective metabolism. Almost always the patient expresses himself as feeling better some hours after bloodletting. There is less embarrassment and oppression of breathing, and the pulse becomes more regular. Venesection is usually put off too long, and an insufficient amount of blood withdrawn. It is not to be performed in the very young or old. Leeches to the epigastrium may be employed when venesection would be too great a shock. The amount of blood to be withdrawn depends upon the plethora of the patient and the effect noticed. Sufficient should be withdrawn to make the pulse softer and more regular and lessen the difficulty of respiration. Six ounces will be sufficient in some cases, others may require thrice that.

Beta-Eucain in Minor Surgery.—Dalton (*Therapist*, December 15, 1899) states that anesthesia with beta-eucain is as complete as with cocain. Beta-eucain, moreover, is less toxic and less costly than cocain. He has used beta-eucain in his minor surgery of the urethra and its surroundings for some time past, and has almost abandoned cocain. For *anesthetizing the uretha* he uses 1 dram of 3% solution of beta-eucain, thrown up by an ordinary small urethral syringe, the glans penis being held tightly up against the nozzle so that no solution may run out of the urethra. The solution is kept in the passage for 5 to 10 minutes; when it is let out, the anterior urethra will be found anesthetized sufficiently to pass even large instruments without pain. *Circumcision.* One dram of 5% solution is injected with an ordinary urethral syringe under the foreskin and kept in. A hypodermic syringe is then charged with a 3% normal saline solution of eucain. Commencing near the frenum, small blebs of solution are made just under the skin, each bleb, of about 2 minims, touching its neighbor. A ring is thus made in the line of incision. When this is finished, about 6 to 8 deep injections are made into the subcutaneous tissue, with perhaps one or two extra ones near the frenum. Perchlorid of mercury solution should not be used, but carbolic acid. The operation will probably not be absolutely painless, but the pain will be so slight that it is perfectly bearable by even a highly nervous patient.

Buboes—The parts having been cleaned, a 3% solution is injected under the skin in the line of incision, as for circumcision, five or six deeper, into the tissues beneath (both in this operation and in the one for circumcision 40 to 80 minims may be used). The incision is made at once; it is not necessary to wait ten minutes, as sometimes stated after hypodermic injection, only for absorption from a mucous membrane by contact. After evacuating the pus, a 5% solution is poured into the wound, or pledgets of cottonwool soaked in solution are packed into the cavity; after a delay of a few minutes cureting may be lightly performed painlessly. One dram of solution may be used for this operation with safety. Occasionally the skin over the bubo is so inflamed and tender that even the prick of the needle is dreaded by some patients. This may be obviated by previously spraying with ethyl chlorid.

Hydrocele.—The hydrocele is tapped, and the fluid withdrawn. One dram of a 3% solution is injected into the sac through the trocar. Iodin may then be injected in the usual way. The patient only complains of a "warm sensation," instead of severe pain usually experienced. There is no afterpain.

Tachycardia.—Broadbent (*Heart Disease*, 1900) writes as follows: "In tachycardia, digitalis and the cardiac tonics generally, or the carminatives which are useful in ordinary palpitation, appear to have little or no influence on the frequency of the heart's action. Rest, mental as well as bodily, and simple diet must be insisted on, and any functional derangements of the abdominal or pelvic viscera should be corrected. The drugs which have seemed to exercise control over the heart have been bromids, in full doses—the sodium bromid being probably the safest and best—and belladonna or atropin, pushed to the limits of tolerance."

The Effect of the Addition of Salts to Carbolic Acid.—According to *Public Health* (November, 1899), Scheurlen and Bechmen a few years ago published the results of experiments indicating that the germicidal action of carbolic acid was increased by the addition of sodium chlorid. One per cent. of carbolic acid with 24% of common salt gave better results than a 6% solution of carbolic acid in plain water. Scheurlen and Bechmen were of the opinion that the salt took up some of the water, thus making the solution of carbolic acid stronger. Römer has recently repeated and confirmed these experiments, but suggests a more feasible explanation of the action of the salt. Having in mind the fact that microorganisms contain substances akin to serum-albumin, he made experiments on the lines of those of Bucher. If to a solution of albumin 3% of carbolic solution be added, no precipitate is formed, but if a 1% salt solution be also added, the albumin is thrown down. Römer concluded that through the action of the salt a chemical compound was formed and that the germicidal action of the mixture was due to this reaction.

Hygienic Treatment of Nocturnal Enuresis.—Stumpf (*Lyon Médical*, November 26, 1899, and *New York Medical Journal*, December 16, 1899) recommends that the child should sleep with the head lower than the pelvis, thereby creating a mechanical obstacle to the passage of the urine which no longer irritates the urethral sphincter. Stumpf had treated successfully 12 children and an adult by this method, which has also proved efficacious in two rebellious cases at the Institute for Deaf-Mutes at Würzburg. The duration of the treatment is about 3 weeks, after which the normal position may be resumed.

The Action of Drugs in Angina Pectoris.—Graham Steell (*The Sphygmograph in Clinical Medicine*, 1899) writes as follows: "I have been unable to demonstrate the rise of blood-pressure that is alleged to be the determining cause of attacks of angina pectoris. It does not follow necessarily that because vaso-dilators relieve such seizures that rise of pressure is the cause of the attacks. The heart is undoubtedly embarrassed in action in seizure of the kind, and any relief afforded to it by vaso-dilators would no doubt be beneficial. It has always seemed to me, in discussions on angina pectoris in relation to a rise of arterial pressure as its immediate cause, that the fact of the pain itself being capable of acting as a vaso constrictor has been too much overlooked. Certainly morphia is the great remedy that we have usually to fall back upon when vaso-dilators has have spent their powers of affording relief."

Gelatin Dressings—Eddowes (*Medical Times and Hospital Gazette*, September 30, 1899, and *Medical Review*, December, 1899) testifies to the value of Unna's gelatin dressing in cases of eczema, burns and scalds, ringworm and favus, herpes zoster and similar conditions. The formula used is zinc oxid, gelatin, glycerin and water in the proportions 1, 2, 3 and 4, in the order named. The gelatin is soaked for a few hours in the water and then all the ingredients are mixed with the aid of heat. When freshly made the mixture is of the proper consistency, but if kept for many days or heated several times, it requires the addition of water.

The surface to be dressed is washed with alcohol and then dusted with a powder composed of starch, 4 parts; calomel, 1 part. The gelatin mixture is then painted over the whole of the diseased area, and covered with an ordinary bandage. At first the dressing is changed once a week, later, it need not be renewed oftener than once a month, towards the end of the treatment once in three months. The writer describes three cases of long standing eczema, one was caused by varicose veins of the leg, cured by this treatment. The gelatin mixture serves as an excellent support to varicose veins, preferable to either the elastic dressing or stocking.

Yeast in Furunculosis.—Manders (*Ferment Treatment of Cancer and Tuberculosis*, Rebman Publishing Co.) says: "It certainly seems a little odd to me, who saw yeasts administered certainly thirty years ago, and with the very effects, too, that I should read in an annual entirely devoted to new treatment, only two years ago, that they are strongly recommended therapeutically, though I do give entire credit to M. Debouzy for his honesty in saying that he is merely bringing forward an old and popular remedy. This is also the case with myself, for I am doing the same thing with an exception, and that is a big one, that we have discovered the reason *why* the yeast does good, and have found out the best kind of yeasts to use for various purposes, and the nutriment that is the most fitting for them, considering the particular work they have to do; in addition to that, the best mode of their administration. We find that, in furunculosis, it is seldom necessary to administer yeast by hypodermic injection, and that the old fashioned plan of giving it raw, by the mouth, gives exceedingly good results. The usual dose when administered by the mouth is two teaspoonfuls of brewer's yeast once or twice a day, either plain or, if preferred, stirred up in either beer or porter.

The remedy should be steadily persevered with for two weeks or a month, but may have to be stopped or modified from time to time on account of eructations, distention from flatulence, and sometimes diarrhea. These unpleasant symptoms can be largely prevented by giving the yeasts at a time when the stomach is free from food, especially saccharine food, which should be limited in quantity, though there is no necessity for total abstinence from it."

Original Articles.

THE ETIOLOGY OF SYDENHAM'S CHOREA.

An Analysis of 100 Consecutive Cases.

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essor of Nervous Diseases in the New York Post-Graduate Medical School,

AND

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THE symptomatology of Sydenham's chorea is appar-ly the same today as when the disease was first cribed. The most interesting features of the disease its pathogenesis and causation. Very little is known he former, and not sufficient of the latter, although ch energy has been expended in an endeavor to le many of the mooted points. During the past 1½ rs, 110 cases diagnosticated as chorea have been ated in our clinic at the Post-Graduate Medical School. these, 100 were cases of Sydenham's chorea, or rea minor, as it is sometimes called. This series of cases was subjected to careful examination, and a nber of the severer cases were kept under continual ervation in the hospital. What we shall have to say the etiology of this disease is based entirely on a dy of these cases, and not on any preconceived ideas knowledge.

The first point worthy of consideration is the age of patients. The youngest patient was 4, the oldest and the average age 10.28 years. The average of the patients at the time of their first attack was 6 years. The following table shows the age of the ients in reference to the school period:

	Females.	Males.	Total.
Ages 1–7	6	5	11
Ages 7–15	45	32	77
Ages over 15	8	4	12

again, in decade tabulation:

	Females.	Males.	Total.
First decade	26%	24%	50%
Second decade	31%	16%	47%
Third decade	2%	1%	3%

Examination of these statistics shows that the school iod embraces almost 77% of all the cases, and that first 10 years of life has upwards of 50% of the es. The ratio between the number occurring in the t and in the second decade is considerably in advance that given by most writers. The vast majority of es, it will readily be seen, occur between the seventh l fifteenth years. Although no instances of Syden-n's chorea in advanced life are cited in these statis-, we have seen such cases in private practice that a short course and terminated in recovery.

Sex is an important etiologic factor of chorea. Of 100 cases, 41 were males and 59 were females, the io being therefore about as 2 to 3. This does not cor-pond with the figures of most writers. For instance, gives the proportion as 26 to 74, Sturgis 24 to 76, l Wollenberg one of the most recent systematic ters on the subject, 28 to 71. But if we compare figures with those of writers who have estimated relative frequency of chorea in males and in females hey present themselves in dispensaries, we find that y are more in accord. For instance, Gallinek, states proportion to be 40 to 59, Meyer 38 to 63, and lenburg 42 to 57. As a matter of fact, it may be taken as approximately correct that the disease shows itself 1½ times more frequently in females than in males.

Some interesting facts are obtained from an investigation of the nationality and race of our patients. Of the patients 17% were foreign born. Of these Russia contributed 8, Germany 3, Austro-Hungary 3, and England 3. Of the cases 25% were of foreign extraction, the vast majority of these being either German or Irish. This preponderance of the Russian in the foreign-born statistics is very easily explained. The Russians emigrate to this conntry with families of small children, while the vast majority of Irish and German emigrants are single. There were no negroes amongst our 100 cases. A fact worthy of note is that 27% of our cases were Jews. This is particularly remarkable in view of the fact that the clientele of the clinic is not largely Semitic. The predisposition of the Jew to the so-called functional nervous disorders is very generally recognized. The larger proportion of this race in our statistics is in keeping with this recognition.

The seasonal relationship of chorea has during the past few years been carefully studied. Our statistics show that 32% of the cases occurred in the summer, 31% in the spring, 28% in the winter, and 9% in the autumn. According to months, they were distributed as follows:

January	8 cases.
February	9 "
March	12 "
April	5 "
May	11 "
June	7 "
July	13 "
August	8 "
September	4 "
October	3 "
November	5 "
December	9 "

Thus it will be seen that the greatest number of cases for any month occurred in July, and the minimum number in October. This is very unlike the statistics of some American writers, such for instance as Osler, who found the maximum number in March and May, although his minimum number in October and November corresponds with our own. Lewis, of Philadelphia, found that the greatest nnmber occurred during the spring. Of two recent German writers, Koch found the maximum number in the winter, and Wollenburg the greatest number during the spring. We were unable to trace any relationship in the occurrence of chorea to hygrometric conditions, although we endeavored to make some observations on this point.

That chorea has some relationship to overwork in school, and particularly at the time of examinations, is mentioned by most writers, although our own statistics are non-committal on this point. As a matter of fact it is extremely probable that mental overwork has been given an unwarranted importance as causation of chorea. Very slight information concerning the occurrence of chorea in children of different stations in society is to be got from a study of dispensary patients. Nevertheless, it is worthy of remark, we think, that the vast majority of our cases occurred in what may be called the better class of dispensary patients.

The important role played by heredity in the genesis of all so-called functional nervous diseases is widely recognized by neurologists. An examination of our cases show the influence of heredity on the develop-

ment of chorea, reveals that in the immediate and collateral ancestors 22% were neuropathic, 19% rheumatic, 14% choreic, 1% cardiovascular, and 4% tuberculous. In 2% of the cases the family history was negative. These figures are very much at variance with those of other writers. Eulenburg, for instance, states that a neuropathic taint was found in the majority of his cases; and Koch found that about 80% of his cases showed a neuropathic family history. Sturgis, on the other hand, could elicit such a history in only about 20% of his cases. Direct choreic or similar heredity is exceptionally high in our statistics, and at a great variance with most authorities. The influence of the various hereditary factors on the time of development of chorea is likewise interesting. The average age of patients with neuropathic history was $8\frac{2}{3}$ years, of those who had a family history of rheumatism 8, and those who had chorea 9. This leads us to the opinion that these factors exercised a marked predisposing effect on the occurrence of this neurosis.

The influence of rheumatism on the development of chorea is still a debatable topic, despite the fact that an enormous amount of care has been expended in an endeavor to determine the interrelationship of these two conditions. We have been of the opinion that the relationship of chorea to rheumatism is more important than might be inferred from the statistics of some of the more recent writers. The discrepancy in the statistics of different writers relative to the influence of rheumatism is explained, in part, by the different meaning or interpretation put upon the term rheumatism or the rheumatic state by different writers. Without in any way attempting a definition of rheumatism, and without reference to its pathogeny, we may say that we differentiate three types of rheumatism: (1) tonsillar or anginous rheumatism; (2) articular rheumatism; and (3) cardiac rheumatism, including rheumatic pericarditis, endocarditis, and myocarditis. A history of repeated attacks or a series of attacks of tonsillitis occurring in the rheumatic season and yielding to antirheumatic medication have been looked upon by us as evidences of a rheumatic constitution. The total number of cases showing this constitution was 54. It was found that tonsillar rheumatism had occurred in 23 cases, articular rheumatism in 16 cases, and cardiac rheumatism in 32 cases. In 3 cases all three varieties were present. Fourteen cases showed the tonsillar and cardiac varieties; 5 cases the articular and cardiac; and 2 cases articular and tonsillar. There were also 5 cases of cardiac involvement in which no rheumatic history could be obtained.

From the results of our own observations, and from a consideration of the studies of others, we are of the conviction that there exists a definite relationship between the rheumatic dyscrasia and the occurrence of chorea. It is possible that chorea is a metarheumatic manifestation. During the occurrence of rheumatism there are developed in the blood toxic substances which act deleteriously upon the nervous system which may be more or less unstable through heredity to produce the well-known clinical picture of Sydenham's chorea. It is highly improbable, we venture to believe, that chorea is an infectious disease in the true sense of the term. The most important testimony in favor of this view is the habit of chorea to recurrence and relapse which is not characteristic of the infectious diseases.

As the result of a careful investigation into the condition of the heart in chorea, we venture to call atte tion to the frequent occurrence of hypertrophy a dilation of the heart with accentuation of the first apic and second pulmonic sounds, and to suggest that the are very frequently the indicators of a previous rhe matic dyscrasia. It should not be forgotten that card opathies may exist without the occurrence of cardi murmurs, and that a careful examination by percussi is oftentimes of more importance to show the real sta of affairs than is auscultation. Some writers mainta that chorea always occurs sequentially to infectio diseases, *i. e.*, that it is a secondary disease. Our ov studies decidedly oppose such a view. No disea save rheumatism, seems to have particular casual rel tionship to chorea. Osler found that chorea occurr in the wake of scarlatina once in 180 cases, but recent Priestly has shown from the study of an enormo material that it occurred only 13 times in 5,355 cas of scarlet fever. In none of our own cases did the seem to be any relationship to the eruptive diseases childhood.

The exciting causes of chorea are some variety psychical trauma, such as fright, acute worry, high wrought anticipation, and bodily exhaustion. Ve rarely does it seem to be gastrointestinal irritation, from the presence of worms and strain from special sen organ, such as the eye. An examination of our cas relative to the attributed cause as given by the parent patient, shows as follows: Fright, 16 cases; injury fro falls, 7 cases; rheumatism, 9 cases; overwork, 4 case excitement, 3 cases; and bilious attack, whippin school-examination, excessive rope-jumping, simp fever, an attack of grip, each of these one case. In o patient the original attack and the relapse were direct traceable to an attack of malarial fever.

Chorea is a disease that is particularly liable to recu rence or relapse; 45 of our patients had more than o attack. Of these patients 15 were males and 30 femal The relationship of rheumatism to the recurring attac was in 29 out of 45 individuals, in 62 out of a total 90 recurrent attacks. Twenty of the 45 individua who had recurrent attacks, and in 37 out of 90 recurre attacks, there was some variety of cardiopathy. T recurrences were rather evenly distributed to sprin summer, and winter. The average age of those w had relapses was $11\frac{1}{3}$ years, which is seen to considerably higher than the average age of the origin attack. The average time between the original atta and the recurrence was 22 months, the shortest interv being 2 months, the longest 9 years.

The temperament has been spoken of as an etiolo factor, but from a study of these cases we are led to t belief that it is not a matter of any considerable i portance. That chorea is more common in excita children, as suggested by Osler, is in no way borne o by our statistics.

The inconsequential part played by reflex exci tion, masturbation, imitation, eye-strain, etc., in t causation of chorea either predisposing or exciting, shown by the fact, that in none of our cases was su history elicited or relationship traceable.

It is well known that a peculiarly severe form chorea occasionally occurs during pregnancy, especia in primipara. It is impossible to estimate the f quency of this variety of chorea, but that it is r common may be inferred from the fact that no case this kind has been seen in the clinic during the p six years. Chorea gravidam is more likely to occur

e who have previously had chorea and in rheu-ic individuals. Although not necessarily of a severe ical type, it is not infrequently accompanied by tal symptoms of a maniacal character, elevation of perature, and great physical agitation. Chorea of lts is always a more serious disease than chorea of dren, and the variety under discussion is one of the est varieties.

e shall make no reference to the symptomatology horea, save on one or two points. It is well known the choreic manifestations may be limited to one nber, to one-half of the body, or manifested in the re body. The following table will show the distribu- of the choreic manifestations as they occurred in es and females:

	Males.	Females.
Right	12	15
Left	4	8
General	25	36

e have had particular interest in studying the tal states of choreic patients. At the 1898 meeting he American Neurological Association, Dr. Charles Mills, and others, stoutly contended that acute enham's chorea was unaccompanied by note-thy mental change. Examination of our histories ws that mental symptoms were sufficiently prom-nt to be noted in 54 cases. These were distributed llows: Mental apathy, 23 cases; mental excitabil-and terrorized states, 27 cases; mental torpor, 4 s; and a mild degree of dementia, 3 cases. These istics tend to confirm our previous conviction that e chorea is not infrequently accompanied by note-thy mental deterioration.

CERTAIN EFFECTS OF BENZOIC ACID UPON THE URINE.

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y the Visiting Physician to the Philadelphia Home for Incurables; and Physician to the Medical Dispensary of the Episcopal Hospital.

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HE following experiments were undertaken to cor-rate certain clinical observations of the effect of zoic acid and oil of sandalwood administered in-ally in the acute cystitis of gout and other acute rrhal conditions of the genitourinary tract.

[aving been led to believe by statements of various known authors that benzoic acid increased the ity of the urine, I formerly systematically avoided ng it in cases of cystitis where the urine was found e normally acid or hyperacid, trusting to the diuretic perties of the vegetable salts of potassium.

inding that this mode of treatment frequently failed ive the much desired relief, I began to use cautiously, ases where the alkaline diuretic treatment failed to luce rapid improvement, small doses of benzoic acid, fully watching the urine meantime, lest it should me hyperacid.

t appeared to me in such of these cases as I had ortunity of observing, that the benzoic acid had e or no influence in increasing the acidity of urine ady normally acid, although its effect in restoring normal acidity of urine which is alkaline when ed is a phenomenon too long and frequently ob-ed for its accuracy to be doubted for a moment.

It seemed to me probable that if my observations had been correct, their explanation lay in some power possessed by the benzoic acid or its eliminative products to prevent the occurrence of the alkaline fermentation—some power of a germicidal nature perhaps—and not in any direct chemical influence of this drug upon the acidity of the urine. The clinical observations had been made only with litmus paper, estimating the acidity of the urine by the degree of intensity with which it colored blue paper red—a fairly useful but obviously not a very accurate method.

At the suggestion and through the courtesy of Dr. H. C. Wood, who placed laboratory facilities at my command, the following experiments were made.

The urine of two dogs was first tested for some days to determine the average normal acidity, the urine being collected as it was passed, and a sample of the whole amount voided in 24 hours being tested immediately upon the completion of that period.

Afterward each dog was given 1 gram of sodium benzoate hypodermically for a number of days and similar observations taken, and finally 2 grams of sodium benzoate were given.

The acidity is estimated in terms of the number of cubic centimeters of a 1% aqueous solution of potassium hydrate required to exactly neutralize the acidity of 1 cc. of the urine, to this having previously been added 1 cc. of a 1% alcoholic solution of phenophtalein. It was found that when the phenophtalein solution was added to the undiluted urine, even very large quantities of the potassium hydrate solution failed to produce the characteristic red coloration as the point of neutrality was passed and the state of alkalinity reached. Previous dilution of the urine with ten times its bulk of water, however, was found to render the test accurate and delicate. The method employed was, then, to take 1 cc. of urine mixed with 10 cc. of water and 1 cc. of phenophtalein solution, and to allow the potassium hydrate solution to slowly run in from a burette, noting the quantity of the latter required to produce a distinct pink tinge.

The results are as follows:

	Dog No. 1. Acidity.	Dog No. 2. Acidity.
Not taking the sodium benzoate	0.51	0.61
Taking 1 gm. daily	0.33	0.70
Taking 2 gms. daily	0.37	0.52

In order to more fully explain these results, the following tables are inserted:

I.—NEITHER DOG RECEIVING ANY SODIUM BENZOATE.

No. of Observation.	Dog No. I. Quantity (in ccm.)	Dog No. I. Specific Gravity.	Dog No. I. Acidity.	Dog No. II. Quantity (in ccm.)	Dog No. II. Specific Gravity.	Dog No. II. Acidity.
1	119	1050	0.60	101	1052	1.00
2	76	1053	0.30	172	1052	0.70
3	122	1031	0.33	122	1051	0.58
4	111	1048	0.85	277	1048	0.48
5	178	1050	0.18	165	1037	0.26
6	78	1057	0.41	107	1058	0.68
7	127	1061	0.92			
Aver.	116	1050.7	0.51	157	1049.6	0.61

II.—EACH DOG RECEIVING 1 GM. SODIUM BENZOATE DAILY.

No. of Observation.	Dog No. I.			Dog. No. II.		
	Quantity (in ccm.)	Specific Gravity.	Acidity.	Quantity (in ccm.)	Specific Gravity.	Acidity.
8	111	1052	0.30	103	1054	0.60
9	85	1042	0.45	155	1054	0.55
10	155	1035	0.20	65	1066	0.90
11	122	1039	0.40	81	1056	0.55
12	201	1049	0.30	82	1058	1.20
13	148	1047	0.50	132	1051	0.60
14	99	1052	0.15	102	1066	0.60
15				120	1062	0.60
Aver.	131.5	1045	0.33	105	1058	0.70

III.—EACH DOG RECEIVING 2 GMS. SODIUM BENZOATE DAILY.

No. of Observation.	Dog No. I.			Dog No. II.		
	Quantity (in ccm.)	Specific Gravity.	Acidity.	Quantity (in ccm.)	Specific Gravity.	Acidity.
16	178	1051	0 40	231	1049	0.40
17	145	1053	0.20	253	1054	0.55
18	132	1038	0.20	151	1036	0.45
19	145	1044	0.50	108	1062	0.95
20	90	1058	0.55	148	1041	0.35
21	118	1059	0.35	111	1049	0.45
22	140	1044	0.40			
Aver.	135	1049	0.37	167	1048	0.52

As will be seen from the table, the urine of the first dog (the smaller) was increased in quantity proportionally to the size of the dose given, this increase being accompanied by a slight diminution of the acidity. In the case of the second dog, with the larger dose of the benzoate the quantity of urine was also increased and the acidity diminished, but with the smaller dose of the drug the quantity of the urine was diminished and the acidity slightly increased.

Thus it would seem that proportionately as diuresis occurs with the use of the drug, the acidity of the urine is slightly decreased. The diuretic effect is, however, slight and inconstant.

It will also be observed that when the first dog was receiving 2 grams daily of sodium benzoate, the diuresis was slightly greater than when he was receiving only 1 gram, but the acidity was not so much diminished from the normal. This may perhaps be partly explained by noting that the specific gravity of the urine was also higher upon two grams daily than upon one. It seems to me probable that the only influence the drug has upon the acidity depends upon its effects upon the relative dilution or concentration of the urine, the acidity being proportionally less as the dilution is greater.

This, of course, only holds for general average, as the normal variations from day to day are considerable, and do not depend entirely upon the relative concentration, but rather upon the amount of sodium acid phosphate present.

In order to corroborate these results by experime upon the human being, I then collected my own ur for a number of days, noting the quantity, spec gravity, and acidity. Then I took for a number of d 6 grams of sodium benzoate daily, and made simi observations. The results are as follows:

Ten days' observation, without taking the dr averages:

Quantity.....713 cc.
Specific gravity.....1024.8.
Acidity..... 0.36.

Six days observation, taking 6 grams of sodium b zoate daily, averages:

Quantity.....822 cc.
Specific gravity.....1025.3.
Acidity..... 0.31.5.

In this case the quantity was somewhat increas the specific gravity scarcely altered and the acid slightly diminished.

With both the dogs' and human urine I found t the administration of the sodium benzoate had a m marked and positive influence in indefinitely postp ing the occurrence of the alkaline fermentation. C number of samples kept exposed to the air of laboratory for several days, none underwent any al line fermentation, the only ammonia found bein mere trace, which can also be found in normal, fresh passed acid urine, and which I believe is normally creted, at least in dogs, in the form of urate of amr nium. One sample of urine taken from the sma dog while he was receiving 1 gram of sodium benzo daily, was tested at first daily, then at longer interv for a period of two months, the reaction becom gradually more acid as the urine became more conc trated from evaporation.

Thus then we have the well-known effect of benz acid upon ammoniacal cystitis explained. It is that the acidity is directly increased, but that the a moniacal fermentation going on in the residual ur is prevented from taking place, and the urine resu its normal acidity.

From the notably beneficial effects obtained in ma cases of cystitis, even where there is no residual ur and no ammoniacal fermentation taking place wit the bladder, it would look as if the benzoic acid some of its eliminative products had a distinct a septic or germicidal action. That this influence d not affect all forms of bacteria, however, is indisputal In the sample above referred to, which was kept two months without becoming at any time alkaline well as in others, bacteria were observed which g and flourished. The apparent number of bacteria, h ever, was notably less while the benzoate was be exhibited than under the normal condition.

To sum up then the evident effects upon the urin the exhibition of benzoic acid:

I. An inconstant diuretic action, accompanied b slight diminution of the acidity of the urine.

II. A retardation or absolute prevention of the occ rence of the alkaline fermentation.

III. An action in nature germicidal or inhibitory the growth of certain microorganisms either within bladder or when introduced into the urine after v ing, these susceptible organisms including especi those which tend to produce the alkaline fermentat but which develop in the urine while it is still acid.

It should further be said that on several occasi while the benzoate was being administered to the d

ne was found to be filled with pus, highly alka-
nd extremely ammoniacal. In each of these
es the condition was proved to be due to the dis-
g of a hypodermic abscess into the vessel in
the urine was collected. These samples were
out of the calculation. From this it appears that
erwhelming quantity of septic material be present
e introduced into the urine, even the admin-
n of benzoic acid will not prevent the urea from
roken up and the carbonate of ammonium from
ormed. In this connection it may be said in
to the therapeutic use of benzoic acid, that when
s a very large amount of residual urine and a
established ammoniacal cystitis (as in the case
raplegic under my care at present), the benzoic
one may be insufficient to render the urine acid,
being need as well to completely empty the
r at sufficiently short intervals, so that the task
enzoic acid in coping with the bacteria may not
lered an impossible one by their overwhelming
rs and their intrenchment in a medium so copious
strongly alkaline that no possible amount of
ly acid urine can neutralize its alkalinity. As
alinity itself is a necessary condition to the de-
ent of most forms of bacteria, it is probable that
a case, if the residual urine could but be kept
r a few days, the bacteria that are immune to the
of the benzoic acid would mostly perish through
an alkaline medium in which to develop, and
e benzoic acid could then maintain the acidity
bladder-contents by preventing the growth of
lkaline fermentative organisms as ordinarily
be liable to develop in the acid medium.

CASE OF SUCCESSFUL SYMPHYSIOTOMY.

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report will not add anything to what is already
about symphysiotomy, but is interesting in that
ter had the opportunity to deliver the patient on
asions—once, a year and a half ago, by version
ion; again, five months ago, by extraction after
of the pubis, of a much larger child. The
in both instances may be compared.

S. B., primipara, aged about 30, of a low order of in-
ce, not knowing even her own age, was referred to
rthwestern University Medical College, in labor at
anuary 17, 1898, by Dr. McGonagle. She was of
elicate stature; height, 4 feet 11 inches; thin; general
oor. Pelvis—crests, 24½; spines, 21; bitrochanteric,
delocque, 17; C. D. 11½. Diagnosed flat, rachitic,
generally contracted pelvis with a true conjugate
10 cm.

was in scapula-left-anterior position, did not appear
more than 8 pounds; heart-tones normal. The cer-
completely effaced, the os admitted three fingers,
of waters was intact, and the soft parts rigid, as is
in an old primipara, but otherwise normal. The
ere strong and regular, and the condition of the
satisfactory.

abor was watched closely, and full dilation of the cer-
aited. The membranes were apparently tough, so
ntaneous rupture was not to be feared, otherwise a
yuter would have been placed in the vagina to pre-
e bag of waters.

At 6 P.M. the cervix was completely dilated and podalic version was done. The waters had not escaped, yet the version was exceedingly difficult, and was accomplished only after bringing down both feet and using the maneuver recommended first by Justine Sigmundine—a sling on each foot, and while drawing on these the shoulder is pushed up from below with the other hand.

The child's heart had meanwhile gotten very slow, and it was feared death was imminent. Extraction could not be accomplished quickly enough to save it, so we had to depend on the circulation being reestablished in utero. This did occur, and after 30 minutes nothing abnormal could be found on auscultation. Labor was now allowed to go on, but an hour after the version the patient's strength gave out completely, and delivery was urgently indicated. This was done by traction on the feet, and was even more difficult than the version had been. The child fitted the pelvis like the swollen finger a ring, and every inch had to be forced, by pressure above and traction below. Rotation of the trunk was normal, but the arms, as expected, were stripped above the head and were brought down only with the use of force and some delay. The head caught above the pelvis and lodged firmly. Pressure, Smellie-Veit, Martin-Wiegand were all tried without success. The same in the Walcher position availed and the head came down into the pelvis where it was impacted firmer than ever. An attempt to apply the forceps had failed, as it was impossible to insert the second blade.

Powerful pressure from the outside and traction from below finally brought the head out, although the child's life was despaired of. Its heart was beating and it gave one gasp, but could not be revived. The autopsy showed no fractures.

The perineum was lacerated to the second degree, sphincter not involved, and there were deep bilateral tears of the cervix, which, however, did not bleed. The perineal tear was sutured and came together nicely. Patient was deeply shocked and rallied slowly, requiring four hours; even the next day there was considerable prostration. On the fourth day an enema point was passed by accident through the rectum and the perineum, destroying the primary union, and resulting in a rectoperineal fistula. This closed spontaneously in three weeks and the patient went home at the end of the month, well. There was no fever at any time. The child weighed 8½ pounds, was a male, 54 cm. long.

Second Labor.—The patient came to the Chicago Lying-in Hospital when about six months pregnant, and was advised to return in four weeks for the induction of premature labor. This she failed to do, but returned at 8½ months for admission to the hospital. As it was now too late to gain anything by the induction of premature labor it was decided to wait till term and do a Cesarean section. Mrs. B. suffered greatly from intertrigo and pruritus due to hemorrhoids, and enormous varicosities of the genitalia. She had spurious labor-pains at intervals for several weeks, going 16 days past the time set for her labor. The child grew rapidly and we were made more and more certain of the necessity for doing the abdominal delivery.

The position of the child varied, breech or shoulder, and several attempts were made to bring the head down so as to fit it to the pelvis. The child always went back to its favored positions.

Labor came on suddenly, May 11, 1899, at noon, and when I reached the patient, the bag of waters had ruptured and a foot was protruding from the vulva. Patient was immediately transported to the amphitheater of the Northwestern University Medical School, before the third and fourth year classes.

Strong and tumultuous labor pains were present, so that morphin and later chloroform had to be administered. The position was sacro left-anterior, the left foot being down. The foot was large, the abdomen much distended, and the child was estimated to weigh 9½ pounds, or more.

Dr. T. J. Watkins examined the case with me and concurred in the opinion that the mechanical disproportion between the fetus and the pelvis was so great that a living

child could not be delivered through it. Cesarean section was out of the question because of the danger of infection of the interior of the uterus by drawing through it a foot that had been in contact with the vulva and air for three hours.

Symphysiotomy was considered very dangerous because of the immense varicosities about the vulva. Each labium was as large as one's wrist, and some of the veins were larger than a lead pencil.

The alternative of a dead child, however, induced us to take the risk, and unusually careful preparations were made against hemorrhage. After the most careful aseptic precautions had been taken, assisted by Dr. Watkins, Dr. R. W. Holmes, Dr. N. Shanks, Dr. C. E. Kurz, Dr. C. Culbertson, in the presence of a large class, the open method of symphysiotomy was performed.

From the moment the knife touched the skin, the anticipated hemorrhage occurred. It was like cutting through a sponge. Clamps were used on each crus of the clitoris, and the wound had to be packed at intervals, delaying the operation not a little. The symphysis was bared and as the finger gently worked its way down behind, separating the bladder and urethral attachments, the venous hemorrhage was profuse. The subpubic ligament was partly dissected off, as Harris advises, but as the hemorrhage was great and continuous, no time was to be lost; so the pubis was severed as quickly as possible, and the cavity packed tightly with hot iodoform gauze.

The joint was very easily cut, being quite soft, and the bones separated spontaneously about one inch. The amount of separation during the delivery could not be determined as the gauze interfered.

Delivery was now accomplished with surprising facility, the child came out as in an ordinary breech case. It was slightly asphyxiated, and deeply narcotized, recovering from the former promptly, but going to sleep later, and it was only with difficulty and great persistence that it was brought around. The placenta came easily by the Credé method. Patient had a severe postpartum hemorrhage which came from a deep cervix tear, at the site of the old scar. As a great deal of blood had been lost through the incision, and as it was certain that she would lose more when we came to remove the packing from the pubis, we were anxious to save as much as possible, therefore no time was wasted trying to sew up the cervix, but the most efficient means I know—uterovaginal tamponade—was used to stop the hemorrhage. Then a small perineal laceration, which opened the track of the old fistula, was sutured with silkworm-gut. After careful sterilization of the hands and the instruments which had been used in the vagina, the packing was removed from the pubis. As was expected, the bleeding started again, but it was not so profuse, and was lessened by pressing together the sides of the pelvis, and by passing sutures of silk so as to take in the crura of the clitoris. By means of a big, sharply curved needle, the same suture that united the periosteum and anterior pubic ligament accomplished this.

Three sutures brought the bones well together. Deep skin-and-fat sutures of silkworm-gut completed the operation. There was still a very slight oozing from behind the pubis, but we felt assured that a tight bandage forcing the mons down on the pubis, and the tight vaginal tampon as counterpressure, would control this. The patient was kept on the table until we were sure this was the case.

There was little or no shock after the operation, but a great deal of pain. A frame of gas-pipe covered with straps of cotton-cloth was put on the bed, and by this means the patient could very easily be raised, so that the natural functions and washing of the vulva could be attended to.

Adhesive strips encircled the pelvis, but as an additional precaution sandbags were laid alongside the thighs. The uterovaginal gauze was removed next day with no difficulty. The patient urinated spontaneously after the third day, and bowels moved the second day, after a dose of oil. Tympanitis was troublesome for the first week, but at no time were there any symptoms of peritonitis. She vomited freely for the first four days (alcoholic?), but after passing a stomach-tul the ejection of large amounts of tough mucu subsided. There was no fever at any time. T tures in the skin were removed on the tenth da showed primary union throughout. The perine tures were left in until it was judged the joint tolerate some tension in parting the limbs; th teenth day the union was good, the track of the being obliterated. She was kept in bed longe was absolutely necessary, because her general was poor. She sat up on the twenty-eighth da then improved rapidly, being discharged on the fifth day. She walked around freely, without and there was no perceptible wabble in the ga particular up-and-down movement of the hips. F nation in the standing position, with alternate of the feet, showed an upward movement of th of the pubic bones of one quarter of an inch. pubes were perhaps again as thick as before labo urethra was not retracted or painful; the bladde tionated perfectly. The perineum was much s but firm. The uterus was low in the pelvis, b involuted, movable, not tender, and there were eral thickenings.

Pelvic measurements were: Crests, 26 $\frac{7}{10}$; 25; bitrochanteric, 30; Baudelocque, 19 $\frac{1}{10}$. Th could not be taken on account of the perineum. it may be seen that there was a permanent e ment of the pelvis in all its diameters.

The condition of the woman was eminently s tory.

The child at birth weighed 9$\frac{1}{2}$ pounds, the bo greatly developed, the head also relatively large normal. Length, 54 cm.; biparietal diameter bitemporal, 9; suboccipitobregmatic, 11$\frac{1}{2}$; o frontal, 12$\frac{1}{2}$; occipitomental, 13$\frac{1}{2}$. Circumferen and 38$\frac{1}{2}$.

It was a boy, and grew famously at the breast, ing, when the patient was discharged, nearly 14 p

The experience of this case confirms my opini pressed on several occasions, that there is a fi symphysiotomy, but a limited field; that it is a ation which can, in appropriate cases, give good but that it is a dangerous operation, and one tha be selected only after careful consideration of conditions.

Main interest centers about the indications—first labor, in the second—and now what shall b if the patient again becomes pregnant?

In the first labor we had to deal with a sligh generally contracted pelvis, with a C. V. of 9$\frac{3}{4}$, not very large, and on careful consideration it cided that the child could pass through without tion of its size. This was borne out by the ever that the mechanical disproportion was such t delivery could not be effected quickly enough the child. It was argued after this labor that a child would pass through safely; that in a secon the resistance of the soft parts, which certainly uted much to the failure of the operation, being a child of the same size would come through wi culty, but alive; but in the event of the secon being over 8$\frac{1}{2}$ pounds, the mechanical difficultie be too great to be overcome in the usual manne

In the first labor there was nothing to do version. No one would counsel a symphysioto Cesarean section with a C. V over 9$\frac{1}{2}$, and judged not large. Leopold especially advises

n in the performance of either operation on a
ara. Nature sometimes terminates these cases
anner unexpected and safe. The strong pains
imipara may mould the head to a pelvis whose
rements seemed to contradict the possibility of a
neous delivery.
ion by the head is contraindicated in contracted
(Shauta, Operative Obstetrics, 1892, page 103),
nion in which I wholly concur.
ipitation as a primary operation was not to be
it of, though the sequel showed that this would
een the more humane operation. The gain would
been none the less, and, really, less would have
ost. The information gained from this first labor
d us to see clearer the indications in the second
ncy.
en the woman became pregnant the second time
estions arose, Shall the pregnancy be interrupted
n as the child is viable? Or should she be
d to go on to term for the performance of Cesa-
ection or symphysiotomy if the child were large?
normal labor if the child appeared smaller than
ne?
re was no particular reason to believe that the
would have a small child, though it is said
e second child is usually smaller than the first;
patient was advised to return at the seventh
for the induction of premature labor. This she
to do, and when she did enter the hospital noth-
uld have been gained by the interruption of the
ncy. The natural termination was therefore
d. The child grew very rapidly, and as the
t went overtime, the doubt changed to certainty
e child could not go through the pelvis alive.
perations were now open—Cesarean section, and
ysiotomy. The child decided it by presenting
f by the foot for delivery, and there was no
. It would not have been safe to draw a foot
d for hours to the vulva and air, upward through
rus.
t shall be done when the patient becomes preg-
r the third time? The pelvis seems to be per-
tly enlarged in all its diameters. Unless the
appears much larger than the second I would
he case to nature, simply correcting any malpo-
and watch.
as these lines were being finished I was called
ase of labor in a woman with a funnel-shaped
This likewise resulted in symphysiotomy, with
child, snd mother, and the case will be reported
uently.

OID PHARYNGOTOMY FOR THE REMOVAL OF MALIGNANT GROWTH OF THE LARYNX.[1]

By F. J. LUTZ, M.D.,
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literature teems with the records of brilliant re-
following operations for injuries and diseases
ng the abdomen, the chest, and the head. The
ncy with which these regions are attacked has
ed extensive experience, and in its wake has fol-
boldness equaled only by the anatomic and
logic resistance and tolerance of the structures
involved, and the *furor operandi* is widespread and apparently contagious.

The surgery of the neck and throat, on the other hand, seems not to be a favorite department in which the daring knife has recorded coveted triumphs. Perhaps in the near future, now that the other regions have their surgical canons, the throat and neck will become fields for the exercise of such surgical skill and the collection of such experience as will enable us to proceed after well-defined rules in the alleviation of suffering and the prolongation of life, even though the peculiarities of the tissues diseased preclude the successes as to cure which have followed the removals of new growths in other organs.

The records available in the study of malignant laryngeal new growths are scanty indeed, and the latest compilation, that of Sendziak, of Warsaw, comprises only 502 cases, 452 of these being carcinoma, and 50 sarcoma. Of this number, the subhyoid route for reaching the tumor was chosen 12 times; in 8 cases of carcinoma and in 4 of sarcoma. In carcinoma, removal should be attempted by this method, according to the compiler, only in cases of extrinsic carcinoma, by which term the French designate carcinoma which originates in the epiglottis, the aryepiglottic fold, the arytenoids and the upper and posterior parts of the interarytenoid fold. More than one-half of the cases ended fatally from the operation, a result by no means encouraging.

In the removal of 4 sarcomas by this method, 2 are reported as successful, but no details are given. In the third, two endolaryngeal operations were followed by return of the disease, which remained well for 1½ years after the excision of the growth through the thyrohyoid opening. The fourth patient fared well for 2 months, but an abscess formed in the cicatrix of the wound, which had healed by first intention, and the subsequent history could not be traced.

It is foreign to the purpose of this paper to review the symptoms of laryngeal new growths; these depend upon the location and size of the tumor, as does also the laryngoscopic picture. The history of the case will assist in differentiating between a new growth and syphilitic manifestations—gumma and perichondritis syphilitica. The endolaryngeal removal of portions of the growth for the purpose of verifying and strengthening the clinical diagnosis is not proof positive.

In all the 12 recorded cases, preliminary tracheotomy was performed, and in the absence of a statement to the contrary we may assume that a general anesthetic was administered.

Add this preliminary to the recital of a case in which a subhyoid pharyngotomy was performed, not with a view to curing the patient, but for the relief of dyspnea and dysphagia. In the result our highest expectations were realized. No preliminary tracheotomy was done, and local anesthesia by infiltration with hot water and the application of a 4% solution of cocain to the mucous membrane permitted all the necessary manipulation without pain, and enabled the surgeon to avail himself of the patient's intelligent cooperation.

Case.—On November 6, 1898, I saw in consultation with Dr. Bartscher, C. W. B., aged 73, a widower; his father died at 83, the cause of death not known; mother died at 48 of phthisis; a brother and sister died of phthisis, and two sisters and one brother are living in good health. He was of temperate habits, and his hygienic surroundings were fair.

The anamnesis revealed an indistinct history of hepatitis in 1848; a fracture of the lower portion of the left femur in

[1] before the Medical Association of the State of Missouri.

1874; a fracture of the upper third of the left tibia in 1880, and in 1886 a fracture of the neck on the same side. He had suffered from frequent asthmatic and bronchitic attacks. During the early part of the summer he was often inconvenienced by slight attacks of laryngitis.

His present trouble he dates from about four weeks ago, when he could swallow solid food only with great difficulty; the dysphagia has constantly increased since then, and now he can swallow liquid food only. He has also been annoyed for three weeks prior to this with difficulty in breathing.

He is greatly emaciated; the arcus senilis is marked; there is general arteriosclerosis, cardiac hypertrophy, pulse 90, respiration 30, and sighing; both lungs are emphysematous; sublingual temperature 99°. At the outer border of the right sternocleidomastoid muscle is an enlarged lymphatic gland, the size of a large hazel-nut, subcutaneous and freely movable.

He has the muscles of his throat under splendid control, and the laryngoscopic examination is therefore easily made. On the right side, near the base of the epiglottis, is an oblong, pale tumor of irregular outline, extending across two-thirds of the lumen of the larynx. On very deep and prolonged inspiration the vocal cords can be seen. The relationship of the tumor to the laryngeal structures cannot be clearly defined with the laryngoscope on account of its size. The digital examination demonstrates a resilient nodular tumor, wider at its base than at its apex, sessile, which extends downwardly and inwardly, covering the esophageal opening, and which seems to have its origin from the arytenoepiglottidean fold, on its inner surface and extending to the base of the epiglottis.

The dyspnea and dysphagia demanded immediate relief, and the method by which the obstruction should be removed required careful consideration.

The laryngologists, who favored me with their advice, counseled endolaryngeal procedures; the removal of the growth by either the heated wire or by morcellement. Both of these procedures presented to me insurmountable difficulties and unavoidable dangers. First, the tumor was sessile; it had a broad base, a loop of wire could not be thrown around it so as to sever the growth near its base, and even though a large portion of the tumor were thus ablated, it was questionable whether the new growth would not thereby be stimulated to increased activity. Besides, the danger of pharyngeal and laryngeal edema, consequent upon the galvanocaustic ablation to which might be added wound-infection, increased the perplexities.

The enfeebled condition of the patient gave warning that repeated attacks upon the tumor could not be made without seriously imperiling his life. Morcellement received consideration only to be condemned as dangerous and impracticable. The dangerous bronchial and pulmonary disturbances which might follow the escape of blood, mucous and tumor-particles into the respiratory passages, not to mention at all the inevitable edema, stood out so prominently that even though a large portion of the tumor could be removed by this method, these alone forbade the attempt. The anatomic position indicated that it could be attacked most completely by the external route—that by entering through the thyrohyoid membrane free access would be had to the lower portion of the pharynx, the orifice of the esophagus, as well as the entrance of the larynx, and if the tumor were thus reached its removal could be rapidly accomplished from a field which was controled by the eye and the finger.

Two additional points, however, were yet to be decided. The one was the performance of a preliminary tracheotomy, the other the employment of a general anesthetic. If the latter could be dispensed with, the former would become unnecessary.

My experience in the removal of goiters and en glands from the various regions of the neck, th formance of tracheotomy, and the opening of deep- abscesses under infiltration, convinced me th pharynx could be reached painlessly if the in were made through infiltrated tissues and if the m membrane were benumbed with cocain.

Until the mucous membrane would be incise danger of blood entering the trachea need not us; the bleeding mucous membrane could rea controled, the cough-reflex would be abolished use of cocain. The blood which might flow fr removal of the tumor would readily be expect by the conscious patient, and should edema foll procedure, intubation would tide the patient ov difficulty.

The above line of action having been determine the skin was infiltrated, and a transverse incisio made through the integument about a third of a below the hyoid bone, extending from the anterior bo the sternomastoid muscle to a similar point on the o side. The anterior and external jugular veins were between two ligatures, together with the superficial After severing the sternohyoid and the thyrohyoid m on each side, the thyrohyoid membrane was expo through it the position of the epiglottis determined. cocainizing the mucous membrane of the throat, the hyoid and mucous membrane were incised through opposite side. A loop of silk thread passed throu epiglottis drew it downward and forward, thus givi and free access to the cavity. Digital examination t the opening showed that the tumor extended do into the esophagus. The growth proved to be 1½ wide, with a base fully an inch in diameter. The i of the mucous membrane had laid open the base tumor and one blade of a pair of scissors was readily i beneath the mucous membrane, and the tumor sever its connections. Behind the tumor, along the later was a plaque of new growth the size of a nickel, wh cureted and touched with pure carbolic acid.

The hemorrhage was trifling; the pressure of the statics controled it perfectly. The severed structur reunited with catgut-sutures, and union by first in resulted. After 48 hours, rectal alimentation was tinued and liquid nourishment introduced by the m

The patient lived for a month; during this ti dyspnea and dysphagia had disappeared. Death r from inanition.

Under the microscope the neoplasm is seen to epithelioma of the stratified or squamous cell variet entire section shows a profusion of the characteristi or cell-nests, a feature which stamps the identity and nancy of this growth beyond question.

ON THE RESUSCITATION OF APPARENTLY NEWBORN BY LABORDE'S METHOD.[1]

BY FRANCIS EUSTACE FRONCZAK, A.M., M.D.
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ON July 5, 1892, Prof. Laborde communicated Paris Academy of Medicine a new method of res ing the apparently dead, by a method called "the rhythmic traction of the tongue." This consists in the rhythmic traction of the tongue fingers covered with ordinary cotton or a handk the traction being at the respiratory rate of 18 t minute in adults, a little more rapid in the new

The author explains the success of his met

[1] Read before the Medical Society of Central New York.

ıg that the action results in a reflex irritation which ferred to the respiratory center through the motions e base of the tongue, the nerves which respond be- he superior laryngeal, glossopharyngeal, the lingual, finally the phrenic. The method was first used ısively, and even now is used by the majority of profession, in resuscitating those who stop breathing r chloroform, the drowned, the would-be suicides hanging, but later has been used successfully in yxia neonatorum. I purpose quoting several cases hich this method gave gratifying results. It was time before Laborde was able to arouse any atten- for his method. For a long time he collected sta- s and reports of cases bearing on this mode of ing the apparently dead. The German obstetricians uled the method and for a time it appeared that rde's labor would be in vain. Now, however, as be seen from quite a number of reported cases, the od is being brought more into vogue, and is gain- well-deserved reputation.

asphyxia neonatorum is meant the condition in h the newborn make no respiratory movements, ithstanding the heart and cord pulsate more or vigorously. We differentiate two degrees of appar- leath of the newborn, the livid or lesser degree, in h the skin is dusky, cyanotic, the cardiac and um- al pulsations though slow are quite forcible, and x movements are easily produced by irritation of kin; the pallid, or greater degree of asphyxia, in h the heart-beats are very feeble and the pulsations ıe cord are either almost or quite imperceptible. child is pale and no reflex movement of any kind ssible.

my opinion the interference with placental circula- is not the essential cause of this suspended anima- of the newborn, as various other causes also ence it. In my experience the use of forceps is a common factor when the asphyxia is most promi- , this being due to the stoppage of return circula- from the brain of the child, with the resulting rgement of the cerebral cortical vessels and rupture ese vessels into the brain-tissue. There are various r methods of treatment of asphyxia neonatorum, as Hall, the Sylvester, the Schultze, the mouth-to- th insufflation, the chest compression, the Prochow- feet-suspension, the Brown injection of brandy, the e insertion of finger into rectum, and the many rs which have been proposed from time to time by us observers and real students of their surround- and the means of adapting them to their needs. rule by far the greatest number use Schultze's od, which, we must admit, is most ingenious and ble, as it answers the purpose in removing the gn bodies from the respiratory tract, and bringing t artificial respiration, and most efficiently aids the ılation of the blood in the newborn. Yet, this very monly practised method has several things against se. It is in the first place very tiresome to the per- using it; secondly it cannot be used when there is cture of the clavicle, as it may injure the pleura, or cause penetration of the lung, though Schultze that by proper use of this method there is no ger in using it in this fracture; third, it can hardly sed if there is a fracture of any of the extremities, r hand or leg, and we all know such fractures may r in the practice of even the most experienced and ul obstetrician; fourth, this method does not give results in prematurely born children; and fifth, those who practise among the poorer classes know full well that in our practice we find rooms where the ceil- ings are so low that it is almost impossible to stand erect, much less to use Schultze's method of resuscita- tion.

Schultze's method of swinging the child requires cer- tain technic, which is seldom learned by the midwives; I have never seen a midwife perform these movements properly. Laborde's method does not have any of these faults which I have mentioned, but has several points in its favor. The question may arise, Can we resusci- tate the newborn by the Laborde method as well as by the Schultze methods. I believe there is no doubt that in a mild degree of asphyxia neonatorum, when the sprinkling of the child with cold water will bring about the respiratory movement, Laborde's method will also give good results, but whether the rhythmic traction of the tongue will resuscitate a child apparently dead and in deep asphyxia, is a question which theoretically can be answered in the affirmative and it has been proved to be so practically. Schultze, himself, in an article in which he points to the mistakes made in the applica- tion of his method admits the feasibility of Laborde's method in mild, and even in certain greater degrees of asphyxia, but he doubts if the French mode of resusci- tating can be applied in very deep asphyxia, when there is no pulsation of the heart or cord, unless his (Schultze) or some other method be used at the same time.

In the following cases in my practice this theorized fear of Schultze's did not materialize, and Laborde's method held its own:

CASE 1.—I was called by a midwife to a multipara; I found prolapse of the arm and made version under chloroform; the leg was pulled down and all went well until the coming of the head, which seemed to be almost immovable. The infant was delivered in deep asphyxia, and the Schultze method was used with no results; the Prochownik feet-sus- pension method was tried, but the result was negative; the child was put in a warm bath and Laborde's rhythmic trac- tion of the tongue at the rate of 25 per minute was made, and after 10 minutes the child slowly revived.

CASE 2.—Multipara, with the child in the transverse posi- tion, with prolapse of the cord; version was made and the child was born in deep asphyxia. Sprinkling with cold water and putting the child in a warm bath gave negative results; the pulsation of the heart was not apparent. With Laborde's method, at almost every traction of the tongue there was slight respiratory movement which ceased as soon as the tractions were stopped. After several minutes gradually the child began to breathe.

CASE 3.—A forceps case, the child being delivered in deep asphyxia; Schultze method, insufflation, feet-suspension, warm bath and cold-water sprinkling were tried all in vain; traction of the tongue, at the rate of about 20 per minute, was continued for 20 minutes; the child gradually began to breathe irregularly and spasmodically, and finally regular breathing ensued. The woman was in labor for 3 days.

CASE 4.—A tedious delivery with high forceps, of a male child in deep asphyxia; the Laborde method was adopted, with tractions at the rate of about 22 per minute, with the child in warm bath; after 10 minutes the child was resus- citated.

These, in short, are a few cases in which the results of the Laborde method are very positive. In each case the nose and mouth were cleared of mucus. As in all other methods of resuscitation of the newborn, do not lose courage if after several minutes there are no results or signs of breathing. The tongue at first will give no resistance; after awhile it resists positively; soon we notice very mild respiratory movement, then all is quiet. In a short time the breathing is stronger

and has a normal character and the child begins to cry, move, etc.

Laborde's method is better than Schultze's because the child does not become chilled, being all the time in a warm bath; we can notice the beating of the heart, do not tire ourselves as easily as in Schultze's method, and can use it in cases in which the latter mode of resuscitation is impossible.

INTERSCAPULOTHORACIC AMPUTATION.[1]

BY WILLIAM D. HAMILTON, M.D.,
of Columbus, Ohio.

IN the issue of the *Annals of Surgery* for September, 1899, appears an article by Robert G. LeConte, of Philadelphia, with the above title. It contains a careful review of the various methods of interscapulothoracic amputations which had up to this time been employed. It discusses the modes of preventing hemorrhage hitherto used. The way of dealing with the subclavian artery and vein is the chief topic of discussion. The names of Berger and Frederick Treves are no doubt entitled to prominent mention in this connection. This historical treatment of the subject is so elaborate that the writer will not enter into its details.

LeConte describes a case of recurrent, malignant disease of the shoulder to which he applied a method of his own. His article records from 40 to 50 cases of interscapulothoracic amputation by various other methods. It is a significant fact that 9 different ways of controling hemorrhage have been resorted to. The method of LeConte was applied to the case described in this paper. In the feeling of security which it gives to the operator with reference to hemostasis, and in the control of the situation which it implies, his method is as effectual as Wyeth's bloodless amputation at the hip-joint, though radically different from it in technic.

The paticnt, Mr. James D., of Jamestown, Green County, Ohio, was brought to me by his physician, Dr. L. M. Jones, of that place. He is 32 years of age and a horse-trader by occupation. His father, 80 years old, is rugged in appearance and enjoys good health. His mother is rather delicate. There is no history of malignant growths or tuberculosis in the family. He has never had venereal disease.

In October, 1898, while shipping a horse he slipped, striking the sternum, and threw his weight on the left upper extremity, this was followed by pain and loss of power up to May, 1899, when he had another fall of about four feet, which again strained the left shoulder. As on the former occasion, his weight was thrown upon this articulation. He felt something give in the joint, which he located about the outer edge of the acromion process. In attempting to reach forward with both arms, the left one was found to be quite helpless. This injury was most painful. Numbness in the extremity, and some discoloration of the hand and wrist were observed. The grip was weakcned. Swelling of the shoulder, arm, forearm, and hand was observed. In July, 1899, he sustained a hard blow on the shoulder, which stunned him and caused considerable suffering. Up to the time of his third injury some slight increase in the range of motion of the shoulder had been observed. After it, however, thc loss of function was progressive and rapid. The swelling of the shoulder and arm never entircly disappeared after the second injury. It was greatly increased after the third. At the time of his admission to Hawkes Hospital he had lost 20 pounds in weight during the period covered by the history. The forearm was flexed on the arm and both were slightly atrophied. The shoulder was greatly enlarged and painful on pressure or on the slightest movement. The enlargement not only embraced the shoulder and acromion process, but extended over the portion of the scapula below its spinous process. He was having some elevation of temperature. Tubercu arthritis of the shoulder was suspected. An exploratory cision into the capsule of the shoulder-joint was made tissues were excised for microscopic examination. specimens proved to be giant-cell sarcoma, involving glenoid cavity, head of humerus, supra and infraspin and teres minor muscles. The ablation of the upper tremity, with entire clavicle and scapula, was advised, was performed at Hawkes Hospital on November 15, 1 before the clinic.

Ether narcosis. I was assisted by Dr. Charles S. Hami and by Dr. Farrar, house surgeon. The extremities been wrapped in cotton to prevent shock. After remo the dressings from the portion of the body involved, parts were washed again and the method of Le Conte u The incision began at the median line of the sternum i upper portion, in the line of the clavicle, and passed ove inner three-fourths. It extended thence downward to anterior axillary fold. The skin and superficial fascia reflected, exposing the inner two-thirds of the clavicle the upper part of the great pectoral muscle. The cla was disarticulated from the sternum. The ligaments necting the sternum and the clavicle were cut with knif scissors close to the bone. The rhomboid ligament divided close to the first rib. Great care was exercise this dissection, on account of the important anat structures liable to injury. It was the most tedious ste the operation. The clavicular attachment of the ste mastoid muscle was divided close to the bone. The fi was carried between the clavicular and the costal port of the great pectoral muscle, separating them as far a anterior axillary fold. The clavicle was grasped with jawed forceps and was then turned upward and outw The subclavian muscle was divided near the first rib. small pectoral muscle was then cut and its coracoid pro drawn up. This exposed the axilla freely and the ve were seen traversing it from the anterior scalenus m down. The sheath of the subclavian vessels was inc The artery was then isolated from the vein, was tied t with silk, an inch apart, and cut between. The limb kept in an elevated position for about three minutes it was blanched. The subclavian vein was likewise with silk, twice, and divided between the ligatures. cords of the brachial plexus were severed. The step was thc division of the costal portion of great pectoral muscle. This completed the operatio front. An incision was then made from near outer end of the clavicular cut, clear of the gr backward and downward to the inferior angle of scapula, and thence upward to the posterior axillary The skin and superficial fascia were dissected up for a distance. The trapezius and omohyoid muscles were cut, and the transversalis colli and suprascapular art were tied. The muscles attached to the inner border o scapula were divided close to the bone. Then the ser magnus and latissimus dorsi were cut, the latter a posterior axillary fold. Only the skin of the axilla hel arm to the body, and by severing it, the entire cla scapula and extremity were now completely detached. blood lost was slight in quantity, mainly that which rem in the extremity after division. A strand of gauze wa ried into the posterior incision, protruding at the in angle. The edges of the wound were easily brought tog with stitches. The operation lasted one hour and a The pulse was 135 and the shock moderate. A salt-sol was injected into the rectum. Hypodermics of strychnia administered. Forty-eight hours later he had a norma perature and a pulse of 90. He had an uninterrupte valescence and was out of bed and walking around the on the fourth day. The wound united by primary adh He left the hospital within three weeks after the oper He has since gained ten pounds in weight and is en free from pain.

The relation of traumatism to the developme malignant growths is a familiar fact. No doub injuries to which this man was subjected intensifie suffering and facilitated the progress of the neop

I have followed, in the main, LeConte's descri of his method.

[1] This paper was read December 8, 1899, at a meeting of the Northwestern Ohio Medical Society, at Findlay, when the patient was present for inspection.

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Typhoid Fever may be defined as an infectious isease, though of varying localization. While the ntestinal tract exhibits the lesions of the morbid pro- ess in the vast preponderance of cases, it has now een definitely established that the intestines may be ninvolved, the disease appearing in the form of a true eneral infection or septicemia (or, better, bacteriemia), being localized in one or another or several viscera, the spleen, the lungs or pleura, the cerebral meninges, e kidneys, etc. The anatomic diagnosis may, there- re, be attended with greater difficulty than has been ppreciated in the past. It can, however, be rendered ore certain through the demonstration by culture- ethods of the typhoid bacillus in the stools, in the rine, in the blood, at times in the sputum during life, nd in the spleen, the kidneys, the lungs, etc., as well, ter death. The agglutinating and sedimenting influ- nce upon typhoid bacilli of the blood-serum during or ter an attack of typhoid fever is, further, of all but fallible value, and the diazo-reaction of the urine ten affords valuable collateral evidence. It thus ap- ears that increasing knowledge, while it brings greater rtainty, demands also refinement in method and ex- titude in procedure.

The care of the discharges is one of the most impor- nt matters in the management of a case of typhoid fever. is safe to state that if these, as well as the bodies of ose dead of the disease, were properly and thoroughly isinfected, typhoid fever could be practically eradicated. n this connection, it should be borne in mind that arcely less consideration should be given to the urine an to the stools, for it has been shown definitely that e former contains typhoid bacilli in a considerable roportion of cases. A similar statement may be ven- ured with regard to the sputum, particularly in cases f so-called pneumotyphoid, in which the lungs are e seat of the disease. To these alone the designation phoid pneumonia is applicable; but in order to avoid nfusion and ambiguity, this term may wisely be dis- ntinued.

Typhoid Fever Through Milk.—It may be stated s an axiom that purification of the water-supply must e followed by reduction in the prevalence of typhoid ever as well as other water-borne diseases, and of all he practicable means at hand that the most effi- cient is filtration. Of course, it is not less important to prevent contamination, but until carelessness and indifference are driven out of the world, these will continue to be sources of danger. One of the indirect ways in which polluted water may act as the carrier of the germs of disease, and of those of typhoid fever in particular, is illustrated in an epidemic of typhoid fever referred to by Dr. M. L. Barshinger, Health Officer, in his report to the Board of Health of the city of York, Pa., for the year 1899. On investigation it was learned that at least 80% of the cases were supplied with milk by a dairy-farmer in whose family 4 or 5 cases of typhoid fever had existed, the discharges from the first case being thrown upon the surface of the ground, within 40 feet of, and at a higher level than, a spring at the bottom of an incline, at a point where the first rain would wash a part, if not the whole, of the infective material into the spring, whence the polluted water was carried into the spring-house in which the milk-containers were cleansed from day to day. On the strength of these facts this source of milk-supply was condemned and the distribution from it stopped by order of the State Board of Health, with the result that the prevalence of the disease abated.

York, it may be recalled, is one of the cities that have recently erected filtration-plants and the results are shown, on analysis, in the freedom of the water from appreciable amounts of sewage-material, although the original sources of supply are contaminated by drainage and sewage. Further, the mortality-rate among children from gastrointestinal disorders has been diminished, as well as the prevalence of diseases of the same character among adults. There has not yet been sufficient opportunity to form an opinion as to the effect produced upon the morbidity of and mortality from typhoid fever.

The Cerebral Symptoms of Typhoid Fever.—The frequency with which nervous phenomena may be observed in the course of typhoid fever is suggested by the fact that one of the German synonyms for the disease is Nerven-fieber. Some of these manifestations may result from the high temperature; others from the specific intoxication of the disease; and still others from secondary localizations or complications in brain, cord or membranes. Headache is extremely common; delirium is not rare, and may be of any degree, from

coma-vigil to the most violent; insanity is occasionally a sequel. The cerebral complications of typhoid fever are, however, less commonly observed when patients are systematically bathed and probably also when they can be well nourished. A case in which a condition suggesting the delirium of inanition developed during convalescence from typhoid fever was exhibited recently by Professor J. M. DaCosta in a clinical lecture at the Pennsylvania Hospital. There had been no noteworthy nervous symptoms during the attack proper, but about a week after defervescence had taken place, mild nocturnal delirium set in, with mental confusion and hallucinations, the mind being clear by day. The condition disappeared under treatment with food at short intervals, 3 ounces of whisky in 24 hours, and hypophosphites with strychnin.

Oysters and Typhoid Fever.—During the past few years there has been considerable discussion as to whether typhoid fever might result from eating raw oysters which had been contaminated by sewage. Several cases of fever have been attributed to this source and more or less authoritative opinions have been given on both sides of the question. Probably no work in this line has been more thorough than that of Professors Herdman and Boyce for the Lancashire, England, Sea-fisheries Committee. We have just read a notice of their book on "Oysters and Disease: An Account of certain Observations upon the Normal and Pathological Histology and Bacteriology of the Oyster and other Shellfish," which embodies the results of careful research extending over three years. Several chapters are devoted to the normal and pathologic histology of the oyster, and the authors record some very careful investigations with regard to the part played by oysters in the production of disease. Professor Boyce, like other investigators, has not been able to isolate the typhoid bacillus from oysters obtained either from the sea or from markets, and he shows that sea-water is inimical to the growth of the typhoid bacillus. The colon-bacillus may frequently be obtained from oysters sold in towns, but it is stated that further investigation is needed before any inference can be drawn as to whether this indicates sewage contamination. The authors recommend restrictive legislation to prevent contamination from sewage; the formation of an oyster growers' association to look after such interests; and that edible shellfish which are gathered shall be periodically examined by scientific inspectors.

People who are fond of raw oysters will be glad to know that these are probably free from danger so far as typhoid fever is concerned, unless they have been infected after leaving salt water and that they probably contain no other germs more harmful than those contained in Philadelphia city water. However, no one would fancy having any article of food contaminated by sewage, be it ever so harmless, and all will agree as to the desirability of legislation to prevent such co tamination and scientific inspection to make certai that such legal regulations are being followed.

The urgent necessity for water-filtration has bee again forcibly illustrated in the city of Philadelphi where, in consequence of heavy rains, the demanc upon an intercepting sewer have exceeded its capacit with the result of causing an overflow of sewage in the Schuylkill river at a point quite close to a pumpir station, and thus exposing those compelled to drink tl water to the risk of infection with typhoid fever a the development of gastrointestinal disturbances, not mention a natural esthetic repugnance to the possibili even of being compelled to take into one's system wat contaminated with feces. As on a previous occasion, tl necessary suggestion to "boil the water" is a confessic of guilt, for which only the speedy provision of filtr tion can atone. It does seem like trifling with life ar a courting of death to permit delay in securing a pu water-supply when science and art have made th so readily attainable.

The Seasonal Prevalence of Typhoid Fever.— Typhoid fever occurs only where typhoid-bacilli pr vail, and the number of cases will be the largest at tl time when and in the place where the diffusion of t bacilli is the greatest. Inasmuch as the dissemir tion of the bacteria occurs almost wholly throu the intermediation of water polluted with the d charges of typhoid-fever patients, the number of cas will be largest where the contamination of the wat supply is greatest. These facts are forcibly illustrat by the experience of Philadelphia, where two yea ago a serious epidemic of typhoid fever prevailed consequence of the overflow of an intercepting sew the disease prevailing most largely in a district deri ing its supply of water from a point close to the site infection, and where at present another epidemic like origin threatens.

As pointed out by Dr. A. C. Abbott, professor of ba teriology and hygiene in the University of Pennsylvar and director of the bacteriologic laboratory of the Ph adelphia Board of Health, at a recent meeting of t Pathological Society of Philadelphia, the facts may al necessitate a modification of the view generally he that typhoid fever is especially an autumnal disease, it may be found that the seasonal relation, while gen ally adhered to, is due not so much to climatic inf ences in general as to conditions connected with t purity of the water-supply. A similar explanation being suggested for the seasonal and local occurrer of malaria in connection with the conveyance of tl disease through some kind of mosquitos and the re tion of these to small collections of stagnant water.

The Lesson of the Epidemics.—Inasmuch as up the early part of the present century typhoid and typh

s were confounded (and indeed it was not until the lle of the century that Sir William Jenner finally lished the differential diagnosis between the two ions upon a firm and satisfactory basis), we cannot ck more than fifty years in an attempt to trace uthenticated epidemics of the former disease. And rther, almost without exception typhoid fever was ly endemic in every city of Europe at the time ed to, we find in the great centers of population r fluctuations of endemics than epidemics. It ts, therefore, that it is principally to our own try that we have to look for examples. One of the typical on the other side of the ocean is that of en in Switzerland, which is alluded to in every ook on hygiene and water-supplies. In this village nsiderably less than 1,000 inhabitants, in the year there having been no cases of typhoid fever for years, within the space of a few weeks 130 of the lation were attacked with this disease, of whom 8 The origin was traced to pollution with typhoid a of Furlen brook at a point two miles above, brook bored its way under a mountain and per- d into the public well of Lausen. In the little e of Caterham, England, in April, 1879, 100 persons stricken down by typhoid, with 19 deaths. It was vered that a workman employed in excavating an between two of the water-supply wells had pre- ly contracted typhoid at Croydon, a well known id center, and had been attacked by diarrhea while e of the wells. He used a bucket, but it was un- nately upset. In 1884, the city of Zurich, Switzer- was visited by a violent epidemic, 2% of the popu- having been attacked and 9% of the cases proving It was found that the submerged filter in the bed te lake had been injured by dredging operations, hus rendered ineffective.

nna and Munich were among the cities in which isease, always endemic, was subject to terrible rbations. In Munich, in 1858, the typhoid deaths 334 per 100,000 of population, the water being from wells and the river Isar. In 1865 pure tain water was introduced. The disease at once to diminish, until in 1894 the deaths from this were only 2.5 per 100,000, and the professors in nedical schools were obliged to import cases for clinical lectures or depend on pictures for illustra- In Vienna, formerly supplied by the Danube, a r change was made in the water-supply, and in the typhoid mortality had fallen to 5 per 100,000. the United States the epidemic at Plymouth in the of 1885 takes the precedence of all others in its rative dimensions, and in the mathematical ncy with which it was traced to its source. In a ation of about 8,000, 1,157 persons were attacked 14 died. The originator was a man who returned home on the mountain from Philadelphia, where d been spending his Christmas holidays, with the germs of the disease in his system. His dejecta, thrown on to the snow, were carried by the first thaw into the pure mountain water-supply of the borough, and after the appropriate interval the awful explosion occurred.

The Philadelphia epidemic of the winter of 1897–1898 was directly traced to the pollution of Queen Lane reservoir in consequence of a back flow from the intercepting sewer into Wissahickon creek, close to the pumping station. In this outbreak 2,357 cases were reported and 245 deaths in the space of 17 weeks. The outbreak was confined to the section of the city supplied from the reservoir named.

The epidemic of the year following in the same city, was due to the fact that the pumping machinery was so thoroughly out of repair and inadequate that it became necessary to resort to direct pumpage in certain sections of the city, no opportunity being afforded therefore for sedimentation. The number of cases was, in round numbers, 7,000, and of deaths, 800, in the space of six months. Examination of the water in both outbreaks indicated the constant presence of the colon-bacillus.

At Middletown, Conn., two cases of typhoid occurred in the autumn of 1894, in a house the drain from which emptied into the Quinnipiac River. Just below the mouth of this drain an enterprising oysterman put his bivalves to fatten. Some of these oysters were served at a students' banquet. Many of the students soon fell sick of typhoid. Only those who ate the oysters raw, however, were attacked, those who confined themselves to cooked oysters escaping.

In the month of January, 1898, 19 cases of typhoid fever were reported in the borough of Glen Rock, York County, Pa. The dejecta from these cases went into Codorus Creek. Eighteen miles farther down this swift stream lies the city of York, having a population of 30,000, whose water-supply was principally drawn from this creek. There had been no epidemic in the city for a number of years. During the February following the Glen Rock outbreak, 45 cases of unquestionable typhoid occurred in the former town, and the colon-bacillus was easily found in the reservoir water. In the same city, in November of last year, a localized epidemic broke out, and although a filter had in the meantime been introduced, the water was naturally suspected. Investigation by the State Board of Health, however, developed the fact that the dejecta of typhoid cases had been thrown on the surface of the ground, just above the spring-house on a dairy farm, whose product was sold in York, and further, that the fever had developed only in those who had used this milk.

The city of Camden, N. J., opposite Philadelphia, having a population of 75,000, and taking its water from the highly polluted Delaware, has had for many years a high typhoid death-rate. In 1890, it rose to the alarming figure of 141 per 100,000 of the population. For the five following years it stood at from 56 to 69, annu-

ally, considerably higher than that of Philadelphia. During the past year an ample supply of pure artesian water has been introduced. For the first three months of that year, the Delaware water was used, either entirely or mixed with artesian water, and during that period 214 cases, constituting 81% of all the cases of typhoid for the entire year, occurred, with an average of 5 deaths per month. The new supply entire was introduced by order of the Board of Health on April 10, and the cases of typhoid at once began to diminish as if by magic. Since September 12, there has not been a single death from that disease.

As a large number of the people of Camden do business in Philadelphia, however, and are compelled to drink the Delaware and Schuylkill water during the day, this exceptional condition of things cannot, of course, be steadily maintained.

Making allowances for the lack of knowledge which we now possess as regards the specific character of the cause of this disease, we cannot more appropriately conclude this hasty sketch of a subject which would bear amplification, than by quoting the words of the eminent Simon, in his report on "Filth Diseases":

"Of all the diseases which are attributable to filth, this (typhoid fever), as an administrative scandal, may be proclaimed as the very type and quintessence. Though sometimes by covert processes, yet far oftener in the most glaring way, it apparently has an invariable source in filth, which is of the filthiest. Apparently its infection runs its course as with successive inoculations from man to man by instrumentality of the molecules of excrement, which man's filthiness lets mingle in his *air*, FOOD and DRINK." *

Typhoid infection of the gallbladder is probably nearly always present during the course of the disease, although it does not always manifest itself by any special disturbance. Chiari made a bacteriologic examination of the contents of the gallbladder in 22 cases of enteric fever and found the typhoid bacillus present in 19 cases. Keen had collected 74 cases of this kind at the time of the publication of his book, "Surgical Complications and Sequels of Typhoid Fever," and Camac[1] raised the number of tabulated cases to 115, an increase of 41 cases in less than a year. But there is much that is interesting in connection with this subject aside from its frequent occurrence.

First the question arises: Can typhoid infection alone, independent of gallstones and other causes, produce pathologic conditions? Keen has collected 34 cases in which empyema, cholecystitis, or ulceration were present without any gallstones, which seems to settle this question in the affirmative.

A second interesting question is as to whether the typhoid bacilli of themselves give rise to gallstones. During the past two years several investigators succeeded in producing gallstones by experimen infecting the gallbladder, and it seems not unl that the typhoid bacilli are capable of such action early as 1889 Bernheim[2] suggested that the b might give rise to gallstones by causing stagnati the bile, and Cushing[3] suggests that by clum together the typhoid bacilli probably become nuclei of stones. Let this be as it may, it is ce that the bacilli have been often found within gallst sometimes many years after the occurrence o fever.

It is difficult to say whether the infection comes the intestine, through the gallducts, or from the b but it is quite certain that whatever the source, it gets there early. Robert T. Morris[4] reports a c typhoid fever with primary infection of the gallbla the patient was suddenly seized with pain ove gallbladder, and on operating the peritoneum found inflamed and the gallbladder much diste with mucus and pus. After the operation the p passed through a typical course of typhoid fe four weeks' duration. Cushing[5] reports a case of c cystitis with gallstones and typhoid infection in there was no history of typhoid fever either bef after the operation; this may also be considered of primary infection of the gallbladder.

Another matter of great interest is the length o that the bacilli retain their vitality in the gallbla Von Dungern[6] reports a case in which after v disorders, probably nearly all due to the typhoid lus, an abscess formed about the gallbladder and the pus a pure culture of the typhoid bacillu found, fourteen and a half years after the Droba[7] reports a case even more remarkable, in he removed a greatly thickened gallbladder cont gallstones from a woman who had suffered fro current attacks of cholecystitis for years. Aft surface was sterilized with a glowing glass rod th bladder was opened with a sterile knife and fro pus pure cultures of the typhoid bacillus wer tained, seventeen years after the attack of ty fever.

Surgical intervention is frequently required in cases of typhoid infection of the gallbladder, b of cholecystitis, empyema, cholelithiasis, and p tion from necrosis or ulceration, occurring dur after the course of the fever. The indications fo intervention differ in no way from those for ope under any other conditions, and the results of ation have thus far been very encouraging.

* The italics are our own.

[1] *American Jour. Med. Sci.*, March, 1899.

[2] *Dict. Encycl. de Dechambre*, Article Ictère.

[3] *Johns Hopkins Bull.*, May, 1898.

[4] *N. Y. Med. Jour.*, Jan. 28, 1899.

[5] *Johns Hopkins Bull.*, May, 1898.

[6] *Münch. med. Woch.* 1879, xliv, 699.

[7] *Wiener klin. Woch.*, November 16, 1899.

he **Formula of Brand,** to bathe the typhoid ent for 15 minutes in water at 68° F. whenever the ily temperature taken in the rectum every 3 hours hes 102.2° F., is not an arbitrary or an inflexible one. based in the first place upon a large number of onal observations, and, in the second place, its ients may be varied with the necessities of the vidual case. The application of the formula can onsidered routine only in the same sense as the use quinin for malaria, mercury and iodin for syphilis, ylic acid for rheumatism, antitoxin for diphtheria, amount and the frequency of dose varying with the ditions present. In fact, the treatment of typhoid r with cold baths requires high judgment, fine dis-rination, and the utmost watchfulness on the part he clinician in order to decide the actual duration he bath, the temperature of the water and the fre-ncy of immersion in the individual case. The apeutist must mix his remedies, like the artist his ors, with brains.

Typhoid Fever Complicating Pregnancy.—hough all infectious diseases are more serious when y occur during the pregnant or puerperal period, hoid fever is one of those most likely to endanger life of the fetus. Abortion or premature labor is duced in the majority of cases. According to Hare "Medical Complications and Sequelae of Typhoid er") the frequency of abortion is about 56%. Other horities give even a higher percentage of interup-s of pregnancy. Hirst states that 65% of typhoid r cases, complicated by pregnancy, result in abor-t or premature labor. The direct causes of the abor-n may be either the continued high temperature, morrhage in the endometrium or membranes of the eloping ovum, or the depressed condition of the ther with asphyxiation of the child. Typhoid may ct the fetus in utero and yet the child survive. The that the fetus may become infected by the trans-sion of germs of typhoid through the placenta, has n conclusively demonstrated by Giglio (*Central-t für Gynäkologie*, 1890, No 46). One particularly resting illustration of this fact reported by Eberth *ntralblatt für Bakteriologie und Parasitenkunde*, May 1890) is the case of a woman who suffered m typhoid in the fifth month of pregnancy, and mis-ried; and in the cardiac and splenic blood of the us the specific bacillus was found. Many recent servers have confirmed the statement made by ssé and Fraenkel, in their report upon the agglutina-n test in the placental blood, made to the Société dicale des Hôpitaux, that the Widal test can be ained from the placenta, and that it is also possible obtain it from the milk of the mother and the blood the fetus even many days after parturition.

The maternal mortality in these cases ranges from 17% 19%, and although typhoid is not common in preg-nancy, it is sufficiently so to make its study important. The majority of authorities do not agree with Cazeaux in the belief that typhoid, so far from being influenced unfavorably by the puerperal state, is even less grave than in the ordinary conditions of life. During the recent epidemic which disgraced the municipality of Philadelphia many cases occurred during pregnancy and were carefully studied. In those instances in which the fetus survives it may be seriously affected by the prolonged infectious disease, idiocy having been noted in a considerable number of cases. The diagnosis presents no special difficulty if the physician has the advantage of seeing the patient early, although often when the miscarriage or premature labor occurs before the physician is summoned or the temperature recorded, some difficulty may be experienced. W. R. Wilson has called attention to the striking analogy between puerperal septicemia and certain cases of typhoid fever. Both diseases present the common evidences of a septic infectious fever; both are likely to be characterized by abdominal symptoms and to show certain signs of nervous exhaustion, chief of which is delirium. Tympany, diarrhea, and splenic enlargement may also be present in both. The septic diarrhea which is often associated with the delirium and abdominal tenderness in septicemia may make the differential diagnosis between the two conditions difficult and confusing. The points which aid in diagnosis are: The history of the case, the slowly developing prodromal stage, and the presence of the rose-colored spots. The characteristic temperature, the comparatively slow pulse with the added confirmation of the Widal test, will indicate enteric fever. The importance of the latter means of corroborating the clinical evidences of typhoid in any given case cannot be overestimated.

The treatment of typhoid complicating pregnancy does not differ materially from that employed in the nonpregnant woman. The controling of the temperature and the maintenance of the patient's strength are the two chief considerations. No fear need be felt regarding the use of the cold bath or pack for the relief of the pyrexia, for it will not be the use of these methods, but the continued high temperature which will be the cause of abortion or premature labor. The premature ending of gestation is far more likely to be produced by the pyrexia than by the energetic application of cold for the reduction of the fever. If abortion occurs, care must be exercised to prevent the retention of the secundines in the uterus and to produce subsequent involution which is apt to be tardy in such a state of impaired vitality.

Of What Practical Use is Our Knowledge of the Typhoid Bacillus and What Shall We Do About It?—Even an organism which causes so much mischief as the typhoid bacillus has some practical uses; in fact, they are so well known to most physicians that

we hesitate to enumerate any of them. In the first place, the finding of this minute organism in our patient's system makes us certain that he has or has had typhoid fever; it establishes the diagnosis with certainty. It is true that in most cases this is possible without bacteriologic examination; but are not the doubtful cases of highest importance? It is well known that in the mild and doubtful cases perforation, a most fatal complication, is almost as likely to occur as in severe cases. If we are sure of the diagnosis we may greatly lessen this risk by careful diet and by keeping our patient in bed until the period of danger has passed. The finding of the bacillus in a large number of the organs of the body and in many cases at times remote from the original disease, has shown the danger of overexertion or of even slight injuries during a considerable time after the fever; for the presence of the bacillus at such times is likely to give rise to disagreeable, even dangerous sequels. But the greatest value of our knowledge of the life-history of this mischievous microorganism is to preventive medicine. We know that it makes the digestive tract its favorite abode and it is during its residence there that it works its most harmful results. We are not concerned with the scales from the skin, as in scarlet fever; nor with the sputum, as in tuberculosis; but we must disinfect the discharges from the bowel if we would prevent the spread of the disease; we must be careful as to the food, the milk, and the water that gets into the bowel, that it does not also contain this germ if we would avoid the disease. These are all common, well-known facts, but they are still not well enough known, nor is their importance thoroughly enough appreciated by the majority of the people of the world. It is the duty of physicians and every one else who understands these matters to spread the knowledge in every proper way. It is true that by preventing disease and death the physician lessens his possibilities of earning money, yet at the same time he performs his highest duty.

Original Investigation and Typhoid Fever.—The application of the knowledge of the facts just mentioned results in saving thousands of valuable lives from death by typhoid fever every year, and similar knowledge about a few other diseases would yield equally important results. This knowledge will ultimately be obtained in the same way as was that with regard to the typhoid bacillus, namely, through original investigation. Should not the influential members of the profession and community use their influence to secure funds to provide for the support of that peculiar individual, the original investigator the man whose ideas of fame are so different from those of other men? "He would, indeed, like to have his name favorably known, not to millions of people, but to five or six students, . . . He much dislikes to see his name in the newspaper; but he hopes that, a hundred years hence, some student of his specialty may read his name with gratitud an ancient volume of the proceedings of some lea academy. He is an intense and diligent worker; the masses of mankind think he is wasting his t He eagerly desires what he calls the results of inv gation; but these results would seem to the popu to have no possible human interest. He is keen-scen devoted, and enthusiastic, but for objects and end remote from common topics that he rarely posse what is called common sense." It is this class of who have pushed forward the boundaries of me knowledge, and have made possible the discove the Bacillus typhosus of Eberth and Gaffsky. Prog in these lines depends on a long series of pat unrewarded investigations, which have been condu by obscure students, generation after generation secluded seats of learning. Many most importan sults spring from apparently useless discoveries, applications of which their discoverers never imagi and to which they would probably have been foundly indifferent. The original investigators of many working with simplest materials and in plainest laboratories, often but poorly equipped, l made the names of German universities famous world over and have saved countless thousands of from disease and death. In this country such wo next to impossible. Every year expensive laborato hospitals and college buildings are being erected, little or no provision has yet been made for the important factor of all, the support of the original vestigator who should make use of these advanta About the only way a man with such tastes can n a living in this country is by devoting the best of time and energy to teaching, and only too often teaching positions are given to the man whose con tions give him most influence in the legislature which the next appropriation is to be obtained.

True friends of the world's progress can find no vestment of their fortunes that will yield better ret than the endowment of some fund for promo research and investigation.

Ligation of the Abdominal Aorta.—As there been some erroneous statements made in referen this case, which is of very unusual surgical interest have been at some pains to ascertain the exact and state them herewith. The patient was under professional care of Drs. James C. Wilson and W Keen, first in the medical and then in the sur ward of the Jefferson Medical College Hospital, fo aneurysm of the abdominal aorta, as large as a orange, situated half way between the umbilicus the ensiform cartilage. The patient at first ref operation, and left the hospital, but a few days late turned, when it was found that a large retroperito leakage had occurred, filling the entire left side of abdomen with an immense clot. The aorta was

ecember 20, 1899, four parallel strands of floss silk ing used. The aneurysm had lifted up the pancreas that it lay just behind the anterior abdominal wall. ie patient died forty-eight days after the operation. the moment of ligation the femoral pulse disap- ared, the upper extremities, especially the head and ck became greatly congested, pulsation ceased in the c and the sac itself shrunk to about half its size in a w minutes. A faint femoral pulse was perceptible in e evening of the same day, and pulsation began in e aneurysm again within three days. The necropsy owed that the lesion was a false and not a true aneu- sm, the wall of the sac being made up of peritoneum d other tissues in front of the aorta. The pos- rior wall of the sac was formed in part by the bodies the vertebrae, so that when the specimen was re- oved from the body there was a large hole in the sac this point. In the anterior wall of the aorta was a rge opening (the cause of the false aneurysm) nearly fficient to admit the end of the finger, the edges of e opening being rounded off as the edges of a tre- ine opening are after a long time. Death resulted m hemorrhage at the point of ligation. The four ands of silk had completely cut through the aorta d there was no clot either above or below the ligature. This, we believe, is the twelfth case of ligation of e aorta. Nine patients died within twenty-four urs, one lived about two days and a half, a third, at of Monteiro, of Rio Janeiro, lived between ten d eleven days. The results in the present case show ry clearly to our mind that ligation of the aorta th modern antiseptic precautions is quite feasible.

The sex-determination tinkers are a pestiferous rt of people, who, we hoped, after the recent teutonic sco, would hereafter meditate upon and experiment ith their favorite question in that prurient privacy hich befits the scientific silliness of the subject. A lemn contemporary is not satisfied with Schenck and s cap-and-bells science, and by its approval starts on e newspaper rounds a new theory of the determina- on of sex at will. Yellow journalism, for that is what amounts to, will now have something for its readers gape. There are, forsooth, three periods of the men- rual cycle, in the first of which only girls, in the second nly boys, can be begotten. But what of the third space? he discoverer of this remarkable "find" is a woman f course Schenck failed, how could a man get the ientific data?), and she avers that in this short (won- rfully short it is!) third period (called by the litorial seconder the "neutral ground" and "strong oint" of the theory) "the result is uncertain;" it may e either a result masculine or a result feminine (if vins, one of each kind), but at any rate a boyish girl r a girlish boy,—no straightaway frank definiteness, ut a very sad kind of compromise. We demur. The gic of the author is faulty, and there is no question as to facts. The logic of the situation is that the products of the "neutral ground" must themselves be neutral. Here we find the long-sought source of the neuter gender itself and of hermaphroditism.

Correspondence.

A MOST DESERVING PENSIONER.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

PLEASE send this to the author of the note "A living man whose half-brother was born 143 years ago," published on page 319, issue of February 10.

A pensioner who was recently examined by this Board, evidently to perpetuate the dependents of a provident and grateful Government, has taken a third wife, who bore to him after his seventy-eighth natal anniversary a son who is 60 years younger to a day than the first-born of the old soldier. This man has made application for an increase over his present rating of $\frac{1}{18}$ for several injuries, among which is included a gunshot-wound that carried away both testicles in 1862.

Respectfully,

A READER.

BANQUET-WIT.

BY J. W. BULLARD, M.D.,
of Pawnee City, Nebraska.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I have just read with pleasure, and wish to commend the editorial, "Stercoraceous Vomiting," in the last issue of the JOURNAL. I wish every medical editor in the land would say as much against this vile habit that so many physicians are tainted with. It is indeed a sad commentary on the morality of the great profession of medicine, that at so many of the meetings of its votaries, the member who can tell the most vulgar and nauseating story is the hero of the meeting. Not many years since I attended the banquet or "Smoker" given by the local faculty of a great western city to a certain Medical Society. There was much drinking of beer and some very appropriate sentiments well responded to, till finally one speaker, whose thoughts probably dwelt more on lustful than on professional pursuits, wove into his remarks a foul story, which seemed to give license to each succeeding speaker to outdo his predecessor in filthiness. The atmosphere became so polluted that out of respect to myself I left the banquet-hall. One, whose compunctions of conscience were not so great, remained. He told me afterward that men whose names are known of all medical men in the land indulged in the most obscene story-telling. Articles written by these men have not carried the same weight with me since. Let us be decent!

LABORATORY TECHNIC.

BY H. A. L. RYFKOGEL, M.D.,
of San Francisco.
Director Clinical Laboratory, Medical Department, University of California.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN connection with the points in laboratory technic that have appeared in your journal from time to time the follow-

ing methods used in the clinical laboratory of the University of California may be useful:

For the rapid and efficient cleaning of blood-counting pipets there is attached to the water faucet a small-sized filter pump with separate stop-cock; alongside it there is placed a small shelf holding four salt mouth bottles which contain 10% sodium hydrate, distilled water, absolute alcohol and ether, all filtered. When a pipet is to be cleaned, it is attached with a rubber tube to the filter pump, filled with distilled water by dipping the tip in bottle and emptied by turning tip up. This is continued until clean. The process is repeated with alcohol and ether and then air is run through until the glass ball no longer sticks to the inside of the bulb. The solution of sodium hydrate is used every fourth or fifth time the pipet is washed. If the fluids refuse to pass through the pipet on account of particles of blood, etc., blocking up the lumen, merely reversing the pipet and attaching the filter pump to the tip instead of the proximal end will frequently dislodge the offending matter.

In searching for casts, etc., in urine containing an abundant precipitate of urates, we are recommended to warm until urates dissolve, filter and examine deposit remaining on filter-paper. Such a difficult procedure is entirely unnecessary with the centrifuge, for if the urine be warmed until the urates disappear and then centrifugated, no urates will appear in the deposit thus obtained until some time has elapsed, and on immediate examination with the microscope, nothing but the other deposits present will be seen.

The difficulty of staining bacteria in urinary sediment has often been noted on account of the readiness with which the precipitate washes off the slide, especially when treated with an acid and counter-stained. To remedy this difficulty the sediment obtained with the centrifuge is placed on a slide, dried, and covered with a thin layer of some albumen solution such as Hodenpyl's,[1] again dried and fixed and stained by regular methods. In this way it is frequently possible to easily find tubercle-bacilli not otherwise readily demonstrable.

WHAT IS A "CURE" FOR PULMONARY TUBERCULOSIS?

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THERE seems to be a sudden—almost inexplicable—increase of belief in the complete curability of tuberculous diseases. Journal and newspaper literature fairly teems with references to it. Semiprofessional organizations seem all of a sudden to have attained a complete grasp of certain old pathologic observations and to have learned from them an easy lesson in the therapeusis and hygiene of the great transmissible disease. It is well to curb undue enthusiasm in regard to the acceptance of the doctrine of "cure" to its fullest extent. It is well to analyze with dispassionate interest the rapidly accumulating literature of the present and to take lesson from the failures of the past. It is true that tuberculosis is curable. That the probability of complete cure has been substituted for the probability of arrest in the great bulk of cases is due to certain natural and inherent faults of a certain class of observers. The recent literature of "cures" emanates all too largely from the class of sanatorium proprietors and employes. Temporary benefit is all too often recorded as great improvement; arrest for a few months is too often recorded as complete cure. Those phy cians who have lived long in climatic resorts and have h the sad privilege of eventually signing the death-certificat for persons pronounced "cured," and so reported in rath luridly written scientific papers by sanatorium doctors m be pardoned if they view with polite indifference or ev pronounced disbelief the new literature of certain and ea cures. It is all nonsense to set up a new rule that absen of symptoms and absence of bacilli from the expectorati for several months is an index of "cure" rather than "arrest." Three to five years' of absence of symptoms a bacilli is a much more reasonable time to insist upon. Ev after such an interval, relapse is not uncommon, and und such circumstances that the argument of reinfection cann be presented.

It seems cruel to attack the infallibility of observations "cure" made with such positiveness and such light-heart assurance. Nevertheless, the kindest interpretation th can be put upon much of the recent writing is, that the a thors have hypnotized themselves into fallacious beliefs, a that time will certainly convince them of their errors. Th is certainly much kinder than to assume that they wa well-to-do patients to give the sanatorium at a home a lo and expensive trial before availing themselves of the mo safe, more certain, and more radical measure of a comple change of climate by removal to the high altitudes of t West.

W. P. M.

[1] Hodenpyl's albumen solution: 50 cc. egg albumen, 150 cc. distilled water, and 4 grams salicylate of sodium. Filter and add a crystal of thymol.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medic Societies for the week ending March 10:

Monday, March 5—Academy of Surgery.
Wednesday, March 7—College of Physicians.
Thursday, March 8—Pathological Society.
Friday, March 9—College of Physicians, Section on Ge eral Surgery.

Pittsburg (Pa.) Academy of Medicine.—At a me ing held February 5, DR. W. B. EWING reported two cases **lupus** treated by exposure to x-rays. The results in o case were good, but were negative in the other. Finse method of phototherapy was referred to. DR. J. D. HEA stated that Finsen's method seemed to promise much, b that it must be remembered that many modes of treatme of lupus have given good results for the time being, but t cases sooner or later relapsed. As an example he cit Hebra's hypodermic injection of extract of mustard. DR. E. MAYER said that he had recently chanced upon a bo published in 1869 in which a Pennsylvania man report extraordinary results from using the ultraviolet rays of ligh He reported a large number of cases. DR. TODD asked if the had been any reported upon the use of liquid air. D MILLER asked if there was much exfoliation in Dr. Ewin cases. DR. EWING replied that there was considerable, but soon ceased.

The "University Medical Magazine," heretofo owned and published by a stock company over which t University had no jurisdiction, has finally been secured the Board of Trustees of the University of Pennsylvania, a the magazine will in future be published directly under t auspices and with the support of the University. The mag zine will be the organ of the department of medicine, a will contain full reports of the work being done in t various clinics, laboratories, and the hospital, by the me bers of the teaching and hospital staff. Contributions up subjects allied to medicine will also be secured from the engaged in such work at the University, and the magazi will contain the proceedings of the recently organized U versity of Pennsylvania Medical Society. Owing to t necessary delay attending the transfer of the property a

e time required for thorough reorganization, it was impos-ble to issue the numbers for January and February. The xt number will be issued during March under the editorial pervision of Dr. Charles H. Frazier, who has been ap-inted editor.

State Medical Council Favors Credit on Course r Work in Literary Colleges.—At a meeting of the ate Medical Council, February 26, President John S. Stahr, Franklin and Marshall, Lancaster; President Isaac Sharp-ss, of Haverford, and President W. W. Birdsall, of Swarth-ore Colleges, contended, speaking for all the literary col-ges affected by the rule, that college graduates object to ing into the first year studies of the medical colleges, for e reason that they are the same branches in which they e already qualified, and consider it a loss of one year's ne. The discussion resulted in the adoption of a resolu-n with which the college presidents expressed satisfaction, nbodying this statement:

"That in the judgment of the Council, when the medical course a literary college, as proven by the examination of the students the medical college, covers the entire work of the first year of ual medical study, such course may be accredited by the medical llege as the first year of medical study required by law."

The Council fixed June 26, 29 for the next State medical amination, regular in Pittsburg, homeopathic in Philadel-ia, and eclectic in Harrisburg.

Philadelphia Pediatric Society.—At a meeting held bruary 13, DR. A. A. ESHNER presented a patient, a girl 8 ars old. with **mitral regurgitation and pulmonary struction;** there was a history of measles, chorea, and angina, possibly diphtheric, but there had been at no me cyanosis, although dyspnea is often marked. DR J. P. GRIFFITH exhibited a boy, 3 years old, who is cyanosed all e time and has marked clubbing of the fingers; the heart not enlarged, but there are loud systolic murmurs at the d-sternum, the pulmonic cartilage and the aortic carti-ge, and a faint murmur posteriorly; the condition is sup-sed to be **pulmonary stenosis with a patulous ctus arteriosus and a perforate septum ventricu-rum.** DR. G. G. DAVIS showed a case of **double con-nital dislocation of the hips,** in which he had been le to replace one hip and to improve the position of the er by operation. In the discussion, DR. BERTHA LEWIS owed a skiagraph of a case. DR. GRIFFITH showed two ses of **cerebral diplegia with choreiform move-ents;** one patient, a girl, 4 years old, was of feeble intel-ct; the other, a boy, 1½ years old, a dwarf of the Mongolian pe. The history was read of a case of typhoid fever in the urse of which stenosis of the larynx occurred, perhaps due ulceration, as repeated cultures failed to show the presence the diphtheria-bacillus. DR. SEABROOK reported a case **hemorrhagic purpura** in an infant, bleeding from e healed umbilicus starting on the twelfth day, with sub-taneous hemorrhages; recovery ensued, the treatment nsisting of ergot, ammonia, whisky and iron. DR. F. A. CKARD read a brief note on **Kernig's sign of menin-tis in infants.** He reported three cases of meningitis, th the diagnosis confirmed by autopsies, in which the sign s persistently absent, and one case in which the sign was esent, but no anatomic cause was found for death; the sence of the sign was thought to be due to the absence in ants of normal muscular hypertonia.

The State Medical Board and the Sale of Examination Questions.—According to the *Public Ledger* of February 28, the report of the committee of the State Medical Board which investigated the charges that graduates of medical colleges obtained in advance the list of questions used in the examinations at the meeting in Harrisburg last June, and were thereby enabled to pass the examinations and secure certificates, was made public today, together with the report of the State Medical Council Committee, appointed to pass upon the State Medical Board's report. The report was submitted to the council last evening by the State Medical Examining Board through Dr. Henry Beates, Jr., of Philadelphia, and revised by a committee appointed by the coun-. The report of the State Council Committee, prepared Lieutenant Governor Gobin, is to the effect that Dr. Beates' report is substantially correct, but the rules of evidence were disregarded in getting at the alleged facts, and that Dr. Hoeh's testimony is unreliable.

The report says it is proved that the questions were in the prior possession of some of the candidates previous to the June examination last year; that a large percentage of the candidates purchased bogus questions—that is, questions that were not official; that the percentage of candidates having prior possession of the questions was comparatively small; that of those having the questions almost all would have passed the State examination or, in other words, were not enabled to obtain the license by reason of the prior possession of the questions; that the questions were obtained only on night preceding each examination day; that the questions were on sale alike to all candidates who desired to resort to such methods, irrespective of the colleges represented; that for months prior to the examination session of the State Boards a scheme was in force among students having for its purpose the securing of the questions; that this scheme included a well-developed plan to ascertain where and by whom the printing of the question papers would be done; that the individual who was the means of supply from source of possession of the question papers to whomsoever desired to avail themselves of the unlawful opportunity was Dr. D. B. Hoeh, of Indiana County; that Hoeh met the purchasers of the questions and dictated the questions from the alleged original copy; that as Dr. Hoeh confesses to have had one complete set of printed question papers the leakage must have occurred after these question papers were printed; that Dr. Hoeh, after much probing, admitted having received the one original copy of the printed questions by anonymous letter, postmarked Philadelphia, last June; that as Dr. Hoeh declares his inability to inform the committee from whom he received the questions he is proclaimed to be the one guilty of supplying those candidates for money who resorted to such method.

Dr. Beates is reported as saying: "We have only been able to discover 70 men to whom these papers were sold, and previous to this year the genuine papers have never got out, though swindlers have occasionally succeeded in selling bogus papers to students. Of these 70 students the college record of all but 2 was such as to render entirely unnecessary any attempt to obtain the papers unlawfully. They could have answered the questions very easily. The two concerning whose qualifications there is some doubt have volunteered to take the examination over again."

NEW YORK.

Hospital Quarantined.—The Infants' Hospital on Randall's Island has been placed under quarantine because of an outbreak of both diphtheria and measles in that institution. The sick children have been removed to North Brother Island, and for the present foundlings will be sent to the New York Foundling Asylum.

Another Poison Bottle Bill.—The Wilcox bill, now before the Legislature, requires that all poisonous mixtures sold in quantities of less than 8 ounces shall be put in a bottle of distinctive pattern. The Manhattan Pharmaceutical Association has passed resolutions, protesting against what it considers to be this unnecessary expense to the trade and public.

A State Veterinary College.—According to a bill introduced by Senator Ford, a department of the New York University is to be made the State veterinary college, and no tuition fee is to be charged students who for a year or more before admission have lived east of a line drawn from Port Jervis to Utica, and thence to Ogdensburg. The bill calls for an annual appropriation of $25,000.

Yellow Fever in Port.—The steamer *Taormina*, on arriving in New York Harbor from Santos, reported that one of the firemen had died at sea of yellow fever. The health officers subsequently discovered that another fireman was at that time ill with the same disease, and they had him removed to Swinburne Island. The cargo of 34,100 bags of coffee will be subjected to the usual process of fumigation and roasting before being discharged.

Smallpox and Rioting in New Rochelle.—As a result of the discovery of two or three cases of smallpox in New Rochelle the people of that place have been badly scared, and some of the farmers in the outlying districts have been wrought up to such a pitch that they have tried to take

the law into their own hands. It seems that some negroes from New Rochelle visited a sick negro in Mount Vernon, and the following day this person was found to be suffering from smallpox. The authorities of New Rochelle were promptly advised of the situation, and, in this way, were enabled to locate those who had been exposed to the disease. They were found, and immediately vaccinated. However, two developed varioloid, and in order that they might be effectually isolated, a plot of ground was leased in a lonely district about three miles out of the city, and men were sent by the health authorities to erect an isolation pavilion. This so enraged and alarmed the farmers living in the vicinity that they sallied forth with muskets, sticks, stones and dogs, and, ably seconded by their wives, proceeded to make a hot time for those who were trying to build the pesthouse. The drivers of the lumber wagons were driven away, their horses were turned loose, and the loads overturned. The work was finished under police protection. The pesthouse is situated 3,000 feet from the highway and 1,000 feet from the nearest house.

Report of State Board of Charities.—The annual report of this Board has just been made to the Legislature. It is recommended that § 698 of the penal code be amended so as to prevent the sending of short-term offenders to the houses of refuge and reformatories for women. Regarding the erection of State sanatoriums for consumptives, a special committee of the Board, after due investigation and study, reports in favor of the creation of one or two such institutions, chiefly as object-lessons, and suggests that it would be good public policy to secure such legislation as would lead to the establishment of numerous municipal hospitals. The report goes on to show that the institutions coming under the supervision of the Board represent a total population of 70,611, of which 31,218 are dependent children. The system of making frequent inspections of almshouses has proved most salutary, and, on the whole, the condition of the dependent poor is thought to have improved during the past year. The Board renews its recommendation of previous years, to the effect that the House of Refuge, now on Randall's Island, be removed to some place in the country, preferably on a large farm. The Board condemns the Kings County Almshouse and hospital as overcrowded and unsanitary. Over 100 consumptives, for example, are cared for in a space suited for the treatment of only about 40, and many have to be placed in the other wards, which is manifestly improper. The pavilion for idiots is also crowded, twenty or more of the inmates having to sleep on the floor. To make matters worse the plumbing is old and inefficient. Regarding the operation of the new Dispensary Law, the report states that it has already had the effect of abolishing that formerly well-known east side establishment "the private dispensary," and also avers that the new law has effected the withdrawal from the dispensaries of that class of persons who, able to pay for medical treatment, prefer to do so rather than to sign application cards.

The Tenement-House Exhibition.—This exhibition, given last week in Sherry's old ballroom, on Fifth Avenue, marks a new departure in philanthropic work. The exhibition was given under the auspices of the Charity Organization Society, and it was formally opened by an inspiring and characteristic address by Governor Roosevelt, to a large and appreciative audience. He said, among other things, that the regulation of the building laws should belong to the State rather than to the city, and that every wretched tenement that a city allows to exist revenges itself on the city by being a hotbed of disease and pauperism. Dr. E. R. L. Gould, the President of the City and Suburban Homes Company, quoted from statistics to show that, in respect to overcrowding, insufficient provision of light and air, and lack of opportunity for isolation of families, New York is far worse off than any other city in the civilized world. He then went on to show that improving the homes of the people need not and should not be regarded as a question of philanthropy, but a matter of business, and that the improved tenements erected by a number of our well-known and wealthy citizens had proved good business investments. An extension of this improved system would soon remove from New York City the unenviable epithet of "the homeless city." The exhibition itself includes 1,100 photographs, illustrating the housing problem as it presents itself to New Yorkers, gether with photographs from many other cities, and ma charts, tables of statistics and papier maché models. dreadful rear-tenements are shown; "disease maps" de graphically the centers of tuberculosis and other imp tant contagious diseases, and "charity maps" show a glance the localities in which large numbers of families h received aid from the Charity Organization Society and United Hebrew Charities. There are six models, four re senting various types of blocks of model tenements, and representing respectively the present mode of build blocks of tenements, and that method of solid build which is permitted by the present law. One model sh the block bounded by Canal, Forsyth, Bayard, and Chry Streets, covering 80,000 square feet, and probably housing the present time not less than 2,500 souls. Probably average visitor to this very instructive exhibition, whet he be a physician or a layman, would be most deeply pressed with the photographs of so-called air-shafts intermural spaces. By clever manipulation, the camera been able to penetrate the sickening gloom of these regi and wrest from them some of the secrets of the deadly shaft. For example, one space between 156 Forsyth St and 179 Eldridge Street is 14 inches wide, 25 feet high, has 39 windows opening into it. Another, which is at Madison Street, is 50 feet long and 60 feet high, meas only 2 feet 4 inches in width, and has 30 windows open into it. When one thinks of the depth of such a shaf the number of windows supposed to derive their supply air and light from it, and recalls the fact that a baby's b tub hanging out of the window nearly chokes up this sh one is amazed to learn that the rent of the rooms here from $10 to $17. Surely God's light and air are not fre the dwellers in these benighted regions, and one is strained to believe with Governor Roosevelt, that just h is to be found the origin of much of the present polit corruption, and that the remedy must come, in the instance, from efforts to improve the physical conditio our tenement-dwellers.

NEW ENGLAND.

The town of Peabody, Mass., is to have a hosp A tract comprising 114,500 feet has been purchased.

Boston Society for Medical Sciences.—At the meeting Dr. H. S. Beyer read a paper entitled "The Rela between Mental Work and Physique," the conclusion be that such a relation certainly does exist. Dr. Harol Ernest gave a history of the microscope, illustrating theme with many slides.

The Corporation of the Massachusetts Gene Hospital has elected officers as follows: President, Cha H. Dallon; vice-president, Francis C. Lowell; treasu Franklin Haven; secretary, Thos. B. Hall. The trus consist of a board of whom nine are chosen by the city four by the State of Massachusetts.

The Boston City Hospital Alumni Associat has chosen the following officers for the ensuing year: P dent, Dr. John H. McCollom; vice-president, Dr. Charle Wittington; secretary, Dr. W. H. Robey, Jr.; treasurer, W. H. Prescott; member of the executive committee, Paul Thorndike. The annual dinner was held at You with about a hundred guests, gathered from different England and other States.

Willard Hospital.—A corporation has been for under the laws of Massachusetts, to be known as the Wil Hospital. The step is taken in accordance with a wis Miss Frances Willard, who desired to establish a hospita the care of dipsomaniacs. A country place with suit buildings and extensive grounds has been selected withi miles of Boston, and the next step will be to secure fund its purchase and maintenance.

Boston Society for Medical Improvement.— the last meeting, **the street-dust nuisance** was subject of a very interesting discussion. Among the sp ers were Dr. H. Y. Bowditch, Dr. Samuel W. Langnard, Clarence J. Blake, Prof. W. T. Sedwick, Prof. Frank C. Al

l Clifford Richardson, Esq., of New York. There is a eral movement on foot to substitute asphalt pavement the macadam now in use in the Back Bay residential rict of Boston.

uffolk District Medical Society--Surgical Section. t the last meeting DR. DANIEL FISKE JONES read a paper en- ed **Varieties of bacteria in abdominal infections.** E stated that 350 cases of abdominal infection have been ected from the records at the Massachusetts General Hos- l. These include 265 cases in which the culture was itive and 85 in which it was negative. Of the 265 positive es 63 are general peritonitis and 202 localized infections. the 85 negative cases 15 are general peritonitis, 30 are cesses, and 40 are localized infections with sterile cultures n the free fluid in the peritoneal cavity. The bacteria nd in the different cultures are: Bacillus coli communis, ; Bacillus mucosus capsulatus, 35; mixed cultures of illi and cocci in which the bacilli predominated, 33; mixed ures of cocci and bacilli in which the cocci predominated, pneumococcus, 8; streptococcus, 39; Staphylococcus albus, gonococcus, 2, and Staphylococcus aureus, 1. Of the on infections, general peritonitis occurred in 23%; of the ptococcus, in 23%; of the Bacillus mucosus capsu- is, in 26%; of mixed bacilli, 24%, and of mixed ci, in 27%. Dropping out the cases of pyosalpinx cholecystitis, we get general peritonitis in 25% of on infections; 26% of the streptococcus and 30% Bacillus mucosus capsulatus infections. The follow- averages have been computed from the above- ntioned cases: Streptococcus infections give the highest th-rate—22% and 77% respectively in localized and in eral peritoneal infections; 4.5 days between the onset of ptoms and operation, and 13 hours' duration of life after ration, in general peritonitis; 8 days between the onset of ptoms and operation, and 6.2 weeks as the length of stay ne hospital after operation, in localized infections; and a cytosis of 16,200 in localized infections. The colon- illus gives a death-rate of 8.8% and 65% respectively in lized and general peritoneal infections; 2.9 days between onset of symptoms and operation, and 65 hours' dura- of life after operation, in general peritoneal infections; ys between the onset of symptoms and operation, and 5 ks' stay in the hospital after operation in localized infec- s; and a leukocytosis of 13,300 in general peritonitis, 92 in localized infections. The Bacillus mucosus capsu- s gives a death-rate of 9.9% and 55% respectively in lized and in general peritoneal infections; 3 days be- en the onset of symptoms and operation, and 62 hours' ation of life after operation, in general peritonitis; 8 days ween the onset of symptoms and operation, and 6.5 ks' stay in the hospital after operation, in localized in- ions; and a leukocytosis of 28,500 in general peritonitis 27,810 in localized infections. Of the 85 cases in which e was a negative culture, 15 are general peritonitis with ath-rate of 80%; 30 are cases of abscess-formation, with ath-rate of 6⅔%; and 40 are cases in which there was a lized infection with an increased quantity of free fluid in abdominal cavity, varying from clear to what is described thin pus," with a death-rate of 15%. From the mixed ures of cocci and bacilli no conclusions can be drawn, as re dealing with too great a variety of unknown organisms. conclusions could be drawn from the other infections be- se of the small number of cases.

he Suffolk District Medical Society—Clinical tion.—At a meeting held February 21, DR. JOHN LOVETT SE reported **An analysis of 51 cases of pneumo- rax occurring at the Boston City Hospital dur- the last 15 years,** and showed that 14% were not tu- culous, 70% certainly were, and 16% more probably were. e than half of the nontuberculous cases were due to umonia and abscess of the lung. All of those which were rated on recovered. Of the tuberculous cases 84% were nen and 53% in the third decade. There were twice as y cases on the left than on the right side. The onset acute in less than half the cases. In those with acute t sudden pain with dyspnea were the most common al symptoms. In some cases it occurred during exer- , in others while the patient was quiet or asleep. In 4 s the pneumothorax was the first symptom of disease. There was nothing unusual about the physical signs. There was fluid as well as air, except in the cases that died early. It was serous in 14 and purulent in 19. Recovery from the pneumothorax occurred in 15%. The pneumothorax was the direct cause of death in about 60%. Eighty percent died in less than a year, and only 10% were alive at the end of 5 years. All the women died early, and none of the right-sided cases recovered. The purulent cases gave a worse result than the serous. All but one of the cases that recovered from the pneumothorax were serous and only 43% of the serous cases died in the first 3 months, to 63% of the purulent. In certain of the purulent cases excision of the ribs seemed to prolong life. Hence the author concluded that in cases in which the pulmonary lesions were not too far advanced surgical intervention along the same lines and under the same conditions as in tuberculous empyema seems indicated.

DR. R. W. GREENLEAF read a paper entitled **The psychic factor in disease.** He used the term psychic simply in a plain medical sense synonymous with mentoneural. The paper was intended to show that nervous factors frequently complicated the diseases to which general practitioners are commonly called, and that these factors should receive more attention than is given them in medical education as they are of importance in both the causation and the treatment of disease. Cases were briefly cited illustrative of the following propositions: (1) That some cases are purely psychic, as of cramps, hysteria, etc., resulting from definite causes largely removable through psychic measures. (2) That causes capable of producing such neuroses may also act when other diseases are present, and should be guarded against, as by avoiding all causes of undue excitement, fatigue and the like in acute sickness or convalescence after operation. (3) That psychic causes may, under special conditions, as of fright, intense grief, joy and the like, pave the way for positive pathologic conditions. (4) That attention to the psychic may serve materially as a therapeutic measure in the relief of diseases having serious organic lesions. Not that they alone would cure, but that in conjunction with measures dietetic, medicinal, etc., the element of hopefulness and similar psychic measures was sometimes efficient in averting an otherwise fatal ending. (5) That in certain conditions, as in toxic deliriums from alcohol, belladonna, ether, etc., the psychic is of definite importance as a routine measure, its exercise consisting largely of falling in with the delusions and of otherwise leading them so that rest, feeding, etc., might be ensured. This method of treating such conditions was contrasted favorably with that involving measures of restraint, compulsion and the like, and required the services of suitable nurses or attendants. (6) That similarly psychic measures were of routine importance in the treatment of delirium of fevers, as of typhoid. Also that they contributed largely to its prevention. (7) That greater care should be given in the education, selection, and retaining of nurses, regulating their qualifications to meet the psychic needs of their patients, also that they should be in good health during attendance, in order to appreciate psychic relations, as otherwise their services would be much impaired and might be harmful.

CHICAGO AND WESTERN STATES.

Will of Dr. Holmes.—According to the will of the late Dr. Edward J. Holmes, recently filed for probate, an estate valued at $75,000 is to be divided among the relatives of the deceased.

Chicago Surgical Socity.—At a meeting held Tuesday, February 20, the following officers were elected: President, Dr. John E. Owens; vice-president, Dr. D. A. K. Steele; secretary, Dr. Daniel N. Eisendrath; treasurer, Dr. S. C. Plummer; council, Dr. John B. Murphy, Dr. E. Wyllys Andrews, and Dr. L. L. McArthur.

Advice for Physicians.—The Chicago Health Department has issued a pamphlet for distribution by physicians, which contains advice regarding the importance of absolute isolation of cases of infectious disease. It calls for perfect ventilation of sickrooms; the closing of all entrances save one, and the hanging of sheets wet with disinfectants over them is urged.

Chicago Medical Society.—At a meeting held February 21, DR. E. R. LE COUNT exhibited specimens and lantern slides illustrating the pathology of medical affections of the kidney. He showed a kidney from a case of acute nephritis; a kidney from a case of eclampsia; two specimens illustrating acute nephritis accompanied by passive hyperemia; a specimen of chronic parenchymatous nephritis; a specimen of amyloid kidney, and a number of specimens of arteriosclerotic atrophy of the kidney.

DR. N. S. DAVIS, JR., read a paper on **The effect of diet in nephritis,** in which he said that nephritis can be produced experimentally by swallowing, inhaling, or otherwise introducing into the blood certain chemicals which are renal irritants, and which must be eliminated by the kidneys. Cases of Bright's disease of this origin are rare. Physicians occasionally see such poisoning by turpentine, mercury, and lead. As a rule, however, the cases are due to other causes, chiefly to infection and the elimination of toxins by the kidneys. Sometimes the cause of an infectious malady is itself the cause of nephritis. More frequently he believes it is a cause, but not the only one. Toxins generated by abnormal fermentation within the gastrointestinal tract are most important causes of the disease. Those infections which are almost always accompanied by nephritis, such as yellow fever and cholera, are maladies in which preeminently the contents of the gastrointestinal tract is in a state of abnormal and excessive fermentation. In those diseases the infectious agent is undoubtedly the cause of the alimentary disorder. The nephritis is due to toxins which they produce in the intestines. Microorganisms sometimes play a part in causing the disease. They are often eliminated, both dead and alive, in the urine. Exposure to cold and wet is frequently mentioned as a cause of acute nephritis. Good clinicians doubt the probability of its being such. The influence of overeating and of injudicious eating in producing chronic nephritis is so generally appreciated that it scarcely needs discussion. Chronic diffuse nephritis, like acute nephritis, is oftenest due to infection. Other causes of the different forms of the disease were mentioned. When a case of acute nephritis first comes under treatment it is best to enjoin rest in bed, to withhold all food for twenty-four or thirty-six hours, to give water freely and to empty the alimentary canal by provoking purgation. Milk should then be given, at first in small quantities, at intervals of two hours. The quantity must be increased gradually until two quarts are taken daily. Milk is especially adapted as the sole diet of those who have acute nephritis because it more perfectly meets the demands of the system than any other single article of food. Intolerance of milk is often lessened or removed if, when a milk diet is begun, it is administered in very small amounts, one or two ounces at a time, for example, and if the amount is slowly increased. Milk, moreover, is less likely to produce gastric distress if it is sipped instead of being drunk rapidly. All things considered, it is the universal judgment of the profession that there is in this disease no substitute for a milk diet. When the urine becomes copious and the amount of nitrogenous matter voided in twenty-four hours all that can be expected, farinaceous foods may be prescribed in addition to milk. In a few days some of the sweet fruits and simpler vegetables can be given. When albumin disappears from the urine an egg can be tried. During the time that albuminous foods are being added to the patient's dietary, close watch must be kept upon the effect of it, the quantity of urine, the amount of daily nitrogenous excretion and the amount of albumin and number of tube-casts, if any are found in the urine. When an egg can be taken without harm, white meats can be tried, such as the breast of squab and chicken, a little of boiled ham, or perfectly fresh fish. Red meats rich in extractives should not be eaten until recovery is established. In chronic diffuse nephritis, there are the same indications for a milk diet as in acute nephritis. It is, however, so prolonged a malady that an exclusive milk diet cannot be maintained continuously. A diet for this form of nephritis was given. Interstitial nephritis is so chronic a malady that an exclusive milk diet, even if it were necessary, could be maintained only for a small portion of its entire course. The observations of Zasiadko, of St. Petersburg, were quoted as suggestive of the value of different diets in chronic nephritis. This gentleman administered to ten patients, suffering from chronic nephritis, a vegetable diet for ten days, for a like period an animal diet (with a little b added), and for another equal period of time a mixed While upon a vegetable diet the amount of albumin in urine lessened, arterial tension diminished, dropsy incre the pulse became slower, weaker and softer, appetite fa the patients became weaker and more apathetic. W upon animal food, the albumin increased in the urine, rial tension rose, edema lessened, the pulse quickened grew fuller, the patients became stronger and more che The effects of a mixed diet were midway between t Alcoholics are looked upon as contraindicated in affections by the majority of clinicians. They are irritants.

SOUTHERN STATES.

Johns Hopkins Hospital Medical Society.—A meeting held February 19, DR. EWING, of Cornell Unive was present by invitation to address the Society on **A f of conjugation of the malarial parasite.** In cases of tertian infection the author had encountered ap ances in the blood which seemed to admit of no othe planation than that of conjugation of the malarial para In a considerable number of other cases similar appear had been found. The blood in these cases showed a number of young rings and a large number of half-g and full-grown forms. A great many cells showed d infection with young rings. In many instances these were entirely separate, each exhibiting a single large gr of chromatin. Many cells, however, contained two which were clearly fused together along one segment o ring, and two large chromatin granules were then invar found at different points in the rings. The fused par usually differed in appearance. One was a large del ring with a thin bow and chromatin granule of mod size, while the other was a coarser body with thickened enclosing little or no hemoglobin and exhibiting a chromatin granule. Among the single rings these two of young parasites were often distinguished, but no s rings could be found containing two equally large chro granules, while every red cell that exhibited two larg equal chromatin granules contained also two distinct It appeared, therefore, that the bodies of many parasite become fused together while their nuclei remained sep On examining the parasites in later stages of develop most of them were found to have lost the ring form a have spread out into a large number of threads with thickenings, variously curled in the red cell. In many the masses of chromatin laid side by side united by a achromatic substance, while later some parasites were in which the two groups of rather large chromatin gra laid in immediate apposition surrounded by achromati stance. Dr. Ewing reported in detail his studies conce these phenomena and exhibited a number of drawi show the different stages of conjugation as he descrit In a discussion of the subject DR. WELCH stated that t sential facts as described by Dr. Ewing could not possi disputed, but that there was room for difference of op as to their proper interpretation, and asked whethe phenomenon described was to be looked upon as an a conjugation essential to the life history of the parasi whether it was a mere coalescence of cells as an accid occurrence. DR. THAYER said that Dr. Ewing's pre tion of his observations was extremely suggestive a could not express a different opinion of his conclusion he had had an opportunity to study the question more DR. MCCALLUM asked whether Dr. Ewing had seen fusion of the chromatin bodies or whether they were m lying side by side, and also whether he had observe conjugation only in one cycle or whether it occurs in s successive cycles. DR. EWING in closing the discussio that he was inclined to think that this process was vital significance in the sense applied to lower animals, conjugation is a necessary preliminary to sporulation had not had the opportunity in New York to observe th cess through more than one cycle of the organism's g

At the same meeting DR. THAYER exhibited a girl, 14 of age, with **congenital heart disease.** From the cal signs it was believed that the lesion was an opening septum ventriculorum, and in addition to this she h acute endocarditis.

MISCELLANY.

he Sander Prize.—Rules for competition for the gold al of the value of $100, dedicated by Mr. Enno Sander . Louis, for the best paper on "Military Surgery," pre- ed at the annual meeting of the Association of Military ons of the United States:

Competition to be open to all members of the Association.
Each competitor shall send three copies of his essay, in a d envelop, to the Secretary, Lieutenant-Colonel Chas. Adams, ral Music Hall, Chicago, Ill., on or before April 15, 1900. The must be strictly anonymous, but the author shall adopt some *de plume* and sign the same to the essay, followed by a figure sponding with the number of pages of the manuscript. A d envelop bearing the *nom de plume* on the outside, and enclos- full name and address, shall accompany the essay. This en- to be opened in the meeting of the Association after the ion of the committee on the prize essay has been received.
The committee will designate the essay worthy of the prize, also in their order of merit those deserving of honorable men- Should the committee deem proper, i tmay recommend ner prize nor honorable mention.
The successful paper shall be published in the Transactions of Association.

Colonel N. Senn, Surgeon-General, I. N. G.
Major A. C. Girard, Surgeon, U. S. A.
Captain Geo. W. Wood, Medical Director, U. S. N.
Committee.

ealth-Reports.—The following cases of smallpox, ow fever, cholera, and plague, have been reported to the geon-General, U. S. Marine-Hospital Service, during the k ended February 24, 1900:

Smallpox—United States.

			Cases.	Deaths.
BAMA:	Jefferson Co.	Feb. 5	36	
"	Mobile	Feb. 10–17	3	1
RIDA:	Jacksonville	Feb. 10–17	3	
NOIS:	Aurora	Feb. 10–17	6	
"	Danville	Feb. 3–10	1	
IO:	Eastern towns	Feb. 9	Prevalent.	
ANA:	Evansville	Feb. 10–17	3	
SAS:	Wichita	Dec. 30–Feb. 10	15	
TUCKY:	Louisville	Feb. 15	2	
ISIANA:	New Orleans	Feb. 10–17	62	31
"	Shreveport	Jan. 27–Feb. 3	14	
NESOTA:	Minneapolis	Jan. 27–Feb. 3	36	
"	"	Feb. 3–17	13	
SISSIPPI:	Greenwood	Jan. 27–Feb. 10	216	6
TANA:	Butte	Feb. 7	150	
GON:	Eastern towns		Prevalent.	
W YORK:	New York	Feb. 10-17	1	
O:	Cincinnati	Feb. 9–16	4	
	Cleveland	Feb. 10–17	27	
	Youngstown	Feb. 10–17	1	
NESSEE:	Nashville	Feb. 10–17	1	
H:	Salt Lake City	Feb. 10–17	3	
GINIA:	Martinsville	Feb. 7	1	
"	Portsmouth	Feb. 10–17	6	
"	Richmond	an. 1–31	21	
SHINGTON:	Spokane	Feb. 10–17	6	

Smallpox—Foreign.

TRIA:	Prague	Jan. 20–27	1	
GIUM:	Antwerp	Jan. 27–Feb. 3	7	
ZIL:	Rio de Janeiro	Dec. 15–Jan. 12		102
ADA:	Amherstburg	Feb. 10-17	1	
"	Quebec	Feb. 3–9	4	
PT:	Cairo	Jan. 16–21	4	
LAND:	Leeds	Feb. 3–10		1
"	London	Jan. 20–Feb. 3	45	
NCE:	Lyons	Feb. 20–27		1
"	Nice	Jan. 20–Feb. 3	9	2
"	Paris	Jan. 27–Feb. 3		2
MANY:	Königsberg	Jan. 20–27	3	
RALTAR:		Jan. 22–28	2	
ECE:	Athens	Jan. 27–Feb. 3	2	
IA:	Calcutta	Jan. 6–13		9
"	Kurrachee	Jan. 16–21	12	1
"	Madras	Jan. 13–19		1
W BRUNSWICK:		Feb. 10	Prevalent.	
A SCOTIA:		Feb. 10–17	"	
XICO:	Ciudad Porfirio Diaz	Feb. 10–17	5	3
"	Vera Cruz	Feb. 10–17		5
SIA:	Moscow	Jan. 20–27	2	
"	Odessa	Jan. 27–Feb. 3	10	2
"	St. Petersburg	Jan. 20–27	26	6
"	Warsaw	Jan. 25–Feb. 1		5
IN:	Corunna	Dec. 9–Feb. 3	5	4
AITS SETTLEMENTS:	Singapore	Dec. 31–Jan. 6		3
TZERLAND:	Geneva	Jan. 21–28	6	
RKEY:	Smyrna	Jan. 29–Feb. 4		1

Yellow Fever.

			Cases.	Deaths.
Brazil:	Rio de Janeiro	Dec. 15–Jan. 12	25	30
Cuba:	Havana	Feb. 7–14	3	
Mexico:	Vera Cruz	Feb. 10–17		2
"	Curacao	Feb. 3–10 ;	1	

Cholera.

India:	Calcutta	Jan. 6–13		30

Plague.

Brazil:	Rio de Janeiro	Jan. 20	1	
"	San Paulo	Jan. 20	1	
India:	Calcutta	Jan. 6–13		45
"	Kurrachee	Jan. 16-21	21	13

The Antivivisection Bill.—On February 21, too late for notice in our last issue, the Senate Committee on the District of Columbia, gave a hearing to the friends and foes of Senate Bill No. 34, commonly called the "Antivivisection Bill." Senator Gallinger, the chairman of the sub-committee, was most courteous and fair in the method of conducting the examination. Two hours were given to each side, but the entire time spent in the hearing was six hours, owing to numerous questions by the committee and the replies elicited by them. The friends of the bill first presented an argument by Mr. Perry, an attorney of Washington. This was followed by a written statement by Dr. Matthew Woods, who enjoys the unenviable distinction of being the president of the American Antivivisection Society, and who made some most extraordinary and utterly untenable statements as to modern surgery, especially the surgery of the brain, which he declared was practically useless. Then followed Dr. D. H. Cochrane, for about 35 years the president of the Brooklyn Polytechnic Institute, and he was succeeded by Mr. Grammond Kennedy, another Washington attorney, who made a very rhetorical argument.

On the side of the opponents of the bill were a number of distinguished men who spoke in the following order: Dr. W. W. Keen, of Philadelphia; Bishop Lawrence, of Massachusetts; Dr. H. A. Hare, of Philadelphia; Dr. H. P. Bowditch, of Harvard University; Dr. Mary Putnam-Jacobi, of New York (who made one of the most effective addresses of the day); Surgeon-General George M. Sternberg, U. S. A; Dr. Howard A. Kelly, and Dr. Wm. Osler, of Johns Hopkins; Dr. D. E. Salmon, of the Bureau of Animal Industry; Dr. Geo M. Kober, of Washington; and the hearing on the side of the opponents was closed by Dr. Wm. H. Welch, who in masterly manner showed the defects of the bill and the disasters it would produce. Dr. E. G. Janeway, of New York, and Drs. S. C. Busey and Geo. N. Acker, respectively the ex-president and president of the Medical Society of the District of Columbia, and others were present, but there was not time to hear them. Dr. Albert Leffingwell then closed the debate for the friends of the bill. There seems to be no reasonable doubt what the decision of the Committee should be, but, of course, until a positive decision is rendered, it is impossible to predict the outcome. All the friends of humanity, as well as of scientific progress, will hope that the Committee will decide unfavorably as to the bill.

Changes in the Medical Corps of the U. S. Army for the week ended February 24, 1900:

Macy, Robert C., acting assistant surgeon, is granted leave for 15 days, with authority to leave the limits of the division of Cuba.

Fowler, E. W., acting assistant surgeon, will proceed to El Caney, Cuba, for temporary duty.

Nunez, Edward F., acting assistant surgeon, is granted leave for 1 month.

Pope, Lieutenant Colonel Benjamin F., deputy-surgeon, is assigned to temporary duty with station in San Francisco, awaiting transportation to the Philippine Islands.

Collins, First Lieutenant Christopher C., assistant surgeon, is assigned to duty at the U. S. General Hospital, Presidio.

Davis, Major John G., surgeon, is relieved from duty in the division of Cuba, and will proceed to New York City, reporting to the Adjutant-General of the Army by telegraph for further orders.

Matthews, Major W. H. S., surgeon, will proceed to the Presidio for temporary duty, awaiting transportation to the Pliilippine Islands.

Davis, Major John G., brigade surgeon, is relieved from further duty as chief sanitary officer of the department of Havana.

Gorgas, Major W. C., surgeon, will, in addition to his present duties, assume charge and direction of the office of the chief sanitary officer of the department of Havana.

Fitzgerald, C. J., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is granted leave for 1 month.

NOBLE, CHARLES D., acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

LA GARDE, Major LOUIS A., surgeon, is granted leave for 10 days from February 22.

PHILLIPS, Captain JOHN D., now on temporary duty at Governor's Island, will report on March 6, to Major JAMES C. MERRILL, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

STUNKARD, THOMAS C., acting assistant surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, and will proceed to his home, Terre Haute, Ind., for annulment of his contract.

MACY, ROBERT C., acting assistant surgeon, is relieved from further duty in the department of Santiago and Puerto Principe, and will proceed to his home, Mobile, Ala., for annulment of his contract.

LYON, PALMER H., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for duty.

ROEMMELT, CHARLES, acting assistant surgeon, will proceed from Elmira, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

BIRMINGHAM, Major H. P., surgeon, will report to the commanding general, Second Brigade, First Division, Eighth Army Corps, for duty as brigade surgeon, relieving Major Ira C. Brown, surgeon.

BROWN, Major IRA C., surgeon, will proceed to Manila, and report to the provost-marshal general, for duty on the board of health, Manila.

MATTHEWS, Major W. S. H., surgeon, will report on board the "Sherman" for duty on her return voyage to the United States. Upon arrival at San Francisco, he will report for instructions to return to the department of the Pacific

FISCHER, Major H. C., surgeon, will proceed to Iloilo, Island of Panay, and report to the commanding general, Visayan military district, for assignment to duty.

BANISTER, Major W. B., surgeon, will report to the commanding general, First Brigade, First Division, Eighth Army Corps, for duty as brigade surgeon, relieving Major W. S. H. Matthews, surgeon.

PENROSE, Major G. H., surgeon, will report to the commanding general, Third Brigade, Second Division, Eighth Army Corps, for duty as brigade surgeon; this in addition to his present duty.

STRONG, First Lieutenant RICHARD P., assistant surgeon, is granted 30 days' leave, from January 9, on surgeon's certificate, with permission to visit China.

BORDEN, Captain WILLIAM C., assistant surgeon, will report, March 6, to Major JAMES C. MERRILL, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

DEAN, First Lieutenant ELMER A., assistant surgeon, is relieved from further duty in the department of California, and will proceed to Manila, P. I., and report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

HEPBURN, JAMES H., acting assistant surgeon, will proceed from Washington, D. C., to Fort Bayard, for duty.

THOMAS, JEROME B., acting assistant surgeon, will proceed from Brooklyn to Fort Slocum for assignment to duty with recruits to go on the transport "Sumner" to the Philippine Islands, and upon arrival at Manila will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

KOERPER, Lieutenant-Colonel EGON A., is retired from active service, February 21, under provisions of the act of Congress, approved June 30, 1882.

Changes in the U. S. Marine-Hospital Service, for the 7 days ended February 22, 1900.

MEAD, F. W., surgeon, granted leave of absence for 7 days from February 26. February 19.

CARTER, H. R., surgeon, to proceed to Havana, Cuba, and resume duties as quarantine officer. February 17.

GUITERAS, G. M., passed assistant surgeon, upon being relieved by Surgeon M. R. Carter, to proceed to Matanzas, Cuba, and resume duties as quarantine officer. February 17.

PERRY, J. C., passed assistant surgeon, detailed as chief quarantine officer of the Philippine Islands, and quarantine officer at the port of Manila. January 18.

ROSENAU, M. J., passed assistant surgeon, detailed to attend the meeting of the Medico-Legal Society at New York, N. Y., February 21 and 22. February 19.

EDSON, E. R., assistant surgeon, relieved from duty at the Reedy Island Quarantine Station for duty and assignment to quarters. February 17.

Academy of Medicine of France.—At the last meeting, on February 6, Dr. Champetier de Ribes was elected titular member of the obstetrical section. Dr. Strïcesco, of Bucharest, and Dr. Mendelssohn, of St. Petersburg, were elected corresponding members.

Foreign News and Notes.

CONTINENTAL EUROPE.

Sanatorium in Greece.—The Queen of Greece bought the convent of Pétrake near Athens, and inte founding a sanatorium for tuberculous patients there.

Belgian Physicians.—The Liège Courts have c demned to a fine of 200 francs (and the publication of sentence upon 40 notices) one physician guilty of libell another, whom he had accused of killing a child by hav given too large doses of calomel. The Court agreed that physician had treated the child perfectly, that the treatm was above suspicion.

Tuberculosis in France.—The commission lately pointed to combat the spread of tuberculosis in France, formed two sub-committees, one for prophylaxis, with Lucipia (president of the Municipal Council), and Dr. Ro (of the Pasteur Institute), vice-presidents; and the secc for therapeutics, with M. Proust (inspector-general of Sanitary Service), and Dr. Lannelongue (professor of surge as vice-presidents. Dr. Brouardel, dean of the Medi School, is president of the commission. Cannes, Nice, Mer Beaulieu, Grasse, Hyères, and other cities of the Rivi have recently been advocated for phthisical patients.

A Proposed Antituberculous Institutes.—M. Fleu Ravarin, deputy of the Department of Rhône, propose law, recently, for the creation of a national antitubercul institute, having as its object the study of the treatment a experimental research of the means to cure tuberculo The society for indigent tuberculous patients, of Lyons, p poses to build the institute, at its expense, and to annex it the free sanatorium. It is soon to open at Hauterville, the mountains of Bugey. M. Fleury-Ravarin asks the St to give the new establishment 15,000 francs ($3,000) yea with the title of a "national" institute.

President Loubet at the Hospitals.—On February 1900, President Loubet began a series of visits to the hos tals by visiting the Hospital des Enfants Malades, where opened the new building intended for measles and diphthe cases. After visiting the different services, he was sho around by the different chiefs, and after looking over the n buildings, he made a short speech. He then decorated t director of the hospital and the architect of the new buildi One of the small patients presented him with a huge bo quet, for which the President stooped down and kissed hi Before leaving, he left 500 francs for sweets for the childr

Superstition.—The different nations have different perstitious practices to be carried out at the time a baby born. The English wish the baby misfortune, persuad that fate always accomplishes the opposite of one's wish; t Irish keep off all harm by a belt made of woman's hair; t Scotch put a knife and a pincers in the cradle; in Hollar they put bread, meat, salt, and garlic in the cradle; in Br tany they pull the child's limbs till they crack, they bathe head in olive oil, and moisten its lips with brandy; t Roumanians tie a red ribbon about one foot of the new born child; the Turks drop water and earth on its forehea the Greeks, taking the child in their arms, turn, singing times before the hearth; and in Spain they stroke the bab face thrice, with a willow branch.

Epidemics Abroad.—*Pest:* On February 7, Portu announced the complete disappearance of the plague. N a case has been found since January 16. *Influenza:* S rages in Paris and all over France. The military school St. Cyr, the Lycée St. Louis, and the girls' school of the I gion d'Honneur have many cases. *Typhoid:* The Ly St. Louis is now closed not to open till March 1, account of an epidemic of typhoid. Already four deat have occurred. The infection was in the drinking-wat On February 5, 40 pilgrims, on their way to Rome, from M seilles, were stopped at the Italian frontier, and an atten was made to vaccinate them at once. Indignant, they turned home. It appears upon investigation that had th come singly instead of such a large crowd, no steps wo have been taken at all.

The Latest Literature.

British Medical Journal.

February 1, 1900. [No. 2041.]

Remarks on the Epidemiology and Prophylaxis of Malaria in the Light of Recent Researches. A. CELLI.
A Note on Species of Anopheles Found Amongst Mosquitos Sent from Shanghai and Java. GEORGE THIN.
A Case of Malignant Malarial Fever, with Cerebral Symptoms, Terminating Fatally in England, with a Record of Blood-Examinations and Necropsy. D. C. REES.
An Account of Some Researches into the Nature and Action of Snake Venom. ROBERT HENRY ELLIOTT.
Remarks on Preventive Inoculation Against Bubonic Plague. A. LUSTIG and G. GALEOTTI.
An Undescribed Form of Plague Pneumonia, with Five Cases. W. C. HOSSACK.
The Serum Diagnosis of Mediterranean Fever. T. ZAMMIT.
A Case of Vesical Calculus in Sierra Leone; Lithotomy. W. RENNER.
A Case of "Beef Worm" (Dermatobia Noxialis) in the Orbit. FREDERICK T. KEYT.
The Saline Treatment of Dysentery, with Notes of 555 Consecutive Cases, with 6 Deaths. W. J. BUCHANAN.
Cinnamon in the Treatment of Tropical Diarrhea. A. NORRIS WILKINSON.
Poisoning by Castor-Oil Seeds. W. P. MELDRUM.
A Case of Hemoglobinuric Fever; Recovery. R. F. E. AUSTIN.

.—Celli considers under the epidemiology of **malaria,** The sources of infection; (2) the life of the malarial ms in the environment; (3) the carriers of malarial infec- n; (4) the path of penetration of the malarial germs into organism; (5) the causes of predisposition and of immu- y, namely, organic, physical or local (soil, water, air, iculture and other industries, and season), and social ses of predisposition and immunity. Under the prophy- is of malaria, in the light of recent researches, he con- ers: (1) the methods for destroying the malarial germs, h as isolation and disinfection; (2) the methods of peding the penetration of the malarial germs, and com- tes his article by a study of the means directed against the disposing causes, namely, organic, local, and social pre- posing causes. [S.M.H.]

2.—Thin describes some species of **anopheles** found ong some mosquitos sent to him from Shanghai and a. These particular mosquitos he believes differ some- at from previously described forms of the anopheles. M H.]

3.—Rees reports a case of **malignant malarial fever** ich terminated fatally in England. The patient became ected between October 20 and 25 at Dakar on the west st of Africa. He returned to England, arriving on vember 8; he was then suffering from fever. He devel- ed the usual symptoms of malignant malaria, from which died on November 16. The interesting features of the e were the great number of parasites in the blood, some lds containing as many as 50. They were of the malig- nt type, and multiple-infected corpuscles were the rule, ny containing four parasites and a few five. They were stly small, ameboid and non-pigmented, but a fair number more advanced forms contained pigment. One imperfect rocyte was found. Many of the polymorphonuclear leu- cytes contained pigment. No crescentic bodies and no rasites of the benign type were found. Hypodermic in- tions of 10 grains of the acid hydrochlorate of quinin were ministered every 4 hours, but the number of parasites in e peripheral circulation did not appreciably diminish. a day or so after admission there was an increase of the all lymphocytes, some of them apparently becoming agocytic since they contained pigment. There were me very large cells having the characters of myelocytes; ey contained enormous masses of pigment and a few had ken up red cells which were infected with advanced forms the parasite. The urine was free from albumin. There s at no time hemoglobinuria. Blood drawn from the spleen immediately after death showed nothing which had not been previously demonstrated. At the postmortem the spleen weighed 5½ ounces; was extremely soft, the central portion being almost diffluent; it was black on section. The leaden hue of the brain, characteristic of chronic malaria, was absent. The cortical vessels were congested and the venous sinuses at the base of the brain were full of dark blood. Sections of the brain from the motor area, including Broca's convolution, showed the capillaries in every section to contain red cells infected with parasites of the advanced and sporulating forms; large white cells were also present containing masses of black pigment. The liver and spleen contained much black pigment in large masses. The bloodvessels of the kidneys contained blood-cells with much pigment. [S.M.H.]

4.—Elliot in an article on **the nature and action of snake venom** describes a method of collecting and storing the venom, bile, etc.; how to standardize solutions and to administer them; the methods of preparation of the animal; calculations of the dose and idiosyncrasies of different animals, with a brief account of the lethal dose for various animals. [S.M.H.]

5.—Lustig and Galeotti describe a method of **preventive inoculation against bubonic plague.** They summarize their communication as follows: 1. The efficacy of our method of preventive inoculation against the plague by means of the nucleo-proteid extracted by us from the plague-bacilli has been proved from the experiments made on animals—rats, rabbits, guineapigs, monkeys. 2. The immunizing substance used by us is innocuous in the case of man. No troubles of any kind arise from its use, either local or general. 3. If the cultural liquids used in their entirety possess an immunizing power, they owe this power to the nucleoproteid which they contain and which we have isolated. 4. The advantages of using an active substance, isolated and pure in place of liquids (cultures) which contain the substance mixed, however, with heterogeneous elements of different kinds, are at once evident. 5. The advantages which our method of inoculation possess in comparison with Haffkine's method are the following: (*a*) In using Haffkine's liquid along with the active substance are injected other toxic substances, which produce a reaction harmful to the organism and useless for producing immunity; with the use of the pure nucleo-proteid prepared by us, all the reaction produced is specific and useful for the production of immunity. (*b*) Haffkine's liquid has a very low toxic and immunizing power, since it has to undergo heating so that the active substances contained in the culture are, to a certain extent, altered. With our method this does not take place, and the active substance retains its highest immunizing power. (*c*) Haffkine's liquid easily becomes contaminated, and there is no guarantee of the sterility of each separate bottle, while the active substance used by us is prepared in a thoroughly sterilized condition, and is perfectly preserved in the dry state. (*d*) It is impossible to determine an approximate dose of Haffkine's liquid; the nucleo-proteid prepared by us can be administered in perfectly well-defined doses. (*e*) By the use of our method the religious feelings of the native population of India are in no way offended. [S M.H.]

6.—Hossack describes a form of **plague pneumonia** which is insidious. At the end of 5 or 10 days the general symptoms may be but slightly marked, while the lung symptoms may be so slight that they are scarcely recognizable. The breathing may be a little quickened and labored; there may be a few rales and rhonchi with, a little later on, evidences of consolidation in the form of faint dulness on percussion and slight increase in vocal resonance, together with a few, fine crepitant rales. There is little cough and expectatoration; speech and intelligence may be unaffected throughout or only in the later stages; head symptoms are wanting; the eyes are not congested; the white tongue coating may be very slight, and death, when it occurs, usually from the fifth to the tenth day of the illness, is, as a rule, unexpected. A suggestive feature of the condition is the rapid feeble pulse, which is always present. The glands are enlarged but slightly, and if so, late in the illness. All cases of this character are fatal. These cases, he has demonstrated to his satisfaction, are clearly connected with plague, since they occur in series with indisputable plague cases and since every case proved fatal. A description of five cases is subjoined. [S.M.H.]

7.—Zammit recommends that in every case of **Mediterranean fever** the method of serum-reaction be used in diagnosis. Cases with distinct reaction should be followed closely and bacteriologic and anatomopathologic researches should be made in fatal cases. During such observations in the past year Zammit has discovered that (1) the micrococcus of Bruce can be grown successfully from cultures 7 months old; (2) that cultures of the micrococcus two years old give a clear serum-reaction; (3) that the micrococcus does not grow on seawater solidified with agar, not even when the seawater was taken from a sewage outfall and was of a distinct brown color; and (4) that the micrococccus grows on an agared solution of normal human feces. [S M.H.]

8.—This case of **vesical calculus** is of interest in that it occurred in an inhabitant of the Gold Coast Colony on the western shore of Africa, where the disease is almost unknown. The patient was a man 63 years of age, and had an enlarged prostate, but the case after the removal of the stone progressed most favorably. [G B W.]

9.—The boy, aged 10, was admitted with symptoms of epiphora from obstruction to the nasal duct. Closer inspection showed the presence of a "beef worm" situated in the inner canthus. After slitting up the orifice through which the head of the worm occasionally protruded, the parasite was after some trouble extracted. [G.B W.]

10.—Buchanan gives an account of 453 cases of **dysentery treated by salines** in which there were but 5 deaths. This includes all types and forms of the disease. In the majority of the 453 cases sodium sulfate has been used instead of magnesium sulfate and with much satisfaction. He administers it as follows:

Sodii sulfatis	1 ounce.
Aqua foeniculi	To 4 ounces.

The dose of this mixture is ½ ounce three or four times a day. [S.M.H.]

11.—Wilkinson recommends a mixture of quinin, ipecacuanha and cinnamon in the treatment of tropical diarrhea. [S.M.H.]

12.—Meldrum reports a **fatal case of poisoning from the eating of two castor-oil seeds.** The most distinctive symptoms were incessant purging and vomiting. The stools and vomited matter were watery, sanguinous and slimy. The necropsy showed the brain and meninges congested and the presence of numerous petechia. The stomach was highly congested and its mucous coat much attenuated. These were scattered round erosions with a pale grayish base here and there. The intestinal contents were watery, slimy and sanguinous. There was extreme congestion of the small intestine and great attenuation of the mucous coat. The duodenum and cecum were less infected and the large intestine least of all. [S M.H.]

13.—Austin reports a case of **hemoglobinuric fever** in a soldier, aged 25 years, who had been the subject of many attacks of malaria during his residence in India. The patient, though desperately ill, made a complete recovery under the administration of 15 grains of quinin hypodermically morning and evening for several days, followed by 5 grains of the sulfate of cinchonidin three times daily by the mouth. The urine was full of albumin, which persisted after the bloody appearance had abated. This gradually subsided. [S M.H]

Lancet.

February 10, 1900. [No. 3989]

1. The Present Position of Aural Surgery. WILLIAM B. DALBY.
2. Mental Dissolution. G. H. SAVAGE.
3. Fetishism in Surgery. E. STANMORE BISHOP.
4. Eighty Successive Cases of Stacke's Operation. PERCY JAKINS.
5. Consanguineous Marriage and Deaf-Mutism. ALFRED H. HUTH.
6. Further Observations on Pernicious Anemia (Seven Cases): a Chronic Infective Disease; its Relation to Infection from the Mouth and Stomach; Suggested Serum Treatment. WILLIAM HUNTER.
7. Prognosis in Appendicitis, with an Illustrated Series of 200 Cases. H. A. CALEY.
8. A New and More Permanent Method of Mounting Amyloid Sections, Stained with Iodin. ALAN B. GREEN.
9. Note on a Successful Case of Enterectomy for Gangrenous Hernia. ARTHUR H. BURGESS.
10. A Case of Complete Invertio and Prolapsus Uteri. F. POCHIN.
11. A Case of Diphtheria of the Vulva. E. E. WARE.
12. A Case of Interscapulothoracic Amputation. T. VERRALL.
13. A Case of Intestinal Obstruction Arising from Meckel's Diverticulum. R. B. SELLERS.

2.—Savage in this article endeavors to define the relationship between evolution and mental dissolution. [S.M.H

3.—Bishop defines **fetishism** as a tendency to mistake the relative value of various objects sought to be obtained or the various effects which go to bring about the result desired. It is thus an error in mental perspective. There is a tendency among certain students to respect some particular author above all others; in other cases medical men are fanatically devoted to the writings of some particular nation; another class of men pride themselves on being up-to-date, and regard everything but the latest procedure as completely obsolete. The modern surgeons are particularly liable to fetishism in two directions: attaching undue importance to details in technic and to antiseptic precautions. Bishop believes that there is a modern tendency to overlook the importance of rapidity in operation. [M B T.]

4.—Jakins reports, in tabular form, 80 cases in which he has performed the radical mastoid operation for **chronic suppurative otitis media.** The mortality of the operation in favorable cases is practically *nil.* Three deaths are reported occurring in patients who entered the hospital in very advanced stages of pyemic poisoning. [M.B T.]

5.—Huth, from a statistical study, believes that consanguinous marriages produce less than their due proportion of deaf-mutes. [S M.H.]

6.—Hunter concludes his article on Pernicious Anemia continuing the line of argument indicated in the abstracts columns of an earlier number of the PHILADELPHIA MEDICAL JOURNAL, and communicating a series of illustrative cases. [S.M.H.]

7.—Caley considers that in **appendicitis** there are two essential factors in the pathologic basis: (1) The nature and course of the lesion of the appendix regarded from the point of view of relative infectivity; (2) The extent and nature of any resulting peritoneal infection, which depends for the most part on the actual condition of the appendix, and in part also upon its position and relations and upon any special modifying conditions, such as the presence of old adhesions. In the majority of fatal cases the cause of death is diffuse infection of the peritoneum resulting in septic peritonitis; next to this the most formidable condition is local suppuration. As to the nature and course of the appendicular lesion, from the standpoint of prognosis the lesion may be divided into severe forms and mild forms on the basis of relative infectivity. The severe lesions are, (1) perforation whether from concretion, ulceration, or gangrene; (2) gangrene; (3) ulceration due to specific infections; (4) concretion, and (5) suppuration within the appendix itself. The mild lesions of the appendix are (1) simple inflammation, acute or chronic; (2) stenosis or obliteration of the lumen which is frequently associated with (3) cystic dilation of the distal portion; (4) concretion without ulceration; (5) superficial ulceration; (6) gangrene, adhesion, volvulus or hypertrophy of the mucosa. This group comprises most of those which are responsible for chronic and relapsing cases. The clinical basis of prognosis is conveniently grouped under four heads: (1) Local symptoms, (2) general symptoms, (3) local signs, (4) the progress of the case. Of the local symptoms the distribution, severity and character of the pain are of much significance. In mild cases it tends to become localized in the right iliac fossa. In perforated cases the pain is usually more sudden, more severe and more generalized. When associated with definite collapse it assumes its maximum importance and suggests perforation. Vomiting, if present, usually accompanies or follows the pain; sometimes it precedes it. The character of the vomit may be significant. Stercoraceous or coffee-ground vomit are both of serious import. The absence of vomiting proves nothing. A natural movement of the bowe

d ability to expel flatus are favorable signs. Hiccough, if rsistent, is unfavorable. The general symptoms will be eful in determining how far the local lesion has affected e organism as a whole. Two reliable guides are the temrature, pulse and respiration, considered conjointly, and e aspect and general condition of the patient with a special erence to collapse or anything approaching it, restlessness general distress. Of the local signs, impaired mobility ring respiration, local or general; distention, local or genl; local tenderness; muscular rigidity; local tumor and ep-seated resistance are valuable signs in determining the gnosis. [S M.H.]

3.—Green recommends the following method of **mounting amyloid sections stained with iodin:** He first ces on a cover-slip a small quantity of pure white vasee ready for immediate use for mounting the stained tion. He floats the section from water on to a glass slide, ining and blotting away as much water as possible. Then m a drop-bottle he pours a few drops of Weigert's iodin solun on the section until it is sufficiently stained. After draining ay the excess of this solution, from a second drop-bottle pours a fine stream of solution of pure liquid paraffin and in crystals (30 cubic centimeters to 1 gram). This dehydtes the section without removing any iodin from it. After ining away the excess of this solution he removes the last ces of it by pouring over the section from a third dropbtle a stream of a solution of iodin crystals (1 gram) disved in xylol (30 cubic centimeters). He then at once ces the cover-slip, with the vaseline on it, in position over section. The cover-slip may afterwards be ringed. [M.H.]

).—A boy of 15 was admitted to the hospital with a right **angulated inguinal hernia,** which had existed 4 rs; he was in an extremely grave condition. Under oroform, the sac was opened, the constriction relieved; out 4 inches of gangrenous intestine were excised and endend anastomosis performed. Uninterrupted recovery owed the operation. [M B.T.]

0.—Pochin reports a case of **uterine inversion and prolapsus** occurring in a primipara, aged 20 years, who l been attended by a midwife. The uterus was replaced squeezing it well with both hands and at the same time erting steady upward pressure in the pelvic axis. The erperium was comparatively uneventful. [W.K.]

1.—This case of **diphtheria of the vulva** occurred in irl aged 4 years. Two circular white patches were present the vulva, one on the vestibule and the other on the nt nympha; they were considered to resemble diphtheric mbrane and accordingly a blood-serum tube was inocued. The typical Klebs-Löffler bacilli in pure culture were nd and the little patient was injected with 2000 units of idiphtheric serum. The membranes gradually disapred and the child ultimately recovered. [W K.]

2.—A woman, 39 years of age, had noticed a swelling of upper part of the left arm, 5 months previously; there l been slight pain which became worse and more persist later. When she came under observation there was a form swelling of the upper third of the humerus extend into the axilla and back onto the scapula. The upper remity was removed entire according to P. Burger's thod of **intrascapulothoracic amputation.** Arteries e caught as they were divided and there was no bleeding consequence until the division of the muscles attached to posterior border of the scapula. A drainage tube was erted and the wound closed. Healing by first intention ulted and there is no sign of recurrence 10 months after operation. Microscopic examination proved the growth e a sarcoma. [M B T.]

3.—A man, aged 32 years, entered the hospital in a cosed condition with a history of the symptoms of **intesal obstruction** of 5 days' duration. On opening the domen a band was found adherent to the umbilicus, which constricting a coil of small intestine. Closer examinaon proved this band to be a **Meckel's diverticulum.** e distal end was divided after ligation, and the proximal l was excised near the intestine; the mouth of the open was inverted and it was closed by Lembert sutures. In te of all efforts the patient died 12 hours after the operaon. [M.B.T.]

New York Medical Journal.

February 24, 1900. [Vol. lxxi, No. 8.]

1. Albuminate of Mercury (Sapodermin) in the Treatment of Parasitic and Fungoid Diseases. GEORGE J. BUCKNALL.
2. The Determination of Sex at Will. J. GRIFFITH DAVIS.
3. Studies on Internal Antisepsis. EDWIN KLEBS.
4. The Treatment for Hypertrophy of the Inferior Turbinated Bone. E. HARRISON GRIFFIN.
5. The Surgery of the Superior Cervical Sympathetic Ganglion. GEORGE F. SUKER.
6. An Operation for Divergent Strabismus. DAVID WEBSTER.
7. The Benefits of Balneotherapy in the Treatment of Chronic Rheumatism and Gout. HENRY H. SCHROEDER.
8. The Treatment of Iritis. For the General Practitioner. NORBURNE B. JENKINS.

1.—Bucknall has found sapodermin useful in the treatment of parasitic and fungoid diseases. [S.M.H.]

2.—Davis communicates a remarkable article on **the determination of sex at will** in which she eclipses the claims of Schenck. In order not to misrepresent her position it seems desirable to quote the following extracts from the article:

"I have been advocating these measures for more than 20 years and am now ready to testify to facts or results, although I cannot fully elucidate the 'eternal why' only on general principles. I fully believe that the great law of vibrations is the only thing that will throw any light on the subject. We know that all demonstrations of force in nature or the universe are due to vibratory law; therefore, I theorize that during ovulation the rate of vibration in the female must be higher, rendering her positive and the ruling factor. It is logical, therefore, to conclude that the result of sexual association near the period will result in a female. Vice versa, when the rate of vibration in the female is lowered and she becomes negative, so to speak, we argue that the male element will predominate in the later association and a male be the result. This I do know, that I have directed conditions that determined the sex every time. . . . When I was still young in the profession I found the majority of families desired equally boys and girls. . . . Guests invited within 48 hours after the cessation of the menstrual period were invariably females, and decidedly so, little girls through and through, and I could show many photographs to prove this. When male issue was desired I advised continence for from 8 to 10 days after the cessation of the menses, and have never known that to fail in producing male children."

The author further states that when conception occurs at about the tenth day the determination of the sex is uncertain; if a male the offspring is decidedly feminine; if a female decidedly masculine. She cites a number of cases illustrative of her theories and makes a plea to her "professional fellows to try these rules in their own clientele and prove them." [S.M.H.]

3.—Klebs summarizes his article on studies on internal antisepsis in the following terms: "As the results of these experiments we may consider nosophen and antinosin of great importance in septic infections caused by streptococci and staphylococci." [S.M.H.]

4.—In the treatment of **hypertrophy** of the **inferior turbinated bone,** Griffin recommends, first cleansing with alkaline solution and spraying with a solution of suprarenal capsule, then anesthetizing with cocain and removing the bone with a small saw, the cut being from below upward and inward. Cauterization and the snare removed only part of the obstruction, and removal with forceps is considered barbarous. The removal with the saw as recommended, leaves a smooth healthy edge which heals rapidly. [M.B.T.]

5.—Suker believes that in cases of glaucoma, Basedow's disease, and in some cases of epilepsy, that removal of one or both of the superior cervical sympathic ganglia will yield positive results in selected cases. [M B T.]

7.—Schroeder believes that balneotherapy is much more valuable than hydrotherapy in the **treatment of chronic rheumatism and gout.** A very important part of the treatment consists in change of climate, and dry, bracing, stimulating air; plenty of sunshine and exercise in the open air, together with the improved morale attributable to the complete change of environment, the diversified interests and cheerful scenes always found at the various mineral springs. He recommends the selection of a spring with a high degree of mineralization. Care should always be observed in the use of this treatment in those patients suffering

from organic disease of the kidneys, complicated with degenerative changes in the arteries or hypertrophy of the left ventricle, valvular changes of the heart complicated by poor compensation or diseased bloodvessels; epilepsy; acute and inflammatory diseases; recent hemiplegias; menorrhagia and metrorrhagia. In chronic rheumatism, if the patient is comparatively young and the disease of not too long standing, persistence in this line of treatment for a sufficient length of time will be followed by good results. Massage and douches should usually be added to the treatment. In the advanced and obstinate cases local douches of hot mineral water combined with massage are often efficacious. In the treatment of gout this method is also very effective. [S.M.H.]

8.—Jenkins, in the **treatment of iritis,** gives the following advice: When caused by constitutional disease, treat this. Hot footbaths, salts, and small doses of calomel are serviceable in nearly all cases. The local treatment consists in placing the patient in a darkened room, the administration of atropin, hot applications and the puncture of the cornea. If but one eye is affected there should be placed in the other eye, once each day, a drop of a 1 to 5,000 solution of atropin. The consensual influence of the sound eye over the diseased one is thus lessened, and the pupil of the diseased eye can be kept dilated with less atropin. The less atropin used the greater the likelihood of saving the eye, especially in the aged. On the other hand, the pupil should be dilated to its utmost. If the puncture and atropin do not meet with immediate results, removal of a piece of the iris is probably indicated. For congestion and pain he recommends a 1 to 50,000 solution of corrosive sublimate, as hot as can be borne. This should be applied to the eye on a large pad of cotton for a half hour several times a day. [S.H.M.]

Medical Record.

February 24, 1900. [Vol. 57, No. 8.]

1. On the Treatment of the Sliding Hernias of the Cecum and Sigmoid Flexure. ROBERT F. WEIR.
2. The Clinical Uses of the Sphygmograph. R. VAN SANTVOORD.
3. The Physician as a Factor in Education. FRANK OVERTON.
4. An Operation for the Relief of an Incarcerated Iris. GEORGE HUSTON BELL.

1.—The natural looseness of the peritoneum in the iliac regions of the abdomen frequently allows slipping or sliding of large portions of the bowel into a hernia. These **slipped hernias** are an important variation of the usual conditions. The peritoneal sac is imperfect usually on its posterior and lateral aspect where, instead of passing around the bowel the loose peritoneum rises up and passes over the herniated bowel to its other side; the protruded bowel is thus really outside the peritoneum. Such slipped hernias are more common on the left side and in males of advanced or middle age. It is difficult to determine their nature before surgical intervention; usually there is a history of reducibility, but the hernia is not always amenable to treatment by a truss or to taxis and it usually becomes permanently irreducible. The majority of these hernias have been unsatisfactorily treated by closing the wound after an exploratory incision or after a vain attempt to push the attached bowel toward the external ring and hold it there by sutures. Weir followed this plan of treatment in his first cases, but of late he operates by separating the bowel from its subperitoneal bed. To cover the raw surfaces after freeing the bowel he dissects the peritoneum from each side of the bowel, beginning at a level with, or a little above the internal ring, and continuing to a short distance below the bowel. The bowel is then loosened by peeling off with the finger, or if tightly fastened by snipping with scissors as widely as possible from it until it is released up to or above the internal ring. The ring may be enlarged by retractors or by cutting if required to obtain a good view. The loosened peritoneum from the sides is then drawn back and around the bowel and sutured. The ring is then carefully sewed together after the newly covered bowel is reduced. If the permission is obtained to remove the testes on this side, a radical cure may be expected. Weir has treated 6 cases of sigmoid hernia and 4 cases of cecal hernia; in 2 cases he has applied the procedure described. One case was of the sigmoid variety, the other of the cecum. In one case there w no particular difficulty about the operation, and as yet the has been no recurrence. [M.B.T.]

2.—The author considers the **sphygmogram** an approx mately accurate **record of changes in arterial tensio** He presents numerous cuts of sphygmograms to illustra the variations in tension. He notes the rule that is sometim given that a tension may be considered above normal whe the tidal wave extends beyond a line drawn from the dicrot notch to the summit of the primary wave. He discusses th various differences in the sphygmograms which he shows, an particularly draws attention to a number of sphygmogran from cases of aortic regurgitation which differ very greatly i the characteristics of the tracings. He insists, contrary t Broadbent's opinion, that instead of this being an indicatic of the unreliability of the instrument, it shows that it is a rule reliable, and the differences in the sphygmograms a due to differences in the degree of the regurgitation and i the conditions of the vessels. He believes that a series sphygmograms should be taken from each case at differe pressures, and that the one which shows best the vario points in the sphygmogram should be considered the be sphygmogram, and used in diagnosis or prognosis. Used i this way, he considers the instrument one of considerab value and thinks that irregularities or uncertainties in r sults are no more frequent or important than those occurri in many other methods of investigation. [If the autho method were followed and sphygmograms taken at vario pressures made, and the most satisfactory chosen, our resul would doubtless be frequently much better, but there wou certainly be a tendency to pick out the prettiest and the or which corresponded most closely to the preconceived ir pression of the operator. D.L.E.]

Medical News.

February 24, 1900. [Vol. lxxvi, No. 8.]

1. Notes on Plague. H. E. DEANE.
2. Experimental Researches on the Effects of Increase Barometric Pressure and of Foreign Bodies in th Pharynx, Esophagus, Trachea and Larynx. GEOR W. CRILE.
3. Some of the European Sanatoria for Consumptives, an the Final Aims of Phthisiotherapy. W. FREUDENTHA
4. A Clinical Contribution to Thyroid Therapy. CHARLES HIRSH.

1.—Deane gives a summary of the history of the **plagu** and some account of his own clinical experience with th disease. He regards filth as an important etiologic facto People living on the ground floor appear to be more su ceptible. We are not yet certain how the poison enters th system; the theory that the commonest source of infectic is through abrasion on the feet is based upon the preponde ance of femoral buboes, but is not being borne out by car ful examination. Immediate contact rarely causes infectio providing the healthy person is reasonably careful, but infe tion may be carried from man to man by clothing, ar possibly by animals, such as rats, although this is very doub ful. Disinfection of houses is not nearly as efficient as disi fection of cultures where the bacillus is kept under artifici conditions. He includes all forms of treatment under thr heads, that with traditional medicine, which usually mea the administration of one or more compound prescriptio containing a variety of drugs, such as the bichlorid of me cury. Second, the treatment with Yersin's antiplag serum, the statistics of which do not apparently indicate th it is of very great value. Finally, the treatment suggest by Deane himself, which consists in the administration h the mouth of the venom of poisonous serpents. Of 50 cas thus treated by himself only 22 died, and of some othe probably treated in the same manner by a native physicia the mortality was only 31%. [J.S.]

2.—Crile continues his studies on **foreign bodies i the larynx,** and details the protocols of 9 additional expe iments. He found that mere irritation of the muco membrane of the trachea or of the lower portion of the laryn was not capable of producing any marked effect upon eith the respiration or circulation, but irritation of the middle upper part of the larynx caused pronounced reflex inhi

ry phenomena. If the foreign body was below the larynx, e only result was the production of cough. Therefore, reign bodies lodged in the trachea will simply produce ugh and the respiratory phenomena of this reflex. When dged in the larynx a slight movement may precipitate llapse. He makes the following suggestions regarding erations: It is advisable before operating to inject a sufient amount of atropin to protect the heart against reflex hibitory impulse. The operation should preferably be rformed under local anesthesia. In the local anesthesia, cain, on account of its astringent action upon the bloodssels, is preferable to eucain. It is especially important to cainize the interior of the larynx because then sudden llapse and death as a result of reflex inhibition are quite mpossible. This should be done whether the operation is rformed under general or local anesthesia. If a general esthetic is necessary, chloroform has the advantage of using insensibility, quieting very quickly, and not causing arked secretion of mucus. Ether, on the other hand, has e advantage of diminishing the likelihood to respiratory ilure. If the foreign body is not lodged in the trachea, it usually found at the bifurcation or in one of the bronchi, mmonly the left. The expiratory muscles are more powful than the inspiratory, but if the body is lodged in one onchus, the full force of the expiratory effort cannot be erted upon it. If necessary to fix the trachea with a ok, care should be taken not to drag from above downrd with too much force. [J.S.]

3.—Freudenthal gives a brief summary of some of the eas acquired by his visit to the European **Sanatoriums r consumptives.** He believes the most important part the treatment is plenty of fresh air, taken in large parks, that the patients can be well scattered, or if this is impossle in their own rooms, but not in hall rooms in which the tients recline together in a room with one wall lacking. e thinks the patients should have some occupation, preferly something with an object that also enables them to gain ecuniary reward, such as light gardening in summer, snow oveling in winter. Gymnastics are very much less desirle. Among the most important elements are change from e method of living. He is convinced that tuberculosis is some respects a neurotrophic condition. He thinks it uld be advisable for those upon whom the care of tuberlous patients is thrown, for example the mutual benefit ges of the working classes, to unite, purchase land in a table climate, such as that of the South Western United tes, and to send the consumptives thither, giving them rhaps a lump sum instead of lodge benefits for a series of eks. [J.S.]

4.—Hirsh reports a case of **exophthalmic goiter** and cases of extreme obesity treated with iodothyrin with rked benefit. He prefers this to other methods of adminring thyroid. [J.S.]

Boston Medical and Surgical Journal.

February 22, 1900. [Vol. cxlii, No. 8.]

The Unity of the Acute Psychoses. PHILIP COOMBS KNAPP.
Psychology and Heredity. ROBERT MACDOUGALL.
On the Advisability of a More or Less General Exploration of the Abdomen when it has been Opened for an Operation. JOHN HOMANS.
A Clinical Study of Heroin. JAMES R. L. DALY.
A Case of Old Shoulder-Dislocation. FRANK E. PECKHAM.

1.—Knapp describes several cases of **acute psychosis sulting from neurasthenia** in which the symptoms re decidedly melancholic in type, and from alcoholism in various forms, including pseudo-paretic dementia; and ls attention to the great difficulty that has been experied by alienists in classifying these diseases. Some men empted to classify all the various types, but, as in other eases, such as locomotor ataxia, with a well-defined unim pathology, the clinical picture may vary considerably. app is of the opinion that the attempt is illogical. Ziehm also called attention to the failure of this branch of clinl psychiatry. It is difficult to say just what the acute choses may be. They seem to be produced by some toxic ise, the onset is rapid, and the course is usually brief. They often present at various periods, different psychical manifestations, and in some it is exceedingly difficult to distinguish even between such different types as mania and melancholia. In fact, Knapp is of the opinion that mania is an exceedingly rare condition, perhaps produced chiefly by bad treatment on the part of the attendants or physician. Knapp also speaks of the modern tendency to add more and more types to the hallucinatory insanities, that is the mentias of Meynert, and he is rather inclined to assume that in all these acute dementias, there is a degeneration of the cortical cells, although he admits that this pathology is hypothetic. In general all these cases have in common at least the fact that they are benefited by bed-treatment.

2.—Macdougall, in an elaborate discussion of the problem of heredity speaks of the practical immortality of those forms of life in which simple division, or sporulation of the individuals occur. He calls attention to the distinction between the old theory, that acquired modifications influence the offspring, and Weissmann's theory that acquired variations are not transmitted, but that environment exercises a natural selective force upon the spontaneous variations. The presence of residual and rudimentary structures indicate the history of the changes in the environment of the individual. He then urges that some principles be applied to the study of psychical development, arguing that "We need a paleontology of the soul, tracing its progressive adjustment to the changing environment, the sloughing of old, the acquisition of new functions and sentiments, with its consequent explanation of atavistic tendencies and facts of reversion, instinctive impulses unintelligible to ourselves, automatisms which now appear as monstrous and inexplicable twists of our nature, and all the cumbering rubbish of ancient forms and activities which no longer fulfil any useful function, but which, because they have so long been ours, we cannot shake off." [J S.]

3.—Homans advises the making of a rapid **examination of the different abdominal organs,** other than those being operated on when the wound of entrance has been of sufficient size to admit the operator's hand, but does not lengthen a small incision simply for permitting this exploratory procedure to be carried out. The region of the gallbladder is a most important part to examine, and the writer has three times thus been able to detect and remove gallstones whose presence had been unsuspected. The appendix is also a part worthy of inspection. Homans closes his article by reporting several cases. [G.B.W.]

4.—Daly, after a brief description of the advantages of **heroin,** reports 8 cases of various pulmonary and laryngeal conditions associated with cough, that were greatly benefited by its administration. The usual dose was $\frac{1}{12}$ grain three times daily, but in some cases it was necessary to use as much as $\frac{1}{6}$ grain. It seems to loosen the cough, render the expectoration clearer, and at the same time acts as a distinct sedative, enabling the patient to sleep, and thus indirectly acting as a hypnotic. It does not appear to have any antipyretic action, but renders the respiration and the pulse fuller and slower. It is of exceptional value in nightsweats, either alone or when administered with atropin. In 19 cases that were carefully studied, the mean respiration was reduced from two to seven movements per minute. It has a slight constipating action, and in one or two cases has caused nausea. One-sixth of a grain in one instance produced a feeling of heaviness during the next day. [We have used this drug with great success in the laryngeal crises of locomotor ataxia. J S.]

5.—In this case of **old dislocation of the shoulder,** the operation showed the head of the humerus attached to the neck of the scapula by osseous tissue. This was cut through and the bone restored to its proper position. The final result was fairly satisfactory, for although the humerus became again ankylosed, it was in its normal position, allowing much more use of the arm, and the pain has disappeared. [G.B.W.]

Journal American Medical Association.

February 24, 1900. [Vol. xxxvi, No. 8.]

1. Treatment of Typhoid Fever. FRANK BILLINGS.
2. Treatment of Typhoid Fever in Private Practice. WILLIAM E. QUINE.

3. Treatment of Medical Complications of Typhoid Fever. GEORGE W. WEBSTER.
4. Craniectomy. H. REINEKING.
5. Silver Catgut and How to Tie It. EDUARD BOECKMANN.
6. Tobacco Amblyopia. FRANCIS DOWLING
7. Electrocautery in Affections of the Lids and of the Cornea. FLAVEL B. TIFFANY.
8. Food and Drink. ELMER LEE.
9. A Supphosalt of the Aliphatic Creosote-Esters, and its Therapeutic Usefulness. HEINRICH STERN.
10. Cremation. ROBERT MARSENA STONE.
11. Scarlatina: Scarlatinous Sore Throat. W. J. CLASS.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 498.

2.—From the fact that it requires some time for disinfectants to thoroughly disinfect the discharges they should be left several hours in intimate admixture. Fecal stains on the linen should receive immediate attention, and after each evacuation the patient's person should be washed with mercuric-chlorid solution. A trained nurse is almost indispensable and her memoranda and the physician's instructions should be chiefly in writing. Milk is the best food, but eggs, clam broth, and farinaceous gruels may be used. Quine condemns the routine employment of alcohol in **the treatment of typhoid fever** and believes that ammonium carbonate, strychnin, and oxygen may be usually used in its stead. Antiseptics are valuable, not because they render the bowel aseptic, but because they inhibit putrefactive processes. Quine believes that cold bathing saves lives, but the great amount of trouble and work in giving the baths, and the discomfort of the patient, prevents its general adoption. Sponging is a fair substitute, but in any case vigorous rubbing is an essential part of the treatment. [M B.T.]

4.—A man of 20, who was without neurotic history or tendencies and who had no habits which should tend toward nervous disorder, was seized with **epileptiform convulsions** soon after an injury over the left parietal region. He had received this injury by being thrown from a slowly-moving passenger train. An **operation** was performed, but on raising the bone-flap no evidence of old or recent injury was found and the wound was closed without any active intervention. The convulsions have not returned since the operation. [M.B T.]

5.—Boeckmann describes the method of **preparing catgut** by the use of **silver nitrate** as follows: The raw material is first cleansed by scrubbing with hot water, soap and sponge, until it looks perfectly white and clean. It is then transferred to a 2% solution of silver nitrate, where it remains a week or more. It is then transferred to a formalin solution for one day, after which the formalin is removed by irrigating with water for a day. A 1% formalin solution is used to make a catgut with the life of two weeks in the tissues, while one of 5% will make it last several weeks. After irrigation, the formalized catgut is transferred to the 2% silver nitrate solution. It may remain indefinitely in the silver-salt solution without impairment of tensile strength. It is then dried after stretching on especially constructed frames, which are exposed to direct sunlight in a glass case, where it remains until it is not only dry, but brown or black. The gut is then cut up in desirable lengths, made up in coils, wrapped in paraffin paper, placed in envelopes, which can be sealed hermetically, and sterilized by dry heat. Catgut thus prepared is perfectly aseptic and does not lose its tensile strength.[M.B T.]

8.—Lee believes that there is an almost universal tendency to overeating. He believes that 2 meals a day are safer and better than 3 even if the amount of food taken is the same. Few people take a daily amount of water that is adequate to the needs of the system. Water had better be substituted for tea, coffee and alcoholics.

10.—Stone reviews the different methods of disposing of the dead practised by various peoples. He believes that cremation is preferable to earth-burial both from an esthetic and hygienic standpoint. There is positive knowledge that the earth-burial of bodies dead from epidemic diseases has been the means of starting new epidemics. [M.B T.]

11.—Class believes that he has discovered the specific cause of scarlet fever which he has named the diplococcus scarlatinae. He brings forward clinical and experimental evidence in support of his views. [M.B.T.]

Annals of Surgery.

November, 1899. [Vol. XXX, No. 5.]

1. Forcible Correction of the Angular Deformity Resulting from Spinal Caries. EDWARD H. BRADFORD and ROBERT H. VOSE.
2. Blastomycetic Dermatitis (Pseudo-Lupus Vulgaris, Saccharomycosis Hominis, or Pseudo Epithelioma with Blastomycetes). JOHN E. OWENS, DANIEL N. EISENDRATH, and C. F. W. READY.
3. Some Remarks on the Symptoms of Bronchocele, and the Results of Operative Treatment. FRANCIS J. SHEHERD.
4. On Results Obtainable in the Treatment of some Post Paralytic Deformities. JACOB TESCHNER.
5. Successful Removal of a Fibrosarcoma (Desmoid Fibroma) of the Abdominal Wall, involving the Iliac Vessels. ALBERT I. BOUFFLEUR.
6. Sarcoma of the Stomach. F. V. CANTWELL.
7. Report of a Case of Congenital Inguinal Tele-Lymphangioma of Large Size, with Remarks on Congenital Tumors of Childhood. ESTELLA M. RILEY.
8. Actinomycosis in Man, with Special Reference to the Cases which have been Observed in America. JOHN RUHRÄH.

1.—In case of complete osseous ankylosis from Pott disease, cases cured except for the deformity, it is unsurgical to attempt to straighten the spine. **Forcible straightening of the spine** is also dangerous when there is suppuration present. If great violence seems to be necessary the operation is probably not justifiable. The less force that required the less danger and discomfort there will be. A method is described which has been in use at the Boston Children's Hospital for some time. The decided projection is used as the resistant point and the weight of the trunk acts as a correcting force; a zinc plate is arranged to press each side of the vertebral spine, and this plate, which is attached to an upright, may be lowered or raised with an adjustable screw; if necessary, traction upon the limbs or upon the head and shoulders may be employed. The method is successful, though requiring slight force, the patient suffers little discomfort, the jacket can be readily applied and no anesthetic is needed. Complete straightening is not practical in all cases. The retention of the corrected spine is a matter of importance, for contraction of cicatrizing tissue tends to reproduce the curve, and even if thoroughly corrected, an apparatus must be worn for months or even years. A plaster jacket is considered the best form of retention following correction, though subsequently removable jackets or apparatus are preferable. Hence it appears that the method of correction is limited in its application by the judicious selection of cases and by the number of cases in which proper after-treatment is possible. Improvement in paralysis follows improperly selected cases. A simpler but equally efficient way to straighten the spine is by placing the patient on the back and passing a firm cloth a few inches wide under the greatest prominence; between this and the skin is placed a thick layer of felt in which a hole may be cut to protect the spinous process; the ends of the sling are attached to a cross bar to keep from crowding the patient's ribs and it is raised by means of a pulley, the weight of the trunk acting as the correcting force. If a pillow or sandbag be placed under the head the trunk will be sufficiently raised to allow the application of a plaster jacket around the sling. The sling may be cut off at the place of emergence from the bandages after they have hardened, leaving but a slight opening. [M B T.]

2. A woman, 38 years old, entered the hospital with a **ulcer** 4 by 8 inches in size on the anterointernal aspect of the lower third of the left thigh. Four years previously a circumscribed, somewhat painful elevation had appeared and in about a week it had opened spontaneously and begun to discharge yellowish fluid. On squeezing the ulcer wormlike bodies appeared on the surface. The ulcer was treated by means of solutions, ointments, caustics, electricity, and the mixed toxins, but it had increased slowly and uniformly. It was removed by dissection; the snbcutaneous tissues did not appear involved nor was there lymphatic enlargement. The appearance of the ulcer suggested lupus. The operative wound healed rapidly. On examination of the tissue

oved, the layers of the normal skin were found in most aces. From the lower layer there were epithelial prolon- tions, some of them connecting with each other and show- g distinct cell nests; others formed islands of epithelial cells tween the prolongations. Scattered throughout this und-cell infiltration were a number of giant cells. The odvessels showed no pathologic changes and few miliary scesses were found in the epithelial down-growths. On cteriologic examination various bacilli and cocci were und together with large round oval bodies resembling ast-cells . . . When treated in a 1% potassium iodid edia the bacteria were destroyed and a pure culture of **astomycetes** was obtained. Brief abstracts are given of ases which have been previously reported. [M.B T]

3.—Shepherd considers that the chief danger in opera- ns for **bronchocele** is from the anesthetic. In Graves' ease even with local anesthesia the operation is danger- is. He advises operation in all rapidly growing goiters, pecially if the tumors be solid and if there be dyspnea, the eration is urgently needed. He prefers to enucleate mple cysts if of moderate size and not more than 1 or 2 in mber. An incision is made down to the bluish-white psula of the cyst, the capsule is opened and the contents acuated so that the cyst-wall can be pulled out a small ening. In solid, colloid, multiple growths enucleation is ore difficult, and it is also considered best to remove some the contents; in true Graves' disease, in malignant dis- se, or if the cysts are multiple and small, or if the growth very large, excision is preferred. The most important int is the free opening of the capsule of the gland; as soon the capsule is divided the gland can be delivered. To event excessive oozing, iodoform gauze is packed in the d which was occupied by the cyst. The advantages of ucleation are the ease in operation and the absence of risk myxedema; the disadvantages are the chance of recur- nce and the tendency to oozing and to secondary hemor- age. In about 50 operations Shepherd has had but 2 re- rrences; in 3 cases there was secondary hemorrhage, but l the patients had an apparent tendency to bleed; he has erated in only 3 malignant cases, with death, from recur- nce in the lung in all cases. [M.B.T.]

4.—In most **postparalytic deformities** in which wer to perform certain functions seems to be permanently st, some muscles and portions of muscles have the power perform certain motions if they have the assistance of her muscles and groups which seem at first entirely un- le to respond to the will of the patient. Teschner has ade a careful study of these conditions and has endeavored gradually enlarge the scope of the voluntary motion of e limb, to involve in voluntary motion muscles which have ven degenerative reaction and were not under control of e will. The results of this method of treatment are illus- ated by reports of 5 cases in which there has been recovery a considerable amount of function. These results de- onstrate that where nerve-connections have not been com- letely destroyed, muscles can be made to functionate by telligent and persistent treatment. The previous use of assage and electricity in these cases establishes without oubt the inefficiency of these methods of treatment, espe- ally when the trouble has been of months or years dura- on. [M.B.T.]

5.—A young woman, 20 years of age, had noticed a draw- g sensation and pain in the right inguinal region 2 or 3 ears previously. Nine months previous to operation she etected a deep swelling in the groin, and during 3 months ere had been rapid increase in size and considerable pain. firm, fixed swelling, the size of an adult head, could be lt with its lower border near Poupart's ligament. On ccount of the rapidity of growth malignancy was suspected nd operation was undertaken. The whole thickness of the **bdominal wall** was incised and enucleation of the **umor** was carried out until the deeper portion of the tumor as found to extend into the iliac fossa. The pulse of the moral artery ceased when the growth was elevated, and as was feared that it surrounded the vessels removal of the umor entire was considered unsafe. The part above Pou- art's ligament was separated from the remaining portion nd was removed. The iliac vessels were found completely urrounded by the tumor for a distance of 5 inches. The essels were carefully dissected out and eventually every art of the tumor was removed. The method of closing the abdominal wall was a serious question; the fibers of the rectus abdominus and sartorius were divided and sutured across the defect, connecting them externally with the divided external oblique; then the remaining aponeurosis of the external oblique was split and slipped outward so that its lower edge occupied the position of the removed Pou- part's ligament. These structures were fixed in place by sutures and the skin was sutured over. The wound healed rapidly and the result was perfect as to contour and the sup- port of the abdomen. Fifteen months after the operation there is no evidence of return of the tumor or of any weak- ness of the abdominal wall. Pathologic examination showed the growth to be a desmoid fibroma. [M.B.T.]

6.—A woman, 52 years old, had suffered from increased size of the abdomen for a few months and recently there had been slight pain. She came to the hospital because a tumor was suspected. On examination a large, soft, non- fluctuating mass was felt above the umbilicus, but no diagnosis could be reached as to its origin. At the operation this mass was found covered by omentum and mesentery; it was not until it was partly enucleated and elevated from its bed that it was found that the **tumor** arose from the posterior wall **of the stomach**, near the greater curvature. The tumor, with part of the stomach, was cut away and the wound closed by 2 tiers of sutures, with a row of Halsted's mat- tress sutures over all. The abdominal cavity was flushed and gauze drainage carried to the stomach-wound. The abdominal wall was then closed. Rectal feeding was carried out for 8 days, then the patient gradually went back to the ordinary diet; about 4 weeks after the operation an abscess of the abdominal wall was opened and drained; there was also double parotitis about the tenth day. Five weeks after the operation the patient had a Christmas dinner, and 8 weeks after the operation she was apparently quite well. The tumor weighed about 12 pounds and about 5 inches square of the stomach-wall were taken away. Examination showed the growth to be a **spindle-celled sarcoma.** The patient had been in comfortable condition for about 8 months since the operation, but a tumor in the region of the stomach can be felt on palpation, which is undoubtedly a return of the growth. [M.B.T.]

7.—The case of a girl, 12 years old, is reported, who was born with a **tumor** the size of a fetal head in the **inguinal region.** The growth was of a spongy consistency, ovoid in shape, pale, and with some large veins; it began to grow when the girl was a month old, increasing rapidly in size. There have been hemorrhages from it since she was 2 years old, at times so severe that her life has been despaired of. The growth is attributed to a maternal impression, the mother having extinguished a fire while pregnant. [M.B.T.]

American Journal of Medical Sciences.

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1. Appendicitis. MAURICE H. RICHARDSON.
2. The Pathology of Paralysis Agitans. H. C. GORDINIER.
3. Prognosis in Heart Disease. BEVERLY ROBINSON.
4. The Management of Surgical Injuries to the Ureters. BEVERLY MACMONAGLE.
5. The Nature of Paramyoclonus Multiplex. ARTHUR CONKLING BRUSH.
6. Parotitis in Old Age. HENRY J. WALCOTT.
7. A Critical Summary of the Surgical Treatment of Ptosis. MATTHIAS LANCKTON FOSTER.

1.—A decidedly conservative tone pervades Richardson's thoughtful essay, in which he deals with the following ques- tions: First, Should every case be operated upon as soon as the diagnosis of **appendicitis** is made? Secondly, should the appendix be removed in every case? The following summary contains his views: "I. Should every case be operated upon as soon as the diagnosis is made? As a rule, the appendix should be removed if the diagnosis is made in the first hours of the attack. After the early hours opera- tion is advisable: (1) If the symptoms are severe, and especially if they are increasing in severity; (2) if the symp- toms, after marked improvement, recur; (3) if the symp- toms, though moderate, do not improve. The wisdom of the operation is questionable: (1) In severe cases in which an extensive peritonitis is successfully localized and the patient is improving; (2) in cases which are at a critical stage, and

which cannot successfully undergo the slightest shock. II. Should the appendix be removed in every case? It should not be removed: (1) In localized abscesses with firm walls; (2) when the patient's strength does not permit long search. It should be removed whenever the peritoneal cavity is opened, unless the patient's condition forbids. The appendix should be removed in all cases as soon as the inflammatory process has had time completely to subside—in from two to three months after the attack. In cases simply drained, the scar-tissue should be excised, the appendix removed, and the wound securely sutured." In addition to these aphorisms we reproduce some of the more striking statements of the paper. Among other things, the author says that if we operate in every case of appendicitis as soon as the diagnosis is made, we may operate at the very time when the patient's best chances lie in conservatism. If the diagnosis is made very early in the disease (in the first 24 hours), the prognosis after operation is better than it would be a day or two later. A positive diagnosis at this time, however, cannot always be made, as the symptoms of a great variety of acute abdominal lesions begin in precisely the same way. Perforation of the stomach, acute cholecystitis, acute pancreatitis, mesenteric thrombosis, and embolism, extravasation from the intestines, acute salpingitis, ovarian tumor with twisted pedicle, rupture of abscesses, acute intestinal obstruction, congenital malformation of the intestine, ruptured extra-uterine pregnancy—in fact, almost all acute abdominal lesions present symptoms that may suggest appendicitis as strongly as anything else; but so do acute intestinal disturbances dependent upon errors in diet—acute gastric and intestinal catarrh, ptomain poisoning, cholera morbus—or even lead colics. In cases of severe type beginning violently, there is always a perforation of the appendix or a localized infection. In severe cases with pain in the region of the appendix, extreme muscular rigidity, and tenderness after the first 24 hours, the question of operation may be raised. If there is tumor the operation is required, unless there is rapid and unmistakable amelioration. The persistence of a leukocytosis often adds the necessary evidence upon which to decide in favor of operation. In regard to the question of **leukocytosis,** the author quotes the conclusions of Greenough: 1. Leukocytosis may be considered to be a **fairly constant symptom of appendicitis.** 2. The presence or absence of leukocytosis, or the degree of leukocytosis, without other data, is not sufficient to determine the local condition of the appendix and its surroundings. 3. In a series of cases the degree of leukocytosis corresponds roughly with the degree of temperature, but in individual cases great variations are found. 4. The degree of leukocytosis, when considered in connection with the duration of the attack, is of considerable assistance in the diagnosis of the local condition. 5. A high leukocytosis (above 20,000) on the first or second day of disease suggests general peritonitis. 6. A low bloodcount (below 10,000) after the first week, if accompanied by severe symptoms, indicates general peritonitis, and is of grave prognostic significance; but if accompanied by mild symptoms, denotes a mild catarrhal process or well walled-off abscess which has become subacute in character. 7. A high leukocytosis (above 20,000) after the first week or ten days may be taken to indicate a local abscess." Regarding the **symptoms, pain** is the earliest, most important, most easily misinterpreted sign. Sharp and intermittent, it suggests and is probably caused by the passage of gas or feces by the inflamed areas about the ileocecal valve; dull and continuous, it indicates the presence of a localized peritonitis. **Rigidity** is a variable sign in estimating the rapidity and extent of the spreading infection. **Tenderness** is valuable, but it may be absent with serious lesions of the appendix. The tumor of appendicitis is perhaps a better guide to treatment than any other one sign, but the same significance should not be given to its absence. **Vomiting,** distention, constipation, though symptoms possessing as a rule grave significance, should not be regarded as necessarily the result of a general infection; for occasionally it will be found that their cause is functional rather than organic, reflex rather than mechanical. The kind of vomitus and the way in which it is vomited are of importance. Easy and constant regurgitation is far more serious than occasional violent retching; dark colored vomitus more serious than biliary. The **temperature** varies. It may be normal; it may go to 105.0 F. In a general way, low temperature indicates the presence of the colon-bacillus; high, that of the streptococcus. Taken by itself, the temperature does not justify laparotomy unless the diagnosis is positive, though it may add the necessary evidence in cases otherwise doubtful. Temperature without local physical sign, temperature with pain alone, if used as a guide will often prove a false one, and may lead the surgeon into error. When high and of poor quality, the **pulse,** perhaps more than any one sign, shows the depth of the constitutional depression; but most alarming forms of appendicitis may exist without sensible deterioration of the pulse. In reference to the advisability of operating in severe attacks of appendicitis attended by large collections of fluids, successfully localized, operation should, in the author's opinion, be postponed for a time if there are signs of improvement, and more especially if the fluids are localized centrally or in the pelvis. In those cases in which the chances are in the balance, the slightest aggressive treatment being sufficient to turn unfavorably the scale, medical treatment is generally to be preferred. Regarding **removal of the appendix** this operation is contraindicated when there exists an abscess in the abdominal wall that can be drained through a small incision. There are, however, exceptions to this rule. To prevent recurrence in those cases in which operation was not thought best during the acute attack, or in which at operation the appendix was not removed, an operation, in the absence of contraindication, should be performed during the period of health. The results of secondary operations after the recovery from simple drainage have been most brilliant. The dangers of the combined operation performed at one sitting vastly outweigh the dangers when the operation is performed in two stages. Moreover, by the two-stage operation hernia and other weaknesses of the abdominal wall are remedied as effectually as possible. The author has seen about 900 cases of appendicitis. The total operations were 569; the total acute operations, 331; the total interval operations, 238. The total mortality was 12.6%; the mortality in the acute operations, 21.7%; the mortality in the interval operations, *nil.* The concluding admonition of the author may well be taken to heart: "The rule that needs to be constantly repeated is the one that calls for the surgeon early in the disease. It cannot be repeated too often. The rule that requires an invariable course of procedure in appendicitis, without regard to the special aspect of the case, to the constitutional peculiarities of the patient, to his surroundings, to the fitness and experience of the operator, is, it seems to me, a rule which is justified by neither facts, theories, nor arguments." [DR]

2.—Gordinier has made a careful study of a case of **paralysis agitans.** The patient, a woman of 56 years, had the characteristic gait of the disease, but **no tremor.** A careful microscopic examination of the nervous system was made after death, and the results, together with those obtained by others, are carefully stated by the author. The most important are as follows: *Spinal cord:* Occlusion with dilation of the central canal of the spinal cord, the occlusion being due to proliferation of the pendymal cells. There was also a general increase of the neuroglia throughout the entire spinal cord. In 10 of the cases (out of a total of 25) the most marked proliferation of the neuroglia was found in the lateral and dorsal columns. The nerve-cells of the anterior horns and of Clark's vesicular columns were deeply pigmented, and in 12 cases degenerative changes were found in the anterior horn cells. Some of the most marked changes were those observed in the vascular system. There was an enormous increase in the number of bloodvessels throughout the cord. These vessels were often found dilated and tortuous, and sometimes had ampullar projections. The walls were usually thickened, and the vessels were generally contained in dilated perivascular lymph-spaces and were often surrounded by islets of sclerosis. This *perivascular sclerosis* consists of areas of degeneration about the thickened bloodvessels, due to a proliferation of the neuroglia elements. The perivascular sclerosis was confined to the vessels of the white matter. Corpora amylacea were very abundant. *Muscles and peripheral nerves:* Slight changes were observed in the muscles and peripheral nerves of some of the cases. *Medulla and pons:* The changes here although similar in character, were much less extensive than those found in the spinal cord. *Cerebellum:* In a few

stances changes were found in the cerebellum. *Basal nglia:* There have been found small areas of softening, crease in capillary bloodvessels, blood extravasation, and eas of round-cell infiltration. *Cerebrum:* The cerebrum as found diseased in five of eight cases examined. In e author's case the changes consisted in increased vascu- rization, with a moderate hyperplasia of the neuroglia. ordinier believes **that paralysis agitans has a patho- gic basis,** in view of the findings just quoted. The **pri- ary seat** of the pathologic changes is in the **bloodves- ls.** The change is in the nature of an endarteritis and ericarteritis, and consequent proliferation of the neuroglia the immediate neighborhood, with the production patches or islets of perivascular sclerosis which are aracteristic of the disease. The alterations described being found in the nerve-cells are probably secondary. he principal lesions, then, are of an inflammatory nature, d affect the spinal cord, medulla and pons; to a less gree, the motor cortex. Regarding the two most char- teristic symptoms of the disease, the **tremor** and the **gidity,** Gordinier believes that they are due to the same use, namely, an irritation from the presence of an creased amount of neuroglia in the posterior columns, oducing an excitability of the reflex collaterals of the sterior nerve-roots arborizing about the ventral cornual lls, which results in an increase of the normal rhythmic scharges of energy in those cells, producing at first the emor, and later the rigidity. In the cases without tremor, is probable that the rigidity was an early development, and as associated with a progressive and rapid growth of neuro- ia, the irritation of which in the posterior columns inceased e excitability of the reflex collaterals to such an extent at the voluntary muscles were kept in a condition of con- ant contraction. [D.R.]

3.—Robinson insists upon the importance of making an curate **prognosis in heart disease,** and emphasizes e well-known fact that heart-murmurs do not, as a rule, ow the gravity nor the state of the valvular lesion. The cognition of dilation of the heart is of much more im- ortance in making a prognosis than is that of an endocar- tis. Dilation often produces a systolic murmur at the itral orifice. If the murmur is conducted into the left cilla, it frequently means that a certain amount of endo- ardial inflammation is also present. Heart disease is aver in youth than in middle life. Structural defects of he heart-muscle are not infrequently inherited. It is prob- ble that the mere presence of organic heart disease does not aterially shorten life nor interfere greatly with its reason- ble enjoyment, and insurance companies might do well to ccept many cases, exacting only a little larger premium. egarding the failing heart of the aged, precordial pain is he of the first symptoms to attract attention. In its treat- ent Robinson has found Trousseau's wine, composed of gitalis, squills, juniper berries, acetate of potash, and white ine, very useful in dessert or tablespoonful doses. [D.R.]

4.—The following are the author's conclusions, based pon a study of the literature and five personal cases: 1. rgical injuries to the **ureters** during extensive opera- ons on the pelvic and abdominal viscera are comparatively equent, and are found to occur most often during vaginal ysterectomies. 2. These injuries can often be prevented by pecial care both before and during the operation. 3. In reterovaginal fistula great care should be taken to have he urine aseptic before undertaking an operation for repair. In ureterovaginal fistula repair through the vagina should e first tried. Failing in this, extraperitoneal implantation into he bladder is to be preferred. 5. When injuries occur uring abdominal operations, immediate repair by anasto- osis or implantation should be undertaken. If the condi- on of the patient is low, implantation on the skin should e done with a view to future operation. 6. When anas- omosis or bladder implantation cannot be accomplished, mplantation into the other ureter or bowel is preferable to mplantation on the skin. 7. Tying the end of the ureter, ith a view to atrophy of the kidney, is not advisable. 8. ephrectomy should be practised only as a last resort. 9. he results of the different methods of ureteroanastomosis nd bladder implantation have been about equally success- il. [D.R.]

5.—In connection with the report of a case of **paramyo- lonus multiplex** in a man of 30 years, and a review of 8 cases collected from the literature, Brush discusses the nature of the disease and concludes that it is a manifestation of hysteria. [D.R.]

6.—Wolcott reports a case of **mumps** in a man 99½ years of age. The patient died. There was a probability that the man, two weeks previous to the development of the disease, had come in contact at church with persons in whose family parotitis had existed. [D.R.]

7.—Foster has analyzed the various **operations** suggested **for** the treatment of **ptosis.** He believes that the operation of Panas, as modified by Van Fleet, is the best, and suggests a few slight changes in the technic. [D.R]

Edinburgh Medical Journal.

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1. Observations on the Existence of Enzymes in Cancerous Growths. G. T. BEATSON.
2. Bacillus Typhosus and Bacillus Coli Communis. R. W. MACKENNA.
3. Some Points of Interest in the Morbid Anatomy of the Aortic Valve. T. FISHER.
4. The Plastic Repair of Urethro-Perineo-Scrotal Fistulae. E. HURRY FENWICK.
5. The Hot-Air Treatment of Disease. SAMUEL HYDE.
6. Palpation of the Pancreas in Splanchnoptosis. R. L. JONES and T. A CLINCH.
7. Obstructions of Wharton's Duct, Due to a Pathologic Condition of the Saliva, and Complicated by an Alveolar Abscess on the Same. H. STANLEY TURNER.
8. Pericarditis and Ulcerative Endocarditis Secondary to Empyema. JAMES F. GEMMEL.

1.—Beatson finds that a section of a mammary cancer of some duration shows that one of the agencies by which **carcinoma** works in removing tissue and replacing it by its own cells is mechanical pressure. He believes that cancer cells have the power of acting on adjacent cells, and that this may be explained in a way in keeping with the advances that have been made of recent years on how cells may influence one another. Of these advances the most important as bearing on this subject are those that have been made in connection with the physiology of fermentation, a term that now includes a number of manifold processes, all of which have these two features in common: (1) That they are accompanied by the decomposition of complex molecules, and (2) that they take place directly or indirectly through the agency of vegetable or animal cells. Such cells are known as ferments. Beatson has believed for some time that whatever be the origin of the first cell or cells that start a carcinoma the relation of their numerous offspring to the tissues they invade is that of a parasite in the sense that they get their nourishment from them. The active and rapid growth of carcinoma with its vegetative activity can only be explained by assuming that the tissues of the affected organism serve as pabulum for it. The complete disappearance of all of the structures invaded by carcinoma confirms this view. It is self-evident that cancer-cells if they are animal cells cannot live on purely inorganic matter; although they are brought by means of the bloodvessels in the stroma into centact with that blood plasma which is the common nutriment material for all tissues, yet it is reasonable to assume that in addition they may possess an extra cellular digestion which will allow of their reducing the solid tissues around them into a soluble form and then ingest them by absorption. Holding this view he endeavored to ascertain if any enzyme existed in cancer-cells. For the purpose of extracting this assumed enzyme the method of von Wittich was adopted. Cancers of several varieties and from several different origins were investigated. The results in all cases were negative. The possibility of the disease being due to a yeast, as has been maintained by some observers, led to a search for the special enzyme associated with yeast, namely, invertin or invertase. Twelve experiments were made. The results were negative in 10 and in the other two the seemingly positive findings could be explained on other grounds. Notwithstanding the negative results, owing to the difficulty there is in extracting enzymes from the protoplasm of the cells in which they are known to exist, Beatson is not prepared to accept these investigations as final. [S.M.H.]

2.—Mackenna considers the most reliable **distinctions between Bacillus typhosus and Bacillus coli communis** to be: 1. Movement: Bacillus typhosus active, Bacillus coli communis, more sluggish. 2. Growth in sterile milk: Bacillus typhosus fails to produce coagulation; Bacillus coli communis succeeds. 3. The indol reaction—obtained in cultures of Bacillus coli communis; absent from those of Bacillus typhosus. 4. Growth in sugared bouillons: Bacillus typhosus does not ferment the lactose. 5. Growth in mineral waters: Bacillus coli communis develops well, while Bacillus typhosus hardly develops at all. 6. Growth on potatoes: invisible growth of Bacillus typhosus as compared with the recognizable pellicle produced by Bacillus coli communis. 7. On a gelatin surface where Bacillus typhosus has already grown one cannot get another culture of the same organism to grow, while Bacillus coli communis will develop. 8. On maltose gelatin culture Bacillus typhosus appears as a white line with a fairly regular border, while Bacillus coli communis forms a creamy coating with irregular edges. 9. The results of the growth in colored media, (*a*) litmus agar retains blue color with Bacillus typhosus, and assumes reddish hue with Bacillus coli communis. (*b*) On agar with malachite green where the color has been discharged Bacillus typhosus occurs as a dark green pellicle, while the culture of Bacillus coli communis appears grayish-white; (*c*) agar, lactose and rubine-acid with color discharged Bacillus typhosus produces no change in color while the Bacillus coli communis brings about an intense red. 10. With the serum-test, typhoid serum agglutinates the Bacillus typhosus and leaves the Bacillus coli communis usually unaffected. Any three of the above methods are sufficient for the successful differentiation of the two organisms. Mackenna has made some experiments wth Piorkowski's method for the differentiation of the two bacilli by growing them on a urine-containing medium. The results in 5 suspected cases were as follows: In two cases no colonies appeared that resembled in the slightest degree the Bacillus typhosus in urine-gelatin. In the other three one was able at a glance under a magnification of 80 diameters to recognize the presence of the small, irregularly-shaped colonies of the typhoid bacillus with their silken fingers, side by side with the larger, rounded, regular colonies of the Bacillus coli communis. In these cases Widal's reaction was positive. Some of the plates showed many colonies of the Bacillus typhosus, others comparatively few. He believes that this new method will prove of the greatest value not only for differentiation between the bacilli, but also in confirming the diagnosis of typhoid fever. [S M.H.]

3.—Fisher considers that **deformity of the aortic segments** is not infrequently a **sequence of aortitis.** The features which suggest this are that the deformity is almost invariably due to an increase of fibrous tissue, which occurs alone. Calcification is very rarely present. The feature that affords clearer evidence of the connection is the fact that when one sinus of Valsalva only is affected with aortitis, the aortic segment that lies below the diseased sinus will probably be thickened, while the other segments remain healthy. In early cases of aortitis the disease may be seen starting immediately above the meeting-point of two segments of the aortic valve, and small portions of these segments will present thickening which is continuous with the thickening of the aorta. Other features suggesting this relationship are that in this form of valvulitis retroversion occurs. The half of a segment, lying nearest its attachment, may become thickened and contracted while the portion connected with the free margin remains comparatively healthy. Yielding of the segments of the aortic valve and rupture or perforation of a segment may occur. While it cannot be proved that apparent ulcer in these cases is not consequent upon malignant endocarditis complicating aortitis, in none of the specimens observed were there vegetations characteristic of this form of endocarditis. In the form of disease of the aortic valve in which deposit of lime-salts is the most prominent feature the aorta is almost invariably healthy. Calcification of the aortic valve is neither due to spreading of inflammation from the aorta, nor is it often associated with disease there; the calcareous changes not infrequently remain limited to the aortic segments. This disease shows a tendency to invade other cardiac structures. Evidences of a chronic thickening of the valve which had preceded the deposit of calcareous salts are often strangely absent. It is a remarkable fact that calcareous deposi occur with great frequency where there are 2 instead of aortic segments. In one disease the condition seems to l an extension from the aorta and in the other it appears rise primarily in the segments of the aortic valve. One di ease generally produces aortic regurgitation unassociate with stenosis, but the other almost invariably produc stenosis which is not infrequently uncomplicated with r gurgitation. Fisher believes in the existence of uncompl cated aortic stenosis. The etiology of these forms of aort disease is obscure; if the first described is secondary aortitis then the cause must be that of aortitis. Syphilis is predisposing cause of aortitis. The worst examples aortitis considered by the author have been met with sailors or soldiers who have been to the tropics. The aortit although probably not malarial, may have been set up l some organism that is more abundant or more virulent i hot than in temperate climates. Fisher has observed or case of gumma of an aortic segment in a man 38 years, wl died of nephritis. The etiology of the calcareous form of tl disease of the aortic valve probably has much to do wit syphilis, gout, alcholism, Bright's disease, and hard wor Its frequency where one or two aortic segments exist possibl lends some support to the view that mechanical strain pla a part in the production of the disease. It would seem th friction must be great during the systole and the arteri tension not so easily supported during diastole with two se ments as with three, but mechanical strain can do little more than predispose to the disease. [S M.H.]

4.—In the treatment of **urethroperineal fistula** Fe wick has discarded the old plan of slitting up the fistulo tract and stuffing it with gauze. He advises instead, the di secting out of each urinary tunnel, cauterizing the defect i the urethral wall and bringing the freshly cut surfaces in apposition by silkwormgut sutures. Out of 35 severe case treated in this manner about 6 have relapsed. The operatio is applicable only in chronic fistulae, and if stricture present it must be efficiently treated by dilation or ur throtomy. The condition of the urine should be improve by the administration of boric acid or salol. Two illustrativ cases are reported in which sound healing followed in thre weeks in each case, after operation for severe fistula [M.B.T.]

5.—Hyde considers the **physiologic action of therm applications** and the various forms of apparatus, includi the Tallerman apparatus; the Dowsing Radiant Heat Batl the Greville Electro-Thermic Generator; the Electrothe mogen, and Thermal Air Chamber. He believes that gre and lasting injury in frequently incurred by patients suffe ing from certain varieties of disease by the improper or e cessive use of Turkish, Russian and other hot baths. Th free use of general hot baths of any kind in diseases assoc ated with lowered nervous tone and depraved nutritio should be condemned. The chief peculiar value of the ne hot-air appliances lies in their easy adaptability to loc parts, otherwise the Turkish or hot-air box would answe every purpose. In chronic joint affections the object shoul be to produce the greatest effect with the least possible ge eral disturbance. General measures must lie more in th direction of pure air, exercise, diet, and baths of lower the mal activity. In chronic joint affections of rheumatic gouty origin, in lumbago, sciatica and similar painful ner affections local hot-air baths form one of the most valuab adjuncts of modern therapeutics. In certain skin disease also in some acute and chronic kidney or liver affections an other diseased conditions they are of great value. The loc effects of this treatment are very marked on the circulatio in the tissues exposed. [S.M.H.]

6.—Jones and Clinch had under their care a woman, ag 73 years, who was suddenly seized with an attack of fain ness. Her pulse was feeble and irregular, and her arteri hard. Her temperature was 101.4° F. Her face was cy nosed. The precordia was prominent; the apex-beat ve diffuse. Palpation showed a slow, heaving cardiac impuls The area of deep cardiac dulness was much increased. Th abdomen was flattened in its upper half, while below th umbilicus it was distended and tympanitic, but a wel defined area of dulness extended from the infrastern notch as far as the umbilicus. The urine was high-colore specific gravity 1017, and contained albumin. Examinatio made two days later showed friction over the left lung post

ly below the angle of the scapula, with loud bubbling s, marked dulness and increased vocal fremitus. The t day aspiration of the left pleura removed six ounces of l, and the day following the patient was extremely cya- d; the respirations were 25; the pulse very feeble, rapid running, with much recession of the lower interspaces friction over the left lung with occasional friction over right base. There was a systolic bruit, with its greatest in- ity over the fourth costal cartilage; it was conducted vards toward the right nipple; it was plainly distinguish- behind over the scapular region. The patient died with t abruptness after having given a loud shriek. The psy showed upon opening the abdomen altered relations e viscera. In place of the rounded prominence of the ach the small omentum was seen drawn tense over the **creas,** aorta, and spinal column, all of which were nly distinguishable through it, both visually and pal- ly. The liver was at first invisible, having been rotated ts transverse axis so that its anterior edge disappeared eath the margin of the ribs, while the posterior edge was len behind the hepatic flexure of the colon. The stomach found about the level of the umbilicus. The spleen was larly dislocated downward and driven inward by the in- sed narrowness of the costal arch, which was found adhe- to the left lobe of the liver. The kidneys were infarcted, ular and cystic, and lay beneath the posterior layer of peritoneum, slipping about readily under the slighest h as far upward as the liver and as far downward as the pelvic cavity. The heart was very large; the pericar- n was thickened, inflamed and gelatinous, and contained mall amount of turbid, bloodstained fluid. Over the ventricle fibrinous exudation formed feeble ad- ons with the epicardium. The cardiac tissues of the ventricle was rigid, thin and hard, the seat of chronic carditis. Covering the inner surface of the heart and nuating itself between the columnæ carneae there was a ntity of pinkish, homogeneous-looking blood-clot firmly erent and obviously of premortal formation. The cavi- were much dilated and the mitral orifices in some degree owed. The aorta was dilated and its lining membrane areous. There was edema and atrophy of the nervous ies and atheromatous degeneration of the vessels of the n. He takes the view that the atrophy of the lungs and general ptosis of the abdominal viscera were probably of a common degenerative process. The point of most rest and practical importance was the exposure of the creas. This is a phenomenon which he believes hitherto escribed. It should be possible to recognize its exposure thereby to draw the deduction that downward disloca- of the stomach is present. The signs on which stress uld be laid are the position of the pancreas, which crosses vertebral column three inches above the umbilicus, pass- somewhat downwards on the right; an area of dulness esponding to it, this area being unaffected by respiration; astric pulsation; the palpation of a firm, smooth, some- t sausage-like body; the flattening of the region above umbilicus with the distention below. [S.M.H.]

.—A man 30 years old was seen for a swelling in the r of the mouth, giving rise to pain and pushing forward he tongue and limiting its mobility; there was also a iful fulness in the submaxillary region. **Obstruction Wharton's duct** was diagnosed and the duct was ed by a fine silver sound, after which jelly-like saliva ped. The saliva being slightly acid, sodium bicarbonate administered with a view of increasing its fluidity, with tisfactory result. The same patient had a molar tooth oved for a suppuration in the alveolar process. [M.B.T.]

.—Gemmel reports a case of **pericarditis and ulcera- e endocarditis** following empyema. He believes that e was a direct extension to the pericardium of the in- matory process of the pleura, as well as a general septic dition resulting in ulcerative endocarditis, septic nephritis embolism of the spleen. [S.M.H.]

Deutsche medicinische Wochenschrift.

December 7, 1899. [25. Jahrg., No. 49.]

esection for Volvulus and Intussusception. Von Eisels- berg.

he Treatment of Fresh Wounds of the Extensor Tendons of the Knee. Doebbelin.

3. Disinfection of the Hands. P. Fürbringer.
4. The Clinical Significance of Bits of Meat in the Stools. Ad. Schmidt.
5. The Formation of Sugar from the Albumins. Ferdinand Blumenthal.
6. A Case of Diphtheria with Erythema Nodosum and Arthritis Without Serum Treatment. Albert Schütze.

1.—Von Eiselsberg reports 6 cases of **volvulus of the sigmoid flexure,** which he divides into two classes: I. Volvulus without nutritive changes in the intestinal wall. Four cases and all recovered. II. Volvulus with more or less gangrene of the intestinal walls. Two cases and both died. He goes on to say that, in cases where gangrene of the wall of the intestine is present, resection should be done. As time in these cases is of the utmost importance, rapidity must be practised even sometimes to the sacrificing of a typical intestinal resection. In simple, uncomplicated cases of volvulus the easiest and least dangerous method of treating the gut is simply to untwist it. This will relieve the symptoms temporarily, but is most apt to be followed by a return of the trouble. The stitching of the sigmoid flexure in place has not been done enough to determine its utility, so it seems that total resection is the safest and surest radical operation. [G.B.W.]

2.—There were treated in the surgical "Universitäts-klinik der Charité," in Berlin, 11 cases of fractured patella, since 1896. Of these cases, 3 were comminuted fractures. The operation in all the cases consisted in turning up a horseshoe-shaped flap of skin from over the patella, cleaning out the clots and fluid blood, and uniting the fragments with two strong, catgut sutures, or one catgut and one silk suture. The peritoneum and fascia on the front of the patella was then carefully united with a catgut suture. Another case, one of rupture of the quadriceps muscle, was operated on 2 days after the accident. The rupture was located just above the patella, and included the rectus, vastus int., vastus med., and vastus ext., with their fascias. The muscles were accurately united with catgut and kangaroo tendon, and the patient made an absolute recovery. [G.B.W.]

3.—Fürbringer's article on **hand disinfection** is a discussion of the various methods, especially the use of alcohol as a disinfecting agent. He himself believes strongly in the use of alcohol and favors the Oldfield method, though the after-use of some antiseptic such as sublimate, carbolic acid, or lysol is a necessary adjunct. He also calls attention to the strong bactericidal action of an alcoholic solution of corrosive sublimate. [G.B.W.]

4.—Schmidt noticed in the feces particles of food remnants which look like small masses of meat. The examination of these showed that they usually consisted chiefly of connective tissue and fat, while they rarely contained any notable amounts of muscle tissue. It was found that the connective tissue of meat was digested much more rapidly than the muscle-tissue in artificial gastric juice, while in trypsin solution the connective-tissue was but little affected and the muscle was rapidly digested. He decided, therefore, that these masses of connective tissue in the feces indicated disturbance of the stomach-digestion. He then gave a number of patients chopped meat and studied the effect on the feces. From the results of this investigation he decides that when 100 gm. of well-chopped roast meat are given to a patient and connective-tissue remnants are found in the stools this is an indication of disturbance in the gastric functions, though the nature of the disturbance is not thereby made clear. The presence of undigested muscle-masses in the stools is an indication of disturbance of the intestinal digestion. Also the presence of nuclei in the connective-tissue remnants is an evidence of intestinal disturbance. These disappear if intestinal digestion is carried out properly since the gastric juice does not digest the nuclear tissue. It cannot be determined in this way, however, whether the disturbance of intestinal digestion indicated by the presence of muscle-remnants in the stools is due to disturbance of secretion or of absorption. [D.L.E.]

6.—The main points in the case are contained in the title. The chief conclusion to be drawn from such a case is that we cannot at once attribute to the use of serum the occurrence of various eruptions and joint-swellings. [This case removes another of the supports upon which the opponents of serum-treatment have sometimes attempted to lean. D.L.E.]

Münchener medicinische Wochenschrift.

October 24, 1899. [46. Jahrg., No. 43.]

1. Concerning Cardinal and Nervous Currents from Gastro-intestinal Causes. JESSEN.
2. Concerning Otitic Pyemia. MEIER.
3. Concerning Extirpation of the Spleen after Subcutaneous Traumatic Rupture. MADLENER.
4. The Theory of Natural Immunity—together with Reply to Professor P. Baumgarten. BUCHNER.
5. Concerning Gas Phlegmon. FRAENKEL.
6. The Etiology of the Harelip According to the Views of the Eighteenth Century. SCHWALBE.

2.—Meier says that the view of Virchow, that there existed two varieties of **pyemia** resulting from **otitis,** one in which the sinus is diseased and the other in which absorption of the septic particles takes place directly through the small veins of the bone involved, is scarcely tenable to-day. The view that absorption does take place through the small veins is purely theoretic and not proven by pathologic findings, whereas all the symptoms of both sorts of cases can be explained by the involvement of the sinus. So that the statement seems warranted that thrombosis of the sinus caused by disease of the sinus walls is alone responsible for the development of pyemia. The treatment should be radical operation, such as opening the antrum of the mastoid and breaking up of all cells containing pus. If the sinus shows signs of thrombosis it should be opened and packed, but it should also be remembered that after removal of the disease in the mastoid the sinus will often cure itself. Exploratory puncture of the sinus is not justifiable. [G.B.W.]

3.—Madlener reports a case of **rupture** of the **spleen** occurring in a woman, 57 years old, and caused by her falling and striking her side on the edge of a bucket. Six hours after the accident the patient was collapsed, there were signs of internal hemorrhage, of peritonitis, and vomiting had taken place twice. At the operation the tear in the spleen was such as to demand extirpation. This was done and the wound closed. She made a good recovery except that a ventral hernia developed in the scar of the abdominal wound. This was, however, closed by a second operation 6 months later. Seven or 8 months after the removal of the spleen the blood-count reached normal. [G.B.W.]

October 31, 1899. [46. Jahrg., No. 44.]

1. Convulsions in Young Children. THIEMICH.
2. The So-called Functional Mental Diseases. NISSL.
3. A Method of Determining the Reducing Power of Urine, Blood, and Other Fluids of the Body. ROSIN.
4. The Question of the Combination of Organic Nervous Diseases with So-called Functional Neurosis. SCHOENBORN.
5. Diverticulum of the Esophagus. SCHWALBE.
6. The Pasteurization of Milk for Nourishment of Infants. OPPENHEIMER.
7. In Memory of Bunsen. HEINZ.

1.—The author deals in a manner not very clear with **functional spasms** occurring during the first two years of life. The differential diagnosis of functional convulsions from those that are symptomatic is generally easy, but at times very difficult. It is important to examine the child not only during the attack, but in the interval. It is sometimes, however, impossible to recognize the true nature of symptomatic convulsions, which are exactly like the functional ones, but are dependent on brain-lesions, such as sclerosis, softening, hydrocephalus, etc. The history of a difficult labor may here be of value. The children with functional convulsions at times present certain pathologic conditions. They have gastroenteritis, are anemic; the urine frequently contains albumin and casts—even acetone and indican. The lungs, the middle ear, and the bladder (especially in female infants) often present changes. There may be signs of cerebral irritation or cerebral depression, as unceasing restlessness or apathy, somnolence, delayed pain-sensation, etc. The pauses between the attacks of eclampsia show no special characteristics. There is also a group of eclamptic children characterized by good nutrition, and in which the spasms appear without any premonition and leave no sequel. The attacks often repeat themselves at short intervals and t cease as unexpectedly as they began. Such child however, are not entirely well, and almost without ception present signs of **rickets.** They are gener overfed and suffer from constipation. They commo receive too much milk. In children that are on mixed family diet the convulsion is generally attribute a dietetic error; but the dietetic error is only the incide cause and would not have produced a convulsion in a p fectly healthy child. In other cases, the convulsions oc in connection with tetany. It is advisable in every case convulsion in a child with gastroenteritis to look for signs of tetany. The author does not believe that ther any connection between the eclampsia of childhood and genuine epilepsy of later life. But little can be said of pathologic anatomy of the convulsions of childhood. garding the **cause** of the convulsions, a number of theo are mentioned and discarded, even the autointoxicat theory, and a hypothesis is advanced based upon the foll ing experiment: If an animal, such as a rabbit, receiv markedly hypertonic solution of a non-toxic salt, as sodi chlorid, general convulsions follow in a few moments; thi due to a disturbance of the osmotic relations between blood and the tissues. As in the affected children a d ciency in water is demonstrable (sinking in of the fontanel the eye-balls, dryness and deficient elasticity of the skin, et the author thinks that the convulsions might be due to analagous disturbance of the osmotic relations. Rick itself is not the cause of convulsions, but the two conditi have at bottom either an identical disturbance of metaboli or different disturbances that are combined. [D.R.]

2.—Nissl denies that there are any real **functional sanities. Every psychosis has its positive anato lesion,** but we are not always able to interpret these lesi Nissl has studied brains in katatonia, in which the neurog hyperplasia was in no wise less than in general paraly The same was true of instances of involutional melancho [D.R.]

3.—Rosin recommends **methylene-blue** as a reagen determine the reducing power of urine, blood, and ot body fluids. The method for urine is as follows: Into Erlenmeyer flask of 100 cc. capacity, 25 cc. of the u diluted five times is placed, and 1 cc. of liquor potassa added. Liquid paraffin is then poured over the mixtu and the whole cautiously heated almost to boiling. C must be taken that the air is entirely shut off and t the solution does not boil, otherwise bubbles will be duced and a communication established with the ternal air. One cc. of 1 : 3000 methylene-blue solutio then added from a buret, the exit tube of which long enough to reach below the paraffin layer. mixture is then again heated over an alcohol lamp a wire screen. After a few moments the blue c disappears; thereupon, the solution being still hea enough of a $\frac{1}{100}$ normal permanganate of potassium solu is added until the color returns, *i.e.*, until the fluid just gins to show a bluish-green tint. From the number of c centimeters of the permanganate solution, the amount oxygen used can be calculated, and this amount indic the reducing power of the urine. In other words, method makes use of methylene-blue as an indicator. C a small quantity of methylene-blue is added, the reduc of which occurs immediately, and by far the greatest tion of the reducing power remains unused in the ur The addition of permanganate of potassium satisfies t reducing substances. Only when these are satisfied does blue color return. The maximum blue color is obta when those reducing substances are saturated with oxy which were active in decolorizing the methylene-blue. R has so far used the method only for normal urine, but pects also to study its value in pathologic urines. [D.R.]

4.—In a young woman of 20, who had right-sided pa and right-sided hemihypesthesia, and who had also suff from mental disturbance and transitory aphasia, twitch of the left half of the face and of both arms and legs de oped, likewise, a paralysis of the right half of the face w out twitching. There were also joint-pains, fever, and tolic cardiac murmur. The author thinks that the pa was suffering from hysteria (hemihypesthesia, aphasia, r tal disturbance) and chorea minor. The facial paralysis probably rheumatic in nature, and not hysterical, for t

ere distinct reactions of degeneration. Unilateral chorea as been described in hysteria, but bilateral chorea never. he patient really had **three diseases: chorea minor, neumatic facial paralysis, and hysteria.** Hysteria as been found combined with tabes, syringomyelia, tetany, lerosis, and peripheral neuritis, (also with tumor); but its sociation with two nervous affections (chorea and periph-al neuritis) does not seem to have been recorded in litera-ure. [D.R.]

5.—Schwalbe reports a case of **diverticulum of the sophagus** occurring in a man 47 years of age. The con-ition had been present for about 10 years, and had been di-gnosed by different physicians as stricture due to syphilis. ut careful examination with the stomach-tube and x-rays owed a diverticulum which began about 18 cm. beyond the cisor teeth. It was possible to pass the tube into the diver-culum and wash it out. The treatment was not operative, ut consisted in the occasional passage of a large bougie own the esophagus proper. [G.B.W.]

6.—Oppenheimer describes an apparatus of his own in-ention by which it is possible to **pasteurize milk** and to eep the temperature for 30 minutes at 70° C. (158° F.). The pparatus consists of a container made of tin, the double alls of which are filled with asbestos. A thermometer pro-ects through an opening in the lid. The receptacle has oom for eight milk bottles. It is filled to the height of the ilk in the bottles with cold water and placed on a slow fire ntil the temperature rises to 75° C. (167° F.). It is then emoved from the fire and placed near the stove. In half an our the pasteurization is ended. Pasteurized milk is much nore palatable than sterilized milk. [D.R.]

November 7, 1899. [46. Jahrg., No. 45.]

. The Testing of the Secretory Strength of the Stomach. RIEGEL.
. Intubation in Private Practice. TRUMPP.
. Concerning Bacteriuria. PREDÖHL.
. Lying-in Home at Nürnberg. SIMON.
. The "Definitive" Cure of Gonorrhea. KROMAYER.

1.—Riegel discusses the value of the Ewald **test-breakfast** and of his own **test-dinner** in determining the secretory power of the stomach. The test-breakfast is much simpler than Riegel's dinner, which consists of soup, beefsteak, mashed potatoes, and a roll. But the determination of the total acidity and the free hydrochloric acid after a test-breakfast does not give information on the question whether the stomach is capable of meeting a greater demand than the test-breakfast constitutes. Other methods must be found for this purpose. The quantity of gastric juice can only be considered sufficient when there is an excess of hydrochloric acid in the stomach. If in every case in which the test-breakfast showed an excess of hydrochloric acid the test-dinner also showed this, then the test-breakfast would suffice; but Riegel gives a table of the analysis of 12 cases in which the test-breakfast showed more or less free hydrochloric acid, while the test-dinner did not. The patients were evidently capable of meeting the demands of the breakfast, but not those of the dinner. In rare instances the test-breakfast shows no excess of hydrochloric acid, while the test-dinner does. One of these was the case of a cook, and Riegel believes that the man's occupation had something to do with the paradoxical result. The secretion of the stomach is excited in two ways; reflexly, through the mouth by the act of mastication; and directly, by the food in the stomach. The man being a cook, his digestive organs and organs of taste were accustomed to strong stimuli. His gastric glands reacted, but only when the excitation was a powerful one, and the non-irritant test-breakfast was inadequate to do so. Riegel concludes that the test-breakfast has certain advantages over the test-dinner, but in some cases a combination of the two gives a better insight into the gastric secretion than the test-breakfast alone. [D.R.]

2.—German physicians have been very slow to adopt **intubation in private practice.** Trumpp has made a collective investigation for the purpose of showing the feasibility of intubation under such circumstances. He has collected a total of 5,468 extra-hospital cases of intubation. Of these, 4,066 are American, and only 1,402 are European, exclusive of Great Britain. In Norway intubation has never been attempted in private practice. There were only thirteen accidents reported; two deaths from obstruction of the tube, ten from expulsion of the tube, and one from stenosis following extraction. Regarding the retention of the thread attached to the tube, he is in favor of retaining it, as the best guarantee against the results of sudden obstruction. [D.R.]

5.—Predöhl believes that **bacteriuria** is quite common and has seen 6 cases. He divides them into acute, subacute, and chronic; or into grave, severe, and mild cases, the latter three not of necessity coinciding severally with the first three. His patients were all women. The disease generally begins with burning pain on micturition, coming on usually with the last drop, with dripping of urine, and tenesmus. Pain in the bladder or in the loins may be present. Cold, long retention of urine, and habitual constipation play a part. The urine is always turbid, contains no albumin, is generally acid, and chemically presents nothing significant. It looks like a dilute soap solution or turbid bouillon culture. At times it has an offensive odor. The sediment consists solely of bacteria, which in the author's cases were always the **colon-bacilli.** The hesitation of young girls to speak of urinary matters may be the reason that the condition is not more often observed. The patients are usually slender, pale, delicate individuals, and it is generally impossible to obtain permission to use the catheter so as to get sterile urine. The term bacteriuria should be limited to those cases in which in healthy persons without signs of inflammatory processes, microorganisms are present in the fresh urine and produce disease phenomena. Cases in which, in consequence of the bacteriuria, catarrh of the bladder, pyelitis, nephritis, or disease of the genitalia develops, also belong to this class. The colon-bacilli are probably carried to the kidney by the blood, and, in the author's opinion, can produce obstruction of the capillaries with infarction. A very interesting case illustrating this is cited. A woman of 23 suffered frequently from pain in the region of the right kidney and febrile attacks. The urine contained the bacillus coli in almost pure culture. Treatment was of no avail; the pain in the kidney persisted. Eventually a nephrectomy was performed. On section the kidney contained two large infarcts, evidently formed by the coalescence of numerous smaller ones. The author believes that these infarcts were produced by bacterial obstruction of the capillaries, and that each attack of pain and fever was due to the formation of a new infarct. Bacteriologically and culturally, the kidney was entirely sterile. The woman became perfectly well after the operation. In regard to the treatment of bacteriuria, ordinarily salol is the best remedy. Large quantities of milk and mineral water should be taken. Iron may be indicated. Opiates and warm baths may be necessary. Sodium benzoate has also been recommended to control the bacteriuria. [D.R.]

November 14, 1899. [46. Jahrg., No. 46.]

1. Concerning Morphia Derivatives and their Indication in Coughs. FRAENKEL.
2. The Nourishment of Nursing Women. PIETZER.
3. Milk, Free from Disease-Germs, for Nourishing Infants, and for General Use. SIEGERT.
4. An Apparatus for Sterilizing Laboratory Instruments used in Experimenting with Pathogenic Microorganisms. KRÖNIG and PAUL.
5. New Ways of Using Formaldehyd in Disinfecting Dwellings. WALTER and SCHLOSSMANN.
6. Cure of Acute Mental Disturbance following Extirpation of a Brain-Tumor. BAYERTHAL.
7. The Seventieth Birthday of Carl v. Kupffer.

1.—The author's conclusions are as follows: (1) Not only heroin, but also codein and morphin, in the smallest and otherwise inactive doses in animals, diminishes the number of respirations, but increases the strength of each respiratory act. This prolongation and deepening of the respiration is an advantageous quality as regards cough possessed by all the morphin preparations. (2) These morphin derivatives are most applicable as cough remedies which possess the specific effect upon the respiration, but which do not have a narcotic action and especially do not establish a habit. (3) **Codein** stands out as a representative having this pure action as a cough remedy; and given in larger doses than

are customary, it answers every purpose; while heroin must be looked upon as more toxic than codein. [D.R.]

2.—Pietzer, of Bonn, has made an exhaustive study of the **influence of** various kinds of **diet on the milk composition** in the nursing mother. He concludes that fats may be best increased in the milk by albuminous foods. A diet consisting of soups, meats, eggs, cheese, with small amounts of bread and potatoes, no fats, sugar, or cereal food will increase the milk fats. A second group of food materials, almost entirely free from albumin, such as buttered bread, cereals, little milk or eggs, potatoes, grapes, sweetened coffee, much fats, etc., will result in forming much carbohydrates in the system of the mother without influence on the composition of the milk. Acids, salts and spices do not influence the composition of the milk. Much liquid increases the flow, but with no increase in the nourishing qualities of the product. [W.K.]

3.—In Strasburg the municipality makes a noble effort to supply all needy mothers with **pasteurized milk** for their infants. The milk is not given free of charge, but the mothers may obtain it at a reduced rate from the dealers, upon the certificate of a physician that the case is a needy one. The city makes up the difference in the cost. Thus, if the regular price be 20 pfennige, the mothers can get it at 15, and the city pays the difference. The milk is prepared after the method of Forster. [D R.)

4.—The authors emphasize the importance of **thorough sterilization of unused cultures of pathogenic germs** in bacteriologic laboratories. As ordinarily performed, with sulphuric acid and other methods, the sterilization is not thorough. The authors have constructed an apparatus in which the test tubes, petri dishes, etc., can be sterilized in a soda-solution. [D.R.]

6.—The patient was a merchant, aged 29 years, who had tuberculous glands in his youth. The first symptoms of brain-tumor developed in 1897 with a weakness in the left foot. Later there was an attack of Jacksonian epilepsy. Still later in the disease, symptoms of **hallucination** and **persecutory delusions** developed. The skull became tender to percussion and a bilateral choked disc developed. Before operation the tumor was localized in the paracentral lobule of the right side. On operation, it was found on the mesial surface of the right hemisphere near the region of the falx. It was easily removed, being about the size of a small walnut, and proved to be a solitary tubercle. Immediately after the operation the patient's psychic condition improved, and in that respect he became entirely well. The power in the left leg gradually returned, but despite persistent bromid treatment the patient on four occasions had attacks of Jacksonian epilepsy beginning in the left leg. The prognosis is thus somewhat darkened by the Jacksonian epilepsy, which is evidently connected with a cortial scar, as also by the tuberculous nature of the original growth. From a surgical point of view, however, the result must be considered excellent. [D.R.]

Berliner klinische Wochenschrift.

November 20, 1899. [36. Jahrg., No. 47.]

1. Concerning Chronic Ankylose Spondilitis. H. SENATOR.
2. A Histogenetic new Form of Mastitis Chronica Cystica. W. MINTZ.
3. Concerning the Manner of Tuberculosis Infection. VOLLAND.
4. Concerning Protozoan Enteritis. H. QUINCKE.
5. Concerning Tuberculosis of the Upper Air-Passages. (*Conclusion.*) O. CHIARI.

1.—The patient, a man 65 years of age, with a history of rheumatism and of exposure to cold and dampness, developed a distortion and stiffness of the spinal column, with a kyphosis beginning about the fifth or sixth dorsal vertebra and extending to the lumbar region. The disease began at the age of 45, and was therefore not a senile curvature. In connection with this case Senator discusses critically the subject of **deforming spondylitis,** to which a great deal of attention has of late been paid, cases being reported by v. Bechterew, Marie, and others. The disease described as new by these authors is not at all new, but has long been known, especially to the surgeons. There are two forms of **spondylitis deformans,** one in which the process begins in th intervertebral cartilages, the other in which it starts at th lateral parts of the vertebrae, especially the transverse pr cesses, the ligaments, and the periosteum. In this latte form hyperostosis, calcification of the ligaments, and pr liferation and adhesions of the synovial membranes, are pr duced. The disease has nothing in common with arthriti deformans. The nervous symptoms at times present ma be due to the changes in the vetebrae affecting the spina roots, but may also, as Senator points out, be dependen upon neuritis or myelitis of rheumatic, gouty, or othe origin, being thus independent of the vertebral change Senator maintains that the differences which are produce by the localization of the deformity and the stiffness of th spinal column, by the variable involvement of the joints o the extremities, and the presence or absence of disturbance of the nervous system, are not of sufficient importance t justify the establishment of different types of spondylitis [D R.]

2.—Mintz describes **a new form of chronic cysti mastitis.** The symptoms do not differ essentially from th usual form of the affection, but the distinction is made o the basis of histologic examination. In both forms the cyst are developed from the lobules of the gland, but in the form which had been commonly recognized and described ther is an overgrowth of the acini of the gland with a secondar destruction of the newly formed epithelial mass, and in thi way there arise spaces lined with epithelial cells; in the new form which he describes there is an overgrowth of the intra lobular connective tissue septum instead of the acini, whic goes hand-in-hand with a necrobiosis of the gland-cells. Th primary cysts which result are lined with granulation tissue The main distinction between the two forms is that in th generally described form there is overgrowth of the epithelia cells, while in this new form there is overgrowth of the con nective-tissue element. A case of this condition is reporte occurring in a nullipara, 28 years old, who was otherwis healthy. Five months previously she noticed a swelling o the right breast, which was not painful and grew slowly. A short time after this two nodes appeared in the upper and lower quadrant of the left breast. The tumors were excise and a good recovery from the operation followed. [M.B.T.]

3.—Volland is of the opinion that **tuberculosis,** particu larly that form known as **scrofula,** is not due to the inhala tion of bacilli, but to the ingestion of the germs by way o the mouth. He believes that children crawling upon the floor or playing in dirt or sand, **contaminate thei hands with the bacilli,** and that the latter are then car ried to the mouth and produce the disease. Proper hygiene therefore. demands that tuberculous sputum should b destroyed, but also that children be prevented from coming in contact with the floors with their hands, or that the floor be kept scrupulously clean. Mothers and nurses must b instructed as to the danger of dirty hands in children. [D.R.]

4.—The protozoa found in the intestinal tract that ca produce disturbances of that tract, are trichomonas intesti nalis, cercomonas hominis, megastoma entericum, coccidia balantidium coli and ameba coli. Quincke reports on case in which the coccidia seemed to produce an enteritis one in which an ameba was found, one in which a peculia parasite (not exactly an ameba, perhaps a coccidium) wa the cause of a chronic recurring diarrhea, and two othe cases in which the symptoms had suggested tuberculosis o the lung and intestine, but in which at autopsy ulcer ation of the bowel was found, with amebae at th bottom of the ulcers. The clinical symptoms of **pro tozoan enteritis** are least characteristic in the flagellate occupying the small intestine. There is either a mild chronic diarrhea, or only a disposition to diarrhea In the case of the balantidium and the ameba coli the symp toms referable to the large intestine are much more marke and may resemble those of dysentery. The evacuations ar mushy or thin, with pus and blood, often occur in groups especially towards morning, and are accompanied by tenes mus and preceded by tormina and borborygmi. In th beginning these parasites produce only a simple catarrh later the balantidium and the ameba may lead to ulcera tion. Frequently in cases of ulceration the symptoms re semble those of tuberculosis of the intestines. Death i ulcerative colitis is dependent upon exhaustion from insuf ficient food assimilation, absorption of putrefactive products

l finally, upon septic infection. At times the ulcers lead, continuity or perforation, to purulent peritonitis. It is always possible to find the cause of the ulcers, especially he case of the balantidium. The ameba is usually found the bottom of the ulcer. Two cases of extensive colonic eration in which the genesis was unknown are described. ey may both have been due to protozoa. As to the **irce of the protozoa** and their mode of introduction, much is known. The balantidium is found in the ; and may be transmitted from it to man. Flagellates found in hogs, sheep, mice, rats, rabbits and cats, cidia are found in the liver and intestine of rab- and in the intestinal epithelium of cattle, dogs, cats, sheep. The ameba coli felis is found in cats; perhaps in dogs. As to the source of the so-called ameba coli is, nothing is known; the drinking water may have ething to do with conveying the ameba. The **treat-nt** consists in removing the parasites, which, when they in the small intestine, is accompanied by the adminis-ion of castor oil and calomel. In the large intestine gation must be used in addition. Calomel should be ployed for one or two weeks in ascending doses; it is ful against all of the protozoa. Quinin, in clysters or rnally, is used against the balantidium. The flagellates removed the most easily; next, the balantidium; and st easily, the ameba. The stools do not present anything racteristic, except that in chronic amebic cases they are n, gelatinous, with a very slightly fecal odor, and have a ngly alkaline reaction. In the case of the ameba felis re may be a little bloody mucus; the urine often contains ican. The stools should be examined in the fresh state; l until the examination they should be kept warm in an ubator or by being covered. Sometimes it is advisable to oduce a thick glass rod into the rectum in order to get a e of its contents for examination. When the stool is not d enough, the microscopic preparation should be treated h saline solution. The balantidium is most easily recog-ed, on account of its size and mobility; the flagellates y also be recognized, but sometimes they are overlooked, account of their pallor and smallness; the ameba is some-es confounded with degenerated epithelial cells; encysted ns and coccidia are least characteristic, but strike the ention by their number and uniformity—at times also by peculiar greenish sheen. Staining scarcely helps the ognition of the protozoa. [D.R.]

.—Tuberculosis of the mouth occurs, but as a primary ase it is extremely rare. In 2 out of 14 cases tubercle-illi were found in carious teeth in cases of laryngeal and monary tuberculosis. The tongue is a frequent seat of erculosis. Lupus of the upper air-passages is not very e as a primary disease. The author's therapeutic conclu-is are as follows: A. *Prophylaxis.* 1. Destruction of the tum of phthisical patients. 2. All individuals, especially ldren, particularly those with a lymphatic constitution, uld abstain from intimate contact with phthisical patients hthisical parents should not kiss their children. 3. Raw k should never be taken. B. *Therapy.* 1. Strengthening the predisposed. 2. Removal of catarrhal conditions. Radical extirpation of all tuberculous foci. 4. Extirpa-n of the regional lymph-glands in definitely determined mary isolated tuberculosis of the upper air-passages. An austive bibliography completes the article. [D.R.]

November 27, 1899. [36. Jahrg., No. 48.]

The Objects of the Modern Clinic. A. VON LEYDEN.
Concerning the Bacteria in Butter and in other Milk Products. WEISSENFELD.
Substitutes for Alcoholic Drinks. F. HIRSCHFELD and J. MEYER.
How can Pulmonary Tuberculosis be Combated? I. TONTA.
Physicians and Medical Customs in Olden Times. J. MARCUSE.

.—See editorial, page 373.

.—Weissenfeld examined 32 specimens of **butter,** col-ted in the open market and at creameries, for **tubercle-cilli** by the inoculation method. The inoculations were de into the peritoneal cavity of guineapigs. Of these cimens, 22 produced no change whatever that resembled tuberculosis; of the remaining 10, 3 produced genuine tuberculosis, and 7 the so-called pseudotuberculosis. He also examined bacteriologically a number of the artificial casein preparations on the market, and found that they all contained bacteria in greater or lesser numbers. Of the substances examined—nutrose eukasin, lime-casein, and plasmon—the last (plasmon) contained the largest number of bacteria. [D.R.]

4.—To be treated editorially.

Wiener klinische Wochenschrift.

November 12, 1899. [12. Jahrg., No. 44.]

1. Heinrich v. Bamberger. Memorial Address. E. NEUSSER.
2. The Symptomatology of Akromegaly. A Case of Akromegaly with Alimentary Glycosuria, Articular Swellings and Paroxysmal Hemoglobinuria. F. CHVOSTEK.
3. The Etiology of Acute Edema of the Lungs following Thoracentesis. Curschman's Spirals and Bronchial Casts in the Sputum. H. ORTNER.
4. Two Cases of Primary Hepatic Carcinoma with Cirrhosis. E. LINDNER.
5. A Case of Carcinoma of Prostate. E. BAMBERGER and R. PALTAUF.
6. Clinical Contribution upon the Theory of Status Thymicus. M. LAUB.

2.—Chvostek reports a case of **akromegaly** in a man 37 years of age, interesting because of the existence of **alimentary glycosuria,** peculiar **joint swellings,** and paroxysmal **hemoglobinuria.** The patient was a very intelligent artist, although his facial expression was almost stupid. The joint swellings were probably of trophic and vasomotor origin, analogous to the intermittent joint-effusions described by Strümpell and others. The paroxysmal hemoglobinuria was probably dependent upon alterations in the vessels. Such vessel alterations have been almost constantly found in akromegaly, and the author considers that they play a causative role in the production of this disease. He believes the hypophysis theory to be the best that we have; it is probable that the hypophysis secretes a substance that influences the heart and vasomotor system. [D.R.]

3.—Accidents during or after **thoracentesis** may depend upon morbid conditions of the heart, the pulmonary vessels, the brain, or the lung itself. Among the complications referable to the last, albuminous expectoration and acute pulmonary edema are important. Ortner reports two cases of edema of the lungs following tapping of the chest cavity. In the first, the patient being a man 23 years of age, the edema came on an hour after the tapping, was associated with albuminous expectoration and pulsus paradoxus, and led to death in eight hours. The most interesting finding at autopsy, which had also been diagnosed clinically, was pericardial concretion and a mediastinal pericarditis. The phrenic nerve was embedded in the fibrous tissue. The heart was the seat of advanced myocardial change. The second patient was a woman 58 years of age in whom albuminous expectoration came on immediately after the tapping, and was associated with the expectoration of a fibrinous coagulum. The signs of pulmonary edema were well marked. The patient died a number of weeks later with the clinical signs of tuberculosis of both pleura and adherent pericarditis, probably tuberculous. At the autosy tuberculous pericarditis with obliteration of the sac was found; also bilateral hydrothorax, brown atrophy of the heart, hemorrhagic infarction of the lungs, and a recent left-sided fibrinous pleurisy. The heart with its pericardium was completely adherent to the anterior chest-wall. The cause of the acute pulmonary edema in these cases and in those recorded in the literature of the subject, the author believes, is to be found in an abnormal permeability of the bloodvessels of the lung; he also thinks that an important factor is the **immovability,** partial or complete, **of the mediastinum,** on account of the mediastinopericarditis. In the second case reported, and in a number of others collected, the mediastinum had been immovable, and had prevented an expansion of the lung contralateral to the side aspirated. In one case it appeared as if an enormous dilation of the heart had prevented the movement of the mediastinum and the expansion of the lung. The causes of immovability of the mediastinum may

be a pleurisy on the side opposite to the one aspirated, great cardiac dilation, as just mentioned, concretion of the pericardium with the heart and the pleura, and mediastinopericarditis. Before undertaking thoracentesis, the operator should assure himself not only of the functional capacity of the heart, but also of the ability of the mediastinum to move in the direction of the aspirated side. Slow evacuation of the small quantities of exudate, with a preliminary stimulation of the heart by means of tonics, may in some cases prevent the fatal edema. It is also important to interrupt evacuation in cases of exudative pleurisy accompanied by immovability of the mediastinum the moment marked cough sets in. In the one case of edema Ortner found Curschmann's spirils in the exudate, while the other case was associated with a fibrinous bronchitis. The fibrinous coagula were probably due to a coagulation of the edema fluid transuded into air vesicles. [D.R.]

4.—Lindner reports two cases of **primary carcinoma of the liver with cirrhosis.** The tumor was an adenocarcinoma in the first case; in the second case a microscopic examination was not made, but it was a primary carcinoma of the liver. In the first case there was carcinomatous thrombosis of the portal vein; in the second a similar thrombosis of the intrahepatic branches of the portal vein. [D.R.]

5.—A man of 52 was taken with progressive loss of flesh without any special symptoms. About 6 months later pain of moderate severity affected his back. The pain continued and 3 months later there was pain in his legs. A year from the beginning of his illness obstinate constipation set in and severe pain in the region of the bladder soon developed. About 2 months later he was obliged to take to the bed. On entering the hospital the prostate was found to be greatly enlarged in the form of a round hard nodular tumor, extending into the rectum. A diagnosis of probable primary **carcinoma of the prostate** with **bone metastases** was made. Later in the course of the disease the acromial end of the left clavicle, the spine of the right scapula, the acromion end of the right clavicle, the sixth right rib and the third and fifth left ribs became enlarged. Death followed and on pathologic examination the previous diagnosis was confirmed. Microscopic examination both of the primary tumor and metastasis showed the growth to be medullary carcinoma. [M B.T.]

6.—The first patient was a youth, 17 years old, who was brought to the hospital at midnight in an unconscious state. The face was cyanotic, the lips covered with froth, the breathing stertorous, the pulse scarcely perceptible, the patellar reflexes absent, the pupils contracted and nonreactive. At intervals of from fifteen to twenty minutes convulsions occurred, beginning in the right hand. The urine was albuminous, but free from sugar. The patient died at noon on the following day. At the autopsy a persistent thymus weighing 19 grams was found, and hypoplasia of the heart and aorta, hyperplasia of the spleen, miliary hemorrhages in the region of the fourth ventricle, and multiple hemorrhages of the lungs. The second case was a youth of 18 who came to the hospital in a stuporous state, with a full, strong pulse. The spleen was enlarged, and also the liver. The urine was albuminous and contained traces of acetone. The face became cyanotic and the pulse small. Death supervened within a few hours. At the autopsy an enlarged thymus was found, together with edema of the brain, hyperplasia of the lymph glands and the spleen, edema of the left lung, passive hyperemia of the liver and kidneys, circumscribed tuberculosis of the right lung and of the bronchial lymphatic glands. The third patient was a man, 23 years of age, who was brought to the hospital in an unconscious state. There was a history of alcoholic excess the night before. The spleen and the follicles at the base of the tongue were enlarged. The urine contained albumin. At the autopsy the thymus was found enlarged and somewhat succulent. There was edema and hyperemia of the meninges and the brain, and lobular pneumonia of both lower lobes. The fourth case was a boy, 17 years old, who was found unconscious and covered with feces and urine. He died very soon afterwards, the urine being albuminous and containing blood. At the autopsy a persistent thymus was found, together with swelling of the lymphatic glands, edema of the brain, and inflammation of the small intestine. The author looks upon these cases as examples of the **status thymicus,** and thinks that they might be designated as the **cerebral type** of this condition. The diagnosis can be made with some probabilit when a young individual, apparently in perfect health, wit or without any external cause, suddenly falls unconscio and, either with or without other cerebral symptoms, su cumbs after a few hours, examination not pointing to an focal cerebral disease. The diagnosis becomes more prob able if enlarged follicles are found in the nasopharynx or a the base of the tongue, or when the spleen is enlarged. I three of the four cases the diagnosis was made by the autho [D.R.]

Centralblatt für Chirurgie.

November 4, 1899. [26. Jahrg., No. 44.]

1. Fritz Salzer's Radical Operation for Femoral Hernia. A BRENNER.

1.—Salzer was the first to suggest the advisability of mal ing a half-moon-shaped flap from the peritoneal fascia whic he reflected upward and sewed to Poupart's ligament for th **radical cure of femoral hernia.** The steps of the ope ation, isolating the sac, etc., are the same as in ordina operations. A curved incision is then made through the fa cia of the petineus muscle forming a flap with its ba toward the pubic bone; the free border of the fold begi externally near the femoral vein and ends near the pub tuberosity. This sac is dissected up and sewed to the media third of Poupart's ligament, leaving only a small fissure o the inner side of the femoral vein. The removal of th glands and the loose cellular tissue in this region is consi ered unnecessary and undesirable. Brenner mentions 63 cas which have been operated upon by this method with a pe manent cure in 91.8% of the cases. [M.B.T.]

November 11, 1899. [26. Jahrg., No. 45.]

1. Gastrostomy as an Aid in Successful Gastroenterostom O. WITZEL.

1.—Witzel commends the combination of the operation gastrostomy with the operation of gastroenterostomy as w recently suggested by Rutkowski. He believes, howeve that it is desirable that the gastrostomy be performed fir and not after the gastroenterostomy as was suggested by Ru kowski. [M.B.T.]

November 25, 1899. [26. Jahrg., No. 47.]

1. The Radical Operation for Inguinal Hernia in Infan ALEXANDER FRAENKEL.

1.—Fraenkel believes that the first year of a child's life the most favorable time for performing the **radical oper tion** for the cure of **hernia.** The same indications whi would lead to operation in the adult indicate the operati in the child. Spontaneous cures, he believes, are extreme rare. If the child is allowed to grow up with the hern present it has a decidedly detrimental influence on its d velopment, preventing the child from engaging in the usu sports of childhood and indirectly interfering with the mo and mental development; besides this the hernia is a sour of continual anxiety for the parents. The soiling of t wound may be avoided by careful attention, by the applic tion of a bandage, immobilizing the lower extremities and surrounding the region of the anus and penis with so water-proof material. The entire process of healing la but 8 or 10 days. Fraenkel has operated upon 68 childre including 16 infants, with excellent results. He prefe Bassini's operation. [M B.T.]

Centralblatt für innere Medicin.

December 30, 1899. [20. Jahrg., No. 52.]

1. The Excretion of Ammonia in Digestive Disturbance Sucklings. By B. BENDIX.

1.—This is an answer to the article by Keller, abstract from a recent number of the same journal. Bendix repo his results from examination of 12 children, with disturbar of digestion. These showed either normal or subnormal cretion of ammonia, and he therefore considers that there no reason for stating that ammonia is excreted in excess amounts in the digestive disturbance of children. Kel adds an answer to this article, which is chiefly a statem that he never claimed that ammonia is always increased digestive disturbance. [D.L.E.]

Sundry French Journals.

Non-Hemorrhagic Pleuritis in Pleuropulmonary Carcinoma. EUGÉNIE KILRER. (*Gaz. Heb. de Méd. et de Chirur.*, May 14, 1899. 46me Année, No. 39. Paris Thesis, 1898-99, No. 230.)

A Clinical and Experimental Study of the Leukocytosis in Erysipelas. ETIÈNNE REY. (*Gaz. Heb. de Méd. et de Chirur.*, May 28, 1899. 46me Année, No. 43. Paris Thesis, 1898 98. No. 201.

The Defense of the Organism by Fibrin. A. GILBERT and L. FOURNIER. (*Sem. Méd.*, June 14, 1899. 19me Année, No. 26.)

A Contribution to a Study of Pulmonary Congestion in the Course of Influenza. OLIVIER. (*Gaz. Heb. de Méd. et de Chirur.*, June 25, 1899. 46me Année, No. 51. Paris Thesis, 1898–99, No. 345.)

The "Hesitating" Pulse and Its Prognostic Value in Acute Lobar Pneumonia. G. CARRIÈRE. (*Gaz. Heb. de Méd. et de Chirur.*, June 22, 1899. 46me Année, No. 50.)

Comparative Study of the Different Lines of Treatment for Exophthalmic Goiter. VLACHANIS. (*Gaz. Heb. de Méd. et de Chirur.*, July 9, 1899. 46me Année, No. 55. Paris Thesis, 1898-99, No. 324.)

1.—Apropos of a case seen in the service of Dieulafoy, lrer insists anew on the fact that the symptomatic **pleural fusion of carcinoma of the lung** is not habitually morrhagic, but is very often serous. When the carcinoma of the pleuritic form the presence of a serous fluid in the ura does not positively exclude neoplasm. The diagnosis difficult and depends upon (1) the rapid production of the usion, usually without fever; (2) the low fibrin-content of e fluid, and (3) the presence, sometimes, of carcinoma-lls. If the pleuritis attacks a patient who already pre-nts carcinoma or one who has been operated upon for at disease, the idea of carcinomatous pleuritis should then ise. [J.M.S.]

2.—From interesting studies that he has made under the rection of the Chantemesse, Rey concludes that the varia-ns in the hemoleukocytic formula permit one to foresee a lapse in the course of facial erysipelas or a second attack be-re the clinical manifestations appear. The disease develops th variations in the percentage of the different kinds of ukocytes, variations that are constant and regular in their ccession, and that allow of the stating of a general **emoleukocytic formula for erysipelas.** This curve ecedes the temperature-curve; announces and then con-ms that curve. Beginning on the third day of the disease, hen recovery is to take place, the polynuclear leukocytes minish progressively and regularly to the normal propor-n. The large mononuclears increase as the polynuclears minish, but when the latter have reached their normal fig-e they, in turn, decrease in number. The small mononu-ears or intermediate forms have an evolution that seems lated to that of the large monocuclears, but that takes ace at a later time. The lymphocytes affirm the cure. hey are sometimes present in larger numbers than normal, en when, clinically, the disease has been cured for several ys, and the number of leukocytes has fallen almost to rmal and the large mononuclears become less numerous. inally, the eosinophiles, contemporary with and the control the healthy state, appear only when the infection is well tinct. The author noted that the value of the treatment this disease by different sera could be judged by the modi-cations that the sera would produce in the hemoleukocytic rmula for erysipelas. This may appear also in other dis-ases, after their hemoleukocytic formulas have been estab-shed. [J.M.S.]

3.—After studying the relation between the growth of the neumococcus and the production of fibrin, Gilbert and ournier conclude that general and local hyperfibrinosis ould be considered as a beneficial reaction, and that the brin thus produced in excess **plays an important part the resistance of the organism to the infections.** urthermore, this favorite role of fibrin in pathology greatly xceeds the limit of the infectious diseases. In a large num-er of cases hyperfibrinosis intervenes to moderate a morbid rocess and to produce recovery. It is sufficient to recall he fact that to this condition we owe the possibility of spon-taneous hematosis in wounds of the vessels, the possibility of the cure of certain aneurysms, the possibility of thrombosis of those vessels the walls of which present colonies of developing microorganisms and the thickening and the increase in the resistance of the serous coat of a hollow organ that tends to perforate. Hyperfibrinosis also favors the healing of wounds, the regeneration of certain tissues, etc. [J.M.S.]

4.—Olivier makes the following classification of the different varieties of **pulmonary congestion** that are **due to influenza:** 1. It may be of the atelectasic form, that special form described by Ferrand, that is characterized by a diminution in the permeability and an increase in the density of the pulmonary parenchyma. 2. It may take the classic form of primary pulmonary congestion, that is known as Woillez's disease or as inflammation of the chest of Grasset and Dieulafoy. 3. It may present the characteristics of the splenopneumonia of Grancher. This variety of influenzal pulmonary congestion is very tenacious and may persist for a long time without any local modification until the general condition of the patient is relieved. 4. It may present the appearance of a true bronchopneumonia. 5. It may be complicated by a paretic state of the bronchi that may result in rapid asphyxia. This is the asphyxic form of Graves and the bronchoplegic form of Huchard. The pathogenesis of influenzal congestions is complex; but the clinical facts seem to point to Pfeiffer's bacillus as the pathogenic agent and to influenza as the cause of these forms of congestion. The influence of the influenzal virus on the nervous system is particularly marked; thus patients who are fatigued and particularly those who have a damaged nervous system appear especially predisposed to the splenopneumonic and bronchoplegic forms of influenzal pulmonary congestion. [J.M.S.]

5.—The **hesitating pulse** is one in which it seems as if the heart had hesitated in forcing the blood-wave into the arterial system. This hesitation is readily recognized both by the finger and in sphygmographic tracings. To the finger the radial artery, instead of becoming quickly distended after the systolic impulse, becomes gradually filled. In a sphygmographic tracing, instead of the normal, almost vertical ascending limb of the pulse-wave, there is a more or less oblique ascending limb that appears to be produced with difficulty. Since 1892, Carrière has observed this symptom in 6 out of 28 cases of **acute lobar pneumonia,** or 21.5%. Of the 6 patients that presented this symptom, 5 died. It seems, therefore, legitimate to think that this is a condition that is produced only in grave forms of the disease; those that have a tendency to fatal evolution. The phenomenon is best marked in the afternoon from 3 to 6 o'clock. It appears from the fourth to the sixth day; never before the fourth day. It is usually accompanied by low arterial tension. It is never accompanied by dicrotism. After death, the hearts of patients that presented this phenomenon during life, have always shown the lesions of segmentary myocarditis. [J.M.S.]

6.—From the standpoint of practical therapeutics Vlachanis divides cases of **exophthalmic goiter** into primary and secondary forms. The first class, primary goiters, should be treated only by medical and hygienic means. It is only in the presence of special indications, such as rapid cachexia, a complication that endangers life, that surgical means should be employed. In the second class of cases, secondary goiters, **surgical treatment** seems to be attended by much success and is indicated more frequently than in the first class. It should, however, be employed only after the failure of medical measures, particularly opotherapy. Surgical treatment is actually limited to two operations; partial thyroidectomy and resection of the cervical sympathetic nerve. Sympathectomy is, possibly, the earlier and the less dangerous operation. From the view-point of results, both operations have been notably successful; but there have also been cases of failure and other cases of recurrence of the disease. The method of action of these operations and their results differ a little. Section of the sympathetic affects the exophthalmia particularly; while thyroidectomy relieves the tachycardia. Each operation, therefore, has its special indications. In addition to these two methods other forms of surgical intervention have been suggested, such as operations upon the nose, the ovaries and the uterus. The curative action of these procedures is not proved. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Palladium Chlorid in Phthisis.—S. Solis Cohen (*Transactions of the Philadelphia Medical Society*, December, 1899) states that he has used palladium chlorid in about two dozen cases of phthisis, of whom 75% have showed marked improvement, due largely, of course, to the general management, but partially, he has no doubt, to the drug. He found that patients to whom the drug was administered for a long period improved in weight, and in a number of cases there was a disappearance of fever and cough, and of the physical signs of active destruction of lung-tissue. He prescribes the drug in the form of an aqueous solution, the strength of which is 15 grains to the ounce (liquor palladii chloridi). The initial dose for an adult is 5 drops, well diluted with water, given from half an hour to ten minutes before meals. The dose may be gradually increased, in some cases, to 10 drops. The action of the drug is probably similar to that of platinum salts. When the dose was too large the palladium salt sometimes excited the heart in neurotic subjects.

Local Treatment of Puerperal Sepsis.—Lea (*Medical Chronicle*, August, 1899) concludes a paper on this subject as follows: (1) A rise of temperature of over 101.4° during the puerperium, not obviously accounted for by other causes, should lead to a thorough examination of the genital passages; (2) if no sufficient explanation is found in the condition of the perineum or vagina, a uterine douche should be at once given, with due precautions; (3) if within 24 hours the temperature has fallen definitely, no further exploration is required, but the douche may be repeated if the temperature again rises; (4) if at the end of 24 hours the temperature is higher, and the pulse-rate has increased, the cavity of the uterus should be explored with the sterilized finger; (5) if the initial rise of temperature is great (103° or over), with or without rigor, the uterus should be explored at once, not waiting 24 hours to observe the effect of a douche. This is more especially indicated if the uterus is bulky, showing decayed involution, since this points to putrefaction of retained products or septic endometritis; (6) if clots of placenta are discovered they should be removed by the finger or curet, a douche should be given and a gauze drain inserted for 24 hours; (7) in the majority of cases it is wiser to thoroughly curet the uterus with the object of removing the whole of the decidua and retained products; (8) there is no evidence that curettage, if done with every precaution, favors the spread of infection. In a large proportion of cases the infection is rapidly checked; (9) in every virulent infection early curettage with the object of sterilizing the uterine cavity affords the best chance of a successful result; (10) if curettage entirely fails it must be repeated or not, according to local conditions present. The prognosis, however, with the absence of a definite localization of the infective process is bad; (11) in some cases, if curettage fails and there is no evidence of general peritonitis, or of infection of the blood-stream, vaginal hysterectomy if performed in good time may be successful; (12) antistreptoccocic serum should be given early and freely in cases of *proved* streptococcic infection. It is of little use in the advanced stage of the disease.

Typhoid Fever.—Miller (*Merck's Archives*, January, 1900) claims to have had excellent results from the use of the following combination in typhoid fever.

℞.—Tincture of iodin.....10 drops.
Carbolic acid.....10 drops.
Distilled water..... 2 ounces.
Sirup..... 2 ounces.

A teaspoonful in a little cold water every 2 hours.

Camphoric Acid.—According to the *Therapeutic Gazette* (February 15, 1900), camphoric acid is not as widely employed as it deserves in the treatment of night-sweats. Given in doses of 20 or 30 grains 2 or 3 hours before the time at which the sweat usually occurs it rarely fails to give relief, and exerts no deleterious effect upon the rest of the body.

Acute Coryza.—The following powder, to be used as snuff, is recommended by the *Revue Médico-Pharmaceutiq* (January 1, 1900).

℞.—Powdered iris, Powdered marshmallow } of each .... 75 grains.
Tannic acid..... 2½ grains.
Menthol ..... 1 grain.

According to the *Practitioner* the following snuff is effecti if used early.

℞.—Alum ..... 3 grains.
Morphin sulfate ..... 2 grains.
Cocain hydrochlorate..... 1 grain.
Camphor, Bismuth } of each ..... 2 drams.

To be mixed thoroughly. To be used as a snuff every tw hours, a small quantity being used in each nostril.

Treatment of Pernicious Anemia.—E. Grawi (*Veröffentlichungen der Hufelandischen Gesellschaft*, Berlin, 18 and *British Medical Journal*, December 30, 1899) after discus ing what is meant by progressive pernicious anemia dra attention to the very variable factors in the etiology of th condition to which attention must be paid when one trea it. No sudden cure of such an essentially chronic affectio must be hoped for. As possible etiologic factors of the di ease (excluding the special pernicious anemias of chil hood), Grawitz includes various chronic disorders of th alimentary canal and digestive system, the influence of pre nancy, chronic hemorrhages, syphilis (this may produ chronic changes in the bone-marrow, and the changes pr duced by other bone diseases, such as chronic osteomyeli and sarcoma, may likewise lead to a condition of progressiv anemia), various unfavorable factors in the patient's ord nary life (bad diet, stuffy rooms, overfatigue, mental tro bles, shocks, etc.), chronic poisoning (chronic effects of sma quantities of carbon monoxid in the air), the effects of inte tinal parasites (bothriocephalus and ankylostoma), whic may persist after the removal of the parasites themselve The supposed microbes found in the blood of some patien may be explained as accidental microbes or as contracti bodies derived from the blood-cells. Grawitz thinks th prognosis is especially bad in pernicious anemia which h developed in old syphilitic cases. In the treatment of th affection the probable etiologic factors in each case must b considered. When the patients are apparently improv the danger of a relapse must always be borne in mind. Suc patients are no more to be regarded as "cured" than a diabetic patients when, by careful dieting, their urine b comes free from sugar. In nearly all cases rest in bed is th first and most important requisite at the commencement the treatment. The digestive system must be seen to, an constipation treated. When much indican is found in th urine, intestinal antiseptics may be useful. Stomachics an articles of diet which stimulate the appetite may be servic able. The results of all this treatment must be estimated b regular examination of the body-weight. The general nutri tion and digestion of the patients should be cared for befo medicines are given which have a direct action on the bloo Treatment in suitable sanatoria is as much required as it for diabetes, obesity, etc. At the commencement of trea ment an obvious improvement in the quality of the bloo must not be expected. There may at first be a decrease red corpuscles in the blood, in spite of obvious improvemen in the patient's general condition, and in spite of increase appetite and disappearance of retinal hemorrhages. Poss bly with the improved diet the fluid part of the blood increased so that at first the blood may be more watery an the percentage of blood-cells diminished. Iron is at fir contraindicated. Arsenic is generally considered the mo valuable medicine, but the dose must be only gradually i creased. Quinin is often of use and may be given with th arsenic. Iodid seems not to be of as much use as one wou suppose when the affection is grounded on old syphilis, b Grawitz does not say that iodids may not now and the exercise a beneficial effect. Inhalations of oxygen have be employed by Köster. Bone-marrow seems not to ha yielded good results. When improvement sets in, caref massage and exercises can be employed, and eventually heavier diet must be given. When collapse threatens, tran fusion may be of temporary value.

Sodium Saccharate in Physiologic Saline Solutions.—Schieking (*Therapeutsche Monatshefte*, December, 99) contends that an ideal saline solution should contain, addition to calcium and other salts, which have a favorle influence on cardiac action, some substance capable of mbining with the carbonic acid present in excess in the dy fluids. An alkaline globulin compound does this under rmal conditions, forming an alkaline carbonate and free bulin. He has found sodium saccharate an excellent bstitute for the normal globulin compound. This salt mbines with the carbon dioxid, and thus neutralizes its xic effect, the result of the reaction being sugar and sodium rbonate. After some successful experiments upon frogs hieking put the preparation to a clinical test, and observed untoward effects. On the contrary, good results were tained in some instances when the ideal normal salt-solun had failed. The solution recommended contains 0.03% sodium saccharate and 0.07% of sodium chlorid. It is imrtant that the sodium saccharate should be chemically re, so that the mixture shall contain neither free sugar r sodium hydrate.

The Treatment of Inoperable Malignant Tumors.—Coley (*Boston Medical and Surgical Journal*, January 18, 00) in discussing this subject at a recent meeting of the ifth District Branch of the New York State Medical Assoation states that 75% of malignant growths were at some me or other beyond the reach of the knife. He referred to ander's recent work on the ferment treatment. Among e features of the treatment was the lessening of the amount animal food taken by the patient, butcher's meat being together excluded, and the injection of pure ferments. The sults from the use of yeast-cells were too recent to be used determining the permanent value of the method. The treatent by injection of thyroid extract and the removal of the varies had a logical warrant, as the action of the extract was nalogous to that of the pure ferments in breaking up glycoen, and he here referred to cases recently reported by Fredrick Pye, Watson Cheyne and others. As to treatment by eans of the mixed toxins of erysipelas and bacillus prodiosus, he stated, the greatest improvement occurred in the pindle-celled sarcoma. After recounting a number of spe-al cases, he said that the cases now amounted in all to 159. f 87 cases of round-cell sarcoma 39 showed more or less mprovement, and in one instance the patient remained enirely well at the expiration of five years. Twenty-two of he cases were of the spindle-celled variety of sarcoma. Of hese, 8 remained well at the expiration of from three o seven years, and 11 at the expiration of from one to three ears. He had already called attention to the very great ifficulty, both of obtaining suitable cultures and of keeping hem sufficiently virulent. These toxins were very powerful acteriologic products, and it was necessary to use them vith the greatest caution in order to avoid dangerous risks. Among the conclusions at which he had arrived were the following: That mixed toxins exert an inhibitory action on nalignant growths; that these are less efficient in their action n carcinoma than on sarcoma; that in a larger proportion f cases of inoperable sarcoma the patients survived for more han three years after the treatment; that the action of the oxins in no wise resembles that of a local escharotic.

Disinfection of Stools and Sputum.—Abbott (*The Hygiene of Transmissible Diseases*, 1899) writes: The stools of all patients suffering from infective intestinal disorders, such as typhoid fever, cholera, dysentery, intestinal tuberculosis, etc., should be disinfected as soon as they are passed; and this should constitute a part of the routine duty of the nurse in attendance . . . If each evacuation, including the urine, from every case of typhoid fever, for instance, were disinfected as soon as passed from the patient, it is safe to say that this disease would soon disappear in large measure from among us.

Methods: Mix with each evacuation double its volume of freshly-prepared milk of lime, or double its volume of 1% chlorid of lime solution, or double its volume of 5% carbolic-acid solution; or pour upon the evacuation three times its volume of *boiling* water or boiling 2% soda solution. In either case cover the vessel and allow it to stand in a safe place, from one to two hours before it is emptied into the closet. What is said in regard to intestinal evacuations applies equally well to urine, vomited matters, pus, etc.

Sputum.—Sputum from tuberculosis, influenza, pneumonia patients should be received in covered vessels containing either a 5% carbolic acid solution, 2% ticresol solution, or a 1% chlorid of lime solution. Or they may be spat into covered receptacles containing moist sawdust, which, with their contents, are afterwards disinfected (at the end of each day) in a steam sterilizer and the contents finally burned. Or it may be received in cheap, pasteboard receptacles that, with their contents, may be burned at the end of each day.

Warts.—Purdon (*Dublin Journal of Medical Science*) recommends in the place of cutting and application of caustics the wearing continuously of an india-rubber finger-stall, if the warts are on the fingers, or an india-rubber bandage if they are on the hands or feet. The rubber exerts gentle pressure, while the wart is kept moist aud macerated from retained perspiration, The writer has found this method of treatment uniformly successful.

Suprarenal Extract in Nasal Surgery.—Whitehead (*Therapeutic Gazette*, February 15, 1900) recommends an aqueous extract of the desiccated gland of a strength of 10 grains to the dram, adding 12 grains of cocain hydrochlorate after filtration. The strong astringent action of this solution on the erectile tissue of the nose gives more room for intranasal manipulation, and also facilitates operation by diminishing to a minimum the amount of hemorrhage. He has not found hemorrhage resulting in the period of reaction, and has not found its use to interfere with the process of repair.

Bright's Disease.—Tyson speaks favorably of the following combination known as Trousseau's diuretic wine when there is dropsy and the urine is scanty:

Bruised juniper berries	10 drams.
Powdered digitalis	2 drams.
Powdered squill	1 dram.
Sherry wine	1 pint.

Macerate for four days and add

Potassium acetate	3 drams.

Press and filter.

A tablespoonful three times a day for an adult.

Suprarenal Extract in Epilepsy.

Hill (*Bulletin of Mount Hope Retreat*, U. S. A., 1899) states that owing to the known effects of suprarenal extract on the tonicity of the bloodvessels, and from the fact that it increases the elimination of urine, he was led to try the drug in epilepsy. A glycerin extract of the fresh gland was found superior to the dried extract. The following formula was employed:

℞.—Glycerin extract of suprarenal gland	1 ounce.
Calcium chlorid	2 grains.
Sodium bromid	5 grains.

This amount was given thrice daily. The strength of the glycerin extract was such that 1 dram of the solution represented 1 grain of gland. The calcium chlorid was added to eliminate the carbamic acid in the gland. The results were quite favorable, and Hill concludes: "I would consider it a success compared with any and all other plans of treatment if there was nothing more in its favor than the striking improvement in the mental and physical conditition of the patients."

Ergot in Asthma.—Bell (*Therapeutic Gazette*, February 15, 1900) speaks highly of ergot and its derivatives in cases of spasmodic asthma. He claims that the drug seldom fails to cut short the paroxysm, and argues from this that we have to deal with a pulmonary vasodilation.

Alopecia Areata.—Stojanovitch (*Ann. de dermat. et de Syph.*, September, 1899) states that a 50% aqueous solution of lactic acid has a remarkable effect in alopecia areata. As the remedy is quite irritating it should not be used more than once a day. If the pain should be very severe the acid is to be suspended temporarily and anodyne applications used. In the large majority of cases cure was complete in three months.

Original Articles.

THE TREATMENT OF TYPHOID FEVER.

BY FRANK BILLINGS, M.D.,
of Chicago.

TYPHOID FEVER is an acute infectious fever, caused by a specific microbe—the Bacillus typhosus. Typhoid fever is a filth-disease and a so-called water-borne infection. The bacteria gain access to the body in the great majority of cases through the ingesta. Water is the usual carrier. Contaminated milk or other food, and dust laden with the bacillus, either inhaled or swallowed, are sources of the infection. Upon the local or State boards of health devolves the question of the manner of typhoid contamination of water and food, and the measures which may correct the evil. Upon the practitioner, however, falls a responsibility which is very important in respect to prophylaxis.

The bacillus finds egress from the body of the patient chiefly by the feces and the urine. The infected excreta may contaminate all objects and materials with which they come in contact. The soiled person and clothing of the patient, and the bed may directly infect the sick-room attendants, the laundress and others, if proper cleanliness of the person of the patient and of the hands of the attendants is not thoroughly carried out. Therefore, the feces and the urine should be properly disinfected in every case. A 10% solution of formaldehyd, a good preparation of chlorinated lime, a 5% solution of carbolic acid, boiling water, and sulfate of iron may be successfully used. Soiled clothing should be placed to soak in a strong solution of carbolic acid. Personal cleanliness of the patient and of the attendants should be maintained by frequent bathing of the body and the hands. Further, suspicious water and milk should be sterilized by boiling before use. Flies are now known to be carriers of typhoid and other contagions, so that all food exposed to possible infection by these pests should be thoroughly cooked. After the recovery of the patient, the mattress, the blankets, etc., should be thoroughly aired in the rays of the sun and, if soiled, should be disinfected by steam heat. The bed should be washed with hot water and soap.

The production of artificial immunity from typhoid fever, as a prophylactic measure by inoculation with typhoid cultures, or with typhoid serum, has been practised on man and animals with apparent success.

Pfeiffer and Kolle[1] asserted that they immunized man and animals against typhoid fever by a 24-hour-old agar-culture of typhoid bacilli, of which 0.002 grams were mixed with 1.0 cc. of bouillon, and used subcutaneously. This was followed in man by a transient rise of temperature to 38.5° C., with moderate headache and loss of appetite. In 10 days the blood showed the agglutinative and solvent action upon typhoid bacilli. The statement was made that the toxin exists in the bodies of the dead and living bacteria.

Pfeiffer and Marx[2] made experiments upon the principle followed by Pfeiffer and Kolle. For immunizing men they used 0.002 mg. of dead 18-hour agar-cultures of typhoid. Reaction occurred quickly with a slight rise of temperature, headache and insomnia. After 10 days the serum of the blood showed a solvent action on the typhoid bacteria. In animals so treated, the serum of the blood became protective to other animals.

Pfeiffer and Marx inoculated 3 servants in the hospital. Reaction occurred at once with temperature of C., malaise, etc. Local swelling, pain, and redness curred at the point of inoculation, but disappeared 24 hours. After 10 days the serum caused agglutinat of typhoid organisms in dilutions of 1 to 5, and 1 to

Brieger, Kitasato and Wasserman[3] grew typhoid b illi in thymus-bouillon for three days. What they t an antitoxic body in the thymus cells reduced the vi lence of the typhoid poison, so that in the sul quent heating to 60°C. for fifteen minutes the thym culture was attenuated sufficiently to make its safe in man, and, at the same time, sufficiently p tective.

On October 26, they injected six mice with ccm. of thymus typhoid bouillon, heated for fift minutes at 60°C. The animals presented no signs illness, and on November 7 the six protected m and three other control-animals were all inocula in the peritoneal cavity with 0.3 ccm. of most vi lent typhoid bouillon. The three control-animals d in fourteen hours. The protected animals all survi without signs of illness.

Chantemesse[4] found the toxin in the bodies of typh bacteria and not ordinarily in the liquid part of culture. He succeeded in securing a soluble toxin special culture-media. Chantemesse states that anim reacted differently. A guineapig is very susceptib a rabbit more resistant. The horse is susceptible varying degree. Horses injected every one to two we for two or three years usually showed a marked re tion to each inoculation and did not become immu One horse became immune after two years of repea injections, during which time six litres of the typh toxin were used. Guineapigs given $\frac{1}{50}$ ccm. of antitoxic serum of this horse survived fatal doses toxin; when given $\frac{1}{100}$ to $\frac{1}{200}$ of protective seru followed by a dose of toxin sufficient to kill in five six hours, the pigs lived forty-eight and twenty-f hours respectively. He found the same protective fluence of the serum in other animals and in man.

In England and British India more extended attem have been made to immunize man. Wright[5] inoculat 95 of 200 attendants at the Maidstone Asylum. In succeeding epidemic, 19 of those not inoculated c tracted typhoid; none of the protected 95 were ill. 8 officers, 6 were inoculated, and 2 were not. The 2 protected had enteric fever; the 6 escaped. Wrig states also that he inoculated 3,000 troops, and th more than half escaped typhoid fever.

Duckworth[6] inoculated 2 men with 1 ccm. of sterili serum at 9.30 A.M., causing a febrile reaction to 1 F., and a pulse of 95 seven hours later. There w headache, impaired appetite, and thirst. The point inoculation became sore, red, and remained tender 48 hours. Ten days later a second inoculation w made in the flank. Locally there was less pain a tenderness than before. Reaction occurred with a te perature of 100.8° F., and pulse of 80. On the ne day the point of inoculation was red and tender, and gland of the groin was tender and enlarged. Uri scant and dark; Ehrlich's reaction absent. On t seventeenth day Widal's reaction was present and v orous in dilution of 1 to 200.

Wright[7] inoculated 250 soldiers. No statement of t result was made. Fifty-nine soldiers about to lea England for India were inoculated by the medi officer.[8] The temperature rose in 7 hours, reached 10 F., and returned to normal in 24 hours. Local sym

were severe in 2 cases. The men were unable to belts or to perform duty for 4 days.

Wright and Semple[9] used a vaccine composed of ured quantities of dead typhoid bacilli which were n in broth. Eighteen medical officers of the army of the India medical services were inoculated and lood of all afterward gave the Widal reaction.

Wright and Leishman[10] inoculated with a lysolised oid bacillus culture 2,835 soldiers, of whom 27, or %, afterward contracted the disease with 5 deaths, or . Among 8,640 uninoculated men in the same s, 213, or 2.5%, were taken with disease, and 23, or , died. Taken as a whole, these statistics would to show that a certain measure of protection was rred by the injections. It is pointed out, moreover, the inoculated consisted to a large extent of young who had only recently gone to India, while the oculated were older and more seasoned, in other s less susceptible individuals.

hese experiments are still too few in number and esults upon man too indefinite to allow of positive ctions. Enough has been done to prove the harmess of the operation and to encourage a continuance e practice. Many of the immunizing experiments upon man have been rendered valueless because e lack of clinical data following the vaccination and failure to make the Widal test at any time either re or after the inoculation.

he treatment of typhoid fever with serum or with erial cultures is the only treatment of the present which we may call specific. The old so-called fic forms of treatment in the shape of bowel antics, like iodin, carbolic acid, calomel, etc., are no er considered specific by anyone but the enthusiasw, who still treat typhoid fever and not the patient.

Fraenkel[11] used sterilized thymus-cultures of oid bacilli. The first day 0.5 gm. was injected deep e gluteal region. The second day 1.0 gm. was used, thereafter every second day. The dose was graduincreased until 4 or 5 gm. was injected. With the nd injection reaction usually occurred with a chill a rise of temperature. On the sixth or eighth day emperature usually fell to normal. With the fall mperature the pulse diminished in frequency, the oms symptoms disappeared and the tongue became , the abdomen became less tympanitic, the appetite ned, and convalescence was established. Fraenkel ed 57 cases. In all, the treatment was beneficial, the se of the disease shortened, and in the cases where early convalescence was not established, the fever me remittent or intermittent. Freankel's method eatment was used by A. Lambert, of New York, in , and by Henshaw,[12] of Boston. Lembert reported ases, of which 10 were treated by Brennan, and the under in the service of various New York physis. Fifteen of the cases showed more or less imement; 12 did not improve, and 1 died. The cases ving improvement were treated on the average 5 s earlier than those showing no improvement. In 5 s treated by Brennan the results were well marked. ne case the result was striking. The treatment was n on the eighth day. On the first day 0.5 gm. was n, on the second day 1.0 gm., on the third day 2.0 , on the fourth day 4.0 gm., and on the fifth day 5.0 On the fifth day the temperature fell to normal the patient convalesced. The patient had a relapse lays later. The injections caused a good deal of pain soreness at the point of inoculation. Henshaw treated 13 cases by the same method; in 8 the result was marked, in 4 the course of the fever was not affected, and 1 case died with intestinal hemorrhage. Henshaw made one control experiment with the use of plain sterilized thymus-bouillon. There was no appreciable result. The experiment seemed to refute the charge that the good effects of Fraenkel's typhoid bouillon were due to the thymus extract.

Rumpf[13] repeated Fraenkel's experiments, but used thymus bouillon cultures of Bacillus pyocyaneus, instead of the typhoid bacillus. Of 30 cases so treated, 2 died, one of pneumonia, and one of intestinal hemorrhage. Von Jaksch, Kraus, and others, have reported cases treated after the methods of both Fraenkel and Rumpf. The results with the blue pus-organisms were on the whole not as good as those of Fraenkel.

The antitoxin-serum treatment has also been reported upon.

Chantemesse[14] used the antitoxin serum obtained from the horse upon several typhoid patients. He states that the temperature is modified, nervous symptoms abate, the tongue becomes clean, and convalescence is shortly established. The serum of patients convalescent from typhoid has been used by many observers.

Walger[15] treated 4 cases. The treatment was begun on the sixth, seventh, sixteenth, and eighteenth days of the disease in the 4 cases. Ten ccm. of serum from convalescent typhoid patients were given daily in each case. In the 2 cases in which the treatment was begun late, relapses occurred. In all a bad prognosis had been made. All recovered. The effect in all was good. The nervousness disappeared, the temperature fell to normal in cases 1 and 2 on the second and third day respectively of treatment. Number 3 ran a prolonged course, but much less severe after the injections were begun. Other observers have had equally good results with the use of blood-serum of typhoid convalescents, while still others report less favorable observations, and a few have seen no beneficial effects from the use of convalescent serum. At present, therefore, the specific treatment of typhoid fever is on trial. The success attained is sufficiently good to give us hope of still better results. For the present we must continue the management which modern medicine has shown to give the best results.

The form of the disease seen today in the large cities is milder than that of the first four-fifths of the century. Fewer cases now present the typhoid states and severe intestinal symptoms. In 1881 and 1882, during the severe epidemic of typhoid fever in Chicago, more than one-half of the cases treated at the Cook County Hospital were of the severe type. During the autumn of those years a daily average of 100 or more cases was found in the wards. The mortality-rate must also vary with the degree of severity of epidemics. The lessened rate of mortality is due partly to the present milder form of the disease. Mortality statistics, based upon any form of drug treatment, have been proved to be misleading. Like all the specific infections, it is self-limited in its course, and recovery will occur in the great majority of cases under all forms of treatment, and in spite of drug-treatment.

Death occurs in typhoid fever from (1) asthenia, the effect of the specific toxemia, or the result of diarrhea; (2) from intestinal hemorrhage, or intestinal perforation, and (3) from intercurrent disease the result of mixed infection by pus cocci, pneumococci, etc.

Asthenia, the result of rapid or slow specific toxemia

is the most frequent cause. The specific toxemia is the cause of the clinical phenomena, notably fever and the nervous symptoms. The condition of the urine in typhoid fever is a good expression of the toxic condition of the patient's blood. Bouchard has defined the toxic coefficient of the urine in health and disease, as that fraction of a kilogram of animal tissue which is killed by the injection of the quantity of the 24-hour urine, which is excreted by one kilogram of the animal. The average coefficient of urine toxicity he placed at 0.363.

Roque and Weill[16] experimented with the urine of typhoid fever and arrived at the following conclusions regarding the urine from a case when the fever ran its course without any treatment whatsoever:

1. The toxicity is much increased, being double that of normal urine.
2. The toxicity is independent of the temperature and remains increased during the entire course of the fever and during convalescence.
3. The presence of albumin has no bearing upon the elimination of the toxins.
4. This elimination does not depend upon the amount of urine secreted.

The specific poison especially affects the nervous system and apparently has a profound effect upon the vasomotor apparatus. There is a consequent want of tone in the muscular apparatus of the cardio-vascular system. This is evinced by the low blood-pressure so frequently observed in the dicrotic pulse of the early stage of the disease. The toxins also produce the degeneration of organs commonly observed in all fevers and formerly wrongly attributed to the high temperature. The high temperature doubtless does contribute to this change in the organs, but to the toxins primarily must be attributed the fever and the degenerative changes. The management of the treatment must therefore be directed to a modification of the toxemia due to the specific toxins and also to the toxic products of tissue metabolism, which are naturally increased by the febrile condition of the patient. No known drug will shorten the course of the disease. It will run its course in spite of any known treatment, excepting perhaps the specific treatment already mentioned. Experience has proved that the methods of treatment which have for their object the diminution of the toxemia give the most satisfactory results. This is comprised chiefly under efficient nursing and diet.

I can not do better than to quote Professor Osler's opening statement of the treatment of typhoid fever:[17] "Since typhoid fever runs a course uninfluenced by any known medicines, the duty of the physician is to see that the patient is properly nursed and fed, and that dangerous symptoms, should they arise, are combated by appropriate remedies." In hygiene and dietetic measures his attitude is best expressed in the term "armed expectancy," giving no medicine, simply because the patient has a fever, but in emergencies using suitable remedies with promptness and decision. He advocates, as Sydenham said of Hippocrates, "the support of enfeebled and the coercion of outraged nature."

Good nursing is indispensable for the comfort and safety of the patient. Many of the accidents and complications are warded off, or materially lessened, by the watchful and skilful nurse.

The diet in typhoid fever is just now exciting some controversy in reference especially to the use of solid food. Thus Bushuyev[18] makes a plea for more liberal diet in the disease. His patients fed upon bread, bla or white, with crust, rolls, hard or soft boiled eg cereal porridge, small amounts of chicken, a small c let, or small amount of boiled beef, tea, coffee, so gruels, boiled milk, fruit juice, etc. Eighty cases so f during 1895-6 were compared with 74 cases treated Dr. Sartsierich, with a diet of milk only. Of the cases, 8 died, 10%, and of the 74, 9 died, or 12.1 The average number of days spent in the hospital the 80 was 42; of the 74, was 49.2. The better sho ing was made by the patients upon the more libe diet. From the experience of Bushuyev, the appet of the patients remained better, the stools more norm and there was less gastric and intestinal disturbar upon this diet than upon the usual restricted milk-di He states that intestinal hemorrhage is not more f quent and intestinal perforation less frequent. T emaciation was also less.

Shattuck[19] recommends more liberal but rational fe ing, to diet the patient as an individual, not as a c of typhoid fever. On the one hand are cases with ir table digestive organs, who require the most carefu selected, easily digested food; on the other hand a patients, rational and bright, with clean tongue a good appetite, who take and easily digest a simp mixed diet. Between the two are all grades of ca who require a diet modified to suit the individual.

The main principle of diet is to select simple, eas digested food which will leave but little irritating re due in the bowel. The digestive power of the in vidual is diminished and improper food or overfeedi may result in local disturbance of the digestive orga as well as possible autointoxication.

To carry a patient through typhoid fever, not only good nursing and a proper diet essential, but it is a necessary to mitigate the toxemia and to be constan on the alert to meet the complications and accide which may occur even in the mildest cases. T toxemia is best combated with hydrotherapy. T history, the methods of giving, and the effects of t cold-bath treatment are too well known to be repea here. That the mortality in hospital practice with t Brand bath has been materially lessened is substa ated by overwhelming data. The method has ma advocates and a few enemies. That the method h many friends is due to the manifestly good resu generally attained. That it has enemies is due to fact that like everything else it has been used a treatment for typhoid fever and not for individ human beings. The rule of beginning the bath, in cases, with the exception of cases of very weak he intestinal hemorrhage or perforation, acute nephri etc., when the rectal temperature reaches 39° C., a repeating the bath every 3 hours, provided the tempe ture again reaches that degree, to plunge the pati into a bath of 20° C., and keep him there 15 minu in spite of the discomfort the bath may give, m arouse antagonism in every humane physician, and es cially in him who individualizes in the practice medicine.

Hydrotherapy in whatever way applied is benefi in all the fevers. In typhoid fever with a profoun intoxicated nervous apparatus, and a vasomotor syst practically paretic, the increased tone given to nervous system by the application of cold water or of water and then cold with the object of producing nerv shock and secondary reaction is of great benefit. Brand bath gives the most profound results. The

k, cold effusions, cold sponging, give less pronounced
alts, but in many cases quite sufficient for the indi-
ual case. The effects of the Brand bath and of all
ns of baths to a lesser degree is to

. Lower the bodily temperature in the course of a
f hour after the completion of the bath.

. To increase the blood-pressure, as is evinced by the
ial pulse, which becomes smaller and more tense.

. The headache and other nervous symptoms are
eved.

. The tongue becomes cleaner, the thirst less, the
estion is improved, and the bowels move more regu-
y and normally

What is the meaning of these reactions? Nervous
ck and subsequent reaction, associated with the in-
ased tone of the cardiovascular apparatus, means
reased blood-pressure and consequent improved
retions and excretions. The urotoxic coefficient is
reased 5 or 6 times that of the normal.[20] The amount
oxins excreted is increased from the time the cold
hs are begun and remains stationary as long as the
hs are given. The moment the baths are stopped,
amount of toxins excreted is diminished.

In cases of typhoid fever left to themselves the toxins
in part eliminated during the fever, the toxic co-
cient being double the normal. The elimination is,
wever, incomplete and a hypertoxic urine is often
monstrated four or five weeks after the end of the
er.

In cases treated by the cold baths the elimination of
toxic products is enormous during the active stage
the disease. The hypertoxicity diminishes with the
l of temperature, so that when convalescence is estab-
ed the elimination of the toxic products is finished
d the urotoxic coefficient becomes normal. The cold-
h treatment does not prevent the formation of toxins,
t expels them as soon as they are formed.

It is interesting to note that of drug antipyretics, with
tipyrin the elimination of the toxins is slight, while the
ug is taken, the toxic coefficient sometimes falling be-
v the normal, but during convalescence it is enormously
reased for a period of about a week. Antipyrin does
t act as a true antiseptic; it does not prevent the for-
ation of the toxins, but it does prevent the elimination
them by the urine. The free excretion of the toxic
oducts by the urine as fast as they are formed is then
obably the explanation of the beneficial effects of the
ld bath. Furthermore, the bath is beneficial just in
oportion as it excites cardiovascular tone by reaction
m the stimulus or shock of cold. Reaction, the neces-
ry condition to obtain the beneficial results of the
th, may be attained more easily by skin-friction, both
uring and following the bath. Indeed, the skin-fric-
n is just as important as the application of cold.
ith friction a lesser cold may be applied and even the
ld pack, the cold effusion, and the cold sponge, when
mbined with proper friction of the skin, will be fol-
wed with much more beneficial results than if the bath
given with the idea of reducing temperature only.
ydrotherapy, and preferably the Brand bath, when
plied to individual cases, affords better results than any
her form of symptomatic treatment. It seems rational
ascribe the good results to the increased excretion of
xins by the urine, when the bath is properly given.
he diminished toxemia explains the improvement in
ie symptoms. Other methods of treatment are par-
ally successful or beneficial just in proportion to the
fects the treatment has upon excretion. Drug anti-
pyretics, cathartics, especially calomel in large or in small doses, and so-called intestinal antiseptics, have run a more or less unhappy course, and are now practised by but few thinking men. Diluent drinks and colonic flushings with normal salt-solution afford a more rational treatment by improved excretion than all the antipyretic and antiseptic drugs. The preliminary treatment of typhoid fever with a cathartic of calomel, castor oil, a saline, or any other drug, is commendable as a bowel-cleansing process. The use of drugs thereafter is for the watchful man one of choice to meet the needs of the hour.

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EXPLORATORY LAPAROTOMY UNDER LOCAL ANESTHESIA FOR ACUTE ABDOMINAL SYMPTOMS OCCURRING IN THE COURSE OF TYPHOID FEVER.

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[From the Surgical Clinic of Dr. Halsted.]

HESITATION over the propriety of subjecting a patient already suffering from the effects of a serious disease, to the additional risks of general anesthesia, has perhaps more than any other factor been the occasion, heretofore, of delayed surgical intervention when acute abdominal symptoms have supervened during the course of typhoid fever. Indeed the time is not remote when the presence of a typhoidal infection of any severity was, and with some propriety, regarded as a direct contraindication to the administration of ether or chloroform. Only six years ago I listened to a lecture on the complications of typhoid fever, delivered by an authority on the subject, in which an opinion was emphatically expressed against the advisability of surgical interference in perforation for this very reason. Nevertheless individual reports and the statistics gathered by various writers have proved to the contrary that the otherwise inevitable fatality of this complication may in a certain percentage of cases be averted by operation, even in the face of risks incurred by general narcosis.

It is not to be doubted that calamities of anesthesia are especially prone to follow upon its prolonged administration to patients during such febrile states, either from an immediate depressing effect upon the already disturbed medullary centers or subsequently, in consequence of the insult from the inhalation to the lungs, which are too often involved in a more or less active and preexisting bronchitis, a feature of the disease. The first laparotomy in typhoid fever under my per-

sonal observation (September 20, 1897) was one of peritonitis from an acute cholecystitis,[1] and the anesthetic in this instance seemed, beyond doubt, to have hurried the patient's exitus. Similarly in my earlier few cases of intestinal perforation,[2] in which ether or chloroform was administered, the operation was necessarily hurried, a matter of moments, and the patients at times left the table almost pulseless, though

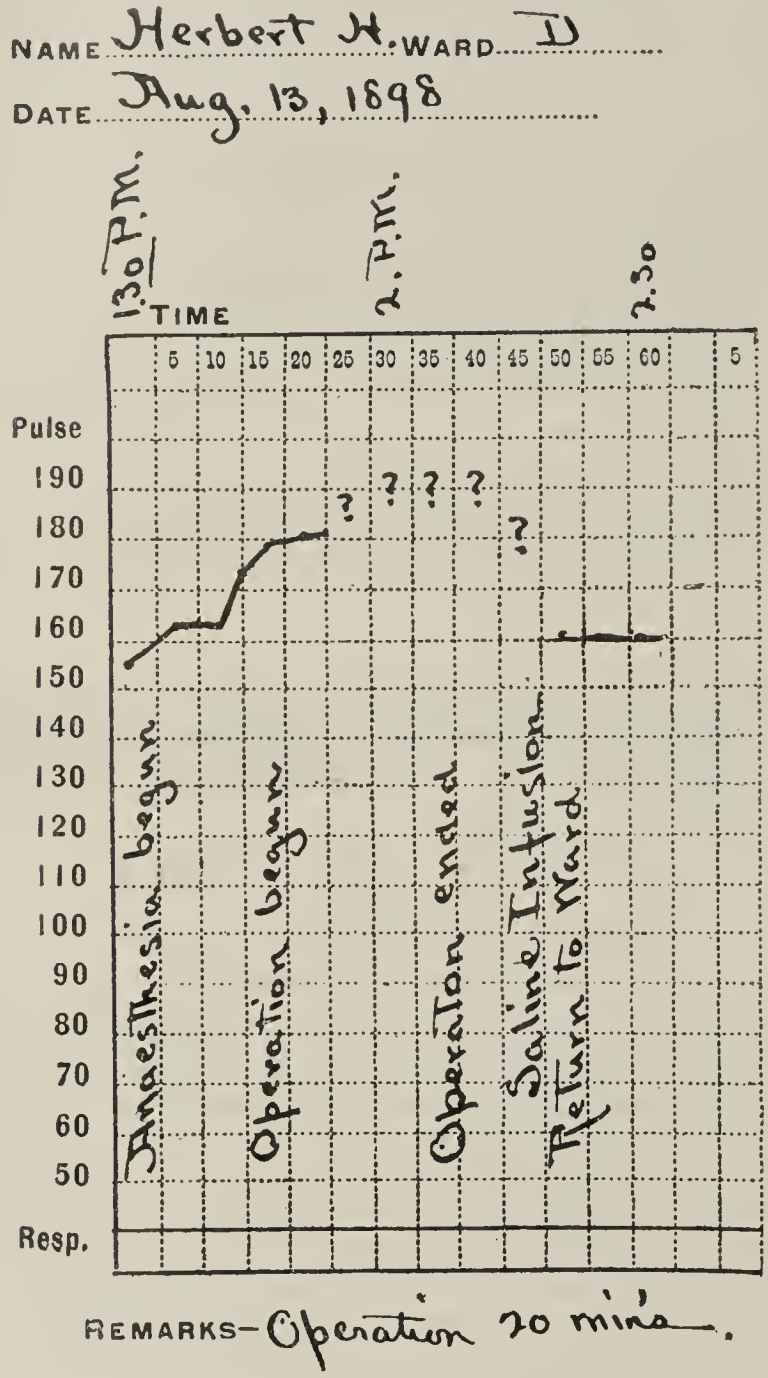


CHART NO. 1.

they might have been brought to it in good condition. The appended anesthesia-charts, which record five-minute observations on the pulse-rate during and after anesthetization, and which have been copied from the records of these old cases, are presented in illustration of this, and for purposes of comparison with the charts which accompany the histories to be reported. Chart I represents the effect of the administration of chloroform to a typhoid patient four hours after his perforation, while he was in a condition of shock. Fortunately the individual rallied after this and recovered after two succeeding anesthetizations for the purpose of laparotomy, a similar effect on the pulse having been observed on each occasion.

Chart II represents the effect of ether on the pulse-rate of a case operated on 14 hours after a perforation which had been overlooked owing to the patient's typhoidal torpor until stereotyped symptoms of peritonitis had presented themselves. The patient was in extremis at the time of operation and died a few hou later.

Of course pulse *rate* as shown in these charts is on in a measure indicative of the actual cardiac pow and diminution in blood-pressure as a result of sho may be out of all proportion to the increase in ra and only when we obtain some simple means, mo accurate than that of the palpating fingers, of recor ing the latter graphically in the operating room, can appreciate the real alterations in cardiac action und operative circumstances. Nevertheless, grave distur ances of the regulatory centers such as these record may be evidenced by these rough methods.

Influenced by the satisfactory application of loc methods of anesthesia in cases of strangulated herni in which conditions general narcosis had been f quently seen to occasion ill effects similar to th mentioned above, it was determined to utilize cor sponding procedures in the typhoid cases under t belief that the chief objection to an early explorati would thus be avoided.

Abdominal operations under local anesthesia, ho ever, are by no means to be approached ca lessly. The greatest patience is required; more ti

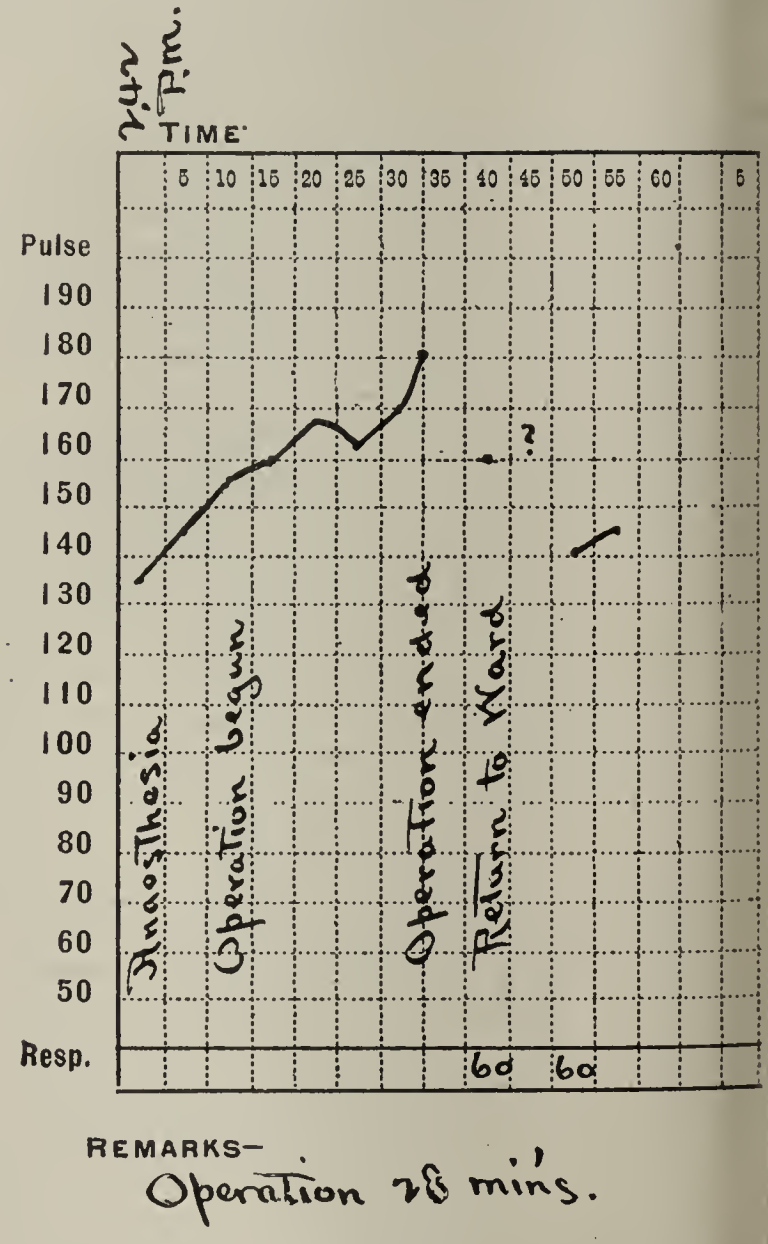


CHART NO. 2.

is consumed in their performance; and the patie confidence must be gained beforehand, since a tinct moral control over the individual is a *qua non* in their successful accomplishment. more intimate, however, one becomes with the sibilities of local anesthesia, the less difficulty is exp enced in its use and also, as has recently been emp

ed, the greater familiarity the operator possesses with e course and distribution of the peripheral nerves, the ore likely he is to use the local method successfully. chance accidental division of an unexpected sensory rve-trunk often will suffice to exhaust whatever inhition toward pain the patient may have originally ssessed and to render recourse to a general anesthetic cessary. When once the peritoneal cavity is painssly opened, however, the way is clear for a successful ploration, since gentle handling of the viscera should unaccompanied by subjective sensations.

There is one other circumstance without which the portunity of prompt intervention in a preperforative age of peritonitis or of the exploration of suspicious ses under cocain in order to eliminate possibilities of rforation, would be lost. This concerns the fraternity tween medical and surgical attendants. Operators ho are given by their medical associates an opportuny of closely observing the abdominal symptoms preented by the group of typhoids under their care, oubtless occupy a very advantageous position when uestions of intervention arise. When first I was given e stimulus by Dr. McCrae, in the fall of 1898, of aking frequent visits among the "autumnal crop of phoids," it was a surprise to find what a variety of nditions were presented and in what a number cases there was to be seen during the course of the ver states of the abdominal parietes suggestive to the experienced touch of an underlying lesion; states hich the medical attendants by familiarity had learned interpret as without significance. The condition ter immersion in the bath; the condition associed with intrathoracic, especially pleural and diahragmatic, disturbances; the conditions presented ter hemorrhages; those associated with spinal mplications; after iliac thrombosis;—all may simute, in patients in whom objective symptoms alone ust be relied upon, conditions which apparently at rst sight justify exploration. The advantage therere which attends one's familiarity with the customary ndition of the abdominal wall of the individual atient, should some actual complication occur, and e great disadvantage under which the surgical conltant labors who, when asked to see a suspicious case r the first time, is unaware of the usual state of his arietes, is readily understood. Under the latter circumstances it is often necessary to delay a few hours in rder to get time for comparative observations, since early borderline cases judgment at best is most ifficult. It is only under more favorable auspices hat cases may be caught in the preperforative stages f early peritoneal involvement. Unfortunately, frank ymptoms of indubitable perforations are the exception and to await them ordinarily loses the case. Dr. sler's attitude toward this question has been expressed[4] a recent discussion.

Our first laparotomy under cocain was performed eptember 13, 1898, and has been previously reported.[5] hopeless condition was found with three perforations nd an advanced peritonitis which the operation was oo late to check. The patient died a few hours later. Considerable difficulty from the local anesthetic was ncountered, due to inexperience alone, and at one stage f the operation rather than inflict pain, a few whiffs of loroform were administered, not enough, however, to produce unconsciousness. Familiarity, however, gathered y our hernia experience during the past summer nabled us to explore painlessly the four cases to be reported, in which abdominal symptoms seemed to justify this measure. Perforation was found only once in a case which promised to be most favorable. The exploration *per se* on no occasion seemed to be responsible for any immediate or ensuing disturbance.

In CASE 2 of cocain exploration, abdominal symptoms were occasioned by an iliac thrombosis. The patient subsequently died of pulmonary embolism.

In CASE 3 acute symptoms arising in a chronic inflamed appendix demanded exploration. The appendix was removed.

In CASE 4 an early cocain exploration disclosed a minute perforation of the ileum. Virulent streptococci unfortunately were present in the extravasated material. The patient died two days later, after a second laparotomy for the relief of his peritonitis.

In CASE 5 abdominal symptoms were occasioned by the sudden onset of intrathoracic complications with involvement of the diaphragmatic pleurae. The patient died on the fourth day, of typhoidal septicemia with double pneumonia.

These cases, in somewhat greater detail, are as follows:

CASE 2.—Medical No. 10,158. — *Severe typhoidal infection. Iliac thrombosis in third week. Abdominal symptoms. Supposed perforation. Exploratory cocain laparotomy. Death from pulmonary embolism.*

Susanna G., colored, 20 years of age, entered Dr. Osler's service August 6, 1899, on the twelfth day of her fever. She was complaining of abdominal pain on her admission and was seen by the writer in consultation with Dr. Parfitt. She was suffering from retention of urine and there was present 1,100 cc. of urine in the bladder. After catheterization her local symptoms disappeared except for a slightly increased resistance of the abdominal wall on the right side. Her temperature was 106°; pulse 124, and leukocyte count 11,000. Her mental condition was dull, typhoidal.

August 7.—An abrupt fall in temperature of eight degrees occurred during the night. The patient was seen by the writer again and the following note made: "Apparently in a condition of collapse; restless; with cold extremities; thready pulse; too dull to respond to questions. The abdomen is held quite rigid. Patient winces slightly on pressure in epigastrium. There is a general increase in muscular tonicity in extremities and neck as well as in the abdominal wall. All passive motions are resisted Legs are drawn up. Patient has had a shaking chill. Typhoidal meningitis suggested." Leukocytes 8,330. Widal reaction positive. Exploratory laparotomy was refrained from with some hesitation.

August 8–13.—The patient rallied from this collapse and for the ensuing five days continued in a dull state with high temperature, a rapid pulse, and with occasional periods of slight abdominal relaxation, though her general condition of muscular tonicity was usually present.

August 14.—Dr. Parfitt's note at 9 A.M. of this date mentions "apparent tenderness on abdominal palpation." At 12 noon, she became restless; crying out and seeming to be in pain, though she would not indicate its site Her leukocytes had increased in number to 24,860. At 2 P.M. they were 18,330. She became somewhat collapsed during the afternoon. At 5 P.M. she vomited; the attack was described by the nurse as explosive. The leukocytes remained at 18,000. Her extremities were cold, but otherwise there was no change either in pulse, temperature, or abdominal symptoms. She was seen by Dr. Finney for the first time and an exploratory laparotomy was determined upon. This was made under local anesthesia with negative findings. There was said to be no apparent change in the patient's condition till 10 P.M., when she suddenly became dyspneic and died.

At the autopsy, No. 1405, Dr. MacCallum found a left iliac thrombus with an embolus plugging each pulmonary artery. The Bacillus typhosus was recovered on culture from the heart's blood, spleen, gallbladder, pulmonary thrombi and mesenteric glands.

Discussion of Case.—The difficulties of passing judgment upon the presence or absence of intraabdominal

complications when the patient was first seen at her entrance were great. Nothing could be gained by subjective symptoms, as she was too ill to volunteer any information. The abrupt fall in temperature, the abdominal rigidity, the urinary symptoms, and general aspect at first was very suggestive of their presence. Several cases, however, have been seen by me in consultation, very ill patients, in whom such an abdominal rigidity has been associated with an increased general muscular tonicity of the whole body and extremities. This inclined me to believe the parietal tension to be part of a general process rather than a local attempt to protect a tender peritoneum. Furthermore, the suggestion of a spinal complication with a stiff neck, Kernig's sign, and increased reflexes, was enough to account for this rigidity. I have seen in the medical wards during the past two years, three cases of cerebrospinal meningitis which presented acute abdominal symptoms suggesting a local lesion, and on another occasion would have opened the abdomen of a small boy who had a bullet-wound in the back injuring the spine, under the belief from his abdominal condition that there was a perforating wound from behind, had not a skiagraph showed that the bullet was lodged in one of the vertebrae. The exacerbation of abdominal symptoms which led to Dr. Finney's exploration was doubtless due to the formation of the iliac thrombi. On a previous occasion was led into an abdomen under similar circumstances[6] of iliac thrombophlebitis, and this was in a clear-minded patient during convalescence in whom sudden abdominal pain and tenderness with vomiting, rise in temperature and an increase in the leukocytes had suggested perforation. No ill effects resulted from the exploration.

Peripheral venous thrombosis is far from an uncommon complication in typhoid, the thrombi owing their origin, as Mallory[7] has shown, to degeneration of phagocytic cells beneath the endothelium of the vessels; cells, whose proliferation is occasioned by the diffusible toxin of B. typhosus. Da Costa has recently reviewed the subject from a clinical standpoint, and there is an excellent chapter on the subject in Keen's monograph.[8] I can find no reference, however, to the production of abdominal symptoms resultant to the origin of such a process in the iliac veins or to the extension of a thrombophlebitis to them. That it may be of diagnostic importance is evident, and in case of exploration of the abdomen under such conditions it is superfluous to caution against anything more than the most delicate palpation of the veins at the brim of the pelvis.

There is an occasional post-febrile sequel of such extensive thromboses which may come under surgical observation, concerning which I find no note in Dr. Keen's volume, nor have I seen any reference to it elsewhere in the literature. On two occasions individuals have presented themselves for operation at the Johns Hopkins Hospital for extensive superficial varices, in one case of the abdominal wall, the vessels being situated about the umbilical region; in the other, extensive varices of the leg, right iliac and pubic region were present. The condition had appeared in both instances soon after convalescence from typhoidal infection. Both were relieved by dissecting out the veins. Similarly, on two occasions, patients with large varicoceles have attributed the dilation of the veins to an attack of typhoid fever, which shortly preceded their appearance.

CASE 3.—Surgical No. 9374.—*Typhoid fever; Fourteenth day. Symptoms of perforation due to an appendicular attack. Laparotomy under eucain B. Appendicectomy. Recovery.*

The patient, Arthur B., colored, 24 years of age, entered Dr. Osler's wards *August 28, 1899*, complaining of "fever of a week's duration." He gave a characteristic history of onset: had vomited the day before entrance, but otherwise had had no abdominal symptoms. His temperature was 103°; pulse 86; respirations 28. Blood-examination showed no increase in leukocytes (9,800); no malarial parasites; and gave a negative Widal reaction.

August 30. Dr. Futcher's note on the abdomen reads: "Abdomen slightly distended, particularly in the epigastric region; no abdominal pain complained of. Muscles are a trifle rigid, but free from spasm. No tenderness on pressure. Percussion note moderately tympanitic." Leukocytes 7,300.

For the ensuing 3 days the condition remained unchanged and characteristic of typhoid. The patient was troubled somewhat by cough, and abundant fine moist rales could be heard over the right back. The bowels were moved only by enemas.

September 3. Shortly after noon of this date the patient suddenly began to complain of severe pain in the region of the umbilicus and was subsequently found groaning with pain, lying on his side with the knees drawn up. Although at the early morning visit a few hours before the abdominal condition had been noted as negative, at this time there was distinct tenderness complained of on pressure over the right iliac region and there was considerable protective rigidity of the local parietes. His pulse, which had been slow, had gone up 20 beats; the respiration was slightly accelerated and he had spat up a few ounces of mucoid fluid, acid in reaction. The patient was watched for 2 hours, by which time distinct aggravation in the local symptoms and tenderness seemed apparent. The temperature had meanwhile risen 2 degrees, and though there was no increase in the white cells, and the preexisting thoracic signs made us suspicious of a diaphragmatic pleurisy as the cause of the abdominal symptoms, it was thought that a preperforative stage of ulceration was presumably present, and an exploration was determined upon.

Operation, September 3, 1899, 3 P.M. *Cocain laparotomy. No perforation. Chronic adherent appendix. Appendicectomy. Closure.*

The usual preliminary $\frac{1}{8}$ grain of morphia was administered hypodermically. An incision was made in a linear area of infiltration produced with Schleich's solution and the abdomen opened through the outer border of the right rectus muscle. A slight amount of clear serous fluid was present, containing no leukocytes. The cecum was found and the lower two feet of the ileum delivered from the wound. There was no evidence that the Peyer's patches were involved in typhoidal processes. The appendix was found retrocecal, thickened, bent upon itself and bound down by firm adhesions. It was freed with considerable difficulty (the patient meanwhile taking a few inhalations of chloroform), amputated, and the stump inverted. Further exploration was negative, there was no enlargement of the mesenteric glands. the gallbladder was not enlarged, and there were no thrombi in the iliac veins. The wound was closed. The accompanying chart shows the slight effect which the operation had upon the pulse-rate:

The patient had no ill effects from the operation and stated before leaving the table that he had had many similar attacks during the past few years. (An important piece of information not inquired into and not brought out in his history.) The course of his typhoid was uninterrupted, the temperature reaching normal by the thirty-second day. It was apparently a case without intestinal lesions. Of course the tubs after operation were necessarily discontinued. From the lumen of the appendix B. coli communis was isolated.

Discussion.—The case was a suitable one for appendicectomy under any circumstances, and without employing inhalation anæsthesia no more risk should attend this procedure during typhoid than under other conditions. It was a relief to remove the immediate cause

he abdominal symptoms, and at the same time to n that there were no intestinal typhoidal lesions ntever as far as could be determined by examination he peritoneal side of Peyer's patches. The possi- ty that the appendicular symptoms in this case were sequent to typhoidal enteritis must of course be ne in mind, but the freedom from microscopical lences of disease in the ileum would argue against Actual typhoid ulcers not uncommonly occur in appendix, where the lymphadenoid structure abundant, and from such a source it is not in- quent for perforations to occur. Rolleston[1] ently operated upon such a case, and the question

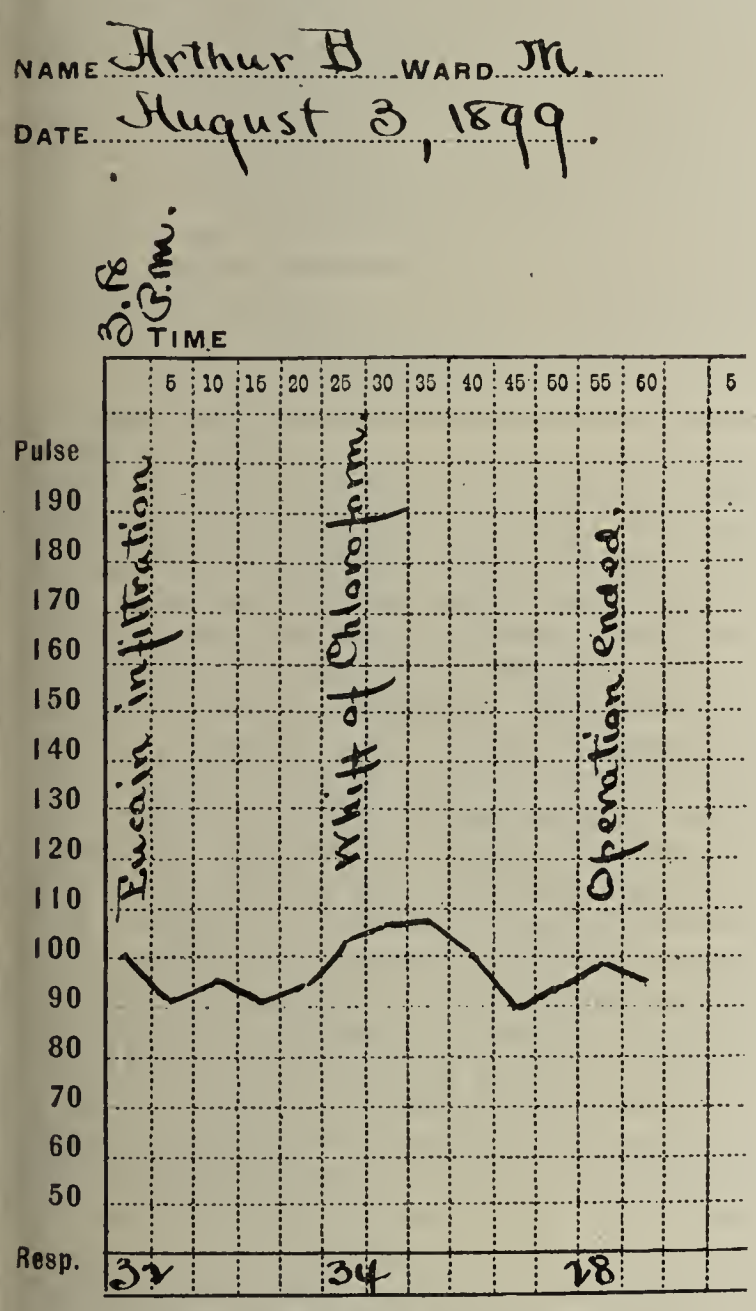


Chart No. 3.

s been reviewed in a former report. These cases turally offer the most favorable operative prognoses all intraabdominal perforations, whether occasioned typhoidal or other ulceration. Similarly, appendicu- attacks, as Keen[10] has emphasized, may date their st onset from a previous typhoidal infection, so that sttyphoidal appendicitis is not at all an uncommon liction. Presumably, in these cases typhoidal ulcers the appendix, which did not give symptoms during e fever, as the serosa did not become affected, lead ring the process of healing to strictures, which may vor recurrent inflammatory changes. Such a case has recently come under our observation. (Surg. No. 8981.)

Case 4.—Surgical No. 9394.—*Typhoid fever in third week. Perforation. Cocain laparotomy. Suture of perforation. Streptococcus peritonitis. Second laparotomy. Death on third day.*

The patient, George H., colored, 25 years of age, entered the hospital *September 5, 1899*, on the seventeenth day of a prolonged fever. There had been no abdominal symptoms other than slight constipation. On admission he appeared to be in excellent condition, with practically no symptoms other than his pyrexia of 105°. His pulse was 96, regular, free, soft, and dicrotic. The leukocytes were 5,000. Blood negative for malaria. Widal's reaction negative. A note on the abdomen is as follows: "Abdomen symmetrical; costal, iliac grooves and flank lines present. Abdominal parietes move with respiration. Slight resistance to palpation in right side, but no muscular spasm or rigidity. Liver-dulness extends to costal margin. Spleen not palpable."

September 6.—Dr. Futcher's note reads that the abdomen is slightly distended and "there is slight tenderness in both iliac fossae on deep palpation."

September 7.—The patient had three loose movements during the night and shortly before 5.30 A.M. began to complain of hypogastric pain. This came on suddenly with nausea. He vomited at 5.35 and again at 6.10. Hiccoughing was first noted at 6.30. An hour later, when first seen by me, he was lying quietly on his back; the extremities not drawn up. He complained of no especial pain. His pulse was 100; temperature unchanged. Respiratory movements were still present in the abdomen, which was slightly tender on both sides on deepest palpation, but was free from rigidity. Rectal examination was negative.

His leukocytes at	7.00	A.M. were	4,800
"	8.00	" "	6,600
"	9.00	" "	10,400
"	10.00	" "	8,600
"	10.30	" "	7,000

With the exception of this wave of leukocytosis, the patient's symptoms remained practically unchanged. His mind was perfectly clear, and there was no subjective dulness to obscure our observations. In fact the diagnosis of typhoid was not yet assured. There was no collapse; no augmentation of pain; no fall in temperature; the pulse remained about 100. At 10.30, however, some apparent increase in tenderness made us determine upon an exploration. This was five hours after his first complaint of pain.

Operation I, September 7, 1899, 11 A.M.—*Exploratory laparotomy under cocain anesthesia. Closure of perforation and inversion of two thin Peyer's patches.*

The patient was given the usual preliminary $\frac{1}{8}$ grain of morphia hypodermically. The skin was infiltrated with Schleich's solution in the line of incision, which was made through the right rectus muscles near its outer border. No nerve-trunks were divided. A gush of scropurulent fluid (no gas) occurred on opening the peritoneal cavity. (Cultures were taken from this fluid, and stained preparations which were immediately made showed some large mononuclear leukocytes and a great number of polymorphonuclears, many of which apparently contained faintly staining detritus suggestive of bacteria and phagocytic action of the cells. No free bacteria were seen.) A distended cecum presented in the incision, and with this as a guide the lower two feet of the ileum were delivered from the wound. A perforation was found about 2 mm. in diameter which had occurred in the center of a thin Peyer's patch situated about 20 cm. proximal to the ileocecal region. From this perforation a thin yellowish fluid was running in a continuous stream. (Coverslip preparations showed a pleomorphic flora which, however, was chiefly composed of long streptococcus chains of from 4 to 20 elements.) There had been apparently no attempt at omental protection to wall off the process, and in fact there was no evidence whatever of fibrinous deposit or adhesions. Though the ileum was injected, the serosa was smooth and glistening everywhere. The entire Peyer's patch was inverted with three Halsted sutures placed longitudinally. Two similarly thinned Peyer's patches nearer

the cecum were in like manner inverted as they threatened perforation. No other lesions were found. The abdominal cavity was thoroughly irrigated with normal saline solution for ½ hour in all directions through a tube. The abdominal wound was closed, a small strip of rubber-protective having been, with some hesitation, left in for drainage.

The patient made absolutely no complaint of pain during this procedure, which had no appreciable effect upon his pulse, respiration, or general condition. (Cf. Chart IV.) Under complete narcosis the operation could not have been prolonged over so long a period. As it was we could be perfectly deliberate in our steps instead of being pushed for time, as was the case in our operations for perforation a year ago.

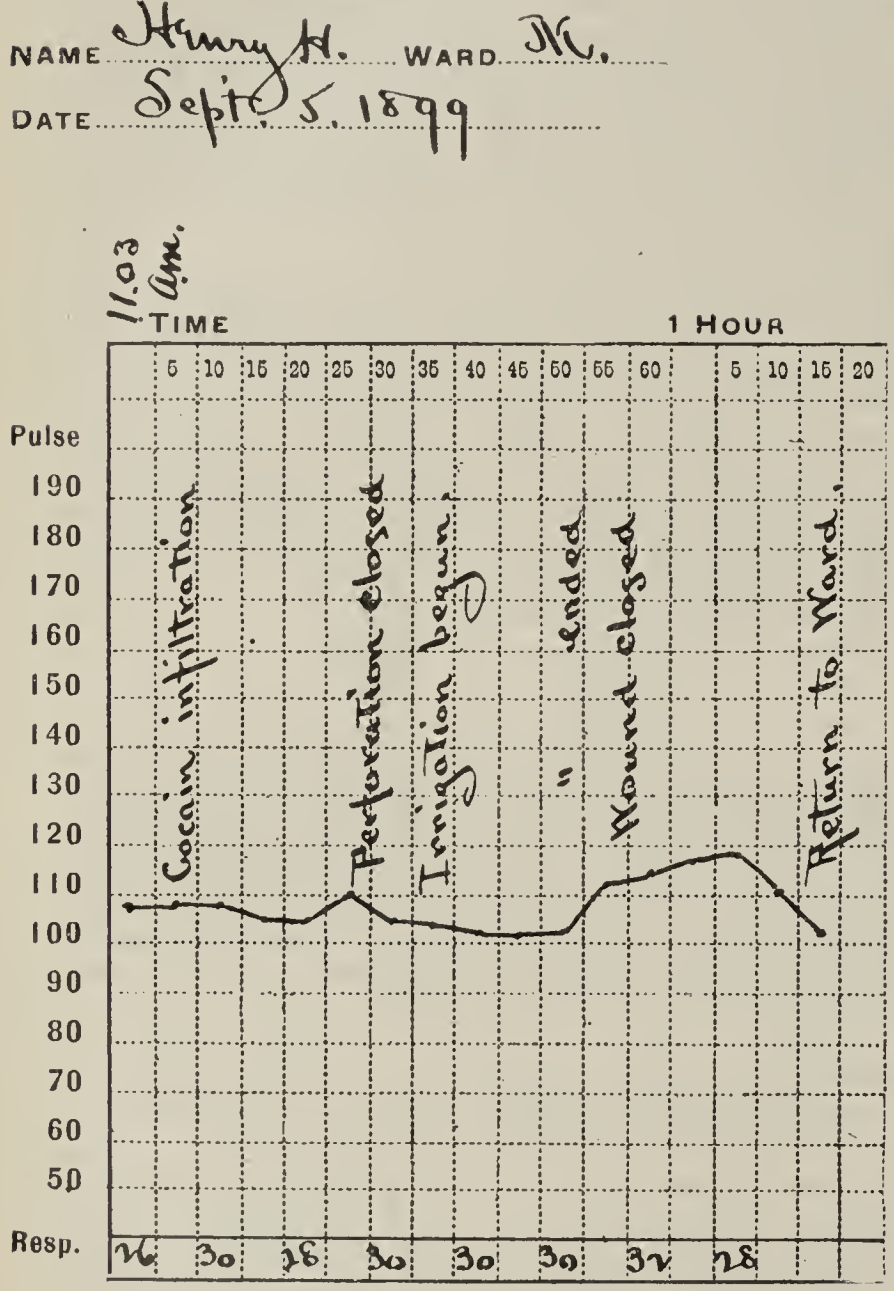


CHART NO. 4.—Showing slight effect upon pulse-rate of laparotomy under cocain anesthesia.

The usual post-operative increase in leukocytes in the peripheral circulation occurred * Immediately after the operation, 12 noon, they were 16,000; at 2 P.M., 14,000; at 4 P.M., 16,000; at 6 P.M., 13,000; at 9 P.M., 9,600, in the neighborhood of which number they persisted. For the ensuing 24 hours the patient's condition remained unaltered. It then became evident that he had a spreading peritonitis. Persistent vomiting and hiccough reappeared, and the abdomen became gradually more and more distended. The temperature, pulse, and clear mental state remained throughout unaltered. Absence of any visible peristalsis and continuance of a low leukocyte count spoke against post-operative obstruction. As a last resort on the second morning it was determined to reopen the abdomen.

* Observations upon this wave of leukocytosis immediately following operative procedures and occurring in man and animals have shown it to be independent of general narcosis and comparatively transient in its existence. A temporary increase in the white cells of from 10,000 to 20,000 occurs as a rule within a few hours after operation. No alteration from the normal in the relative number of cells on differential counts seems to occur.

Operation II, September 9, 1899, 6 A.M. *Laparotomy under cocain for general peritonitis. Distention relieved by several enterotomy incisions. Establishment of artificial anus in ileum. Drainage.*

Under local anesthesia the old wound was reopened and enlarged. There was a general coating of thin transparent fibrin everywhere over the greatly distended intestinal coils. A large amount of sero-purulent fluid containing flakes of fibrin and innumerable streptococcus chains was free in the general cavity. The intestines were eventrated; opened in four places to allow the contents to escape A most thorough irrigation of the abdominal cavity with salt solution through tubes introduced in all directions was then continued for *over an hour* without materially affecting the patient's condition. The recent sutures were intact and no subsequent perforation had occurred elsewhere. A counter-opening was made in the left loin for drainage. In the incision of the first operation an enterostomy was established at a point low down in the ileum, but above the site of the typhoidal lesions.† These manipulations were carried out of course with a care and deliberation which the time limitations under general narcosis would have precluded. The patient showed no evidences of discomfort during the operation and for the ten hours during which he lived there was a condition of euthanasia usually seen in fatal streptococcus septicemia

A combined general streptococcus and typhoidal infection was found at the autopsy (No. 1415) by Dr. MacCallum.

Discussion.—It remains a matter of deep regret that an immediate exploration was not made in this case. The patient, however, had been in the hospital only 48 hours, and it was not certain that he had typhoid fever. The onset of the abdominal symptoms was associated with so much less marked evidence of local disturbance than in the preceding cases, in which no perforation had been found, and which, consequently, had made us somewhat overcautious, that we foolishly waited, in spite of the fact that exploration in these cases under local anesthesia had been unattended by difficulties of performance or by any apparent ill effect on the patient's condition. As it was, the abdomen was opened comparatively early and the case promised to be a most favorable one till the "tell-tale" microscopic examination of the extravasated material demonstrated an abundance of streptococci, though no gross evidence of peritonitis was as yet present. The seriousness and fatality which attends a streptococcal infection of this sort superimposed upon typhoid has been emphasized by Vincent. The various bacillary peritonitides of far greater intensity and duration than was present here are ordinarily recovered from when the primary cause has been removed.

There is one point brought out by the leukocyte counts in this case which has been dwelt upon in a former paper and which again may be emphasized. In order that the number of white cells in the peripheral circulation of a typhoid case be of any diagnostic value whatever on the occasion of abdominal symptoms, it is essential that for the purpose of comparison previous counts have been made.‡ An individual observation at such a critical time may be misleading, in the first place because a condition of hypoleukocytosis often is a characteristic of the fever, and a count apparently within normal limits of from 8,000 to 10,000

† Such a procedure has been recommended in cases of intestinal paralysis consequent to extensive peritonitis, and has been employed by the writer on two occasions with excellent results. Without impropriety such an enterostomy could be established in cases of extensive ulceration of the lower ileum or colon, whether of typhoidal, dysenteric or tuberculous origin, in order to prevent the products of digestion from passing over the denuded surface of the bowel.

‡ It is customary in the medical wards of this hospital to make frequent observations on the leukocytosis of typhoid patients. In suspicious cases this is a daily routine in the wards and of course entails a large amount of labor, which it is only possible to carry out through the system of instruction under which students act as clinical clerks and assistants to house officers in the wards.

ay actually represent a double increase in the num· r, and secondly because by a single count the ansient "wave of leukocytosis" may entirely escape otice. With free immediate perforation which has en unassociated with premonitory symptoms there an immediate outpouring chiefly of polymorphonu· ear leukocytes in incalculable numbers into the peri· neal cavity which produces the turbidity of the free uid found under these circumstances. Such an currence took place in this patient, and it has been served before to be accompanied by a slight tempo· ry rise in the number of leukocytes in the peripheral culation. The flood-tide of this increase is a transient air, however, lasting but a few hours and may, in con· quence, entirely escape observation, since there ordi· rily is a following rapid diminution in number corre· sponding to the spread of the peritoneal infection. In me instances when the process for a time remains local· d, or in cases in which a preperforative stage exists, the kocytosis may be of longer duration, the condition ing analogous to that associated with acute appendi· is (typhoidal or otherwise) before perforative peri· itis has occurred. Suppurative complications of phoid, here or in other situations where they remain alized processes, have ordinarily a persisting leukocy· is as is well known.

In this particular case the increase of leukocytes was resented by a count of 10,400, the pre-existing condi· n being one of hypoleukocytosis in the neighborhood ,000. The subsequent fall in number, such as has been served to occur in unoperated cases, was interrupted the exploration, immediately after which the count istered 16,000. This postoperative leukocytosis has n a matter of some study during the past year, and been found to accompany operative procedures un· local as well as general anesthesia, and to occur in lower animal as well as in human beings. There rdinarily an increase of 10,000 or more white cells cubic millimeter of the blood, which persists for a hours, and which is unassociated with any relative nge in the proportion of cells as a differential count. experimental observations have been made as yet nimals on the perforation "wave of leukocytosis," ch we have observed in these typhoid cases.

his is the fourth case of perforation which I have erved in a colored man. It has been reported to be re complication in this race.

5.—Medical No. 10,299.—*Typhoid fever with acute abdom· inal symptoms on the eighteenth day. Exploratory cocain laparotomy negative. Acute typhoidal septicemia. Death.*

ptember 6, 1899.—The patient, James B., entered Dr. r's ward in the first week of a severe typhoid. For ve days subsequent to his admission he pursued the nary course of such an infection. His temperature ed from 103° to 105.5° and during this interval 73 tubs given. His pulse varied from 96 to 120. The daily ocyte count averaged about 8,000. He presented no minal symptoms; there was no diarrhea. Widal reac· positive.

otember 17—The patient complained of some pain in "pit of his stomach."

tember 18—At 6 A.M. of this date the temperature, h had previously been high, fell to 100.2° after a tub, sub· ent to which it progressively rose to 106° by 4 P.M. At he had a severe shaking chill, lasting 20 minutes; he ted at 2 P.M. and soon after began to persistently hic· h. At 3 40 P.M. when seen by me, the following note made: "The patient is dull, typhoidal; lying on back knees flexed; making no complaint of abdominal pain resent Pulse is 135, very compressible; respirations 40, with abdominal movements limited. Extremities are warm. No tenderness over the femoral vessels. Abdomen is slightly distended below umbilical level. Parietes especially in lateral regions are held quite rigid, but there is some general increase in muscular tonicity everywhere. Slight dulness on percussion in both flanks. There is no tenderness in the region of the gallbladder, but on deep palpation low down in the right iliac fossa, there is considerable resistance and muscle spasm elicited. Rectal examination is negative. Patient has been having urinary symptoms. Leukocytosis of 10,400 at 3 P.M. His lungs appear to be clear."

Operation, September 18, 1899, 4 P.M.—*Cocain exploration of abdomen. No occasion for symptoms demonstrable. Closure.*

The patient was given the usual $\frac{1}{8}$ grain of morphia and under local anesthesia (Schleich's solution) a painless and satisfactory exploration through the outer border of the right rectus muscle was made. There was no evidence whatever of intraabdominal complication in intestine, gallbladder, iliac veins, or mesenteric glands. The wound was closed.

The patient's condition for two days remained unaltered. It was difficult to dissuade ourselves that a perforation had not been overlooked. His vomiting, hiccough and abdominal rigidity persisted. The leukocytes gradually fell to 4,000. On the fourth day after operation the local symptoms seemed somewhat less marked, and at this time Dr. Futcher made out for the first time evidences of a central pneumonia possibly with a diaphragmatic pleurisy which doubtless had been the occasion of his abdominal symptoms.

On the fifth day the temperature, which had been lower for 48 hours than at any time since entrance, became subnormal. His intrathoracic signs were more marked, cyanosis became pronounced, breathing was labored, unconsciousness ensued and the patient died at 6.55 P.M.

At the autopsy (No. 1423) by Dr. Marshall lesions characteristic of typhoid fever of the enteric type with a double pneumonia of both lungs and extensive pleurisy. Postmortem bacteriologic observations showed a general septicemia with B. typhosus which was isolated from the heart's blood, gallbladder and spleen. In addition from the lung, kidney and pleural cavity B. coli communis and the Staphylococcus aureus were recovered and streptococci from the lungs. Cultures from the peritoneal cavity and wound were sterile.

Discussion.—One more complication which may be responsible for the production of acute abdominal symptoms is illustrated by this case. On a former occasion with Dr. McCrae a patient was seen in whom similar symptoms, aside from the vomiting, were occasioned by a unilateral pleurisy, definite signs of which did not develop for 24 hours after the first onset of abdominal pain, rigidity, hiccough and cessation of respiratory movements of the parietes. In that instance, however, the symptoms were unilateral, and the increased tension and tenderness on pressure over the left hypochondrium and costal margin made us suspicious of the real condition. It can be readily appreciated that exploration under general anesthesia in such cases would be attended by the greatest danger, and apparently the exploration under local methods in this case was without deleterious effect. In the existing state of our knowledge we were unable to eliminate the possibility of an intestinal perforation, and if one had been present and we had waited long enough for a central pneumonia to evidence itself and explain the condition, a death from peritonitis would have resulted.

There remains one further complication in association with which noticeable changes may arise in the condition of the abdominal parietes from those which have pre-existed, namely intestinal hemorrhage. On two occasions in patients whose abdominal walls have previously been flat and relaxed, a condition of meteorism with tenderness and marked rigidity has followed profuse hemorrhage from the bowel. This condition, when associated with collapse, pronounced fall in

temperature and increase in leukocytes, may closely simulate perforation. In neither of these cases mentioned, however, was the diagnosis questioned, though I believe an exploration would have been harmless, and regret exceedingly that in one instance it was not made. When the abdomen was opened at autopsy, some days after the first appearance of the profuse and repeated hemorrhage, it was evident that it would have been a simple matter to have found and puckered by a suture the Peyer's patch from the center of which the bleeding had taken place. There was a sharp line of demarkation between the bloodstained and the clear bowel, and at the proximal border of the discolored intestine was a bright point showing through the serosa from which the hemorrhage had occurred and which could easily have been located. The intestinal lesions elsewhere were insignificant.

Conclusion.—In consideration of the inevitable fatality of intestinal perforation in typhoid fever and in the face of the extreme difficulties of diagnosis which often attend this complication in its early and from a surgical standpoint elective stage, it can be understood that a prompt exploration, could it be unattended by risk, would be most desirable. From the discussion and report of these cases it may be seen that in certain surroundings such an exploration under local anesthesia can be satisfactorily accomplished painlessly and without exposing the patient to danger.

Conditions which we have occasionally found to closely simulate perforation, and which might during their early stage lead to such an exploration, are iliac thrombophlebitis, pulmonary complications when attended by diaphragmatic pleurisy, appendicular attacks not of typhoidal origin, suppurating mesenteric glands, cholecystitis and intestinal hemorrhage. It has been demonstrated that the latter complication under certain circumstances might justify such an exploration and be amenable to surgical treatment.

Personal familiarity with the possibilities and limitations of local anesthesia in the performance of laparotomies, as well as the opportunity to become familiar with the conditions of typhoid abdomens under a variety of circumstances, is essential to the successful employment of the measures under discussion.

REFERENCES.

[1] Reported by C. N. B. Camac. *American Journal of Medical Sciences*, March, 1899.
[2] Reported in the *Johns Hopkins Hospital Bulletin*, vol. ix, p. 257, November, 1898.
[3] Solutions of cocain in strength of 1 to 1000 are utilized in these cases for infiltration and 1% solutions for anesthetizing individual nerve-trunks. The methods of procedure have been reviewed in a recent paper, cf. "The Employment of Local Anesthesia in the Radical Cure of Certain Cases of Hernia, Etc." *Annals of Surgery*, Vol. 31, p. 1, January, 1900.
[4] *The Johns Hopkins Hospital Bulletin*, vol. ix, p. 269.
[5] Laparotomy for Intestinal Perforation in Typhoid Fever. *The Johns Hopkins Hospital Bulletin*, vol. ix, November, 1898. Case II, p. 261.
[6] Case IV, *Johns Hopkins Hospital Bulletin*, November, 1899, p. 264.
[7] Mallory, F. B. A Histological Study of Typhoid Fever. *The Journal of Experimental Medicine*, vol. iii, p. 617, 1898.
[8] Surgical Complications and Sequels of Typhoid Fever. Philadelphia, 1898, p. 66.
[9] H. D. Rolleston, May 13, 1898. Vol. xxxi of the "Clinical Society's Transactions," London.
[10] Surgical Complications and Sequels of Typhoid Fever, 1898, p. 231.

Crime in Italy.—From 1890 to 1895, 624,127 men and 129,155 women were sentenced to different punishments before the Italian courts. Of 100 infanticides, only 8 were men. Theft was principally masculine; for 100 men 24 women committed the same theft. Of 100 cases of poisoning, 70 were by women. In the South—in the Abruzzes—out of 100,000 women, 554 were condemned annually. This rate decreases as one goes northward. Only the Venetian women are much worse than their northern latitude would lead one to suppose.

SURGICAL SEQUELS OF TYPHOID FEVER—STRICTURE OF THE ESOPHAGUS—ANKYLOSIS OF THE HIP—OSTEOMYELITIS OF THE RIBS SPONDYLOARTHRITIS.

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SINCE the more accurate methods of modern pathology and bacteriology have added so much to the knowledge of causes of disease, it is becoming generally recognized that many affections, previously considered independent diseases, are really the sequels of some general disease. The appearance of Professor Keen's "Surgical Complications and Sequels of Typhoid Fever," based on a study of 1,700 cases collected from literature, has shown the remarkable variety, frequency, and importance of the remote effects of this very common disease, and has helped physicians to discover the true nature of many conditions previously very imperfectly understood. During the past 2 years, 3 cases of surgical sequels following typhoid fever have come under my observation: Professor Keen has kindly furnished me full notes of one of these patients, who was operated upon in the Jefferson Clinic; the other 2 patients were not entirely under my care, and I regret that I am not able to furnish as complete notes of the cases as might be desired. Professor Keen also kindly permits me to report 2 cases which have occurred in his private practice during the past 2 years.

STRICTURE OF THE ESOPHAGUS.

I quote the following history from Professor Keen's notes:

A man, 31 years of age, was taken ill with a very severe attack of typhoid fever, October 11, 1898, which kept him in bed for 5 months and his life was repeatedly despaired of. His first feeling of discomfort in the esophagus was about the middle of December, while still in bed. From that time till the fall of 1899 he had gradually increasing dysphagia, had not been able to swallow anything but liquid foods and that with great difficulty since about the first of 1899. He had gone sometimes so long as 4 days, absolutely without food. The condition of the stricture was sometimes such that no food could pass and then again relaxed so that it swallowed with relative ease. His usual weight was 150 pounds, his weight when Prof. Keen saw him, November, 1899, was 150 pounds, and he had held his own since February. Examination with the smallest esophageal bougie showed that the stricture was 29 cm. below the upper teeth.

Before consulting Professor Keen, the operation of gastrotomy had been performed by another surgeon for the purpose of dilating the stricture, but precautions to prevent the recontraction of the stricture had not been taken. The patient did not return for further treatment, so that it is impossible to say what was the outcome of the case.

Stricture of the esophagus is one of the rarest of the sequels of typhoid fever; Professor Keen records only 2 cases, one by Professor Osler, of Johns Hopkins University, and one by Dr. Frederick A. Packard. This case is reported by Dr. John S. Pyle (PHILADELPHIA MEDICAL JOURNAL, February 3, 1900, page 303), and one by Dr. J. E. Summers (PHILADELPHIA MEDICAL JOURNAL, October 28, 1899, page 830). It is believed that the cicatricial contraction follows upon typhoid ulceration of the esophagus. The symptoms and treatment of the condition are the same as for stenosis from any other cause.

KYLOSIS OF THE HIP-JOINT FOLLOWING TYPHOID FEVER.

girl, 11 years old, was first seen by Professor Keen Octo- 11, 1898. Her family history on both her father's and ther's side was excellent, and there was no history of erculous trouble on either side.

n September 6, 1897, she had been taken with a very severe prolonged attack of typhoid fever. The cerebral symp- is were very pronounced. In the third week of the fever complained of great pain in both legs, especially the , chiefly in the anterior part of the leg, but did not com- n of pain in the hip. She had pain, however, in the e-joints, especially in the left, but without any swelling ither joint. Only at Christmas was she able to get out of air, but could not walk until February, 1898. When she out of bed and began to use her legs it was discovered t the left hip was decidedly flexed and could not be ex- led.

n examination there was found a somewhat well-devel- d girl, who had recovered her general health entirely. She very lame from flexion of the left leg at the hip-joint; left leg was considerably atrophied, but the length of the legs, as nearly as could be measured, varied only one- rter of an inch, the left leg being the shorter. The hanter touched Nélaton's line on both sides; the pelvis very markedly raised on the left side, so that she limped eat deal and had to use a cane.

ctober 12, 1898, an attempt was made to break up the esions under chloroform-anesthesia. It was found pos- e to secure considerable motion, but not as free motion in direction of extension as was desired. October 15 Pro- or Keen performed a subcutaneous tenotomy of the uctor muscles and of the tensor vaginae femoris under sthesia and it was then found possible to bring the leg n almost straight. The leg was placed on an extension at which flexed the hip so that the foot was elevated t 18 inches above the body. The splint was lowered one et every day, so that by the 10th of November the leg perfectly straight and the lumbar spine was not arched. patient then got out of bed, but in spite of the straight tion of the leg she still limped. The difference in the legs was only one-quarter of an inch, the sound leg g the longer. The limp was attributed largely to habit, she did not complain of pain.

ffections of the joints after typhoid fever are not y frequent. Cases of rheumatic typhoid arthritis, ic typhoid arthritis, and typhoid arthritis proper of polyarticular and monarticular varieties have been cribed. The larger joints, such as the elbow, shoul- ankle, and knee, and especially the hip, are more monly affected, and in more than one-half of all cases of typhoid arthritis spontaneous dislocation the hip-joint has followed. Usually during con- scence there arises a subacute synovitis with gradual ention, which may slowly subside without further ible. The apathetic condition of the patient and lack of severity in the symptoms often causes such t-affections to be overlooked. Professor Keen has ected in all 84 cases of joint-affections after typhoid r, and in only 6 cases was ankylosis found; hence ems that this condition is one of the rarest sequels yphoid fever. The treatment followed in the above would be indicated in any similar condition: empting to break up adhesions and straightening limb under anesthesia, and, failing in this, correct- the condition by tenotomy and the use of a splint. some extreme cases osteotomy might be indicated.

EOMYELITIS OF THE RIBS FOLLOWING TYPHOID FEVER.

quote the history of the following case from Pro- or Keen's notes :

ASE 1.—A man, aged 49, was admitted to the Jefferson pital April 4, 1898. There was nothing in his personal or family history of importance up to February, 1897, when he was taken ill with enteric fever and was in bed for 8 weeks. He made a slow recovery and during his convalescence a nearly constant dull aching pain developed on both sides of his chest; on the right side the pain was located 6 cm. below the nipple and in the nipple line on a level with the fifth and sixth ribs, on the left side just within the nipple line on a level with the seventh and eighth ribs. This pain continued for about two months, when a swelling appeared at both places and finally ruptured spontaneously, discharging a small amount of purulent material. After that there was a sinus leading to the ribs with a constant discharge of pus. A probe showed the ribs to be bare of periosteum. The patient's general health was very good.

On April 6, 1898, an operation was undertaken by Professor Keen. An incision on each side revealed an osteomyelitis of two adjacent ribs; the fifth and sixth on the right side; the sixth and seventh on the left side. It was necessary to resect about one inch of the sixth rib on the right side and the cartilage and a part of the fifth rib; all of the cartilage and part of the sternum on the left side were resected. The channel left by the operation on the right side was about 4 cm. long, that on the left side 12 cm. long. The granulation-tissue and also some cultures from the pus on each side which were made, were sent to Professor Coplin at the Pathological Laboratory to determine whether there were any typhoid bacilli present. The highest temperature after operation was 99°, and at the end of 10 days the man left the hospital.

After leaving the hospital the patient came under my care in the Surgical Out-patient Department of the Jefferson Hospital. For the first few weeks after the operation there was free suppuration from both wounds and the patient came to the hospital daily to be dressed; the sinuses were irrigated with antiseptic solution and lightly packed with iodoform gauze; the packing had to be continued for a long time owing to the tendency of the sinuses to close before they had filled up with granulations from the bottom. The wound on the left side closed after about 4 months' treatment, but the sinus on the right side remained open for about 9 months; it finally closed spontaneously without further operative intervention, although at several times it seemed as though another operation might be necessary.

In the treatment of these cases I believe that immobilization of the chest-wall is desirable. In the case just reported the dressings were held in place for some time by the use of adhesive plaster strips, but the condition seemed to improve more rapidly after a firmly applied bandage, practically immobilizing the chest-wall, was substituted for the adhesive plaster strips. The bacteriologic examination showed a pure culture of the typhoid bacillus without any infection of the ordinary pyogenic bacteria, in spite of the fact that the sinuses had remained open for some time before the operation. On examination of the granulation tissue removed it was not found possible to demonstrate the presence of the typhoid bacillus.

I am able to give rather imperfect notes of a second case of necrosis of the ribs occurring in the case of a former classmate of mine after a severe attack of typhoid fever.

CASE 2.—The patient, a man, 31 years of age, of splendid physique and with an excellent personal and family history, noticed a swelling on the right side over the ninth rib in the mid-axillary line, coming on soon after he was able to be up about the house after his illness; there was considerable pain and tenderness, and fluctuation soon developed. The physician in charge of the case made a small incision and a considerable quantity of pus escaped. The sinus did not close, however, and on passing through the town a few months later I was consulted with regard to the case. A probe was passed into the sinus and it was evident that the rib was exposed. The opening enlarged and a small amount of necrotic bone was removed with a curet. The wound was kept carefully cleansed and an antiseptic absorbent dressing applied and the sinus closed within a month. Since that time there

has been no further serious trouble, although at times, after severe physical exertion, there is considerable pain over the affected rib.

Typhoid affections of bones are relatively frequent. Professor Keen has collected 216 cases, the series showing that the tibia is most frequently affected; then come the ribs, the femur, the ulna, and humerus, although almost any bone of the body may be affected. As in other surgical typhoid disorders, males are much more frequently affected and a larger percentage of the patients are under 30 years of age. When the ribs are affected the disease attacks 2 or 3 ribs as frequently as a single rib. Periostitis and osteomyelitis are the usual forms of the disease. Paget has shown that necrosis does not occur in the ribs, although it is frequent in the tibia. The disease is rarely a complication of typhoid fever, but usually follows weeks or even years after, the fever. Constitutional symptoms are seldom pronounced. The first symptoms are a swelling, with local pain and tenderness, and fluctuation usually soon appears. The diseased tissue should be removed at once as thoroughly as possible. In the case of the ribs, this may necessitate resection or it may be only necessary to gouge or curet the diseased tissue away. For want of thoroughness, repeated operations have been frequently necessary. In many cases, as in the cases above reported, there is a tendency to chronicity, the sinuses persisting sometimes for years. Although the recovery is slow, the prognosis is almost always favorable as to ultimate recovery and the patient does not usually suffer serious discomfort or derangement of general health.

SPONDYLOARTHRITIS.

In the fall of 1897, while looking after the practice of a physician who was away for a short vacation, there came under my care a boy, 16 years old, just recovering from a severe attack of typhoid fever. The illness had lasted 5 weeks, and the course of the disease had been characteristic with a typical typhoid curve of fever, rose-spots, diarrhea, enlargement of the spleen, and marked nervous symptoms. During the second week of convalescence pain, moderate swelling, and tenderness appeared in the lower part of the dorsal region of the spine; there was decided muscular rigidity on any attempt at motion, and the condition resembled incipient Pott's disease. A plaster-of-Paris jacket was carefully applied and afterwards cut and arranged to lace. All signs of trouble disappeared soon after the jacket was applied, although it was worn constantly for about 10 weeks.

The boy has regained perfect health, and has never shown any signs of weakness since the removal of the jacket, although he has since played on the football team of his school and engaged freely in other athletic sports. The boy is one of a perfectly healthy family of five children, and had always been in excellent health, with the exception of the usual diseases of childhood. Tuberculous disease of the spine could be practically ruled out from the previous excellent personal history and family history, and from the fact that so prompt and perfect recovery followed appropriate treatment. Occurring almost immediately after the fall of temperature from the fever, there seems little doubt that the condition was a result of the general typhoid infection.

Spondyloarthritis seems to be extremely rare, as Professor Keen does not report any case in his book, and in a quite careful search through the literature of the subject I have been able to find a report of but one similar case—that reported by Könitzer in the *Münchener Medicinische Wochenschrift* for 1899, Volume xlvi, p. 1145. Unfortunately I am unable to consult this reference at the time of writing. The treatment adopted in the case which I have reported would seem to be the rational one for use in any similar case.

The surgical sequels of typhoid fever are interesting not alone from a scientific standpoint; the numerous examples furnished by literature should teach us this very practical lesson: That every patient recovering from typhoid fever should be constantly under the observation of his physician, and that he should resume the ordinary activities of life very gradually, avoiding with special caution any violent physical exertion, and all accidents, however slight. This is necessary, even after the patient has apparently entirely recovered, for the infection which lurks in the system is capable of giving rise to serious consequences long after the apparent recovery. At the first sign of trouble the patient should put himself under the care of a competent surgeon, for early and proper treatment will do much to prevent serious results.

TEN YEARS' EXPERIENCE IN THE TREATMENT OF ENTERIC FEVER BY SYSTEMATIC COLD BATHING.—THE METHOD OF BRAND.[1]

Based on 1,904 Cases.

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THE following paper represents the results of the labor of a number of persons interested in the subject. The greater part of the work has been carried on under the direction and supervision of one of us (J. C. W.), some of it with the assistance and collaboration of the other (J. L. S.), some portion of it by the latter alone. It has seemed proper, therefore, to present the facts in a conjoint paper, especially as the method has been the same throughout and is in all essential particulars that laid down by the late Ernest Brand, of Stettin. Certain modifications adopted in the later portion of the period as the result of experience, by one of us (J. C. W.), will be described presently.

The following table represents the total number of cases and the mortality arranged with reference to the various institutions in which the patients were treated:

	Cases.	Deaths.	Mortality.
GERMAN HOSPITAL:			
Previously reported[2]	741	55	7.42%
1898, soldiers[3]	147	5	3.4 %
1898, civilians[4]	209	20	9.57%
1899[5]	267	26	9.73%
	1,364	106	7.77%
PENNSYLVANIA HOSPITAL:			
1896-1899[6]	185	15	8.01%
Soldiers treated, 1898[7]	172	11	6.4 %
JEFFERSON HOSPITAL:[8]			
1894-1896	54	4	7.4 %
1899, soldiers	76	4	5.26%
PHILADELPHIA HOSPITAL:[9]			
1893-1899	53	3	5.66%
	1,904	143	7.5 %

[1] Read before the Camden County District Medical Society, February 13, 19

hese figures are sufficiently large for generalization, as they are in close accord with the results obtained a large series of statistics published by other ob-ers they may be accepted as indicating the death- under the bath-treatment rigidly carried out. The tality of enteric fever treated by systematic cold ning in accordance with the method of Brand is be-en 7 and 8%. The correspondence between our istics and those of F. E. Hare, of the Brisbane Hos-l, Australia, published in 1898,[9] is curious and in-ctive. During 10 years there were treated in the ous institutions named above, by this method, 1,904 s with 143 deaths—a mortality of 7.5%. During ears, from 1887 to 1896 inclusive, there were treated this method in the Brisbane Hospital a consecutive es of 1,902 cases with 143 deaths—a mortality of %.

he importance of large series of cases for statistical poses must be emphasized. The following table, piled from the records of the registry office of the eau of Health in the city of Philadelphia is of e as showing the incidence of enteric fever and its th-rate.

	Cases.	Deaths.	Mortality.
1891	3,591	683	16.2%
1892	2,304	440	19. %
1893	2,519	456	18.1%
1894	2,357	370	15.6%
1895	2,748	469	17. %
1896	2,490	402	16.1%
1897	2,994	401	13.3%
1898	6,097	639	10 4%
1899	7,985	948	11.8%
	33,085	4,808	14.5%

t is thus seen that during 10 years there were re-ted 33,085 cases of enteric fever with 4,808 deaths, nortality of 14.5%. These figures are of peculiar rest when we compare them with the statistics of Brisbane Hospital for a period of somewhat less n 5 years immediately preceding 1887. During this e there were treated in that institution, according to ious methods, including cold sponging, comprehen-ly described under the term expectant, 1,828 cases h 271 deaths, a mortality of 14.8%.

n Philadelphia the maximum mortality in the de-e occurred in 1892, according to the above table, l was 19%. The minimum mortality occurred in 8 and was 10.4%. The table shows also an irregu-decrease in the average mortality, which is more rked in the last three years of the period.

he reports to the registry office embrace all cases, luding those treated by systematic cold bathing, and this method has attracted more attention and been re generally employed toward the end of the decade n at its beginning, when it was regularly carried only in the German Hospital, the conclusion that diminished mortality is due to the more general ctice of the Brand method is, in view of the uniform uction in the mortality under that plan, logical. ere is nothing in the varying and irregular death-e of the preceding years of the decade to justify assertion so often made that the death-rate of enteric er has, irrespective of treatment, progressively dimin-ed in recent years.

Our statistics are of peculiar value as compared with se of the registry office, since they are based upon occurrence of the disease among the inhabitants of same locality, subjected in general terms to the same hygienic conditions and receiving the infection practically from the same polluted water. The difference in the mortality between the collection of cases treated by systematic cold bathing and those treated by all methods including systematic cold bathing is about 50%.

The importance of large collections of cases cannot be too emphatically insisted upon. The following table, made up of several consecutive series of cases treated by systematic cold bathing from the time that the method was instituted at the German Hospital, February 1, 1890, until January 1, 1897, is of importance in this connection.

1. 40 cases, no deaths.
2. 54 cases, 1 death; mortality 1.8%.
3. 66 cases, 7 deaths; mortality 10.6%.
4. 66 cases, 4 deaths; mortality 6%.
5. 74 cases, 8 deaths; mortality 10.8%.
6. 108 cases, 12 deaths; mortality 11.1%.
7. 27 cases, 5 deaths; mortality 18.4%.
8. 89 cases, 1 death; mortality 1.1%.
9. 64 cases, 7 deaths; mortality 10.9%.
10. 153 cases, 10 deaths; mortality 6.5%.

Total cases 741, deaths 55, mortality 7.42%.

The above table shows under precisely the same conditions of general management and treatment a maximum mortality in series 7 of 18.4%, and in series 1 the recovery of 40 consecutive cases; whereas, in the total collection of 741 cases the mortality very closely corresponds to the general mortality as shown in our collected statistics and in those of F. E. Hare, Osler, and others, namely, between 7 and 8%.

It is evident that in a disease like enteric fever, conclusions as to the efficacy of any method of treatment based upon short series of cases must, in the nature of things, be misleading.

The statistics of the Bureau of Health are sometimes criticised by those to whose preconceived notions the high death-rate indicated does violence. It is assumed, and without doubt correctly, that deaths are reported as due to enteric fever which in point of fact are caused by other diseases. It may, however, be assumed with equal probability that deaths are sometimes reported as caused by other diseases, such as appendicitis, peritonitis, bronchopneumonia, etc., which in reality are the result of enteric fever. Such errors are unavoidable, but they do not constitute any noteworthy proportion of the cases and must be regarded as offsetting each other.

The statistics in our own cases have been compiled with great care, and every effort to eliminate error, from the official records of the respective hospitals.

Analytic studies of the series comprising the 741 consecutive cases treated in the German Hospital to January 1, 1898, and of the soldier cases treated in the German Hospital during the year 1898, have from time to time been published. The following data have not previously appeared in print:

Summary of the Civilian Cases in the German Hospital, Treated During the Year 1898.

Total number of cases 209, deaths 20; mortality 9.57%.
Males 115, or 55%.
Females 94, or 45%.
Average age, 25 years.
Average number of baths given, 56.

The Widal test was made in the laboratory of the Hospital in 201 cases with the following result:
Positive in 179 cases, 89%.
Negative in 22 cases, 11%.

Reports were received from the laboratory of the City

Hall in 175 cases, with the following result:

Positive in 164 cases, 94%.
Negative in 11 cases, 6%.

Albumin, without blood or casts and in small amount, was present in 176 cases, 84.2%.

Albumin was absent or not noted in 33 cases, 16%.

Nephritis, as indicated by the presence of blood-corpuscles, casts or large amounts of albumin, was present in 79 cases, 37.8%.

The diazo reaction was reported in 52 cases as follows:

Positive in 35 cases, 67.3%.
Negative in 17 cases, 32.7%.

Relapse occurred in 24 cases, 11.5%.

Hemorrhage occurred in	20	cases,	9.57%.
Perforation	"	2	"	.95%.
Phlebitis	"	5	"	2. 4%.
Pneumonia	"	7	"	3. 3%.
Pereostitis	"	2	"	.95%.
Otitis media	"	1	case.	
Sciatica	"	1	"	
Erysipelas	"	1	"	
Acute endocarditis	"	1	"	

Four of the cases resulting in death were complicated with pneumonia; two were complicated with phthisis, and two with peritonitis following perforation.

SUMMARY OF THE CASES TREATED IN THE GERMAN HOSPITAL DURING THE YEAR 1899.

Total number of cases 267, deaths 26; mortality 9.73%.
Of these cases there were 173 males, 94 females.
Average age 26.04 years.
Widal test, Hospital laboratory, positive reaction 231, negative 38.
City Hall: Positive, 188; negative, 56.
Average number of baths per patient, 45.55.
Albumin was found in 195 cases.
Granular and hyaline casts in 38 cases.
Granular casts alone in 40 cases.
Hyaline casts alone in 21 cases.
Diazo reaction positive in 104 cases; negative in 64 cases.
Relapse occurred in 22 cases, 8.24%.
Complications occurred in 74 cases:

Pneumonia, 16 cases.
Femoral phlebitis, 8 cases.
Intestinal hemorrhage, 19 cases.
Pleurisy, 5 cases.
Severe bronchitis, 5 cases.
Otitis media, 3 cases.
Severe epistaxis, 3 cases.
Furunculosis, 3 cases.
Erythema, 2 cases.
Peripheral neuritis, 2 cases.
Erysipelas, 2 cases.
Peritonitis, 1 case.
Perforation, 2 cases.
Malarial infection, 1 case.
Gonorrheal urethritis, 1 case.
Appendicitis, 1 case.
Meningitis, 1 case.
Abscess of the external auditory meatus, 1 case.
Pregnancy, 1 case.
Abortion, 1 case.
Stomatitis, 1 case.
Ischio-rectal abscess, 1 case.
Pulmonary tuberculosis, 1 case.
Urticaria, 1 case.
Advanced atheromatous degeneration of the arteries, 1 case.

Of the fatal cases, death was due to

Intestinal hemorrhage in 5 cases.
Pneumonia in 4 cases.
Profound infection in 13 cases.
Peritonitis following perforation in 1 case.
Shock following perforation in 1 case.
Exhaustion during relapse in 1 case.
Nephritis in 1 case.

SUMMARY OF THE CASES TREATED IN THE PHILADELPHIA HOSPITAL IN THE SERVICE OF DR. SALINGER.

Total number of cases 53, deaths 3; mortality 5.66%.
Average number of baths per patient, 24.
Hemorrhage occurred in 6 cases, 11.3%.
Phlebitis in 3 cases, 5.6%.
Relapse in 6 cases, 11.3%.
Pneumonia in 3 cases, 5.6%.
Perforation in 1 case, 1.9%.

SUMMARY OF THE CIVILIAN CASES TREATED IN THE JEFFERSON HOSPITAL.

Total number of cases 54, deaths 4; mortality 7.4%.
Average number of baths per patient, 22.
Hemorrhage occurred in 5 cases, 9%.
Relapse occurred in 5 cases, 9%.
Phlebitis occurred in 3 cases, 5.5%.
Pneumonia occurred in 1 case, 1.8%.

A study of the facts as above summarized justifies the following affirmations:

1. That the treatment by systematic cold bathing does not avert or diminish the frequency of hemorrhage.

2. That the frequency of this occurrence of perforation is diminished. F. E. Hare, in 1,173 cases during the first 3 years of the bath treatment, also observed perforation in 35 cases, less than 3%.[10]

3. That it diminishes the danger of complications especially those relating to the respiratory and circulatory tracts.

4. That it is apparently attended by a somewhat increased frequency of relapse, though the general statistics in regard to relapses are entirely unsatisfactory. If relapses are more common in bathed cases the explanation is probably correct that owing to the reduction in mortality a large number of cases which under other forms of treatment would have perished in the primary attack survive to suffer the relapse.

5. That the treatment is attended by the occurrence of albuminuria in a large percentage of the cases. This albuminuria shows itself in two forms: (*a*) As a faint reaction without casts or other indications of renal disease; (*b*) cases in which albumin is present in considerable amounts with blood-corpuscles and casts.

We have been led to believe that both these forms of albuminuria are much more common in cases treated by cold bathing than those treated upon the expectant plan, and that the difference between the two forms is merely one of degree. Our observations, however, justify the assertion that in by far the largest proportion of the cases the albumin disappears from the urine during the course of the attack and that at the end of convalescence the urine is entirely normal. In a limited number of cases a history of previous disease of the kidney has been obtained and in a very few instances patients who develop albuminuria during the attack have left the hospital with evidences of nephritis. In this connection the often-quoted observations of Roque and Weil are so important that it may not be amiss to repeat them. These investigators asserted that "in typhoid fever left to itself the toxic products manufactured by the bacillus and the organism itself are eliminated in part during the illness. The urotoxic coefficient is double the normal; but this elimination is incomplete and is only completed during convalescence, for the hypertoxicity continues for four or five weeks after the cessation of the fever. In typhoid fever treated by cold baths the elimination of toxic products is enormous during the illness. The urotoxic coefficient is five or six times the normal. The hypertoxicity diminishes as the general symptoms mend and as the temperature falls

hat when the period of apyrexia sets in the elimi-
on of toxins has ceased."

. That it has no influence in increasing the danger
otitis media. In the civilian cases in the German
spital in 1898 one case of otitis media occurred in
cases, .5%. In the series of 1899 this complication
noted in 3 instances in 267 cases, or 1.1%.

is not our intention at present to discuss the de-
s of the bathing nor the general management of
patient. All these are now generally understood.
modifications of the method as originally formu-
d by Brand, which have been gradually adopted as
result of our experience in the service at the Ger-
n Hospital, are as follows:

The administration of purgatives early in the
ck. Calomel is used for this purpose, sometimes
ractional doses, more frequently in doses of from 3
decigrams. If necessary, this is followed in the
se of several hours by a mild saline aperient. The
inistration of these purgatives is usually repeated
or twice in cases that come in sufficiently early,
they are never administered to those admitted to
wards after the tenth day of the attack.

External applications. Cold compresses or ice-
are applied to the abdomen in all cases of abdom-
tenderness or spontaneous pain and in cases of
orrhage. In some instances of tympanitic disten-
of the abdomen turpentine stupes are applied at
rvals in addition to the external use of cold.

Medicines. The treatment by systematic cold
ing is a routine method and is instituted in all
uble cases. The contraindications are the evidences
emorrhage, perforation or peritoneal infection.
n patient, however, is closely watched and the con-
ns of individual cases receive proper consideration.
ropriate medicines are administered in response to
ial indications; hence the quantity of alcohol varies
ifferent cases, and such drugs as the aromatic spirit
mmonia or ammonium carbonates, strychnia, caf-
the bromids, chloral, opium and its derivatives
hyoscin are occasionally used. Inhalations of
gen are sometimes employed. The proportion of
s requiring any medication whatever, except the
laxatives, throughout the attack is very small, not
eding 10%. On the occurrence of defervescence
e hydrochloric acid is given for a short time, and
, if anemia persists, some form of iron, usually
ham's mixture or one of the proprietary prepara-
s of the organic salts of iron.

The temperature at which the bath is adminis-
l. During the whole course of the attack whenever,
urs after a bath, the temperature taken in the mouth
the axilla as the case may be reaches 101.4° F.,
bath is repeated. Brand's original formula fixed
rectal temperature at which the bath should be re-
ed at 39° C., which is equivalent to 102.2° F. This
gement was arbitrary and based upon an approx-
ely average temperature of 39° C. during the course
ne attack. In this country it is not generally cus-
ry to take rectal temperatures in the acute diseases
dults, and temperatures are usually taken in the
a. The difference between the rectal temperature
the axillary temperature varies according to cir-
stances, but is nearly 1° F. It is for this reason
we have adopted the rule to repeat the bath when
xillary temperature at the end of three hours has
ned or exceeded 101.4° F.

Continuation of the baths during convalescence. Until within the past year the baths were practically discontinued as soon as the temperature ceased to rise above this level. A very remarkable fact caused us to modify this rule; namely, every now and then a patient whose temperature no longer rose to 101.4° F. requested to be bathed, saying that it made him more comfortable. In consequence of this we have adopted the rule of giving one or two plunges a day during the defervescence and a plunge every day, or every second day, for a short time after the defervescence has been completed. The result has been entirely satisfactory and has appeared to us to hasten the convalescence.

6. The location of the tub with reference to the patient's bed. According to the formula of Brand a movable bath-tub was placed at the side of the bed and the patient was lifted from the bed into the bath or entered the bath with the assistance of the attendants. This was the invariable method at the German Hospital until the beginning of the year 1897. This method was severely criticised as exposing the patient to serious risks in consequence of the change of posture and muscular effort on his part. A careful study of the whole matter led us to modify this procedure. In the graver cases it is of course necessary to lift the patient into the tub, but as improvement takes place, after a series of baths the patients are encouraged to help themselves, and it was soon found that they were able to enter the bath with but little assistance. A different arrangement was then made. A stationary tub was placed at the end of the small fever wards. The severer cases were placed near the bath and were carried by the attendants from the bed to the bath and back. The milder cases and the improving cases were placed in the more distant beds and walked to the bath with the assistance of the nurses.

The fever wards are small, each containing six beds, the most distant of which in the men's ward is a little over 6 meters from the bath, the most distant in the women's ward being 5.75 meters from the bath. Adjacent to these wards are other small wards in which fever patients can be placed with separate tubs, but in all instances the improving cases and the milder cases are wrapped in a sheet, rise from their beds every 3 hours and are assisted to the tub by the attendants, and returned in the same manner after the bath. Each individual case is carefully studied, and if any contraindication to this procedure is discovered the patient is carried by the attendant from the bed to the tub and back. In no instance have we seen any reason to believe that this modification has had unfavorable effects. On the contrary it has appeared to be of great service and has exerted a very favorable influence upon the course and symptoms of the attack, particularly upon the condition of the respiratory and circulatory functions.

In a collection of abstracts made by Professor Alfred Stengel and Dr. D. L. Edsall in an American Year-Book of Medicine and Surgery, by Gould, 1900, appears the following remarkable statement in regard to this matter. "We see no reason for flying in the face of fate in allowing patients to walk to the tub. It is useless for the author to plead that no evil results have occurred. The practice is indefensible."

We regret this inconsiderate criticism, because it may lead some to equally inconsiderate and hasty conclusions. Opinion and authority, which are the strength of the law, are the weakness of medicine—an art the practice of which is based upon carefully observed and

correlated facts. The practice of permitting the milder and improving enteric fever cases to walk with the assistance of the attendants a few meters, in no case exceeding 6, to the bath and back, has now been practised in the service at the German Hospital for more than three years.

Since the beginning of the year 1897 the following cases were treated by systematic cold bathing with the procedure in question :

	Cases.	Deaths.	Mortality.
1897	153	10	6.5 %
1898, soldiers	147	5	3.4 %
Civilians	209	20	9.57 %
1899	267	26	9.73 %
	776	61	7.8 %

These figures abundantly prove that the practice needs no defence. They constitute the argument from experience. Aside from these favorable empirical results there are theoretical reasons for a change from traditional methods in treating cases of enteric fever.

Among the more striking morbid phenomena in the clinical picture of this disease under drug treatment, always inadequate, are the evidences of the passive visceral congestions to which progressive impairment of the heart's force and the circulatory apparatus in general contribute. Among these are bronchitis, bronchopneumonia, and hypostatic congestion. There are others of which one can speak less positively, since they are due in part to the action of toxins. Examples of these are somnolence, wandering delirium, gastrointestinal catarrh, intestinal paresis, to which the tympany is due. Both these sets of phenomena are favored by the log-like continued passive recumbency of the patient. The muscular atrophy due to prolonged disuse and the diminution in the activity of the toxin-laden serous fluids throughout the body must also be considered.

The majority of patients who suffer from enteric fever are adolescents and young adults in the most active period of life. The disease develops with comparative rapidity and is of long course. Have we not in enforced continuous repose been adding to the pathologic process a secondary disturbance of nutrition, due to disease of function? Our experience during three years justifies us in replying in the affirmative. The dangers of unrecognized enteric fever—the so-called walking typhoid—are well known, and long journeys undertaken by the patient after the disease has made some progress, in order that he may reach his home, have been regarded as increasing the risk of the disease. Under certain favorable conditions, however, as was shown during the Spanish-American war in the transportation by train of hundreds of soldiers suffering from enteric fever from the practice camps to Northern hospitals, these risks are insignificant; but in the procedure under discussion the conditions are wholly different. The patient, if he be not too ill, is made to take a few steps from his bed to the bath and back with the assistance of trained and skilled attendants. He thus brings into use at rhythmic periods, since the bath is given regularly every third hour, the muscles of his body, without effort and without risk, and by this rhythmic stimulation of habitual functions minimizes certain of the pathologic processes.

7. The method of Brand has been designated the treatment by systematic cold bathing. The measure of its success is largely determined by the period at which it is instituted in any given case. The sooner, the better. Under the ordinary conditions of hospital practice few cases are received until the end of the fi week, the great majority later than this, and a consi erable number as late as the middle of the third we It is obvious that the treatment by systematic co baths instituted late in the course of the attack mu largely fail as a plan. There is nothing specific in t individual bath. It is to the rhythmic repetition the stimulation of physiologic processes and of t modifications of pathologic processes brought about a succession of baths commenced early in the cou of the attack that the favorable results are to attributed.

Finally, it is important to understand that the p does not merely constitute an antipyretic treatme Much confusion and misunderstanding have ari from regarding the treatment only in this lig Brand and his followers have constantly insisted u the fact that the lowering of temperature is one the incidents of the treatment, not its only nor e its main purpose. It may here be affirmed that m antipyretic measures, therefore, however efficient, not replace the hydrotherapeutic procedure, and h in no instance yielded in large series of cases result all to be compared with the Brand method.

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3 *Trans. College of Physicians*, Philadelphia, 1899; compiled by Dr. H. F. Assistant Physician to the Hospital.

4 Compiled by Dr. H. F. Page.

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6 Compiled by Dr. Salinger.

7 Cases under the care of Dr. Wilson and Dr. Salinger; compiled by Mr J. Griffin.

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9 The Cold-bath Treatment of Typhoid Fever.

10 *Loc. cit.*, pp. 76, 104.

ON THE CULTIVATION OF THE TYPHOID BACIL FROM ROSE-SPOTS.

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THE roseola of typhoid fever, always of clinical diagnostic importance, has, through recent bacteriol investigations in Germany, acquired an increased va not only from the scientific, but also from the diag tic point of view. Not that this is a new subject research, for such is not the case. Indeed, ever s the discovery of the typhoid bacillus by Eberth t have been from time to time attempts to demonst that the rose-spot of typhoid fever is a specific nomenon of the disease, and due to a metastasi typhoid organisms from the intestine to the skin.

Neufeld, in a recent publication (*Zeit. für Hyg* xxx, 3, p. 499), has reviewed the work previously upon this subject, and adds some very remarkable sults obtained by himself.

Neufeld found that the attempts of previous inv gators to cultivate typhoid bacilli from rose-spots been largely negative in result, or at least so far being uniformly positive, that they had little v either from a scientific or from a diagnostic standp The results of Neufeld himself, however, were al without exception positive, and, being thus remark his observations have aroused anew the interest o medical profession in this cutaneous affection of typ fever.

The reason of his success Neufeld believes to be

lowing. Typhoid bacilli which gain access to the ood are, in most part, quickly destroyed by bacteri- al substances in that fluid. This is deemed prob- le because of the comparative rarity with which yhoid bacilli can be cultivated from the flowing blood. few bacilli, however, find lodgement in the skin, ere, in some way, they are protected from the de- uctive agents in the blood. Thus protected the ganisms multiply, and produce the changes in the n known as the rose-spot. If now such a spot is cut o for the purpose of cultivating the typhoid organism, blood which flows from the cut, unless it is immedi- ly diluted, kills off very quickly the bacilli, which, the disorganization of the spot, have been deprived the protection secured in the recesses of the skin.

Acting upon this theory Neufeld examined bacterio- ically rose-spots in 14 cases of typhoid fever, and ob- ned positive results in 13. The fourteenth case ver gave a positive Widal reaction, but was shown to typhoid by the demonstration in the blood of the tient of substances protective against the typhoid cillus in animal experiment.

Neufeld's method of making cultures was as follows: e skin having been scrubbed with alcohol and ether, mall incision was made into the spot. The drop of ood which flowed, together with tissue scrapings from spot, was then transferred as quickly as possible to ube of nutrient bouillon and therein diluted. In s way the bactericidal substances in the blood were reduced in strength that the bacilli were preserved m destruction, and positive cultures were obtained, ereas, without the precautions above named, a con- erable number of the cultures must have proved gative. Indeed, even under these conditions, as ufeld points out, it is not possible to isolate the yhoid organism from every spot. Five or 6 spots at st should be incised in every case, and it may be cessary to examine a second series of spots before ccess is attained. Moreover, it is probable that the e of the spot is of decided importance, and that the sher the spot the greater is the chance of success.

As has been said, Neufeld cultivated typhoid bacilli m rose-spots in 13 out of 14 cases. This result, in- esting in itself, becomes even more striking when we mpare the procedure with the Widal test as a diag- stic aid. This comparison was made in 8 cases with e following results: (See Table I.)

TABLE I.

ase o.	Widal First Obtained.	Typhoid Bacilli Obtained from Spots.	
1	24th day.	14th day.	Spots ahead by 9 days.
2	Sept. 11.	Aug. 28.	Spots ahead by 13 days.
3	Dec. 15.	Dec. 4.	Spots ahead by 10 days.
4	July 23.	July 14.	Spots ahead by 8 days.
5	No record.	5th day.	
6	29th day.	27th day.	Spots ahead by 1 day.
7	4th day.	17th day.	Widal ahead by 10 days.
8	20th day.	17th day.	Spots ahead by 2 days.
9	12th day.	8th day.	Spots ahead by 3 days.

(In this table the Widal-test is given the benefit of a day cause a 24-hour interval had to elapse before a diagnosis m the spots could be obtained.)

TABLE II.

ase 1.—Spot No. 1 shows no growth.
Spot No. 2 shows no cocci.

Case 2.—Spot No. 1 shows no growth.
Spot No. 2 shows no growth.
Spot No. 3 shows no growth.
Spot No. 4 shows pure culture of typhoid bacillus.
Blood from Spots 1, 2, 3, and 4 shows a mixed culture of cocci and motile bacilli. Not further examined.

Case 3.—Spot No. 1 shows a pure culture of the typhoid bacillus.
Spots 2, 3, 4, and 5 show no growth.
Blood from Spots 1, 2, 3, 4, and 5 shows a mixed culture of cocci and motile bacilli, probably typhoid. Not further identified.

Case 4.—Spots No. 1, 2, 3, 4, and 5 all show no growth. Blood from same shows cocci.
A second attempt was made two days later. This time Spot No. 1 shows pure culture of the typhoid bacillus.
Spot No. 2 shows no growth.
Blood from Spots 1 and 2 shows pure culture of typhoid bacillus.

Case 5.—Spots No. 1, 2, 3, and 4 show no growth. Blood from same shows cocci.
Second attempt two days later. This time Spot No. 1 shows pure culture of the typhoid bacillus.
Spots No. 2 and 3 show no growth.
Blood from 1, 2, and 3 shows a large bacillus. (Contamination.)

Case 6.—Spot No. 1 shows no growth.
Spot No. 2 shows pure culture of the typhoid bacillus.
Blood from Spots 1 and 2 shows motile bacilli and cocci.

In identifying the typhoid cultures obtained, the following tests were used. Bouillon (size, shape, and motility). Litmus-milk (slight acid production; no coagulation). Sugar-agar (no production of gas). Peptone solution (no production of indol). Gelatin (no liquefaction). Characteristic reaction (loss of motility and clumping) when fluid culture was brought in contact with typhoid serum.

TABLE III.

Case No.	Widal First Obtained.	Typhoid Bacilli Obtained from Spots.	
1	14th day.		
2	26th day.	14th day.	Spots ahead by 12 days.
3	23d day.	18th day.	Spots ahead by 5 days.
4	22d day.	20th day.	Spots ahead by 2 days.
5	23d day.	15th day.	Spots ahead by 8 days.
6	13th day.	7th day.	Spots ahead by 6 days.

From an examination of Table I it will be seen that, in 7 out of 8 cases, the diagnosis made from rose-spots was (on an average) 6 days ahead of that made by the Widal test, whereas in only 1 case did the Widal test show itself superior in furnishing the diagnosis.

Stimulated by the success of Neufeld, another German observer, Curschmann (*Münchener medicinische Wochenschrift*, 1899, November 28), examined bacteriologically the rose-spots in 20 cases of typhoid fever with positive results in 14, a measure of success quite remarkable in view of the fact that not more than 2 spots were incised in any one case. No comparison with the Widal test as to the relative diagnostic values of the two procedures was made.

To the cases above recorded I desire to add 6 which were investigated at the Massachusetts General Hospital in the wards of Prof. Frederic Shattuck. The procedure used was that of Neufeld with the following modifications. After the skin had been rubbed with alcohol and ether the rose-spot was frozen by a spray of ethyl chlorid. This not only made the slight operation a painless one for the patient, but also drove all the blood

out of the skin, and thus made the conditions for success according to Neufeld (absence of blood) almost perfect. The skin having been frozen, a small cross incision was made over the spot, the substance of which was immediately cureted out with a very fine skin curet, and transferred to a tube of nutrient bouillon, a separate tube being used for each spot. Then, finally, another bouillon-tube was inoculated with the blood which soon collected upon all the spots as the effects of the freezing wore off. Tables II and III show the results of the experiments.

Table II shows, in the first place, that typhoid bacilli were cultivated from rose-spots in 5 out of 6 cases. The first case alone gave a negative result. This failure can be ascribed undoubtedly to the fact that only 2 spots were incised, and that no second attempt at cultivation was made. Examination of cases 4 and 5, shows that only upon a second attempt was success attained. Futhermore, this table demonstrates clearly that not every spot can be depended upon to yield typhoid bacilli. Five or six spots, at least, should be incised in every case.

From Table III, in which a comparison with the Widal test is made, it will be seen that in every case the diagnosis was made more quickly from the spots, and this, on an average, by about 6 days, a result almost exactly the same as that of Neufeld.

The bacteriologic examination of rose-spots would seem, therefore, to be a distinct addition to our aids for diagnosis in typhoid fever, and especially in those cases characterized by a late appearance of the Widal reaction in the blood. On the other hand, of course, the procedure is entirely without value in the few cases, undoubtedly typhoidal in character, in which rose-spots never appear.

These investigations, then, make it exceedingly probable that the rose-spot *is* a specific manifestation of the typhoid process, and this conclusion is further borne out by the fact that control incisions, which have been made by a few observers in portions of the skin not affected by rose-spots, have, in no instance, yielded typhoid bacilli. Attempts to demonstrate the organisms histologically in the skin have been hitherto without avail. The relation of the bacillus to the roseola is, therefore, not clear, and must be left to the future for determination.

THE OCULAR COMPLICATIONS OF TYPHOID FEVER.

BY G. E. DE SCHWEINITZ, A.M., M.D.,
of Philadelphia.

THERE are no ocular lesions characteristic of typhoid fever in the sense, for instance, in which certain forms of retinitis are pathognomonic symptoms of some varieties of so-called Bright's disease. Nevertheless, a number of eye-diseases may accompany or follow typhoid fever, precisely as they may be part of the symptomatology or sequels of other febrile affections which greatly depress or alter the nutrition of the patient. These ocular disorders have been recognized from the beginning of the last century, although necessarily in the earlier observations it is next to impossible to distinguish between typhus and typhoid. In recent times four systematic publications on this subject, in which the literature is fully reviewed, have appeared, namely, the articles of Knies,[1] Charles Stedman Bull,[2] Alvin A. Hubbell,[3] and my own chapter contributed to Professor Keen's monograph on "Th Surgical Complications and Sequels of Typhoid Fever, published in 1898.

For the convenience of study I have ventured to sug gest the following classification, arranged according t their probable relative frequency,[4] of the ocular compli cations and sequels of typhoid fever: (1) Affections c the conjunctiva and cornea; (2) affections of the retin and retinal vessels; (3) affections of the uveal tract—iri ciliary body, choroid—and of the vitreous humor; (4 affections of the crystalline lens; (5) affections of th extra- and intraocular muscles; (6) affections of th optic nerve; (7) affections of the orbit and orbital ci culation.

Ordinary conjunctivitis of the so-called catarrha type is of frequent occurrence. So far as I am awar bacteriological examinations are lacking in *typhoic fever conjunctivitis*, but even if they had been made it i doubtful whether they would have revealed any micr organisms except those which are commonly preser in the milder types of conjunctivitis and which prob ably have no specific relation to their developmen During convalescence, and sometimes in the later stag of the disease, a true phlyctenular conjunctivitis ap pears, associated probably with more or less rhiniti A phlyctenule may break down and form an ordinar *phlyctenular ulcer*, or without this origin *ulcerative ker titis* may arise, and if unchecked may develop int severe sloughing ulcers with hypopyon and secondar iritis, and may be followed by entire destruction of th eye.

The pathogenesis of these purulent ulcers may b twofold: (1) An infection may be carried through th blood-streams to the eye, that is, there is an autoinfe tion; or, as Hubbell suggests, (2) the physical depre sion of the patient may be so great that the resistin power of the cornea, this structure being slightly ane thetic, is lessened, and some small abrasion of th epithelium permits an inoculation of pathogenic germ In bad cases of typhoid fever, when the patient has lai for days in a comatose condition, with half-close eyelids, rapid melting down of the cornea, or *kerat malacia*, may occur, precisely as this takes place i cholera, dysentery and meningitis.

Fortunately, sloughing keratitis is a rare phenomeno in this disease (it appeared only twice in two thousan cases recorded by Hoelscher); but its prognosis is ba especially when the general condition and surrounding of the patient are poor. Prompt treatment, howeve may prevent disastrous consequences, as in a ca reported by Veasey.

The treatment of the conjunctivitis of typhoid fev is that which is suited to any mild type of catarrhal i flammation of the conjunctiva—a collyrium of bor acid or common salt; washing the edges of the close lids with tepid water and castile soap, and if there free secretion of muco-pus, eversion of the lids and th application of silver nitrate (5 grains to 1 fluidounce or of a 10% solution of protargol. Sloughing corne ulcers call for atropin drops (4 grains to 1 fluidounce with sufficient frequency to maintain mydriasis an control iritis; frequent cleansing of the conjunctiv sac with an antiseptic collyrium, boric acid or mercur chlorid, 1·8000; direct applications to the ulcer aft the sloughing-material has been cureted away of a 2 solution of silver nitrate, or pure carbolic acid, or tin ture of iodin, or in very stubborn cases the actu cautery. In the intervals of treatment the ulcer shou

covered with powdered iodoform. Hypopyon and rneal abscess indicate the usual surgical measures—ision, paracentesis, or Saemisch's section.

Infectious-disease iritis, or *irido-cyclitis*, which is not common in relapsing, and typhus fever, is much rarer typhoid fever, one case only having been reported by rel among 871 fever patients.

Choroiditis with vitreous opacities may occur, and re is some evidence to show that spontaneous inflam-tion of the vitreous, either in the form of flake-like acities or of purulent deposits, may appear during the hausting stages of the disease. Very rarely a *purulent roiditis*, like that which is seen in pyemia, puerperal sis, or endocarditis, may complicate typhoid fever d result in phthisis bulbi, or shrinking of the ball. A od example of such an affection appearing in the rd week of the disease is reported by Dr. C. W. Hall, Kewanee, Ill.,[5] and another by Dr. B. L. Millikin[6] ich began in the seventh or eighth week of her fever, d after two relapses. Unfortunately neither of these es were examined for microorganisms.

If suppuration in the vitreous or choroid has once gun, no treatment is likely to save the eye from struction, intraocular injections of various antiseptic stances having proven to be of little value, with the gle exception, perhaps, of chlorine water. But, as unsell has suggested, if flakes of opacity are discov-d early in the vitreous of a typhoid-fever patient, it conceivable that vigorous supporting treatment may vent the dreaded suppuration and the destruction the eye. The presence of iritis indicates atropin, or ilar mydriatic, in sufficient frequency to maintain driasis.

There seems little doubt that a certain number of *aracts* develop as the result of typhoid fever (Trelat, ntan, Romiée). These lenticular opacities (which st frequently have been of the punctate variety) ve been attributed by Fontan to a mechanical ob-uction of the circulation, and by Romiée to an increase the density of the serum and changes in the relation the lens to the aqueous humor, but it seems to me re rational to believe that they depend upon an cedent inflammation of the uveal tract, or at least on a disturbance of its nutritive powers.

According to Charles Stedman Bull, *retinal hemor-ges* are not infrequent during the height of typhoid er, being most common about the third week. They y appear in association with intestinal hemorrhage. lso have expressed the opinion that such hemor-ges are probably more usual in this disease than is erally supposed and are not discovered simply be-se they are not looked for; but this opinion does rest upon the secure foundation of an examination large number of cases, and until such examinations ve been made nothing more definite can be said in ard to the frequency of these extravasations. In-ed, no less an authority than Gowers[6] regards intes-al hemorrhages as an important aid in making a ferential diagnosis between septicemia and typhoid er when the general symptoms do not sharply sep-te the one from the other; that is, he would expect find them in the septicemia and *not* in the typhoid er. A perverted quality of the blood, a weakened dition of the bloodvessel walls (Bull), or a microbic asion of the vascular coats (Keen) may explain se hemorrhages. W. K. Rogers has described a inal lesion after typhoid fever, consisting of reddish-low clustered spots in the muscular regions, to which he gives the name of excedative retinitis. At least two instances of obstruction of the lumen of the central artery of the retina by an embolus, or perhaps a thrombus, during convalescence trom typhoid fever have been reported (Galezowski, Snell), and one of partial thrombosis of the central retinal vein (W. K. Rogers). Blindness has occurred from a hemorrhage into the optic nerve itself, or into its sheath (Leber, Deutschmann).

Anesthesia of the retina has been described by Leber, and large irregular scotomas and annular defects in the visual field which have been attributed to alterations in the blood-streams have been recorded by several observers. An *amblyopia without ophthalmoscopic change*, something like that which occurs during scarlet fever, or as the result of a profound toxemia, for example, by lead, has been reported by Ebert, Nothnagel, and others. According to Gowers, it presents a favorable prognosis and disappears in the course of a week or two. Temporary blindness of this character can be caused by the action of toxins circulating in the retinal blood-streams upon the inner retinal layers.

Optic neuritis occasionally occurs during the course of typhoid fever, one variety being unconnected with intracranial complications. In other words, there may be a neuritis of the optic nerve, exactly as there may be neuritis of nerves elsewhere in the body. Another variety develops when this fever is complicated with meningitis, which of itself is a rare complication (sixteen times in seventeen hundred cases collected by Westcott for Keen). A third variety, described by Oglesby as subacute in character, and which he thinks is always associated with symptoms of meningitis, is more frequent among childbearing women than among men. It should be remembered, however, that cerebral manifestations during typhoid fever do not necessarily mean meningitis. Finally, retrobulbar optic neuritis may develop.

Optic nerve atrophy, a post-typhoidal phenomenon, may result from an antecedent neuritis, or from excessive hemorrhage (intestinal, nasal, menstrual), or it may be caused by the injudicious use of quinin. Inasmuch as recent investigations indicate that certain atrophies of the optic nerve which at one time were regarded as primary, are really secondary to degeneration of the ganglion-cell layer of the retina, it is possible that some of the post-typhoidal atrophies depend for their origin upon a profound toxic influence exerted upon the inner strata of the cerebral layer of the retina.

Ward Holden has experimentally shown that excessive hemorrhage in all probability acts in this way in producing optic nerve atrophy.

Affections of the *intraocular and extraocular muscles* occasionally complicate typhoid fever. Thus, during the period of convalescence dilation of the pupil and paresis of accommodation may be present. Segal describes mydriasis without cycloplegia and with normal vision, which he attributes to irritation of the sympathetic.

Paralysis of the extraocular muscles is an uncommon phenomenon, and probably rarely occurs at the height of the fever in the absence of intracranial complications. Ptosis and abducens palsy have been recorded in the third week of the disease (Nothnagel). During convalescence, according to Knies, extraocular palsies are more frequent, certain varieties appearing quickly and quickly relapsing, which this author believes to be nuclear in origin, and which he attributes to a chronic

nephritis, a frequent sequel, in his opinion, of typhoid fever. Complete oculomotor palsy, however, as I have shown,[7] can occur at this stage without such an etiology. Certain muscular paralyses which have been noted at long intervals after typhoid fever have been attributed by their reporters, for example, Runeberg, who noted trochlear paralysis one and one-half years after the fever, to the typhoid poison. They are difficult to understand and their association with the disease is not at all proven. During mild attacks of typhoid fever in children there may be strabismus and retraction of the head, which disappear in a few days. Perhaps these symptoms are due to a basilar meningitis, but they may also be explained by an intense effect of the poison on the nervous system without the production of inflammation. In a case of oculomotor palsy, such as I have reported, if meningitis is set aside as the etiologic factor, we may attribute it to an action of the poison on the third nerve precisely as it acts on other nerves, usually those of the arms and legs.

Among the *affections of the orbit* and of the orbital circulation which have occurred during the course of typhoid fever, and which must be exceedingly rare, the following may be mentioned: Thrombosis of the orbital veins; orbital cellulitis, in one instance a culture from the pus developing the presence of the bacillus of Eberth (Panas); and spontaneous orbital and intraocular hemorrhage. The last-named affection has been described by C. A. Findlay in the third week of typhoid fever and was ascribed to a degenerative change in the walls of the bloodvessels in connection with the general lowering of nutrition. Purpuric spots appeared on the patient's body.

Finally, a word may be said with reference to the relation of typhoid fever to *asthenopia*. Patients frequently say, "I never experienced any trouble with my eyes until after I had typhoid fever," and then wish to know whether the typhoid fever has in some way altered eyes which previously were supposed to be perfect. Typhoid fever may materially lessen accommodative power, as has already been pointed out; hence injudicious reading during protracted convalescence may cause asthenopia. Again, as Landolt has shown, this fever is a fruitful source of weakness of the adductive power which then remains to plague the patient, "the vestige of a debilitating disease," as he expresses it. But in a certain number of patients the asthenopia appears to be most marked when the early stage of convalescence has passed and strength has been regained, often with marked increase in the body-weight. Perhaps these cases may be explained by what Gould calls the law of refraction-change following increase or decrease of the body-weight. He believes that great increase of the body-weight may cause shrinking of the antero-posterior diameter of the eyeball, or alteration of curvature; that is, increase of hyperopia, decrease of myopia, or similar changes of astigmatism. It is easy to infer from all this that a thorough examination of accommodative power, muscular balance, and refractive error after recovery from typhoid fever is indicated should symptoms referable to the eyes arise.

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A CASE OF SUSPECTED TYPHOID FEVER SHOWN T BE ACUTE CATARRHAL OTITIS MEDIA WITHOU PAIN.[1]

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ON September 20, 1899, Hermann P., aged 9 years, a schoo boy of the 27th Ward of this city, was brought in the amb lance to the Presbyterian Hospital and admitted to th medical ward as a case of suspected typhoid fever.

I am indebted to Dr. L. T. Salmon, the interne, for the a amnesis in this case. It was learned of the patient's moth that during the past two years the boy had had attacks earache and that these attacks had been followed twice b an otorrhea of some days' duration. Ten days before he w admitted to the hospital he had complained of headach and some pain in the left ear, and down the line of the l sternomastoid muscle. The earache was slight and of sho duration, and the boy continued to go to school until thr days before his admission to the hospital, when he becan stupid and listless and was not inclined to play. Two da before his admission he refused to leave his bed and co plained of headache, but not of any ear-pain.

He had had no chill and no epistaxis. His bowels we constipated and he had abdominal pains. He was mild delirious for three days before his admission.

When admitted to the hospital, September 20, 8 P.M., h temperature was 104.4° F., respiration 40, pulse 100, and was deaf in his left ear. He was alternately sponged a tubbed every four hours, with slight temporary fall in te perature. At 8 A.M. the next morning, September 21, h temperature was 104.6° F.; respirations 44; pulse 128. 4 P.M. under sponging and tubbing, his temperature w 102.8° F.; respirations 24; pulse 108. Under the same re men at 12 o'clock, midnight, his temperature was 104.4° respirations 36; pulse 110. On September 21, the day aft his admission, the Widal test was negative. On the 22d was asked to see him, not because he complained of his e but because his symptoms seemed anomalous when view as those of typhoid, and his mother had given an accou of previous aural disease and he was now deaf in his l ear. I found the boy in mild muttering delirium, fro which he could be recalled by speaking to him. Te perature 103.4° F; respirations 36; pulse 116. His rig membrana tympani was normal. The left membrana w swollen, red and protuberant in the entire posterior half a in the membrana flaccida. Paracentesis of the membra being indicated, his auditory canal was illuminated by lig from an electric forehead lamp and an incision was ma behind the malleus running through the upper poster quadrant up into the membrana flaccida and the att There was an immediate but short hemorrhage, followed a serosanguinolent discharge for 24 hours. The incision the membrana did not seem to cause the patient any pa His temperature began to fall at once. By 8 P.M. it w 102.6° F.; respirations 36; pulse 100 By midnight 101.6° respirations 34; pulse 100. By 4 A.M., September 23d, te perature 98° F.; respirations 36; pulse 90. His temperatu now remained subnormal till September 25, when it reach the normal point and remained there. A Widal test ma on September 23 was negative. By this time the membra tympani had assumed a relatively normal appearance, b it looked now as though the ear might have been the seat previous catarrhal inflammations which had thickened t membrana tympani, and kept it from breaking down in t last attack of tympanic inflammation.

It is of great interest to note that as shown in t case an acute inflammation in the middle ear may painless and yet sufficient to induce fever and deliriu In such cases, owing to the absence of pain in the e the attention of the physician is naturally not called the ear as the seat of the cause of the fever and deliriu In this instance it was the history of previous attacks aural inflammation related by the mother of the boy.

[1] Read in the Section of Otology and Laryngology of the College of Physic of Philadelphia, November 15, 1899.

unction with deafness of the left ear, that drew at-ion of the resident physician, Dr. Salmon, to the ear possible cause of fever. Otherwise the case would run on until spontaneous rupture of the membrana relieved the fever and delirium. The marked and dly curative effect of the paracentesis, as well as its lessness to the patient, are also worthy of note. centesis of the membrana in itself is never very ful. But if this incision is accomplished with any hing, scraping or cutting of the sensitive walls of uditory canal, the patient will suffer intensely, and t most obstinately to any further manipulation of ar.

conclusion it should be stated that the acute puru-otitis media occurring not uncommonly in typhoid , sets in in the third week, according to my observ-n. It is due to infection of the middle ear, or ears, ecomposition of the food and secretions, especially atter accumulated in the posterior nares of the re-bent patient, and not to any specific typhoid infec-of the drum-cavity. It is sometimes attended with t pain and complicates the fever. It was a frequent rrence in the typhoid fever cases among the soldiers ght to the Presbyterian Hospital last year. If the s and nasopharynx are kept free from inspissation cretions by the use of a spray of Dobell's solution omething similar, inflammation of the ear can be ented in most instances, in typhoid fever. The want ch attention and the unfortunate result to the ear shown in the soldiers of the late war, who, of course, d receive no such care of their nares in a camp ital.

civil practice, acute otitis media in typhoid fever mparatively rare for obvious reasons. Whenever e purulent otitis media occurs in typhoid fever a pt paracentesis could be as easily performed as it in the case of the boy reported above, and a serious plication thus removed. Disregard of the aural plication in such cases may lead to chronic otor-and deafness, or even worse lesions. There is n to believe that the otitic element is overlooked in y instances of fatal brain-lesion occurring in typhoid , and death attributed to other causes.

VALUE OF CLINICAL LABORATORY METHODS IN THE DIAGNOSIS OF TYPHOID FEVER.

By J. H. MUSSER, M.D.,
of Philadelphia.

E clinical laboratory methods employed in the nosis of typhoid fever are:

Bacteriologic examination.
Examination of the blood.
Examination of the urine.

As *control*, inoculation of discharges or products of mmation to disprove the presence of tuberculosis; methods employed for each infection, as the use of rculin, inoculation methods, spinal puncture, etc.

cteriologic Examination.—This includes (*a*) the re-ry of the specific bacillus from the blood with-n from a vein, from the blood of the rose-colored , from the urine, from the feces, or from areas of uration; (*b*) the Widal test (serum reaction).

As we improve in methods of technic, the fre-cy with which the bacillus of Eberth is recovered the blood increases. Unfortunately, the bacilli are ult to secure in mild cases, and even in severe ones they are not recovered until late in the disease, when the diagnosis is usually established. The typhoid bacillus has been cultivated from the rose-colored spots by Neufeld, Curschmann, and Richardson.

In 40 cases examined by the three observers, the bacillus was cultivated from the spots in 32. Moreover, they found that in many cases the bacilli were recovered six days before the Widal reaction was disclosed. We have in this an early and positive means of diagnosis, but it can only be carried out by the trained laboratory expert. Examination of the urine, particularly if cystitis prevails, enables one by staining and culture methods to secure the microorganisms. They are found late in the disease, however, and an opinion as to their nature is only of value coming from a bacteriologist.

The bacilli have been isolated from the stools. By the method of His, the procedure is less complicated, and yet its conduct cannot be called practical while there is such difficulty in isolating and distinguishing the bacillus from the colon-bacillus.

Personally, I have not received any aid in the diagnosis of typhoid fever by these methods. The examinations made corroborated the diagnosis previously ascertained. Much is hoped from the observations of Richardson concerning the spots. Unfortunately there are cases in which the eruption is absent. It may be said puncture of the spleen is never justifiable.

Value.—If the result of a bacteriologic examination of the blood is positive, the diagnosis of typhoid fever is settled. No other possible consideration as to the nature of the case need be entered into. If the result is negative the nature of the disease may well rest in doubt. Gwyn failed to recover the bacillus from cases resembling, clinically, typhoid fever. He did cultivate a paracolon bacillus which proved to be the cause of the infection.

b. If the diagnosis cannot be made by culture and staining methods, the Widal test must be employed. Thus far this test is the more commonly employed because it is quickly done, the technic is not elaborate, and the percentage of errors are not so great.

It has been found that the specific serum-reaction can be found in 98% of the cases. It is therefore of more common occurrence than any one single symptom of typhoid fever. It may occur as early as the fourth day. I believe it can be found some time during the course of every case of typhoid fever. It can scarcely be conceived that the infectious process can occur without this serum-reaction. Such biologic change of the blood must prevail in all cases. Care in technic will reveal the reaction. The proper dilution must be employed, the proper time-limit allowed, and the culture must not be too old—(24 to 48 hours).

Faith in the Widal test as a diagnostic measure rests upon the fact that it is found in 98% of all cases of typhoid fever. The cases of typhoid fever in which the reaction was absent at the time of examination belong to the classes either in which conditions productive of the phenomena had come and gone, had intermitted, or had been delayed.

Widal Reaction in Other Diseases.—The phenomena of agglutination when blood is added to a young typhoid culture may appear in cases in which the disease is not typhoid fever. Thus, in a few instances, patients with syphilis, or tuberculosis, or influenza, may yield this reaction. In such cases the reaction does not occur except with small dilution. It may only occur once.

It usually intermits or disappears almost at once and bears no relation to the evolution of the disease.

Danger.—A patient may have had typhoid fever; later, he becomes the victim of another serious infection. The Widal reaction is secured. The agglutination took place because of his previous typhoid fever, and bears no relation to the present attack. A typhoid infection would be thought to have caused the illness, however, the reaction misleading the observer.

Value.—As clinicians, therefore, we rely on the Widal reaction. In more than 98% of our cases the reaction was present. We believe it to be a valuable sign of the presence of typhoid fever at the time of or antecedent to the examination. It must, however, be looked upon as a symptom, and judgment employed to estimate its true value, as every symptom is weighed by the clinician. We believe the report of the occurrence of the reaction should be accompanied by more data in order that the clinician should judge for himself of its value. He should know the degree of dilution, the time limit, and the age of the culture. Examinations should be made daily or twice daily in doubtful cases.

Examination of the Blood.—The red cells are counted, the white cells counted and differentiated, the hemoglobin is estimated. The *red cells* show no change until the end of the second or third week. They are then found to fall, and as convalescence is established a fair degree of anemia is found to be present. They may be reduced in the third week to 2,500,000 and even lower —sometimes the anemia persists far into convalescence. If the patient has profuse diarrhea in the first two weeks the number of red cells may be increased. The hemoglobin always falls in typhoid fever and by the time convalescence sets in may be reduced to 20%.

The Leukocytes.—The leukocytes remain normal or are reduced in typhoid fever. A leukocytosis in the beginning is against typhoid fever and favors other infections. A differential count shows an increase of the large mononuclear and transitional forms, but a decrease of the polynuclear neutrophiles. In other acute diseases the polynuclear neutrophiles are increased. If a diagnosis of typhoid fever is established and leukocytosis occurs it points to a complication. The polynuclear forms are increased, as in perforation, otitis, etc.

Examination of the Urine.—Notice has been taken of the bacteriologic examination of the urine, but it is also examined chemically. Ehrlich observed the so-called diazo-reaction. It is found in probably 80% of all cases. It occurs frequently in other ailments and can be looked upon only as corroboration of other data. Certainly, as one of the phenomena of typhoid fever, it has its place, but the value placed upon it must be no more nor less than than that of other symptoms common to infections.

It is thus seen by clinical laboratory methods we have acquired greater precision in the diagnosis of typhoid fever. A diagnosis formerly considered doubtful is made positive by such methods; the onset of complications are anticipated; and the nature of sequels, otherwise difficult to explain, are determined.

1. *Cases of Doubtful Diagnosis.*—It has been the experience of all of us, no doubt, to have cases simulate typhoid fever. Who has not in the past eagerly yearned for some final method by which a case of tuberculosis, or ulcerative endocarditis, or malaria, or influenza, or cerebrospinal meningitis, or tuberculous peritonitis, or appendicitis, or some obscure infection with pyemic symptoms, could be recognized? Not only do we have the methods detailed above, by which th presence or absence of typhoid fever is determined, bu also methods applicable to each infection to rely upor It is not necessary to recall them in detail. In sus pected tuberculosis, we do not fail to make a bacterio logic examination of the inflammatory discharges, a sputum, etc., or to employ the tuberculin test, or to us inoculation methods. In malignant or ulcerative endo carditis, cultures from the blood, or from original in fective foci, and the blood-examination (leukocytosis are not forgotten. In cerebrospinal meningitis we loo to spinal puncture, and bacteriologic and blood-exami nations for help. In pyemic infections, bacteriologi methods obtain and are of the greatest value. In infec tious appendicitis. we look to the blood-count as mo than suggestive. In malaria, we confide in the result of the blood examination.

2. *The Onset of Complications Are Anticipated.*—If i the course of typhoid fever daily examinations of th blood shows an increasing leukocytosis, we may sus pect an inflammatory complication or a mixed infec tion. The preperforative stage of typhoid fever ma thus be recognized. We are warranted in saying, symptoms ever so mild, but suggestive, point to per tonitis or to perforation, and the blood-count shows leukocytosis, the onset of this complication is mo than likely.

3. *The Nature of Sequels.*—A patient has symptom of cholangitis. It may be due to confined gallstone or be a local infection, the onset of previous typhoi fever. The Widal test is an aid in the recognition the true cause. A patient, aged 65, had a prolonge febrile affection. In the feeble period of convalescen a cystitis developed. It seemed to be of calculous origi but his feeble strength and an enlarged prostate, an his own inclinations, postponed sounding for ston The Widal test put us on the right track, and later th bacteriologic examination was final.

Another, aged 33, was admitted to my ward in th University Hospital with orchitis. Past gonorrh was denied, and it did not prevail at the time. H had had a fever before admission. The Widal te suggested the origin, and the immediate occurrence of relapse proved the nature of the former ailment as we as of the orchitis.

A man was admitted with nontraumatic stricture the esophagus. The Widal test, the tuberculin test, an Justus' test for syphilis failed to show an infectio origin of the stricture. No data could be secured to dia nosticate cancer save by exclusion of the diseases me tioned above. Unfortunately faith was not put in the and the diagnosis of nonmalignant stricture was mad The autopsy showed a carcinomatous ulceration. H we had more faith in our laboratory methods, the co rect diagnosis would have been made.

In conclusion, clinical laboratory methods are esse tial in the diagnosis of typhoid fever. A positive dia nosis can be made in a large number of cases. It c be made earlier than by other methods. Examinati of the blood will disclose the presence of inflammato complications.

An Error Corrected.—The death of Dr. Devay, w was stabbed by one of his patients, was announced by t newspapers and the medical journals last week. It now pears that he did not die after Dr. Jaboulay's laparoton but that a plastic peritonitis followed, from which Dr. Jab lay hopes to save his patient.

VENTIVE INOCULATION AND SERUMTHERAPY OF TYPHOID FEVER.

BY JOSEPH McFARLAND, M.D.,
of Philadelphia.

S THE evolution of preventive inoculations, immu-tion and serumtherapy has taken place, the de-pment in certain lines has taken place somewhat to exclusion of others. Probably it is for this reason we now observe the successes attained in diph-ia and tetanus.

here is scarcely enough literature upon the preven-inoculation and serumtherapy of typhoid fever to le us to conclude that a proper amount of atten-has been devoted to it, and we find that in the rity of experiments published the results attained scarcely sufficient to give a hopeful outlook for the re, and when subjected to careful analysis are on whole discouraging.

he investigations began about 1893, when Rumpf[1] gested that positive beneficial results followed the utaneous injection of sterilized cultures of Bacillus cyaneus. Of 30 cases treated by this method, two l; one of pneumonia and one of intestinal hemor-ge. This suggestion was investigated by Kraus and well,[2] who used it in 12 cases, of which two died. y do not believe that the method has a curative value.

on Jaksch[3] also tried this method as well as that sug-ed by E. Fränkel, but was not impressed with their e.

. Fränkel[4] suggested that typhoid cultures might used for treating typhoid fever. Cultures were n in thymus-bouillon and killed by exposure to m. The beginning injection was 0.5 cc. followed l cc. after 24 hours, then by increasing amounts y 48 hours until as much as 5 cc. was administered. injections were made in the gluteal region, deep he muscles. Improvement came by the sixth or th day, the temperature falling to normal, the pulse ming less frequent, the nervous symptoms disap-ing, the tongue cleaning and convalescence begin-. Fifty seven cases were so treated and the treatment scribed as "effective."

1 this country the matter was investigated by A. bert[5] and Henshaw.[6] The former reported 28, the r 13, cases treated with sterilized typhoid cultures n in thymus bouillon, and both claim distinct ess.

rannan,[7] in whose practice some of Lambert's cases treated, says he saw no harmful results, either eral or local, and speaks highly of the successful lts in some of the cases.

. Pfeiffer[8] has also employed the sterilized cul-s of the typhoid bacillus for prophylaxis. As in Haffkine prophylactics of cholera and plague, vir-t cultures are grown in bouillon until the maximum th has been attained, then killed by heat. By this hod it was believed that immunity was secured.

evy[9] followed Pfeiffer in the opinion that immunity d be thus established.

Wright and Semple[10] have employed this method er extensively, especially in India, where they to observe a much smaller percentage of cases ng the vaccinated than among unvaccinated soldiers. y observe that after the injections the blood gives Widal reaction and seem to regard its occurrence as oborative of the fact that immunity has developed mtherapy.

I. SERUM FROM TYPHOID CONVALESCENTS.

As early as 1892 Chantemesse and Widal thought that a real preventive and therapeutic value seemed to be present in the serum of typhoid fever convalescents. Brunischetti and Stern also found that the serums of convalescents and immunized animals contained antitoxic substances.

Pollak[11] used the serum of convalescents in treating typhoid cases, injecting it in doses varying from 5 to 45 cc. It was tried in 18 cases, but was without beneficial results. Walzer[12] treated 4 cases with 10 cc. doses of serum from typhoid convalescents and thought he saw distinct advantage from its use.

Silvestri[13] treated 2 cases with 14 and 20 cc. respectively, of serum from typhoid convalescents and observed remarkable improvement in each.

Jez[14] used the convalescent's serum in 6 cases in doses reaching 35 cc., but saw no effect.

Walger[15] used the serum of convalescents in 4 cases of typhoid fever in 10 cc. doses. In three there was a decided improvement, in the remaining case no improvement was observed. Only one dose of the serum was used in the three benefited cases, but in the other a second dose of 10 cc. was given also without effect. This patient had a relapse.

II. SERUM FROM IMMUNIZED ANIMALS.

The literature upon this subject is surprisingly small.

Pope[15] used an "antityphoid" serum in 4 cases and saw hastened lysis and improved symptoms result.

Steele[16] used a similar serum in one case and believes that it "controlled the severity of the disease and shortened its duration."

Chantemesse[17] treated a number of cases with serum from an animal progressively immunized to typhoid fever and thought it showed distinct therapeutic value.

S. W. Lambert is said by Brannan[18] to have treated 2 cases with a serum prepared by Hiss. No beneficial effect was noted; one patient lived, the other died.

The most careful experimental work seems to have been done by Bokenham[19] who immunized a horse to typhoid fever by the use of bouillon containing 10% of blood-serum (converted into alkali-albuminate). This medium was inoculated with typhoid bacilli, allowed to grow for three weeks, after which it was filtered through a Berkefeld filter to remove the bacilli. Tested on guineapigs the filtrate was found to be harmless. The horse was given alternate doses of this filtrate and killed cultures and failed to react to the injections of the cultures to which a horse treated with culture only reacted violently. The serum of this horse gave very marked agglutinative reactions and was found to be protective to guineapigs against typhoid peritonitis when given as long as 72 hours before the usual 10 times fatal dose, and saved the animal from death from peritoneal infection when injected three hours after the infection.

Bokenham agrees with Pfeiffer that the action of the serum depends upon antimicrobic, not upon antitoxic powers that it possesses.

As far as I have been able to determine, no published results of the use of this serum in the treatment of typhoid fever have been published.

Spirig[20] treated one case of typhoid fever with a serum prepared by Hüfiger giving 10 cc. every day. No ill effects were noticed and he thought that the case was benefited by the serum.

III. THE USE OF EXTRACTS OF THE ORGANS OF IMMUNIZED ANIMALS.

The only experiment of this kind seems to have been made by Jez,[21] who immunized guineapigs by the administration of increasing intraperitoneal injections until marked tolerance had been established, after which the animals were killed and the organs crushed and extracted in a mixture of sodium chlorid, alcohol, glycerin, and a little carbolic acid.

The extract so obtained was used in 18 cases of typhoid fever, being given in teaspoonful and tablespoonful doses every two hours. In all cases marked improvement was noted and no unpleasant secondary effects were observed.

The contributions to the serum treatment of typhoid fever are not numerous, and few of them will bear analysis. The difficulty of drawing conclusions from few cases presents itself at once, but far beyond this possible error in the work stands the fact that nearly all of the pioneers experimented with serums which must have had almost no practical value and administered them in doses too small to be of any use.

Experience with diphtheria and tetanus teach us that no hope can be expected from any serum that will not bear the test of laboratory investigation; no benefit can be obtained from any serum not produced as the result of prolonged treatment of some experiment-animal with ascending doses until very large quantities of highly virulent living cultures can be tolerated without general or local reactions. The very symptomatology of typhoid fever—its slow course, its steady pyrexia, not usually becoming hyperpyrexia, its muttering delirium, all indicate to us that we have to deal with affection of mildly toxic nature. The local lesions with the hyperplasia and neurosis and cicatrization of the lymphoid tissue of the intestine, further show us that the bacillus is not powerfully chemotactic and rarely pyogenic.

Future success, it seems to me, must depend upon (1) ability to secure a highly virulent bacillus; (2) the prolonged immunization of an animal to living virulent cultures; and (3) some means of precipitating or concentrating what strength the serum contains so as to greatly intensify its beneficial action and correspondingly reduce its dose, which will probably need to be very large.

The futility of administering 10 cc., or 20 cc., or even 50 cc. of a serum of unknown strength, that will not satisfactorily protect laboratory animals, must be evident when it is remembered that for the treatment of bubonic plague the serum prepared by Roux, despite the fact that it is prepared with a powerfully toxic organism and perfectly protects the rabbit from plague-infection, must be administered to man in doses of from 30 to 100 cc. repeated once or twice if necessary in order that its effects can be produced.

It is unfortunate that so many poor attempts have been made and the profession discouraged. The outlook for a satisfactory serum for the future is far from encouraging, but let us continue our experiments and hope for success.

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TYPHOID FEVER IN NEW ORLEANS.

BY P. E. ARCHINARD, M.D.,
of New Orleans, La.

A LARGE number of the physicians in New Orlean two generations ago did not believe in the existence o typhoid fever in the city. As most of those physician were well educated medical men, either foreign born o men who had obtained their degrees in the large medica centers of Europe, where typhoid was well recognize and thoroughly studied at the time, it is safe to as sume, that at that time with us either the disease wa extremely rare, or that it did not possess the symptom as seen in the capitals of Europe.

Nowadays, however, typhoid fever is a commo malady in this Southern metropolis, and not a fe cases show all the characteristic symptoms not seldo confirmed by the postmortem findings.

The increase of typhoid fever in New Orleans an the aggravation of its virulence is due to a number o causes, chief among which are the increase of the popu lation, the bad drainage, the almost total absence o sewerage of the city, and the prevalent custom of th population of using for domestic purposes rain wate obtained from the roofs of houses and carried t wooden cisterns uncovered or badly covered. Thes cisterns are as a rule hardly ever cleansed, there is n water cut-off from the roof, so that after a drough when rain comes the dirt from the roofs is washe down the gutters and pipes and collects at the botto of the cisterns, forming a layer several inches in dept of decomposing organic matter, a good culture-mediu for germs.

Most of the houses built in recent years, instead o the old-time closets, where the fecal matter was de posited in pools or pits built on the ground or severa feet in depth, have modern water-closet arrangement connected with sinks, or cemented brick vaults, whos capacity is too small; and for economical purpose these vaults are either left badly cemented, or porou clay pipes are laid from them one or two feet from th surface on the ground for a greater or less distance, s that the liquid contents of the vaults percolates th soil. Add to these causes inefficient laws, imperfectl carried out, for the inspection of milk-stables, slaughter houses, or food products.

The drainage of the city is being gradually amelio rated and new canals are being built for that purpos at present. In a short time the city will begin to la sewer-pipes, connecting each house with mains an pumping station which will discharge by means of th lakes into the Gulf of Mexico.

Notwithstanding the foregoing, and owing perhap to the mildness of the climate, the relative want o accumulation of the population of the city in populou neighborhoods as elsewhere, typhoid fever, like all othe germ-diseases in New Orleans, is of a decidedly benig type. In several hundred cases reported by a numbe

actitioners to the laboratory of the Board of Health
ıe last three or four years, in all classes and at all
the mortality did not exceed 5%, and this per-
ıge of fatal cases may be considered rather above
below the general average mortality of the disease
he whole city. In the country around I am led to
ve by competent medical men that fatal cases from
disease are rare.

ıe Widal test carried on in the laboratory of the
Board of Health has proved very satisfactory, 90%
ıe cases after the fifth or sixth day giving positive
lts. And laboratory examinations have shown
the malarial organism is frequently found in blood
yphoid-fever patients, which gives also the Widal
ion, and in cases presenting the typical clinical
ıre of typhoid fever. Occasionally the presence of
wo germs gives rise to a very peculiar mixture of
symptoms of malaria and typhoid, as in the case
rted by Dr. Gessner, in November, at the Orleans
sh Medical Society.

ıe following analysis of the histories of 26 cases
rved and treated by several physicians may prove
ıterest and serve to show the character of the dis-
in our Southern city. Two of these 26 cases
ed fatal; these cases show therefore a mortality of
%, considerably above the average mortality of the
le city.

these cases the mean duration of the fever, omit-
relapses, was of 31 days. The shortest being of
ays (fatal case), and the longest of 102 days (recov-

In four cases the fever lasted from 2 to 3 weeks,
leven from 3 to 4 weeks, in five cases from 4 to 5
ks, in two from 5 to 6 weeks, in one case 45 days,
ne case 62 days, and in one case 84 days, and in
case 102 days. In all of these cases the maximum
perature was always in the evening between 3 and
ıd the minimum temperature between 5 and 10 in
morning. The greatest difference between the low-
morning and the highest evening temperature in
one case was of 4° F., and the least difference .9° F.,
mean difference was 1.6° F. The maximum tem-
ture reached was in one of the fatal cases, a young
of 18 years of age, who died at the end of the four-
th day, the thermometer one hour before death
stering 106.5° F. Death in this case was due to
ingeal complications. The lowest thermometric
ing was in the second fatal case, male, aged 32
s, who died of collapse from profuse hemorrhage
ıe bowels on the twenty-seventh day of the disease,
perature two hours before death 94.6° F. In three
s in which the variation of temperature was of 3° or
e plasmodium malaria was found in the blood, and
al's test was positive from the fifth day.

was not possible in any of the cases to fix posi-
y the source of infection and time of incubation of
disease; in four cases, however, in which patient
come in contact with a case in same house, symp-
s began to show themselves on the eighth, tenth,
eenth, and twenty-first days recpectively after first
osure. The beginning in 23 out of 26 cases was slow
almost inappreciable; languor, a sense of fatigue,
ıt rise of temperature in the evening, repeated chilly
ations during the day, and headache, chiefly
tal, were the only prodromal symptoms. In 3
s the invasion was rapid, beginning with a sharp
l, followed by high fever, intense headache and
ache, great bodily weakness and prostration. Epis-
s, slight, occurred in the iniatory period only four times. In one case (the fatal case) no early epistaxis, but on the twenty-sixth day, the day preceding death, there was profuse hemorrhage from the nose and mouth.

In 19 cases the tongue was characteristic, dry, pointed, red at the edge and tip. In 7 cases the tongue was flat, pale, showed marks of the teeth, like in malaria; only one of these 7 cases showed the presence of malarial organism.

Vomiting was present in only four of the cases, in the others, though at times there was a sense of fulness of the stomach, a total lack of appetite or desire for food, some eructation and gagging, there was no vomiting.

Constipation was the rule all through the disease except in five cases in which diarrhea occurred from the beginning, and in two cases was very troublesome and served to greatly weaken the patients. The diarrheic dejecta were often characteristic. In nearly all the cases there was more or less intestinal flatulence and some slight iliac tenderness and borborygmus.

The majority of the cases, outside of frontal headache, slight vertigo, and great prostration, showed no nervous symptoms, except 8, who during the course of the disease developed delirium, 3 almost continually for three weeks, and 2 of these showing marked hallucination which persisted to convalescence. Insomnia during the course of the disease was common.

The characteristic lenticular patches were observed at one time or another in 16 of the cases, chiefly on the abdomen and back.

The enlargement of the spleen could be distinctly made out by percussion and palpation in 22 of the cases.

In nearly all of the cases a slight bronchial cough was present nearly all through the disease, in four the cough was constant and hacking and marked one of the most disagreeable symptoms of the disease. One case developed pneumonia on the seventeenth day of the disease, which lasted for nearly two weeks and ended in resolution.

The pulse in the majority of cases was fast, reaching in two cases 140; in six cases, however, where the temperature went up to 103.5°, and remained between 102° and 103.5° for over ten days, the pulse never reached 100. In all the cases, however, a rise in temperature was always accompanied by a corresponding rise in the pulse. The character of the pulse varied so much in the different cases that its analysis is impossible.

Late in the disease in a number of the cases staphylococcic boils developed in various parts of the body, and in two cases made the convalescence very prolonged and tedious.

Albumin in the urine was found in 18 of the 26 cases at some period of the disease, but except in three cases was transient and not considerable in quantity, not exceeding 2% moist. It never showed sooner than the eighth day in 17 cases; in one case it appeared as soon as the fourth day, and persisted until long after convalescence. In two cases it showed on the ninth and tenth days respectively and lasted for 12 days in one case; the other case died on the fourteenth day. In two cases albumin was not sought for except early in the disease and not found. In four cases it never showed. The fatal hemorrhagic case only showed albumin the day preceding death.

Of the 26 cases 4 were children under 12, and between 8 and 12, all 4 had mild attacks. Twenty-two were adults from 17 to 58 years of age, 2 between 18

and 20 years, 12 from 20 to 30, 3 from 30 to 40, 3 between 40 and 50, and 2 above 50. Of these 22 cases, 10 may be classed as moderate cases, 8 as severe, and 4 as very severe cases.

Of the cases 3 had relapses, the returning fever lasting from 5 to 12 days, all recovered.

Two cases during convalescence had distinct attacks of intermittent malaria and got well under quinin.

The above I believe is a fair composite picture of typhoid fever as it exists in New Orleans.

I have purposely omitted all reference to treatment, because those cases were treated by a number of practitioners and no particular line followed, indications being met as they arose.

THE DUTY OF THE PHYSICIAN IN PREVENTING THE DISSEMINATION OF TYPHOID FEVER.[1]

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of Philadelphia.

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IF the part played by the physician in preventing the dissemination of typhoid fever is to be attended with success it must be admitted that the disease is a preventable one. If any other view than this be entertained a paralyzing effect is at once exerted upon the half-hearted efforts of the misguided clinician and his methods of prevention are rendered all but innocuous by his lack of belief in their effectiveness. On the other hand, the preventable nature of the disease being admitted, a heavy responsibility must be assumed by the profession at large for much of the typhoid fever at present existent. The investigations of numerous epidemics occurring within recent years have proven conclusively that if the proper measures had been taken to destroy the bacilli eliminated by the fever patient many of these outbreaks would not have taken place. In the celebrated epidemic at Plymouth in 1885, if these precautions had been applied to a single case of typhoid fever a scourge afflicting 1200 of the inhabitants of this small town would have been prevented. No more striking instance could be cited illustrative of the duty devolving upon the practitioner to the community of which he is a member, or to those who live at a distance, and whose drinking water may be subjected to pollution by his neglect.

It is by the study of the manner in which the bacillus of typhoid fever gains entrance to the human body as well as by a knowledge of its channels of elimination that we are enabled to adopt such measures as will prevent any given case of the disease from becoming a source of danger to the community. It will be very generally admitted that the principal channel of infection is the digestive tract, although it would seem that the respiratory tract, in a very limited number of cases, may serve as the way of entrance. The strongest evidence that the respiratory tract at times serves this purpose is to be found in those instances of pneumotyphus in which there is early localization of the bacilli in the lungs, and in which the early clinical phenomena are those of croupous pneumonia.

Of all substances taken into the alimentary canal that most likely to convey the typhoid bacillus is water, and when other substances serve as carriers of the infection it is because they have previously bee brought in contact with contaminated water. It is thu that milk becomes a source of danger from having bee diluted with infected water, or in consequence of th cleansing of milk cans with such water. In like man ner it will be readily understood that such foods a are eaten raw, and which require cleansing with wate before being partaken of, may become infected. Thu oysters that for the purposes of the market ar placed for a short time in fresh water to be "fattened may become contaminated with bacilli. It must b borne in mind, also, that those concerned in the car of the sick and in handling their soiled clothing ma become infected by the direct transference of the or ganism through neglect of proper precautions as t cleanliness. So, also, the importance of the part playe by such insects as flies in the spreading of the contagio must not be overlooked; for these pests by first alight ing upon the discharges from the patient may very wel carry innumerable bacilli to articles of food partake of by the well.

The possibility of the conveyance of typhoid feve by the inspired air must be recognized, although suc cases must be extremely rare. Even when this occur it is probable that in the majority of instances infec tion by the alimentary tract ultimately takes place b the lodgment of infected particles of dust upon th pharynx, and their subsequent washing down into th stomach during the act of deglutition. As alread stated, however, in exceptional cases infection throug the respiratory tract by the inspired air may happen.

The manner in which the specific germ of typhoi fever is eliminated from the body of the patient is of th utmost importance from the point of view of prever tion of the dissemination of the disease. The mai channel of elimination is by way of the intestinal dis charges and in such dejection the presence of th bacilli is nearly always to be detected. They are nc found, however, except in rare instances, earlier tha the tenth day and they disappear from the stools ver soon after convalescence has begun. The urine, espe cially when it is albuminous, also contains bacilli in considerable proportion of cases, and they have bee found in the perspiration and sputum.

It is from a knowledge of the facts just recited tha we derive the clues enabling us to adopt such measure as will prove effective in preventing the spread c typhoid fever. The duty of the physician in relatio to the prophylaxis of the disease is mainly fulfilled he prevents every case coming under his care from b coming a center of infection from which other case arise. His concern, therefore, is with the individu case and only indirectly with the general subject c water-supply and public sanitary measures.

Of the various germicides that may be employed b which the bacilli-laden dejecta from a case of typhoi fever may be rendered innocuous the best is probabl a strong solution of chlorinated lime. This substanc has to recommend it its cheapness, its convenience c application, and its efficiency as a germicide. Th solution should be prepared by dissolving four or si ounces of chlorinated lime in a gallon of water an the solution thus formed should be added to the sto in about equal bulk. Care should be taken that it sha come into intimate contact with the fecal discharg by stirring the mixture with a glass rod or stick, tho oughly disintegrating by such means any hardene fecal masses or lumps. A portion of the solutic

[1] Part of a Symposium upon Typhoid Fever at a Meeting of the Pathological Society of Philadelphia, held January 25, 1900.

ıould be placed in the bedpan before use, and when ıe mixture has been effected as described it should ə set aside for at least one hour before being thrown ıto the cesspool or water-closet, while the glass rod · stick that has been used should be disinfected by ɐat.

Curschmann recommends the employment of freshly ade milk of lime prepared by slaking quicklime ıd mixing it with twice or four times its volume of ater. This should be added to the dejection in quan-ty equal to the latter's bulk and should be thoroughly ixed with it in the same manner as when chlorinated me is employed. Prolonged contact of the disin-ctant with the stool is necessary before the latter is ırown away. Either of these substances may be used r the disinfection of water-closets and cesspools, but employed in the former they should be frequently ushed with water in order to minimize any deleterious fects upon the plumbing.

Other, though less efficient, disinfectants are carbolic id and corrosive sublimate, the former in the strength a 10% solution, the latter in the proportion of 1:500. mercuric chlorid is employed the solution should ə acidulated. In addition to possessing less efficient sinfecting properties these substances require longer ntact with the dejecta to complete disinfection than ıe preparations of lime. In much diminished strength, ɔwever, either may with advantage be employed for eansing and disinfecting the region of the patient's ıus after a stool.

The soiled bedclothing and personal clothing of the ıtient as constituting a source of danger in the trans-ission of the infection must not be neglected, and ıould therefore be subjected to thorough disinfection. his may be accomplished by soaking such articles in 3% solution of carbolic acid and then boiling them r at least half an hour before further handling in the ocess of laundering.

The bed upon which the patient lies should be pro-cted by a rubber sheet, and if its accidental soiling ould occur it should, upon the termination of the se, be destroyed by burning.

The same measures should be carried out for the sinfection of the urine and sputum as have been lvised for the disinfection of the stools.

Those in attendance upon a case of typhoid fever ould be cautioned about the possibility of contract-g the disease by direct transference, and should be structed in the manner by which infection is brought out. They should take the utmost care in handling e patient, his dejections and his clothing. After each rvice rendered him the hands should be thoroughly ɐansed with soap and water and then immersed in a 1000 solution of corrosive sublimate, particular care ing given to the cleansing of the nails.

Precautions should also be taken to preclude the ssibility of the dissemination of the disease through e agency of house-flies. These and similar insects ay be excluded from the sick-room or ward by the acing of proper screens in the windows and door-ıys.

When a case of typhoid fever has developed in a usehold under ordinary circumstances, it is fair to sume that other members of the same household ve been, or are being, subjected to the same source infection. If possible, therefore, the source from ıich the infection has arisen should be ascertained, d such directions given the well members of the family as will prevent other cases from developing. It is highly probable that the disease has resulted from one or two sources: either from the drinking-water or from polluted milk. The water used for drinking and culinary purposes by the household should therefore be boiled, or some water, known not to be contaminated, substituted. If the milk should be at fault, or in the event of the impossibility of definitely determining this fact, a fresh source of milk-supply should be sought for. It is further important to inquire into the sanitary arrangements of the household, particularly the plumbing, and if any faults are detected they should be corrected. The value of this is well illustrated by an instance coming under my own observation. In a small house-epidemic careful inquiry into the condition of the plumbing revealed the fact that from time to time the contents of the main drain leading from the house to the street sewer flowed backward into the stationary tubs in which the household washing was done as well as into the sinks in which the table-china was supposed to be cleansed. Further investigation shows that there was an entire absence of any valve or trap between the house-drain and the street-sewer, so that whenever the latter became surcharged its contents were forced into the house in the manner described. Two children were simultaneously stricken with the disease, the other members of the household, curiously enough, with the exception of a small infant, having previously been the subjects of infection.

With the large questions of general water-supply and the adoption of measures tending toward the betterment of public sanitation the physician in his individual capacity has no direct responsibility. The furnishing of an uncontaminated water-supply to the community is the duty of the municipality, and the relation of the physician to such a question cannot be more than advisory, and is not more intimate than that of any other citizen who may be possessed of some expert knowledge. The lamentable failure of the municipality in many instances to properly protect the watershed of streams furnishing the source of water-supply to the community, or, when that is impossible, to adopt means for the purification of such water at its points of distribution, is only equalled by the apparently sublime indifference of the citizen to this neglect upon the part of the City Fathers.

THE DIAGNOSIS OF PERFORATION IN TYPHOID FEVER.

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THE symptoms of perforation in typhoid fever are generally considered to be so marked as to render recognition of the complication easy and certain. The symptoms looked for are those of perforative peritonitis, viz., sudden onset of severe pain in the right iliac fossa, soon becoming general over the abdomen; early and recurrent vomiting; rigidity of the wall of the abdomen, which may be retracted but is usually distended; costal breathing; and such signs of collapse as a fall of temperature, pale and pinched features, and a rapid small pulse. As reaction sets in the temperature rises, the pulse increases in frequency, the general surface becomes livid, and covered with cold clammy perspiration, and with the escape of gas into the peritoneal

cavity, the area of liver-dulness in front and at the side becomes tympanitic.

Such are the symptoms usually regarded as essential to a diagnosis of acute perforative peritonitis in an ordinary case of typhoid fever. In cases of great severity with marked delirium and great distention of the abdomen, the symptoms may be masked, as they may also in cases characterized by much debility. In these cases reaction is slight and only a subacute peritonitis results.

It should not be forgotten that symptoms identical with the most severe cases resulting from perforation of the intestine may be due to perforation or rupture of the gallbladder, to sloughing of a mesenteric gland or to rupture of an acute splenic abscess.

In not a few instances, however, of perforation of the bowel in ordinarily robust persons in whom the disease is pursuing a mild course, there may be none of the striking symptoms characteristic of this grave complication. In these cases the diagnosis is difficult and the treatment to be advised uncertain. These difficulties are well illustrated by the following cases:

A bookkeeper, aged 48 years, came under treatment in the autumn of 1890, for extreme dyspnea which proved to be caused by pressure on the bronchus by a syphiloma in the apex of the right lung. Potassium iodid was given freely with complete relief to his dyspnea and restoration of good health. In the following January he felt indisposed and his appetite failed. The temperature and pulse were normal, and his indisposition was attributed to disturbance of digestion by the iodid. I was requested to see him a week later and found that he had been suffering from pain in the abdomen for two days. He had not considered it severe enough to be of much moment. The peritoneal cavity contained some fluid, which was evidently due to subacute inflammation. Two days later he died, and on postmortem examination two small typhoid ulcers were found in the lower part of the ileum, one of which was perforated and a considerable quantity of intestinal contents had escaped into the peritoneal cavity.

This was a case of apyrexial typhoid in a man in fair physical condition, and yet perforation without any localizing adhesions caused symptoms of only moderate severity, not sufficient to alarm him or his friends.

A second case was that of a young farmer who was admitted to the Toronto General Hospital in October, 1897. His afternoon-temperature was about 102° F., and his general condition was good. At the end of the third week, in the afternoon, he complained of pain in the hypogastric zone. Being in the hospital at the time, I examined him. The pain was not severe. There was no disturbance of temperature, pulse, or respiration. The abdominal wall was not rigid, but pressure in the lower part caused some increase of the pain. Rectal examination revealed nothing abnormal. The house-physician was directed to watch the condition closely and to report later in the evening if the pain persisted. By some misconception, instead of reporting he gave morphin sulfatis gr. ¼ hypodermically. This masked the symptom and gave him a good night's rest. On the following afternoon the pulse, temperature and respiration, and the appearance of the abdomen were not altered, but the facial expression was more anxious, and the abdomen somewhat more tender. As the patient's condition was good and a perforation very probable, an operation was done by my colleague, Professor Cameron. On opening the abdomen the peritoneum was found somewhat congested. A large perforation was found in the ileum, two feet above the ileocecal valve, and this portion of the intestine lay in the pelvis, being incompletely walled off from the general peritoneal cavity. The inflammation of the peritoneum had been confined to the pelvic cavity, and was only beginning to extend to the general cavity. It was on account of these conditions that the symptoms were so mild.

The perforation was closed and the pelvic cavity cleansed. For two days the progress was satisfactory; then symptoms of septic peritonitis set in and death followed on the fourth day. An immediate operation would very probably have been successful.

The object in writing this is to emphasize the fact already known but too often forgotten, that perforation in typhoid fever may, and often does, occur without the fulminant symptoms that we are accustomed to associate with this grave complication. Of the symptoms, persistent pain is probably the most constant. The symptoms are often masked by the prostration and delirium in grave cases, but they may be so mild and unobtrusive as to escape observation in patients who consider themselves scarcely ill enough to be in bed.

THE EXAMINATION OF THE URINE FOR TYPHOID BACILLI.

BY NORMAN B. GWYN, M.B.,
of Philadelphia.

OF the many aspects which the subject of typhoid fever presents few are more discussed than the diagnostic and prophylactic, due probably to the more general interest which they excite. Any question important in prophylaxis, and at the same time of some value in diagnosis, should attract our attention, and if of practical value, be carefully considered.

Within the last few years there has come rather prominently into notice the presence of typhoid bacilli in various tissues and fluids of the body, particularly in the blood and urine; their presence in the blood though of interest as explaining the transmission of the bacilli into other localities, is hardly of practical value though blood-cultures have revealed a typhoid infection when other signs such as the Widal reaction have been absent. Their presence in the urine, however, is of more general importance, and should this be shown to be a not infrequent occurrence it is easy to see what an important agent in the spread of typhoid this medium might be.

Several factors would contribute immediately thereto most noteworthy, and which will be later seen, is the rapid multiplication of organisms in the urine; the fluid and comparatively inoffensive nature of this excretion, permitting contamination thereby to pass unobserved and allowing widespread distribution if carelessly handled or thrown away, might also be mentioned.

As early as 1881 Bouchard claimed to have demonstrated the typhoid bacilli in the urine of 50% of all cases. Little interest was, however, excited, nor was the danger of infection strongly insisted upon; it must be remembered in this connection that the Eberth-Gaffky bacillus was not as clearly differentiated from the Bacillus coli communis as now, and was scarcely generally accepted as the etiologic factor in typhoid fever.

No further attention was given the subject for some years; papers by Hueppe, Seitz, Konjajeff, Karlinski and others, beyond helping to establish the fact of the bacteriuria in typhoid, did little to arouse general interest, owing probably to the merely casual mention given the question of infection and prophylaxis.

Neuman's careful observations show that he at least was alive to the importance of this subject; but, in spite of the work of this author and of subsequent others the possibility of infection from typhoid urines, has, up to quite recent times, been completely overlooked.

Within the last year, owing chiefly to the work

Richardson, of Boston, considerable interest has been aroused, and from several sources recognition of the importance of the bacteriological examination of the urine has appeared. In a previous communication on this subject I have been able to substantiate the findings of previous workers and have insisted upon the danger of infection from the careless disposal or handling of infected urines.

At the present time, investigations on the occurrence of typhoid bacteriuria allow us to conclude that 20 to 30% of cases of typhoid fever have typhoid bacilli in their urines at some time of the illness, usually in pure cultures and in such abundance that their presence constitutes a real danger.

In the light of these statements it is necessary that we have some idea of the conditions under which the bacilli may appear in the urine. Bacteriuria unquestionably indicates a coexistent or preexistent bacteraemia and the frequency of one is practically that of the other; hence severe and fatal cases, cases showing evidence of widespread distribution of the organism throughout the body as evidenced by inflammatory complications or profuse roseola? may be expected to show bacilli in the renal excretion. No fixed rule can, however, be made, since it has been demonstrated that even with bacilli and lymphoid nodules in the kidneys the urine may be bacteria free; and it must be remembered that in many, if not, perhaps, in most cases, of typhoid fever, there may be at some time a transient bacteraemia which might give rise to a bacteriuria. The usual time of appearance of the bacilli has been put at the second and third week of the illness; their presence in pure culture in enormous numbers, and as a general rule the urine departing but little from normal, are the most interesting and important features of the subject.

To the writer it has seemed that cases of typhoid bacteriuria might well be classified according to the local signs. In some cases, with the exception of the bacilli, the urine shows nothing abnormal. This can be readily explained by the disappearance of the slight renal symptoms which may have at first been present, or to the possibility of a simple excretion of the bacilli by the kidneys without any damage to themselves hereby.

In the greater number of cases some trifling signs of irritation of the urinary tract (slight albuminuria, or pyuria, the presence of a few tube-casts) will be found and may persist unchanged for weeks or months.

In other cases signs of severe involvement of the kidneys or bladder are prominent symptoms. The acute nephritis at the onset or during the course of the fever, the *fièvre typhoide à forme renale* of the French, is due in many cases to the direct presence of the typhoid bacilli as Rostosky has shown. The acute but more especially the chronic inflammations of the bladder, often probably transitions from the first mentioned classes of cases, are of extreme interest, since with the local trouble the bacilli have been found to persist for years. It is to those classes of cases, however, in which the urinary symptoms are slight or absent that the most importance is to be attached, since it is from these that the greatest danger of infection arises. In such cases the urine may be turbid, even when freshly drawn, from the countless number of bacteria contained; at the same time the reaction of the urine remains acid. Neuman in his writings mentions this coincident turbidity and acidity of freshly drawn infected urine. On careful examination, as emphasized by Horton Smith, the turbidity may be shown to be due to the bacilli, usually small and rapidly motile. Occasionally the growth of the bacilli may be more or less hindered by an agglutinative action on the part of the urine, and clumped and non-motile organisms may be demonstrated, the urine clearing above on standing and throwing down a fine granular precipitate as in the tube-method of the Widal reaction.

During the administration of urotropin, or when the bacilli are disappearing from any cause, the urine may naturally show little or no cloudiness; more than ordinary care is needed for the detection of organisms under these circumstances, and centrifugalization, or the employment of large amounts of urine in culture-taking, must be employed. If after all precautions numbers of bacilli are detected in freshly drawn urine, it can safely be assumed that one has to do with the typhoid bacillus. It must not be forgotten that there are occasions in which great care or even cultural means are required to demonstrate the organism's presence. Naturally the cultural tests should be applied if possible.

Having once appeared in the urine, the bacilli are capable of persisting for great length of time and apparently are not easily washed out in urination. Little or no change may be induced in the bladder for weeks or even months. Once cystitis is set up, however, the bacilli seem likely to remain as long as the trouble is untreated. Houston reports a case of 2 years' duration showing the organism in pure cultures, and Cushing's case reported by the writer last year, still shows numerous typhoid organisms also in pure culture, 6 years after the primary attack of typhoid.

The writer's experience comprises 10 cases. In all pure cultures of the organism, in numbers varying from 500,000,000 to 10 per cc. were found; in every case the reaction of the urine was acid, including the cystitis case above mentioned, and other more acute instances of bladder-involvement. Turbidity, and the demonstration of myriads of bacilli in the freshly voided urine were frequent occurrences. Under the influence of urotropin or of bladder-irrigation, rapid diminution in the numbers of bacilli could be noted, as much as 5 to 10 cc. of urine being occasionally used for culture. Neither albumin nor casts could be detected in one case in which the urine swarmed with bacilli; in the others, minute or distinct amounts of albumin with hyalin and granular casts, more or less plentiful, could always be demonstrated. Pyuria was a marked feature in 5 cases; occasional pus-cells were present in all the others.

In 3 cases bacilli were obtained from the urine and identified as typhoid organisms before the appearance of a Widal reaction. It can thus be seen that the detection of the bacilli in the urine may be of some diagnostic value. In one case of typhoid septicaemia, characterized by frequent rigors and lasting for 10 weeks, the diagnosis of a typhoid infection was practically made from the urinary bacteriological findings. It has been shown that when typhoid bacteraemia exists, the Widal reaction is frequently held in abeyance. It seems proper to suggest in such supected cases, a bacteriological examination of the urine in the hope of obtaining positive results therefrom, since the urine may express fairly often the state of the blood. As a general means of diagnosis, however, bacteriuria can never play a very important role, occurring as it does in but 20 to 30% of cases.

For the removal of the organisms from the blad-

der, mercuric-chlorid irrigations, 1–50,000, have proved most satisfactory, completely removing all bacilli in comparatively short time. Urotropin given internally seems, in many instances, to be effective; in others it has proved of little value. In 2 of 3 cases observed by the writer, bacilli persisted in great numbers during a continued trial of the drug.

Great care should be exercised in handling and disinfecting an infected urine, a few drops spilt may mean the distribution of millions of organisms. Equal parts of carbolic acid 1 to 40 will kill all the bacilli in 2 hours. Milk of lime has seemed of uncertain value, save after 3 to 4 hours, and in volume exceeding that of the urine. Mercuric chlorid 1 to 50,000, in equal volume with the urine, renders it sterile in 1 to 2 hours.

The evident danger from urine containing such amount of infectious material as has been shown, and the ease and frequency with which pure cultures can be obtained, should encourage further and more general investigation. A bacteriological examination is not always feasible, but in the immense majority of cases the mere detection of numbers of bacilli in the fresh urine is sufficient, and a eareful seareh is the only requirement. An examination of the urine for bacilli should now be a routine practice in cases of typhoid fever. The safest eourse perhaps, for the profession to follow, would be the systematic disinfection of all urine, irrespective of the demonstration of the bacilli therein.

THREE CASES OF GENERAL CONVULSIONS IN TYPHOID FEVER.[1]

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DURING August and September of 1898, 3 cases of enteric fever eame under my eare which presented unusual nervous phenomena. All 3 of the patients were soldiers, 2 in the regular and 1 in the volunteer service. The 2 regulars were among the fever cases in my charge at the U. S. General Hospital in Key West, Fla. The voluntcer I found in my wards at the Garfield Hospital, on my return from the South. He was, at the time of his convulsive attacks, in charge of Dr. J. Dudley Morgan, who was kindly performing my hospital duty during my absence.

The majority of textbooks make but little mention of this alarming eomplication, except to say that it is very unusual, and I have been able to find but few cases reported. The rarity of general convulsions in typhoid fever can be fully appreciated when we learn from Murehison's elassic "Treatise on the Continued Fevers of Great Britain," that of 2,960 cases of enteric fever admitted into the London Fever Hospital in 8 years (1862-9) eonvulsions occurred in only 6, or once in 493 cases.

CASE 1.—C. R., aged 26, private in the U. S. Army, was admitted to the U. S. General Hospital at Key West, Fla., July 5, 1898, suffering from an attack of typhoid fever. He had been taken sick immediately after reaching Cuba, about the middle of June, with headache, nausea, diarrhea, cramps, epistaxis, etc.

As nearly as could be estimated the patient was admitted on the twentieth day of the disease. His temperature did not reach the normal until the thirty-sixth day; in the meantime the range was quite high, on several occasions falling but little short of 106° F. He was at times delirious, had involuntary movements and showed generally the symptoms of enteric fever in a severe form.

As the fever subsided numerous large abscesses appeared upon the chest, abdomen, thighs, and legs. These were freely incised as rapidly as discovered, and the patient seemed on the road to recovery, when, upon the thirty-fourth day of his illness, the temperature having been on the decline for nearly a week, the following attack was observed. While apparently asleep he uttered a sharp cry, threw up his hands and went into a slight general convulsion. The eyes were fixed and glassy; there was slight frothing at the mouth for a few seconds. He was unconscious and remained so for about 10 minutes. On his return to consciousness his mind was clear, and he said he felt as though he had been dreaming.

The temperature, at this time, was ranging from nearly normal, in the morning to about 100° or 101° in the evening and showed no change on the day of the first convulsion. Nothing further of an unusual character occurred until the fiftieth day of the disease, 16 days later, when there was a second and much more serious seizure. While sitting up in bed eating his supper (convalescence having been established) he suddenly uttered a shary cry, threw up his hands, fell over on his right side and went into general clonic convulsions.

The head was drawn back and moved from side to side, there were spasmodic movements of the face, arms and legs with frothing at the mouth, but no biting of the tongue. The convulsive movements were followed by a stage of rigidity with the head and shoulders bent forward. In from 12 to 15 minutes the left forearm was flexed and turned posteriorly, then both hands were raised to the head, this was followed by very slow convulsive movements of all the extremities, grinding of the teeth and drawing of the face toward the left. The eyes were rolled upward, the pupils equal and contracted at first, but later (in half an hour) becoming dilated. The eyes were glazed, the temperature normal, the pulse weak at first, but soon becoming stronger the reflexes were found to be present and there was no paralysis. After the first few moments the convulsive movements were confined almost exclusively to the upper extremities and face and gradually ceased altogether. The patient lay upon his right side with head and shoulders bent forward, legs and thighs flexed. Any attempt to change the position during the night at once caused a return of the spasms.

The following morning, August 5, his condition was critical. The temperature had risen to 103.2° F., the pulse was frequent and the respirations very slow, about 16 to the minute, the eyes glazed and expressionless.

Physical examination showed nothing of interest. The urinary analysis, at this time, as at all others, showed no albumin casts nor sugar. As unconsciousness was complete and the jaws set it was found necessary to resort to the stomach-tube, passed through the nose, as a means by which to nourish the patient, enemas being ejected at once. At P.M. the temperature began to fall, reaching 100° by 10 A.M. on the morning of the 6th.

The condition remained about the same until 2 45 P.M. August 6, nearly 46 hours from its onset, when he became conscious. He seemed much alarmed, tried to get out of bed and made efforts to speak, but articulation was difficult. By the morning of the 7th his temperature was normal and his mind was fairly clear, though he had no recollection of what had occurred. He did not fully regain his mental balance for two weeks, but went on finally to a complete recovery of mind and body.

CASE 2.—M. W., aged 24, private in the U S. Army, was admitted to the U. S. General Hospital at Key West, July 5, 189 suffering from a slight wound. On July 12 he developed fever which proved to be enteric. The attack, though slow in its onset, was very severe, presenting grave symptoms such as hyperpyrexia, hemorrhages, etc. When the fever had continued for about 27 days, the following nervous phenomena occured:

At 10 P.M., August 8, the patient became unconscious and there was a slight general clonic convulsion. The eyelids were closed, the pupils dilated, the breathing was slow (four to the minute) and irregular.

[1] Read before the Medical Society of the District of Columbia, October 18, 1899.

As his temperature was 103.8° F., he was given a plunge-bath (the water at 75°F.) which reduced the temperature to 101.8° F. and restored consciousness. At 11 P.M. he again became unconscious, remaining so until the following morning. During this time the eyes were wide open and staring (the reflexes abolished), the jaw firmly set, the tongue in constant motion, the respirations frequent and shallow.

For a week following the above attack the patient was desperately ill. He had several hemorrhages and the temperature-range was high, but there was no delirium. Up to the occurrence of hemorrhage 50 tub-baths were given. This patient recovered.

Case 3.—C. M. (Hospital No. 8878), U. S. Volun eers, aged 27 years, was admitted to the Garfield Hospital August 5, suffering from enteric fever of about a week's duration. The attack, including three intercurrent relapses, lasted nearly three months, and was of moderate severity.

During the first three weeks of his stay at the hospital the temperature-range was, at times, quite high, but he showed no serious symptoms until August 30, when he became delerious and very restless. On the 31st, the delirium was more marked, though the temperature was declining, the highest record on that date being 102° F. at 6 P.M. At 3 A.M., September 1, the following seizure was noticed :

The patient became very delirious, talking continuously and trying to get out of bed. There then occurred marked jerking of the limbs, the head was strongly retracted until it touched his back, the eyes were open and the pupils dilated, the respirations were labored and loud; the pulse continued fairly strong. The attack lasted 10 minutes, leaving him in a profuse sweat. The temperature at 6 A.M. was 97° F., pulse 108. At 9.30 of the same morning, there was a second seizure. The patient gave a cry and went into general clonic convulsions, the head was drawn back slightly, and there was foaming at the mouth with loss of consciousness. In 3 minutes the movements ceased, but the unconscious state continued until 10 A.M., half an hour later, when he became conscious. At noon, the temperature was 98.8°, pulse 112. At 3.15 P.M., convulsive movements lasting 3 minutes were again noted; there was unconsciousness and involuntary passage of urine. At 4 P.M., the temperature was 101.2°, pulse 120.

The amount of urine secreted on September 1, was scanty and had been for 2 days. The analysis showed a reduction of the urea to abont one-fifth of the normal. but neither albumin nor casts were found. Previous examinations had also been negative as to albumin and casts.

Cups were applied over the kidneys and other means taken to encourage the urinary secretion. The next morning the patient was rational. his condition much improved. He had no further epileptiform attacks, nor was he again delirious.

During the following few days there was only moderate fever which gradually declined, leading to the hope that convalescence was to be established; there were, however, two recurrences and the fever did not disappear, permanently, until four weeks later. The subsequent history shows nothing worthy of note. The patient recovered.

The pathologic findings in cases which have shown convulsions during the course of typhoid fever have been somewhat varied; Liebermeister[2] states that he found striking edema of the brain in two cases of general convulsions. Osler[3] reports an interesting case of very mild typhoid fever in a young man 22 years old, who developed severe convulsions on the ninth day. The convulsions continued at intervals until death, ten hours after their onset. The autopsy showed thrombosis of the left middle cerebral artery. The fact that this was the first case of convulsions as a complication of typhoid fever seen by Osler, is an indication of the rarity of the condition. Dr. Osler has since reported a second case.[4]

J. W. Moore[5] reports a case in which the autopsy revealed neither brain nor kidney lesion. Of Murchison's[6] six cases two died. One showed extensive renal disease. There was no postmortem upon the other.

Since general convulsions are so rare in the course of enteric fever, I have sought for an explanation of their occurrence in the three cases which I report. That these men were subject to epilepsy does not appear possible, as they were soldiers, two of them privates in the regular army; besides, in epilepsy, the fits usually cease during an attack of typhoid fever. Uremia, I think, may be excluded, at least, in Cases 1 and 2, as the urinary analyses were, at all times, found to be negative. In Case 3, the urea was considerably reduced on the day of the convulsions and the urine was small in amount, but neither albumin nor casts were found. All three of the patients were taking strychnia, but the symptoms were not those of poisoning by that drug.

Meningitis and encephalitis may be excluded because of the subsequent symptoms, or rather absence of symptoms.

In Case 1 the severity and long duration of the mental symptoms are to me a strong indication of some decided intracranial disturbance, possibly thrombosis or hemorrhage.

In Case 2 the patient was of a very nervous temperament and was in constant dread lest his illness should prove fatal.

The convulsions, coming as they did, at the height of a severe attack of typhoid, I attributed to the toxic influence of an intense infection, upon nerve-centers already exhaused by the strain of his late experience in Cuba, followed so soon by fever. In Case 3, it will be remembered that there was a reduction in the amount of urine just before the convulsive seizure, and that the urea was found to be only one-fifth of the normal when estimated on the day of the attack. It seems possible, then, that the convulsions may have been toxic, due to faulty action of the kidneys.

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[6] *Loc. cit.*

WATER-BORNE DISEASES.

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After several years of discussion and investigation the people of Pittsburg have provided the necessary funds for the improvement of the city water-supply. The cost of this undertaking should not be regarded as the capital outlay for the plant which is not the burden upon the taxpayer, but as the annual expense made up of the items of interest upon bonds, maintenance, and depreciation. This annual cost is estimated at about $200,000. In other words, it will cost the city about $200,000 more per annum to deliver filtered water to its inhabitants than that at present supplied. Heretofore the profit upon the water supplied has exceeded this amount, so that the water-consumer already pays enough to have filtered water, and on this ground would be entitled to it if on no other. Strictly this profit is a tax on the water-consumer, precisely as the profit of the monopoly of the French Government upon the sale of tobacco is a tax on those who use tobacco. If the bureau of water-supply had its own treasury paying interest on the bonded indebtedness incurred for its payment as well as its other expenses and handing over the profit to the city, the taxation upon water, which is our present practice, would be evident to all.

There are two principal systems of water-supply which contrast financially as well as in other particulars. In the one the water is brought from a high point, which is necessarily at a long distance from the distributing reservoir and flows by gravity. These works involve huge storage reservoirs and long aqueducts, and therefore an immense outlay for construction. The cost of operating, however, is very small. The cost of bringing water by this system is, therefore, almost entirely made up of interest upon bonds. When the water is pumped from a river near the reservoir the interest account is relatively small, while the operating expenses are large. The initial outlay is not great. Provided the supply of water at the source is abundant the cost of water by the gravity system lessens much faster for larger requirements than by the pumping system. From the hygienic standpoint it is the aim in the gravity system to obtain a pure water to begin with, while in pumping-works, necessarily situated near the city, the water ought to be purified.

As between a really pure and purified water there could be but one choice. A pure water should be collected from a watershed which is not, and never can be, the seat of human habitations. It is generally the case in the United States that the gathering-grounds for gravity supplies are very far from this standard. The Croton watershed, for instance, is quite densely inhabited, and the same thing is true of the former gathering-grounds for Boston.

In the North of England several cities which formerly relied upon sand filtration have changed this system and now draw their water from the Welsh mountains. This fact is sometimes cited as evidence that filtration has been given up where experience with it is longest. What has happened is that the cities have become much larger, the rates of interest have declined, and consequently immense gravity works have become as cheap, so far as the water-consumer is concerned, as pumping plants. In London, for which about seven-eighths of the water supplied is filtered, there is some agitation, and gravity works with an inordinately long aqueduct are sometimes proposed. This agitation arises, however, from the fact that the water-companies are private concerns with immensely valuable franchises, and the real animus of the agitation is much more against private ownership of public works than against the form of water-supply. Municipal ownership of all public franchises is the dominant policy much more in England than with us. In what has been said there is no disposition to contest the wisdom of obtaining an entirely uncontaminated water by gravity works when there are not financial obstacles; but it must be kept in mind that the alleged pure water frequently requires purification. It would be unwise for Vienna, for instance, to filter the Danube water instead of using that which nature has placed within her reach on mountains near at hand. In North Germany most of the cities are situated on alluvial plains on the banks of great rivers and remote from extensive forest land. It is the rule with these cities to rely upon filtered river water taken at a point near at hand. It may be said that the sand-filtration of water has reached its greatest perfection in Germany.

For Pittsburg and most American cities the large initial outlay required for gravity works may be regarded as an impossibility on account of the debt limit which prohibits the borrowing of the necessary amount of money. It is idle to discuss the possibility of avoiding this question unless a delay of a generation is contemplated. In reality it is very doubtful whether a suitable gathering-ground could be obtained. We must therefore look upon the Allegheny River as the only practicable source for many years to come.

It may be said that the only method of practical purification of water on an indefinitely large scale which has stood the test of experience is sand-filtration. It may be claimed that there are others equally efficient which ought to be tried. They are, perhaps, not actually cheaper than sand-filtration, and are expensive enough to be very costly failures.

The essential point in sand-filtration is the very slow rate at which the water passes through. In reality other materials than sand might be used as well, but the speed could not be increased without damage to results. Rapid filtration is only successful when the interstitial spaces are too small and intricate for the passage of bacteria and other suspended matter. Slow filtration is thus the essential point. Where the interstitial spaces are large enough to permit bacteria to pass readily, Koch fixed this rate at four inches per hour. This would mean that it would take a square foot of the surface of the filter three hours to deliver a cubic foot of water. At this rate an acre will filter about 3,000,000 gallons per diem. The average daily supply furnished to the northern part of Pittsburg is about 50,000,000 gallons, to which 15,000,000 must be added for the South Side. It would thus take about 22 acres in active operation to supply the entire demand. Filter-beds of this size can be constructed and operated. It is, however, the intention to introduce meters in order to prevent the colossal waste which at present takes place and threatens to make the river itself insufficient to meet the future demand. At the present time Pittsburg pumps more than six barrels a day per head of population, and the per capita requirement it still increasing. A large part of this water is incontestably wasted. The introduction of meters is likely to cause some public outcry at first. It would not be at all surprising if some one should write a letter to some of the newspapers inveighing against the tax on neatness. In reality the water-consumer will always be under the necessity of paying the expense of pumping and distributing the water, and they may, therefore, find their bills lesser if waste is restrained and the expenses are diminished.

The introduction of meters will facilitate filtration by lessening the amount required, but is no necessary part of it.

Many of the smaller water-companies in this vicinity draw their water through cribs, thus resorting to a crude form of filtration. Generally these cribs are of no hygienic value for the simple reason that the rate of filtration is too rapid. It is seldom less and often more than four feet an hour against four inches. In one case the area of the crib is said to be large enough to provide for filtration at the rate of a foot an hour. This is a rate which will cause considerable improvement, and it is a fact that there is a very considerable reduction in the bacterial contents of the effluent. It is worthy of note that the Thirty-seventh Ward, which is principally supplied from this source, has decidedly more favorable typhoid-fever statistics than any other part of Pittsburg.

The origin of sand-filtration goes back to the early part of the present century. It is at present used for public water-supplies many times larger than that of Pittsburg. London and Berlin are telling examples.

ntil the development of bacteriology the operators ad nothing but tests of classification to guide them. ortunately, water cannot be cleaned by this method ithout a considerable degree of efficiency from the acteriological standpoint. With the aid of bacterial sts the system has been very much perfected and can e admirably controled. It is in the last ten to fifteen ears that the best results must be looked for, though ne system was quite efficient even fifty years ago.

While the bacteriological tests offer the best means of ntroling the operation of a filter, the best evidence f its value in large towns is the statistics of water-borne iseases. The proof of the pudding is in the eating f it.

I think that a very wide study of the facts will show hat typhoid fever never causes an average year in and ear out of more than 2 deaths per 10,000 living, ex-ept when the water-supply is exposed to typhoid ejecta. Perhaps even this limit is too high. Of course, am asssuming a case of death-rate of about 10%. n half-civilized countries the case of death-rate would oubtless be higher. There is the greatest proba-ility that the converse of this proposition is true, nd, indeed, there are very few towns in which the ater-supply is exposed to human contamination ithout purification in which the death-rate from yphoid fever does not go higher than 5 per 10,000, hile in the worst it exceeds an average of 10, which ust nearly reach the possible limit. An average annual orbidity rate of about 1% of the population (after aking allowance for the persons who die younger than ne ages at which the disease is commonly taken, and r persons who have had the disease before coming to ne city), will give the majority of the population a hance to get the disease once in a lifetime.

The belief here expressed that the modes of convey-ig typhoid-fever infection are incapable in a large opulation of causing an annual morbidity greater han from one-tenth to one-fifth per thousand is based pon the actual prevalence of the disease in the large uropean cities, where the water is drawn from impec-able sources, as at Vienna, or is effectively purified as t Hamburg, Berlin, and London, and many other laces. Typhoid fever was once more prevalent in those laces, and there is no way to account for their great periority in this disease exclusively, except in the atter of water-supply.

It seems to me to be unnecessary to discuss the evi-ence which has shown typhoid fever and cholera to be ater-borne diseases.

An exposed water-supply is one which is derived with-ut purification from the drainage channels of an in-abited watershed. If the population is large, a con-iderable number of typhoid-fever cases are certain to rrive in the watershed every year, though of course in me years more than in others. With or without the elp of sewers, the infected feces enter the stream which s the sewer of the people above, and the source of the rinking-water of the people below. There can be no oubt that the typhoid infection enters the water. It emains for those who believe these facts to be of no im-portance to prove that it gets out in time to do no harm. n view of the fact that the disease is invariably preva-ent among the people who drink the water to a degree hat is never found where no such contamination occurs, he proof of disappearance ought to be extremely lecisive.

There is, however, one fact which at first sight seems to give them reason; namely, the inability of bacteri-ologists to find the typhoid bacillus in water of this character. It is well known that this was the case in Pittsburg. It is perhaps true that this organism has never been found in water charged with having caused typhoid-fever epidemic. I venture to say that there would be the same result if an attempt were made to examine the discharge from a sewer outfall, which it is certain must contain typhoid dejecta.

There is no means of finding the presence or absence of typhoid bacilli except by examining one by one every organism in an amount of water considerably in excess of that drunk in a day by a single person. In fact, as we are dealing with an epidemic which only hits one person here and there, and which is so serious only because it continues year after year, a very much larger quantity than that consumed by a single person in a single month should be examined in such a man-ner as to place each organism in it long enough under observation to show that it is not a typhoid bacillus. The Pittsburg water was found to have on the aver-age more than 6,000 bacteria to the cubic centimeter. There would thus be nearly 6,000,000 in each quart of water. In the course of a month a person drinking our tap-water would take in a hundred millions. The state-ment might be made stronger, but the utter impossibility of examining a hundred million bacteria one by one is ob-vious enough. Not less than a thousand bacteriologists with sufficient equipment and assistants might expect to undertake it with a prospect of success. That the supposition that there are a hundred million times as many of the other kinds of bacteria as of typhoid bacilli is not absurd, is evident by considering the source of the bacterial life of our river. It is not likely that at the very worst more than one per thousand of the popu-lation of the Allegheny valley above us is down with typhoid fever at the same time. Three hundred reported cases in the same month is near the limit for Pittsburg. (This would be one per thousand.) If we suppose that one microorganism in a thousand in the typhoid stools is a typhoid bacillus we start with an allowance of a million to one in the bacteria which enter the water from human feces. If then we take into account the much greater contribution from animals, which do not have typhoid fever, and then make allowance for the im-mense number which come in from decaying matter of every sort, and finally admit that with the onward pas-sage of the water, the water-bacteria will multiply while the typhoid-bacilli diminish, it seems fair to assume that there would not be more than one left in a hundred million. Those who prefer may multiply or divide this by ten or a hundred without altering the conclusion aimed at, namely, that there is no way of showing that typhoid bacilli are absent from water, and the assump-tion that these organisms are not present is not justified on the search that it is practicable to make for them.

Doubtless ten typhoid bacilli pass through our alimen-tary canals for one that sticks and gives us the disease. It is not difficult to imagine how dilution will produce the effect of a diminished percentage of cases among those who drink an infected water, while the reverse will follow concentration up to a certain point. Thus take a thousand persons who drink our tap-water on the same day and who have passed the age of childhood. Five hundred will have already had the disease or be naturally unsusceptible under any circumstances. Of the remaining half all but fifty will draw a blank, so to speak. Of the fifty all but five will have the luck to

pass their typhoid bacillus through the intestine together with its descendants. Five will then show the disease. If we conceive the number of typhoid bacilli to increase until each water-consumer would get one, on the same supposition there would be fifty cases. If the number should be increased still further until every one would get so many that at least some of them would stick on their way through the intestine, then every one of the susceptible persons, that is five hundred, would be taken down with the disease. This, I imagine, is the reason why it often happens in the country that a whole dinner-party or a whole family are taken with typhoid fever at the same time from drinking an infected well-water, while among urban consumers there are seldom two cases in the same household, and but one family here and there is infected at all. In an infected well we may believe the typhoid bacilli to be more numerous than in an infected river.

TYPHOID FEVER COMPLICATED BY MENINGITIS.

BY H. M. FISHER, M.D.,
of Philadelphia.

FRANK K., aged 25, driver, was admitted to the Episcopal Hospital November 2, 1899. He had been ailing for several months, having had frequent attacks of abdominal pain and diarrhea.

Two weeks before he had headache and backache, and chilly sensations were complained of, and since then he had had fever. Five days before his admission he began to be delirious at night. The next day he complained of a tight feeling in his throat, and in the morning of the day of his admission he became quite unable to swallow.

Upon his admission to the hospital there was general muscular rigidity and there were marked rhythmic contractions of the flexors of the fingers and of the adductors of the thumbs. There was great increase of the patellar and muscle reflexes, and ankle clonus and Kernig's sign were pronounced.

The abdomen was moderately distended and there were numerous rose-colored spots upon its surface. Spleen enlarged. He was conscious, but still unable to swallow.

November 3. Pupils dilated. Patient appears to be in a state of semistupor. He can swallow this morning with some difficulty.

Urine decidedly albuminous and contains many dark granular casts coated with urates, also amorphous urates in abundance.

Ordered wet cupping over the mastoids and potassium iodid 10 grains and potassium bromid 20 grains every 2 hours; also ice-bags to head and spine.

November 4. Consciousness completely restored. Pupils almost normal. Tonic muscular rigidity extreme and the same rhythmical contractions of the flexor muscle of the fingers. Kernig's sign still very marked. Patient has had several loose passages of the characteristic typhoidal appearance after a dose of calomel yesterday.

The blood gives a marked Widal reaction. No leukocytosis.

November 6. On my visit to the ward this morning the patient's breathing was stertorous and he died about 11 A.M.

Autopsy by Dr. W. E. Robertson, pathologist to the hospital. Body rather emaciated, skin in good condition. Subcutaneous fat largely gone. *Thoracic Cavity.* Pericardium contains normal amount of fluid. *Heart* soft and dilated. Tricuspid admits three fingers easily. Mitral admits not quite three fingers. Ventricular band in apex of left ventricle. Very trifling atheroma of aorta. No valvular vegetations. *Lungs.* No apical scars. Upper lobe of *right* lung crepitates fairly well. Middle lobe of same lung likewise crepitates. Lower lobe somewhat congested. *Left* lung, *upper* lobe crepitates, lower not at all. Latter markedly edematous and somewhat friable. *Abdominal Cavity. Spleen* much enlarged and softened. *Right Kidney.* Capsule strips fairly readily, adhering only in a few places. Cortex much enlarged, tissue very pale. Malpighian pyramids somewhat reduced in number. The appearances are those of a parenchymatous nephritis. *Left Kidney.* Capsule strips very well, cortex widened. Kidney somewhat pale, otherwise similar to its fellow. *Intestines.* Numerous ulcers, some quite large, solitary follicles very much enlarged. There are healed ulcers in the jejunum and the ulcers increase in number towards the ileocecal valve, where there are evidence of more acute inflammation. *Stomach.* Mucous membrane very much congested. *Brain.* On the removal of the calvarium 2½ or 3 ounces of clear serum escapes. Dura adherent along the longitudinal sinus. The rest of the membranes strip easily, except at one or two points, where brain substance tears on attempting to remove the dura. Vessels of the pia congested and a puriform looking fluid along their course. The appearances were not general, only occurring in islets. Along the base of the brain and in the Sylvian fissure was organized lymph. The ventricles were not dilated. Naked-eye examination of the brain-substance shows nothing abnormal. Spinal cord not examined. Microscopic examination of the liver showed parenchymatous degeneration of the liver-cells and slight recent interlobular inflammation with a tendency to the multiplication of the bile-ducts. There is an intercellular round celled infiltration.

Dr. A. A. Ghriskey (clinical pathologist to the hospital) has furnished me with the following bacteriologic notes of the case: Cultures made at autopsy November 6, on glycerin agar (Esmarch's slants) from beneath meninges over cerebellum, also from spleen after 24 hours in the incubator at body-temperature show a few colonies, which are moist and semitransparent; those made from the spleen more numerous. The microscopic examination showed in the smear coverslip preparation stained with Löffler's methylene blue a short, thick bacillus singly and in short chains. The differential inoculations in various media proved this to be the Bacillus typhosus.

THE THERAPEUTIC USE OF WATER.[1]

BY GEORGE P. SPRAGUE, M.D.,
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WHEN, in 1861, Brand gave to the world his achievement with cold baths in typhoid fever, the profession in America gave little heed, even though Winternitz had previously given the physiologic explanation of the results obtained. When, about 20 years ago, Corso wrote so eloquently of the benefits of water in treating disease, his readers were half persuaded to try it themselves. When, in 1889, Baruch first called the attention of American physicians to the Brand bath, he was scoffed at by many, and the bath tried by but few. Even today there is room for the propagandist throughout our land. The causes for this neglect of water are variously given as due to its commonplace name and nature; to the objections of the public; to its long continued use by quacks, who vaunted it as a cure-all thus bringing it into disrepute, so that many of us do not yet discriminate between hydropathic and hydrotherapeutic practice. But perhaps the principal cause for the slowness with which water has won a place among our most approved remedies is its empirical use (still continued) instead of its scientific application based on its physiologic action.

To illustrate: When Baruch urged the use of cold water in treating typhoid fever, a few physicians put their patients into the full bath at a temperature

[1] Read before the Lexington and Fayette County Medical Society, Lexington, Ky., September 11, 1899.

)° F. and let them lie for 15 minutes, thinking they ere giving the Brand bath; but they omitted friction, id when their patients died (as some did, apparently a result of the bath), they strongly condemned the cand method, though it was their own omission which id altered a treatment that reduces the mortality of phoid fever to 3%, to one that even added to the rmer death-rate of 20%. To appreciate the signifi- nce of this, and to use water scientifically, its physio- gic action in health and disease must be studied as ive those of all others of our standard remedies. This is been largely done by such men as Winternitz, rand, Erb, Vogl, Liebermeister, and others in Germany, id Baruch in the United States, and many men roughout the world are now testing, weighing, eount- g and measuring the results of the use of water in sease. In doing this, too, they are bringing forth new ysiologic data which compels us to alter some of our ost important preconceived ideas on such matters as ie causes of heart-failure, the importance of reflex tion, and the manner of heat-regulation. We some- mes lose sight of the fact that the skin (through whose) square feet of surface we secure the benefits of hydro- erapy), is really an enormous gland richly endowed ith nerves, secreting and excreting organs, and a net- ork of bloodvessels which can contain at one time out 35% of the entire blood-supply of the body. he nerves which supply the skin are composed of edulated and nonmedulated fibers, the functions sensation, secretion, and heat-regulation requiring large supply of nerves from both the sympathetic id cerebrospinal systems. The function of sensa- on requires a most complex system of nerves of neral sense, nerves of tactile sense and the specialized rves of the latter group for the appreciation of heat id cold. In the words of Baruch, "the cutaneous nerve- ndings stand guard, as it were, over most of the func- ons of the human body; they are constantly exposed irritation by heat and cold, which they convey to ie vasomotor, respiratory and cardiac centers, and the muscles in order to arouse in them, by reflex ac- on, such a degree of innervation as may be required ward off any damaging influenee that may approach om without." When these nerve-endings convey their essage to the cardiac center the heart is strengthened id slowed. When they affect the center for respira- on, breathing is slowed and deepened. In securing asomotor action the skin may be emptied of its blood, its vessel so relaxed, that more than one-third of the tal volume of blood may be within it according to the ish of the physician. The anatomies and physiolo- es of even ten years ago, contain a strangely vague id brief account of the sympathetic nerves, and of flex action; but we have progressed since then so that e now know that the proper application of water to the in restores the heart when digitalis and strychnia will ot; expands the lungs and increases the chest-measure- ents when exercise and tonics fail; brings color to the eeks of the chlorotic girl more rapidly than does fer- us carbonate, and that it will often check the advance phthisis after drugs and climate have been used in in. These are broad claims, but they have been ply substantiated, and we know why they are facts. 'e have been taught that the terminal arteries have no herent power to change their own calibers, but Pro- ssor Woods Hutchinson, in the *Boston Medical and rgical Journal*, defends the claim that the bloodvessels ave a rhythmic contraction and expansion of their own, in addition to the contraction caused by action of the vasomotor nerves and the relaxation caused by drugs, heat, etc. This theory certainly seems more reasonable than that all blood-propulsion depends on the heart alone; it also accounts, as no other theory does, for the circulatory phenomena noted in hydriatric proeedures. He gives to this the expressive name of the "skin-heart." Romberg and Paessler, German investigators, found that the failing heart so justly dreaded in febrile conditions, is not really changed in its muscular quality, but that the lack of tone in the peripheral vessels due to vasomotor paralysis is the real cause of its weakness. Restore this tone, the heart is better filled and regains its force.

Hare, in the *Therapeutic Gazette*, illustrates this by comparing the heart with vasomotor relaxation to a locomotive on a slippery track; the rapidity of its action racks the heart as the revolving wheels do the engine; giving digitalis makes it worse, as does feeding the fire of the engine increase the strain on it. But give the heart the normal vasomotor resistance (put sand on the track), and a slower, stronger action is the result. Bearing in mind that all increase of function is dependent on increased blood-supply, and that increased circulation of blood results from a slow heart beating strongly, in connection with a heightened vascular tension, and we see theoretically, as we find in practice, that the lungs absorb more oxygen, that the kidneys secrete more urine with an increased percentage of toxic solids, that intestinal peristalsis is increased, and that the skin itself becomes more active as the result of hydrotherapy. This briefly covers the more important physiologic factors in the use of water, though many scarcely less important points must of necessity in this brief paper be left untouched.

The most useful forms of baths are the cold, full bath; the drip-sheet, or sheet-bath; the wet compress; the wet pack; the half-bath; the affusion and the ablution. It must be understood that one is more useful than another only as some drugs are more generally useful than others; for each bath has special applications of its own. The cold, full bath means sufficient water to immerse the patient at a temperature of from 65° to 85° F. This is most often used for the typhoid fever patient who, after having his face washed with ice-water, is carefully laid in this and his entire body, except the abdomen, gently rubbed for about fifteen minutes, when he is taken from the tub and placed in bed on a dry sheet with a blanket under it; a hot-water bag is placed at his feet, the sheet is wrapped about him so no two body-surfaces touch, and the blanket is wrapped over all. This is allowed to remain until reaction is well established. Now we have learned that in such cases cold water increases the danger if friction be not used—that the colder the water the less the temperature is reduced, and that after all, reduction of temperature is but a minor benefit. The real benefit of the full bath comes from its reflex effects. When first immersed in water at 65° or 70° F., the skin is blanched by contraction of its vessels, but this lasts only a moment, when the vessels relax, the blood returns, the skin rapidly becomes red, then cyanotic, and filled with chilled blood. But if constant friction be used the cutaneous vessels are again stimulated to contract, the cool blood is forced into the deeper tissues to be replaced by heated blood, and thus the blood ebbs and flows, stirring into renewed action sluggish vascular areas, flooding and washing out the liver, kidneys and

abdominal vessels and increasing the flow of lymph. In typhoid fever we do not yet know fully the causes of the delirium and profound prostration, but we do know that carbonic-acid poisoning probably has a larger share in producing these than has the high temperature, and that the Brand bath is an important aid in carbonic-acid excretion. The cold, full bath is applicable to the treatment of all continued and infectious fevers. In pneumonia the results of its use are often as brilliant as in typhoid fever. We have just discovered that pneumonia is a systemic infection bearing about the same relation to the lung-tissue that typhoid fever does to the intestinal glands. And here again the cold bath stimulates every part of the body. Its power of increasing the absorption of oxygen and the excretion of carbonic acid making it of special assistance to the overburdened lung, while it has a marked effect on the temperature. It is in pneumonia, perhaps, more than in any other fever, that both the laity and the profession are troubled by that old bugbear, the fear of "catching cold," but no treatment yet used has proved such a prophylactie against colds in those who are most susceptible, as has water.

The sheet bath is given by protecting the bed with a rubber sheet, having the patient stripped, his head washed with ice-water, a sheet wrung loosely out of water at from 50 to 80° F., according to special needs, rapidly spread on the bed, and the patient laid upon it and covered with it so no two body surfaces touch. Firm, but not heavy friction, is then given the entire body for from 10 to 20 minutes, pouring on occasional cupfuls of water at from 50 to 60° F. Or if the patient be strong enough he may stand (in a warm room) in a tub containing water at 100°, reaching above the ankles; covered with the sheet prepared the same way as before, and, while being rubbed, have a basin of water at about 10° lower temperature than the sheet, poured over the head and shoulders—repeating it twice during the treatment. This bath is excellent in any febrile state—its many modifications of temperature permitting its adaptation to any special case. It is extremely useful in phthisis when digestion fails and emaciation is progressive, beginning with the higher temperature given in bed with gentle friction, it may be gradually lowered to a temperature of 60°, with the friction reinforced by slapping.

The wet compress, as its name suggests, is a local bath applied to the head, the throat, the chest, the abdomen, and the limbs, by means of two or three thicknesses of linen wrung out of water at from 60 to 80°, as indicated, and covered with dry flannel. The special points in this bath to observe are keeping the compresses at the desired temperature by frequent changings, and the avoiding of chilling by loose or misplaced compresses. The wet compress is used in tonsillitis, in pneumonia, in typhoid fever, etc., when a strictly local application is needed, or is desired in addition to other treatment as the abdominal wet compress in connection with the Brand bath.

The wet pack is very similar to the drip sheet in application, but friction is not used; no additional water is applied; a dry blanket is carefully wrapped over all so that the patient's body, except the head, is completely excluded from the air. He is allowed to remain in this indefinitely. This is used for more vigorous persons than is the drip sheet, and is a good hypnotic, and nerve-sedative, either alone or in connection with drugs. The wet pack is also an efficient treatment for anemia, rheumatism, and chronic diseases.

The half-bath, which is highly praised by some, is modification of the affusion, and may be mentione under the same head. The affusion simply means th pouring of water at a temperature of from 50 to 90 from a height (and preferably from a bucket on accoun of its larger stream) over the head and shoulders of th patient, standing or sitting in a tub. This is also a active stimulant and a restorer of depressed function in fever-patients.

The *ablution* is, approximately, a sponge-bath wit the water dashed upon each part from the hand—fol lowed by immediate friction. This may be made t vary from the mildest of all water-treatments to a efficient substitute for the Brand bath. Hare, in a pape read before the Georgia State Medical Association, i April, 1899, said: "During the past three months have had 58 cases of typhoid fever under my care every one of these has required hydrotherapy; in onl two has the persistency of the fever necessitated th use of the cold plunge." He then explains his treat ment, varied according to the severity of the ease, fro the ablution at a temperature of 70° with friction, t massage and friction with a piece of ice. He states, i regard to this treatment, that a conscientious bu untrained nurse may give this bath without benefi when one who knows how to do it may effect a reduc tion of 2, 4, 6, or even 8° in the patient's temperatur This is an important matter in all hydriatric procedure Water is, indeed, a common substance, but it is so flex ible, admitting of so many changes, which so easil allow contraction to pass into relaxation, stimulation t become depression, and heat-dissipation to give way t heat-production, that no one unable to judge hydr therapy by its physiologic effects is competent to us it, or criticise its use. Its empirical employment pr duces paradoxic and discourging results. But if i physiologic effects are steadily borne in mind, and th amount of water, variations of temperature, and metho of application scientifically adapted to each particul case, the physician will find water to be a valuab weapon with which to fight disease.

OBSERVATIONS ON THE GRUBER-WIDAL REACTIO IN TYPHOID FEVER.

BY ALOYSIUS O. J. KELLY, M.D.,

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AND

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As a basis of a diseussion of the Gruber-Widal rea tion and its applieability and reliability in the diagn sis of typhoid or enterie fever, it is deemed appropria to detail the results of the various examinations pe formed in the Pathologie Institute of the German Ho pital during the past two years and more.

Statisties by Dr. Uhle.—The total number of Grube Widal examinations performed was 1,080. These we made with the blood of 554 patients, the clinical dia nosis of whose condition was typhoid fever, and wi that of 120 patients affeeted with other diseases. has been impossible, despite a most earnest endeav to properly trace the reeords and verify the origin elinical diagnosis of a number of the cases in whi such examinations were made. This is due to seve

causes. In the majority of cases the suspected clinical diagnosis that accompanied the blood to the laboratory was not altered subsequent to the examination; in a number of instances, however, it was subsequently revised. In a number of other cases an erroneous diagnosis was written on the accompanying blank, and in many instances the blood was sent to the laboratory without any clinical diagnosis, whatever. The statistics that it has been possible to collect, verify, arrange and classify, comprise a total of 858 examinations which may be tabulated as follows:

554 cases of typhoid fever in which the Gruber-Widal reaction was performed.
411 cases in which the Gruber-Widal reaction was performed once.
361 cases were positive.
49 were negative.
1 was doubtful.
110 cases in which the Gruber-Widal reaction was performed twice.
55 were positive twice.
10 were negative twice.
38 were negative once, then positive.
5 were doubtful once, then positive.
1 was negative once, then doubtful.
1 was positive once, then negative.
27 cases in which the Gruber-Widal reaction was performed three times.
10 were positive three times.
9 were negative once, then positive twice.
3 were negative twice, then positive once.
1 was doubtful once, then positive twice.
1 was doubtful twice, then positive once.
1 was positive, then negative, then positive.
1 was negative once, then doubtful twice.
1 was negative twice, then doubtful once.
5 cases in which the Gruber-Widal reaction was performed four times.
1 was doubtful once, then positive three times.
1 was negative once, then positive three times.
1 was doubtful once, then negative three times.
2 were negative four times.
1 case in which the Gruber-Widal reaction was performed five times.
This was negative once, then positive four times.
The blood of one seven-months fetus, whose mother died of typhoid fever, yielded a positive reaction.

The following table has been prepared to indicate the number and character of the reactions found on the different days of the disease in the various cases:

Day of disease.	Positive.	Negative.	Doubtful.
2	1		
3	1		
4	2	3	
5	5	6	
6	11	5	
7	10	7	2
8	29	15	2
9	41	8	1
10	73	15	2
11	32	6	1
12	53	13	
13	29	8	1
14	35	7	1
15	16	6	1
16	26	5	
17	22	1	2
18	18		
19	17	7	
20	13	3	
21	16	3	
22	14	2	1
23	5	1	
24	4	2	
25	7	2	
26	5	1	
27	2	1	
28	6	2	
29	5		
30	7	3	
31	3		
32	4		
33	6	3	
34	4		
35	7	1	
Later	30	4	
No day specified	18	5	1

In the interests of completeness of the report more examinations in the individual cases would have been desirable. Thus it should be known whether those cases that yielded a negative reaction on one, two or more occasions remained negative throughout the course of the disease, or whether they became positive at a subsequent date. It would also have been well to have ascertained whether those cases that yielded a positive result on the first examination remained positive throughout the course of the disease. Such facts, however, were not investigated, the examinations being made in the routine of laboratory work, as requested by the attending physicians.

The blood of patients ill with the following diseases (other than typhoid fever) yielded positive reactions: Asthma, abscess of the liver, acute appendicitis, acute bronchitis, acute gastritis, chlorosis, heat exhaustion, catarrhal enteritis, colitis, cerebrospinal meningitis, tonsillitis, rheumatism, septicemia, nephritis, postoperative peritoneal adhesions, empyema (1 case each of the foregoing); catarrhal cholecystitis, endocarditis, influenza (2 cases each of the preceding); pneumonia (4 cases); pulmonary tuberculosis (6 cases); and malaria (9 cases). The patient with empyema had had typhoid fever 4 months prior to examination; one patient with pulmonary tuberculosis has had typhoid fever 8 months previously; one patient with pneumonia and one patient with catarrhal cholecystitis had had typhoid fever 6 years previously; the patient with postoperative peritoneal adhesions had had typhoid fever 9 years previously; and the patient with abscess of the liver had had typhoid fever 27 years previously. Two patients affected with malaria, one with catarrhal cholecysistis, one with influenza, and those with septicemia and rheumatism had never had typhoid fever. There was no history as to whether or not any of the remaining patients had ever had typhoid fever.

Examination of the blood of patients ill with the following diseases (other than typhoid fever) yielded negative results; Acute diarrhea, acute gastritis chronic gastritis, pyosalpinx, heat exhaustion, empyema, enteritis, neurasthenia, pelvic abscess, alcoholism, rhinitis, gonorrhea, tonsillitis, pleuritis, neuritis, carcinoma of the stomach, tuberculous hip-joint disease, chronic appendicitis, cerebrospinal meningitis, hepatitis, gas-poisoning (1 case of each of the foregoing); chronic endocarditis, meningitis, perihepatitis, rheumatism (2 cases each of the preceding); sciatica (3 cases); pulmonary tuberculosis (4 cases); acute appendicitis (7 cases); influenza (12 cases); and malaria (13 cases). One of the patients affected with chronic endocarditis had had typhoid fever 9 years prior to the examination; one patient with acute appendicitis had had typhoid fever 11 years previously, and another with acute appendicitis had had typhoid fever 13 years previously; and one patient with sciatica had had typhoid fever 24 years previously. The blood of two healthy adults,

both of whom had had typhoid fever 24 years previously, yielded negative results. The blood of another healthy adult, who had had typhoid fever 13 months previously, yielded doubtful reactions on two occasions, and that of another adult ill with hypertrophic cirrhosis of the liver, who had had typhoid fever 4 months prior to examination yielded doubtful reactions on 4 occasions.

Observations by Dr. Kelly.—These statistics present many features of interest, and from a study of them certain deductions seem warrantable. That the purport of these may be the better comprehended, it appears desirable to state that the examinations were performed after a uniform plan. It was deemed desirable to adopt an approved method and adhere to it, rather than to vary the method from time to time. The above statistics are based upon the results of the dried-blood method which was employed exclusively, as a matter of routine, with this object in view. For my own purposes, however, and for purposes of comparison, the wet method was made use of on a number of occasions. For the routine examinations, the blood was sent to the laboratory on a slip of paper, and accompanying it there was the name of the patient. In most cases also, the clinical diagnosis was stated, or there was, in the absence of the clinical diagnosis, a note to the effect that the clinical symptoms were suggestive of typhoid fever, or some other disease. For the most part, the mixtures of the culture of the typhoid bacillus and the dried blood were made by the resident physicians, after a fixed plan, and in such a manner as to give an approximate dilution of 1 to 10 or 1 to 15, as such dilution is ordinarily understood when speaking of the dried-blood method. The mixtures were then examined by myself, without my being aware, except in a very few instances, of the clinical diagnosis. Indeed, it was not until a short time ago, when Dr. Uhle presented me the completed statistics of our work, that I became aware of in how far the results of the examinations of the blood for the Gruber-Widal reaction tallied with the clinical diagnosis, and of the great number of cases other than typhoid fever that had been investigated.

Of the many features of interest in connection with this report, reference may first be made to the culture. As regards the virulence of the typhoid bacilli employed in the tests, it is more or less generally conceded that the best results are to be attained by the use of attenuated rather than virulent organisms, and this is in accordance with my own observations. In the routine examinations that form the basis of this report, attenuated bacilli were employed exclusively, but, for purposes of comparison, I have, on several occasions, made use of virulent bacteria. In particular, for some time, I made comparative observations with an attenuated bacillus, and with cultures of a typhoid bacillus, that I obtained in pure culture from the cerebral meninges of a fatal case of typhoid fever complicated with meningitis. The results with the latter were somewhat less satisfactory than were those obtained with the attenuated growth. In many cases, clinically typhoid fever, the latter gave marked positive reactions, and in many cases, clinically not typhoid fever, it gave equally characteristic negative reactions. In some of the latter, however, there seemed a tendency for the occurrence of doubtful reactions, or what may be called pseudo-reactions, which were not observed with the attenuated growth in the same cases. This has also been commented upon by other investigators. On the other hand, some observers have experimented with both virulent and nonvirulent bacteria, and claim not to have noted any marked differences in the reactions obtained with each.

The vitality of the growth, it appears to me, is of much importance. It is true that dead bacilli have been recommended, particularly by Semple and Wright, for use in performing the test. These, being nonmotile, if employed, of course, cannot exhibit any alteration in the motile power; the reactive phenomenon that they do present consists in marked clumping. They may subserve a useful purpose in the hands of those who dread infection or who are unskilled in bacteriologic technic. Inasmuch, however, as they frequently exhibit spontaneous clumping which is likely to be mistaken for the clumping of a positive reaction by those who for other reasons might make use of them with advantage, and as the loss of motility of the bacteria is to be regarded as part of a typical reaction their use is not to be commended.

On the contrary, motile organisms are in every way desirable, but the degree of motility is of considerable moment. I much prefer an organism that is not excessively motile, nor yet very sluggish. Those that exhibit a moderately rapid gliding movement are much to be preferred. Especial care must be observed to note that the culture employed does not exhibit spontaneous clumping, as is likely to be the case, if it be grown in media that is too alkaline, or if the culture be too old. The reaction of the media does not seem to be of paramount importance, provided it be neither too alkaline nor too acid. After repeated investigations, I have come to think that I obtain by far the best and most satisfactory results with media that is slightly alkaline. Good results, however, may be obtained with media that is neutral or slightly acid, and I have frequently observed that an organism that has become particularly sluggish has been rendered more satisfactorily motile by growing it in media that is slightly acid. If the media be too acid, however, it may be particularly difficult to secure agglutination of the bacteria in performing the test.

The age of the culture is of the greatest importance. If a bouillon-culture be employed, and this I think the most desirable, it should not be more than 24 hours old; but the time the bacilli should be grown before the culture is most appropriate for use, depends somewhat upon the season, and upon whether the culture be grown at the room temperature or in the incubator at the body temperature. The best cultures may be secured in summer at the room temperature in from 14 to 20 hours; in the winter in from 16 to 24 hours. In the winter, however, I have found it desirable to employ the incubator exclusively, as despite the maintenance of an equable temperature, the growths obtained at the room temperature during the winter have not been as satisfactory as those secured during the summer months. In the incubator satisfactory cultures may be obtained in from 8 to 16 hours. On many occasions, for purposes of comparison, I have made double series of inoculations and grown one at the room temperature and the other in the incubator. I have also secured most satisfactory cultures by growing them at the room temperature for about 10 hours and then in the incubator for 2 or 3 hours. If occasion should arise an even shorter time suffices to secure a satisfactory growth. This may be obtained within 3 or 4 hours on agar grown at the body temperature. If a

agar-culture be employed (it may be, and frequently is, substituted for the preferable bouillon-culture), care must be exercised to ascertain that the emulsion made with either sterile water or bouillon is thorough, as otherwise misleading clumps are most likely to be encountered. As regards the stock-culture it may be stated that it is not desirable to transplant it too frequently. It suffices to make reinoculations every three or four weeks (more frequently if they be kept in the incubator)—sufficiently often only to maintain the growth in good condition. From this stock-culture inoculations should be made into bouillon as occasion requires. When examined at the end of a stated time, the growth may be viewed as satisfactory when the bacilli are actively motile, when there are a number of long forms that flit across the field of the microscope with a peculiar moderately rapid, undulatory movement, and when there are no spontaneous clumps. The greater the original activity of the bacilli, the more marked the contrast when immobility ensues; the longer the bacilli, or rather the greater the number of long forms, the larger and more characteristic are the clumps and the more likely the occurrence of absolutely clear spaces intervening between them. Spontaneous clumps are sometimes very prone to develop, particularly if the culture be 24 hours old or older, and they are very deceptive and confusing even to one experienced. The younger the culture the less likely are they to be encountered, and their absence should be ensured by an examination of the culture in hanging drop before the mixture with the suspected blood-serum be made.

That which I consider of extreme importance and to which I wish to direct particular attention, is the necessity of knowing the dilution of the blood-serum employed to secure a certain result. This of necessity brings with it more a less condemnation of the dry method of performing the test, as this at most permits of only an approximate and certainly inaccurate estimate of the dilution. As already stated, in the examinations upon which the above statistics are founded, the dried blood method was made use of exclusively, and while I feel assured of its inaccuracy I am far from denying it any value whatever. Indeed, I consider it valuable and most serviceable, and under certain circumstances it is the only practically available method, as for instance, when the blood has to be transported distances, and in municipal laboratory work. It is also true that for most practical purposes it is sufficiently accurate and that in the majority of cases a dilution that approximates 1 to 10 or 1 to 15, gives trustworthy results. Practically, therefore, its value cannot be gainsaid, but scientifically it is open to considerable objection. When, as above indicated, by this method positive reactions are obtained in diseases that are not only not typhoid fever, but are also afebrile and have no near nor remote connection with typhoid fever, the scientific value of the test or the technic employed is considerably invalidated. That the test itself is of extreme value is attested by the experiences of clinical and laboratory investigators the world over. Attention must therefore be directed to the technic. It may, of course, be urged that in such diseased conditions as chlorosis, tonsillitis, bronchitis, appendicitis, heat exhaustion, etc., the question of the differential diagnosis of the condition from typhoid fever is not likely to arise; and to a great extent this is true. Practically, therefore, the dried blood method with the dilutions already indicated is not much invalidated; but scientifically it is, and also practically to some extent.

That which I wish particularly to emphasize is the fact that a positive reaction is a sign, a most reliable sign of typhoid fever, but that as ordinarily practised and reported, it must be, as are other signs of typhoid fever, subject to the judicious discrimination of the physician. The test is a quantitative, not a qualitative one, as even the normal blood-serum, when much concentrated it is true, manifests at times some tendency to cause agglutination of the typhoid bacilli. Being a quantitative test, therefore, and the normal blood-serum possessing some power to cause agglutination of the typhoid bacilli, there are a number of cases in which it is not sufficient to state that the routine examinations, as ordinarily performed, with a dilution of the blood-serum amounting to 1 to 10, yields either a negative or positive reaction. On the contrary, it should be stated that with such and such dilution the reaction is either negative or positive, whereas with another dilution the result is different, if such be the case. In this manner it will be possible to properly apportion the amount of significance that should be attached to a positive or negative reaction in individual cases.

There are many cases, as above indicated, in which a positive reaction may be elicited with the dried blood method, and an approximate dilution (1 to 15) somewhat higher than that (1 to 10) more generally practised. It is unfair, because of this, to hold the test unreliable. On the contrary, we should appreciate that as a result of extensive observations the real utility and the limitations of the test are becoming more manifest. There are few pathognomonic signs in medicine, and those that have been promulgated as such have eventually been found wanting in some of the significance originally ascribed to them. The same may also be said of the Gruber-Widal reaction in typhoid fever. It is a sign, which, though it be the most specific with which we are acquainted, is nevertheless not pathognomonic of typhoid fever unless it be secured with high dilutions; it is certainly not pathognomonic with a dilution of 1 to 10. Viewing the question from both the laboratory and clinical standpoint, my conviction is that the one performing the test should report the dilution to the clinician that the latter may accord the result the significance that the dilution in the individual case warrants. Or, on the other hand, the clinician should report to the laboratory worker the probable diagnosis, and whether from the clinical manifestations he suspects typhoid fever. In such case the test should be performed with a dilution of 1 to 50. If this be positive, there need be no hesitation in stating that the patient has or has had typhoid fever. To increase the assurrance a dilution of 1 to 100 may be made, and while such dilution may yield a negative response in some undoubted cases of typhoid fever, a positive reaction with this dilution, to my knowledge, has not been obtained in other than typhoid fever. If the first dilution of 1 to 50 yield a negative or doubtful reaction, dilutions of 1 to 40, 1 to 30, 1 to 20, and 1 to 10 should be made, and the result noted and reported in each case. In this manner the proper significance to be attached to the test in the individual instance can be more accurately gauged. As a matter of fact it will be found practically that the majority of bloods that yield a positive reaction with a dilution of 1 to 10 will yield a similar reac-

tion with a dilution of 1 to 50 or more. On the other hand, in some cases such is not the case, and it is in these cases that the question of diagnosis is often of extreme moment and difficulty. In other cases, certainly not typhoid fever, a dilution of 1 to 10 yields a doubtful reaction that becomes certainly negative with higher dilutions. Of this I have repeatedly assured myself. It is for these reasons that I believe that in estimating the diagnostic importance to be attached to the test the dilution should be known. The higher the dilution that yields a positive reaction, the more certainly is the case one of typhoid fever; the less the dilution that yields such result, the less the likelihood, in a certain percentage of cases, that the disease is typhoid fever. As I have already stated, the neccssity of knowing the dilution, entails an abrogation of the dried-blood method. Despite the numerous devices that have been suggested to secure an accurate dilution with the dried-blood method, we can as yet gain no more than an approximate idea of the dilution employed. This, as I have also stated, suffices for the majority of cases, but for the smaller number and often cases difficult of diagnosis, it does not allow of the requisite interpretation. There are other reasons for considering the wet method preferable to the dry, but it is not necessary to refer to them in detail here.

It may be mentioned that if, in a given case, it be desirable only to exclude typhoid fever, it suffices to make a dilution of 1 to 10, or less—equal parts of blood-serum and bouillon-culture. A negative response to such, especially if it occur repeatedly after the eighth or tenth day of the disease, is usually sufficient to exclude typhoid fever.

It is important to determine upon a time-limit, within which the reaction must occur, and it is especially desirable also that this be regarded in interpreting the result. With the dried-blood method, dilutions that approximate 1 to 10 should show a reaction in from fifteen to forty-five minutes, or be disregarded. If the dilution be 1 to 50, or thereabouts, the time-limit should be fixed at from one hour to an hour and a half. With the wet method, the reaction seems to occur more promptly than it does with the dry method, and with dilutions of 1 to 40 and 1 to 50, the reaction, if it is to be positive, usually comes on within fifteen minutes. In many cases the reaction is almost instantaneous. The reaction is to be considered positive when there occur cessation of motion of the bacteria and the formation of clumps. The clumps or agglutins may be of moderate size, or enormous, covering even the entire field of the microscope. At times it will be noted that, with the formation of large clumps, all of the bacilli entering into the formation of such masses have not entirely lost their motility. Such may be regarded as positive reactions. On the other hand, there are cases in which there occur marked cessation of the motility of the bacteria without clumping, or with very slight clumping, and still others in which there occur small clumps, but in which the free bacteria preserve their motility. Neither of these are to be regarded as other than doubtful at the most. It is interesting to observe that, in many cases, there occurs a very rapid solution of the bacteria. Though this phenomenon of bacteriolysis is imperfectly understood, it is probably independent of, and it usually succeeds, the cessation of motion and agglutination of the bacteria.

The day of the disease on which the reaction may be elicited is of great moment from a diagnostic point of view. From the table already cited it will be seen that it may be present very early in some cases, and it is especially in these cases, if the dilution employed be high, that very great diagnostic import may be ascribed to the test. In the majority of cases, it seems that the reaction does not develop before the seventh day, and it may be delayed until the third or fourth week. From the table, the number of negative responses is evident. These are intimately associated with the fact that the reaction varies somewhat in certain cases from day to day, and a single negative reaction even with a low dilution must not be considered to exclude typhoid fever. In suspicious cases the test should be repeated from day to day until the diagnosis becomes clear.

The positive reaction given by the blood of a seven-months' fetus whose mother had died of typhoid fever, was an interesting observation.

There are many other features of interest in connection not only with this report but also with the reaction in general, but these have been so extensively discussed in the voluminous literature that has appeared of recent date, that in the present state of our knowledge it is deemed inopportune to make additional mention of them here. It may be stated, however, that of the several methods suggested for the performance of the test by the wet method, that which comprises the employment of the Thoma-Zeiss hemocytometer (leukocyte-pipet) for the original dilution of the blood will be found clinically of utility.

THE NERVOUS SYSTEM IN TYPHOID FEVER, WITH REPORT OF CASES.

BY EDWARD E. MAYER, A.M., M.D.,
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TYPHOID FEVER is as much an infectious disease of the nervous system as it is of the abdominal organs. Nervous symptoms are always present; abdominal symptoms need not occur. The German people call it "nervous-fever," on account of this primary nervous involvement. It has not been so long ago that the nervous symptoms were supposed to be due to hyperpyrexia, though Stokes had already laid down the law that "there is no single nervous symptom which may not and does not occur independently of any lesion of the brain, spinal cord and nerves." We know now that it is the deleterious influence of toxins which causes to a great extent the nervous symptoms and that hyperpyrexia plays but a secondary part. The exact action of the toxins need not be discussed here, nor will we attempt to decide whether, with Vaughn, it is a mixed infectious action, or whether it is not the Bacilli coli communis, freed from the intestines, which cause the real damage to the system, or whether the typhoid organism is less benign to the nervous structures than to other organs. Whatever the germs and toxins are, and wherever they act, Cornil, Babes, Goldscheider, and others have shown that *the bacilli can be detected in the meninges and spinal cord without any lesion being found, and that their presence is of less importance than is the action of the toxins upon the cells.*

The nervous symptoms of typhoid fever are varied some of them being typical, and others uncommon symptoms. In the prodromic stage, we can always expect to find a dull, heavy headache, some vertigo, general indefinite pains in the back and limbs, sleepiness or

ıkefulness. In addition, we have numerous other nerv- s conditions which occur more rarely, and which often nfuse the physician. Meningitic symptoms are prob- ly the most common of these. There are photophobia, traction of the head, strabismus, or other ocular man- stations and delirium. It was formerly thought that ute meningitis, if it occurred as a complication of phoid fever, was due to direct infection from the r or to some similar cause. This is, however, not the se. Keen mentions 15 cases with acute meningitis, 12 of which the typhoid bacilli were found in the eninges. Yet the Munich Hospital statistics report ly 11 cases of true meningitis in 2,000 cases of ty- noid, and Liebermeister and Hoffman in 250 cases of phoid fever which were posted, found but 4 with gns of acute meningitis.

Acute mania is another prodromic symptom of typhoid ver. Murchison reported 3 cases in which acute ania had been the first diagnosis. Motet reports a se which was placed in an insane asylum, to be trans- rted again a few days later when the true disease— phoid fever—was discovered. Delirium is a frequent mptom of both the prodromic stage and of the fastig- m. Murchison has found it absent in only 33 of 100 ses. In 117 cases at the Western Pennsylvania Hos- tal from July 1 to January 1, it was absent in 48. uis observed delirium twice on the first day of the phoid fever. The delirium may vary in charaeter. reschfeld, in Allbutt's System, has summarized typhoid lirium into (1) quiet delirium; (2) violent delirium;) acute maniacal delirium, and (4) muttering delirium. he third variety is the most dangerous, and the last the most common.

Facial neuralgia is also a not infrequent prodrome of phoid fever. We often observe hyperesthetic zones ie to beginning irritation of the nerves. Hysteric tches of perverted sensation or other hysteric symp- ms may occur in the prodromie stage in neurotic in- viduals. Anders has reported an interesting case with steric dyspnea, vasomotor disturbances and pro- unced hyperpyrexia. He claims that hyperesthesia never observed during the fastigium, but may be a quel of typhoid fever independently of hysteria. The llowing case is instructive in connection with Anders' se:

A. H., female, aged 16, admitted to West Penn Hospital November 7. Born in England. Domestic. Family story negative. Had influenza last winter. Suffered from adaches and vertiginous attacks since 1897, *i. e.*, ever since e has been in this country. These spells seemingly became rse two weeks before admission, when she would feel dizzy, down in a chair, and on "coming to," as she expressed it *ll sitting in the chair*, she felt dazed and had a headache. fore the dizziness came on, she had a nasty disagreeable ste in her mouth, and her eyes would smart. On account these fits or spells, "*not because she was sick*," she was sent the hospital. Appearance, anemic and frail. Urine gative. Heart normal. Pulse 84, full and strong. Tem- rature 97.4°. No tenderness on percussion of skull. Right e dilated and immovable. Corneal, conjunctival, knee and her reflexes normal. Tongue flabby and coated. Abdomi- l organs normal. No other symptoms found on examina- on. Resident reported frequent spells and during the amination one occurred. Patient relaxed and fell back in d, eyes rolled upwards and staring, breathing became celerated, hands became clenched, the forearm would be xed and extended in a clonic manner, accompanied by nilar diaphragmatic movements. Did not respond to ice but pin approached to eyes instantly aroused her, as l, in further spells, ovarian pressure or even mere touch. o stigmata of hysteria were found. On November 10, three ys after admission, she developed a temperature which steadily rose with typhoid-like remissions, until on November 15 it was 104.2° F. Pulse never rose higher than 96 beats and respiration was under 24. Patient bright and cheerful, without headaches or pains and protested at being regarded as sick. No signs of typhoid fever unless the temperature could be considered as such. As the fever progressed, the spells of clonic localized convulsions decreased in number and degree, finally ceasing altogether. Patient complained at being kept on milk-diet. This condition continued until on November 20, she insisted on getting up. On November 26 she was allowed ward diet. On November 28, three weeks after admission, a Widal's test was negative. A tentative diagnosis of hysterical fever was made. Upon December 3, almost six weeks after first symptoms and three weeks after the fever developed, tympanites and iliac tenderness became evident. The disease then ran a regular typhoid course with delirium coming on on December 15, and defervescence commenced on December 30. Present condition (January 25) normal with no spells like formerly.

Whether we had hysteria followed by typhoid fever, or whether the two diseases occurred together, or whether the first symptoms were simply prodromic manifestations of typhoid fever, I leave it to the readers to decide. The first assumption is to me the most plausible.

In the second and third weeks of typhoid fever, there is always delayed mentation, stupor and apathy. Other common symptoms of this stage are muscular irritability, and muscular tremor. Muscular spasms and rigidity are more rare. In children muscular rigidity is a grave symptom. Rilliet and Barthez observed it in 5 out of 107 cases, all 5 cases dying. The kneejerks are generally increased. The writer has found them exaggerated in 18 out of 26 cases examined for this symptom. An infrequent complication is generalized convulsions. Of 2,960 cases in the London Fever Hospital, 6 had convulsions. Albumin was found in the urine of only one case.

In the series of 117 cases already referred to from the Western Pennsylvania Hospital, there was one patient with general convulsions. These came on the second week of the disease following a condition of coma. The fever lasted 5 weeks and on recovery, mental dulness and hebetude were and are still present. The patient, a young man of 24 years, was reported as being bright and of normal intelligence before the onset of the typhoid fever. Albumin was present in the urine.

In children, convulsions are not uncommon as a prodrome, but are also rare later on. Barthez has reported 5 cases, 4 of which died. West states that convulsions followed by coma constitute a not uncommon mode of fatal termination in children. The common coma-vigil, typhomania and ataxic symptoms of the disease need not be described.

"Typhoid spine," first described by Gibney in 1889, is a rare complication. It is probably not a spondylitis, but a pure neurosis. (Osler.)

Another similar condition is the condition called "tender toes" by Blandford. Schultze's acroparesthesia is very similar. A patient at present at the hospital has this symptom.

J. A. C., admitted on December 28. On January 2, when at the height of the fever, complained of excessive tenderness of the toes and sole of the foot. The bedclothes caused so much pain that they had to be raised free from his feet so as to relieve them from their pressure. As the fever subsided the tenderness disappeared. A similar complication is the topalgia of Blocq, or local painful spots.

Complications and sequelae are due to toxic effects or to malnutrition and exhaustion. The limits of this paper forbid a discussion of them. They include anes-

thesia of circumscribed areas; tetany; typical mania; insanity; neuritis, which is rather frequent; linear atrophy of the skin, a rare sequel described by Duckworth, Wilkes, and others; and hemiplegia, due to thrombosis. There is at present a case at the Western Pennsylvania Hospital with complications of hemiplegia, aphasia, and mental confusion. Hemiplegia as a complication is quite rare. Osler reports two cases. Hawkins has gathered 17 cases from literature, two of which were fatal. Nine of the 14 that he reported *in extenso* recovered. Temporary aphasia is quite frequent in childhood. Henoch says it occurs at the commencement of defervescence. There are numerous other sequelae. Multiple sclerosis occurs more frequently after typhoid fever than after any other infectious disease. All forms and types of spinal disease can occur as sequels of typhoid fever.

MONOCULAR DIPLOPIA; REPORT OF A CASE PRECEDING DIAGNOSIS OF TYPHOID FEVER.[1]

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MONOCULAR diplopia, or double vision in one eye, is of such rare occurrence that when a case presents itself it is worthy of some attention.

The patient, a young married woman, 25 years old, had a mild attack of la grippe in January, from which she made a good recovery. In the latter part of February, or about four weeks after the attack of la grippe, she again became ill, and was compelled to remain in bed, suffering with intense headache, muscular soreness, and general nervousness. Her temperature was high and irregular, from 102° F. to 106° F. She was seen by several physicians, but a positive diagnosis could not be made. Typhoid was thought of, but eliminated. The intense headache continued for a week when a monocular diplopia occurred in the left eye. An examination of the eye revealed nothing, there was no spasm of the ciliary muscle and no error of refraction. I had examined the eyes of this patient several years before under a mydriatic and found them normal. The diplopia lasted two days, and with its disappearance the nervous symptoms subsided and she lapsed into a typical typhoid condition and ultimately made a good recovery.

Charcot and Parinaud explained all cases not due to any anomaly of the refractive media, as being caused by an irregular spasm of the ciliary muscle. Inasmuch as no error of refraction existed in this case, and no spasm of the ciliary muscle was present, the above explanation will not suffice. There seems to be but one way of explaining it, and that is to attribute it to a sensory phenomenon of cerebral origin, brought about by the toxins of the typhoid germs.

[1] Reported to the Pittsburg Academy of Medicine, December 11, 1899.

Typhoid Affections of the Larynx.—M. R. Marsden (*Manchester Medical Chronicle*, January, 1900) reports 4 cases of laryngeal affection in typhoid fever. The first occurred in a female aged 13 years. There was noticed marked bronchitis in the third week of the attack. Cough was troublesome and delirium present. Later the patient improved, but about the middle of the eighth week there was a harsh cough and roughness of voice which became worse a day or two later. There was larnygeal stridor, especially when the patient was asleep, though nothing could be detected on external examination. An examination with the laryngoscope showed, in addition to slight general congestion, an inflammatory swelling on the right side and occluding the right vocal cord. Breathing became more difficult, cyanosis came on and tracheotomy was performed. For a number of days a thin secretion came through the tube; later it became viscid. The larynx was closed by the mass, but later this subsided and the final condition showed fixation of the right arytenoid and right vocal cord. The larynx was much stenosed and the trachetomy-tube was allowed to remain. The second case occurred in a youth aged 19 years. In the third week there was not much cough and he was very delirious and hoarse. At the end of the fourth week the right side of the fauces was ulcerated and inflamed, but after this there was a general improvement of the patient's condition, the throat partaking in the improvement. During the seventh week complete aphonia came on, the whisper being very hoarse. A relapse occurred at the end of the eighth week and the breathing was a musical inspiratory groan, more marked in sleep. The groan quickly became loud, accompanied by stridor, and breathing was labored. Tracheotomy was performed in the tenth week. On the day after the operation air would not pass the larynx, and this condition, as in the previous case, remained. The subsequent course agreed exactly with that of the first case. Case 3 occurred in a man 35 years old. At the end of the second week of typhoid fever he was troubled with cough, but no expectoration. At the end of the fourth week there was hoarseness and some laryngeal obstruction. The fauces and pharynx were congested, and there was much mucoid secretion. During the sixth week the patient was examined with the laryngoscope. There was inflammatory edema around the arytenoids, and they were limited in motion. The true cords moved normally. The patient began to improve and the edema disappeared. At the end of the eighth week the arytenoids had almost returned to their normal condition. The patient had a relapse lasting 14 days, but no return of throat trouble. The fourth case occurred in a man aged 27 years. He was first seen at the end of the second week of typhoid. There was bronchitis and albumin was present in the urine. At the end of the third week the bronchitis was worse, at end of the sixth week, after previous steady improvement in the general condition, the patient began to have difficulty in swallowing. Hoarseness and harsh laryngeal cough came on; inspiratory stridor was present. The laryngoscope showed a greatly swollen epiglottis, obscuring the parts below. Tracheotomy had to be performed. Diphtheria was suspected and antitoxin given. Later an abundant mucopurulent expectoration appeared, the cervical glands were enlarged; the temperature rose to 102.6°; both tonsils, pillars of the fauces and the uvula became covered with thick membranous exudate. No air could be drawn through the larynx. Bacteriologic examination was negative. The symptoms abated and the tube was removed a week after operation. About this time albumin was abundant in the urine and remained several weeks. Difficulty in *swallowing persisted for some time*. Marsden appears to regard the last case as one with diphtheria complicating typhoid, and the laryngeal symptoms partaking of the nature of those following typhoid fever. [M.B.T.]

Stretching the Sciatic Nerve.—Albert B. Stron (*Chicago Medical Recorder*, November, 1899) reports briefly o stretching the sciatic nerve for sciatica. The patient shoul be laid flat upon his back, with limbs extended. Place on hand over the knee of the affected side, so as to keep the le perfectly straight with the thigh; with the other hand gras the foot, and slowly, with frequent rests, bring the whole lim upward to a position at right angles to the body. Th should occupy 10 to 15 minutes. Considerable pain, tinglin and numbness will accompany the proceeding. Then slowl lay the limb down, and in a few minutes repeat the sam movement. Repeat again in 3 or 4 days if necessary. I chronic cases of long standing, treatment at intervals of 3 o 4 days may be kept up for several months. The gener condition of the patient must also be attended to. Stron has had good success with this method, and believes it th best treatment for this malady. [M.B.T.]

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Sanitary Administration for Sanitary Reasons Only.—The modern sanitary officer has considerable difficulty in keeping his department from becoming the catspaw of commercial or trade interests. One of the first demands usually made of a new health-officer is that he prosecute the sellers of oleomargarin. His proper reply is that such laws are police restrictions solely, and should be enforced by policemen instead of sanitary officers. Good oleomargarin is as healthful a product as good butter; when it is shown to be bad it will be time enough for the health-officer to interfere. The weight of loaves of bread is a subject that of late has engaged the perniciously active attention of legislators in some cities. The enforcement of such ordinances is placed in the hands of the health-officer. This is all nonsense; it makes no difference how much a loaf of bread weighs at a given cost so far as health is concerned. Health-officers should decline to become the catspaws of bakers' trade-unions in enforcing such laws Artificial ice is a good thing and contaminated ice should be condemned, but health-officers must be careful not to condemn ice from uncontaminated ponds just in order to please makers of artificial ice. The commercial interests are only too ready to take advantage of the scientific enthusiasm of sanitarians to lead them into mistaken plans of action. A little calmness and shrewdness do not come amiss in considering proposed innovations. Commerce must neither unnecessarily obstruct nor rashly mislead sanitary movements.

An Ancient Memorial of the Plague.—In his entertaining *Rambles in Greece*, Mahaffy gives us a description of the venerable ruins of the great temple at Bassae. This temple was erected in the age of Pericles to the honor of Apollo, sire of Æsculapius, the God of healing, for his deliverance of the country from the same plague which is today still devastating parts of the Orient. Of the purest age and type, set up far from the cities and haunts of men, this Grecian fane has a peculiar significance and charm for medical men. It was reputed the most beautiful temple in the Peloponnesus, and was built by the same architect, Ictinus, who built the Parthenon. Like this latter temple it was of a severe Doric type, and its ruins, still well preserved, present some rare problems for the antiquary and the architect. It was erected in a mountainous part of the Morea, and the wonder is why its builders chose such a remote and almost inaccessible site for such an imposing and artistic shrine. In its majestic ruins it bears silent witness not only of the supreme creative genius of the Greeks, but also of the veneration in which they held the medical art. To Apollo, the Healer, they erected for a temple this rare specimen of ancient art, while to the great scourge which after 2,300 years still mocks our medical science, they left it as a memorial and a token of triumph. But the temple at Bassae stands only as a ruin, while the pestilence still stalks about the earth. Let us give thanks to Apollo that if he did not forever abolish the plague he at least inspired the highest art.

The medical inspection of schools is such a logical procedure that its success is not surprising, and its adoption is becoming more and more general. Preventive medicine is no longer a dream, or a theory, but a reality, and an actual condition, and the school is a fertile field for its application. The work, however, requires time and skill, and should receive ample requital, and all the more so, because in his work of prevention the medical man is depriving himself of a clientele and a source of income. It appears that the suggestion for medical supervision of schools, in Germany at least, emanated a dozen years ago from the fertile mind of no less distinguished a personage than Virchow, and it has in this interval been received with steadily increasing favor. In a number of German cities the inspectors visit the schools perhaps once a month, examining into the health of pupils and teachers, investigating questions of lighting, heating, cleansing, and ventilation of the classrooms, and from time to time giving instruction in the principles of hygiene. For this service from $125 to $250 a year is paid. The results have been eminently satisfactory. The plan of daily inspection of schools, as adopted in several American cities, should prove at least as successful, and, if possible, more so.

Ankylostomiasis in Puerto Rico would appear to have attained quite serious proportions, as, in a circular (No. 5) issued recently by the Superior Board of Health of that island, it is stated that at least 1,000 persons are dying monthly from the disease, which is designated the "Scourge of Puerto Rico." The pamphlet referred to is published in both English and Spanish under the title of "Anemia," and its etiology, treatment and prophylaxis are considered tersely and intelligently.

The four circulars previously issued by the Superior Board of Health have dealt successively with "Typhoid Fever and its Prevention," "Instructions to Physicians," "Dysentery and its Prevention," "Names of Physicians Pharmacists, Dentists, etc., etc., in Puerto Rico." We have herein evidence that the leaven of modern civilization and hygienic method is beginning to permeate and neutralize the superstitions and the ignorance of the past.

Christian Science: A Menace to the Public Health.—In Maryland the Christian Scientists appeared before the Committee on Hygiene in opposition to the proposed bill regulating the practice of medicine. From a report of the proceedings we make a few excerpts concerning which comment is unnecessary:

Dr. Samuel T. Earle asked Mr. Hammond how he discriminated between infectious diseases and those that were not infectious. "The power of God," said Mr. Hammond, "is the same always. We do not believe in infectious diseases, and a person, if a Christian Scientist, could not contract such diseases."

Dr. Earle asked whether the method of treatment would be altered for an infectious disease, and Mr. Hammond replied that it would not.

Dr. Edward Brush said it was unnecessary to ask the gentleman any further questions, as he had practically admitted that he could bring a patient with the smallpox into a room with other persons, or send a child with scarlet fever to school.

Dr. Earle asked Mrs. Linscott how she could distinguish diphtheria from tonsillitis. Mrs. Linscott laughed heartily and said: "All diseases are the same to us, and we make no microscopic investigations; but I could easily distinguish." Dr. Earle insisted upon knowing by what means, and, Mrs. Linscott remaining silent, Mr. Hammond answered in sonorous tone, "Through the power of Almighty God."

Mrs. Linscott stated that in a community of 500 people, all of whom were Christian Scientists, such things as diphtheria would be impossible, and there would be no necessity for any health department, as the community would be exempt from disease.

Dr. Fulton said the course of medicine of the Scientists was two weeks, according to their own books. He read of a little child who had a terrific toothache and was so completely cured in one night by a Christian Science teacher that not only did the pain leave her, but the cavity in the tooth became filled up, and this was without any physical treatment

The Christian Scientists all exclaimed that this was perfectly true.

Another incident read by Dr. Fulton was to the effect that a lady who had been horribly burned was sufficiently improved to go out the day after the accident.

Several of the delegation said they knew this lady.

Another article read referred to a schoolboy who could not do his fractions until aided by Christian Science, when they at once became easy.

Mrs. Linscott remarked to Dr. Fulton, "No wonder the power of God surprises you!"

Dr. Brush read a letter from a member of the Health Department in Buffalo, stating that the sect of Christian Scientists should be suppressed, as they were a menace to the public health.

The Abstract-Thief is an old criminal, but his success and daring in these days of degenerate medical journalism have made him quite satisfied with himself. In this field, as in others, degeneracy is becoming fashionable, and a method of success. There is not a week in which we do not see the results of this fine gentleman's work, and yet we are happily spared the necessity of observing it where it probably occurs most frequently,—in the "medical" journals that live off the exchange list, with the aid of the humbugged or the nostrum-advertiser. The simple method of till-tapping and pocket-picking is to steal the abstracts, but carefully to leave out the name of the journal in which the author's article appeared. The abstracter's name is, of course, omitted. This poor man never came within the ethical range of vision of the abstract-thief. It is small comfort to the rightful owner to know that among these thieves themselves there is no honor. They steal from each other, but he does not come by his own. We have seen a number of stolen abstracts credited by thief 2 (or 3) to No. 1; thus the author of the article, if he is alluded to at all, is charged with contributing to the first purloining journal. These nameless, authorless, bodiless ghosts of literature are gibbering and flitting about a hundred or more editorial offices, and peering out at us from the nooks and corners of journals, well guarded by reading notices, interleaved advertisements, "humor" columns, and all the rest. They are very unhappy ghosts, and we purpose listing, for later publication, the names of their cruel editorial persecutors. These last are exceptionally odious fellows, who well deserve public castigation. We would thank our readers for notices of instances which may have escaped us. These will be most abundantly found in journals that send two or more copies to each "subscriber," and which are not discontinued, although the subscriber does not remit.

The Judge and the Coroner.—Judge Harmon Yerkes, a jurist well known in this State for his admirable public utterances, has just delivered an opinion at Doylestown in which he scores coroners in general, and says flatly that the office should be abolished. The office, he thinks, is antiquated, and in his own county is little more than a political job. The investigation of crime, says Judge Yerkes, is better accomplished in the district attorney's office, without being hampered by meddlesome and consequential officials. In Bucks County the fees of the coroner for useless inquests were cut down by the wise intervention of the court from $1,800 to $400 a year. The judge further says that there has been one instance in that county in which the coroner's interference and bombast actually obstructed the investigation of a murder.

The office of coroner, we believe, is a very ancient one, and was apparently adapted to the wants of a more primitive age than the present. Its object is the investigation of the causes of death—a most complex problem in many instances, and one, moreover, that requires for its solution a high degree of scientific training. This function is a purely medical one, and in consequence should be entrusted to a medicolegal expert. Such an official, appointed by the court, could

well act in conjunction with the district attorney, whose legal function is correlated and has for its object the detection of crime. The present inadequate and expensive system of the coroner's court has, according to Judge Yerkes, outlived its usefulness. Even in Shakespeare's time "crowners' quests" did not inspire the respect of the vulgar; much less in the beginning of the twentieth century can they inspire the confidence of an intelligent public. So far as we know, in this city the office is and has been honestly administered, but whether the office itself should be superseded by more modern methods, as Judge Yerkes believes, is another question and one of interest to physicians and laymen alike.

The Insanity of Auguste Comte.—The opinion that "Great wits are sure to madness near allied" seems to have had a confirmation in the case of the distinguished apostle of positivism, Auguste Comte. In the January number of the *Journal of Mental Science*, Dr. W. W. Ireland has contributed an interesting paper on the mental state of this philosopher. Comte was of delicate health and weak digestion, and early habituated himself to hard and unremitting mental toil. He was, moreover, in needy circumstances and obliged to fill a salaried position as examiner in mathematics for the École Polytechnique, which was of very uncertain tenure. In 1826, when he was 28 years old, he broke down while lecturing to a brilliant audience in Paris and suffered an attack of mania. He attempted to kill both himself and his wife and was only rescued by the heroism of the latter. Under the treatment of the distinguished Esquirol he did not improve during seven months, but afterward, under the ministrations of his wife—whose plan of treatment was to indulge his every whim—he recovered and resumed his work. A second time, however, he attempted suicide by throwing himself into the Seine, and was rescued with difficulty. He composed his great work, the *Cours de Philosophie Positive*, during a period of many years, and his literary methods, which are described by Dr. Ireland, were loose and peculiar. This fact accounts for the rambling and diffuse style of his composition, which has rendered it necessary for his English disciples—such as John Stuart Mill and Harriet Martineau—to recast his work for English readers. He confessed, in a letter to his friend and biographer, Littré, that he had frequently contemplated suicide, and would have killed himself had he not been sustained by the thought of his philosophic mission. His mental disturbance was doubtless increased by domestic unhappiness, his wife being inconstant to him and leaving his house several times to live with a lover. This led finally to a separation, which marked a turning-point in Comte's mental life. He soon fell in love with a fair-haired woman, whose husband was in prison for some infamous crime, and who returned his passion with only a cold-blooded platonism. The deterioration of the philosopher now went on apace. He evidently became an erotomaniac. Repelled and chagrined by a frigid mistress, he ended, after her death, in idealizing her as the type for all men to adore. He, who never prayed to God, prayed at her tomb to her vision, and listened to the insane hallucinations which reproduced her voice. The quality of his philosophic work suffered accordingly, and was henceforth marred by a sort of mysticism in which were blended amatory and pseudoreligious images. After his death his will was contested on the ground of insanity, but after many years it was finally admitted.

As a scientist Comte originated nothing, and as a philosopher he merely arranged the sciences by a process of analysis in which his French genius was conspicuous. We doubt whether he will take rank as a great original thinker, but we cannot help but marvel, after reading Dr. Ireland's paper, how he accomplished such a vast labor with such a disturbed mind.

The "Science" of Osteopathy.—We have before us the following letter from Dr. C. E. Still, Dean of the American School of Osteopathy of Kirksville, Mo., written in search for a professor of physiology:

Dear Sir: I notice your name in connection with the catalogue as Professor of Physiology. We are in need of a physiology teacher and for the right man will pay a good salary. We would like to have you recommend to us some one that is thoroughly acquainted with his subject. We have an institution of seven hundred intelligent men and women, many of whom are graduates of Yale, Harvard, Princeton and Northwestern University. This chair will be vacant at the end of this school year. We would like to get some one who had held a chair in some prominent institution.

Thanking you in advance for any information, I am,

Yours truly,

C. E STILL,
Dean.

We trust the new professor when appointed will be able to harmonize physiologic science with the following lucid statement by Dr. A. T. Still, the founder of the sect, concerning his osteopathic philosophy, extracted from the *Journal of Osteopathy* by *Modern Medical Science*:

"By my method of reasoning I arrive at the conclusion that man was, after receiving his form, like unto the world on which he dwells, and that in his body could be found all the mineral, vegetable, and animal substances that could be found in the beasts of the field, the fowls of the air, fishes of the sea both great and small; in short, all that was contained in this and all other planets and beings, from the throne of God (Himself included), to the lowest form of animated beings; that in the human being all attributes of mental and physical were represented in kind. With this conclusion I proceeded and did obtain what I have proclaimed and proven to be truths universal in kind and action submitting to and being governed by one common law. I reasoned that all effects as are shown in disease with the result of the productions of the truths of the one great common law, mind and motion expressing themselves through matter. Motion is an effect of life with its powers. Disease in any form or presentation was another effect. Conception of beings, diseases, and worlds, were the biogenic answer of the wombs of nature either large or small, believing while I was in the

chambers of sober and intelligent nature where honest reason only can dwell, that it was safe to follow the teachings of that principle that made no mistakes that I could detect."

Slow Sand-Filtration of Public Water-Supplies.—The system of purification of public water-supplies by slow filtration through beds of sand is practically English in its origin and practice. At first adopted for purposes of clarification only, and without definite knowledge of its far-reaching possibilities, it has been by years of study and investigation found to present the most practical and complete method of dealing with the invisible bacterial increment that causes the bulk of water-borne diseases. The filter-beds are large areas—one or two acres for each bed—upon which a filter is carefully and systematically constructed. The sides and bottom of the bed should be cemented. Layers of gravel, carefully graded in size, are superimposed upon each other to a depth of several feet; then coarse sand, and lastly a layer of fine sand from one to three feet in thickness; the total depth of the filter-bed varies in different cities from four to eight feet. Originally, it was supposed that the function of the filtering layers was purely mechanical, suspended impurities being deposited on and in the sand-layers. It is now known that a biologic action is the principal function performed and that the actual work of purification occurs on the topmost layer of fine sand, and in its organic covering which accumulates in the course of the first day's use. This organic layer is of jelly-like consistency and is known as "bacterial jelly," or by the even more expressive term of "Schmutzdecke." From 95% to 98% of the bacteria in ordinary waters are detained in passing through such a layer. Efficiency of removal is established after 24 hours' operation of the filter; rapidity of filtration should rarely exceed 3,000,000 gallons per day for an acre of filtering area, and 1,500,000 is a more generally accepted rate. Accumulation of material gradually lessens rapidity of filtration so that once a month it is necessary to scrape off the layer of "Schmutzdecke" and start over again after wasting the effluent of one day's filtration.

The statistics of typhoid fever prevalence and of cholera occurrence in cities with and without slow sand-filters carry conclusive proof to the unbiased mind of the efficiency and reliability of this method of water-filtration. Engineering authorities universally testify to its economic operation; yet there continues to exist opposition to its adoption. Careful investigation suffices to convince most people that the doubts cast upon the efficacy of this method largely originate with those who have conflicting financial interests. The literature of criticism comes mainly from the advocates of proprietary methods of alleged rapid filtration, or from the employes of private water companies who are reluctant to take the necessary steps for the preservation of public health. There seems to be a few natural waters suited to the economic adoption of other methods of purification, but the vast majority of surface waters are best treated by slow sand-filtration, either alone or following sedimentation in settling basins.

Medical Sermonets, No. 14.—The Antivivs as Encouragers of Cruelty to Animals.—In the history of religion it is one of the most common facts that the excesses and irreligiousness of those who take upon themselves the positions of exponents and illustrators of religion are often directly productive of atheism and irreligion. In the history of politics there is the frequent illustration of the similar fact that those who assume the roles of official advocates of justice and good government are often really the breeders of injustice and civil degradation. This may be true even when the self-elected self-satisfied are not conscious hypocrites—possibly even when they are ultra-sincere—because of narrowness and rabidity. There is no enemy so harmful to a good cause as the rabid advocate. And this truth is nowhere so glaringly and frightfully shown as in the present antivivisection movement. It is not only the flagrant literary immorality (false and deceitful quotations, slimy innuendos, and downright lies) illustrated on every page of the writings of the tricksy defenders of "kindness to animals;" it is not the secret enmity to science everywhere showing its hideous face behind the mask of medievalism; it is not the concealed indifference to cruelty to man and to civilization flaunting the flag of love of animals,—it is not, we say, these and many such characteristics as these, but it is the crass ignorance and narrow violence which shuts out of view all related truths in a monomania of self-regarding morbid frenzy disgusting to every sane and broadminded man who is called to witness the absurd phenomena. And the disgust generates the very indifference to cruelty, nay, as human nature is made, may even develop it. To every animal one is fatally apt to say: Are these people your friends? Are *you* a friend to these people? If so, we say, Get out! Every vivisector is in imminent danger of becoming less careful of his anesthetic, of concealing his experiment and laboratory, when nothing but stupidity and misrepresentation is the result of every attempt to meet the rabids on common ground. Every person loving either animals, his fellow men, or the cause of science, has to steel his heart and mind against the stimulus of selfishness and cruelty supplied in such vitriolic quality and nauseous quantity by the rabid antis. It is said that Robespierre and Marat were exaggeratedly sentimental as regards love of animals. It is difficult to keep the mind clear and the heart soft under the nagging insolence of those who make a good cause ridiculous by their desperation in calling attention to themselves. We have hard work to avoid seeing the antics of the antis, and the tendency is to drive men to hate what these pretend to love. The doings of these people are today the indirect cause of more cruelty to animals than all the vivisectors in the world. We counsel all those who love animals to beware of them.

"Bibliographica Medica."—A new monthly, started with the intention of taking the place of the *Index Medicus*, was announced for publication on February 15, 1900, from the office of the Institute of Bibliography, in Paris, under the direction of Drs. C. Potain and C. Richet, professors in the Paris Medical School. Each number, of 80 pages, will contain 4,000 bibliographic indications. Its price is only 50 francs in France, 60 francs in other countries.

Correspondence.

ENETRATION OF BULLETS FROM SMALL ARMS.[1]

By W. F. ARNOLD, M.D.,
Passed Assistant Surgeon U. S. Army, Navy Yard, Pensacola, Florida.

the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

PROFESSOR NANCREDE, in the most pretentious paper that s appeared upon the bullet-wounds observed in our late ır with Spain, decides from his observations at Siboney at more than 25% of the Spaniards' bullets that struck our ldiers made lodgment in the wounds, and he quotes the ıtements of Spanish surgeons to prove that the same ıs true of the Krag-Jorgensen bullets of our troops. At e same time, he cites the experiments made by fully com-tent authorities at Siboney that showed—what every intel-ent American soldier soon found out for himself without perimenting much upon his own account—that the effi-ency of the Mauser rifle was somewhat above that of the ıall-arm just named. Their muzzle-velocities and bullet-ights, according to the 1899 "Naval Pocket-Book" are: auser, 2,286 feet per second; 173 (245?) grains; Krag-Jor-nsen, 1,968 feet per second; 230 grains.

These results are so at variance with everything that has en expected of modern small-arms in the matter of pene-ıtion that I venture to suggest these possible sources of ror:

1. The Spanish army had in use two patterns of the Mauser le; (*a*) their own pattern—model of 1893, and (*b*) the ırkish model of 1890, which was never issued generally to e Turkish army. The caliber of the Spanish arm is 7 mm. ıile that of the Turkish gun is 7.65 mm., which difference ıounts to about 0.025 inches. Now, as the grooves of any ıstem of modern small-arm rifling are less than 0.005 inches depth, and if we allow an increase of double that meas-ement as the maximum diameter of the Spanish bullet, follows that this bullet will allow a plentiful escape of wder-gases around it, if it is fired from the Turkish model the Mauser rifle. Such a defect is not only fatal to the netration of the missile fired under these conditions; it ɔdes the bore of the piece rapidly, thus rendering it less ective when used with proper ammunition. This fact counts, so I take it, for the lodgment of many Spanish bul-s in American soldiers. Of course, I have no direct proof at these two kinds of ammunition were confused, but the esumption that they were is almost certainty; and if ırkish ammunition could have been fired from a Spanish n—which I do not state as a fact—it is unlikely that it ɔuld improve the effectiveness of that arm. I know, how-er, that these two models of the Mauser rifle were in use Santiago by the Spaniards; and I saw both kinds of am-unition in possession of American naval officers, who first lled my attention to the difference that they presented. ırthermore, I examined some captured Mauser ammunition which cartridge-cases were only partly full of smokeless ;wder. I never learned whether these charges had been duced because the full charges had developed dangerous essures, or whether economy was the object; but I incline the former view.

2. Governor Roosevelt tells of his men collecting ammu-tion that the Spaniards had abandoned on San Juan Hill, ıd of its use by Lieut. Parker in Gatling guns in repelling ı effort of the Spaniards to recapture the Hill. If this was Spanish Mauser ammunition, it was as much too small for 0.30 caliber Gatling guns as for the Turkish Mausers, which may explain why the Spanish surgeons found putative American bullets deficient in penetration, as the attack in question is thought to have suffered very severely under Lieut. Parker's machine guns.

3. Neglect of their rifles by the Spanish soldiers certainly was not unknown, and, in such a climate as that of Santiago de Cuba, this is soon fatal to highly efficient service in modern small-arm rifles.

My object in reopening this matter now is to call attention to the press reports that sketch Sir William MacCormac's observations of the English wounded in South Africa. He is reported to have referred to a 0.45 caliber Martini bullet, lodged in a man's thumb, as the "almost solitary" example of lodged bullets. Of course, this statement should be checked with facts relating to the distance at which the missile reached its victim, the absence of cover and, above all, the kind of weapon whence it proceeded.

Our pestiferously inaccurate daily press entertains no doubt, so it would appear, that the Boers are using Mauser rifles, of which, it may be remarked, there are about a half-dozen different models. But there is, I think, every presumption to support the statement that a sporting model of the German Army's Experimental Committee's small-arm is in reality their weapon. *Harper's Weekly* has described and pictured this rifle, which is a modification of the Mannlicher, that was adopted for the German Army in 1888. Its bullet weighs 224 grains, and its muzzle-velocity, using 42.5 grains of Spandau flake smokeless powder, is 2,035 feet per second.

Owing to its slightly greater caliber—7.9 mm. or 0.311 inch—its penetration must be expected to be something less than that of 7.7 mm. Lee-Enfield, with similar muzzle-velocities. But I am very decidedly of the opinion that comparatively few of the bullets of either of these rifles will be found to have lodged under ordinary conditions of field service. I acquired at Newchwang (Yingko), China, my right to make this statement in the winter of 1894-1895, where I saw about a dozen men that had been wounded with the German Army Rifle. (See Report of Surgeon-General, U. S. Navy, 1896, and the *Medical Age*, October, 1896). My observation of recent wounds in the war with Spain was confined to a solitary case—that of a marine, who perforated, by accident, his left great toe with his own weapon, the 6 mm. Lee, "straight pull," *i. e.*, without the turning (Gras) butt. Hence, possibly, I should not have raised this question. Let its inherent interest excuse me.

P. S.—I have delayed sending in the above until I could look over the communication of Major Louis A. La Garde, Medical Department, U. S. Army, that was presented at the last meeting of the American Association of Military Surgeons. He omits altogether to notice the points that I have raised. In the interval, however, it has become practically an established fact, that the 7 mm. Mauser is the weapon of the Boers. Also, that the German Minister for War has determined that this caliber is too small by 0.9 of a millimeter!

[1] Publication of the above has been unavoidably delayed one month.

THE PRIVATE PHYSICIAN AND EDITORIAL CRITICISM.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DEAR SIR:—I notice in your issue of February 24 that Dr. A. P. Ohlmacher has seen fit to publish the brief correspond-

ence that he has recently had with myself, and his expression of a grievance because of delay in presenting in the *Medical News* his letter of complaint. Allow me to explain to Dr. Ohlmacher, through your columns, that his communication for publication in the *Medical News* was, unfortunately, at the last moment, crowded out of the make-up of February 17, but that it did appear in the *Medical News* in the issue of even date with its appearance in your valuable journal; that I apologized and explained the grounds of the original unintentional offense in the following editorial note:

[We regret extremely that Dr. Ohlmacher should have construed the editorial in the *Medical News* of January 20th as a personal attack upon him, for such was not the intention. No one carefully weighing the mass of yearly literature upon epilepsy can fail to appreciate that many of the authors do not grasp the epileptic phenomena in their entirety, and, as a consequence, tend to draw unwise and unwarranted conclusions from insufficient data. For the sake of maintaining a reasonable sanity of judgment upon these subjects among those readers of the *News* who do not give especial attention to the convulsive disorders and their allied neuroses, we consider an occasional *résumé* of epileptic literature essential; we published the editorial in question in this connection. With apologies to Dr. Ohlmacher for the unintentional, possible injury to his personal feelings by the Juggernaut of scientific criticism, we submit that there is no adequate evidence in the editorial in question proving it unfair or unscientific.—ED.]

Yours very truly,

J. RIDDLE GOFFE,
Ed. *Medical News.*

New York, February 26, 1900.

REPLY OF DR. OHLMACHER.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DR. GOFFE'S letter of explanation appearing above gives me the opportunity of emphasizing my position, which he ignores, by pointing out:

1. That he allowed to be inserted in his *editorial columns* an unjust and unscientific attempt to ridicule our studies in the pathology of epilepsy; and that his reply, purporting to be an apology, only makes more offensive his original position.

2. That he has persistently failed to acquaint me with the author of this attack, although requested to do so in my original letter of January 23, 1900, reproduced in the PHILADELPHIA MEDICAL JOURNAL of February 24, 1900.

I am willing to waive the question of delay, which the correspondence shows, in the face of Dr. Goffe's explanation, but had he been gracious enough to unearth his carefully-concealed scientific "Juggernaut," who was so jealously and so maliciously guarding the readers of the *News* against dangerous epileptic delusions, he might have spared both of us this unpleasant prominence.

Very sincerely yours,

A. P. OHLMACHER, M.D.

Gallipolis, O., March 1, 1900.

PRURIENT "WIT."

BY DAVID INGLIS, M.D.,
of Detroit, Mich.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

YOUR editorial in the issue of February 17, on "Stercoraceous Vomiting," deserves the thanks of every gentleman in the medical profession.

I believe that the men of our profession are, generally, singularly free from prudishness on the one hand and from foul thinking on the other; but there are just enough men whose minds are unclean and whose ideas of humor are so blunt that they take obscenity for wit, and such men forc themselves before cleaner men. They are tolerated just a one endures a drunken man, until he can be escaped from

Your editorial should be reprinted in every medical jou nal in the country.

COMPARISON OF MEDICAL EXAMINATIONS IN DI FERENT STATES.

BY F. SAVARY PEARCE, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

APROPOS of State Medical Board Examinations: It is pe haps fitting to give comparison between experience gaine before the Medical Board of New Jersey, two years afte graduation, and an examination recently taken before th New York State Board, six years later. That every medic man becomes more or less rusty in concrete medical know edge with the increase of time, away from his Alma Mate is only too sadly a fact. Personal experience has demo strated to me the great practical advisability of taking u for review at intervals the accurate knowledge gained i medical halls. The questions asked by the two boards me tioned did not widely differ in the scope and depth soug in the medical man's learning. The first board gave thre examinations per day, and the second, two; covering period of four days. Though the technical aspect of th New York examination seemed somewhat more difficu than that of New Jersey, yet this might be accounted for b the lapse of time out of college. The fact of a higher stan ard of preliminary educational requirement in New Yo State, to my mind, justifies nonacceptation of other State diplomas in the onward course of medicine. The physicia practising in a State with a high standard *should* be pr tected against incomers who have not passed such qualific tions. Keen competition in all avenues of advancing pr fessions, in this the present day, justifies such decisions, an gives, therefore, greater security to the individual attemptir to do good work, when there are a plenty of backslider quacks, and charlatans ready to impose upon a credulo public; and these *do* militate against a medical man's earnir his living. If a doctor chooses to change his abode perm nently or temporarily, he should be willing to undergo a te of his ability.

As to the question of years spent in medical study, seems perfectly clear to me, for the student to keep in th front rank of advancing thought, the medical-school teac ing should be on the highest plane of education; and th ideal physician of the future must not only have an equal strong education in physic, but have the same mentali and training of folk in general. He must have had as lo a time-limit within medical walls, exclusively, as the colleg man himself obtains before going out in the interestir contentions of life. There can be no doubt of the gre advantage of a liberal education to the medical practitione exceptions to this, of course, proving the rule. Certainl the crude doctor without culture or much preliminary ed cation presents a vast disparity between the work-a-d plodder he is and the college-bred man or his like.

I remember full well the instance of a good-hearted, brig enough, but uneducated artisan's son, who had been a pointed by his congressman for report and examination Annapolis, Md., in 1885. Of course, this boy, for his ag had not sufficient learning to admit him to the U. S. Nav

ademy, where pretty rigid examinations had been gone ough by the young fellows who had competed, in the lely-scattered State districts, for such appointments to the al examination at Annapolis. The foregoing example is ay side of this study-problem as seen by the National vernment.

A number of theoretical and practical personal examples n, with the study of human beings as they go, forcibly sents the great desirability of high standards for main- ning "*progress in medicine.*" The money value of under- ng separate examinations in the different States is not a ctical deterrent, since the greater exclusion of christian ence faddists, etc., must in time turn the course of the gest majority of intelligent people to the more enlight- ed care of the only true physician, and the outlay en- led by the doctor thereby be redeemed with compound erest.

TO ACQUIRE THE METRIC HABIT.

By HENRY BARTON JACOBS, M.D.,
of Baltimore, Md.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

I WAS interested in reading Dr. Rubinow's letter in your ue of February 17 in regard to "an eminently practical y of acquiring the metric habit," and I wish to testify to value in class-room work. Students almost invariably member doses in the English system, and it is somewhat ficult to encourage them to adopt the metric system. The thod of which Dr. Rubinow speaks (first suggested by Dr. i H. Long, in the *Medical News*, of Philadelphia, March 25, 03, in an article on "Aids to the Adoption of the Metric stem in Prescription Writing," and incorporated as a rule Mann's little Handbook of Prescription Writing), makes so simple for them to utilize their doses in the old system, d at the same time write in the metric system, that it peals to them at once. Unfortunately, not all of our stu- nts continue to use the metric system after leaving the nool; this probably is explained by the fact that the older actitioners, with whom they become associated, both in e hospitals and outside, are in the habit of using the old ethod; but I am encouraged to persist in teaching the ench method, because I find that a certain small but in- easing percentage of students are appreciative of its value, d desirous of employing in their use of drugs the same eights and measures they have become accustomed to use their chemical and physiological work. In illustration of e absurdity of depending upon two systems, I often quote e nurse who recorded on the same sheet and in adjacent nes that the patient took 4 oz. of beef tea, and passed 100 . of urine. But after all, the effort to secure the general loption of the metric system is uphill work, yet I feel sure it ill come eventually if those who teach materia medica and erapeutics will stand together and untiringly persist in the od cause.

N THE RESUSCITATION OF APPARENTLY DEAD NEWBORN BY LABORDE'S METHOD.

By M. FREUDENTHAL, M.D.,
of New York.

o *the Editor of* THE PHILADELPHIA MEDICAL JOURNAL :—

UNDER the above title Dr. Francis Eustace Fronczak, of uffalo, N. Y., in your issue of February 24, speaks in favor f applying the well-known Laborde's method in cases of asphyxia neonatorum. He refers to Laborde's method saying "that the action (the rhythmic action of the tongue) results in a reflex irritation which is referred to the respiratory center through the motions at the base of the tongue."

While I have seen gratifying results from this method, I have drawn attention to a modification of the same which I advised some two years ago, and which I consider far superior (see *N. Y. Medical Journal*, December 10, 1898, and *Deutsche Zeitschrift für Chirurgie*, Bd. xxv, p. 608). As this topic is of interest to every practitioner who operates at all under general anesthesia, permit me to make a few remarks. The salient point in Laborde's method is to produce an irritation of the respiratory center. We know by daily experience how anxiously we try to avoid touching the epiglottis in intralaryngeal operations, even after thorough cocainization. We are afraid of the reflex caused by the least sensation of tickling. I have, therefore, advised in asphyctic conditions to irritate the epiglottis by tickling it. This is very easily done by moving the index finger to and fro over the epiglottis. The sensitive nerves to be especially considered in this connection are the glossopharyngeal and the superior laryngeal. The glossopharyngeal is distributed to the anterior surface of the epiglottis, while the superior laryngeal—*i. e.*, its inner branch—supplies the posterior surface of the epiglottis, the base of the tongue and the epiglottidean glands. When, therefore, traction is made on the tongue the epiglottis is subjected to this traction as well, and thus both nerves mentioned are indirectly irritated. A much more powerful effect, however, is directly exercised upon these nerves by energetic irritation of the epiglottis. I, therefore, consider my method nothing but a modification of Laborde's.

But there are more reasons in favor of my method. I do not consider traction on the tongue as being perfectly free from all danger; at least, I cannot imagine why muscle bundles should not be torn in the manipulations. This is especially to be expected in newborn children and in the excitement which surrounds a confinement in a private house. I have no confinements in my practice, but, *a priori*, one should judge that if any method at all is of value, it should be more applicable to the very young than to the adult.

It takes no time to learn it; it takes but a few moments to perform it; it is effective and there is no danger connected with it. I would, therefore, once more recommend *tickling the epiglottis* in all cases of deep asphyxia.

THE LYMPHATIC CONSTITUTION AND DEATH IN CHLOROFORM ANESTHESIA.

By A. P. OHLMACHER, M.D..
of Gallipolis, O.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

IN their interesting and elaborate chemicophysiologic explanation of death in chloroform narcosis, Muir and Dahl (Cause of Death in Chloroform Anesthesia, PHILADELPHIA MONTHLY MEDICAL JOURNAL, December, 1899), seem to have lost sight of the significance of the lymphatic constitution as influencing the possibility of sudden death under chloroform. In fact, the work of the Vienna school in demonstrating the bearing of the lymphatic dyscrasia in sudden death under various circumstances seems to be too little appreciated by us. Both the circumstances attending the death of Dr. Muir's patient, and the presence of adenoids (one of the superficial manifestations of lymphatism) make it very probable that the case belongs to the class so minutely described by Kundrat (Zur Kenntniss des Chloroformtodes, *Wiener klinische Wochenschr.*, Nr. 1, 2, 3, and 4, 1895), and mentioned recently by Gurlt, Glück, Bayer, and Bardeleben.

In the absence of an autopsy in which careful search was made for the morbid anatomical features on the *constitutio lymphatica*, it certainly is impossible to execute this strange condition of lowered vital resistance with its notorious tendency to sudden death as a factor in Dr. Muir's case.

Special Article.

THE PLACARDING OF HOUSES FOR CONTAGIOUS DISEASE.

A Verbal Communication to the Philadelphia College of Physicians.

BY ARTHUR V. MEIGS, M.D.

AT the February meeting of the College two years ago I read a paper entitled "Reasons Why the Placarding of Houses in Which are Persons Suffering from Scarlet Fever and Some Other Infectious Diseases Should not be Continued." At the same time a preamble and resolution were brought forward, but their consideration was postponed in order that every one might receive notification that the subject would be discussed. The preamble and resolution were as follows:

"WHEREAS, It is the sense of the College of Physicians of Philadelphia that the placarding of houses in which are cases of scarlet fever and some other contagious diseases, as is at present done by order of the Board of Health of this city, is more productive of harm than of good; therefore be it

"*Resolved*, That a committee of three be appointed by the President of the College to wait upon the Board of Health and represent to it the sense of this College upon the subject, and to ask that the Board cease its present practice of placarding all houses in which there occur such cases of contagious disease."

In the last two years I have had no reason to change my opinion in regard to this practice, but, on the contrary, I am more fortified in the belief that the views I held so long ago are correct. I have received letters from various sources upon this subject, and I may mention one from a distinguished physician in Chicago. The letter is dated May 23, 1898, and after thanking me for a copy of my article, he says:

"We have had in this city abundant evidence of the folly of such a practice, and it has resulted in physicians taking the matter practically in their own hands, and reporting only such cases as could be placarded without trouble."

I received a letter, June 22, 1898, from Dr. Arthur R. Reynolds, the Commissioner of Health of Chicago, in which he writes:

"I venture to send you the accompanying circulars, cards, etc., in the belief that you will be interested in knowing something more in detail of our methods of sanitary procedure, by which here in Chicago we have not only overcome a pronounced hostility of the profession to the Department which I found existing at the beginning of my first term as Commissioner of Health in 1893, but have secured the cordial cooperation of the great majority of physicians in our work. I am led to send you these by a perusal of your paper read before the College of Physicians of Philadelphia, 'Reasons Why the Placarding of Houses, etc.,' and recently published in the *New York Medical Record*. The keynote of my administration is to be found in the circular on 'Antitoxin Treatment of Diphtheria.'"

I have received a second letter, dated February 16, 1899, from the same physician of Chicago, whose first letter to me I have already quoted. He says:

"Many thanks for your letter and the accompanying reprints. I hope you will be successful in your efforts to reform your health officials. In Chicago we have a very sensible Health Commissioner. He furnishes us with postal cards for reporting contagious diseases; and if the physician states that the case is sufficiently isolated, no placard is posted. The house is only placarded when the physician refuses all responsibility for isolation of the patient. This works well, pleases every body, and gives just as much protection as the placard method."

In Chicago, upon receiving notification of the existence of a case of contagious disease, the health authorities send a postal card to the physician in attendance, upon which the following is printed: "I hereby assume or decline the responsibility of preventing the spread of contagion in this case." The physician must strike out the word assume or the word decline. Unless the physician refuses to assume the responsibility of preventing contagion, no placard is put upon the house. Houses are placarded only if the physician declines to assume the task of preventing the spread of the contagion.

I received lately a letter from a professor in a school of medicine connected with one of the largest and oldest universities in the country. On January 26, 1900, he writes:

"I thank you for your letter and also for your reprint 'Placarding of Houses in Contagious Diseases.' I have read it with pleasure and agree with you perfectly. We are in the midst of the placa business in ———, and it frequently causes us to fail (?) to make diagnosis."

I think he means by this letter that when his conscien will allow it and his action will not bring him within reac of the grasp of the law, he does all he can to prevent placar ing. I have always done the uttermost that I have felt it w right for me to do, and I always shall do everything I ca to protect patients from what I consider an unjust intrusio upon private rights which does no good.

Some may remember Dr. Lainé's experience as he d scribed it to us when this subject was discussed here tw years ago. His sister's children lived in his house, and o of them was taken with a sore throat. A culture was sent the City Hall Laboratory. A day or two afterward, the chil having got so well that it was playing in the yard, Dr. Lai was notified that diphtheria-bacilli had been found in th culture, and that a yellow sign would be put upon his hous Dr. Lainé objected so strenuously that the official gave wa for the moment, but came back a few hours later and pla arded the house. Dr. Lainé went to the City Hall and pr tested so effectually that at the end of about two hours th health authorities sent and removed the placard. I begge him to sue the city, because I believed it was an instance i which he could have won a suit which would have been great benefit to the medical profession because it woul have established a precedent. It seems to me that th officials placed themselves in the wrong when they put u the sign and took it down at the end of a few hours, and think the suit could have been gained, as they acknowledge their error when they removed the placard after such a bri time.

Some time ago I was talking to a physician in the city wh has a large practice, and he told me that on one occasion h was called to see a patient with diphtheria in a family i which a yellow placard upon the house would have en tailed great inconvenience. Being in some doubt what to d although quite sure the case was one of diphtheria, he sen for a tube and forwarded a culture to the city laboratory. negative answer was returned, and he felt justified in accep ing their decision and treated the case without ever repor ing it as diphtheria, although he was sure it was that diseas

Another case that I was told about was as follows: school teacher was taken with a sore throat. A culture w sent to the city laboratory. The school teacher, after a da or two, was so well that she was out riding her bicycle. A the end of two days from the time the culture had been sen to the health authorities, word was sent to the school th the case was one of diphtheria. The ambulance was sent t the school to remove the teacher to the Municipal Hospita with an order that she must go or the school would be close She was willing to go rather than have the school closed, bu said: "There is nothing the matter with me. Let me rid to the hospital on my bicycle." This she was not allowed t do, but was made to go in the ambulance in which there wa another person who had true diphtheria. She was kept fo a time at the Municipal Hospital for Contagious Disease and I have since heard that some, at least, of the medic authorities of that institution said the case never was one o clinical diphtheria, but was only bacteriological diphtheri

I have been waiting a good while and hoping I might hav the opportunity to ascertain something in regard to the pre ence of this diphtheria-bacillus in ordinary cases of sor throat which of recent years are commonly called follicula tonsillitis, and which 20 years ago were called diphtheric sor throat. In the Pennsylvania Hospital such attacks of sor throat are common, especially among the servants. A fe days ago one of the servants was taken with a sore throat, s she worked only half a day of a Saturday. Sunday she wa worse and did no work. On Monday she was brought into th ward, and it was found that there was a good deal of whitis material over both tonsils. A culture was promptly mad and was sent to our hospital laboratory. On Tuesday th white material on the tonsils was much less, and on Wedne day morning it was gone, and the patient was without feve and was nearly well. On this same day (Wednesday) report was received from the laboratory saying that a organism had been found which tallied with that of th diphtheria-bacillus.

These are the cases for which placards are being put o houses by the Board of Health. This form of sore throat

e of the commonest complaints of the colder season of the ar, and to call it diphtheria is too ridiculous for serious ientific men to entertain such a belief.

I attended such a case in private practice lately. The tient, a woman, had white patches upon the tonsils, and is feverish and suffered very much for one or two days. three or four days she was well and was out of doors. It is such cases as this that the officials of the city laboratory ten find the diphtheria-bacillus, and then they wrongfully acard the houses.

There is another matter I wish to speak of. Last summer, cording to the reports in the newspapers, a negro who had allpox was removed to the Municipal Hospital and with m were taken other negroes who had been living in the me house. The well persons, as well as the man with the allpox, were confined at the hospital until it could be certained if they would develop the disease. Some one interested in them sued for a writ of habeas corpus, asking at they be released from confinement and contending that ey were illegally confined. The case was tried in one of e courts, and it was decided that the health authorities ere within their rights and the negroes were deprived of eir liberty until released by the medical authorities. This, it be the law, seems to me the most shocking law of hich I have ever heard. It means that any one of us, hose wife, child or servant should get an attack of smallpox scarlet fever, is entirely at the mercy of the health authorles, who can come to the house, remove every person in it, d confine them in the Municipal Hospital until the medil authorities see fit to release them.

In contrast with the way things are done in our country, I ant to direct your attention to the way the English manage ese things. The following is from the *Lancet* of December , 1899:

"The Peninsular and Oriental Steamship *Ballaarat*, which arrived Plymouth on December 16, reported that she had a suspected se of plague on board. The patient was one of the native crew, coal-trimmer, about 35 years of age, and was taken ill two days ter leaving Gibraltar, his symptoms being a high temperature and ollen glands. He was immediately isolated by the surgeon of the *llaarat*. Mr. M. P. Williams, the port sanitary officer, immedely visited the *Ballaarat* before any one boarded or left the vessel, d after he had seen the patient, who is believed to be suffering m plague, proceeded to inspect the passengers and crew, Europeans well as natives, 280 in number. Arrangements were then made r the transfer of the patient to the hospital ship *Pique* in Jennyiffe Bay. The necessary purification measures were then thorghly taken, and the *Ballaarat* was, at the expiration of about two urs from the time when the medical officer of health was first mmunicated with, freed from detention and allowed to proceed her voyage to London. Certain of her passengers were landed Plymouth, but before they were permitted to do so, their mes, addresses and destinations were taken down and the sanitary thorities of each district were apprised of their approach."

C uld a more perfect system be imagined? Excellent and orough sanitary inspection and the least possible amount detention and inconvenience caused. Contrast this with e barbarous practices of our own quarantine officials at the orts of entry into the United States.

If there were no other reason why the placarding of houses it is at present practised in Philadelphia should stop, it ould be sufficient that the practice necessarily increases ry greatly the number of cases of contagious disease that concealed. Therefore I am fortified in the opinion I exressed two years ago that the system is productive of a reater amount of harm than of good, and that it should be opped.

The Twenty-first German Balneological Congress will be held in Frankfort-on-the Main, March 8 to 13.

Medical Senators in France.—At the recent senatorial elections in France, 21 members of the medical profession were successful. The following are the names of the ew senators, with the departments which they represent: rs. Bataille, Puy-de-Dôme; Béraud, Vaucluse; Bontemps, Haute Saône; Boularan, Tarn; Collinot, Yonne; Contancin, ienne; Francoz, Haute-Savoie; Guillemaut, Saône-et-Loire; uyot, Rhône; Léon Labbé, Orne; Legludic, Sarthe; Lorereau, Yonne; F. Martin, Saône-et Loire; Parisot, Vosges; édebido, Haute-Pyrénées; Petitjean, Nièvre; Piettre, eine; Quintaa, Passes-Pyrénées; Rolland, Tarn-et-Garonne; gallas, Var; and Vagnat, Hautes-Alpes.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending March 17, 1900:

Monday, March 12—College of Physicians, Section on General Medicine.

Tuesday, March 13—Pediatric Society.

Wednesday, March 14—County Medical Society.

Thursday, March 15—College of Physicians, Section on Gynecology.

The Charles K. Mills Neurological Society has recently been formed at the University of Pennsylvania, Dr. Charles K. Mills being the patron.

Philadelphia Polyclinic and College for Graduates in Medicine.—Dr. Jay F. Schamberg has been elected professor of diseases of the skin to succeed Dr. J. Abbott Cantrell, who has resigned.

Vital Statistics of Philadelphia for the week ended March 3, 1900:—

Diseases.	Cases.	Deaths.
Total mortality		569
Pneumonia 96, congestion of the lungs 6		102
Pulmonary tuberculosis		66
Heart-disease 42, fatty degeneration of the heart 6, neuralgia of the heart 1		49
Nephritis 28, uremia 17		45
Apoplexy 27, paralysis 12, softening of the brain 5		44
Marasmus 14, inanition 11, debility 8		33
Diphtheria 30, membranous croup 2	114	32
Convulsions		25
Inflammation of the brain 18, congestion of the brain 2, disease of the brain 2		22
Gastroenteritis		21
Senility		17
Carcinoma 11, tumor 2		13
Casualties 8, burns and scalds 3		11
Peritonitis		10
Typhoid fever	66	9
Scarlet fever	70	3
Smallpox	3	0
Cerebrospinal meningitis	2	0
Measles 9, hemorrhage 7, bronchitis 7, septicemia 6, asthma 4, cystitis 4, intestinal obstruction 4, alcoholism 3, dropsy 3, influenza 3, pulmonary edema 3, suicide 3, abscess 2, parturition 2, cirrhosis of the liver 2, cyanosis 2, concussion of the brain 2, diabetes 2, disease of the liver 2, appendicitis 2, pleuritis 2, rheumatism 2, pertussis 2, aneurysm of the aorta 1, anemia 1, drowned 1, dysentery 1, fracture of the skull 1, inflammation of the prostate 1, pericarditis 1, spondylitis 1, pyemia 1, surgical shock 1, suffocation 1, unknown 1.		

Philadelphia Academy of Surgery.—The Samuel D. Gross Prize.—No essay which the trustees deemed worthy of the prize, which amounted to one thousand dollars, having been received on January 1, 1900, they hereby announce that the prize will be awarded on October 1, 1901. The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title-page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th Street, Philadelphia," on or before October 1, 1900. Each essay must be distinguished by a motto, and accompanied by a sealed envelop bearing the same motto, and containing the name and address of the writer. No envelop will be opened except that

which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize. Drs. W. W. Keen, J. Ewing Mears, J. Chalmers Da Costa, trustees.

Pittsburg (Pa.) Academy of Medicine.—A symposium on **brain-tumor** was held at a regular meeting on January 29. DR. THEODORE DILLER, as chairman, reported 24 cases (7 previously reported) and discussed the subject in its various aspects. After citing a number of the cases at length he stated that in only 7 of the 17 cases were the 3 cardinal symptoms of headache, vomiting, and optic neuritis present. Headache was present in 16, vomiting in 10, optic neuritis in 10, eye palsies in 10, mental symptoms in 7, general convulsions in 5, motor ataxia in 8, tremors in 1, hemiplegia in 6, eighth and twelfth nerve-palsy in 1, and fifth nerve-palsy in 1. The differential diagnosis of tumor from other conditions and the significance of certain symptoms as indicating the nature and location of the tumor were dwelt upon. The march of events is an important factor in the diagnosis. In the 5 cases that came to autopsy 3 disclosed a tumor that had been properly located and 2 were not found. Prognosis is fatal as a rule, the average duration of life being 3 years, according to Starr. Eight of the cases were operated upon, but in only one was the tumor found properly located and removed. There are 3 indications for surgical intervention—to relieve headache, for exploratory purposes, and to remove the tumor. The purely medical treatment of brain-tumor is somewhat satisfactory and compares very favorably with surgical treatment. Potassium iodid in large doses (300 to 400 grains daily) is invariably given, affording marked relief in some cases, including those non-syphilitic in character. If syphilis is suspected, mercury is given as well. DR. J. E. WILLETS, speaking on the eye-symptoms in brain-tumor, stated that optic neuritis occurs in from 63% to 90% of the cases, according to various authors. The peculiar anatomic relations at the scleral ending is responsible for the production of the alteration in the fundus. The presence of such a condition means simply increased intracerebral pressure which may be due to various other conditions as well as brain-tumor. Taking up the surgical aspect of these cases, Dr. L. W. STEWART said that in 1887 the world was thrilled by a successful operation for brain-tumor, in London. Brain-surgery then ran riot for a time, but there has been a marked reactionary movement owing to the many failures to secure good results. The onus of failure rests upon the neurologist as well as the surgeon. Even if these tumors are properly located, found at operation and removed, they are prone to recur. Osteoplastic resection of the skull, enabling a large portion of the brain to be exposed, has been a great advance in operative technic. The danger of hemorrhage is usually overestimated, as it is readily controled. The surgeon no longer fears to go down over a sinus—indeed it is well to do so in suspected abscess following ear disease, as both cerebrum and cerebellum can be explored. Exploratory operations should have a mortality of almost nothing. In discussion, DR. I. J. MOYER asked what proportion of these tumors were malignant. DR. E. E. MAYER stated the fact that many cases are due to multiple tumors, and that pain on percussion and change of note are of some value as symptoms. According to von Bergmann, to be operable, the tumor must be localized, cortical or subcortical, not too large, not multiple, not infiltrating and not malignant. Only 6% of the cases answer these requirements. DR. E. B. HECKEL said that the pressure theory of choked disc pure and simple will not answer as we have enormous tumors without it. The theory of intoxication has something to commend it. Papillitis and ocular palsies occasionally follow grip. DR. J. H. ANDERSON spoke of experiments which have been conducted by inserting glass discs under the dura. One danger of opening a sinus is the entrance of air, and he reported a fatal case in which this occurred with appearance of heart postmortem. DR. J. I. JOHNSTON spoke of a case with specific history with obstinate headache and hemiplegia. Closing DR. DILLER said that the diagnosis in many cases can be made with reasonable certainty. From 3% to 10% are localizable and operable. The subject of treatment is a discouraging one. Medical treatment promises as much if not more than surgery. Potassium iodid causes partial absorption even in nonsyphilitic tumors. Operation for the relief of headache is to be commended.

NEW YORK.

Repairs on State Hospitals for the Insane.—A bill before the Legislature, which has been advanced to the order of third reading, appropriates $1,000,000 for the construction of buildings, and for needed repairs and improvements in the State hospitals for the insane.

An Austrian Prince on Hospital Staff.—Dr. Francis Auersperg, one of last year's graduates in medicine from the Long Island College Hospital, and at present living in New York City, has received an appointment as assistant surgeon in the Bayonne Hospital, and purposes to begin his professional career at that institution.

Duryea Again Improving.—It will be remembered that, according to reports made only a few weeks ago, everyone, including the physicians and surgeons, thought that Walter B. Duryea's days were numbered, and that in spite of the brilliant operation performed last September on his fractured cervical spine, he could not possibly recover. Now it is given out that his condition is better than at any time since the injury, and that the other day, for the first time he was able to sit upright and to propel himself around the room in an invalid chair. He has gained 65 pounds in weight, and is within 20 pounds of his normal weight.

A Physician Lives on Uncooked Wheat.—It is stated in the daily press that a Dr. Thomas, who has recently come to this city from the South, is an earnest advocate of uncooked wheat as the best food for mankind. It is alleged that he and his family subsist almost entirely on such food and that, at one time, he lived solely on this diet for a period of three months. His notion is that the vital qualities of food are destroyed by cooking. Whatever may be said against this theory, from our knowledge of dietetics it is certainly attractive from an economic point of view, as the assertion is made by this gentleman that his three months' trial of this unique diet cost him only the modest sum of $1

A Leper Reported.—The medical inspectors at the Immigration Bureau were attracted last week by the suspicious appearance of a well dressed young man who had just arrived from Bridgetown, Barbadoes. Closer examination showed beyond a doubt that he was suffering from leprosy, though, according to his own statements, he was ignorant of this fact. He told them that he was a quadroon, the son of a sergeant of police in his town, and that for several months past he had had some skin affection, which several physicians had told him would be cured by a temporary residence in a colder climate. He had accordingly left the West Indies, and was bound for Canada. He was well provided with money, and begged to be allowed to return in his individual capacity, instead of being deported as a leprous alien.

Abatement of Barren Island Nuisance Opposed.—A strong political opposition has developed against Senator Wagner's bill, which asks to have the present nuisance on Barren Island abolished, and in its place a plant erected for burning the city's garbage according to the plan recently submitted to the Governor by Dr. Alvah H. Doty. As might be expected the opposition comes chiefly from the people directly interested in the business so long and so improperly conducted on this island, and this includes some of those who are powerful with the present political administration. The ostensible grounds of objection are that the period of one year, allowed in the bill, for the change in the system to be made, is not nearly long enough, and that it would require an immense amount of money and at least ten crematories to carry out the Doty plan. In reply, Dr. Doty characterizes their assertions as to cost as ridiculous, and points to the experience of prominent European cities in refutation of these assertions.

Trustees Liable for Physician's Services.—A case in New York State has recently attracted attention in the courts because of the effort of a physician to obtain remuneration for his services, first from the patient, and subse

iently from the trustees of the latter individual. The atient was a man who was accustomed to have periodical ebauches, and who had not, for this reason, been allowed to eceive directly a share in his father's estate. The father's ill, by its terms, had made the other sons trustees of the tate, and had provided that they should so invest the oney as to obtain sufficient income for the support of the nfortunate and irresponsible son. The physician who tended the latter did so with the knowledge and acquiesence of at least one of the trustees, and these trustees had their possession unexpended income with which they ould, if they chose, pay the physician for his services. hey having refused to do this, suit was brought against the atient and a judgment obtained, but it was returned unsatfied. The physician then brought suit against the trustees, ith the result that the complaint was dismissed on the first ial, but in the Fourth Appellate Division, this decision was eversed, Justice Spring holding that the trustees were liable.

"Heredity and Human Progress."—In a book having this title, Dr. W. Duncan McKim, of New York, writes of ie evils of heredity, and makes a startling proposition rearding how society might rid itself of its terrible burden of ncorrigible criminals, idiots, imbeciles, epileptics, and habital drunkards. He says: "The essential feature of the plan the gentle removal from this life of such idiotic, imbecile, nd otherwise grossly defective persons who are now dependnt for maintenance upon the State, and of such criminals s commit the most heinous crimes, or show by the frequent epetition of crimes less grave, by their bodily and mental naracters, and by their ancestry, that they are hopelessly ncorrigible." He believes that all idiots, the greater number f imbeciles, and the majority of epileptics would require xtinction. The victim of habitual drunkenness and of pilepsy would require the same fate. The author advocates ie painless extinction of these lives in a lethal chamber, carbonic-acid gas being the agent employed, and he combats ie theory that the taking of life is a divine punishment, and iat nature affords many striking examples of the search for erfection among living things what might be termed "the rvival of the fittest."

Rathbun's Long Fast Ended.—On January 22 of the resent year, Mr. Milton Rathbun, a resident of Mount ernon, who has a feed store in New York City, began a lf-imposed fast with the idea of reducing his weight and nproving his health. He had tried this once before, with sults that had been so satisfactory to him that he had bome convinced that this is an excellent way of promoting ealth. From January 22 to February 26, or for a period of 5 days, he took no food whatever, but drank, on an average, bout three pints of water daily, and attended to his business as usual. With the exception of the first two or three ays, he says, he was not specially troubled with hunger ntil the evening of February 25. His plan had been to educe his weight a certain amount, regardless of the numer of days of abstinence required to do this, and to break is fast as soon as he should become extremely hungry. It as for the latter reason that he gave up the fast on Februry 26. His weight at the commencement was 207 pounds, nd at the finish, 164 pounds; his chest measure was 43½ inches t the beginning, and was 38 inches at the completion of the st. He declares that he feels very much better in every ay. His first meal consisted of two oranges, two-thirds of cup of beef tea, half a cup of Oolong tea, one dozen ysters and five crackers. Dr. Frank B. Carpenter has atched him daily, and has kept records of his pulse and mperature. These vital signs, he says, have not varied aterially from the normal during the period of fasting. Mr. Rathbun only complained of chilliness on the first two or ree nights.

Insanity and Death Attributed to Christian cientists.—The attention of Commissioner of Charities inis, of the Borough of Brooklyn, has been directed by Dr. eon Louria, of that borough, to a case in which it is thought cute religious mania had developed as a result of the treatment" of a Christian Science healer. The patient was Polish girl of 15, who was sent to him by her parents in the ope that she could be cured of her deafness. She was taken the man altogether about 10 times, and at first the healer" was paid $1 for each visit, but when the mother refused to come any more, on the ground that she saw no improvement, and, indeed, believed the girl was getting worse, he reduced the price to 50 cents, and coaxed her to return. Each time he took the girl into a back room, and refused to allow any one to accompany her. According to the girl's own story, the "treatment" consisted in making passes with his hand's over her face, and pressing and stroking her forehead.

A still more serious result of the pretensions of these parasites of the healing art comes to us in the story of the death of Grace A. Clarke, a girl of 13 years, living in Jersey City. She was the only child, and her parents spared nothing in their efforts to save. Two physicians and two trained nurses were in attendance, and a professor from New York City was in consultation. When the parents learned how very ill their darling really was, and that while the physicians did not despair of saving her, they could not say positively that her life would be spared, they turned away in a frenzy of grief, and called in some Christian Science healers from a neighboring "church." The physicians retired; medicines were thrown away; the child was only given such nourishment as she partook of voluntarily, and as she was almost in a stupor, the quantity of this may well be imagined; and the "healers" took up their abode in the house, and stayed in the back parlor night and day "treating the child through her mother." After this had gone on for a time, one of the nurses, thinking that she noted slight improvement, besought the mother to recall the physicians, and make another real effort to save the little patient. The mother hesitated; the "healers" protested against such interference on the part of the nurses; and then the treating of the child through the mother was resumed. After five days of this criminal neglect, the child died, and it was necessary to call in County Physician Converse to make out the death certificate. Health Inspector Benjamin decided that the City Board of Health had no jurisdiction, but thought the case might be brought before the County Board.

Another case, but fortunately a ludicrous one, has just been placed on record. A woman had begged to be allowed to treat by Christian Science the leper who, as announced above, has just been refused admission to the city, and ordered back to the West Indies. She is confident she can cure him of his leprosy, and there seems to be no way of preventing her from attempting it if she is so minded, for she actually expresses her willingness to apply "the absent treatment" in the event of the officials of the Immigration Bureau not giving their consent to his remaining here for treatment. Truly, the ways of these "scientists" are past finding out!

NEW ENGLAND.

The New England Hospital for Women and Children receives $2,000 through the will of the late Benj. Sweetzer.

Suffolk District Medical Society—Obstetrical and Gynecological Section.—At the last meeting DR. CHARLES GREENE CUMSTON read a paper on the **Pathology and Symptomatology of Acute Pelvic Suppurative Processes in the Female and their Treatment by Posterior Colpotomy.** In regard to etiology he held that all forms of suppurating salpingitis and oophoritis are the result of the direct extension of an inflammatory process in the endometrium, the infection being propagated by the mucosa of the uterus to that of the tubes and in some instances by means of the lymphatics. He further said: "Gonorrheal infection and puerperal infection are the only processes that can give rise to pus in the pelvis, with the exception of appendicitis." He did not believe that autoinfection in the vagina or malformations of the uterus could ever cause acute suppurating salpingitis. In his study of symptoms he had been struck with their latent character. In salpingitis and oophoritis the onset may be acute or insidious. In acute cases there is sudden and severe abdominal pain, often coming on after being exposed to cold or overwork, generally coincident with menstruation. The inflammatory process appears to invade all the tisues of the pelvis and only becomes localized later on; and when the acute attack has blown over a bimanual examination reveals the formation of pus-tubes. In the second class of cases the lesions are exactly like the first, but they undergo their evo-

lution silently, and the various symptoms of salpingitis appear separately one after the other. We thus get in the first place pain, usually on both sides, but perhaps more especially on the left. It is more severe before menstruation begins, usually. Menstruation itself is nearly always disturbed, the most marked derangement being frequent and repeated periods of flowing. The blood appears every 15 or 20 days, and the flow may last a week or more, with resulting anemia. The concomitant metritis gives rise to a more or less purulent discharge between the metrorrhagias, with pains of a colicky nature. Disturbances of digestion usually aggravate the patient's general condition. Inspection of the abdomen does not show anything in particular, but the condition can be well recognized by bimanual palpation. The doctor is convinced that posterior colpotomy is a very innocent operation and in the highest degree conservative. It may be performed in cases in which laparotomy or hysterectomy would be very dangerous. In his opinion it was operation of choice in every case of a young woman, where it was the duty of the surgeon to preserve the adnexa at any cost. This operation in no way compromises the result of more radical operations indicated later on. Every suppurating pelvic collection that is accessible by Douglas' culdesac is suited for posterior colpotomy and drainage. The operation may be used as a preparatory step to vaginal hysterectomy and after the purulent pockets have been emptied and drained, they diminish in size and the patient's general septic condition improves.

CHICAGO AND WESTERN STATES.

German-American Hospital.—The officials held their annual meeting March 1. The reports showed that the floating debt had been wiped out. During the year 334 patients were cared for, and the income for the year amounted to $12,820.17. The expenses were $9,419.14, leaving a surplus of $3,401.03.

St. Luke's Hospital.—The property of this hospital, situated on Fourteenth Street and Indiana Avenue, has been mortgaged to secure a loan of $50,000. The directors say that the hospital has been steadily running behind because of its liberality in treating patients free of charge. The debts amount to more than $30,000.

Chicago Medical Society.—At a meeting held February 28, DR. J. CLARENCE WEBSTER read a paper on **Kidney affections in relation to pregnancy,** in which he discussed, first, the changes in the kidneys during pregnancy, saying that there is considerable difference of opinion as to the nature of these changes, their frequency, causation and significance.

Statistics of Juvenile Offenders.—The collection of statistics with reference to the physical and mental condition of juvenile offenders in America, and their comparison with similar statistics compiled for the juvenile population at large, would be a valuable contribution to the sociologic information of this country. Miss Julia Lathrop, a member of the Illinois State Board of Charities, in a recent address, stated that no such statistics had ever been collected in America, to her knowledge, and suggested that a useful study might be made of the condition of the boys in the Chicago Bridewell as to the points brought out in the English Industrial School Investigations.

Conference of Sanitarians to Prevent the Spread of the Bubonic Plague.—Health Commissioner Reynolds has written both Drs. Walter Wyman and George M. Sternberg suggesting the advisability of calling a national conference of sanitary officers in April next, to consider the whole question. It is believed that a convention to discuss this one subject alone would attract universal attention and the proceedings would find the widest publicity through the daily press. The knowledge that such a convention was to be held would allay fear and the deliberations would create a sense of public security. The feeling of an impending danger that is unseen and not understood is what creates fear and panic.

Emergency Hospital for the Business District of Chicago.—Dr. Francis W. McNamara, in a recent article, pointed out the urgent necessity for an emergency hospital located in the business district of that city for the care of emergency cases only. Chicago should erect and equip a building in its central portion, easy of access, for hospital purposes, and establish in connection an ambulance service with experienced physicians in charge who are ready at all hours to administer medical or surgical aid to the injured or sick. The remedy for this condition requires only the expenditure of a small amount of money to build a small hospital of 30 or 40 beds. As the emergency cases are usually of short duration, either recovering promptly or resulting fatally in a brief time, there is no need for a larger institution.

Physicians' Club of Chicago.—At a meeting, held February 26, the subject of **Success in medicine** was discussed by DRS. FRANK S. JOHNSON, E. J. GARDINER, and WILLIAM E. QUINE. The latter spoke of economy of time in the practice of medicine, and said that one of the best ways to economize time is to do the work in hand instantly. He knows of no better incentive to economy of time than that which is furnished by having fixed obligations, as a college engagement, a hospital engagement, or the like, making it necessary for the physician to be at a particular place at a particular time. The ability to economize time is largely innate. He knows physicians who will fuss and stew around and be as busy in making 6 or 10 visits a day as others would be in making from 25 to 30 visits. DR. JAMES B. HERRICK discussed the subject of proper and improper advertising. He divided advertising into three classes—the proper, improper, and doubtful methods of advertising. Each class was dealt with at length. DR. ALEXANDER HUGH FERGUSON spoke of the question of fees and commissions. No physician or surgeon should charge a fee which is a hardship to a patient. A fee of ten dollars would be a hardship to a poor man, whereas a fee of ten thousand dollars would scarcely be felt by a millionaire. He characterized the practice among some physicians and surgeons of giving commissions as damnable and disreputable. In the general discussion, DRS. JOHN E. OWENS, HAROLD N. MOYER, JOSEPH ZEISLER, and JAMES E. STUBBS concurred in the statements of Dr. Ferguson.

Chicago Society of Internal Medicine.—At a meeting, held February 27, DR. HUGH T. PATRICK reported three cases and showed patients. The first was one of **tabes with muscular atrophy**; the second, a case of **combined arsenical and lead poisoning** which presented unusual features, and the third was a case of **membranous enteritis.** DR. WILLIAM K. JACQUES read a paper on **Experiments and observations in scarlet fever** in which he began with the epidemics in Chicago among the poorer classes in 1897 and 1898, and which gradually spread throughout the city, lasting 1898, 1899 and 1900. He dwelt at length on the discovery of the germ of scarlatina, and mentioned his studies of a germ by Dr. Wynekoop, and the announcement of the discovery of the Diplococcus scarlatinae by Dr. William J. Class. The morphology and identity of these germs were considered at some length, followed by a narration of experiments upon swine by DRS. Gehrmann, Wynekoop, and the essayist, with the results. He then passed on to a consideration of the evidence that the germ discovered by Dr. Class was the essential cause of scarlet fever, and he said that he has found this germ present in great numbers in the throat, in the blood, and even in the scales of scarlet-fever patients. Indeed, he has found the Class diplococcus just as frequently in cases of scarlet fever as he has the Klebs-Löffler bacillus in diphtheria. DR. JOHN A. ROBISON reported a case of **Gummata of the liver** in which there was hematemesis following injury, loss of compensation of the collateral circulation, rapid production of ascites, and death due to rupture of the varicosed esophageal vein. He exhibited specimens and slides of the case.

SOUTHERN STATES.

The Louisiana State Board of Health in conjunction with the Louisiana State Board of Medical Examiners is arranging for a second registration of physicians in Louisiana. The purpose of this reregistration is to obtain entirely definite information, and to clear up certain ambiguities occasioned in the construction of the first enacted law.

The Mississippi State Medical Association will hold its next annual meeting in Meridian, on April 18, 19, 20. Dr. R. E. Jones, president; Dr. J. R. Tackett, secretary.

The Alumni of the University of Pennsylvania resident in Maryland have formed an association. Dr. H. A. Kelly was chosen president, and Dr. J. C. Bloodgood secretary and treasurer.

Orleans Parish Medical Society.—The meeting of February 24 was devoted to the discussion of **Medical Ethics** and subjects of similar kind, scientific work being, by direction of the Society, eliminated. Dr. Henry Dickson Bruns delivered an address on "Forgotten Worthies."

Physicians Must Pay Taxes.—The Mississippi State Legislature recently passed a bill imposing the following annual graduated tax upon physicians practising in that State: Physicians practising in towns of 3,000 or more inhabitants, $10.00; in towns of less than 3,000, $5.00; in country districts, $2.50. Heretofore physicians have never paid taxes in this State.

The Regulation of the Practice of Medicine in Maryland.—There was recently introduced into the Legislature of Maryland a new bill to regulate the practice of medicine. It is similar to the bill at present before the committee, creating two State Boards of Medical Examiners, and regulating the fees, emoluments and duties of these boards, with some slight changes. The principal difference between the bills is that the new bill exempts graduates of medical colleges from examination before the State Boards, allowing them to practise after receiving their diplomas. The bill states, "this act does not apply to bona fide graduates of medical colleges, incorporated under and by virtue of the laws of Maryland, and authorized by their articles or certificates of incorporation or by the laws of Maryland to issue diplomas to graduates, provided that such college or colleges shall conform to the rules and regulations of the American Medical College Association."

MISCELLANY.

Another Religious Journal That Excludes Nostrum Advertisements.—According to a correspondent the *Record of Christian Work*, published at Northfield, Mass., is free from "preposterous claims of marvelous cure-alls," to quote D. L. Moody's words. Northfield was the birthplace and home of Mr. Moody, and we are glad to know that the *Record* is so wise a follower of that good man.

"Hepaticocholecystostcholecystenterostomy or **hepaticocholecystostenterostomy"** is considered by our esteemed contemporary the *Boston Medical and Surgical Journal*, to indicate that the "limit has been reached" in the coining of new words. It seems that a distinguished surgeon has burdened with these words a new operation that he has devised. Our contemporary prefers the second word because it comprises 31 instead of 40 letters, but would rather be spared either.

American Academy of Medicine.—The twenty-fifth annual meeting will be held at "The Shelburne," on the beach at the end of Michigan Avenue, Atlantic City, N. J., on Saturday, June 2 and Monday, June 4. The following is the preliminary program:

President's Address, G. Hudson Makuen, Philadelphia; Contributions to the Annual Symposium—"The Medical Aspects of the Home;" What Are the Essential Conditions for a Habitation to Develop and Maintain a Healthy Family Existence? Rosa Engelmann, Chicago; The Influence of Early Training of Manly and Womanly Qualities to Avoid Degeneracy, J. Chester Morris, Philadelphia; Artificial Lighting of the Home, S. D. Risley, Philadelphia; The Influence of Medical Supervision of Children in their Homes, J. Madison Taylor, Philadelphia; The Physician's Influence *in re* Vacation Schools, Helen C. Putnam, Providence; Defectives and Delinquents Inside and Outside the Family Circle, James W. Walk, Philadelphia.

Papers on Miscellaneous Topics:—Is Cooperation Between Colleges of Arts and Science and Schools of Medicine Desirable? A. L. Benedict, Buffalo; Physiologic Psychology as a Necessary Element in Medicine, W. J. Herdman, Ann Arbor; Medical Education of Today, Bayard Holmes, Chicago; Neglected Clinical Opportunities in American Medical Centers, S. A. Knopf, New York; Subject to be announced, W. L. Pyle, Philadelphia; The Physician vs. Medical Proprietors and Medical Patentees, A. Ravogli, Cincinnati; Medicine in the Philippines, Harry Park Ritchie, St. Paul, recently on medical duty with the U. S. V. in Luzon; Report of the Special Committee to formulate the conclusion reached regarding Specialism and Advertising at the last meeting of the Academy.

Obituary.—Dr. Woolsey Hopkins, New York, February 14, aged 35 years.—Dr. William Henry Howe Hastings, Boston, Mass., February 16.—Dr. F. W. Heckel, Royersford, Pa., March 3.—Dr. Edward A. Perkins, Boston, February 20, aged 72 years.—Dr. Edward F. Martin, Elmhurst, Long Island, N. Y., February 24, aged 44 years.—Dr. George M. French, Suncook, N. H., February 23, aged 45 years.—Dr. Sidney E. Morgan, Hartford, Conn., February 20, aged 27 years.—Dr. William E. Wamsley, Brooklyn, N.Y., February 25, aged 45 years.—Dr. Ernest B. Sangree, formerly professor of pathology in the Medico-Chirurgical College, Philadelphia, and more recently professor of pathology and bacteriology in Vanderbilt University, Tenn., and in the University of Illinois, died in Harrisburg, Pa., February 23, aged 36 years.—Dr. Clarence E. Beebe, New York, March 1, aged 51 years.—Dr. L. J. Abbott, for some years superintendent of the Nebraska State Hospital for the Insane, at Lincoln, Neb., February 22.—Dr. Joel R. Gore, Chicago, Ill., February 24, aged 89 years.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 2, 1900:

Smallpox—United States.

			Cases.	Deaths.
Alabama:	Mobile	Feb. 17–24	3	
Florida:	Jacksonville	Feb. 17–24	2	
Illinois:	Rockford	Feb. 10–17	2	
Indiana:	Evansville	Feb. 17–24	3	
"	Indianapolis	Feb. 17–24	2	
Kentucky:	Louisville	Feb. 15–22	4	
Louisiana:	New Orleans	Feb. 17–24	35	23
Mississippi:	Greenwood	Feb. 10–17	87	
New York:	New York	Feb. 17–24	2	
Ohio:	Cincinnati	Feb. 17–23	1	
"	Cleveland	Feb. 17–24	20	
"	Youngstown	Feb. 17–24	1	
Utah:	Salt Lake City	Feb. 17–24	1	
Virginia:	Portsmouth	Feb. 17–24	6	2
Washington:	Spokane	Feb. 17–24	9	
"	Takoma	Feb. 10–17	9	

Smallpox—Foreign.

Brazil:	Rio de Janeiro	Jan. 12–19		29
Canada:	New Brunswick			
"	Restegoche Co.	Jan. 16–Feb. 3	73	
"	Gloucester Co.	Jan. 25–Feb. 8	39	
"	Northumberland Co.	Feb. 1	1	
"	Westmoreland Co.	Jan. 18–Feb. 3	3	
"	Ontario			
"	Amherstburg	Feb. 2–24	1	
"	Quebec			
"	Gaspe Basin	Feb. 6–15	4	
France:	Lyons	Jan. 27–Feb. 3		2
"	Paris	Feb. 3–10		4
Germany:	Königsberg	Jan. 27–Feb. 3	1	
Gibraltar:		Feb. 11–18	3	
Mexico:	Mexico	Jan. 28–Feb. 11	24	19
Spain:	Corunna	Feb. 3–10	3	1
"	Madrid	Jan. 20–Feb. 3		21
Straits Settlements:	Singapore	Jan. 6–13	16	6

Yellow Fever.

Brazil:	Rio de Janeiro	Jan. 12–19	16	6

Cholera.

Arabia:	Oman	Jan. 11	Generally prevalent and spreading.

Plague.

Madagascar:	Tamatave	Dec. 16–23	1	1

Plague—United States. (Insular Possessions.)

Hawaii:	Honolulu	Jan. 23–Feb. 2		5
"	"	Feb. 6	3	
"	"	Feb. 19	3	

"Animal Worshippers."—Massachusetts antivivisectionists are using all their influence to secure the passage by the State Legislature of a bill to render illegal practically all experiments on animals. The petitions they are circulating for signatures are worded with great care and apparent moderation, and to many the object of the bill seems to be merely to prevent the infliction of unnecessary suffering, without interfering materially with the advancement of medical and surgical knowledge. Others are more observing, and some of these, instead of signing the petitions, are sending to the Boston papers letters which are much more likely to hurt "the cause" than the hundreds of names the antivivisectionists have secured from careless acquaintances are to do it good. Mr. Frederick Law Olmsted, Jr., for instance, makes clear, in a communication published in the *Transcript*, that, though he sympathizes with all reasonable efforts to protect animals, he will not have anything to do with a measure that takes no account of the purpose for which the pain is inflicted. After referring to the study of germ diseases and their cure, with its incidental destruction of rabbits and guineapigs, he writes: "When I think of the immense burden of bitter suffering, both physical and moral, that would be lifted from humanity if science should learn to control the great scourges like the plague and yellow fever that rage in our new dependencies, and the far more widespread and immediate evils like typhoid fever and consumption and malaria, in a measure approaching that which has been attained with smallpox, and is being rapidly secured with diphtheria, I cannot bring myself to feel that the pathway should be seriously impeded, even to avoid the suffering of many rabbits." This is argument of a sort that will expose Mr. Olmsted to vehement denunciation from the animal worshippers, but it is unanswerable in any other way.—[*N. Y. Times.*]

Changes in the Medical Corps of the U. S. Army for the week ended March 3, 1900:

FLAGG, Captain CHARLES E. B., assistant surgeon, is relieved from duty in the department of the Pacific and will proceed by transport to San Francisco, Cal., where he will report by telegraph to the adjutant-general of the Army for orders.

KELLY, JOHN P., acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting assignment to a Government transport.

ANDERSON, ROBERT A., acting assistant surgeon, is assigned to duty with troops on the "Sherman" to sail for the Philippine Islands about February 17.

POND, ARLINGTON, acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to duty with troops on the "Sherman," to sail for the Philippine Islands about February 17.

NOBLE, CHARLES D., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to duty with troops on the "Sherman," to sail for the Philippine Islands about February 17.

MELDRUM, GORDON B., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to duty with troops on the "Sherman," to sail for the Philippine Islands, about February 17.

WAKEMAN, Captain WILLIAM J., assistant surgeon, will proceed to the Philippine Islands on the "Sherman," to sail from San Francisco about February 17.

REYNOLDS, Captain FREDERICK P., assistant surgeon, will proceed to the Philippine Islands on the "Sherman," to sail from San Francisco about February 17.

DARNALL, First Lieutenant CARL R., assistant surgeon, is assigned to duty at Fort Schuyler, and with recruits destined for the Philippine Islands, with a view to accompanying them to their destination, and there reporting to the commanding general, department of the Pacific, for assignment to duty.

DAVIS, Major JOHN G., surgeon, will proceed fron New York City to San Francisco, Cal., and report to the commanding general, department of California.

DAVIS, Major JOHN G., surgeon, upon the completion of the duty assigned him by the commanding general, department of California, will proceed to Manila, P. I., and report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

GOODWIN, HUGH, acting assistant surgeon, will proceed from Fayette, Mo., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

SCHMIDT, HENRY G. G., acting assistant surgeon, will proceed from Elgin, Ill., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

SMITH, THURSTON, acting assistant surgeon, will proceed from Bloomington, Ind., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

VOSE, WILLIAM E., acting assistant surgeon, will proceed from Fort McHenry, to San Francisco, Cal., and report to the commanding general, department of California, for duty.

WERNER, MAX, hospital steward, now at Fort Myer, having relinquished the unexpired portion of the furlough granted him, is transferred to Frankford Arsenal, Philadelphia, Pa., to relieve Hospital Steward Henry O. Cabell.

CABELL, HENRY O., hospital steward, will proceed to the U. S. General Hospital, Washington Barracks, for observation and treatment.

MEISEL, JOSEPH, hospital steward, now at Fort Baker, is transferred to Vancouver Barracks, to relieve Hospital Steward John L. Henderson.

HENDERSON, JOHN L., hospital steward, will proceed to Seattle, Wash., and report to the commanding general, department of Alaska, for assignment to duty, to take effect upon the arrival of that officer at Seattle.

JOHNSON, HENRY, hospital steward, now at Pinar del Rio Barracks, Cuba, will be discharged the service.

CLAYTON, First Lieutenant JERE B., assistant surgeon, is relieved from further duty at Fort Mason, and will proceed to Vancouver Barracks for duty.

EDWARDS, WILLIAM, hospital steward, will be sent by the commanding officer of Jackson Barracks to report to the commanding officer of the Army and Navy Hospital, Hot Springs, Ark., for admission for treatment.

BALLOU, PORTER V., acting assistant surgeon, will proceed from Louisville, Ky., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

BRANCH, FREDERICK D., acting assistant surgeon, will proceed from Albany, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

ELY, GEORGE W., acting assistant surgeon, will proceed from Pittsburg, Pa., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

FRIEDMAN, SAMUEL, acting assistant surgeon, will proceed from New York City, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

GOSMAN, GEORGE H. R., acting assistant surgeon, will proceed from Brooklyn, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Changes in the Medical Corps of the U. S. Navy, for the two weeks ending March 2, 1900:

WAGGENER, R., pharmacist, granted sick leave for 4 months.

MURPHY, J. R., assistant surgeon, appointed assistant surgeon.

OHNESORG, KARL, assistant surgeon, ordered to temporary duty at the Naval Academy.

FARWELL, W. G., medical director, commissioned medical director from January 22, 1900.

BERTELETTA, D. N., medical inspector, commissioned medical inspector from January 22, 1900.

OLCOTT, F. W., passed assistant surgeon, detached from the Naval Recruiting Rendezvous, Detroit, Mich., and ordered home and to wait orders.

MURPHY, J. A., assistant surgeon, ordered to Pensacola Navy Yard.

ARNOLD, W. F., passed assistant surgeon, detached from the Pensacola Navy Yard, and ordered to the Naval Hospital, Norfolk, Va., for treatment.

MORGAN, D. H., assistant surgeon, ordered home from the Asiatic station, and to wait orders.

Tuberculosis and Tick-Fever in Australia.—According to the *British Medical Journal* in May last a Royal Commission was appointed to inquire into the prevalence of tuberculosis among animals, the effects on man of consuming tuberculous meat and milk, and also into the effects produced on the meat and milk of animals affected with the tick fever. In consequence of matters of importance coming to light in the course of the inquiry, the Commission have published an interim report on the tick-pest. It appears that some £10,000 is spent annually by this colony with the object of preventing the introduction of ticks. From the evidence adduced it seems clear that the ticks can be carried mechanically by any object alive or dead, but by sheep and horses they can also be carried parasitically. Hence, by allowing sheep and horses to be taken from infested areas and brought into clean areas, there is great risk of spreading the disease. As no law exists at present whereby the Government could quarantine any infested area or suspected cattle, the Commission recommend as a matter of urgency that steps should be taken at once to empower the Government to quarantine any infested area or cattle. The very serious losses which have followed the spread of tick fever in Queensland point to the necessity of stringent measures being taken to prevent its spread to this colony.

Foreign News and Notes.

GREAT BRITAIN.

Sir Thomas Smith, surgeon extraordinary to the Queen, has been appointed honorary consulting surgeon to the Finsbury Dispensary in succession to the late Sir James Paget.

It is currently rumored, with every appearance of plausibility, that **Professor William Osler, F.R.S.,** of Baltimore, Md., U.S.A., will be invited to fill the Chair of Medicine in the University of Edinburgh.

Dr. C. Yelverton Pearson, Professor of Materia Medica in the Queen's College, Cork, has been appointed to the Chair of Surgery, rendered vacant by the death of the late Professor Stephen O'Sullivan. Professor Pearson is surgeon to the Cork North Infirmary, and has had considerable experience as a clinical teacher.

Grants to Scientific Dentistry.—The Odontological Society of Great Britain announces that it will make pecuniary grants in aid of scientific dental research. This is an excellent step forward. The work of the English dentists has not been as progressive or as thorough as it might have been, but much impetus has lately been given to dental work and these grants should not be without influence.

The Statutes of the Reconstituted University of London, as recommended under the University of London Act of 1898, were published on February 23 and will probably become law about the middle of April—that is supposing no effort is made by the opponents to reconstitution, even at this late hour, to upset the work of the Commissioners. As the statutes leave the organization of medical examinations very much to the corporations it is probable that the London medical student will at last obtain facilities for graduating in medicine which have hitherto been denied him.

A Municipal Bacteriologist for Liverpool.—Professor Rubert Boyce has been appointed municipal bacteriologist to Liverpool at a salary of £600 per annum. Professor Boyce, who was formerly assistant professor of pathology in University College, London, is now Holt professor of pathology in University College, Liverpool, and has done splendid practical work in the university. Especially by his labors both as bacteriologist and analyst he has shown that the pathological department of a university, if rightly and liberally set to work, can be of immense value to the city in which the university has its habitation. It is fitting, therefore, that he, while an officer of the university, should be elected to fill so important a post from the public point of view as that of municipal bacteriologist.

The new Member of Parliament for London University.—Sir Michael Foster was elected by a large majority over Dr. W. Job Collins as member of Parliament for London University, while the third candidate, Mr. Busk, was nowhere in the race. It is good for medicine that so sound a scientist and so happy a speaker should have found his way to Westminster. The medical profession is but poorly represented in the British Parliament, and British legislation has done it scant justice. In Sir Michael Foster the profession will find a stalwart champion, for he is wise as well as learned, and he speaks with the double authority of a man who represents one enormous University by its Parliamentary suffrage and another, *i. e.*, of course, Cambridge, by being its most famous Professor.

The Food of the Edinburgh Poor.—Dr. Noel Paton, son of the well-known artist, Sir Noel Paton, and superintendent of the Research Laboratory of the Royal College of Physicians of Edinburgh, is engaged upon a strict inquiry into the dietary of the Edinburgh poor. The work is being done in the Research Laboratory of this college, with the assistance of Dr. J. C. Dunlop, while Dr. S. Inglis is organizing the laborers of a staff of voluntary helpers who are collecting material and information. This sort of work, when done carefully and dispassionately, is of immense value to the community. The results of the research when published are sure to lead to considerable improvement in the food-supply of the people, and to a consequent improvement in the public health. It is hoped that the town council of Edinburgh will see the matter in this light and contribute towards the expenses of the investigation.

Great Ormond Street Children's Hospital, the senior children's hospital in London and certainly the best-known institution of its kind in England, is in dire want of funds. The famous comic paper, *Punch*, has issued a stirring appeal in behalf of the hospital, and in more favorable times money would no doubt be at once forthcoming. The Council of the Prince of Wales' Hospital Fund for London show by their annual report, which they have just issued, that they received during 1899 nearly £9,000 more than during 1898, and they proceeded to carry over a certain sum to their reserve. They have already made one grant to Great Ormond Street Children's Hospital, but it is conceivable, as the matter is so urgent, that another will be forthcoming. Anyhow, it would be little short of a national disgrace if so excellent an institution were to perish in opulent London for want of funds.

Voluntary Hospitals at the War.—Lord Iveagh's Hospital, popularly known as the Irish Hospital, has already started for South Africa. A Scottish Hospital is to follow, the Lord Provosts of Edinburgh and Glasgow having decided to invite subscriptions. An American Hospital is on the eve of departure. The whole expense of the outfit of this—a sum of at least £15,000—is being borne by an American gentleman, Mr. Van Alen, whose generosity is deeply appreciated, as we happen to know, in England. Mr. Van Alen's hospital will have as principal surgeon, Mr. Samuel Osborn, the chief surgeon of the Metropolitan Corps of the St. John Ambulance Association, and the author of "First Aid to the Wounded," the most popular English book on ambulance work. By the way, the Scottish and Irish Hospitals, like the American Hospitals, take their names from the source of the fund defraying their equipment. They will minister to the wants of the soldiers quite irrespective of nationality.

Misplaced Patriotism.—The matron of one of the public hospitals under the jurisdiction of the Metropolitan Asylum Board volunteered for nursing service in South Africa. Her services were accepted. When she applied to the Board for leave of absence, she asked to have her appointment at the hospital kept open for her during her absence. The Board, despite the cry of "Unpatriotic!" which they knew would be raised, refused to allow the matron to throw up a post which it would be difficult for them to fill at a moment's notice to accept one for which there were certainly many available candidates just as well fitted as herself; so the matron went to South Africa on her own reponsibility, resigning her office under the Board. This is certainly a case of misplaced patriotism. On the matron of a hospital largely depends the comfort of the inmates, and to endanger their comfort for a few months of adventure in South Africa was selfish conduct, and so the Metropolitan Asylums Board considered it.

The Princess Christian Hospital.—Yet another volunteer hospital left London for South Africa at the end of February. This hospital, which has been named after that most popular member of the British Royal Family, the Princess Helen, wife of Prince Christian, of Schleswig-Holstein—was presented to the government by Mr. Alfred Moseley, of Hadley Wood, who equipped it entirely and who accompanies it to the Cape. Major Mathias, D.S.O., of the Royal Army Medical Corps, goes out as the government representative on the staff of the hospital, while Mr. Paul Bush, Surgeon to the Bristol Royal Infirmary, and lecturer on operative surgery to University College, Bristol, is the chief surgeon. Three medical officers and two dressers, most of whom are connected with the medical staff of the Bristol Royal Infirmary, with six nurses, six non-commissioned officers of the R. A. M. C., and twenty-six hospital orderlies complete the *personnel*. The building, when erected, consists of four pavilions, each 130 feet in length and containing 25 beds (100 beds in all) with surgery, operative theater, bath-rooms and lavatories. This makes the sixth volunteer hospital that has been organized, while a seventh, the Welsh

Hospital, is in course of formation; and the aggregate cost must now amount to some £120,000.

The South African War.—The medical aspects of the South African War remains unchanged. The wounded men in the various base hospitals recover regularly to the extent of 90% and many of them are now back with their regiments. Troopers are bringing others home to the service hospitals in England each week. Netley Hospital by the end of the third week in February contained about 700 invalided, a further 280 having already been discharged as convalescent. A large majority of the inmates are on the high road to recovery. If all the beds, about 1100 in number, are occupied, room will be found for 300 more in additional pavilions, which have been constructed behind the hospital. The relief of Kimberley, which occurred on February 15, is certain to be followed by the dispatch to England of a number of medical patients suffering from malaria and dysentery, or convalescing from typhoid fever. The town had been closely invested for 120 days when General French by two rapid dashes secured the river crossings and relieved it. During that long time the inhabitants had not suffered much from the bombardment by the Boers, but the health report, as far as it is known, is less satisfactory. The death-rate of all the inhabitants reached 100 per thousand for the month of December, being much higher among the natives than among the whites, while the infantile mortality was still heavier. The chief causes of death among the children were scarcity of such suitable food as milk and vegetables, and among the adults, typhoid fever. Ample provision has been made in England by the War Office, arrangements with the hospitals and by private generosity for giving due care to all the sufferers who are sent back to England, but there is reason to believe that a sadly large number will soon have to be accommodated.

Suicide in Scotland.—According to the *Lancet*, at a meeting of the Royal Society of Edinburgh, on February 19, Sir John Sibbald delivered an address on the Statistics of Suicide in Scotland. He presented a series of statistical statements which he had prepared from the reports of the Registrar-general and which shows: (1) The influence of age and sex on suicide; (2) the comparative frequency with which different methods were employed; (3) the influence of the time of year on the number of suicides; (4) the influence of town life and country life respectively; and (5) how far they were justified by a study of these statistics in accepting the assertion that in Scotland, as in other countries, suicide was on the increase. The statistics for Scotland showed the same preponderance in the number of suicides in summer over those occurring in winter as had been shown by the statistics of every country in which the matter had been investigated. The suicide-rate gradually rose from the months of November, December, and January to the months of May, June, and July, after which it gradually fell. This he considered to be one of the most remarkable facts in vital statistics, the proportional progress from month to month being almost identical for all countries north of the equator. As regards the question of town and country life the statistics of Scotland did not support the statement that suicide was more frequent in towns. The average rate for the whole of Scotland during the 18 years from 1877 to 1894 was 55 per 1,000,000 of population. The Registrar-general's returns for successive years showed a great increase in the number of suicides. In spite of this, however, Sir John Sibbald did not believe that they were justified in accepting the increase as a fact. It had to be borne in mind that of late years public opinion with regard to suicide had altered considerably. It was now so universally recognized that in the greater proportion of cases suicide was the outcome of mental disease, that the idea of disgrace was not so closely connected with the act, and efforts to conceal its occurrence had consequently decreased. Another point which had also to be taken into account was the greater efficiency during recent years of the administrative machinery for registration. Dr. Clouston said that as regarded the medical aspect of the subject, between two-thirds and three-fourths of all cases of melancholia either felt suicidal or attempted suicide, but that there was also no doubt that excess of alcohol produced a condition of brain which frequently led to suicide, and that if there was an increase of suicide it was not due to the intensity and difficulty of living, but to the excessive use of alcohol in our cities. The fact that suicides were more frequent at certain seasons was due to a reversion to the old sexual conditions of the ancient ancestors of the human race. There was no question that the Celt with his vivid imagination, though often melancholic, feared death more than the Teuton did.

The Midwives' Bill is an importunate piece of legislation. On February 2, for the third or fourth time, it was introduced into the House of Commons, and its introducer having drawn eighth place in the ballot, it will be read again on February 28. The bill has been lucky in the matter of balloting, for a private measure has to compete with hundreds to secure a hearing, and on each occasion the lot has been favorable to the Midwives' Bill. The new bill bears a very exact resemblance to the preceding measure. It provides for the establishment of a board who shall regulate the education of midwives and issue certificates to them. The board will be a representative one, and no woman will be allowed, if the bill passes, to practise as a midwife without a license from it. Whether the bill will pass or no is difficult to guess. There is no doubt that a large section of the public, reading of the occasional tragedies that follow upon the employment by the parturient poor of ignorant old Gamps, believes that the bill is a necessary measure and one demanded by common humanity. There is, also, no doubt that many medical men object strongly to the bill as tending to create an inferior order of practitioners, a proceeding which must inevitably lead to far worse catastrophies through medical malpractice than the occasional lapses of the midwife, who does not pretend to be a qualified practitioner and who as a rule feels or should feel that to send for a medical man is part of her routine treatment of the patient under her care. This is a view which has been very strongly expressed by the opponents to the bill, and it may prevail if Parliament can be convinced that the argument is honestly adduced, and that the bill is not being combated solely in the selfish interests of medical men. The *Lancet*, apparently uncertain whether the majority of the medical profession is for the bill or against it, has polled the practitioners of England (the bill does not apply in its working as yet to Scotland or Ireland) and it is possible that if any great preponderance of opinion is expressed on one side, the poll may influence the fate of the bill.

The poll by the *Lancet* of the medical profession to ascertain what was the real feeling in England about the Midwives' Bill proves conclusively that an enormous majority do not desire the proposed legislation. Parliament may take into consideration the view of the medical profession, or they may be persuaded to regard the opposition as purely selfish. Undoubtedly the registration of midwives will lead to the practice of midwifery among the English poor faliing almost entirely into the hands of an inferior grade of female practitioners, but the objection of medical men to this situation is founded as much upon their genuine belief that widespread evils will follow the legal recognition as medical attendants of half-educated persons, as upon any feeling that the pockets of fully qualified practitioners will suffer.

The Festival Dinner of King's College, London, was held on February 14, the guest of the evening being the First Lord of the Treasury, Mr. Arthur Balfour. It fell to Mr. Balfour's lot to propose the toast of Prosperity to the College, and he used the occasion to deliver an eloquent panegyric upon the benefits that the civilized community derives nowadays from the applied work of the scientific man. He pointed out that the public were not as quick as might be to recognize what they owed to science. Now and again some discovery—he instanced the wireless telegraphy of Marconi and the x-ray photography of Röntgen—appealed to their imaginations, and they became needlessly impressed with the wonderful work of the physicist, but of the possibly far more arduous and elaborate work upon which sensational discoveries were based, were sometimes done by men who remained quite unknown by name outside the ranks of their fellow-workers, they were content to remain ignorant. This, he said, should not be. The public should understand that in such scientific laboratories as those attached to King's College work were daily done of immense value to them, and they ought to pay for it willingly. Mr.

lfour took as the example of beneficent labor for which ing's College was especially distinguished, the researches Professor Crookshank, the superintendent of bacteriogical laboratory, and he concluded an eloquent appeal for nds to properly endow the science-school of King's with ildings and apparatus, with the following forcible passge:—

London takes a tribute—a well-earned tribute from every disvery made throughout the world for the advance of civilization, m every encroachment of civilization on barbarism. From all ese some section of London gets a benefit. Let us then, who are ellers in London, feel that we have some obligation to the world large corresponding to the great position, the international posim, we occupy. Let us do what we can as a community to further at investigation into the secrets of nature, that storming of the adels of natural knowledge in which all civilized men are and ght to be cooperators. Let it not be said that while there are eat centers of scientific teachings in every other great metropolis, have allowed ourselves for one moment to fall behind in the ce where we should have led. It is as contributors to that great ed that I ask you for your assistance to-night. It is because in ng's College, we know by experience, that we have an organizam ready made to our hand, which has shown us what it can do d given us an earnest of the future, that I ask your assistance. it if King's College is to do all that of which it is capable, it quires that assistance, and it is in the hope that that assistance ll be generously and liberally offered, and that this great mepolis may feel what a duty it owes to the scientific teaching bodied in its midst, that I ask you to drink the toast of "Prosrity and Success to the future scientific investigations of King's llege."

Sir Michael Foster, M.P., made an amusing speech in reonse to the toast of "Science," being particularly happy his discrimination between the true observer and the blat philosopher. If shrewd words can conjure money out the public purse those of Mr. Balfour and Professor Foster ould do it. It is an unfortunate time, however, to have to k English people for money, as all their aims go to relieve e sufferers in the South African war and by the Indian mine.

CONTINENTAL EUROPE.

Prof. Wien, present incumbent of the Chair of Physics Giessen, has accepted a call to the University of Würzburg.

Pasteur Medallion in Strasburg.—This plaque, by tey, was placed upon the house in the Rue des Veaux, in ich Pasteur lived in 1852, on February 4.

Danish Expedition Against Leprosy.—At the rest of Prince George of Greece, the Governor of Crete, . Edward Ehlers will next month start for Crete. His tention is to isolate the lepers, about 2,000, upon an island rth of Crete.

The New Institute of Physics and Physical hemistry was formally dedicated by the University of essen, February 19. The institute is in every respect oroughly modern, undoubtedly one of the best laboratories physics to be found in Germany.

Medico-Legal Institute in Paris.—The movement, ich a few years ago failed, for the establishment of a edico-legal Institute, is now being pushed. The morgue, ere lectures and demonstrations are now given, is far too all. Besides, the work upon the cadaver, lessons are to given at the lunatic asylum (St. Anne), treating the inmate m a medico-legal point of view.

The Eighteenth Congress of Internal Medicine ll be held at Wiesbaden, Germany, April 18 to 21, under e presidency of Professor von Jaksch, of Prague. The subts for general discussion are: The Treatment of Pneumoa, to be introduced by Professor von Koranyo, of Budapest, d Professor Pel, of Amsterdam; and Endocarditis and its lation to other Diseases, to be introduced by Professor Lit, of Berlin.

Paradoxical Temperature.—M. Soullier, of Lyons, cording to the *British Medical Journal*, reports in the *Lyon édical* of January 7, 1900, a case in which the temperature se to 44° C., or over 111° F., for three successive days, without fever or rise of pulse. The patient was a young woman tween 25 and 30 years of age. One morning, when in great trouble, she suddenly fell into a state of narcolepsy, or sleeping fit. There was no history of any similar attack or of hysteria. The patient had had three healthy children. The sleep was very deep, the pupils contracted, the limbs quite lax, the pulse normal. The skin did not feel abnormally hot, but in the vagina the temperature registered 107.5° F., a few hours later 109° F. The patient was placed for 12 minutes in a bath at 82.4° F. Half an hour later the temperature had fallen to 103.6° F.; but a few hours later it reached 111.2° F. in the axilla as well as the vagina, M. Soullier and a skeptical colleague each using their own thermometers. The skin merely felt a little hotter than usual; the pulse was 84. The patient was placed for 15 minutes in a bath at 82.4° F. The temperature fell to 100.2° F. On the second day there was another rise to 111.2° F., and on the third the same temperature was obtained. Not till after 36 hours did the patient wake up; she then seemed forgetful of the troubles which had caused the sleeping fit. She soon fell asleep again, but could henceforth be roused with ease. She never complained of feverishness, and the urine was normal. On the third day no bath was given; the last was administered on the fourth, when the temperature reached 106° F. On the fifth day the patient was well, with a subnormal temperature. The narcolepsy has never returned. M. Soullier publishes this case in relation to a valuable monograph on hysterical fever, or more properly pure hyperthermia without the other signs of fever, by M. Cuzin, published in the *Lyon Médical* of December 3, 1899. One case under M. Cuzin's own observation simulated several diseases, paludal chill, pelvic peritonitis, meningitis, etc., always with a very high rise of temperature, but the beginning of the attack was a fit of hemoptysis followed for a short time by subnormal temperature.

MISCELLANY.

The Tenth International Congress of Hygiene and Demography will be held in Paris, August 10 to 17, 1900.

University Appointments.—QUEEN'S COLLEGE, CORK: Dr. C. Yelverton Pearson, professor of materia medica, has been appointed professor of surgery to succeed the late Prof. Stephen O'Sullivan.—FREIBURG: Professor L. Knoll has been elected professor of pathology to succeed the late Professor Claus.—GREIFSWALD: Professor Krehl, of the University of Marburg, has been elected director of the medical clinic.—HALLE: Professor von Mering has been elected professor of internal medicine.—CRACOW: Dr. Stanislaus Ciechanowski has been elected professor of pathologic anatomy.

Obituary.—DR. JULIO CESAR DE SANDE SACADURA BOTTE, emeritus professor and dean of the Faculty of Medicine of the University of Coimbra, aged 52.—DR. BEYDLER, the oldest member of the profession in Brussels, aged 95.—DR. STEYLAESS, vice-president of the Belgian Medical Federation, and an authority on medical jurisprudence.—DR. CHARLES DELSTANCHE, lecturer on aural surgery in the University of Brussels.—DR. H. GOMBAULT, formerly physician to the hospitals of Paris.—DR. SAUVE, physician to the Hotel-Dieu of Mayence.—DR. L. H. PETIT, chief editor of the *Revue de la Tuberculose*.—DR. LUDWIG MEYER, professor of clinical psychiatry in the University of Göttingen.—DR. GUSTAVO PACETTI, privat-docent of neurology in the University of Rome.—DR. EMILE BLANCHARD, professor of natural history and member of the Institute of France, February 11, aged 81 years.

Eosinate of Sodium in Epilepsy.—Bourneville and Chapotin (*Le Progrès Médical*, January 6, 1900) report 10 cases of epilepsy in which they used this drug. The dose was 15 grains, gradually increased to 45 grains. Under the larger doses the number of convulsions materially decreased, but after a period ranging between six weeks and two months, serious toxic symptoms appeared which necessitated the discontinuation of the treatment. Poisonous effects consisted in redness and swelling of the face and hands, followed by superficial ulceration, and later by falling out of the nails.

The Latest Literature.

British Medical Journal.

February 17, 1900. [No. 2042.]

1. The Role of the Municipality in Public Hygiene. CHARLES A. CAMERON.
2. Medical Practice in European Countries. THOMAS KILNER CLARKE.
3. Recent Legislation in Relation to the Medical Profession. FLETCHER BEACH.
4. An Analytical Account of 57 Cases of Puerperal Infection. W. EDGAR MACHARG.
5. A Case of Puerperal Septicemia, in which a Favorable Result Was Obtained from One Injection of Antistreptococcus Serum. H. W. WEBBER.
6. On the Use of Antistreptococcus Serum in Puerperal Septicemia and Erysipelas. ALEX. J. ANDERSON.
7. A Case of Placenta Praevia and Rupture of the Uterus; Recovery. JAMES PEARSE.
8. A Case in which a Pulmonary Abscess was Successfully Drained. CHAS. A. MORTON.
9. Double Monster; Thoracopagus; Single Heart. VERE CONDRON.
10. Twin Pregnancy with Central Placenta Praevia. H. OLIPHANT NICHOLSON.
11. A Successful Case of Enterectomy for Gangrenous Hernia. ARTHUR H. BURGESS.

2.—This lecture by Clarke relates to the courses of medical study and the position of medical men in European countries. [S M H.]

3.—Beach discusses the Lunacy Acts Amendment Bill, the Elementary Education (defective and epileptic children) Act of 1899, the Act to Amend the Inebriates' Act of 1898, the Vaccination Act, and the Midwives' Bill. [S.M.H.]

4.—Macharg contributes a valuable analytic account of **57 cases of puerperal infection.** Of these 31 proved fatal and in 21 postmortem examinations were obtained. The results of these autopsies are carefully tabulated and the postmortem appearances described. The results of the bacteriologic examination showed that the streptococcus pyogenes is the most common exciting cause of puerperal infection, the other organisms playing only a slightly subordinate part. The routine treatment in each case consisted in the administration twice daily of antiseptic intrauterine douches, and in drainage of the uterine cavity by loosely packed iodoform gauze. Complications were dealt with as they arose. Quinin in large doses (20 grains every 4 hours) was essayed in a few cases; but, to say nothing of the gastric irritability frequently produced, the results were not encouraging. In some of the earlier cases curettage of the uterus was performed. This procedure, however, was so often followed by rigor and increased pyrexia that its use was entirely discontinued, excepting in those cases where there was retained tissue in the uterus. It is remarkable to find that only two such cases occurred, both of which recovered. The treatment by **antistreptococcus-serum** requires special notice. The serum used was that supplied from the laboratory of the British Institute of Preventive Medicine. It was injected into the subcutaneous tissues of the abdominal wall in doses of 10 to 30 cm., repeated at intervals of 12 hours, as might be deemed necessary. Observations of the temperature and rate of pulse and respiration were made every two hours in a patient under treatment; and in addition also at the time of injection, and every half hour until 2 hours had elapsed. Serum was also given where the bacteriologic examination had shown streptococci to be a factor in the case. It is quite superfluous to point out the absolute futility of its use otherwise. [W.K.]

5.—Webber reports a case of **puerperal septicemia** occurring in a patient who had been attended by a midwife in her confinement and the fifth day developed symptoms of septicemia. One injection of the antistreptococcic serum produced a most marked favorable result and the patient ultimately recovered. [W.K.]

6.—Anderson adds 3 cases—one of puerperal septicemia, and 2 of erysipelas in which the injection of antistreptococcic serum was followed by excellent results. [W.K.]

7.—Pearse reports a case of **placenta praevia** and r ture of the uterus occurring in a multipara aged 45 yea The position of the placenta having been recognized t child was delivered by podalic version. Examination la revealed a rupture of the posterior wall of the uterus. T patient recovered without any operative interference. [W.

8.—In this case of **pulmonary abscess,** the lung w stitched to the parietal pleura before the pus was evacuat The abscess was opened by introducing a pair of hemost and withdrawing them expanded. A rubber drainage-tu was then inserted and the patient made a good recove [G B W.]

9.—Condron, of Deoli, Rajputana, describes a **doub monster** with two complete male bodies joined latera from axilla to hip. On dissection it proved to consist o complete sets of bones and organs with these exceptio (1) a single sternum; the outer ribs were very long and join the sternum in front; the inner ribs were short, about inches long and touched mesially; (2) one pair of nippl (3) one umbilicus placed centrally; (4) one heart. [W.K.]

10.—Nicholson reports a case of **twin pregnancy** w central placenta praevia. Winckel states that plural pr nancy predisposes to placenta praevia, the accident in experience being relatively 4 times more frequent in plu than in single pregnancy. In this instance the mother pired 6 hours after labor. [W.K.]

Lancet.

February 17, 1900. [No. 3990.]

1. The Erasmus Wilson Lectures on the Anatomy and Pa ology of the Eye. E. TREACHER COLLINS.
2. A Case of Interstitial Fibroid Tumor Sloughing "en mass and Some Other Cases of Fibroid Tumors of the Uter ARTHUR H. N. LEWERS
3. On the Restoration of Coordinated Movements Af Nerve-Section. ROBERT KENNEDY.
4. A Brief Review of Our Knowledge Concerning Backwa Displacements of the Pelvic Organs. FREDERI HOLME WIGGIN.
5. Diphtheria of the Conjunctiva. SYDNEY STEPHENSON.
6. A Successful Case of Celiotomy for Intestinal Obstructi Due to Persistent Meckel's Diverticulum. CHARI A. MORTON.
7. A Hepatic Mucoid Cyst. W. CAMPBELL M'DONNELL.
8. A Case of Addison's Disease With Associated Leucoderi and Tuberculous Peritonitis. F. BUSZARD.
9. Two Cases of Intussusception; Operation; Recovery. A. LEDIARD.

1.—The paper consists of a report of two lectures deliver at the Royal College of Surgeons of England. The develo ment and comparative anatomy of the eye are discussed an interesting manner and many valuable practical appli tions are brought out. [M.B.T.]

2.—Lewers reports a series of 9 cases of **fibroid tumo of the uterus.** One of these is of unusual interest. was a case in which a large interstitial fibroid was situat in the posterior wall of the uterus which suddenly slough and the mass protruded, not through the os uteri, b through an opening spontaneously formed in the posteri lip of the cervix. The mass was removed, but the patie died of septicemia. The other cases furnish typical exa ples of the current methods of treatment of those neoplasm Case 1 was one of uterine fibroids complicated by supp rating ovarian cyst; both sets of uterine appendages we removed and the fibroid has diminished very much in co sequence. Cases 2, 3, and 9 are instances of abdomin hysterectomy with intraperitoneal treatment of the stum In Case 3 a point of interest was that the fibroid had und gone cystic change and that one cavity so produced co tained puriform fluid. Case 4 was one of pregnan complicated with a large subperitoneal fibroid, in whi expectant treatment was adopted with good result as regar the labor, and in which at present symptoms are abse Cases 5 and 6 illustrate the removal by morcellement of su mucous fibroids from the cavity of the body of the uter after dilation of the cervix; and Case 8 is an example myomectomy for large subperitoneal fibroid, with intr peritoneal treatment of the stump. In this case the dia

is between fibroid and ovarian tumor was doubtful until abdomen had been opened. [W.K.]

3.—Kennedy reports 3 experiments on animals, undertaken to determine whether it is desirable that when **nerves** divided that they shall be sutured so that their fibers are as near the former relation to each other as possible. He also undertook to determine whether the time for recovery coordinated movement was the same after the nerves were ited after twisting or whether there were any microscopic ference in the resulting cicatricial tissue. He found that untary coordinated movements were regained equally n, whether the two ends of the divided nerve were united accurately as possible, or after twisting, and that the microscopic examination of the seat of reunion leaves it doubtful whether restoration of function is due to the reestablishment of old paths by decussation in the nerve-scar or to union of ends of nerve-fibers which do not correspond. As a result of the experiments it seems evident that no trouble need be taken to secure coaptation in the former relationship. [M.B.T.]

4.—Wiggin, of New York, details a brief review of our knowledge concerning **retrodisplacements of the pelvic organs.** The chief causes of these displacements are injuries to the perineum during parturition, and septic infection of the uterine tissues generally due to one of three causes: namely, abortion, gonorrhea, or the intrauterine use of unsterilized instruments. The symptoms, diagnosis, and treatment are carefully considered. Of the surgical procedures devised, the best in his opinion is that of Mackenrodt, known as "uterine vagino-fixation." The chief aim of the paper is to show that displacements are largely an unnecessary ill, due to preventable causes. After parturition patients should be thoroughly examined and all lacerations repaired, and the woman should not be permitted to resume ordinary labor till the pelvic organs and parts have had time to regain their natural size and condition. Women should be taught that miscarriage, abortion, and venereal diseases bring their own penalty, and that they are seldom as well after these mishaps as before; even so, much can be done to limit these troubles and lessen their after-effects by their prompt recognition and intelligent treatment. [W.K.]

5.—Stephenson finds that **ophthalmia from infection** with the **diphtheria-bacillus** is not rare in London. At the Southeastern Hospital for Children about 2% of all cases are of this nature. In suspected cases antitoxin is injected at once without awaiting the results of bacteriologic examination. For the local treatment a 15% solution of potassium permanganate is painted over the conjunctiva and cleansing with a weak antiseptic solution is undertaken at frequent intervals. [B.M.J.]

6.—A girl, 9 years old, was taken ill with headache and vomiting without abdominal pain. On the third day of her illness abdominal pain appeared in the umbilical region, and the abdomen became distended and tympanitic. At the operation it was found that **intestinal obstruction** had resulted from a constricting ring formed by a **Meckel's diverticulum,** the constriction was relieved, the diverticulum was excised and the margin of the intestinal wound sutured by Czerny-Lembert sutures and an uneventful recovery followed. [M.B.T.]

7.—A man, 53 years old, who had suffered for several years with severe recurrent epigastric pain, was taken with increase of temperature and increase of pain and death followed. At the necropsy it was found that purulent peritonitis had resulted from an ulcer of the pyloric region which was partly adherent to the pancreas. Extravasated stomach-contents had caused the peritonitis; on the middle of the posterior surface of the liver was found a spherical mucoid cyst 3 cm. in diameter. The contents were of pale-green color, jelly-like consistency, and had a specific gravity of 1.029. [M.B.T.]

8.—Buszard had under his care a man aged 40 years complaining of **general weakness** of long standing and of changes in the appearance of his skin of three or four months' duration. The patient was emaciated and looked extremely ill and was very feeble. The most striking feature of the case was the dirty, brown, unwashed appearance of the skin. The mucous membranes of the lips were deeply **pigmented**; the mucous membranes of the mouth were clear, and there was no excessive pigmentation in the axilla or in the nipples or genitals. In contrast to the **general pigmentation** there were patches of pure white skin situated on the side of the nose, one cheek and the upper lip (over which the moustaches were perfectly white), on the front of the knees and the abdomen. The palms of the hands were also a fresh, clean white color, as were the dorsal surfaces of the last two digits. There were some irregular patches also on the dorsum of each hand. These white patches were surrounded by deeply pigmented skin, suggesting that the pigment had been carried out of these spots and heaped up peripherally. The patient's pulse was small and rapid; the urine examination showed a specific gravity of 1.010 and the presence of phosphates on heating, otherwise it was negative. The patient developed a profuse diarrhea and vomiting and died 14 days after coming under observation. The autopsy showed the right lung completely adherent to the chest-wall and to the diaphragm. The heart was very small; the valves and muscle apparently healthy; the peritoneum was studded with fine tubercles; these were also evident on the surface of the liver, spleen, bladder and small intestine. The retroperitoneal glands were slightly enlarged. There was no intestinal ulceration. The right kidney was the seat of several small abscesses which were unconnected with one another and did not extend to the pelvis or to the surface of the kidney; the suprarenal capsules were very extensively destroyed by tuberculous disease; the left was small and almost entirely caseous; the right contained one or two nodules of firm, apparently healthy tissue. Microscopic examination showed them to be extensively destroyed and infiltrated by fibro-caseous tubercle. [S.M.H.]

9.—A boy, 2 years and 5 months old, was taken ill with vomiting and severe diarrhea followed by the passage of bloody mucus. **Intussusception** was diagnosed and ordinary methods of reduction failing, **operation** was undertaken four days after the first appearance of the symptoms. It was found that the colon had invaginated into itself a distance of about 7 inches. The invagination was reduced by the exertion of considerable force, and the abdominal wound was closed. There were unfavorable symptoms present for the first 3 days following operation, then recovery was uninterrupted. In the second case, a male infant, 6 months of age, was taken ill with vomiting and diarrhea accompanied later by the passage of bloodstained mucus. Intussusception was diagnosed and reduction was effected by the injection of air and fluid. The symptoms disappeared but recurred again 2 days later. A large, sausage-shaped mass could be felt stretching transversely across above the umbilicus, and another mass could be felt above the pelvic brim. On opening the abdomen a large intussusception was found extending from the left iliac region upward and backward toward the splenic flexure of the colon; it was at least 10 inches long. Reduction was effected by careful and prolonged traction. Intermittent vomiting was present for a few days after the operation, then uneventful recovery followed. [M.B.T.]

New York Medical Journal.

March 3, 1900. [Vol. lxxi, No. 9.]

1. Rheumatic Gout. B. C. LOVELAND.
2. A Case of Ossification of the Uterus. C. JEFF. MILLER.
3. A Partial Study of a Child Presenting Multiple Deformities, with Presentation of Specimens. GEORGE R. ELLIOTT.
4. Typhoid Fever: a Study in Hygienic, or Physiological Treatment, Including Physiological Diet. CHARLES E. PAGE.
5. Some Therapeutic Notes. PHILIP ZENNER.
6. Thirty-two Cases of Typhoid Fever without a Death. J. C. CRIST.
7. An Instance of Primary Hemorrhage following Amygdalotomy. G. B. HOPE.
8. Another Accommodation of the Eye. NORBURNE B. JENKINS.

1.—Under the heading of **rheumatic gout,** Loveland relates the symptoms attendant upon a typical case of arthritis deformans, and describes several cases cured by treatment before disorganization of the joints had occurred. He suggests as a synonym for rheumatic gout, painless rheumatism, intimating that the painful forms of arthritis deformans are "the rare exception." The treatment of the

condition consists in strict regulation of the diet to suit the needs of the individual case. Exercise in the open air to the limit of the patient's ability; the application of massage, electricity, Swedish movements; packing, sweating; counter-irritation to the joints; cool tonic baths; hot bathing, cautiously given, and Turkish bath are recommended. Of medicines the most useful are the alkalies; he especially commends salicylate of sodium and potassium iodid. It may be necessary to experiment before the suitable alkali is discovered. Persistent treatment after these lines, begun early and continued for a sufficient length of time, will often result in great improvement or sometimes a perfect cure, which may not necessarily be permanent. [S.M H.]

3.—Elliott communicates a **partial study of a child presenting the following deformities:** Double drop wrist; double drop-foot; subluxation of the left hip-joint and a forward dislocation of the right radius. The child was born at full term without artificial aid. She had had convulsions of an indefinite nature. She did not move her hands immediately after birth and never walked nor talked. Electrical examination showed that the flexors and extensors of the wrist did not respond to faradic or galvanic stimulus and that there was some diminution of faradic and galvanic response in the muscles of the lower extremity. It the personal group there was apparently total loss. The postmortem examination of the muscles of the arms showed that the flexor groups of muscles were converted into fat, while the extensor groups existed as small, well-defined muscles. The carpal bones were present in the wrist and of the intrinsic muscles of the hand those of the thumb were chiefly at fault, all of the latter being absent except the flexor brevis pollicis, which was fairly well developed. The muscles of the hypothenar eminence were all preserved. There existed a subluxation of the left hip upward and forward. The capsule was found intact but thickened and formed, together with a depression made in the ilium, a cavity for the head of the femur. The old acetabular surface was covered with cartilage and its cavity filled with the hypertrophied ligamentum teres. This ligament was 4 cm. long, 1¼ cm. wide, and 4 mm. thick. The head of the femur was reduced in size; the neck of the femur was considerably shortened. The trochanters were well developed and the shaft of the femur measured 1 cm. in diameter. Of the muscles of the lower extremity, the gluteal group was somewhat atrophied and contracted on the side of the deformity, showing fatty and fibrous changes. The chief changes were found in the gluteus minimus. The pyriformis was converted into a fibrous band. In the adductor group the inner two-third of the adductus longus brevis was fatty, apparently containing no muscular fibers; the outer third was muscular. The inner half of the adductor magnus was fatty also; the other muscles about the joint were contracted and displaced. Examination of the central nervous system by Fränkel and Onuf showed cellular changes of the atrophic order, together with decided alteration of the blood-vessels and neuroglia in the spinal cord. The parts chiefly affected were the anterior horns of the left anterior nerve-roots, and there was marked degeneration of the fifth lumbar; marked degeneration of the third sacral; slight changes in the first dorsal and first lumbar. No other nerve-roots were examined. In the examination of the brain Broca's center was found to be normal, indicating that the speech disturbance manifested in life was of the dysarthrial rather than of the aphasic order. There were slight changes in the large pyramidal cells of the middle portion of the left anterior central convolution with decided alteration of the large pyramidal cells in the left postcentral convolution. The inferior part of the left post-central convolution showed slight changes in the polymorphous layer. These brain-cell changes did not seem primary. It was thought that the findings in this case were probably dependent upon two conditions: (1) Vicious attitude during intrauterine life, chiefly of traumatic origin, and (2) primitive alteration of the central nervous system. The clinical findings and post-mortem findings supported chiefly the nervous theory. [S.M.H.]

4.—Page recommends the free use of water in the form of baths; the cold, damp bandage; full cold water enemas; pouring water over the head; narrow, cold compresses along the spine; cold-compress massage, and saturation of the system with water through internal administration in the treatment of typhoid fever. The withdrawal of all food water for periods varying from one to two weeks early in illness is attended with excellent results. After conv cence is fully established a slice of stale graham bread tw three times a day, and after a few days a few stewed pr may be administered. The bowels should never be m with physics. [S.M.H.]

5.—Zenner reports a case of extreme **tachycardi** undiscovered origin in which the hypodermic administra of apomorphia at first acted in controling the attacks alr instantly. The drug was given to the point of emesis. beneficial effect, however, wore off gradually and after or six administrations was without effect. The patie attacks became more prolonged and severe, and during attack she developed, apparently from an effort at vomit an acute dilation of the heart. She recovered from this some months later died as the result of a right hemipl He refers to a limited use of cacodylic acid in the treatm of anemia. He gives it hypodermically in doses of $\frac{3}{5}$ of a grain in the form of a 5% solution and thinks it b ficial. [S.M.H.]

6.—Crist reports 32 cases of **typhoid fever** tre without a death. His treatment consists in rest, hy therapy, diet and medication. He believes medication essential and uses 5-grain doses of guaiacol carbonate ad istered every 6 hours. For insomnia he uses 15-grain d of sulfonal given at bedtime. Where cardiac weak exists strychnia sulfate in $\frac{1}{25}$-grain doses is given. He heres to a milk diet. [S.M.H.]

7.—**Tonsilotomy** with Mackenzie's instrument was formed in the case of a woman 26 years old. Free he rhage resulted continuing more than 3 hours. All the hemostatics were tried without effect, but the hemorrhage finally arrested by the use of the galvanocautery. [M.B.

Medical Record.

March 3, 1900. [Vol. 57, No. 9.]

1. Spinal Fracture; Paraplegia. ROBERT ABBE.
2. An Easy Method of Reducing Dislocations of the Sho and Hip. LEWIS A. STIMSON.
3. The Relative Merits of Operations for the Extracti Vesical Stone in the Male; With Observation on Suprapubic and Left Lateral Perineal Meth SCHUYLER COLFAX GRAVES.
4. The Application of the Electro-Static Wave-Cur WILLIAM BENHAM SNOW.
5. One Result of Attempted Abortion in the Early Wee Gestation. L. S. ALEXANDER.
6. Peanut in the Air-Passages. R. C. SCHULTZ.
7. Vaccinella. E. V. MOCK.
8. Surgical Odds and Ends. WILLIAM ANDERSON PAY
9. Hypodermoclysis in Typhoid Fever. O. O. BURGESS
10. The Auditory Canal as an Incubator. A. J. HOLMQ
11. Floating Kidney Mistaken for an Appendicitis and C ian Tumor; Operation and Recovery. H. T. MI
12. Congenital Hernia of the Umbilical Cord. GE KESSEL.
13. A Case of Tetanus in which the Mouth was the Prob Source of Infection. E. K. LOVELAND.
14. An Unprecedented Case of Prolonged Anesthesia Nitrous Oxid and Oxygen. S. ORMOND GOLDAN.

1.—Lifelong paralysis is the usual result of accidents ing **broken-neck or broken-back,** but in many the displacement is in part spontaneously cured by th bound of the body to its natural position. Abbe repo cases of broken-neck which have come under his care ing the past year. A man, 28 years of age, struck his in diving in shallow water, causing instant paralysis b the neck. Soon after the accident the predominant sy tom was incessant jactitation of all the limbs, which di subside for some days. After the third day some volu motion was possible and numbness diminished; in 3 w the patient had excellent control of all his muscles. A ond case occurred in a boy of 19, who also struck his head when diving. He was absolutely paralyzed belo neck for 3 days, but rapid convalescence soon began a months after the accident his condition was normal e slight wrist-drop and feeble grasp of the right hand. radiograph showed a comminuted fracture of the body o

th cervical vertebra. In a third case also resulting from iking the head when diving, instant paralysis ensued, expt for the deltoid, brachialis, anticus, and triceps, the skin mained sensitive. A radiograph showed a comminuted acture of the body of the fifth vertebra and the posterior ny wall of the canal was nearly flat. Evidence of local yelitis and meningitis ensued with severe girdle-pain and ctitation. Operation was undertaken 6 weeks after the accident under cocain-anesthesia; the laminae of the fifth rtebra was found fractured close to the transverse pross, the dura was much inflamed. The bony pressure as removed, the wound closed and the patient felt ill effects from the operation. Six months after the accint no voluntary motion has returned in the paralyzed muses, but the power of motion in the upper extremity has adually increased. In a fourth case a man was shot, the llet taking effect over the second left cervical vertebra; e was instantly paralyzed below the hips. When first seen, months later, there was complete sensory and motor parysis of both extremities and loss of kneejerk. An x-ray cture showed bullet near the site of the right renal vessels, probably ascended under the lumbar vertebra. Laminecmy was performed removing the laminae of the last dorsal nd 2 lumbar vertebrae. The patient began to recover sensaon and motion within 2 weeks, and one month later had all ne muscles restored excepting those supplying the left foot nd ankle. He was able to go about on crutches, but deanded amputation a year later because of dragging of the ft foot. Abbe believes that the operation of **laminectomy** resents little danger and gives sufficient improvement to stify it. This improvement may not be seen in restored ower of motion, but in minor evidences of removal of perstent meningeal irritation from pressure. As to the progosis, if loss of sensation and motion below the injured part complete and instantaneous, with loss of kneejerk, recovery almost hopeless. Partial loss of sensation and motion ives hope that a large degree of recovery may be looked r, the cause of such cases being hemorrhage within the entral canal or in the cord substance and meninges. M.B.T.]

2.—Stimson finds the following method of **reducing dislocations** of the shoulder and hip effectual and easy. hole about 6 inches in diameter is made in a canvas cot ear one end, the patient is placed with the injured arm anging through the hole and a 10 pound sand-bag is stened to the wrist of the dependent arm, after a few inutes reduction takes place. No patients have complained f pain. In case a cot was not at hand 2 tables might be laced near together with the arm hanging down between. he same method can be employed in dislocation of the lbow whenever the joint can be freely extended without the id of anesthesia. In dorsal dislocations of the hip the patient placed prone upon a table with his thigh extending beyond ts end. The uninjured thigh is held horizontally by an ssistant, the injured thigh hangs vertical with the leg flexed t a right angle; the surgeon grasps the ankle, moving it rom side to side. If relaxation of the muscles is slow to ppear, a sand-bag weighing 5 to 10 pounds is placed on the eg close behind the knee or pressure is made there with the and. This method succeeds in more than four-fifths of the ases often without anesthesia. [M.B.T.]

3.—Even with the evidence of **litholapaxy** statistics, raves believes that the modified suprapubic cystotomy nay be recommended in operating for stone in aged persons who have enlarged and inflamed prostate; the modified lateral lithotomy has claim for consideration in the young. [M.B.T.]

4.—Snow has found the **electrostatic wave-current** valuable in all cases of **malnutrition, insomnia, migraine, and neurasthenia.** If muscular contractions do not prevent this a spark gap of at least four inches ength should be used when the tingling sensations at the beginning have disappeared. In anemic patients the point electrode should be placed over the head, in congested patients in front of the knees. It is important to have pole well grounded, to use metal electrodes, to have the patient on the insulated platform. After connecting the patient and closing the prime conductors separate the latter until burning sensations or muscular contractions occur. In the treatment of neuritis the electrode should not be too large for the current will be too much diffused. Snow has had good effects in one case of tic douloureux, and one of rheumatoid arthritis. [D.L.E.]

5.—Alexander writes that in many cases of **tubal pregnancy** he has, on close questioning, obtained a history of attempted abortion by drugs. The attempt is made almost immediately upon the nonappearance of the desired menstrual flow, conception being feared, to establish the catamenia by the use of oxytocic drugs. The action of this substance in contracting the circular muscular fibers prevents the descent of the fructified ovum, and tubal pregnancy, followed by rupture, results. [W.K.]

6.—A girl, 14 years old, got some peanuts, which she was eating, into the air-passages, resulting in frequent attacks of coughing. After a severe attack of coughing, a few days later, a complete peanut-kernel was expelled. [M.B.T.]

7.—Mock reports a case of **syphilis,** in which the peculiar eruption and high temperature led to a diagnosis of smallpox. [D.L.E.]

8.—Payne reports a **fracture** of the **lower jaw** at both angles resulting from being hit with a brick, which was thrown from one side. A molded plaster-of-paris splint was applied and recovery without deformity resulted. In a second case rupture of the internal lower ligament of the knee with gunstock deformity of the leg resulted from a fall from a scaffold 12 feet high. The leg was enclosed in plaster for six weeks, and on removal was found so weak that reapplication was necessary. The patient was then lost sight of. In a third case inward dislocation of the foot resulted from stepping on a loose plank, the end of which tilted up throwing the foot on the left side. Recovery without deformity resulted. Cases of fracture of the metatarsal bones and hemorrhage resulting from an incised wound of the ischiorectal fossa are also reported. [M.B.T.]

9.—Burgess recommends **hypodermoclysis** in any case of **typhoid fever** that does not do well on ordinary treatment, because he believes this will secure for the tissues a proper amount of pure liquid uncontaminated by the ptomains and bacteria of the gastrointestinal tract. [The necessity for a large increase of fluids is not often seen, and it would be exceedingly trying to the patient to carry out such a procedure and few would submit. D.L.E.]

10.—**A blue bottlefly** was supposed to have entered the ear of a boy 17 years old. To allay the irritation his mother introduced some warm lard. When an attempt was made to clean the ear by syringing it was found ineffectual until a mixture of alcohol and turpentine had been poured in, then after irrigation with warm water, a mass of detritus and 2 dead maggots were syringed out; another live maggot also escaped. [M.B.T.]

11.—Miller reports a case of **floating kidney** which was mistaken for an appendicitis or ovarian cyst. An abdominal incision was made and the true condition ascertained; the incision was closed and nephrorrhaphy performed through a lumbar incision. [W.K.]

12.—Kessel reports a case of large **hernia of the umbilical cord.** The coils of the intestine and the liver could be clearly seen through the transparent membranes of the cord. He immediately performed the operation of suturing the freshened edges of the incomplete umbilical ring together with silk with a fatal result within 24 hours. [W.K.]

13.—The patient was a child of 20 months and the case ended fatally. No external wound, except one on the leg that was healed, could be found, and postmortem a foul sore was found in the mouth and this was believed to have been the source of infection. [D.L.E.]

14.—The operation was **extirpation of both breasts and axillary contents** in a woman of 76 and lasted 2 hours and 40 minutes. The anesthesia was satisfactory. The patient recovered well without any nausea and with no urinary abnormalities. [D.L.E.]

Medical News.

March 3, 1900. [Vol. lxxvi, No. 9.]

1. A New and Improved Method of Entering the Abdominal Cavity in the Ileocecal Region, with Special Reference to the Removal of the Vermiform Appendix. GEORGE R. FOWLER.
2. Again the Question of Cancer. ROSWELL PARK.

3. Notes on Plague. H. E. DEANE.
4. The Xiphopages, Rosalina and Maria.

1.—Fowler proposes a **new method of opening the abdomen** in cases of simple appendicitis. The skin incision commences at the upper rounded prominence of the anterior superior spine of the ilium and is carried almost horizontally to the outer edge of the rectus, from which point it is curved downward for about 2½ inches. The triangular flap is then dissected downward and outward, exposing aponeurosis of the external oblique. A retraction is applied at the lower angle of the wound and at the middle of the transverse incision and traction exposes 3 inches of the aponeurosis which is divided in the direction of its fibers. Two more retractors are applied and the sheath of the rectus exposed likewise and opened. The rectus muscle and deep epigastric vessels are retracted medianwards, exposing for 4 inches in a transverse direction the internal oblique and its aponeurosis. A transverse incision is now carried down through the remaining layers into the abdominal cavity, making a wound which by proper retraction gives ample room for an appendectomy. In closing the wound the different layers are closed by continuous sutures running in the lines of incision, care being taken in suturing the external oblique aponeurosis that the sheath of the rectus abdominalis is included. [G.B W]

2.—Park contributes another article on the **nature of cancer,** in part as a reply to criticisms upon various statistics relating to cancer, published by himself and others, which apparently prove that the disease is becoming much more frequent than was formerly the case. The chief argument employed by the opponents of this theory was that the apparent increase was due entirely to improvements in diagnosis, but this Park shows is fallacious, partly because, although cancer is more often recognized, other diseases that were formerly confounded with it are now relegated to their proper class. He then goes on to analyze the recent literature with reference to the distribution of cancer, and shows that the disease may be regarded as in a way epidemic in certain houses and in certain localities. He includes an original study by Sutton of a number of cases of cancer that appeared to occur epidemically in a small town in New York. He gives a brief summary of the various theories held by different men, and discusses the distribution of cancer in the body, and shows that the tumors usually arise in some situations where injury is likely to occur, and then goes on to discuss the parasitic theory. Apparently the results of experimental work are very greatly influenced by the technic. Gaylord discovered the bodies to which Plimmer subsequently called attention, and has been able, by the introduction of tumors into animals, to produce a true adenosarcoma in one case. An organism which could not be cultivated but apparently belonging to the yeasts was found in this instance. Park finally regrets the general ignorance of the nature and characteristics of these pathogenic blastomycetes, not only on the part of bacteriologists and pathologists, but also on the part of the botanists. [J S.]

3.—Dean continues his study of the **plague as it appeared in India,** and reports additional results of his method of treating it with snake venom. In 19 cases in which this was given hypodermically, there were but 6 deaths. He reports an illustrative case, and believes this treatment offers great promise for the future. In regard to prevention, he speaks of the great difficulty in India of attempting any sanatory measures on account of the opposition either passive or active of the populace. Force apparently only serves to spread the disease by leading to its concealment. Milder measures, the chief rule being that all houses in which patients have died of the plague be disinfected, appear to be ineffective. It is possible, however, under very favorable conditions to stamp out an outbreak in its very beginning by the removal of all the inhabitants and the disinfection of all the houses. Haffkine's preventive inoculation seems to be of considerable value, although there is apparently a slight error in the statistics that are given. The great objection to it is the strong opposition of the populace to anything of this nature. [J.S.]

4.—In the **xiphopages,** Rosalina and Maria Ramos, after they had taken large doses of hyponitrate of bismuth, the radiograph showed that there was no connection between the two intestinal tracts. An attempt was therefore made to separate the twins. At the operation, as previously shown by the x-ray, the intestines were found to be absolutely distinct from each other, but it was also seen that the livers were united by such a large area of parenchyma that the division of this organ was deemed impracticable. The livers were united by their left lobes and each organ had its own gallbladder. The two abdominal incisions were sutured and the patients both made a good recovery. [G.B.W.]

Boston Medical and Surgical Journal.

March 1, 1900. [Vol. cxlii, No. 9.]

1. Vivisection in Harvard Medical School. A Reply. JAMES J. PUTNAM.
2. Stricture of the Ureter a Possible Result of Laceration of the Cervix Uteri, and Ureterovaginal Fistula a Result of Trachelorrhaphy. E. C. DUDLEY.
3. The Relative Humidity of Our Houses in Winter. ROBERT DE C. WARD.
4. Psychology and Heredity. ROBERT MACDOUGALL.
5. Perinephritic Abscess Involving the Appendix. HUGH WILLIAMS.

1.—Putnam answers a pamphlet in favor of prohibiting **vivisection** in medical schools, written by Leffingwell. As in all such papers, he reiterates facts well known to the profession that vivisection as ordinarily conducted rarely inflicts pain and never needlessly, painful experiments are not done before classes, and in general the operations are closely analogous in general character to those performed by the surgeon. The remainder of the paper consists of definite answers to specific statements, and a plea that the legislation against all vivisection now contemplated in Massachusetts be abandoned. [J S.]

2.—Dudley reports an interesting case of **ureteral stricture** which was possibly the result of a cervical laceration and a ureterovaginal fistula produced by the trachelorrhaphy. After much difficulty in finding the fistula, Dudley performed colpocystotomy, cutting with the scissors through the vesicovaginal walls in the median line and in the long axis of the vagina just in front of the cervix, with the object of converting the ureterovaginal fistula into a ureterovesicovaginal fistula; so that the ureter should open not into the vagina but into the margin of a vesicovaginal fistula, and the ureteral wall, bladder wall, and connective tissue between were included within the bite of a pressure-forceps until the tissue was destroyed by pressure-necrosis, producing a wide ureterovesical opening at a point remote from the artificial opening into the bladder, and in this way an uncomplicated vesicovaginal fistula was formed which was closed by suture in the usual way. [W.K.]

3.—Ward calls attention to the **artificial character of the climate** under which most Americans live, that is, the climate of their houses, which in winter is many degrees warmer and drier than that in the streets. He made a series of observations in his own home during three weeks in November and found that while the mean relative humidity of the inside air was 30% and the outside was 71%, nevertheless, the temperatures inside and outside were respectively 69° and 36°. These observations show, when compared with the observations of the United States Weather Bureau, that the atmosphere of a room is drier than that of many desert regions. Great strain is put upon the organism in the effort to adopt itself to the extremely sudden changes that occur in passing from in to outside. [J.S.]

4.—MacDougall continues his article on **psychology and heredity.** He draws attention to the fact that the physical growth of the individual is subject to much more definite laws than the mental growth, the latter being "dependent upon the irregular stimulation of a changing environment which is to a great extent directly controlable by human agencies." The subsequent life of an individual depends, therefore, to a considerable extent upon the direction given it in youth; whether, for example, the child is interested in nature, athletic exercises, or in purely sedentary pursuits. No matter what the peculiar characteristics that develop in an individual may be, the characteristics of his ancestors must all be present even though latent and these may appear from time to time in a sort of atavistic recurrence. The process of evolution, therefore, is dependent wholly upon the environment and cannot exceed it. The genius, the saint, the man of feeling, etc., is to be regarded

urely as analogous to the sport of the vegetable kingdom. acDougall is not optimistic, but believes that all the bad ndencies in the human race have as much chance for per-tuation as those that are for the good. [J.S.]

5.—This patient was operated on for supposed **appendix oscess,** but on opening the abscess no appendix could be und, instead; several pieces of what was proven by micro-opic examination to be renal tissue, were removed. A cal fistula followed this operation, necessitating a second ie for its closure, at which time a stump of the appendix out one inch in length was found. The patient after this cond operation made an uninterrupted recovery. [G.B.W.]

Journal American Medical Association.

March 3, 1900. [Vol. xxxiv, No. 9.]

. Ureteral Calculus. HOWARD A. KELLY.
. Value of Formaldehyd in the Disinfection of Buildings, Rooms and Cars. JOHN E. OWENS.
. Simple Device for Rapid Hypodermoclysis in Combating Shock. EVAN O'NEILL KANE.
. Legislative Problems in the Regulation of Marriages. HON. C. W. PARKER.
. The Legal Restriction of Marriage for the Prevention of Pauperism, Crime, and Mental Diseases. DANIEL R. BROWER.
. Restriction of Marriage for the Prevention of Communicable Diseases. ALBERT H. BURR.
. Restrictive Marriage Legislation from the Standpoint of the Wife, Mother, and Home. ALICE LEE MOQUÉ.
. Can the State Suppress Genito-Urinary Diseases? FERD. C. VALENTINE.
. A Clinical Study of 450 Cases of Scarlet Fever. ANNIE STURGIS DANIEL.
. Two Hundred and Twenty Cases of Hemorrhoids Operated on Successfully by the Ligature Method. JOSEPH B. BACON.
. Two Practical Points in Care of the Tubercular. WILLIAM PORTER.
. Chancre of Lip in a Child Seven Months Old. L. DUNCAN BULKLEY.

1.—Kelly reports the case of a woman of 38, who was taken veek previously with pain beginning in the left kidney and tending down the ureter to its vesical orifice, with frequent ination and some hematuria. There was no debris nor stals suggesting **calculus.** By vaginal examination the t ureter was found exquisitly tender and there was a firm largment half way between the internal ureteral orifice d the cervix uteri. The case history pointed to renal cal-lus. Before undertaking further examination to determine ether a calculus was present, the ureter was anesthetized injecting about 6 cc. of 1% cocain-solution into the ureter d the surrounding tissues with a long hypodermic needle, ust through the vaginal wall into the tender spot felt per ginam. The woman was then put in the knee-chest sture and a ureteral speculum introduced, distending bladder. On introducing the uretheral catheter into ureter, urine began to flow at once, indicating icture and hydroureter. A ureteral dilator was introced dilating the stricture and a catheter was inserted ich had been tipped with wax by dipping the end melted dental wax and olive oil—2 to 1. After hdrawing the catheter the end was examined with ens and showed a *perfectly definite series of scratch marks n top to bottom, which marking could have been caused no other way than by contact with a stone in the urinary t.* It was not deemed wise to interfere further so the ient was left in bed and given a dose of morphin. Nine-n hours after the dilation of the stricture an oblong stone by 3 mm., with tapering ends, was expelled, with immete relief of all symptoms. Interesting points brought out his case: The exact location of a small ureteral stone by inal palpation. The injection of cocain into the ureter l surrounding tissues through the vagina opens up an in-sting field in the surgery of the lower ureteral tract. It uld easily be possible to cut into the ureter through the ina and remove a stone and sew up the wound without rting to a general anesthetic. The demonstration of the sence of the calculus with the wax-tipped catheter. The ieter showed the positive sign of the presence of a stricture at the lower end of the ureter and a dilated area above the stricture. The catheter also showed the presence of a hydronephrosis of low grade. By means of the ureteral dilator the orifice was enlarged, permitting the escape within 24 hours. [M.B.T.]

2.—Owens describes a series of experiments in which the typhoid, anthrax and diphtheria bacilli were selected for test showing the **value of formaldehyd** in the disinfection of buildings, rooms and cars. He appends an excellent circular of instructions governing the use of the formaldehyd apparatus for direct application of the solution in the disinfecting of passenger and freight cars, which is in use by the Illinois Central Railway Company. [M.B.T.]

3.—Kane describes a very simple, ingenious, and inexpensive apparatus for **hypodermoclysis.** For this apparatus will be required an ordinary rubber-bulb glass medicine dropper, 5 yards of fine rubber tubing, 4 extra hypodermic needles or fine, aspirating needles, and a wire hairpin. The whole appliance can be sterilized by immersion in boiling water. Any clean vessel of sufficient size will answer for the receptacle to contain the normal salt-solution. The construction is as follows: Into one end of 3 feet of the rubber tubing—the end of which is to serve as a siphon—is inserted a wire hairpin to act as a stylet in retaining the tubing in the proper curve to hang over the edge of the vessel. The length of the short arm of the siphon can be increased or diminished to just reach the bottom of a vessel of any depth, by merely sliding the wire a greater or less distance along the tubing. Into the other end of the yard of tubing is inserted the nozzle of the dropper, the tip of which if too small should be broken off. In the rubber-bulb of the dropper are cut 4 openings, each a little more than half the diameter of the tubing. Two lengths of rubber-tubing, each 2 yards long, are now drawn through the holes in the bulb, at right angles, half their length. A notch should first have been cut in the middle of each tube to be drawn, notch upward, fully inside the rubber bulb. Finally, to the open ends of the rubber-tubing are attached the 4 hypodermic needles. An apparatus with 4 needles can readily introduce from 2 to 4 quarts of fluid into the tissues in half an hour. The amount will depend on the size of the needles, the elevation of the receptacle and the thickness of the cellular tissue. It is well to change the location of the needles slightly from time to time, to prevent overdistention of the tissues. [M.B T.]

4.—Parker considers the public sentiment against restrictive marriage laws the result of conservatism, ignorance, and mock-modesty. The obstacles to such laws are political enmities and the opposition of those unfitted for matrimony, such as dipsomaniacs and consumptives. The remedy of greatest importance is the education of the people up to an appreciation of the importance of such measures. Parker suggests exempting women for examination for a time until such education can be accomplished. [M.B.T.]

5.—Brower says that pauperism, crime and insanity have in their etiology most important relations to heredity. To secure reform the laity must be educated; legal enactments that are not popular can not be enforced, and education must come from the medical profession. The time is not yet ripe for legislation, and will not be so until the laity realize that their own peace and comfort demand the necessary enactments. [M.B.T.]

6.—Burr believes that when the public comes to realize that unsanitary marriages are just as dangerous to the community as unsanitary dwellings and contaminated food and water-supply, then legislation be demanded and enforced. The only available remedy at present seems to be moral regulation to enlighten public sentiment on these matters, by educational methods in the home, in the school, and in the church. He believes that other States will soon follow South Dakota in adopting legislation requiring physical examination before marriage. [M.B.T.]

7.—Mrs. Moqué suggests that many of the most vicious, depraved, and diseased are not the result of wedlock, so restrictive marriage laws would not, even if enforced, prevent the procreation of criminals. The operative production of sterility is the only remedy for this. [M B.T.]

8.—See editorial columns of a later issue.

9.—In a study of 450 cases of **scarlet fever** Daniel found nothing especially marked in the heredity of the patients except alcoholism in one or both parents, in about

one-third of the cases. Marked rachitis existed in a large number of patients; otherwise there was nothing special in the personal histories. In 26 patients the abnormal symptoms were noted later than 2 days. The fever varied from 103 to 108° F., falling to normal at periods varying from 4 to 12 days. [M.B.T.]

10.—Bacon describes in detail his method of preparing patients for operation for hemorrhoids by the ligature method, and the after-treatment of the patients. The main features of importance are thorough purgation, the careful attention to every detail of antisepsis, and the special precautions to prevent secondary hemorrhage. [M.B.T.]

11.—Porter states that he has almost abandoned climate-hunting for his tuberculous patients and believes that some health resorts are becoming foci for the dissemination of infection. Most patients will always be treated at home. Attention to the condition of the heart is of great importance. He begins early to use heart tonics, specially small doses of digitalis and strychnin. Keeping the lower bowel well emptied is another matter of great importance. This prevents the resorption of ptomains and bacilli, and no doubt much of the beneficial effect of creasote, guaiacol, etc., is from their action as germicides. [M.B.T.]

12.—A child 7 months old had had a sore on the upper lip which had persisted nearly 4 weeks; the submaxillary and anteauricular glands were enlarged and there was a characteristic syphilitic eruption. From the previous superb health and development of the child inherited **syphilis** was ruled out. It is thought probable that the infection came from the nipple of the nursing bottle. The child was often left temporarily in charge of friends of the mother who probably tested the food to see whether it was properly sweetened, too hot or too cold, etc. [M.B.T.]

Annals of Surgery.

December, 1899. [Vol. xxx, No. 6]

1. Differentiation of the Urines. F. TILDEN BROWN.
2. The Mechanism of Fracture of the Neck of the Radius. EUGENE R. CORSON.
3. Properitoneal and Interstitial Inguinal Herniae. VAN BUREN KNOTT.
4. On the Proper Wire for Introduction into an Aneurysmal Sac. JAMES C. REEVE, JR.
5. Nitrous Oxid and Ether Anesthesia by the Open Method. ALBERT H. MILLER.
6. Note on the Operative Relief of Ectopia Vesicae. DAVID EDWARD MUNDELL.
7. Persistent Thyro-Glossal Duct. GEORGE E. ARMSTRONG.
8. Actinomycosis in Man, with Special Reference to the Cases which have been Observed in America. JOHN RUHRÄH.

1.—Brown describes briefly the different methods which have been resorted to for **collecting separate urines.** He gives a resume of a great number of cases collected from literature in which catherization of the ureters was employed and appends reports of 55 cases in which he himself has catheterized the ureters for diagnostic purposes. [M.B.T.]

2.—Fractures of the **neck of the radius** may occur from ligamentous strain either by putting the obicular ligament on a stretch by oversupinating the forearm or by forcing the ulnar away from the radius by violent dislocation backward. In such cases the head of the bone is simply pulled off from the neck. In the case reported it was a combination of these causes which produced the injury; backward dislocation with violent rotation outward resulted from the arm being caught in a rapidly revolving cylinder. The deformity was reduced under anesthesia and the forearm was put up in a plaster-of-paris cast, at a right angle with the arm and midway between pronation and supination. Eight months after the injury there is a fair use of the joint which it is thought may improve. [M.B.T.]

3.—Knott reports a case of **interstitial hernia** occurring in a farmer, 64 years old. While walking the patient was suddenly seized with violent pain in the left inguinal region and fell to the ground. Symptoms of intestinal obstruction rapidly developed. He stated, when questioned, that he had had a left inguinal hernia for 50 years which had not given him much inconvenience, he had never worn a truss and the hernia had always gone back at night. A large swelling of the scrotum was reduced after persiste efforts at taxis, but the symptoms of obstruction did n abate. There was a large sausage-shaped tumor occupyi a position just above and parallel to Poupart's ligamer As the patient was becoming rapidly worse he was imm diately prepared for operation. On incision the sac w found to lie between the external and internal obliqu muscles. The constriction was found after considerab difficulty, situated much higher than usual and the sac w thickened and firmly adherent to the surrounding tissue it was dissected out with considerable difficulty and the i guinal canal was obliterated with chromacized catgu sutures. Primary union and an uneventful recovery fo lowed. Knott believes that in all cases of interstitial inguin hernia, whether strangulated or not, immediate operati should be performed because of the unusual dangers of th condition. [M.B.T.]

4.—A man, 49 years old, had suffered 2 years with **aneurysm** of the abdominal aorta about 2 inches above i bifurcation. His pain was so severe that he was constant kept under the influence of morphin. An attempt w made to relieve the condition by the introduction of a wi into the aneurysmal sac. Soft silver plated copper **wi** was **introduced** and then the wire was connected to th positive galvanic pole of a battery and current was turned for 50 minutes; the strength of the current was gradual increased up to 80 milliamperes. The patient lived hours. At the necropsy it was found that a loop of wire h passed up the aorta and one end had reached to the aort valves. From experimentation Reeve concludes that silver gold wire about .0085 inches in diameter and of sufficie temper to retain its coil is most suitable for this form treatment. [M.B.T.]

5.—Miller emphasizes as the advantages of using **nitro oxid and ether for anesthesia:** the lessened time quired; the fact that uncomfortable sensations and sufferi of the patient are done away with; and that nausea a vomiting are greatly reduced. To administer the gas t nitrous oxid tank, a bag, and the inhaler are connected, a the bag is filled with gas; the patient is instructed to breat deeply and hold up one arm. The inhaler with the air val opened is placed over the face, and after a few breaths ha been inhaled, the valve is depressed and the inhalation continued until the arm drops; the inhaler is then remov and is quickly replaced by the ether cone. In a large p portion of cases there is no difficulty in making the chan although sometimes there is considerable struggling. Amo 160 cases anesthetized in this way none of the patients ha experienced any disagreeable sensations. The average ti for anesthesia is about 3 minutes. Miller considers this co bination of nitrous oxid and ether the nearest approach an ideal anesthetic that has been produced. [M.B.T.]

6.—Mundell reviews the different methods which ha been devised for the operative relief of **ectopic vesica** but finds none of them satisfactory. In view of the varic objections to the present methods he has tried experimenta to **graft a flap of normal bladder-wall** from animal to the body of another animal. The piece of bladd wall removed from a dog was placed in warm boric-a solution and a straight incision was made in the abdomi fascia of another animal. The superficial and deep layers the superficial fascia were separated and the exsect bladder-wall was sutured with the mucous membrane dow ward to the upper layer of the fascia. A sheet of gold was placed between the mucous membrane and the d layer of the fascia to prevent union of the subjac services. Perfectly satisfactory union resulted, dem strating that it is possible to transplant bladder-tissue the superficial fascia. Mundell suggested that in ope tions for the relief of ectopia vesicae such a fold may removed from the bladder of a sheep and transplan to the abdominal wall of the patient. After union taken place in 7 or 8 days a plastic operation may be formed, sliding the flap with bladder-tissue attached into vesicle-defect and fixing it in place by sutures. [M.B.T.]

7.—A boy, 6 years old, had a small lump situated in middle of the neck about 3 cm. below the hyoid bone. It increased in size for a year until it was as large as a filb When the boy swallowed, the lump was drawn upwards, b wards and inward, the surrounding skin being drawn a circular fold around the margin of the tumor. On pa

a well-defined hard cord could be felt extending from tumor to the center of the lower border of the hyoid bone. l incision was made and thick gelatinous contents were uated. The cyst refilled, however, assuming the same tion as before the operation. At a second operation it again opened and emptied; a fine silver probe could then passed along a duct which extended to the hyoid bone. h the probe as a guide the duct and cyst-wall were dis-ed out and primary healing resulted. There has been no of a second recurrence. The case is reported as one of **sistent thyroglossal duct.** The thyroid gland de-ps in the embryo in three different parts, a median diver-lum lines the pharynx; a lateral diverticulum is devel-d on each side from the posterior wall of the fourth eral cleft, and in man a median portion persists for a time hollow vesicle from which a small canal, the thyroglossal t, leads to an opening on the dorsal surface of the tongue; duct usually disappears, but its external opening per-on the surface of the tongue as the foramen caecum. .T.]

Münchener medicinische Wochenschrift.

November 21, 1899. [46. Jahrg., No. 47.]

n Epidemic of Angina Lacunaris and its Incubation-Period. Siegert.
oncerning Pneumococcus-Sepsis. Cohen.
ntitoxin and Tracheotomy. Mayer.
pon the Treatment of Eclampsia. By Carl Everke-Bochum.
esarean Section, with the Transverse Incision of Fritsch, on account of Severe Eclampsia at the End of Pregnancy. By R. Biermer.
ew Ways of Using Formaldehyd in Disinfecting Dwellings. Walther and Schlossmann.
he Theory of Agglutination. Loew.

.—From an observation of an **epidemic occurrence follicular tonsillitis** attacking 28 persons in contiguous streets of Strasburg, the author concludes that the disease is infectious, with an incubation-period of four days, that it is readily transmissible from the sick to the well; ce, cases of tonsillitis should be isolated, especially in of the frequent septic and pyemic complications. Children should not be sent to school until five days have passed the time they have been in contact with a tonsillitis . [D.R.]

.—Cohn deals with **pneumococcus meningitis of ult origin,** and reports the following illustrative case: oman, 35 years of age, had aborted 3 months before. weeks before her entrance into the hospital she had use hemorrhages from the uterus. The heart was en-ed and there was a systolic aortic murmur. The tem-ture rose and the symptoms of meningitis developed. bar puncture yielded a turbid fluid containing Fränkel's ococcus. The patient died, the clinical diagnosis having septic meningitis secondary to a focus in the pelvis. septic endocarditis. The autopsy showed ulcerative carditis of the aortic valve, purulent endometritis with ntion of a part of the placenta, and purulent meningitis he base and convexity of the brain. The pneumococcus obtained postmortem from infarcts in the spleen and the vegetations of the heart and the endometrium. .]

.—Mayer says that in **diphtheria** such as they have in h, where the disease is not septic but tends towards lvement of the larynx and trachea, one injection of toxin on the first or second day will almost always stop the ase. As to the choice between tracheotomy and intuba-when operation is really indicated, Mayer believes oughly in the superiority of tracheotomy. Once the ess has extended to the trachea intubation is entirely f place. In any case where this procedure is practised surgeon must be ready to perform a hurried trache-y. [G.B.W.]

.—Everke-Bochum considers **eclampsia** one of the est complications of pregnancy and labor, both for her and child, since the textbooks give a 25% mortality e former and 50% of the latter. Notwithstanding the est efforts of investigators the causes of eclampsia are in darkness. The medical treatment is open to criticism; especially the use of narcotics, such as morphia in large doses, continuous use of chloroform, etc., give bad results; and logically so, since such treatment is simply introducing another poison into an already poisoned body. The experience that with the emptying of the uterus or the death of the fetus, the convulsions cease in about 90% of cases seems to indicate that from the living fetus or from the placenta some poison enters the mother's blood-circulation; hence the uterus should be emptied as soon as possible. Everke-Bochum gives the detailed statistics of 38 cases in his own experience, severe cases in which there had been 10 or more convulsions and an unconsciousness of from 6 to 12 hours. In 7 cases the delivery could be accomplished with simple forceps, version, etc., and of these 6 mothers recovered and 3 children lived. In the remaining 31 cases the conditions were more difficult and delivery was impossible per vias naturales. In 28 of these Duhrssen's cervical incision of the os uteri was employed with subsequent delivery by forceps, version, etc., resulting in the recovery of 20 mothers and the birth of 23 living children. As in some of these cases death resulted from sepsis, he considers the mortality from eclampsia as only 12%. He thinks that forcible delivery with help of cervical incision, when necessary, is generally successful; but that Veit's morphin injection is injurious, since the majority of the deaths in his experience were of cases in which subcutaneous morphin injections had been freely used by his colleagues before the operation. [W.K.]

5.—Biermer reports a case of **cesarean section** in which the patient, a strong, stout woman of 24, had suffered during the latter part of pregnancy with severe headache, swelling of the limbs, and dyspnea. A midwife was called in who fearing eclampsia sent for a physician. When examined the patient was found in a cyanotic condition, insensible, with loud, stertorous respiration. Labor-pains had ceased, but the fetal heart-sounds could be readily distinguished. During the examination the patient was seized with a typical attack of eclampsia with clonic convulsions. There being no relaxation of the cervix, delivery per vias naturales seemed very doubtful and cesarean section was decided upon. The operation was without complications, and upon opening the uterus the child was extracted by the feet. It was slightly asphyxiated but was speedily brought to. Its weight was 2875 g. Thirty-six hours after the operation the patient died. At the autopsy, 12 hours later, the brain was found to be edematous throughout; lungs with fresh pleuritic adhesions, also edematous; heart-muscle very pale, the wall of the right ventricle fatty; liver showed numerous, large and small, subserous hemorrhages; kidneys, indications of acute nephritis; uterus, well contracted; in the uterine wound, fresh thrombus-formations. [W.K.]

7.—A brief reply to Gruber's article in which Loew contends that the enzymic nature of the agglutinins has not been disproved by Gruber. [D.R.]

November 28, 1899. [46. Jahrg., No. 48.]

1. The Examination of Rose-Spots for the Typhoid Bacillus. Curschmann.
2. Various Methods for Producing Artificial Hyperemia as a Curative Measure. Bier.
3. The Treatment of the Puerperal State. Hofmeier.
4. Concerning Thrombosis of the Veins in Chlorosis. Leichtenstern.
5. First Case of Successful Gastroenterostomy in Congenital Stenotic Pyloric Hypertrophy in an Infant Eight Weeks Old. Abel.
6. Regeneration of the Crystalline Lens in Man. Boas.
7. A New Method of Plastic after Chiseling an Opening into the Frontal Sinus in Empyema. Grunert.

1.—Neufeld found **typhoid bacilli in the rose-spots** of 13 out of 14 cases of **typhoid fever** examined. Curschmann repeated the experiments in 20 cases, obtaining a positive result in 14. This proves that the spots are a specific lesion. The possibility of finding the bacilli in them offers a valuable diagnostic sign. The method is not more difficult than the Widal test. [D.R.]

2.—Bier says the good results obtained from the hot-air treatment for chronic rheumatism of the joints is due to the production of an active **hyperemia,** and that this active hyperemia will have a healing result on other forms of dis-

ease. He obtains the hyperemia by a local application of heated dry air, just as in the joint treatment. His apparatus consists of a number of wooden boxes of different shapes, made to accommodate the various portions of the body. The outside is covered with linen and both the inside and outside are painted with soluble glass to render the box fireproof. The hot air is obtained by a large spirit lamp placed under an iron funnel, the top of which is connected with a hole in the side of the box by iron tubing. [G.B.W.]

3.—Hofmeier discusses the question of the **manual removal of a retained placenta,** especially how long a time may elapse before the operation is considered necessary, and also the propriety of complete antisepsis in its performance. He quotes from several authors, as Winckel, Schauta and Zweifel, whose opinions as to time vary from 1 to 24 hours; but Hofmeier himself thinks that if the normal expulsion of the placenta does not occur within 2 or 3 hours after the birth of the child, it will not occur at all spontaneously. Then efforts should first be made to expel it by expression; if these fail, resort must be had to manual removal. If there is persistent and dangerous hemorrhage, it may be necessary to do this at a very early period. The loss of from 1,000 to 1,500 grams of blood is a strict indication for energetic action. Hofmeier urgently insists upon a thorough disinfection of the hands and also of exteral and interal genitalia before the operation, and considers every physician culpable who omits these necessary precautions. [W.K.]

4.—A thorough study of **venous thrombosis in chlorosis.** Among 1653 cases of chlorosis which Leichtenstern has observed since 1886, thrombosis occurred 11 times, or in .66 per cent. This comprises only the positive cases of thrombosis. It is very probable that in many instances pains in the thighs and calves of chlorotics are due to thrombosis of deep-seated veins. Edema may be absent in thrombosis. Thrombosis in chlorosis is favored by pregnancy, obesity, and by loss of blood. As for the place of predilection, in 86 cases the thrombosis was found distributed principally as follows:—The veins of the lower extremities, 48; the cerebral sinuses, 29; numerous other veins, 1 each. Sinus thrombosis is generally fatal. As in the lower extremities it is often the small, intermuscular veins that are affected and as edema may not be produced by their obstruction, the diagnosis is at times difficult, and grave accidents may unwittingly be brought about by improper treatment. The author cites a case in which the patient who was apparently recovering from thrombosis and no longer had any edema, on getting up out of bed suddenly developed a terrible anxiety and dyspnea, and died in a short time. The autopsy revealed occlusion of both pulmonary arteries by thrombi, and thrombosis of the popliteal and intermuscular veins of the calves. In 52 cases of thrombosis of the lower extremities, **pulmonary embolism** occurred in 10. This shows that the thrombus in chlorosis is very liable to crumble and give rise to detachment of emboli. This friability is probably caused by the richness of the chlorotic thrombus in blood-platelets. As to the pathogenesis of the thrombosis, the old explanation that the clots were marantic, from enfeeblement of the circulation, cannot be maintained. While cardiac debility is a factor, there is another which the author sees in structural changes of the intima of the bloodvessels. Still another is the chlorotic condition of the blood; some observers have found an increase in the blood-platelets in chlorosis. [D R.]

5.—This most interesting case of **congenital stenosis of the pylorus** occurred in a male child who, at birth, weighed 4500 g. At the commencement of the fourth week he had only gained 40 g., was greatly constipated, and at the end of the fourth week began to vomit. When examined 2 months after birth the child weighed only 3800 g. The symptoms were such as to suggest pyloric stenosis and the findings of the stomach-tube showed an enormously dilated stomach, no free hydrochloric acid, but lactic acid was present. The operation confirmed the diagnosis of pyloric obstruction, which obstruction was not passable by a sound 3 mm. in diameter. Gastroenterostomy after Wölfler was performed and the abdominal wound closed. The child made a good recovery, and when he left the hospital no particles of food could be washed from the stomach 2½ hours after a meal. [G B.W.]

6.—Boas reports a case in which there was an apparent attempt at **regeneration of the lens.** The patient was 62 years of age and had a cataract, and in 1874 had the l of the right eye removed by discission. In 1896 he re peared to have a cataract of the other eye removed. examination a whitish process was seen projecting from hind the iris, and on its end was seen a small, round, tra parent body, resembling closely the cyst of a cysticerc This little growth was taken to be a redeveloping le [G B.W.]

7.—Grunert's method for filling in the cavity after rem ing the anterior wall of the frontal sinus in cases of empye is as follows: After the sinus has been opened and trea according to the method of Kuhnt, a square flap of ski formed by making two incisions from the ends of the or nal transverse incision upwards on the forehead. A lo flap is made in a like manner by extending two short in ions downward. The epidermis is removed from the up flap, which is then pulled down so as to help fill in the ca of the frontal sinus. The lower flap is then brought up a sutured over the raw surface of the upper. The upper e of the upper flap is best bevelled internally so as to fit m neatly when fastened in place. In a case in which t method was carried out the cosmetic results were all t could be expected, especially was there no sinking in of tissues over the seat of operation. [G.B.W.]

December 5, 1899. [46. Jahrg., No. 49.]

1. Experiments in Disinfection of the Hands. TH. PAUL a O SARWEY.
2. Küster's Osteoplastic Opening of the Mastoid with Chi PASSOW.
3. Three Gastroenterostomies, Resection of the Intestine a Enterostomy in One Patient with Recovery. H. KEHR.
4. Involvement of the Anterior Abdominal Wall in Ca noma of the Stomach. RUDOLF SEGGEL.
5. A Contribution to the Pathology of Syphilis of the Br and Spinal Cord. THEODOR STRUPPLER.
6. Various Methods of Producing Hyperemia for Curat Purposes. AUGUST BIER.

1.—Paul and Sarwey have developed a method of bacte examination which is to determine the value of differ methods of **hand disinfection.** He says a method to accurate in its results should provide: First, against seco ary contamination from the air or from touching infec objects; second, conditions similar to those during ope tion where softening and removal of the superficial lay of the epidermis generally takes place, and third, that method of removing the germs from the hand be thorough that the presence of bacteria should not only be determi qualitatively, but also quantitatively. The first of these mands is met by carrying on all the manipulations ir sterile box, the second by most thorough washing and scr ing of the hands with sand and a sharp curet, and the th by a hard bit of wood and sharp curet, going carefully o the whole of the hand. [G.B.W.]

2.—Passow does not believe in the value of **Küste osteoplastic opening of the mastoid process** ab that of the ordinary radical operation. He says that scar is no less, healing is not any surer, and that the view tained at the operation is not nearly so good. [G.B.W.]

3.—The patient in this case was 20 years of age and been suffering from **gastroptosis,** with ectosia and mo insufficiency of the stomach. The first operation was a troenterostomy after v. Hacker's method, but as this was lowed by regurgitation of bile, an enterostomy according Braun was done. Vomiting, however, recurred and t Wölfler's gastroenterostomy was performed, and for awl the patient did remarkably well, but soon vomiting with of weight recurred. At the fourth operation an entire ob eration of the Wölfler's gastroenterostomy was seen to h taken place. This time a portion of the intestine resected, Roux-Wölfler's gastroenterostomy done, and fin an enteroenterostomy completed the operation. The re from this last procedure was for the time being at leas satisfactory as possible. [G.B.W.]

4.—Seggel reports 3 cases of **cancer** of the stom spreading to the **anterior abdominal wall.** In second case a gastroenterostomy had been performed the cancer grew secondarily in the line of incision as sev small tumors. In the last case a large part of the stom

a number of mesenteric glands, and the growth on the abdominal wall were removed by operation and the patient made a very satisfactory recovery. [G.B.W.]

5.—After a brief review of the literature regarding the time of appearance of **nervous symptoms in acquired syphilis,** the author reports the following cases: A young woman of 19, within 22 months of the infection, was suddenly seized with left-sided **hemiplegia** without disturbance of any of the modes of sensation except the muscle-sense. The mind was not disturbed. There was drowsiness and involuntary evacuation of feces. Under inunctions the patient improved very much, and when discharged had only slight signs of left-sided facial palsy and some weakness in the left arm; there was also a slight limp in the gait. The patient reentered the hospital 22 months later with symptoms of perforated peritonitis. At the autopsy the latter was found to be due to an ulcerative perityphlitis. The brain showed a **cyst** in the right hemisphere involving the posterior half of the lenticular nucleus. Microscopic examination revealed no specific changes in the bloodvessels of the brain. The wall of the cyst was well-organized and well-vascularized. Despite the absence of all anatomic lesions in the brain pointing to syphilis, the author considers that the cyst was of syphilitic origin and reviews the various possibilities: It might have been due to a gumma, to a sclerosis of the cerebral tissue, to encephalitis, or to syphilitic arteritis with thrombosis and consequent encephalomalacia. He adopts the last theory and considers the cyst as due to **ischemic softening,** the result of a circumscribed syphilitic arteritis. It is often difficult to refer cysts and other lesions in the brain found at autopsy to syphilis. Two cases of cyst are then reported in which at the autopsy the syphilitic nature of the disease was very clear. There was in the one internal pachymeningitis, internal hydrocephalus, a cyst in the right internal capsule, a gumma in the left lenticular nucleus and internal capsule, a syphilitic scar on the epiglottis, and a syphilitic periostitis and ostitis of the cranium. The other case showed a typical gummatous aortitis and syphilitic arteritis of the vessel at the base of the brain, with embolism and thrombosis of the right sylvian artery and ischemic softening of nearly the entire right hemisphere. [D.R.]

6.—Bier says that the active **hyperemia** produced by hot air is especially useful in rheumatism of the joints and in other chronic joint-inflammations, but is of no value in tuberculosis. In this latter disease the passive congestion produced by ligatures is of especial usefulness. Another way of producing hyperemia is by a vacuum, such as the cupping glass, and in this direction apparatuses have been made to fit the leg and arm, so that this, what might be termed, mixed hyperemia, could be extended to the treatment of joints. There is great difficulty in making a proper apparatus to allow of localizing the vacuum to the elbow or knee, but the hand or ankle may be very readily treated. [G B.W.]

December 12, 1899. [46. Jahrg., No. 50.]

1. Syphilis of the Aorta a Cause of Aneurysm. Arnold Heller.
2. A New Fermentation Saccharometer for Undiluted Urine. Theodor Lohnstein.
3. The Indications for Transplantation of Skin-Flaps. Reuter.
4. The Results of Vaccination in Bavaria for the Year 1898. L. Stumpf.
5. Involvement of the Anterior Abdominal Wall in Carcinoma of the Stomach. Rudolf Seggel.
6. Syphilis of the Brain and Spinal Cord. Theodor Stuppler.
7. The Hygiene of Dwellings in the "Bürgerlichen Gesetzbücher." Biberfeld.

1.—Heller is a strong believer in the **syphilitic origin** of **aortic aneurysm.** Aneurysms of the aorta arising from this disease greatly outnumber those due to other causes, especially in young individuals and in those in the prime of life. In his own experience 85% were due to syphilis. Syphilis produces characteristic lesions in the aorta; microscopically, they are characterized by cellular hyperplasias containing giant cells and following the vasa vasorum. Through these accumulations the media is more or less destroyed. Later the cellular collections are transformed into contracting fibrous tissue, poor in cells. Necrosis and obliteration of the nutritive vessels, especially in the adventitia, are not rare. The intima is generally affected secondarily. Macroscopically, syphilitic aortitis, rarely found pure, is characterized by more or less numerous, small, thin areas, with pit-like depressions, the borders of which are wrinkled. Usually there is also an extensive thickening of the intima, with a tendency to contraction and wrinkling. These depressions are diffuse, firm, cicatricial, and occasionally undergo a dry necrosis. If the majority of aortic aneurysms are due to syphilis, it is important to make the diagnosis early, in order to institute an antiluetic treatment. [D.R.]

2.—A description of a new **fermentation saccharometer.** [D.R.]

3.—Reuter reports a case of cicatricial contracture following burn almost entirely relieved by the Krause's method of the **transplantation of a free skin-flap.** The patient was 2½ years old when burned. At the present examination, 3½ years after the transplantation of the flap, the knee can be readily fixed and extended, the implanted skin is elastic, movable, and has greatly increased in size. [G.B.W.]

4.—From this model report we abstract the following figures:—Number of individuals vaccinated, 152,351; of these there were vaccinated with success, 148,961; 162,995 vaccinations were performed with gylcerinated animal lymph, and only 1483 with lymph conserved in other ways. [D.R.]

5.—The combined examination showed a cylindrocellular adenocarcinoma of the anterior wall of the stomach with metastasis in the neighboring lymph-glands and an inflammatory infiltration of the anterior abdominal wall with which the stomach had grown fast. Peculiar of the infiltration in the abdominal wall was the fact that no sign of carcinoma could be detected in it and it was seemingly a pure inflammatory condition. [G B.W.]

6.—The patient was 34 years old. There was complete paresis of both legs, with loss of tendon reflexes, and skin reflexes, girdle sensation, retention of urine, incontinence of feces, disturbance of sensation up to the umbilicus consisting in an inability to distinguish sharp from dull points and heat from cold. Tactile sensation was good. Gradually the analgesia and thermoanesthesia extended up to the level of the ensiform cartilage. The patient died, and at the autopsy there was found a **gummatous pachymeningitis, lumbar myelitis,** septicemia, originating in bed-sores, and cystitis, cloudy swelling of the kidneys, and mild cirrhosis of the liver. The interesting feature was that the dura was involved in the lumbar region, with the formation of gummas and cicatricial changes, while the other membranes were unaffected. The disease of the cord was secondary and was a compression myelitis. [D.R.]

December 19, 1899. [46. Jahrg., No. 51.]

1. Experimental Investigations in the Disinfection of the Hands. Th. Paul and O. Sarwey.
2. The Effects and Application of Dionin in Diseases of the Respiratory Organs. Th. Janisch.
3. Concerning Dionin. Meltzer.
4. A Case of Akromegaly Complicated with Symptoms of Raynaud's Disease. A. Boettinger.
5. The Value of Urine Culture Media in the Diagnosis of Typhoid Fever. Ernst Unger and Ernst Portner.
6. The Results of Vaccination in the Kingdom of Bavaria, for 1898. L. Stumpf.
7. Remarks upon the Hofmeier's Article, "Treatment of the Third Stage of Labor." Kuhn.

1.—As a result of Sarwey's and Paul's researches over the **disinfection of hands,** it was shown that the numerous bacteria which exist on the ordinary hand are markedly decreased in numbers by Ahlfeld's hot water and alcohol method of disinfection, and the longer the immersion and scrubbing are kept up the more bacteria are removed. But it was also shown that it was impossible by this method to render hands absolutely free from germs. [G.R.W.]

2.—Dionin is the hydrochlorate of ethyl morphin. It is a white, crystalline powder of a feebly bitter taste, and easily soluble in water, alcohol and sirup. Janisch has employed it in chronic disease of the respiratory tract for the relief of cough, and the results were satisfactory. The drug is also a

prompt hypnotic; nightsweats are favorably influenced by it. Very favorable results were obtained in chronic bronchial and emphysematous asthma. Experiments showed that the drug increases the respiratory volume and does not depress the excitability of the respiratory center. Another advantage is that it does not hinder expectoration. It is best given in the same doses as codein, 0.02 of a gram (gr. $\frac{1}{3}$) two or three times daily, or from .03 to .04 of gram (gr. $\frac{1}{2}$–$\frac{2}{3}$) at night.

3.—Meltzer thinks that **dionin** *is not an hypnotic* in the strict sense, but that it is an agent that depresses the receptivity to sensory impressions, and in that way favors sleep. Unfavorable after-effects are very rare. It is not to be used in the case of very sensitive and excitable patients, as it may produce fulness of the head, palpitation, etc. In a number of cases it acted well as an analgesic. Of all the opium alkaloids **morphin** is the most active, heroin is more toxic than morphin. **Codein** does not depress the respiration, but is less efficient than morphin, not entirely free from disagreeable after-effects, and its subcutaneous use is painful. **Peronin** is soluble with difficulty, and has a very bitter taste; it has, however, no after-effects. Dionin is less powerful as an analgesic than morphin, but more powerful than codein, and does not have the disagreeable after-effects nor the bitter taste of peronin. It is useful in cough, for the relief of pain, and is employed locally as a lymphagog in various diseases of the eye. [D.R.]

4.—Boettiger reports a case of **akromegaly** complicated with Raynaud's phenomena. The author looks upon akromegaly as the result of an intoxication of the system, probably by leukomains, and thinks that these latter exert their first effect upon the periphery of the body in the form of hypertrophic and hyperplastic processes. It is the duty of the ductless glands to elaborate antitoxic substances to counteract these poisons, and the hyperactivity of these glands leads to their hypertrophy, particularly in the case of the hypophysis. The changes in the latter are always in the beginning a simple hypertrophy and hyperplasia, and only later does the gland undergo heterologous modifications. [In other words, the author ooks upon the hypophysial changes as secondary, and as an attempt on the part of the system to combat the toxins causing the akromegaly. In another part of the paper he gives as one of the arguments against the hypophysis-theory of akromegaly that the gland is too insignificant to cause such an extensive disease. Now if the gland is too small to cause akromegaly, it can scarcely be paramount, as the author claims, in the combat against the disease. The assumption that every sarcoma of the hypophysis found in akromegaly began as a functional hyperplasia is also hardly justified. On the whole, the reviewer feels that the author has not invalidated the theory that changes in the hypophysis bear a causal relation to akromegaly. D.R.]

5.—The authors were unable to find that Piorkowski's medium (alkaline urine, containing 3.3% gelatin and 0.5% peptone) enables one to make an early **differential diagnosis between the Bacillus coli and the typhoid bacillus** obtained from the feces of typhoid-fever patients. However, the medium is of value, as there is a general tendency for the colon-cultures to be circular, while those of the typhoid bacillus are oval or quadrangular, and have long, spirochoeta-like extensions. They conclude that the absence of colonies with long filamentous processes after several cultivations speaks against typhoid fever; that the presence of many colonies with long filamentous processes is in favor of typhoid fever; that colonies with short, filamentous processes, when associated with the clinical symptoms of typhoid fever, indicate that disease, but cannot be utilized for diagnosis to purposes without such clinical signs. [D.R.]

7.—Kuhn disagrees with Hofmeier in his opinion as to the necessity of a disinfection of the vagina before the manual removal of the placenta, and asserts that it is not customary with the most skilful physicians nor has experience proved it essential. [W.K.]

Berliner klinische Wochenschrift.

December 4, 1899. [36. Jahrg., No. 49.]

1. Some Unusual Cases of Insomnia. H. OPPENHEIM.
2. Serumtherapy in the Treatment of Tuberculosis. E. MARAGLIANO.
3. The Nourishment of Patients Suffering from Pulmonary Tuberculosis. F. BLUMENFELD.
4. Acute Idiopathic Internal Hydrocephalus. A. HEIDENHAIN.
5. Erythromelalgia. RICHARD ROSEN.
6. Staining Gonococci in Living Leukocytes with Neutral Red. J. PLATO.
7. Concerning the Use of Dark or Light Meats for the Nourishment of the Sick. TH. R. OFFER and E. ROSENQUIST.
8. Remarks on the Second Communication Regarding Light and Dark Meats for the Nourishment of the Sick. H. SENATOR.

1.—**Insomnia** may be classified in various ways. There is the **psychogenic** or **ideogenic.** To this class belong all cases in which overstrain of the mind, morbid concepts, violent emotions, or other pathologic mental states banish sleep. The insomnia of the insane, and to a certain extent that of hysteric and neurasthenic individuals, falls under this head. Many of the phobias come on especially when the patient is about to go to sleep. Closely connected with the psychogenic form is that in which hyperesthesia of the special senses interferes with sleep. The second form is the **algogenic,** or dolorous form, in which pains of various kinds keep away sleep. Aside from pain, there may be paresthesias, especially pruritus, thermoparesthesia, and paresthesias of the special senses, particularly tinnitus aurium. An important role in the causation of insomnia is played by gastrointestinal disturbances; phenomena referred to the heart and the vessels may also affect sleep unfavorably; so may respiratory disturbances, occasionally motor phenomena, such as cramps, prevent sleep; in rare instances there is a fibrillary twitching that acts similarly. Secretory disturbances are not often the cause of agrypnia; most frequently, perhaps, hidrosis. There is also an insomnia of sexual origin. The factors which prevent sleep are not necessarily identical with those that interrupt an already existing sleep. At times the sleep itself is the cause of the phenomena which interrupt and banish it; dreams, nightmare, night-terrors, are illustrations of this. There is also a relation between certain "algias" and sleeping—such algias especially as are produced by the sleep itself. Oppenheim speaks of a patient who was perfectly well in the waking state, but who was awakened from sleep by a severe girdle-pain. Another patient suffered from occipital neuralgia only during sleep. There are thus pains that are intimately connected with the process of sleep, just as there are forms of epilepsy that are hypnogenic. It is possible that during sleep there is a subsidence of the inhibitory mechanism controling certain nerve territories that can excite pain. It is especially, Oppenheim thinks, pathologic conditions in the sympathetic nervous system which manifest themselves when sleep causes a subsidence of the higher cortical centers. The heart and the respiratory apparatus may also give rise to sensations which are manifested only during sleep, or which are intensified by it. An interesting case is reported in which a woman, after an influenza attack, was seized with a very remarkable condition. As long as she was awake heart and respiration were normal, but as soon as she went to sleep pulse and respiration ceased. The condition was so alarming that the patient was constantly watched and kept awake by artificial means. Under treatment, especially narcotics and bromids, she recovered. Another patient, a married woman, 35 years of age, one day received some sad tidings for which she was not prepared. She became very much excited, and thereafter was awakened at night about every quarter or half-hour from her sleep by intense dyspnea. During these attacks she would start up unconscious, and often injured herself. There were no signs of hysteria. After from $\frac{1}{2}$ to $1\frac{1}{2}$ minutes she could respond to questions, and could go to sleep again, until in $\frac{1}{4}$ or $\frac{1}{2}$ an hour the attack returned. Oppenheim considers the case **hysteric** in nature. The patient recovered under bromids. [D.R.]

2.—Maragliano has been able to produce **tubercle-antitoxin,** which, injected into healthy and diseased human beings, produces the formation of new protective bodies in the blood. Repeated simultaneous injections of doses of tubercle-poison and antitoxin prevent in healthy animals the occurrence of progressive marasmus, which gradually kills

imals receiving the same doses of toxin, but not antitoxin. ie antitoxins are harmless in men and animals, healthy as ell as tuberculous. The antitoxins have an action upon e tuberculous toxin, but no direct influence upon the cilli, although it may be inferred that the effect of the titoxin is to cause a modification of the soil, whereby the tivity of the bacilli is attenuated or entirely destroyed. [D.R.]

4.—Heidenhain reports 4 cases of **acute idiopathic internal hydrocephalus.** The first case, a man of 40 years, ter an exposure to a strong draft, was suddenly seized with tense headache and absolute blindness. Within an hour he as maniacal and could be controled only by the administation of strong doses of morphin. During rest, the pulse as reduced, the temperature normal, the pupils dilated and nreacting, and there was marked choked disc. Under sodium salicylate complete recovery took place. The author nsiders this case to be one of what was formerly called **erous apoplexy.** The second case was a man of 23 years ho after having danced a whole night, traveled in an open ilway carriage for six hours. Arrived at his destination, e had headache, which became worse during the next few ays. When seen he was stooping; the gait was heavy and ttering, mentality retarded, pupils dilated and sluggish; oderate choked disc was present, and maniacal attacks deeloped. The temperature before the attacks was about ormal; during the attacks it sank, and the pulse went down 40. The autopsy showed in this, as in the other 2 cases hich are not reported in detail, the same features: Membranes pale, brain anemic, convolutions flattened and pale, ie ventricles enormously dilated and containing a whitish erous fluid, the ependyma thick. The fluid in the ventricles as under great pressure; the amount was estimated at from 50 to 500 grams. The author concludes that idiopathic cquired internal hydrocephalus is a disease *sui generis;* that ie fulminating form may recover, but the slower, insidious rm is fatal. The disease is produced by exposure to cold nd is to be looked upon as a vasomotor reflex neurosis [a ery bold conclusion]. The recovery in the first case was robably due to the large hypodermic injections of morphin. he author did not use lumbar puncture because he did not ink that it would do any good. [It would seem that he ould have given the patient the benefit of the procedure. .R.]

5.—The author is inclined to the opinion that **erythromelalgia** is usually of central origin, and reports a case in n imbecile, 34 years of age, in whom the disease was located i the lower extremities. The affection was not limited to pecial nerves, but attacked regions supplied by the saphenous, the communicans peronei, and the communicans ibialis,—that is to say, by the anterior crural and sciatic erves. As the origins of these are in close proximity in the pinal cord, Rosen looks upon the disease as having its ocalization in the spinal cord. An exception to the central rigin is the case reported by Mitchell and Spiller, in which ascular and nerve changes were found in the affected oe. [D.R.]

6.—If a small drop of fresh gonorrheal pus is mixed with weak solution of **neutral-red** in physiologic salt solution 1 cc. of a cold, saturated, watery solution of neutral red to 00 cc. of physiologic salt-solution), and the preparation is xamined in a hanging drop or in an unfixed state, a part of he intracellular **gonococci** will be found stained deep-red. f the ameboid movement of the leukocytes is stimulated y warming the slide, some of the gonococci are seen to ecome decolorized as they approach the borderzone of the eukocyte; they become recolored when the protoplasm has loated around them. It cannot, therefore, be concluded hat only dying or dead intracellular gonococci become tained. Extracellular gonococci do not stain, even if kept or days in the neutral red solution of the concentration iven. [D.R.]

7 and **8.**—See editorial columns.

Wiener klinische Wochenschrift.

November 9, 1899. [12. Jahrg., No. 45.]

1. Concerning the Operative Treatment of Tuberculous Pneumothorax. DRASCHE.
2. Experiments with Electric Irritation of the Corpora Quadrigemina. J. PRUS.
3. The Operation for Liver-Echinococcus. K. BÜDINGER.

2.—**Electric stimulation** of the **quadrigeminal bodies** in dogs produces two kinds of phenomena: (1) reflex phenomena, in consequence of stimulation of centripetal nerves; (2) phenomena due to the immediate stimulation of motor centers or centrifugal nerve-tracts in the quadrigeminal bodies themselves. These two categories of phenomena are different, according as the anterior or the posterior bodies are stimulated. While the irritation of the anterior pair produces reflectorily arrest of the respiration, retardation of the pulse, sneezing, expressions of anger, and at times feeble efforts at running or an epileptic attack, irritation of the posterior pair produces reflexly acceleration of the respiration and pulse, expressions of fright, and constant energetic running movements, and frequently epileptic attacks. The phenomena that are not reflex are, in case of irritation of the anterior pair, tonic spasms, certain head, eye and ear movements, frequently contraction of the pupils, and deglutition movements; and in the case of the posterior pair, clonic spasms, deviation of the eyes towards the opposite side, dilation of the pupils, exophthalmus, movements of the cardia, and barking. Increase in blood-pressure and salivation occur whether the anterior or posterior bodies are stimulated. As the result of these experiments and the anatomic relations of the organs, the author concludes: (1) that the anterior pair of quadrigeminal bodies contain those motor centers upon which optic stimuli can act, while the motor centers in the posterior pair respond especially to acoustic stimuli; (2) that there is in the anterior pair a center which under pathologic conditions can produce tonic spasms, while in the posterior pair there is an analogous center for clonic spasms; (3) that in the anterior pair there are reflex pathways for the respiration, the vagus, and the vasomotor nerves; in the posterior also centers for the coordination of reflex movements and a center for vocalization. Clinical observation shows that disease of the quadrigeminal bodies produces disturbances in the movements of the eyes, incoordination in gait and station, tremor, dilation of the pupil, exophthalmus, and disturbance of vision (in disease of the anterior pair), as well as auditory disturbance (in disease of the posterior pair). [D.R.]

3.—A girl, 12 years old, had noticed a swelling in the region of the liver a year previously; of late there had been nausea, vomiting, and a tense feeling in the region of the liver. A prominent, rounded, smooth tumor, the size of the palm of the hand, was felt; it was elastic, fluctuated distinctly and there was indefinite hydatid thrill; clear fluid was withdrawn on puncture which did not contain hooklets. Ten days later the abdomen was opened. The tumor was found on the under surface of the **liver,** it was opened and found to be a **hydatid cyst,** the cavity was filled with iodoform emulsion and sutured. There was afterward some fever and suppuration in the abdominal wall, the patient recovered, however, and remained well for 5 years; then there was pain in the right side, vomiting and a prominence in the right side of the thorax. The abdominal cavity was again opened, many adhesions were separated and an enormous echinococcus cyst was evacuated. The edges of the opening in the cyst-wall were sutured to the skin and drainage was inserted. The patient made a good recovery. [M.B.T.]

November 16, 1899. [12. Jahrg., No. 46.]

1. The Connection between Typhus Infection and Cholelithiasis. The Cause of a Clinical operated Case. S. DROBA.
2. A Tricho-bezoar in the Stomach. Gastrotomy. F. SCHOPF.
3. A Case of Hydrocele Bilocularis Intraabdominalis. F. v. WINIWARTER.
4. Concerning the Operative Treatment of Tuberculous Pneumothorax. DRASCHE.
5. The Operative Opening of the Middle-Ear Cavity in Chronic Tympanic Suppuration. V. HAMMERSCHLAG.

1.—The case of a woman is reported who had had numerous attacks of abdominal pain which were diagnosed as due to **cholelithiasis.** On opening the abdomen under the outer border of the right rectus muscle the gallbladder was found firmly fixed by adhesions to the pylorus, transverse colon and the omentum. Its walls were greatly thickened and stones could be felt. Total **cholecystectomy** was undertaken; it was necessary to separate the adhesions by means of scissors and the defects in the serous coat of

the stomach and intestine were sutured. In order to remove the gallbladder it was then necessary to resect a part of the substance of the liver. After the gallbladder was completely isolated, the gallpassages were tied and it was removed; drainage was inserted and the abdominal wound closed. The recovery was uneventful. A pathologic examination of the gallbladder was carried out after the operation; its surface was sterilized by means of a glowing hot glass rod and at this point it was opened with a sterile knife and cultures were made. Bacilli developed which showed all the microscopical and cultural peculiarities of the Bacillus typhosus. The stones were investigated in the same way, breaking away the outer layer, and cultures from the middle of the stone also showed the presence of typical typhoid bacilli. Seventeen years previously the patient had had an attack of **typhoid fever** and the attacks of biliary colic developed after this. [M.B.T.]

2.—A girl, 12 years of age, had suffered for about 9 months from palpitation of the heart and discomfort in the stomach, she had a good appetite, however, and digested all foods readily, except sweets. She had noticed no swelling of the abdomen, but on consulting a physician for her digestive disturbances she discovered a hard sausage-shaped tumor situated transversely in the epigastrium. It was freely movable and slightly painful on pressure. A diagnosis of tumor of the spleen was made, but on opening the abdomen the **stomach** was found to be completely **filled with** some foreign body lying in it. It was opened by an incision in the middle of the anterior surface and a **mass of hair,** which completely filled the organ, was removed. The stomach and intestine were closed in the usual way. The mass of hair when dried weighed 160 gm. It consisted of fine reddish-blond hair, about 30 cm. in length, and of shorter black hairs, about 30 cm. in length, which were felted into the blond hair. The child's father said that the child had been accustomed to chew her hair, and had often been punished for this. The black hairs came from a dog with which she frequently played. [M.B.T.]

3.—A man, 31 years old, had had a **hydrocele** of the right scrotum since his youth. For 2 years it had increased in size and it had been tapped 3 times, about 7 liters of clear fluid being removed on each occasion. The swelling rapidly returned, however, and he entered the hospital for operation. The sac was partially within and partially without the abdomen, and had reached an enormous size. It was extirpated after division of the fascia and abdominal muscles in the inguinal region. Recovery was uneventful. The sac consisted of 2 parts, a large abdominal part and the scrotal part, with a narrow middle portion. The length of the entire cyst was about 40 cm., the abdominal portion measuring 30 cm., the breadth of the sac was 23 cm. and the cyst-wall varied from 1 to 1½ cm. in thickness. [M.B.T.]

4.—Five cases of **tuberculous pyopneumothorax** are reported which were treated by aspiration. Considering the serious condition of the patients they lived comparatively long after the operation and serious symptoms caused by the exudates were relieved. The relief was specially noticeable in the cases in which the heart was affected. Five other cases are reported in which puncture and permanent drainage were employed—the patients all dying except one. This patient, a man of 29, had a collection of gas and exudate in the left side of the thorax; the typical symptoms of the condition were present; he had a severe cough and numerous bacilli were present in the sputum. On puncture a large amount of gas and 1,500 ccm. of purulent exudate were removed. The patient felt better after the operation, but 3 months later he came back with dyspnea and an abscess arising from caries of the fifth rib. The abscess was opened and the rib resected. The patient then passed out of observation, but he had survived the operation for pneumothorax 1¼ years and was able to work in spite of the deformed condition of his chest. Experience shows that **tuberculous pneumothorax** can be healed through **operation.** There is slight danger of secondary infection after puncture as has been shown by repeated experience, the exudate invariably contained tubercle-bacilli. All authors who have carefully investigated as to the advisability of operation are unanimous in its favor, but to be successful it must be undertaken while the lung is in a condition to expand. In early cases in which the pain, discomfort and cough are moderate, expectant treatment is advised; but, if the symptoms become threatening, operation is indicated. A small trocar which drains the cavity gradually is preferable. The puncture may be repeated many times if necessary, and if the condition of pneumothorax is not improved permanent drainage is necessary. A heavy dressing must be applied and frequently changed. [M.B.T.]

5.—A table of 25 cases of operation for chronic middle-ear disease is given. [M.B.T.]

Centralblatt für Chirurgie.

December 2, 1899. [26. Jahrg., No. 48.]

1. Anesthesia by the Use of Alcohol. MATTHAEI.

1.—Matthaei has carried outsome investigations on rabbits to determine whether it is possible to produce surgical **anesthesia by alcohol-gas** alone. With the use of this anesthetic alone considerable time is required and the anesthesia is not very deep; however, if an enema of 3 to 5 grams of spirits in 10 to 15 grams of water is given soon before the desired anesthesia, it is possible to produce narcosis in 2 or 3 minutes. If the spirits is given by the stomach it acts more slowly and less certainly. Almost immediately after taking away the mask the rabbits recover from the anesthesia, but they usually remained rather quiet for 15 to 30 minutes. He believes that it is desirable to investigate this method of anesthesia farther. Drunkards would be the best subjects and no enema of alcohol would be necessary in such cases. Inasmuch as the temperature for the vaporization of the alcohol is rather high it is desirable to surround the vessel containing it with warm water to bring it to the temperature of vaporization. [M.B.T.]

December 9, 1899. [26. Jahrg., No. 49]

1. A Simple Apparatus for Controling the Steam Pressure in Sterilizing Apparatus. STICHER.

1.—The essential feature in the apparatus described is the use of a chemical from the carbohydrate series, phenanthrene which melts at a temperature of 98° C., just a little below the boiling point. [M.B.T.]

December 16, 1899. [26. Jahrg., No. 50.]

1. Professor Küster's Osteoplastic Operation for Opening the Mastoid. RUDOLF PANSE.
2. The Formation of Ganglions in the Continuity of Tendons. C. HOFMANN.

1.—Panse criticises Küster's method of opening the mastoid process and believes that the results following it are not as favorable as after his own method or after that suggested by Stacke. [M.B.T.]

2.—It has been generally believed that ganglions were connected with joint capsule or with the tendon sheaths, but Hofmann reports a case occurring within the tendon of the peroneus tertius on the back of the foot. The patient was a girl of 17, the ganglion was of the form and size of a plum and contained colorless thick fluid; it was removed without difficulty and rapid healing followed. Hofmann believes with Ledderhouse that ganglions are really new growths, a variety of cystoma. [M.B.T.]

Deutsches Archiv für klinische Medicin.

July 7, 1899. [Band 63, Heft 3 and 4.]

8. Contribution to the Clinical History of Malignant Ulcerative Endocarditis. EBSTEIN.
9. Experimental Investigations Upon the Nature of Trophin. FREUDWEILER.
10. The Affections of the Ear, Occurring in the Course of Measles. HEYMANN.
11. Contribution to Fern Poisoning. WALKO.
12. Contribution to the Pathologic Anatomy of a Gastric Diverticula. ZAHN.
13. Metabolism in Paralysis Agitans and in Old Age, with Consideration of the Effect of Thyroid Tablets. PFEIFFER and SCHOLZ.

8.—Ebstein gives in extenso the histories of 9 cases of **malignant ulcerative endocarditis** with critical comments. In conclusion, he summarizes the results as follows

ne disease can have an acute, subacute, or chronic course; ere is, therefore, no definite constant symptomatology. ne earlier severe cerebral symptoms appear, the sooner es the patient die, and the essential symptoms are not the cal changes in the heart, but the general condition of the tient. First, the course of fever which is characterized by treme alternations, and sometimes by a total atypical rve without any local process that can explain it, except- g perhaps the changes in the heart, and therefore not in- equently giving rise to a diagnosis of cryptogenetic septico- ema. Occasionally, local conditions sufficient to cause e fever are present, and then the diagnosis may be tremely difficult. One or even several initial chills are t sufficient to confirm the diagnosis, but repeated chills nether typical or not, without the presence of metastatic scess to explain them, and especially daily chills are of eat value. They are not, however, pathognomonic. The phoid form may properly be diagnosed when it is produced rely by the endocarditis, and not by any complicating or sociating diseases. It is not certain whether it is the mani- tation of the action of toxins upon the brain or the result actual injury to the brain-substance by metastatic ab- esses. The diagnosis of this form may be helped by bac- iologic studies and perhaps by lumbar puncture. [J.S.]

9.—Freudweiler has undertaken to solve the following estions: 1. Is it possible to **produce a lesion corre- onding to the tophus** by the subcutaneous injection of suspension of acid sodium urate? 2. Are the changes curring in such artificial lesions to be regarded as purely e result of the foreign body or as a result of a specific ion of the biurate crystals? 3. In what manner and by at processes do these artificial deposits of crystalline ates disappear? and is it possible to hasten this disappear- ce by increasing the alkalinity of the juices of the body? e experiments were carried out by the hypodermic injec- n into rabbits of a suspension in physiologic salt-solu- n of freshly prepared crystals of sodium biurate. Altogether) experiments were made, and the lesions excised at vary- ; intervals from one hour to 90 days. The last lesion de- ibed, however, was one 60 days old. The results of the in- tions were by no means uniform and progressive. At all nts it was possible to determine that the variations were greater than those that occurred in ordinary tophi, and t these injections produced lesions corresponding to those ually occurring in gout. In order to determine whether lesions were due merely to the reaction of a solid foreign ly or some specific activity, corresponding injections were de with calcium carbonate; and it was found that the in- mmatory reaction occurred much more rapidly when lium biurate had been used, and led to a much severer m of necrosis. It therefore is evident that these artificial hi produce a necrosis of the tissue that must be regarded specific. In the later lesions, where retrogressive changes re present, it was evident that the crystals were removed a form of phagocytosis, during which polynuclear leuko- es enclosed them, and later giant cells appeared, followed l assisted by cells from the connective tissue. Solution of crystals apparently did not take place. In order to affect alkalinity of the blood, the animals were given either arbonate of sodium or phosphoric acid, according as it was ired to increase or decrease it. Lesions 15 days old were ised at varying periods, from 3 to 24 hours, after the com- ncement of this treatment. The results were entirely gative, and it appears, therefore, that neither acids nor alies have any effect upon old lesions produced by sodium rate. After a review of the literature of the subject, udweiler concludes as follows: That the sodium-biurate osit upon the tissues produces as a result of its chemical stitution and toxic properties for living tissue, an intense cted inflammation characterized by an inflammatory in- ation and swelling of the tissue. It does not appear that ecrosis of the tissue precedes the encapsulation.

0.—Heymann had a case of **measles** that commenced h severe **pain in the ear.** Examination of the throat wed adenoid vegetations and inflammation of the mucous mbrane. Both tympana were retracted, but on the left e the posterior upper quadrant projected and was reddened. acentesis permitted the escape of the purulent secretion. e patient recovered from the ear trouble, but six days r had a new attack of fever, followed by the eruption of asles. A younger brother had the same disease several days later, and although there were no symptoms of ear dis- ease, an examination of the ear drums showed them to be dull. Heymann has made a careful study of the literature, and finds that the exanthema may appear in the external ear, but that the most common disease is middle-ear catarrh or suppuration. This is apparently considerably favored by the existence of adenoid vegetations in the pharynx prevent- ing the free communication of the tympanum with the throat. In very rare cases, the labyrinth may also be in- volved, and in one case there appears to have been a tempo- rary cessation of hearing due to some central disease. Hey- mann believes that the affections of the ear form an invariable accompaniment to measles. [J.S.]

11.—The patient, a woman of 32, had suffered with the symptoms of **tenia** for three years. She took a decoction of 50 grams of pomegranate bark and 5 grams of ethereal extract male fern. In the course of a few minutes there was a profuse secretion of saliva, and hypersecretion from the nose and tear-ducts. There was a feeling of dizziness, vision became cloudy, and finally there was total blindness that disappeared in the course of one-quarter of an hour. How- ever, an hour after the injection there was violent vomiting of a greenish-brown liquid containing almost the entire dose that had been given. There was renewed hypersecretion and again a temporary blindness. The patient complained of severe pains in the hypogastrium, a feeling of constric- tion around the throat, and there was a violent general tremor followed by tonic convulsions of the legs and great increase in the rapidity of the breathing which became at the same time more superficial, and the patient was cya- nosed. This was followed by hiccoughing, increased rapidity of the pulse which became weaker until it disappeared. The pupils were dilated, the extremities were cold, and the patient appeared to be in a state of collapse. After this there was rapid recovery, but in the course of three hours all the symptoms returned as severely as before, there was general hypoalgesia and hypoesthesia over the whole body. This was the last attack. The patient rapidly recovered and in the course of four hours the worm was expelled entire. In cases of poisoning of this nature followed by death, the involvement of the central nervous system is usually more severe. There is often cerebellar gait, intense headache, vertigo, and epileptiform or tetanic convulsions. Walko gives a brief description of the pharmacologic characteristics of male fern and performed several experiments finding that after the administration of 5 grams it was possible to recog- nize either the acid or the extract itself in the urine, but never in the feces, showing that it can be excreted after ab- sorption unchanged. [J.S.]

12.—The patient, a man of 53, died of heart-failure as a result of valvular lesion and **pericarditis.** The stomach was somewhat enlarged and showed in the upper part of the fundus a projection about the size of a walnut adherent to the lower surface of the diaphragm, and communicating with the stomach by a somewhat sphincter-like opening; other- wise, there was merely a chronic gastric catarrh. In the diverticulum, the mucous membrane was atrophied, the glands were largely destroyed, but the lymph follicles were still present and numerous. The mucosa was double its normal thickness, particularly in the upper portion. The connective tissue of the submucous layer contained numer- oue distended bloodvessels. The muscularis extended about half way up the diverticulum and then ceased, so that the wall consisted of a combination of the submucous and sub- serous layers. There are two possible explanations for the occurrence of this. Either it was due to intragastric pres- sure causing it gradually to project, and at the same time atrophy, or it was drawn out by the adhesion to the dia- phragm. [J.S.]

13.—Pfeiffer and Scholz have performed most elaborate ex- periments upon the **changes in metabolism** occurring in various cases of **paralysis agitans and senility.** The methods employed were: for nitrogen, Kjeldahl-Argutinsky; for chlorids, Volhard; the creatinin according to Neubauer- Salkowsky. A slight modification was produced in the usual method of determining phosphorus, which is given in detail. The phosphoric acid was determined by the method of Melot-Mercier. The amount of nourishment was care- fully measured, then analyzed. The clinical histories of the various cases are given. There were 4 cases of paralysis agitans, and 2 in which symptoms of senility were present;

the first aged 76, the second aged 81. Polyuria was present in cases of paralysis agitans, and to an extreme degree when the patients went into a state of nitrogenous equilibrium, or addition of a considerable number of chlorids to the food produced increase in weight. The curious factor was that in spite of the persistent and rather vigorous muscular activity in this disease, there were no pronounced alterations of the ordinary destruction of the albumin. The amount of phosphorus excreted as a result of the daily ingestion of from 2 to 4 grams was usually higher in the cases of paralysis agitans than in the cases of senility. It seems probable, however, that senile patients require a greater quantity of phosphorus than others. The amount of creatinin was somewhat diminished. In one of the patients suffering from paralysis agitans, who in spite of the fact that he was only 48 years old, had all the characteristic symptoms of senility, the amount of sulfates was not altered. Usually at the end of the experiments, the nitrogenous balance was negative, but when thyroid tablets were given, it was found that a certain amount of nitrogen was retained, showing that this quality of the drug was not influenced by the disease. The phosphates and chlorids remained normal during the periods when thyroid was given, but there was a slight increase in the amount of creatinin excreted. There is a full bibliography. [J.S.]

Archiv für klinische Chirurgie.

[Band 60, Heft 1.]

1. The Bactericidal Influence of Bier's Passive Hyperemia. W. NOETZEL.
2. Further Inquiry into the way Bacteria are Absorbed from Fresh Wounds and the Importance of the Same. W. NOETZEL.
3. Statistics as to the Recognition of Dermoid Cysts of the Connective Tissue. ALI KROGIUS.
4. Exarticulatio Interileo-Abdominalis. F. G. SALISTSCHEF.
5. Coxa Vara Traumaticum Infantum. JOACHIMSTHAL.
6. Appendicitis Larvata. C. A. EWALD.
7. Pyelitis in Chronic Appendicitis. H. RIESE.
8. A Case of Hernia Ileocoecalis Incarcerata Cured by Laparotomy. H. RIESE.
9. Inguinal Hernia of Artificial Traumatic Origin. GALIN.
10. The Operative Treatment of Tuberculosis of the Elbow-Joint and the Final Results. A. OSCHMANN.

1.—Noetzel has carried out a series of experiments on rabbits to determine whether the **hyperemia** as suggested by Bier for the treatment of tuberculosis would have a like bactericidal influence on other forms of bacteria than the tubercle-bacillus. From a series of 51 experiments Noetzel concludes that **passive hyperemia** properly produced **has a strong antibacterial action.** The condition of the part where the hyperemia is produced corresponds to the character of an acute aseptic inflammation. It appears that the antibacterial action is due not to the presence of some extraneous or foreign substance, but to concentration of nature's own forces, which act against the invasion of microorganisms. [G.B.W.]

2.—As to the question of the **absorption of bacteria from a fresh wound-surface,** Noetzel has shown that if the whole of a limb of a rabbit, except the main artery and vein, be firmly ligated, and a fresh wound, peripheral to the ligature, be smeared with a culture of anthrax, the anthrax-bacilli can be found in the spleen and other organs in 5 minutes after the inoculation. This shows that the absorption can take place directly through the blood-vessels. However, he has also shown that if the bacilli gain access only to the blood-channels they almost always die unless they have been inoculated in such numbers as to overcome the resisting power of the blood. So that if in amputating for an anthrax-infection the infected lymph-glands are also removed, thereby cutting off the supply of bacteria, the case will almost always recover, as it is the greatest exception that in man the quantity inoculated is sufficient to cause an immediate general infection. [G.B W.]

3.—Krogius reports a case of **dermoid cyst of the connective tissues of the pelvis.** Before the operation the case was diagnosed as a dermoid of some portion of the genital apparatus. An incision in the linea alba showed that the uterus and adnexa were normal, but displaced upwards by the large cyst which was seen to lie in the pelvic connective tissue. The abdominal wound was closed and an attempt made to remove the tumor through an incision in the perineum reaching back to the sacrum. The coccyx was resected and a portion of the sacrum, but even then not all of the cyst-wall could be removed, parts being so adherent to the surrounding structures as to necessitate their being left behind. The wound was packed with gauze and the edges brought together with sutures. The patient made a slow convalescence and only after 3 or 4 months was she able to leave the hospital. [G.B.W.]

4.—Salistschef **removed the right leg and right os innominatum** for sarcoma. The patient was a man, 38 years of age, and except for the sarcoma well and strong. The tumor occupied the right half of the pelvis and the right thigh and it reached upwards almost to the umbilicus. The first incision was carried from the twelfth rib along the crest of the ilium and down Poupart's ligament. This was carried through the abdominal wall down to the peritoneum, which was freed from the tumor and external iliac vessels. The common iliac artery and vein were tied 3 cm. below the division of the aorta. The other incision started from the crest of the ilium to the trochanter major, along the glutea fold and up the symphysis pubis. The pubic bone was then freed from muscular attachments and divided at the symphysis. The sacroiliac joint was exposed by division of the overlying structures, the anterior sacroiliac ligament cut through and the limb removed. The gluteal muscles were sutured to the anterior abdominal wall together with the psoas major and sacrolumbalis. The patient made a good recovery, retaining perfect control over his rectum and bladder. [G.B.W.]

5.—In considering the etiology of **coxa vara** one must not forget the possibility of traumatic displacement of the head of the femur during early life. The likeliness of this is well shown by a case reported by Joachimsthal. A girl 5 years of age hurt her hip by jumping and when examined months later there were present all the symptoms of a case of coxa vara. But examination with the x-rays showed that there was an epiphyseal separation of the head of the femur and that it had grown fast in a new and deforming position. [G.B.W.]

6.—The case of **ileoappendicular hernia** described by Riese occurred in a man 32 years of age, who for half a year had had a small inguinal hernia. One day after lifting the patient developed signs of acute intestinal obstruction without any external hernia being apparent. Laparotomy was performed and a loop of the ileum was forced in between the appendix and cecum, shutting up absolutely the lumen of the intestine. The loop was easily pulled out from the ring and the bowel being in good condition was left in the abdomen. The patient finally recovered. [G B.W.]

9.—Hernia of the inguinal region may be **produced artificially** and these artificial hernias may be found on both sides. They most commonly occur in persons who by this deformity endeavor to render themselves incapable for military duty. Galin, after a through study of these hernias both clinically and experimentally, says that the atypical ruptures of the inguinal region which are classed in the literature as "artificial hernias" must be considered etiologically as of traumatic origin. In just how far the malintent and skill of the perpetrator or a natural cause, such as a fall, blow, or other injury, is concerned in the production of such a rupture, it is hard to say, but it has been demonstrated that such a thing as the artificial production of hernia in the inguinal region is entirely possible. Of these hernias there are two varieties, one of which has the character of a direct inguinal hernia, while the other can be reduced like an oblique inguinal hernia, still anatomically it would be more correct to call the latter an external direct hernia of the inguinal region. Either form may become subcutaneous by passing through either a stretched or possibly torn external inguinal ring or through a split in the external aponeurosis. They can pass on down into the scrotum when the connective tissue surrounding the inguinal canal and the superficial fascia remain intact, or if the intercolumnar fascia has not been wounded and the small split in the external aponeurosis has cicatrized. The means of producing the predisposing traumatism are many, but all are very simple. The injury can be produced through the skin of the scrotum, also directly through the skin covering the inguinal region and without leaving a visible trace. [G.B.W.]

Deutsche Zeitschrift für Chirurgie.

October, 1899. [Band 53, Heft 3 u. 4.]

6. Melanoma of the Penis. Erwin Payr.
7. Statistics as to the Operative Treatment of Pseudoarthrosis. A. Weiss.
8. Researches as to the Indications and Methods of Operative Relief of Intracerebral Pressures. S. Berezowsky.
9. The Recognition of Foreign Bodies in Joints. M. Martens.
10. The Treatment of Contemporary Complicated Fracture of the Thigh and Lower Leg of the Same Side. J. A. Rosenberger.
11. Spontaneous Gastric Fistula following Ulcus Ventriculi. Herm. Kronheimer.

6.—Payr reports a case of **melanotic sarcoma** of the penis which began as a small wart on the dorsum of the glans. The wart was extirpated and a half a year later the growth returned in the same spot as a painless pigmented swelling which rapidly increased in size. Examination on admission to the hospital showed a bluish-black tumor about the size of a hazelnut situated on the dorsum of the glans. The growth is not movable, is not sharply circumscribed, and the surrounding skin is markedly pigmented. On the dorsum of the penis, just behind the sulcus coronarius, is a second tumor, but the skin over this is not pigmented and is not adherent. In a few places, however, the dark color of the underlying tumor shows through the skin. The inguinal and crural lymphatic glands both are enlarged and hard. In the left hypogastrium there is a bluish-black movable tumor about the size of a pea. Amputation of the penis and removal of the masses in both inguinal regions was done, the wounds all healing *per primam*. The patient, however, died about one-half a year later from metastasis to the lungs and liver. Chemical examination of the growth showed that only to an extremely small degree was there any iron reaction, showing that the pigment was not hematogenous. Microscopic examination demonstrated that the presence of Ribbert's chromatophore cells which possess the property of forming pigment and are normally found in the skin just under the epithelium. These cells are often star-shaped and in the younger forms may not possess any pigment. [G B.W.]

7.—Weiss reports 10 cases of **pseudoarthrosis** in detail and shows radiographs, some taken before and others after operation. Of the 10 cases 1 was in the upper arm, 3 in the forearm, 2 in the thigh and 4 in the lower leg. Six of the cases were the result of simple and 4 of compound fracture. As regards the etiology no constitutional anomaly could be determined in any case, in 2 no cause could be found, while in 8 there was some local condition to account for the non-union. Twelve operations were performed in the 10 cases because in 2 cases a second operation was necessary. The operation consisted in freshening the ends of the bone either obliquely, step-like or wedge-shape and then suturing the ends of the bone together with silver or aluminium bronze wire. The bones united in from 4 weeks to a year, and in all the cases satisfactory results were obtained. In 2 patients it was necessary to remove the wire, but in all the others the wire became encapsulated. In two cases an osteoplastic flap of skin periosteum and bone was formed to fill in the defect left after thoroughly freshening the ends of the bone, and in both these cases good results were obtained. [G.B.W.]

8.—Berezowsky goes on to say that the operative treatment of **traumatic epilepsy** must have for its primary object the ascertaining and removal of the cause, and that above everything else in this line it is essential to find and radically remove any pressure which may be, or is being exerted on the brain. When there are localized or general symptoms of cerebral pressure from the edge of a fracture or splinter of bone it is the duty of the surgeon to remove the fractured bone down to the dura. When the brain has been exposed and no pulsation is seen puncture should be made to determine whether the intracerebral pressure is due to an increase of cerebrospinal fluid or to an abscess. When either of these conditions are found no osteoplastic closure of the wound is to be thought of, and the filling in of the bony defect by osseous tissue should be hindered as much as possible. This is sometimes easily accomplished by extensively removing the osteoplastic tisues, namely, the periosteum and dura. In cases of traumatic epilepsy also the same relief from pressure is to be given to the brain. Only in these cases it is absolutely essential that the dura and periosteum should be removed, while in depressed fractures the procedure is adopted purely as a prophylactic measure. In traumatic epilepsy it is also essential that a radical removal of the diseased cerebral cortex be done, as this cortex may be the nervous element which is the direct cause of an epileptic fit. Small cysts when found should be extirpated and large ones drained. In cases where the cyst is connected with the lateral ventricles, drainage should be maintained as long as possible, because if the cyst fails to drain it will soon be refilled with cerebrospinal fluid from the lateral ventricles. The drainage is kept up with the hope that the connection between the cyst and ventricle will heal up. The operations for **genuine epilepsy** which afford only a temporary relief of the intracranial pressure are all sure to be followed in the course of time by a return of the epilepsy. It has been shown that at the time of the epileptic seizures there is a heightened pressure within the skull and therefore operations to be of benefit must be able to accommodate this tension so that the brain will not suffer from the increased pressure. To do this it is necessary that quite a large flap of bone be freed from the rest of the skull to allow of expansion when the increased pressure comes. Kocher tried to accomplish this by leaving ½ cm. margin between the resected bone-flap and the rest of the skull, but in the course of a few weeks, motion in the flap became lost through bony union. Then it was tried experimentally to prevent this union by the interposition of a silver plate between the bony flap and the skull. This did prevent the union, but motion became lost because the irritation of the plate caused so much callus that the plate and central piece of bone became wedged fast. Berezowsky proposes the following method as based on his experimental researches. An osteoplastic flap is turned down according to Kocher's method, and the dura with its vessels is exposed. A portion of the circumference of the circle of dura exposed is then excised, making a ring corresponding to the interval between the bony flap and the skull, through which ring the pia is exposed. This ring is, however, crossed by three bridges of dura, one of which carries the nutrient artery, and all of which tend to prevent too much relaxation. This method experimentally provided a movable flap, but clinically, while giving the best results yet obtained, was not very satisfactory. [G.B.W.]

9.—Marlins divides the **joint foreign bodies** into: (1) Those in which the foreign body is a loosened portion of the joint itself, and (2) those in which the foreign body is a new formation. The first group is subdivided into (*a*) those which originate as the result of trauma, and (*b*) those in which no trauma had been present. *Group 1, subdivision* (*a*): The joints most often affected in these traumatic cases are the knee and elbow. Out of the 19 patients there was only one woman. The production of the foreign body by trauma depends not only on the strength and direction of the injuring force, but also on the condition of the joint at the time of injury, whether it is relaxed or firmly held in position. In all the cases pain with more or less absolute loss of function and effusion came on immediately after the injury. The foreign body may consist of either bone or cartilage, or both, and may be free in the joint or attached by a pedicle. The whole of a joint-surface may be detached as when the head of the radius is broken off. A part of the foreign body may be necrosed, or it may, when cartilage, be partially calcified, or it may be surrounded by a fibrous capsule, even when existing free in the joint. *Subdivision* (*b*): In the majority of these cases there has been no trauma and in the remaining the injury was very slight and not always at the beginning of the disability. The joints most often affected are the knee and elbow, and men are much more frequently attacked by the "osteochondritis desiccans" than are women. In those cases where trauma was thought to have originated the condition there was probably a bruising of the cartilage with disturbances in its nutrition, and then it was loosened into the joint-cavity by an osteochondritis. In the first stage of the separation of the particle of cartilage or bone, which is to become the joint foreign body, we find that the particle is shut off from the rest of the bone and cartilage by a layer of granulation-tissue containing giant cells. A partial covering of connective tissue spreads over the surface of the separated particle and by this enveloping capsule it is attached to the rest of the joint, and the pedicle, thus formed, may gradu-

ally become thinned down even to the size of a thread. In the majority of cases the body will be found still fastened to its mother structure. [G.W.B.]

10.—Rosenberger reports a case of **compound fractures of the bones of the thigh and leg,** accompanied by a great deal of swelling and cutaneous abrasion. He obtained fixation by a long external splint 12 cm. broad. It was well padded and reached from the lower ribs to the sole of the foot. The leg was fastened to the splint with gauze bandages interrupted so that dressings might be applied to the wounds of the soft tissues. The patient made a good recovery with 3 cm. shortening, this taking place almost entirely in the thigh, as was clearly demonstrated by the radiograph. [G.B.W.]

11.—A woman, 45 years of age, had suffered from **gastric ulcer** for 4½ years. There had been no hemorrhage, but the other symptoms had been so plain as to make the diagnosis easy. About six months ago a lump developed over the tender spot, which lump since then has gradually increased in size. A small hole has appeared in the center of this swelling and through the fistula were discharged a dark fluid and fragments of food. An artificial fistula was made into the jejunum, through which it was hoped to feed the patient so that she improve sufficiently in strength to allow of an attempt to close a gastric opening. The patient, however, died 5 days after the above operation from peritonitis. At the postmortem a gastric ulcer was found which had perforated the anterior abdominal wall. [G.B.W.]

Revue de Chirurgie.

October 10, 1899. [19me Année, No. 10]

1. A Discussion of Various Methods of Producing Occlusion of the Digestive Tract. FELIX TERRIER and MARCEL BAUDOUIN.
2. The Treatment of Fractures of the Patella by Suture of the Fibrous Capsule of the Knee-Joint. VALLAS.
3. Traumatic Paralysis of the Shoulder and Arm. F. MALLY.
4. An Incapsulated Tumor of the Breast with Benign Characteristics. V. CORNIL and E. SCHWARTZ.

1.—The authors describe the **methods of closing the intestinal tract** whether temporarily during operation or permanently. They describe the best methods of digital compression and nearly all of the compressors, clamps, and forceps which have been devised for such purposes. The article will, perhaps, be of interest to those who are selecting instruments of this kind, although the authors have little to say with regard to the apparatus which they consider preferable. [M.B.T.]

2.—Vallas believes that in case of simple **fracture of the patella** in which the patient is able to remain in bed a sufficient time for treatment, that operation is unnecessary. He considers operation indicated, however, in all fractures accompanied by a separation of fragments of 2 cm. or more. He specially emphasizes the great importance of the fibrous structures about the patella. In proportion to the amount of tear of this superficial aponeurosis the prognosis will be good or bad. Fracture is comparatively rarely limited to the bone, but usually involves the fibrous plane about it. He reports 3 cases in which the fracture was limited to the bone with slight separation; these patients were treated by means of immobilizing apparatus, compression, and later, massage. Complete cure resulted in all cases, with good power of using the leg. Suture of the fibrous plane about the patella is considered of more importance than suture of the bone itself, and Vallas is now in the habit of treating all cases, with considerable separation, by suture of those fibrous structures alone. Rigorous antisepsis is necessary, Esmarch's bandage is used, and then the skin incision begins 1 cm. above the upper fragment, continuing to 1 cm. below the lower fragment; a horizontal incision is extended either side, the distance depending upon the amount of tear in the capsule; the joint is then freed from bloody fluid and clots. It is specially important to very carefully remove the minute clots which often are imbedded in the spongy structure of the bone. The fibrous tissue about the patella is then very carefully sutured with catgut. It is not desirable to leave any material which will act as a foreign body in the neighborhood of the joint, hence an absorbable suture is preferred. The skin is sutured without drainage and a light antiseptic dressing is applied. The first change of dressing is made after a week and is not replaced. Complete immobilization is continued no longer, but massage of the muscles of the thigh is begun at once. Three cases are reported which were treated by this method with complete recovery of perfect function in all. In old fractures it is necessary to separate the adhesions in the joint, to divide cicatricial tissue connecting the bone, and to freshen the ends of the bones. Suture of the fibrous structures about the fragments is carried out as in fresh fractures without any bone suture. In one case in which the patient had a complete separation of the fragments of about 3 fingers' breadth and almost no use of his right leg there was a perfect union and recovery of function of the part. [M.B.T.]

3.—A case of luxation of the shoulder is reported after which there was paretic and paralytic trouble with the median nerve. The traumatic paralyses of the shoulder and arm are discussed. [M.B.T.]

November 10, 1899. [19me Année, No. 11.]

This number contains no original articles. The issue is devoted to a report of the French Surgical Congress. [M.B.T.]

Sundry French Journals.

1. The Accidents Caused by the Strangulation of Diaphragmatic Hernias. BLONDEAU. (*Gaz. Heb. de Méd. et de Chirur.*, July 2, 1899. 46me Année, No. 53. Lyons Thesis, 1898–99, No. 14.)
2. The Mechanism of the Circulatory Troubles in Acute Experimental Diphtheria Intoxication. PIERRE RENÉ MOULINIER. (*Gaz. Heb. de Méd et de Chirur.*, July 2, 1899. 46me Année, No. 53. Bordeaux Thesis, No. 46.)
3. Malarial Aortitis. LANCEREAUX. (*Sem. Méd.*, July 5, 1899. 19me Année, No. 20.)
4. Anorectal Actinomycosis. DELACROIX. (*Gaz. Heb. de Méd. et de Chirur.*, July 9, 1899. 46me Année, No. 55. Lyons Thesis, 1898–99, No. 16.)
5. Leukocytosis in Whooping-cough. DE AMICIS and PACCHIONI. (*Clinica medica*, 1899, p. 51.)
6. Enteroclysis in the Treatment of Typhoid Fever. N. HOVDELETK. (*Gaz. Heb. de Méd. et de Chirur.*, July 23, 1899. 46me Année, No. 59 Lyons Thesis, 1898–99.)
7. The Prophylactic and Curative Treatment of Toxic Epilepsy by the Injection of the Normal Nervous Substance. BABES and BACOUCEA. (*Sem. Méd.*, July 26, 1899. 19me Année, No. 32.)
8. Recurrent Arthropathies and Generalized Amyotrophy. LAUNOIS, LANCEREAU, and RENDU. (*Sem. Méd.*, July 26, 1899. 19me Année, No. 32)

1.—Blondeau reports 21 cases of **strangulated diaphragmatic hernias** that are interesting from the viewpoint of the mechanism of the strangulation and of the complications affecting the intrathoracic organs that supervened. The strangulation may be produced in different ways: 1. The diaphragmatic orifices are markedly elastic because they are formed in the midst of muscular tissue. This elasticity permits the passage of organs of enormous disproportionate volume to the size of the opening. 2. Cicatricial adhesions may unite the circumference of the ring to the organs that pass through it, thus predisposing to incarceration. 3. The ruptured organs sometimes undergo a sudden adhesion in the neighborhood of the ring, the edges of which are often sufficiently sharp to obstruct the return of the blood through the veins at the same time that the arteries are left permeable to the blood-current. The elevation of the blood-pressure thus produced causes an edematous infiltration and a swelling in the coats of the ruptured organs that may cause or, at least, that may favor, strangulation. 4. Exceptional circumstances may cause strangulation; such as, twisting of the stomach on its axis, and the engagement of the spleen in the ring, which organ subsequently becomes swollen under the influence of an intercurrent infectious disease. Diaphragmatic strangulation exposes the patient not only to the accidents of intestinal obstruction; but also to serious disorders of the intra-

oracic organs; such as compression of the lung, of the eart; infection of the pericardium and especially of the eura by the products of the secretions within the hernia. In oucet's case perforation of the colon determined the for- ation of a true fecal empyema. [J.M.S.]

2.—The experiments of Moulinier show that the principal **sion** revealed at the autopsy in **acute experimental iphtheria intoxication** is an intense congestion of all ie organs supplied from the systemic circulation, partic- arly of the abdominal viscera, with a considerable and ogressive fall of the arterial tension. This congestion ay be due (1) to mechanical causes without the interven- on of the vasomotor nerves; (2) to a passive vasodilation om paralysis of the vasoconstrictor fibers; or (3) to an tive vasodilation by stimulation of the vasodilator nerves. ccording to the author, this congestion is usually of the echanical order. Its progressive development as well as ie progressive fall in the arterial tension is due (1) to the minution of the cardiac energy, proved physiologically id histologically; and (2) to insufficient filling of the right eart from the obstructed venous circulation. The func- onal examination of the pneumogastric nerve shows that e diphtheria toxin produces a dissociation of the sensory ers and of the centrifugal, inhibitory cardiac fibers of the erve. [J.M.S.]

3.—At the meeting of the Academie de Médecine, held ly 4, 1899, Lancereaux described **malarial aortitis.** He lds malarial infection responsible for the production of rtitis in placques not only because it is seen almost solely patients who have had a previous attack of intermittent ver or who have lived in a malarial district, but also be- use it has special characteristics. Out of 37 subjects at- cked with this variety of aortitis that the author has served, 26 had had intermittent fever and 8 had lived r a longer or shorter time in a marshy district. The dis- se attacks, by preference, men between the ages of 30 and years. The lesions are situated exclusively in the neigh- rhood of the ascending portion of the arch of the aorta id begin in the adventitia by a process of thickening and filtration. Following the lesion in the adventitia, the edia becomes atrophied from compression, and finally dis- pears, and, at the same time, the intima becomes hyper- ophied and forms honeycombed plates that line the internal rface of the vessel. Among the results of this lesion may mentioned inflammation of the tissues around the artery, rticularly of the cardiac plexuses, and the appearance of e symptoms of angina pectoris. Furthermore, the destruc- on of the media often results in the formation of saccular neurysms. All the patients presented angina pectoris, and of them had aneurysms. The evolution of the disease is w; its development is insidious, and the first apparent mptoms develop several years after the malarial infection. is necessary to distinguish aortitis in plaques from gen- al arteriosclerosis and from syphilitic arteritis; the latter ocess, however, is situated by preference in the arteries of edium caliber. Finally, in chronic rheumatism lesions e sometimes shown to be located at the orifice of the aorta, it these lesions differ from those of malarial aortitis in that ey develop from the intima of the aorta and thence spread all parts of the arterial system. The prognosis is grave, e affection often terminating in sudden death. The treat- ent should be preventive, although potassium iodid has en used as a curative agent. [J.M.S.]

4.—Delacroix reports a case of **anorectal actinomy- sis** and analyzes 13 other cases obtained from the litera- re. The average age of the patients was 31 years. Eight ere men and 6 were women, and 9 of the patients lived in e country. The others pursued the following occupations: erchant, wheelwright, waiter and steward. Anorectal tinomycosis may be due to an ascending or descending fection; either of which may be primary or secondary. ie ascending form of infection, however, is rarely second- y, but is most frequently the result of direct contact with aterials infected with the ray fungus, such as straw, hay, c. In one of the cases this etiology was very clear, the oculation was made in a perineal scar in a woman who pt upon straw. In two other cases an ascending infection at extended by contiguity from the fundus of the bladder ose by inoculation from a spike of wheat that the patient d passed through the urethra. Descending actinomycosis the most common anorectal form. It is due to the infec- tion of the wall of the rectum by fecal matters that contain the microorganism from a previously diseased point in the large intestine. [J.M.S.]

5.—This paper is abstracted from *Clinica medica* in *Gazette Hebd. de Med. et de Chirur.*, July 9, 1899. The authors confirm the observations of Frölich and Meunier concerning the occurrence of **leukocytosis in whooping-cough.** They find the average number of leukocytes in whooping-cough to be 17,943 per cubic millimeter. The leukocytosis begins in the first days of the disease and persists for a time after its cessation. In the first two stages of the disease the lymphocytes are the most numerous element; while in the third stage the lympholeukocytes (large mononuclear element) predominate. No other disease of the respiratory tract presents such a marked leukocytosis. [J.M.S.]

6.—Hovdeletk recommends **enteroclysis in the treatment of typhoid fever.** Two liters of a solution of 1 gr. of tincture of iodin to the liter of boiled water are advised, the enteroclysis to be repeated every 3 hours, or whenever the temperature reaches 39° C. (1022.° F.). Systematically administered enteroclysis lowers the temperature, promotes diuresis, and has a favorable influence on the nervous system, the digestive tract, and the skin. Consequently, it influences the duration of the disease, the occurrence of relapses, and the mortality. [J.M.S.]

7.—The authors have shown, experimentally, that the injection, in sufficient quantity, of an emulsion of the fresh medulla oblongata of the sheep will prevent an attack of epilepsy even if administered 48 hours before the epileptogenous agent (essence of absinth). Control-animals that have received the essence of absinth without previous injection of the nervous substance always succumb to the characteristic convulsions. One of the authors has already **treated** a case of **essential epilepsy by the repeated injection of normal nervous substance** with benefit. At the present time it is not possible to cite the precise conditions in which this method will be serviceable. [J.M.S.]

8.—At the meeting of the Société Médicale des Hôpitaux, held July 21, Launois reported the case of a man, aged 40 years, who was admitted to the hospital with profound cachexia. The patient was pale and emaciated; was suffering much pain; and was incapable of making any movement. The majority of his joints were the seat of a deforming arthropathy. At the age of 20 years, the patient had contracted gonorrhea. Ten years later, he had a second attack of the same disease that was followed by arthritis of the right elbow, of the right knee, and of the joints of the feet. At the age of 33 years, the patient had a third attack of gonorrhea that was accompanied almost immediately after its first manifestations by articular lesions of the metatarsal joints of one side, of the tibiotarsal joints, and of the left knee. Six months had scarcely passed when a fourth attack of gonorrhea produced arthritis in those joints that had been involved after the first attack of the disease. Finally, in December, 1898, the fifth attack of gonorrhea was contracted and this attack was followed by new arthropathies and by horny crusts in the neighborhood of the internal borders of both great toes. Bacteriologic examination of the urethral pus and of the urine failed to demonstrate the gonococcus; but, on the other hand, the urine contained a large number of colon-bacilli. In spite of these showings, the role of gonorrhea in the genesis of the repeated arthropathies and of the trophic disturbances presented by this patient seems undoubted. Further, the generalization of the articular lesions, and particularly their symmetry in the feet; and the cutaneous trophic disturbances plead in favor of some etiologic influence of the nervous system. It is probable that the toxins produced by the growth of the microorganisms in the urethra and in the bladder have acted on the central nervous system or upon the peripheral nervous system. In the discussion that followed the presentation of the case, Lancereaux said that it is necessary to distinguish between true, monarticular, **gonorrheal arthritis** and the post-gonorrheal, deforming polyarthrites. In the latter class of cases the urethritis cannot be considered as the true cause of the deformity; but that it should be looked upon as occasionally setting up joint-disease in those that are predisposed to deforming rheumatism. Rendu recited a case in which general muscular atrophy, without multiple arthropathies, followed gonorrhea. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Hemicrania.—According to *Merck's Archives*, Robin recommends the following combination in hemicrania:

℞.—Caffein..... 6 grains.
Cocain hydrochlorate..... 3 grains.
Antipyrin, Potassium bromid } of each.....75 grains.
Powdered guarana.....45 grains.
Make 10 powders and give one as required.

Salt Starvation in Epilepsy.—Richet and Toulouse (*British Medical Journal*, January 20, 1900) reported at a recent meeting of the Paris Academy of Sciences that their experience with 30 female epileptics has demonstrated the fact that depriving the nervous system of the usual amount of salt in the food renders the nervous tissue more susceptible to the absorption of medicinal salts which it takes up to remarkable extent, thus rendering an extremely small dose effective. Thus 2 grams of sodium bromid a day, administered under the conditions referred to, arrested the epileptic attacks, sometimes in less than a week, no matter how frequent they had been before. Several patients had shown no recurrence for six months since treatment. Richet proposes to call this the metatropic method, and suggests that it may possibly apply also to affections treated with quinin, digitalis, atropin, etc., as well as those in which the alkaline salts are administered. The saltless food has no bad effect on the patient.

Ozena.—According to the *Journal des Practiciens*, January 6, 1899, insufflations of the following powder are useful after thorough cleansing of the nose with an antiseptic solution:

℞.—Carbolic acid.....30 grains.
Resorcin.....45 grains.
Glycerin.....12 drams.
Water.....10 ounces.

Bommier recommends the following mixture for internal use:

℞.—Arsenic iodid.....3 grains.
Mercury biniodid.....6 grains.
Potassium iodid.....1 dram.
Distilled water.....4 ounces.

From 4 to 100 drops, according to age.

Purulent Ophthalmia of Infants.—Ramsay (*Edinburgh Medical Journal*, January, 1900) writes that it is not enough for the surgeon to prescribe a lotion to be applied by the nurse. He ought at least once, and in bad cases several times a day, to bathe the eyes himself, making sure that every particle of discharge is washed away, more especially the stringy muco-pus which lodges in the culdesacs. Any weak antiseptic lotion will serve the purpose of keeping the eyes clean. While its eyes are being bathed, the child's head should be placed between the knees of the surgeon, and its arms should be held against its body by the nurse. In this position the infant is under perfect control, and its eyes are easily cleaned by pledgets of absorbent cotton dipped in the collyrium. A syringe should never be employed. Of all the drugs the one which most readily destroys the virulence of the disease is silver. The author favors protargol, which he employs in 5% solution. In this strength it causes practically no pain, and has no caustic action whatever upon the conjunctiva. His experience of this drug is so favorable that he now employs it instead of nitrate of silver in all cases of ophthalmia neonatorum. In addition to the solution, an ointment of protargol is also used to smear the edges of the eyelids and prevent them from sticking together when the child sleeps.

If ulceration of the cornea develops the treatment just described must be carried out more energetically if possible than before, and, in addition, atropin or eserin must be instilled, according as the ulcer is situated toward the center or the periphery of the cornea.

After the purulent discharge has ceased, astringent collyria, and the application of a crayon of sulfate of copper speedily diminish the hypertrophied papillae and restore the conjunctiva to its normal appearance. These remedies however, must on no account be employed if there is any progressive ulceration of the cornea. Lastly, infants suffering from ophthalmia neonatorum must be carefully nursed and well fed, and in severe cases, when the cornea is sloughing it is always advisable to prescribe small doses of stimulant—brandy—at regular intervals.

Ointment for Chronic Ulcers.—J. F. Hamilton, of Philadelphia, writes that the following dressing is particularly useful in chronic irritable ulcers, and often gives good results after ordinary means prove unsatisfactory:

℞.—Acetanilid, Bismuth subnitrate } of each.....2 drams.
Castor-oil.....4 drams.
Apply once a day.

Oxygen in Hemophilia.—Wagner (*The Physician and Surgeon*, September, 1899,) reports two cases of hemophilia and draws the following conclusions from the study of the literature: 1. That hemophilics make blood rapidly, the cause of which is undetermined. 2. That there is a tendency to plethora of the smaller vessels, especially of the capillaries. 3. That the deficiency of oxygen in the blood is one of the main reasons for its slow coagulation. 4. That the narrow lung-space, at least in some cases, is a factor in the deficient oxygenation of the blood, and would suggest that in future the capacity of the lung-space should be carefully noted. 5. That apparently the best remedy to control hemorrhage is oxygen, either by inhalation or contact. It acts in two ways, causing greater rapidity in the coagulation of the blood and causing the nuclei of the endothelial cells of the capillary wall to swell and to narrow the lumen of the vessel.

Ointment for Hemorrhoids.—According to the *Medical Review*, Nehigan has found the following ointment very useful:

℞.—Compound tincture of camphor..... 1 dram.
Camphor..... 1 dram.
Belladonna ointment..... .....15 drams.

To be applied directly to the painful part.

Arsenic in Sciatica and Neuralgia.—Macleod (*Medical Press and Circular*, October 18, 1899) concludes that arsenic is the most uniformly successful remedy, both in sciatica and neuralgia. It will not agree with all patients and must be commenced in small doses of about 2 minims of the liquor arsenici for adults, three times a day after meals. To prevent griping from the arsenic he has found opium useful. The dose should be gradually raised to 10 minims, two or three times a day. At the first indication of intestinal pain, or irritation of the eyelids, the dose must be reduced or stopped for a few days, and then slowly recommenced in smaller quantities. Heat locally applied and galvanism are useful adjuvants. The constant current seems to be more effective. In severe cases acupuncture, applications of the cautery, or stretching the nerve are useful.

Urticaria.—Skinner (*British Journal of Dermatology*) has found the following simple lotion of great value in allaying the burning and itching of urticaria:

℞.—Hamamelis water..... 2 ounces.
Salt ..... ½ ounce.
Distilled water to make 1 pint.
To be applied freely.

Strychnin in Progressive Muscular Atrophy.—J. Graham Brown (*Scottish Medical and Surgical Journal*, January, 1900) states that strychnin is undoubtedly of great use in some cases of progressive muscular atrophy. Gower, who relies upon it in this affection, holds that it arrests the disease in more than one-half of the cases. It should be given hypodermically, and the dose, at first small ($\frac{1}{30}$ grain of the nitrate of strychnin), should be rapidly increased to the limit of tolerance. The dose should be administered once a day, and the treatment continued for many months

luminum Chlorid in Locomotor Ataxia.—Acding to the *Lancet* (December 30, 1899) the use of alumin chlorid in doses of 5 grains and upwards, repeated three es a day, has proved remarkably efficacious in locomotor ia. Though given originally for the purpose of relieving lightning pains in this affection it has in some cases cted considerable improvement in the gait and general dition of the patients.

he Treatment of Variola with Bichlorid of rcury Baths.—Bibb (*Texas Medical Journal*, November, 9) states that he has treated 55 cases of smallpox at the erican Hospital, in the city of Mexico, with only two ths. The treatment consisted in frequent sponging with t solution of bichlorid of mercury, in the strength of 1 ,000. The writer claims that in addition to lessening the tality the bichlorid baths prevent itching, suppuration, pitting.

lopecia.—According to the *Revue Médico-Pharmaceu-* (January 1, 1900) the following combination is useful:

Quinin hydrochlorate	30 grains.
Tannic acid	75 grains.
Alcohol (60%)	14 ounces.
Tincture of cantharides	75 minims.
Glycerin	1 ounce.
Cologne water	5 drams.
Vanillin	¾ grain.
Pulverized sandalwood	1 grain.

et stand for 4 or 5 days and filter.

iet in Gout.—Douglas (*Edinburgh Medical Journal*, uary, 1900) presents an interesting study on the excreof uric acid, with special reference to its connection leukocytosis. He concludes as follows: One fact which e analyses impress upon one is, that uric acid varies h less with diet than urea does, and that the ratio beven the two is a very elastic one. A practical lesson that be learned from them is, that in prescribing a diet for gouty, care should be taken to indicate that vegetables not to be taken promiscuously, as is too often done, but those poor in proteid should be selected, and also that etbreads and similar tissues rich in nuclein should be rously excluded.

yperchlorhydria.—Lemoine (*Revue intern. bibliogr.*, 9, and *Scottish Medical Journal*, November, 1899) states there are various forms in which this affection may nifest itself.

The paroxysmal, in which the epigastric pain is very ere, due to oversecretion of acid and to hepatic congesi. Morphia relieves this better than any other drug. s should be soon followed up by doses of bicarbonate of ca. A tumblerful of warm vichy water should be taken he time when the paroxysm usually comes on, and if proves insufficient, bicarbonate of soda should be added. s treatment should be continued for 10 to 15 days.

The classical type where the attack comes on twice or ce daily. In such cases it is necessary to neutralize the ric juice, to diminish the fermentations which tend to le the stomach, to restrain diarrhea, and to regulate the eral system. Large doses of bicarbonate of soda give d results when taken half an hour previous to the usual et of the pain, together with warm vichy water. Washout the stomach gives good results, and often stops the rhea, which is due to the irritating effects of the acid ric juice. In obstinate intestinal cases salicylate of bisth and phosphate of lime give excellent results. Physical mental rest are to be inculcated, and cold douching or ns are of benefit.

s regards dieting in hyperchlorhydria, milk is as a rule traindicated. For breakfast two boiled eggs and a little are sufficient. About 10:30 A.M. one or two dry biscuits a glass of warm vichy water and a dose of alkali. At n a good meal must be taken, slightly-cooked beef or ton, well-cooked green peas, cooked fruit, and a little ese. About 4 P.M. dry bread and tea, and also a dose of rbonate of soda. In the evening a meal similar to that en at noon ought to be eaten, and warm vichy water and alkaline dose should be taken. Neither beer nor wine uld be drunk at meals, but only warm water should be nk.

Chloretone as an Antiseptic and a Local Anesthetic.—Dewar (*Therapeutic Gazette*, February 15, 1900) reports several cases illustrating the value of chloretone as a local anesthetic and as an antiseptic. The first case was that of a man the skin of whose arm was caught by and drawn between a pair of cog-wheels, causing a serious laceration which extended from the wrist to the shoulder. The wound was bathed with a saturated aqueous solution of chloretone, and about 30 sutures were required to bring the edges of the series of lacerations into proper coaptation. Chloretone crystals were sprinkled on the wound, and it was covered with a dressing of chloretone gauze. During the introduction of the sutures the patient appeared drowsy and declared that the operation gave him no pain whatever. Wounds healed promptly without sloughing or discharge. In three cases involving amputation of a finger the results were perfectly satisfactory. In a case of urethral stricture through which it was impossible to pass a sound larger than No. 10 French, after the injection of a solution of chloretone sounds No. 12, 14, and 16 were successively passed, thoroughly dilating the stricture without pain or undesirable after-effects. The author believes that chloretone will prove a most valuable remedial agent in its threefold nature as a hypnotic, an antiseptic, and a local anesthetic, and in each fulfilling every indication more completely than any single representative of these respective classes.

Acid Gastric Catarrh.—Reed (*International Medical Journal*) recommends:

℞.—Heavy magnesia	5 to 20 grains.
Prepared chalk	2½ to 10 grains.
Bismuth subnitrate	5 to 10 grains.

Such a powder in a wineglassful of water or milk one hour before meals.

Asthma.—William Murray (*Rough Notes on Remedies*, 1899) writes: When a patient suffering from asthma calls on me, I almost invariably find the stomach in a wretched state. Such patients are not much relieved by the so-called antispasmodics for asthma, and they are generally vastly disordered by them. I therefore give this somewhat complicated mixture with the happiest results:

℞.—Tincture of stramonium	2 drams.
Carbonate of ammonium	1 dram.
Sodium carbonate	3 drams.
Magnesium carbonate	1 dram.
Powdered rhubarb	20 grains.
Chloroform	20 minims.
Peppermint water to make 8 ounces.	

A tablespoonful to be taken three times a day with an ounce of water. Having thus secured a temporary lull in the complaint, the patient must at once be put on a course of arsenic, taking care to give just as much as the stomach will bear lest our prime object be defeated, *i. e.*, to keep the terminal (gastric) twigs of the pneumogastric in a favorable condition. By this means I seldom fail to see a successful result. The patient is not only relieved, but for the most part cured by a three months' course of arsenic. A good plan is to give the Fowler's solution—5 drops, with breakfast and dinner, and to maintain the corrective dose with stramonium at night.

Influenza.—Bacelli recommends the following:

℞.—Quinin salicylate	3 grains.
Phenacetin	2¼ grains.
Camphor	⅓ grain.

To be taken six times in 24 hours.

Guaiacol in the Diagnosis of Malarial Fever.—Moncorvo (*Académie de Médecine de Paris*, September 19, 1899) states that in the tropics the diagnosis between the intermittent fever of malaria and of tuberculosis is sometimes difficult, especially as the two affections are not infrequently associated. In Rio de Janeiro the writer found malaria associated with tuberculosis in 113 out of 219 cases of the latter. It is claimed that the true nature of the fever can be determined by the external application of guaiacol, which in the case of tuberculous fever causes a prompt and decided fall in the temperature, but which in the case of malarial fever is entirely without effect.

Original Articles.

SELECTIONS FROM THE LANE LECTURES,

Delivered at Cooper College, San Francisco, Cal., 1898.

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LECTURE II.—DISEASES OF THE ARTERIES.

IT is a bold, perhaps a rash, design to pretend to discuss arterial disease in a lecture; in so vast a subject I can deal only with a few points of special interest. Permit me first to call your attention to the conception of the circulation as a whole; to invite you to raise your eyes from its parts and to contemplate its general features as a tubular system in which, by virtue of some inherent rhythmic movements, blood is propelled in one direction only, constantly returning upon its course by a closed circuit. Of this circuit one particular station of arrival and departure is chiefly present to our minds, namely the heart; from the heart, as indeed from any other point in the circuit, the blood speeds forth, thither to return, to be projected again on its path. When we look a little more closely we see that this tubular system contains two or three minor circuits which are traveled after the manner of the chief circuit; of these the pulmonary is the most considerable; more subordinate are the portal system and certain lesser circuits which we need not now indicate.

If we turn from man to one of the lower animals, to an annelid for example, we may observe this circulating system in a much simpler form. In such an animal we see a pulsatile vessel, or aorta, scarcely yet differentiated into sections, driving the nutritive fluid for the use of the body with as definite a purpose as in higher animals, if with far less complexity of structure and function. As we ascend the animal kingdom we see in the circulation that gradual elaboration of parts which is at once a witness to evolution and an example of the wonder of it all. We find that one part of the pulsating vessel grows stronger than the rest, and step by step rounds itself into a chamber—a pulsating sac. Then this chamber is divided into two, and the two into three and four, and this with so gentle a gradation from one stage into another that the continuity of the change is unmistakable: the four-chambered heart is an aorta modified by slow and persistent evolution; the heart, which in man commands so much of our attention, is but a dilated and sinuous artery. The aorta then is a main artery, the heart is an expanded part of the aorta, and in its origin, its homologies and its movements is itself of the nature of an artery. If this be so, the heart, whether in health or disease, cannot be considered altogether apart from the arterial structures in which it took its birth; of the same nature, it will probably partake of the same tendencies for good and evil, and diseases of the heart will prove to be after the same kind as those of the arteries, however greatly modified, in many respects perhaps almost beyond recognition, as the heart diverged from its primitive form.

Looking at the heart as a bulbous dilation of a part of the arterial tree, we find, for example, that it is constructed of three coats—a perivascular, consisting largely of fibrous tissue within which there is a lymph-space—the pericardial cavity; a middle or muscular, and finally an innermost coat lined with an epitheliu on the constant integrity of which in the heart, as in artery, the life of the blood largely depends.

As with the anatomy of the vessel so with its d eases. The heart, as we see it, is prone to inflammati of its inner coat; if the endothelium degenerate, or frayed or ulcerated, fibrin will coagulate on the inju spots; the muscular coat is prone to fibroid changes a dystrophic or inflammatory kind, and its investi coat—the pericardium—is frequently the seat of infla matory processes. Now, in these respects, the arteries disease are conformable in proclivity and feature wi the heart. The innermost coat of an artery is pro to disease, and on the fraying of its epithelium subject to clotting of fibrin at the damaged spots; muscular coat, like that of the heart, is apt to unde subinflammatory or dystrophic changes, and in pe arteritis we observe that its outer coat, like the peric dium, is obnoxious to inflammations of more than c kind. The great part which is played by the corona arteries of the heart in health and disease is represent in the arterial tree by the functions of the vasa va rum, upon the integrity of which the life of the arter themselves depends; and finally, as Dr. Gaskell tells, the ganglionic system of nerves in and about the he is the homologue of the system of nerves which inve the bloodvessels and integrates their functions.

It is no matter for surprise that in the earlier sta of clinical inquiry the heart should have drawn all e to itself; its ascendancy in the economy of the bo justified, indeed compelled, such attention, such p cedence; but now it is time for us to look beyond sphere and to realize that disease of the heart is bu part of disease of the whole vascular system—that the heart hypertrophies under higher pressure per u area of inner surface, so do the muscular arteries; the heart is invaded by inflammatory and dystrop processes so also are the arteries, and so indeed are t veins; for, as we have carditis, arteritis, and arterios rosis, so we have periphlebitis, phlebosclerosis, and so Thus are we enabled not only to take a wide survey the morbid proclivities of the vascular system, but are often enabled also to interpret the changes of c part by those of another. Perversions which in t finer network may escape analysis may be readal enough when writ large elsewhere in the system. T increase of the muscular coats of the arteries, of wh I shall speak more fully in a later lecture, has been lo known in the heart, and attributed to its true cause a normal response to extraordinary internal stress; this respect overgrowth of the muscular coat of artery is not a disease, but a compensatory adaptati to the overstretching. The partial truth concerni hypertrophy of the arteries declared by Sir Geo Johnson was obscured for a time by the partial tru concerning their degeneration declared by Gull a Sutton, and even yet the relations of muscular hyp trophy to "arteriosclerosis" are far from being clea understood. But, with your permission, before ent ing into controversial matters we will turn our eyes a moment to the anatomy of the arteries.

I have reminded you that an artery (we m omit the similar story of the veins) consists of th coats, the external, the middle, and the internal c The internal coat, going from within outwards, c sists first of an endothelial layer, which exercise remarkable influence upon the stability of the bl within the channel of the vessel; so long as the c

[1] The concluding lecture on Medicine of the Nineteenth Century was published in the PHILADELPHIA MEDICAL JOURNAL columns on December 17, 1898.

his layer are sound normal blood will pursue its rse without disintegration: if, however, these cells damaged, be it ever so little, the blood will coagulate n the defective area; the fact is sufficient for us at sent, though as we pass we cannot refrain from ad- ing the subtle magic of life which even when mani- ed so humbly as in this film of cells—a film which at sight seems but a varnish to prevent friction—is ertheless so potent and far-reaching in its faculty. nough the innermost coat is the chief and most im- tant seat of disease, as we shall see, yet fortunately endothelial layer of it, being fed directly on the od-stream, is tenacious of life, and may ride unin- d over large and even active areas of disease immedi- y external to it; thus when the heart is vigorous it n comes about that, until the channel is closed by lling, the blood will take compensatorily higher ve- ties, and thrombosis will not occur. It is in syph- c arteritis that ulceration of the endothelial skin is t prone to occur and thus to promote thrombosis. Be- th this pavement is an important lining of connec- -tissue corpuscles; below this again is the fenestrated nbrane of Henle—a feltwork of fine elastic fibers ch, as Dr. Mott suggests, is thus fenestrated in order ive access of nutritive fluids to the tunica intima. middle coat is not of uniform structure through- the arterial system; into it elastic and muscular ues enter, in widely varying proportions. In the e arteries this coat is entirely, or almost entirely, com- ed of elastic tissue, as their function is rather to pt themselves passively to extremes of internal pres- , while the smaller arteries have the active function, er the nervous system, of regulating the distribution he blood to this area or that, as the varying activi- of the several system of the body from time to e may require. In intermediate parts of the tree, e which lie between these extremes of almost pure cular structure and of mere elastic structure, the dle coat consists of a various admixture of the two ies. The large arteries thus act the part, in the ds of Dr. Mott, of "elastic buffers"; the smaller part of ministers to the periodic and alternate needs he several districts of the multifarious common- lth. These two coats are in their turn invested by ird, which is at once the mechanical support of the r two and the means of continuity with the struc- and functions of the system at large; by it come vasa vasorum, the lymphatic channels and those es which, as we know, coordinate manifold activity a common end.

inally, Professor Hamilton has forcibly reminded hat the arteries and capillaries are not subject to overned expansion and dilation, as they are bound n, almost everywhere, by more or less resilient tis- , the interspaces of which are filled with fluid which lizes the elastic pressure. He quotes Donders vs. d. Menschen, 1869), who shows that the blood- els do not bear the whole blood-pressure, part of it g borne by the tissues and nutritive fluids which ie and support them. Where, as in the brain, the ries have less of such support, they are especially le to suffer from the brunt of disease.

the healthy body these coats appear as I have ched them; in an unhealthy body they may be nged. To understand the initiation of their changes hall do well to watch the first deviations from the nal. To use the heart again as our glass, what aberrancy of structure do we see in it—for I do not at present deal with transient dynamic perturbations? The purpose of a healthy circulation is, as I have said in the foregoing lecture (Cardiac Physics, Philadelphia Medical Journal, January 27), to promote the maximum displacement of blood with the least variation of pressures; a persistent rise or fall of pressure is then an early sign of disorder; let us now take the disorder to be a rise. If the rise be of no long standing, and without sudden violence to its tissues, we have seen that the heart is not without reserve capacity. As under the stress its cavity dilates, and it is placed thus at the mechanical disadvantage of a longer radius of curvature, the heart quickly grows in muscle to compensate the dilation. At this stage, whatever disease there may be elsewhere, we must not say that the heart is diseased; an index of disease it may be, but if the disorder of pressure cease, the excess of muscle will be withdrawn quietly and the heart will return to its normal proportions. It is said, indeed, by some nosologists, and probably with truth, that in athletes or laborers a moderate overgrowth of the heart is normal, an allegation to which I shall return in a subsequent lecture.[2] Nevertheless we are bound to admit that in this adaptation of the heart we are hovering on the edge of disease, and that between health and disease no line can be drawn. Suppose that the overtax of the heart go on increasing or, to approach the problem from the other side, that the nutrition of the heart begin to fail, the excess of mean pressure being constant we shall find the muscular coat beginning to show signs of deterioration; it will lose elasticity and tone and soon show evidence of fibroid or other degeneration. The failure of nutrition which is most apt to cause such a deterioration is some defect in the coronary arteries by which the viscus is chiefly nourished; or again some toxic matter in the blood may find access to it, whereby the active elements are poisoned and undergo fatty, hyaline, or other decay. Now, if we turn to the arteries we shall see the same thing in little; so long as the excess of pressure is within limits, so long as the vasa vasorum are pervious, so long as no poison filter into the walls, hypertrophy of the muscular coat in them, as in the heart, is in itself no disease, but a sound and relatively permanent endowment. This change betrays to us that the general equilibrium of function is endangered, no doubt; but, as in the heart, such hypertrophy is of good quality, and stable enough for any reasonable time, even for years; though we shall not forget that the morbid influences which have invaded the body, among their farreaching effects for evil, may taint the arteries themselves; either poisoning them directly or, by damaging the vasa vasorum, cutting off the sources of their nutrition. In such cases, sooner or later, the hypertrophy will fail; but this is not to say that the increase itself is of the nature of decay. A hypertrophied heart is a good heart so long as it has an equal chance; and such also is a hypertrophied artery. We shall not follow those then who indiscriminately call all thickened arteries diseased, the seat of sclerosis, and so forth. Under certain adverse conditions a thickened artery is a more efficient artery than one of normal dimensions. Unhappily, however, arteries are by no means outside the sphere of the morbid processes which invade other tissues of the body. They are liable to inflammatory changes of various kinds and degrees, and to fibroid, hyaline, amyloid and fatty degenerations. How and

[2] This lecture, having been republished under the title of "Strain of the Heart" in my System of Medicine, is omitted in this series.

whence do these evils come? The observer will naturally think first of wear and tear; do the vessels suffer under the tooth of time, which even the eternal hills themselves do not escape? If they do, then is the average duration of an artery approximately the same for every man, that is, for every temperate and orderly man who escapes infection from without? It would appear not. In two ways it seems that, in this man or that, the life of an artery may be cut short. Some men seem to inherit a defective arterial system; in some unknown way the elements of its structure may be originally weak; they may be ill-compacted or ill-thriven: or again in other persons, whose arteries, for anything we know, may have been good enough originally, there may be a proclivity of the body to a perversion of its juices, whereby the arteries undergo corrosion. That certain poisons are capable of such an effect is well known to us in the instances of lead and syphilis; and it seems probable that during some irregular states of function in the metabolism of the body itself, animal poisons having some such qualities may escape prevention. That time, the mere lapse of years, has some effect of this kind, an effect which may or may not be intensified by other causes, is apparent from the age at which such mischief generally comes on. Except in the case of syphilis or Bright's disease, atheroma or arteriosclerosis, though not unknown, is rare before 55 or 60 years of age; as a primary or substantial disease it is a disease of old age. It is said that in the lower animals atheroma is almost unknown, and this alleged immunity has been attributed to the habitual abstinence of the beasts from alcohol and tobacco. But we may ask whether these animals live long enough to show wear of their arteries? If it takes, say, 50 years to spoil an artery in man, shall we look for its decay in an animal which has but some 10 or 15 years of life? If we are to be moved by such examples, we must be warned by the senile elephant or the centenarian parrot. In a letter to me, dated April 15, 1878, Mr. Beddard says: "I cannot find anything (in my notes) about atheroma, except, perhaps, in parrots. . . . After all, though many beasts live here (Zoological Gardens, London), a long time, it is probably not to their normal term of life. The disease cannot be common, or I should know more about it than I do."

To return to muscular hypertrophy of an artery, which we have regarded not as a disease, but as an illustration of the capacity of our system, or parts of it, to become adapted to incidental contingencies. The artery assumes the hypertrophy to compensate a rise of internal stress. Nevertheless, the disturbance which calls for this readjustment may and probably will be itself the cause of further trouble; some injurious agent—some poison, for example, circulating in the blood—may, as we have surmised, be the common cause of increased blood-pressure with arterial hypertrophy, and of some direct injury to arterial tissue. It is said that gout, autogenetic or due to lead, may arise from such a poison, and thus lead to premature dilapidation of the arteries; and that mental anxiety again by disturbing nutrition may turn healthy into acrid humors. However this may be, we may well expect to find that wheresoever hypertrophy is, disease tends to become manifest; hypertrophy being, as it were, the innocent associate or the autogenetic decay. On the other hand, in cases in which the rise of blood-pressure may have been due to some agency not directly injurious to arterial tissue, we shall be quite prepared to recognize a pure and stable hypertrophy. In proof of such a position, Savill has lately shown sections of arteries from ma cases in which hypertrophy existed virtually with disease. I say "virtually," because at the mature ages which these changes are apt to take place we may ticipate some indications of wear and tear. If any ki of decay be widespread, we shall not regard the case one of pure hypertrophy, of mere compensation, but may regard it as a mixed case in which rise of blood-pr sure has gone hand in hand with processes otherwise d abling. Indeed, sometimes disease is of such a kind, of such a degree, that the relatively healthy process of crease cannot be initiated at all, or may appear in gr defect; if so we should see but little muscular increase even none, high as the blood-pressure may have been. such cases the arteries will dilate, and dilation m occur either in long or more or less even stretches or bulbous deformities. In the former cases Thoma ingeniously suggested that the uniform thickening the intima, which characterizes many of them, is a c servative process, inasmuch as it restores the norm caliber of the vessel and therewith the proper veloc of the circulation. To this matter I shall return he after.

Disease of the arterial tree has gone under m names than in its comparative uniformity it requi Anatomically speaking, if we omit the general in sion of lardaceous change, we shall find it diffic to distinguish several kinds of arteritis. Even wh we turn to that of syphilis it would seem that, althou in causation the arteritis is due to a specific to which has its proper antidote and peculiar therapeu relations, yet the effect on the arteries, as seen by nak eye or microscope, is often scarcely distinguishable degree, and never perhaps in kind, from that due to ot causes, and known under the vague names of arte sclerosis or atheroma; whatever the causation, the proc appears to be anatomically the same. Hence it wo seem that chronic arteritis can be repaired, or at any r arrested, if the cause be removed. It is said, indeed, t syphilitic arteritis is more disposed to fibroid struct than arteritis otherwise produced; but this tendenc present likewise in sclerosis from other causes, and seems a slender character on which to base a gen difference; indeed fibrosis is otherwise known to dep largely on the rate, the nutritive supply, and ot incidental conditions of the associated changes. Lar ceous disease of the bloodvessels has its course a part of a general infiltration of many organs of the b on which I need not dwell; nor need "hyaline disea detain us, a process probably incidental and little un stood. Of periarteritis nodosa, specifically so-calle will say a few words hereafter.

We may then confine ourselves for the present to study of arteriosclerosis and atheroma, names wh probably themselves convey but a confused concept to the minds of my hearers. What is atheroma, what is arteriosclerosis? Are they two diseases, or in one? I think there is no doubt that the diver of name indicates a difference in accident rather t in nature. Atheroma is generally used to sig a patchy subinflammatory change in the large arte such as the aorta and its principal branches; arte sclerosis to signify a more diffuse inflammatory cha in the lesser arteries and arterioles. To add to difficulties in studying these changes in arteries are met at the outset, as elsewhere in pathol by the ambiguity of the name inflammation it

f, for one instance, we find an artery to be the seat of brotic change, are we justified in attributing this hange to an inflammatory process? As matters stand t present it seems that there are two kinds of fibrosis; amely, "replacement fibrosis" and "inflammatory brosis;" the former a result of mere impairment of utrition, fibrous tissue being a more economical mate- al to make and to feed; the latter being a result of ie organization of the products of a proliferative pro- ess. Where inflammation ends and mere replacement egins is a distinction rarely, if ever, definite; though ie circumstances under which a fibrosis is found often ive some clew to its origin; fibrosis being often found, r example, nearer the means of nutrition than necrosis. o those cases in which cell-infiltration and the asso- ated changes are active it is difficult to refuse the ame of inflammation. There is no doubt that in the rta an active process of inflammation—as seen in the -called "gelatinous patches"—is well known, and is erhaps more common than we realize; and investiga- on of such patches of active inflammation tell us that etween them and the patches called atheromatous iere is no distinction except that of the rate of activity; ie gelatiniform patches of acute aortitis, for example, ass by infinite gradation into patches of atheroma— erhaps in the same vessel, or even in the same patch.

Again, if we investigate disease in the smaller arteries, in the brain for instance, and submit such vessels to ie microscope, we shall find changes of the same kind. e shall find in the intima an infiltration of embryonic lls under the epithelium, here also raising it up into itches; these patches may soften too in the center, as heroma in the aorta softens, decaying into the debris necrosis with fatty crystals; and the epithelium thus ndermined may burst, giving issue to the debris and aving a microscopic ulcer within. Or, instead of irsting, a still more chronic process, extensively dis- ibuted, may permit of a sort of repair, consisting in an evation of the embryonic elements to the stage of er. If then we have to deal with such a process as is, extending over a long stretch of the smaller teries, and very chronic in its duration, we usually ve to it the name of sclerosis rather than that of heroma, though, as this use suggests a fundamental fference, it would be better perhaps, in defiance of ymology, to keep one name or the other, qualifying with a subordinate adjective such as sclerotic athe- ma, ulcerative atheroma, and so forth.

I have referred to the effects on the heart of degenera- n of its vasa vasis—the coronary arteries. If we rn again to the arteries—and now I refer rather to the uscular branches of the tree—we shall find, in those ndergoing atheroma, that the vasa vasorum betray de- neration even more advanced than that of the artery elf, and perhaps antecedent to it. Defective coronary pply to the heart often leads to fibroid degeneration of e cardiac muscle, probably of the replacement variety; ere is too little nutrition for muscle, too much for ne- osis. After this manner, when in an artery the chan- ls of the vasa vasorum are diminished we should see, we do see, that the artery, like the heart in the same se, suffers a fibrotic change; and if the vasa vasorum er large areas become thus affected, the consequent terial fibrosis will also be extensive; the walls of the eries will stiffen, with effects on the circulation and trition which we have yet to consider. The student ay say that this at any rate is not inflammation; we ust regard the fibrosis of the pined arteries as a re- placement in them of an expensive tissue by one of easier sustenance. In an immediate sense this is so, yet the difficulty is but thrust a stage backward, as we have to ask how it comes that the vasa vasorum them- selves suffer? It would seem that they must have been irritated by some poison which we may guess at, but, except in the case of syphilis, scarcely can be said to apprehend; if the fibrosis of the arteries themselves be a replacement fibrosis, that of the vasa vasorum may have been inflammatory—that is, a reaction under irrita- tion. When, therefore, we describe a process as chronic endarteritis, it is with the reservation that the primary site of the change may be the vasa vasorum; though, again, whatsoever attacks them is probably not without some influence also on the arteries themselves. If we are pressed to explain how it is that the vasa vasorum suffer before the arteries which they serve, we can only guess that intoxications, or some of them, de- stroy the vessels inversely as their diameters, the more delicate succumbing first—no unlikely proposition, especially when, as is generally the case, thrombosis is an early consequence of the mischief.

In this lecture, as I have said, I can do no more than comment on certain parts of the large subjects I have taken in hand to discuss, nor is it necessary be- fore this audience to do more; it would be a heavy task to enter at length even into the causation of arte- rial diseases, but yet I will touch upon some other points in it. The effects of mechanical stress have been said to extend into the arteries, and to injure them. That abnormal stresses can bring about such a strain is certain; for instance, in those diseases of the heart which are attended with extraordinary stress in the pulmonary artery and its branches we find atheroma of this vessel; and, moreover, in its finer branches a thickening, such as in the systemic arteries we have discussed under the action of wear, of poisons, or of a certain obscure hereditary bent. Thus in the pul- monary arteries also arteriosclerosis and atheroma, as two varieties of one change, are no uncommon events. It is of such degeneration, of inflammatory origin, due often at any rate to abnormal stress, that in mitral disease the ruptures occur to which the name "pulmonary apoplexy" is not inconveniently given. The absence of vasomotor tides in the vessels of the lungs may put them more at the mercy of excess of pressures which cannot be duly resisted by tone; on the other hand, the normal pulmonary vessels, in the normal state, are very distensible, as we see day by day in cases of ob- struction to the return of the blood to the left side of the heart.

The results of abnormal stress, then, which we per- ceive in the coats of the vessels of the lungs, indicate to us that such causes must be operative on the sys- temic side; and I have said already that wear and tear of the arteries in persons of threescore years and up- wards may account for vascular degeneration in them, as also for its absence in young persons, who, never- theless, have not spared the machinery of their circu- lation; and also in horses, oxen, dogs, and other beasts whose lives are short. Yet atheroma is perhaps not more common in temperate persons who for sixty years have worked hard with their bodies than in those who for the same span have led sedentary lives; perhaps it is less common: and we have seen how this problem of strain is complicated by the incidental influence of cer- tain habits of life; for we must remember that a person who has used his body in violent exercise for threescore

years of a life so temperate as to qualify him as an example of pure strain, has probably lived under favorable conditions of life in other respects; whether in labor or in sport, he has spent most of his energy in the open air; and thus has kept his metabolisms in good order, and has dissipated the ill humors which, in any man, are occasionally engendered. Still the chronic inflammatory damage to the tricuspid valve which is apt to arise in mitral stenosis, apart from general arteriosclerosis of the pulmonary vessels, seems to present a fair example of strain under excessive blood-pressure alone. Mechanical strain, therefore, seems pretty surely to enter into the general causation of degeneration of the arteries, both large and small; indeed the laws of hydrodynamics, operative in the larger vessels, must be operative without much interference far beyond them.

(To be concluded.)

THE SURGICAL USE OF CELLULOID THREAD.[1]

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AND

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SEEING in the *Centralblatt f. Chirurgie*, for September 23, 1899, a reference to some celluloid thread recently devised by Prof. Pagenstecher, I wrote to him, asking that I might have some sent in order to test its merits. As soon as I received it I delivered it to Dr. Rosenberger, of the Jefferson Medical College Hospital Laboratory, and submit herewith the very satisfactory report made of experiments. It will be observed that both by the report and by examination of the specimens that I hand to you that the tensile strength is very great even for very small sizes, that it is very flexible and does not easily become untied, that even without any sterilization after it had been sent from Germany in an ordinary pasteboard box, handled by myself without sterilizing my hands, and by Dr. Rosenberger without any sterilization of his hands, the thread was almost absolutely sterile. (See Exp. III.)

The tensile strength is increased by almost every method of treatment for its sterilization, dry heat more than doubling it (Exp. VI), and, what is quite as important, there is, apparently, no method of sterilization which is not applicable to it. It elongates slightly, *e. g.*, 1.5 kg. elongated a piece 30 cm. long to 30.5 cm. It absorbs fluids to about 41%. This seems to be its only disadvantage (Exp. II). One silk thread absorbed more, the other less, than the celluloid thread (Exp. IX.)

In my private work and at the Jefferson Medical College Hospital, Profs. Horwitz, DaCosta, Hearn, and I have used it with very great satisfaction thus far, though the use has been too recent to give a final opinion on its merits, especially as to the question of its absorbability. Dr. Rosenberger is now at work on some experiments as to this point, and we will be able to report the results before long.

Inasmuch as it has been used in a large number of operations by Prof. Pagenstecher (PHILADELPHIA MEDICAL JOURNAL, December 2, 1899), I have no doubt that it will prove to be a most useful material, both for suture and ligature. Compared with catgut an silk, it is much cheaper, and if it proves on extende use to be as valuable, it will go far to solve the que tion of the best material for sutures and ligatures.

[1] Read at the meeting of the College of Physicians, March 7, 1900.

REPORT BY RANDLE C. ROSENBERGER, M.D.

[From the Laboratories of the Jefferson Medical College Hospital.]

The material to be examined consists of a celluloi thread, grayish-brown in color, more or less smoot and showing upon microscopic examination to consi of interwoven fibrils with smooth edges. Measured i the dry condition it takes size 29 by the B. and gauge (0.011257 inch).

EXPERIMENT I.

To determine tensile strength:

Pieces of raw thread 1 meter in length supported a weig of 1630 gms. The experiment was performed as follows:

1. The thread was wrapped around a gas fixture a around the handle of a bucket below. Water was pour into the bucket until the thread broke, when the bucket a contained water were weighed. The thread broke in near every instance about 8 inches from the handle. 2. T thread was tied to the fixture above and to the bucket belo When tied the thread broke at the knot or in its immedia vicinity.

EXPERIMENT II.

To determine absorption of fluid:

Hygrometry: Two pieces of the thread were taken, ea weighing 155 mg. One piece was placed in the incubat the other in water. The thread was dried to a consta weight in 72 hours at which time it weighed 152 mg.; l 2%. Before weighing the piece which was soaked in wat it was thoroughly mopped with filter paper to rid it of exc of moisture. The thread immersed in water attained a c stant weight in 72 hours at which time it weighed 220 m a gain of 41%.

EXPERIMENT III.

To determine infectivity of raw thread:

As it came from the package small pieces of the thre without previous sterilizationwere placed in bouillon. Th were incubated, and not until 72 hours was a growth notic The only organism obtained was the bacillus subtilis.

EXPERIMENT IV.

To determine the effect of corrosive sublimate aqueous solution:

The thread was soaked in a 1% aqueous solution of m curic chlorid for 24 hours. At the end of this time th was no appreciable effect upon the structure of the thre and it measured 26 by the gauge (0.01594 inch.)

Influence of corrosive sublimate on tensile strengt

After soaking in a 1% aqueous solution of mercuric chlo for 24 hours it supported a weight of 2560 gms. (Norm 1630 gms.; the application increased the tensile strengt Immersed for 24 hours in a 1% aqueous solution of mercu chlorid, then transferred to fluid culture-media and in bated, no growth developed.

Immersion for ½ hour gave the same result.

Influence on gauge: A scarcely perceptible swelling.

EXPERIMENT V.

To determine the action of corrosive sublimate alcoholic solution:

1. Tensile strength: After soaking in a saturated alcoh solution of mercuric chlorid for 24 hours it supported weight of 3120 gms. (Increases tensile strength.) Imm ion in saturated alcoholic solution of corrosive sublimate 15 minutes rendered the thread sterile.

Influence on gauge: Slight swelling.

EXPERIMENT VI.

To determine the action of formalin:

Tensile strength: After soaking in formaldehyde (40% queous solution) for 24 hours it supported a weight of 2110 ms. (Tensile strength increased.) Slight swelling.
Inf ctivity: Immersion in formalin for ½ hour renders the ıread sterile.

EXPERIMENT VII.

Thermal disinfection: (1) Moist heat. (*a*) At nor-ıal pressure. (*b*) Autoclave at 5 K. (2) Dry heat.

(*a*) At normal pressure (100° C.).
Tensile strength: After placing in a steam steriliz·r for 1 our it supported a weight of 2815 gms. (Increased) Slight velling.
Infectivity: Sterile after one hour's exposure.
Influence of boiling: Placed in a sterile bouillon tube and ›iled for 20 minutes in a water-bath and then incubated, no owth developed.
(*b*) Autoclave at 5 K.: After placing in the autoclave for 20 inutes at 5 kilo pressure it supported a weight of 2750 ns. Great increase (50%) in strength. Slight swelling.
Infectivity: Sterile.
(2) Dry heat: After placing in the hot-air sterilizer at 50° C for 20 minutes it supported a weight of 3590 gms. Enormous increase in tensile strength, over 100%.) Slight velling.
Infectivity: Sterile.

EXPERIMENT VIII.

To determine the action of other chemicals:

(*a*) Soaked for 24 hours in chloroform there was no appre-able change, except slight swelling.
(*b*) Soaked in absolute alcohol for 24 hours there was no ›preciable change except slight swelling.
(*c*) Soaked in ether for 24 hours there was apparently no ange except slight swelling.
(*d*) Soaked in a 1% solution of sodium hydrate for 24 urs there was no appreciable change except slight swelling.
(*e*) Soaked in pure nitric acid it is disintegrated in a very ort time. Placed in 1% solution of nitric acid for 24 hours ere was no appreciable change except slight swelling.
(*f*) Soaked in pure clove oil for 24 hours there was no ›preciable effect except slight swelling.
(*g*) Soaked in equal parts of alcohol and ether for 24 hours ere was no appreciable effect except slight swelling.

Remarks.—The thread shows an unusual resistance a large number of agents. It can evidently be fully sinfected in a number of ways without being in the ast injured. As dry heat notably increases its tensile rength this method is to be strongly commended.

EXPERIMENT IX.

Comparison with silk:

Specimen consists of two pieces of silk thread 20 cm. in ngth—one a plaited silk thread—the other twilled silk read.

Upon microscopic examination with a ⅔ inch objec-·e the plaited thread is seen to consist of a number of rils interwoven or plaited together, but possessing on e whole a smooth surface. In the dried condition it ighed 210 mg., but when soaked in water it weighed 0 mg., a gain of 42.9%. The gauge by the B. and S. easurement in the dried condition was 20 (0.03196 ch), but after soaking in water it measured 18 (0.0403 ch), showing that it absorbed water which caused me swelling.
The twilled thread upon microscopic examination is en to consist of delicate fibrils and on the whole ssessing a smooth surface. In the dried condition it ighed 180 mg., when soaked in water it reached a constant weight of 220 mg., a gain of 22.2%. The gauge by the B. and S. measurement in the dried condition was 16 (0.0582 inch); after soaking in water it measured 13 (0.07196 inch), showing that it absorbed a certain amount of water with considerable swelling. In both instances when the thread was weighed after soaking it was thoroughly mopped with filter-paper to rid it of excess of moisture.

A CASE OF GASTROTOMY FOR A FOREIGN BODY IN THE STOMACH.

BY GEORGE G. HOPKINS, A.M., M.D., ETC.
of Brooklyn, N. Y.

JOHN FASEL, aged 19 years, was admitted to my service at St. John's Hospital, January 3, 1900. He had always had good health until December 16, 1899. His occupation was that of a tailor, but his earnings were small. He had sickness at home, and to increase his income, got evening employment as a scene shifter at one of the cheap theaters. In August he accidentally swallowed a small spoon. This passed through him without doing him any harm.

He says that a friend on hearing of this told him that he had swallowed 20 pins at a time without doing himself any harm. Fasel therefore proposed doing this at a performance in the theater where he was employed. On the evening of September 2 last, he swallowed 20 ordinary pins. From that date until December 16 he took into his stomach a great variety of articles, most of which were passed to him from the audience, and he would get rid of them in a few days by the rectum.

As nearly as he can remember, at his second performance on September 4 he swallowed 80 pins. On September 5 he became more venturesome and took down 8 one-and-a-half-inch wire nails, 1 teaspoonful of tacks, and 2 hair pins. On the 7th he swallowed 8 three inch wire nails, 4 one-and-a-half inch screws, 1 gold plated finger ring, 6 hair pins, 200 ordinary pins, 1 rubber band, 1 brass button, and 2 scarf-pins. Having found by this time that he could take these various articles into his stomach without apparent harm, he prepared a regular program, which he carried out every evening except Sundays. His list comprised, 200 pins, 8 three-inch wire nails, 10 horseshoe nails, 1 teaspoonful of carpet tacks, 6 hair pins, and a chain 40¼ inches long, the end of which he held and withdrew the chain immediately after ingesting it.

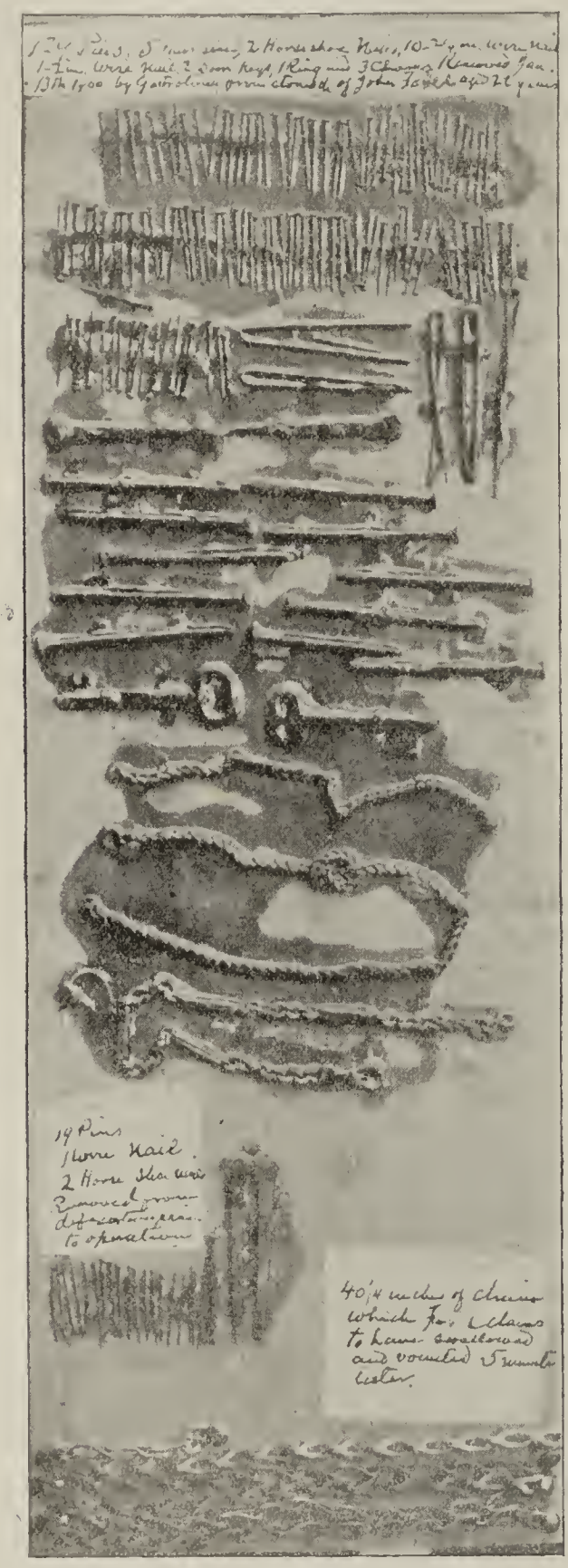
He would swallow other things that the audience might pass up to him. After his regular performances he would visit saloons, and would swallow things that would be given him by those present and then he would pass round the hat for a collection.

During his performance on December 16 the chain slipped from his grasp and was carried into the stomach entire. This gave him considerable pain and he vomited it up in about 5 minutes. Previous to this night during all this time he had no uncomfortable symptoms; many articles would pass by the rectum, but he did not inspect his passages to see how many.

From this night on his pain became constant and steadily increased in severity. It was referred to the left epigastrium. The tenderness and pain increased in area until it extended over the whole region of the stomach. He says the pain felt like "the sticking of needles in his stomach." He visited our outdoor-department and was attended for

some days by Dr. Chas. J. Search, who advised his admission to the hospital, and on January 3, 1900, he was admitted to my service at the St. John's Hospital. His pain had been constantly on the increase and he had been unable to retain any food for three days previous, vomiting everything that he took into his stomach. The last two days he said his vomit consisted of a greenish fluid.

Since the first of the month he had "had chills and sweating as well as great shortness of breath." He had no cough, no expectoration. Bowels regular, but nearly always con-



tained some of the foreign matter that he had taken into his stomach.

Not crediting his story, I ordered his stools searched regularly. In five days we recovered 19 ordinary pins, 2 horseshoe nails and 1 wire nail.

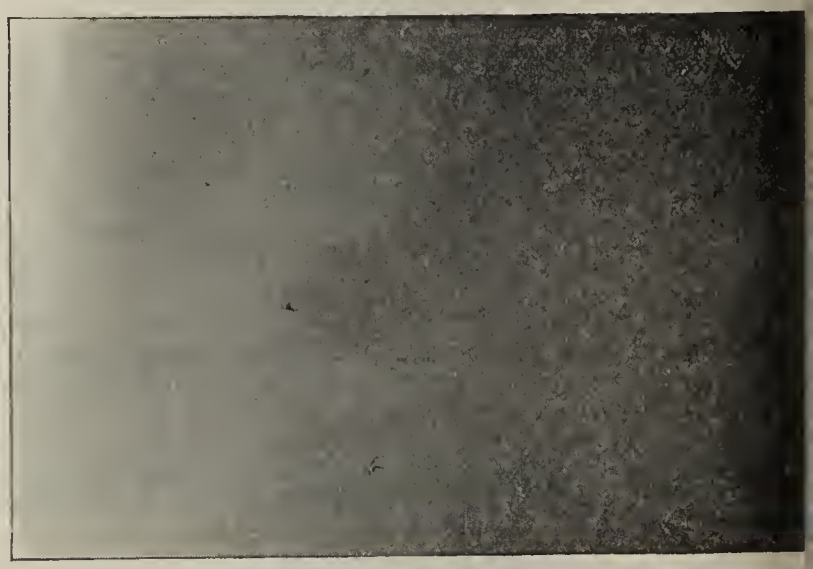
I put him on a bread-and-milk diet, and ordered him to have a pint of sweet-oil daily, in divided doses; this he could only take for two days, when it became so distasteful to him that he could not retain it. He was very fond of crackers, I found, and so gave him an unlimited supply, hoping to get the nails, etc, entangled in the mass of food, and so pass o but there was no result from this treatment.

January 10 I concluded to use the x-ray, and as m apparatus was out of order Professor Peckham of th Adelphi College kindly placed his apparatus at my di posal and worked it for me himself. We used th Edison double focus tube and the patient was place face downward. This makes the photograph appe as if taken of the right side, when it is really that the left side. The illustration is one of four plat taken of different portions of the abdomen, and th exposure was 21 minutes. It brings out the mass ver nicely, about 4 inches below the border of the ribs, as afterwards found that the stomach had been dragge downward by the weight of the contained materials.

From the day of admission, January 3, until the day operation, pain was constantly increasing, though witho rise of temperature, and the patient begged for an operatio to relieve him. He could be kept fairly comfortable wi opiates. January 13, at 4 P.M., I operated under nitro oxid and ether, Dr. Harry T. Hotchkiss, anesthetist, a assisted by the house staff.

There were present at the operation Drs. E. F. Bisho E. E. Woolworth, E. Paul Harmon, H. A. Fairbairn, and I B. de la Tour.

The incision was in the median line, midway between t



a. Mass, 21 minutes' exposure, Edison double focus tube: *b.* crest of the ilium

ensiform and umbilicus, 3½ inches in length. The left lobe liver presented in the wound, liver was dislocated downwar about 3 inches. Liver pushed aside, and stomach examin by hand inserted into the abdominal cavity. A large m was felt at the left extremity of the fundus, as shown by t radiograph. The stomach was drawn into the abdomi wound; the wound was carefully packed with sterile gau and the stomach surrounded with the same material wet hot sterile normal salt-solution.

An incision 2 inches in length was made longitudinally the wall of the stomach, midway between the greater a lesser curvatures.

Introducing my first and second fingers into the stoma I could feel the mass, and particularly the pins. I had a lar variety of forceps on hand, but could not work with any them as the mucous membrane would get in the bight eve time. By using the two fingers as forceps I was enabled remove the greater part of the mass, but was compelled enlarge the opening to 3 inches, so as to introduce my wh hand and get everything out that the stomach contain In this way I removed from the stomach 129 common pi 6 hairpins, 2 horseshoe nails, 11 wire nails 2½ inches long wire nail 2 inches long, 2 door keys, 2 steel watch chains brass watch chain, and one finger ring with a stone in it.

The stomach incision was closed by Lembert sutures fine sterile silk. The abdominal cavity was then flus with normal salt-solution at 115° F. for fear that some of t stomach fluids might have gotten into the cavity, notwi

tanding our care, but the water came back perfectly clear. The abdominal wound was then closed with interrupted silk-wormgut sutures, without drainage.

A pint of normal saline solution was administered by the ectum, and the patient returned from the operating-room to he ward in good condition. Strychnin sulfate gr. $\frac{1}{30}$ was iven hypodermically and repeated every 4 hours; a nutrient nema of peptonized milk 3 oz. and of liquid peptonoids 2 z. was given every 4 hours. He slept well under morphin. fe was allowed a half ounce of hot water by the mouth very hour when awake. On the 14th he had considerable ain, relieved by morphin, but no abnormal temperature. The nutrient enemas and strychnia were continued. On the 5th, he vomited greenish fluid. The bowels were moved by nema. He complained of considerable epigastric pain and atulence, which was relieved by morphin and the rectal ube. On the 16th, he had diarrhea (8 movements) and had evere pain in the stomach. The temperature was normal. n the 17th, he complained of general but not severe pains abdomen. One normal stool. This day he took the first ourishment by mouth, two tablespoonfuls of oat-meal porridge with milk. On the 18th, the dietary embraced 4 oz. milk with a half ounce of lime-water every 4 hours; and n the 19th, 4 oz. of oatmeal porridge, 8 oz. of milk three times day, with stale bread. Rectal nourishment was now discontinued.

The next day the pain in abdomen was slight. The first ressing of the wound was made and the incision was found ealed throughout its entire extent. There was a small superficial collection of pus below the derma, evacuated by parating the line of union to a small extent. A dry, sterile ressing was applied. Twenty-four hours later the patient as in good condition, and a free diet of soft food was ordered, this being changed the next day to a full diet.

The patient was up and dressed and about the ward on e 28th. The appetite was good and the bowels regular. he wound was practically healed, but a small superficial cer remained. On February 1, he was about the hospital d almost ready for discharge. February 3 discharged.

There has been no increment of temperature above 100° since the operation. The stools have been watched, but othing has been recovered since the operation.

It seems almost incredible that a man could have ken the amount of extraneous matter into his stomach at this man did and that it should cause him so little convenience.

As I found in his stomach articles that he said he d swallowed, I am satisfied that he has told the ith about those that we did not find, and that they ve passed out by the rectum.

The articles removed from the stomach are all shown the photograph which accompanies this report, except one wire nail and one hairpin, which were los in e operating-room.

The upper group of articles represents those removed m the stomach. The second smaller group comises those recovered from the stools before operation; the bottom of the picture is the chain which he s that he swallowed and vomited.

The x-ray photograph shows the mass I removed in exact position in which I found it. The stomach-lls were very much thickened, and the stomach was placed downward about 4 inches.

His rapid and uninterrupted recovery from such a ere operation was to me certainly unexpected.

ARTERIOSCLEROSIS.

By JOSEPH EICHBERG, M.D.,
of Cincinnati, O.

Among the many lessons strongly impressed upon nation by the late war, perhaps none is more intering than the emphasis given to that military axiom that success in war is not so much a question of men and money as it is a question of bread and meat. Many of the disappointments and grievances of the campaign by land grew out of difficulties, possibly insuperable, in the commissary department, whereby the efficiency of the entire army was seriously jeopardized. The heroic service rendered by our men was performed at the greatest sacrifice, and almost rendered useless, because of an inadequacy of the food-supply.

The history of a campaign may be regarded as a larger projection on the screen of the picture presented by the physiologic process of nutrition. In the battle of life there is the constant effort to make up for inevitable losses, to maintain the position already gained, to seek further advance, all in the face of opposing powers which threaten disability or total extermination of the force engaged. The dynamic power of the latter, its ability to resist, its final success will depend in the first instance on the regular supply of proper nutriment, by which the fighting capacity of the corps is maintained at the highest degree of efficiency. It is purely a question of food-supply. The loftiest patriotism will not incite to deeds of valor an army weakened in body and spirit by physical starvation. The Spaniard surrendered at Santiago not because of superior courage of our men, but because there was no bread; and because the feeble cry of starving tissues sounds louder in the ear than the call to glory.

The commissary department of the human economy is provided for in its system of arteries. They are the purveyors of its nutrition. They carry the food to the distant camps, regulating its supply according to the demands of the moment, for they are not wholly passive conduits, but exercise a constant action on the blood-current, either favoring or neutralizing to some degree the action of the force-pump of the circulation, the heart. They show more truly than the family calendar the age of the indiviual; increasing experience confirms the doctrine that "a man is no older than his arteries," to which might be added, "or no younger." It is in them that we look for the first evidence of senile decay. The heart and the arteries are the hardest worked organs of the body. Their labor never ceases from an early period in fetal life to the last moment which marks the dividing line from death; and it is not surprising therefore that those who lead a life of dissipation, of great hardship, of severe mental strain should at a comparatively early age present the living testimony of how fast they have lived; for the arteries may show the man of 30 to have lived 60 years. They have been said to represent a vital rubber; like rubber they are elastic and yield to pressure, they regain their caliber when the pressure is taken off and they equalize the intermittent action of the heart to such a degree that the flow has become regular and uniform by the time the blood-wave reaches the capillaries. The qualifying adjective of vital will apply in more senses than one. Vital they are, as being necessary to life, and vital in the other sense of being living tissue, a living part of a living whole.

The essentials of healthy nutrition for every part of the economy have been thus defined:

1. A right state of the blood.
2. A proper condition of the vessels supplying the part.
3. A proper action of the heart-muscle.
4. A certain nervous influence by which the supply of blood is regulated.

It is under the second and fourth of these headings that questions come up pertaining to the subject of our study. A proper state of the vessels supplying the part must necessarily mean a physiologic condition of the vessel-wall and a normal patency of the vessel, whereby the supply of blood may be satisfactorily governed.

Our study of physiology cannot proceed very far without convincing us that the human body is an aggregate of the most perfect mechanical devices; in whatever direction we turn we find the function of any organ or gland performed under conditions the most variable, yet so perfectly safeguarded by compensating or controlling mechanisms that the work goes on without apparent effort or derangement in any neighboring structure. It is this marvelous adaptability that excites our wonder and admiration; perhaps our envy; for human ingenuity while solving the phenomena has vainly striven to reproduce them.

The supply of blood to any given part varies with its functional activity, diminishing during periods of repose, and increasing promptly and adequately with the demands made by the economy in action.

This precision is effected through the agency of the nervous system, the fourth of the factors above described. Presupposing the normal action of all the factors influencing the nutritive supply except the proper condition of the vessel, it will be at once apparent that this alone can seriously compromise both the structural arrangement and the functional integrity of that territory in which the morbid alteration has occurred. A diseased vessel means either a diseased organ or a diseased action of an organ not yet sufficiently altered to show anatomic changes. A diseased arterial wall cannot obey the behests of its governing nerves, can neither dilate nor contract as required; it is likely to either encroach on the lumen so as to curtail the arterial supply, or by the change in surface it may offer to the blood a favorable site for the deposit of blood-clot and thus cause absolute closure by thrombosis.

Taking into account the frequency with which disease affects the arteries in advance of pathologic change in other parts, it is perhaps not surprising that so many examples of this process should come to our notice; it is rather a source of wonder that their nnmber is so few. Here again Dame Nature has made provision for possible contingencies. In nearly all parts of the body the final distribution of blood-supply is effected by numerous small trunks, closely connected by anastomosing branches, so that the exclusion of one or more branches produces no marked effect upon the parts which it supplies. Disease of the arteries must be extensive and widespread ere deleterious results follow. Where, however, the anastomoses are less abundant, when we have to deal with so-called end-arteries, the closure of a single vessel is promptly followed by molecular death, as shown in the familiar areas of white softening in the brain.

In studying the results of an arteriosclerosis we must take cognizance of the normal structure of the arterial wall, and I may be permitted to recall to you the essential difference between the larger and the smaller vessels. The aorta and main trunks given off from it are characterized by the abundant distribution of elastic tissue, placed layer upon layer, and making up the middle coat almost in its entirety. The smaller arteries have elastic tissue, it is true, but in much smaller proportion and placed rather at the boundary of the middle coat internally, and externa to the middle coat in the fibrous layer.

The reasons for this arrangement are not difficult to seek. The elastic layer of the aorta acts like the spring of a watch, or the air-chamber of a force-pump. The aorta is always full, its elastic tissue is constantly or a tension; the blood which finds its way into the vessel must do so by pushing ahead of it an equa quantity to find an outlet in the general circulation The labor of the heart is thus perhaps somewhat in creased; but all the bodily organs are protected from the regularly recurring shock they would otherwise re ceive under the influence of the ventricular pulsation and the flow of blood continues in diastole under the elastic recoil of the vessel wall. The aorta, as the source of supply to the entire economy requires bu little muscular tissue. Its caliber need undergo n great variation.

The case stands differently with the small arteries They control the circulation in a limited district. Th muscular coat is called upon to adjust the caliber of th artery to the varying needs of the organ or organs i their territory. The elastic tissue in them plays a sec ondary role both in quantity and function, though i still assists in the maintenance of a blood-current i the intervals between pulsations. How promptly th muscle-coat of the arteries will respond to impulses c the nervous system is seen respectively in blushing, c in the facial pallor that follows strong emotions.

Arteriosclerosis is essentially a disease of the sma vessels, though the aorta itself is one of the mo frequent localities in which the disease leaves its im press. It is not difficult to reconcile these statement if we accept the view advanced by Martin that th process known as atheroma of the larger arteries in reality an arteriosclerosis of the vasa vasorum, the small arteries supplying the vessel walls. greatly simplifies our study of the process as a whol if it shall appear that the lesions of the aorta, th innominate and the other main branches are reall secondary to primary arterial changes of inflamm tory origin in the wall of the vessel. This clos relation of the two processes, of an arteriosclerosis ar atheroma, is still farther borne out by their freque clinical association.

I believe that we can no longer question the pos tion taken by Virchow, Bouillaud, Lancereaux ar others, that the disease arteriosclerosis is an infla mation of the arterial wall with a tendency to mark proliferation in the inner layer, an *endarteritis defo mans* when the enlargement is irregular, so as to gi to the lumen an irregular outline, an *endarteritis obl erans* when a uniform thickening, increasing conce trically, produces a gradual obliteration of the arteri or so much impedes the blood-stream that thrombo occurs. The elastic membrana limitans furnishes excellent geographic landmark, by which the thickn of the intima can be gauged and the area of disea easily recognized.

Arteriosclerosis, or as it was termed by Gull and S ton, arteriocapillary fibrosis is always a chronic proc beginning insidiously and giving rise to few sympto until the morbid alteration is both extensive and a vanced. As in other chronic inflammations the te ency is to the production of a new-formed fibr tissue, springing from the proliferated cells that acco pany the inflammation. These become fusiform, fib

re developed which form bands or ring-like thickenngs of the vessel-wall, or excrescences from the wall nay project into the lumen of the vessel. The thickned intima may measure more than the two other ayers combined, though these participate to a greater r less degree in the arterial changes. At times there s a veritable hypertrophy of the middle coat, at others hyaline change, which Recklinghausen considered a ort of colloid metamorphosis.

It is one of the characteristics of what may be termed general disease, that the lesions, while widespread, are ot uniformly distributed in any given case, and thus here arises great diversity in the postmortem appearnces, as also in the symptoms presented during life. n one patient it will be found that the brain-vessels are rincipally concerned, in another the vessels supplying he heart-muscle, in a third there is the atheroma of he aorta, the fourth will show lesions in the peripheral essels, and the fifth present the well known clinical picure of a chronic Bright's disease.

The frequent combination of a granular kidney and rteriosclerosis was brought to the attention of the proession mainly through the labors of Gull and Sutton. ome doubt still exists as to which is the primary conition in all cases of this nature; yet the fact that arriosclerosis may exist without kidney lesion, and that n the kidney the point of departure for the lesion eems to be furnished by the arterioles and Malpighian ufts would seem to indicate that the disease was originlly one of the arteries.

The way in which the kidney-change occurs may be artially explained by the comparatively recent hyothesis of the static resistance of tissues. This theory upposes that there is a sort of constant warfare beveen the connective tissues forming the framework of ne organ, and the more highly organized cellular eleents exercising the function of the part in question. t is, if you please, the conflict of the weed and the ultivated plant in the same garden. Any relaxation n the gardener's vigilance will permit the weeds to ultiply, and the finer plant will be exterminated. The rterial disease, which narrows the lumen of the arteries, uts off some of the needed nutritive supply; the more elicately organized secreting cells find themselves ompromised, grow unequal to the combat; the conective tissue increases, strangling the higher cells in s meshes, and the whole organ becomes smaller, rmer, and practically impotent. It would appear that ne lowering of blood-supply acted almost as a stimus to the lowly organized connective tissue, increasing s nutritive activity and proliferation, and favoring its ubsequent cicatricial contraction.

In certain localities, particularly where the bloodessels are not firmly supported, where they find themlves in soft and yielding tissues, the process of arteriolerosis is liable to be attended with hemorrhage. The hickening of the arterial wall constitutes a local imediment to the blood-flow; the pressure of blood in ne artery remains high on the central side; and as the reatest momentum in a stream of running water is ound just above the dam, so the highest pressure upon ne arterial wall will be found just behind the thickened art of the vessel-wall; ultimately this may yield a ttle, then more, the wall becoming thinned as it retches, until finally the slight sacculation gives at ne part, and hemorrhage results. In the retina and n the brain the occurrence of hemorrhage may be thus xplained.

In no case of arteriosclerosis do we find a normal heart. In some the myocardium suffers directly because its arteries are concerned in the morbid process, and the nutrition of the muscular substance is impaired to such a degree that degeneration of the heart-fibers and dilation of the cavities rapidly follows. In the majority, however, the heart-affection pursues a different course. The arterial system may be likened in its area to a cone, with its apex at the heart, and with a gradually widening plane, until at its base, represented by the capillary circulation, we find the area 700 times greater than the area of the aorta at its origin. This increase of area is due to frequent subdivision of vessels, the division going on more rapidly the farther we remove from the heart.

Now, it is in the wider portions of the cone, in the peripheral vessels, that we find the principal changes of arteriosclerosis. The narrowed lumen of many vessels must constitute a serious obstacle to the circulation, which can only be overcome by giving more momemtum to the blood-stream, so that though the caliber of the vessels be reduced, yet an equal quantity of blood may be forced through under higher velocity. There is only one way in which this can be accomplished—by more forceful contraction of the heart. Straightway, Nature, the willing nurse, sets to work; she adds new fibers to the ventricles, especially the left; the heart undergoes hypertrophy so that it may meet its new burden; compensatory hypertrophy, which, under ordinary conditions and for a long period, suffices to maintain the equilibrium of the circulation. But a period is reached when the arterial obstruction becomes too great to be overcome by the power of the hypertrophied heart, and slowly, stubbornly, the latter yields, undergoing a dilation of its cavities with relative insufficiency of its valves. It is at this time that we note the more serious and distressing general symptoms, the evidences of a stasis in the circulation, of secondary venous obstruction. Compensation is broken.

What causes arteriosclerosis? It is the disease of old age, whether attained after the allotted term of years, or prematurely as a result of overwork, as in blacksmiths or professional athletes, or of excesses, or of inherited weakness of arteries, rendering them prematurely liable to chronic inflammation. It is found in those individuals said to have the arthritic diathesis, who have a family history of gout, of rheumatism, who are predisposed to herpetic eruptions. It occurs as a result of the prolonged action of toxic principles, which seem to act directly upon the vessel-wall while passing through the circulation. Thus, chronic lead-poisoning and chronic tobacco-poisoning are frequently directly concerned in its causation. A chronic alcoholism has been regarded as an etiologic factor, but the evidence on this point is not clear, as the lesions in other organs progress much more rapidly than in the arteries, and often determine a fatal issue before the arteriosclerosis is well established. Excess in diet, particularly when coupled with sedentary habits, is a most important factor in causation; it has been asserted that the excess is particularly harmful where meat-foods are indulged in too freely. Lastly, I may mention what I consider to be one of the most frequent of causes in our own country—the condition of high tension under which business is done in the inordinate striving for material success. Wealth means power and position; everything, therefore, must be subordinate to its attainment. Great speculations are added to the cares of legitimate

business; excitement begins early and continues late; sleep is broken and inadequate; meals are gulped hurriedly; the whole conduct of life seems as if driven by a whirlwind; the waste of tissue goes on wholly out of proportion to the reparative power, until the final success finds the toiler arrived at his goal, but with arteries so badly damaged that the short enjoyment of his triumph, still permitted, makes the whole struggle seem like a mockery. Thoughtful physicians note the increase of Bright's disease in their communities, particularly among those who have achieved worldly success; the selfmade men; the men who have fought the hard fight. One of our humorists put the case that Bright's disease was an affection invented by the English statesman, John Bright, for the benefit of rich and indolent patients; we may say that they have Bright's disease because they are rich, and they are indolent because they have Bright's disease; the arteriosclerosis developed during the struggle for wealth puts a permanent check on their further activities.

From whatever cause arising the mechanism of the process may be regarded as the same, the prolonged influence upon the arterial wall of some substance, poisonous in its nature, and circulating with the blood. The poison may be but the result of physiologic decay, as in old age, where tissue-waste is greater than repair, and where the products of tissue-waste are more slowly eliminated, or not completely oxidized. Lead, tobacco, alcohol are examples of poisons introduced from without. In the excessive labor of body and mind, the production of waste products may so far exceed the capacity of the eliminative organs, that some material of extractive nature remains in the circulation to act upon the vessel-wall.

The symptoms of the condition will necessarily present the greatest variation, owing to the different sites of localization. When arteriosclerosis affects the cerebral vessels, hemiplegia, vertigo, headaches, nocturnal delirium, failure of mental power, apoplexy, and physical weakness are likely to follow; a train of symptoms wholly different from the dry gangrene of an extremity, yet dependent upon the same condition. The hemorrhagic retinitis, which often gives the first clue to the situation, is attended by very different symptoms from the cardiac dilation or aortic aneurysm or uremic convulsions which may follow in its train, but arteriosclerosis is responsible for all.

The main general symptoms will be found in the domain of the circulation as a whole. The affected arteries become firmer, serpentine in course and give to the examining fingers a feeling of high tension. Oftimes this is most fallacious, for if the artery be so situated that it can be compressed above the apparent firm cord so that the pulse will be obliterated, the cord-like vessel remains firm as before, thus clearly proving that the rigidity was due not to blood-pressure from within, but to a rigid vessel-wall. The radials and temporals are easily accessible for this examination. The pulse will be found to be frequent, variable in rhythm, in fulness and in force. The extremities may be cold objectively or subjectively, cyanosed, the seat of various sensory disturbances. Cramps in the muscles are not infrequent. To these symptoms may be added, at a later stage, dry gangrene involving only a limited part, or the whole of an extremity. A visible and extensive pulsation of the temporal arteries is a frequent accompaniment of arteriosclerosis in other parts.

The heart-symptoms are of the greatest importance. In the stage of hypertrophy there is the increased area of precordial dulness, the heaving apex-beat, often manifest to the patient, and promptly developed by slight physical effort at a very early period in the disease, the marked accentuation of the second sound over the aorta, with a high pitch and a quality almost metallic. The accentuation of the second sound is rarely absent and furnishes strong corroborative evidence. In the period of dilation we have a farther increase of precordial dulness, the apex-beat is diffused, not localized or distinct, the action of the heart is rapid and irregular, the sounds are indistinct, and a diastolic murmur may take the place of the second sound at the base, owing to functional insufficiency of the valves and aortic regurgitation. Later a pulmonary edema with cough, a bloody sputum and slight dulness over the base af the lung, with fine, moist rales, and a slight fever may occur. As farther evidences of cardiac insufficiency, of failing compensation, we have the enlarged liver, tender upon pressure, edema of the feet, slight ascites, and jaundice. Loss of appetite, nausea, a feeling of epigastric distress, more marked after eating, and great mental depression accompany the process. The urine in the early period is abundant, of light color, contains, it may be, a trace of albumin, and a few hyalin or granular casts. In the stage of dilation the quantity may diminish and the specific gravity increase. Albumin is not a constant ingredient. The quantity of urine is not so much a prognostic sign as an indication for treatment; I have seen fatal uremia in a man who for a week before his death passed an average quantity of three quarts of urine daily. A moderate anemia occasionally develops. Mental disturbances are common.

Of subjective symptoms dyspnea on exertion is one of the earliest and most persistent. There may be attacks of orthopnea, principally nocturnal; sleep may be disturbed by dreams of a most unpleasant nature, from which the patient awakens in alarm; palpitation, occurring paroxysmally without exciting causes or after slight effort, languor, ringing in the ears, violent headaches are other common features.

As referred to the heart, though not strictly originating there, may be mentioned a special symptom very often met with at a comparatively early stage of the disease. It is the intermittent claudication, noted in the early book of Burns, and recently most carefully studied by Charcot. It may be well illustrated by an incident that happened to a patient of mine, about 18 months before his fatal attack of angina pectoris. He had been arranging to leave his hotel in the city of Washington; while the servant was packing, he told his wife that he would go to the office to settle the bill. He remained away for more than an hour. His wife grew anxious and was on the point of sending for him when he returned to the room pale, greatly disturbed and almost hysterical. Instead of waiting for the elevator, to go the office, he hurried down two flights of steps, and on arriving at the desk had asked for a blank check. As he seated himself there was an intense pain in the right arm, with tremor of the muscles of the hand and forearm, so that it was absolutely impossible for him to sign the check; nor had he regained control of the arm in the hour that elapsed.

A similar muscular tremor, sometimes a cramp, may be developed by sudden fright or strong emotion, as well as by slight exertion. It often results from walk

g, especially walking up an incline, and compels the fferer to halt with each few steps. The theory offered an explanation is that owing to the diseased condi-ns of the arteries the blood-supply is so reduced at while it may suffice for the needs of the muscles the extremity when at rest, any increased demand blood cannot be met, and there results a muscular hemia, with pain, tremor or cramp.

There may be pain without muscular disturbance; e pain is often precordial, sometimes radiating from e heart, particularly toward the left arm, occasion-y to the neck and back, more rarely to the opposite n. In some instances the pain confines itself to the t arm, extending down to the tips of the fingers; the in more frequently following the radial side. It y persist while the parts are at rest; usually it is veloped by exercise. While the anatomic paths for e radiation of the pain have been carefully worked t, it cannot be stated why the given paths should be ecially selected. The pain in the arm may easily mistaken for that of a subacute or chronic rheuma-m; the complete physical examination will alone otect from error.

Angina pectoris is added to the clinical picture where e coronary arteries participate in the arterial changes. e attacks often follow the taking of a full meal, and supposed to be colic or due to flatulency, as belch-; gives momentary relief. The attacks may be fre-ent, but this is the exception. The first attack may ve fatal, or there may be two or three, separated by g intervals, or the pain, while agonizing at first, may e in intensity, but remains for three or four days, ring which the heart gradually grows weaker. ath may occur without angina, from the formation a thrombus in the coronary artery. I have known s to happen during sleep in a young man of thirty, o was presumably in the best of health, who had er known any acute illness. In such cases the opsy will show an interstitial myocarditis, the point departure being in the vicinity of the vessels.

n nearly all cases which do not succumb to inter-rent affections, the fact that the disease is really a eral nutritive disturbance is shown by the steady ugh gradual decline in flesh and strength. The ient takes adequate amounts of nourishment; he y develop an abnormal appetite, yet the balance nutrition is against him, and the loss of tissue pro-sses steadily. Disturbances of the renal function early and prominent features in cases of this class. he treatment of the condition will have due regard he cause. So long as the latter remains operative effort at palliation will be useless, and palliation is best that can be hoped for in most cases. Excess liet, in the use of tobacco, in drink, either alcohol, offee or tea, excessive physical labor, or indulgence xciting pursuits such as gambling, stock-jobbing, , should be avoided. The leadworker must change occupation. The man of affairs should circum-be his business engagements so as to allow ample e for rest and recreation; moderate exercise is not ly to prove harmful. The patient should spend n 11 to 14 hours in bed daily. The bowels should freely moved and any tendency to straining at stool ided. The function of the skin should be stimulated ponge baths and the functional activity of the kidney quently tested by measuring the total daily elimina-of urine and the proportion of nitrogenous waste-ducts.

The diet should contain a relatively small percentage of starchy and saccharine substances, but vegetables and fresh ripe fruits may be permitted freely. As in the gouty diathesis, which often underlies an arteriosclerosis, the lighter meats and fish will be better borne than red meats or game. Alkaline water, particularly effervescing waters, may be permitted, but should not be urged upon the patient unless there be deficient urinary secretion. The introduction of large quantitities of water into the circulation means additional labor for the heart, already sufficiently taxed.

Great value will, I am sure, be found to attend the so-called Schott method, the treatment by medicated effervescent baths and resistance movements. The method has been well systematized and yields results that are most gratifying, though they cannot be explained on any known physiologic basis. The method has long been in vogue at Bad Nauheim in Germany, the home of Schott during his lifetime; its introduction to English readers is largely due to Bezley Thorne. The water of the bath can be artificially charged with the principal saline ingredients of the Nauheim springs; the bath thus prepared at home will be found to yield results in every way as satisfactory as at the springs. Originally the method was restricted to cases of cardiac dilation with valvular disease, where it yielded surprisingly good results. Its subsequent application to the treatment of arteriosclerosis was attended with marked benefit. Its principal office is that of equalizing the circulation, besides assisting cutaneous elimination.

In the same manner nitroglycerin and the nitrites are of service. By dilating the entire arterial distribution at its periphery they lessen the liability to cardiac hypertrophy, and to hemorrhage from the high arterial tension. They can easily be pushed too far, and the tension so greatly reduced that the patient experiences all the ill effects of failing compensation. One grain of sodium nitrite, or the one-hundredth of nitroglycerin taken three times daily will, in conjunction with proper rest, be of great service. The force and frequency of the pulse must be the guide to proper dosage.

Sodium iodid has been strongly endorsed. It is supposed to exercise a chemical effect directly upon the diseased arterial wall. The sodium salt is always to be preferred and the dosage should be small.

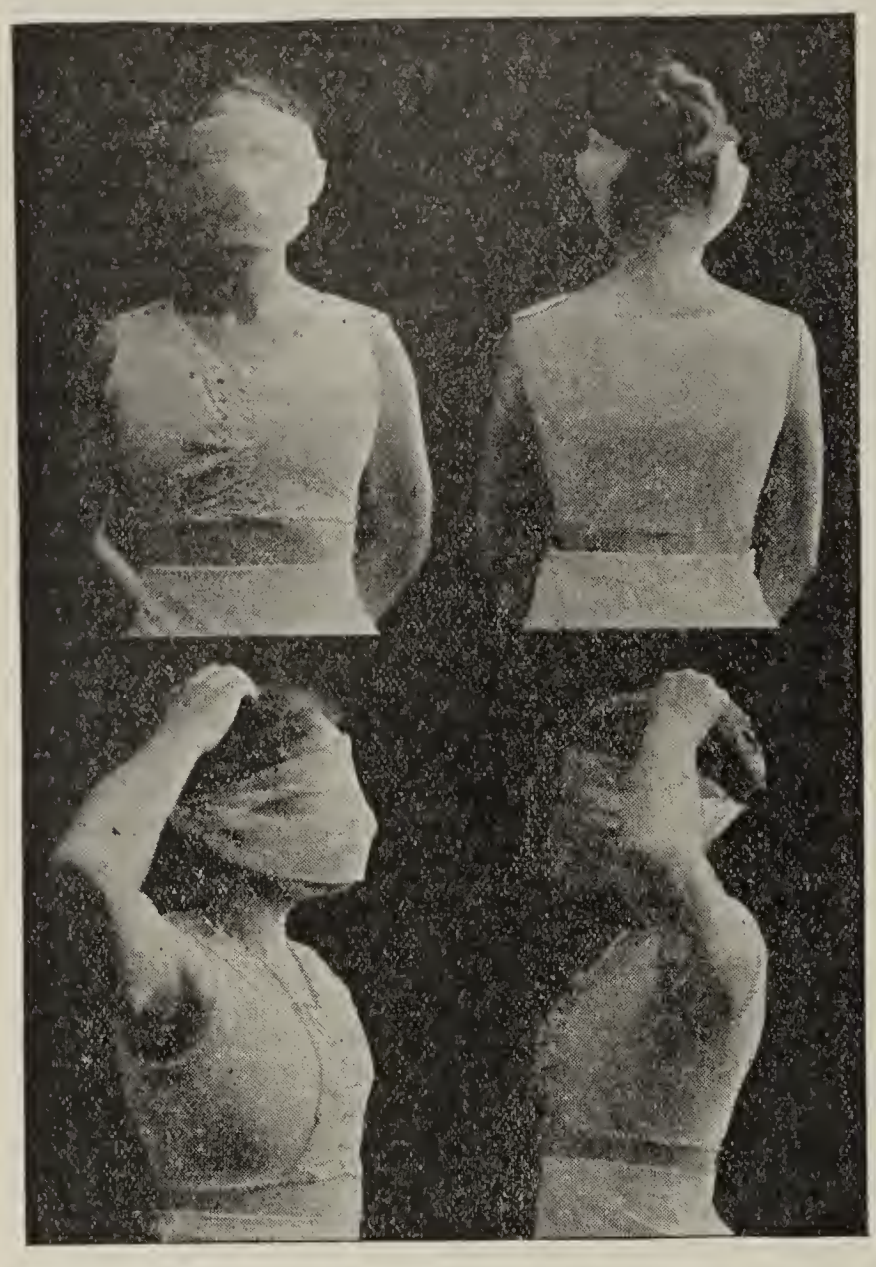
When dilation of the heart occurs the medicines most likely to yield prompt results are the heart-tonics, digitalis in infusion, tincture or as digitalin, strychnia, caffein and strophanthus. Momentarily they greatly increase the comfort of the patient, yet they often act as the whip to the jaded horse. The heart makes a supreme effort under the stimulus, only to succumb the more promptly.

A NEW AND SIMPLE BREAST BINDER FOR POSTPARTUM USE.

By JOSEPH BROWN COOKE, M.D.,
of New York.
Late Attending Physician, St. Mary's Free Hospital for Children, Out-Door Department, etc.

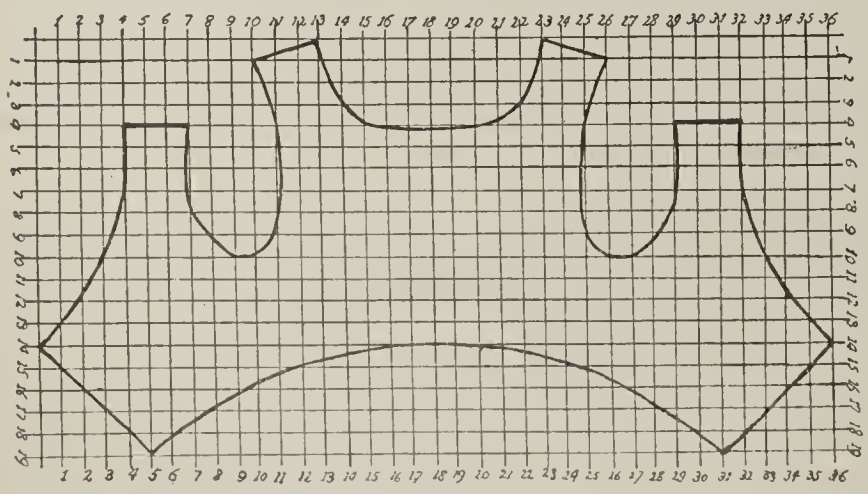
While the well known Murphy breast-binder fulfills every indication for which it was designed, it must have been apparent to most practitioners, at one time or another, that it cannot be applied as easily as might be desired. In order to make it fit the figure smoothly

and snugly, "gores" are taken up in the sides, either with needle and thread, or, more commonly, with safety pins.



The first method practically amounts to making a waist or jacket for each patient, while if safety pins are employed the patient often complains bitterly of the pain to which her swollen and tender breasts are subjected during the necessarily protracted manipulation.

To overcome these objections to the Murphy binder the writer has devised one, made on somewhat similar lines, which will set snugly and smoothly without gores or fitting of any sort.



After the shoulder straps are adjusted and pinned the ends are to be drawn well together and pinned in the median line over the sternum. According to the amount of tension employed the binder will merely support the breasts or actually compress them. The binder is cut out of moderately heavy unbleached muslin and the edges should be "overcast" to prevent fraying.

Like its prototype it may be unpinned for nursing, or openings for the nipples may be cut in the sides. By enlarging the diagram to 19x36 inches and tracing out the figure on the squares the pattern may be obtained. It is hardly necessary to say that only half the pattern need be made and the binder cut from folded cloth.

SOME OLD CERTIFICATES OF PROFICIENCY IN MEDICINE.[1]

BY FRANCIS R. PACKARD, M.D.,
of Philadelphia.

LAST November Dr. W. W. Keen secured for the College of Physicians through the kindness of Julius F. Sachse, Esquire, a copy of a certificate granted by Dr. Christopher Witt to one of his pupils. The original is in the collection of Judge Pennypacker of this city who generously loaned it for this purpose. Dr. Keen's copy is presented to the College this evening.

In the certificate Dr. Witt testifies to his pupils having received instruction, not only in mere medical science, as we understand it, but also in the astral sciences, thereby giving him a great advantage over those who had received their medical education at the hands of physicians who were not proficient in the science of the stars. There is an interesting account of Dr. Witt in Mr. Sachse's book, "The German Pietists of Provincial Pennsylvania." He was a quaint character even for his times, as we look back on them. Coming to this country in 1704 he settled first with the German Pietists on the banks of the Wissahickon, but in 1717 moved to Germantown. Here he remained until his death in 1765, becoming distinguished as a physician, naturalist, astronomer, and magus. He was also an expert clock-maker and builder of pipe organs. His astronomical investigations were made through a large telescope in his house and these occult studies earned for him the name of "hexenmeister," or master of the kobolds or fairies. He had a mulatto servant whom the neighbors regarded as his famulus, or familiar spirit. He was an intimate friend of John Bartram, the botanist, and a correspondent of Peter Colinson, the famous English botanist. At his death he bequeathed £60 to the Pennsylvania Hospital.

In the days before there were any medical colleges to grant diplomas, certificates such as this were all the many practitioners of medicine could show to indicate any special fitness for their calling.

It has been estimated that at the outset of the War for Independence there were upwards of 3,500 persons practising medicine and calling themselves physicians in the Colonies, of whom not more than 400 had received the degree of M.D., or even B.M.

Wickes[2] furnishes us with a copy of a certificate issued by Dr. John Redman.

MEDICAL CERTIFICATE TO MR. SAMUEL TREAT, 1765.

PHILADELPHIA. This is to certify to all whom it may concern that Mr. Samuel Treat hath served as an Apprentice to me for nearly four years, during which he was constantly employed in the practice of Physic and Surgery under my care, not only in my private business, but in the Penn-

[1] Read before the College of Physicians of Philadelphia, January 3, 1900.
[2] History of Medicine in New Jersey.

a Hospital, in which character he always behaved with t Fidelity and Industry. In Testimony of which, I have unto set my hand this first day of September, One usand Seven hundred and Sixty-five.

(Signed) JOHN REDMAN.

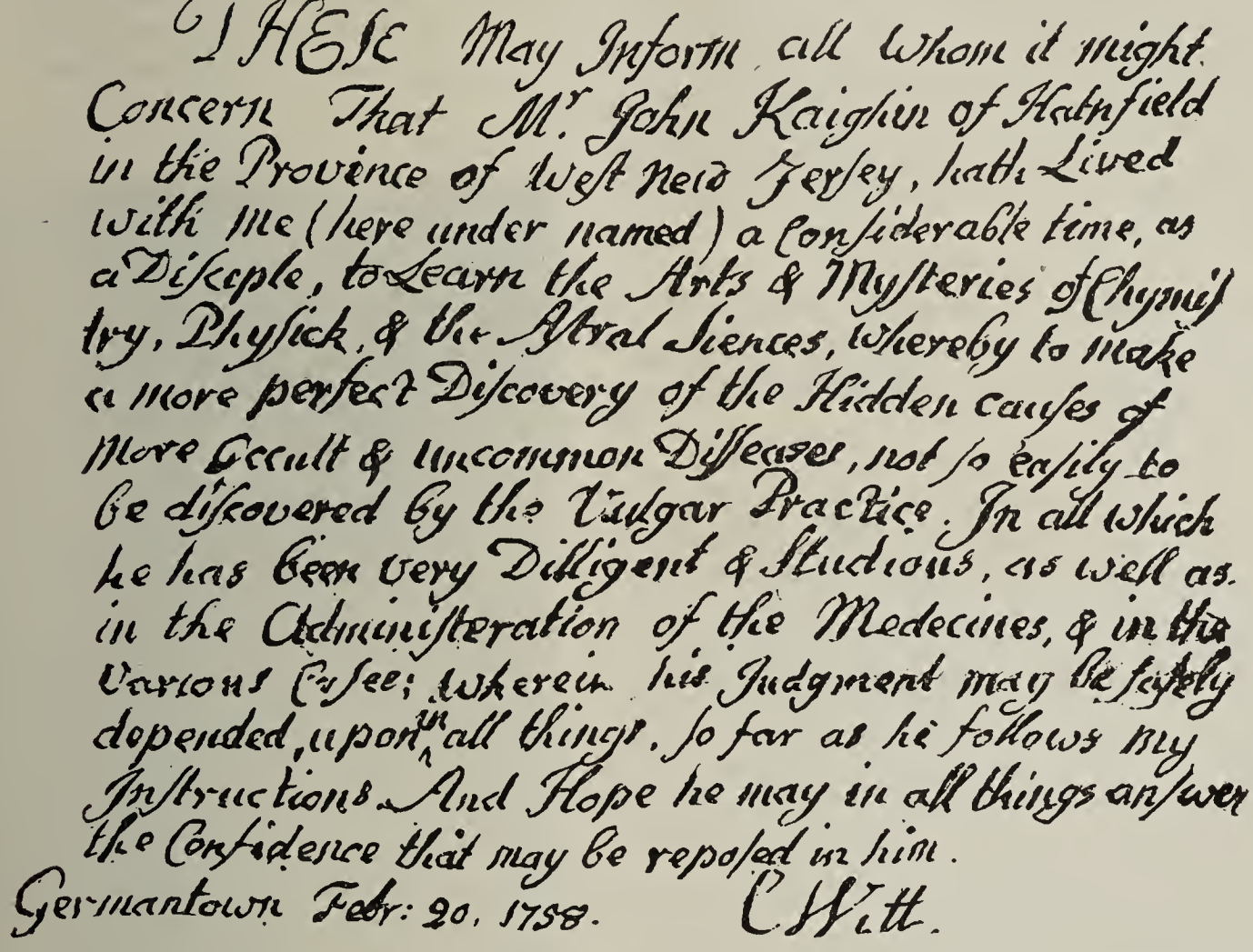
We whose names are under written do Certify that Mr. uel Treat hath diligently attended the practice of Physic Surgery in the Pennsylvania Hospital for several years.

(Signed) THOS. CADWALLADER,
PHINEAS BOND,
TH. BOND,
WM. SHIPPEN,
C. EVANS.

his is to Certify that Samuel Treat hath attended a rse of Anatomical Lectures with the greatest diligence ass'duity.

(Signed) WILLIAM SHIPPEN, JR.

Dr. Thomas G. Morton, in his History of the Pennvania Hospital, also gives some interesting specimens he certificates granted by the Hospital authorities



THESE May Inform all Whom it might Concern That Mr. John Kaighin of Hatnfield in the Province of West New Jersey, hath Lived with Me (here under named) a Considerable time, as a Disciple, to Learn the Arts & Mysteries of Chymistry, Physick, & the Astral Sciences, whereby to make a more perfect Discovery of the Hidden causes of More Occult & Uncommon Diseases, not so easily to be discovered by the Vulgar Practice. In all which he has Been very Dilligent & Studious, as well as in the Administeration of the Medecines, & in the Various Cases; Wherein his Judgment may be safely depended upon in all things, so far as he follows my Instructions. And Hope he may in all things answer the Confidence that may be reposed in him.

Germantown Febr: 20, 1758. C. Witt.

those who had attended the Hospital as pupils. ey were issued after the following form:

This is to Certify that . . . , son of . . . , West sey, entered regularly as a pupil of the Pennsylvania spital, . . . , 1763, and continued his attendance with igence and Application, to . . . , 1764, during which e we hope and have reason to believe he has made conerable Progress in the Knowledge of Anatomy and the ctice of Physick and Surgery, therefore wishing Happis and success we give from under our hands and the seal the Corporation, this Testimonial of our Esteem and probation."

The first man to receive a medical diploma in North erica was Daniel Turner, who received the gift of honorary degree of Doctor of Medicine in 1720, from le College. Turner had given much money to the lege and the degree was intended as some return for generosity, hence those of a humorous turn of mind said to have interpreted the M.D. as signifying Multum Donavit.[3] There was, however, no medical department at Yale until the year 1813.

At the centennial celebration of the Medical and Chirurgical Faculty of Maryland, held in Baltimore, in April, 1899, there was exhibited the medical diploma of Dr. Archer, from the College of Philadelphia. This is probably the first medical diploma awarded after a course of study in America. As such it merits reproduction. It will be observed that the Faculty signatures comprise the eminent names of Morgan, Kuhn, Bond, and Shippen, probably the four most prominent medical men of their day, in this country.

Omnibus ad quos praesentes Literae pervenorint, Salutem. Nos Praefectus, Vice-Praefectus, et Professores Collegii et Academiae Philadelphiensis, testamur Virum ornatum ac ingenuum Johannem Archer assidue interfuisse, operamque sedulo navasse, ut Scientia Medica imbutus atque eruditus discederet, ac postquam, Curriculi sui Spatio peracto, in Aula nostra coram Curatoribus, multisque aliis Civibus dignissimis ad Examen revocatus, se in omnibus hisce Studiis satis versatum comprobasset, ex Curatorum Mandato in Publicis Comitiis vigilissimo primo die Junii Anno 1768 celebratis Baccalaureatus in Medicina Gradum, omniaque Privilegia, et Honores ad hunc Gradum pertinentes consecutum fuisse. In cujus Rei Testimonium his Liberis, majori Collegii et Academiae Sigillo munitis, Die Annoque praedictis Nomina subscripsimus.

JOHANNEM MORGAN, M.D., F.R.S., Theo. & Prax. Med. Professor.
ADAM KUHN, M.D., Mat. Med. & Bot. Professor.
GUL. SMITH, Collegii & Acadac. Praefectus, S. T. D.
FRA. ALISON, S. T. D. Coll. Vice Praefect. & Acadae. Rector.
EBEN KENNERSLEY, Ling. Angl. & Orat. Prof.
GUL. SHIPPEN, M.D., Anat. Prof.
JAS DAVIDSON, Ling, Graec. & Lat. Prof.

[3] Toner: Annals of Medical Progress.

Fidem facio Virum ornatum Johannen Archer, Praelectionibus Clinicus et Praxeos Noscomio Philadelphiensi interfuisse et Fructus Diligentiae suae uberrimus consecutum fuisse. TH. BOND (A.M.H), Collegii et Acad. Curator & Praelec. Clinicus.

The earliest law, and the only one passed until many generations later, that I can find making any distinction between those whose had received a diploma in medicine, and those who had no degree, was "An Act for Regulating the Fees and Accounts of the Practicers of Physic" passed by the Virginia Assembly in 1736. "Surgeons and apothecaries who have served an apprenticeship to those trades," were to charge at one rate, and "those persons who have studied physic in any University, and taken any degree therein," were permitted to charge at a higher rate.

In 1758 William Smith in his History of New York[4] wrote "A few physicians among us are eminent for their skill. Quacks abound like locusts in Egypt, and too many have been recommended to a full practice and profitable subsistence; this is less to be wondered at, as the profession is under no kind of regulation. Loud as the call is, to our shame be it remembered, we have no law to protect the lives of the King's subjects from the malpractice of pretenders. Any man, at his pleasure, sets up for physician, apothecary, and chirurgeon. No candidates are either examined, licensed, or were sworn to fair practice."

DOUBLE FRACTURE OF THE CLAVICLE.

Gunshot-Wound of the Lower Portion of the Spine, Producing Paralysis of the Area Supplied by the Fifth Sacral Nerve.

BY W. H. HUDSON, M.D.,
of Lafayette, Ala.

CASE No. 1.—N. A., aged 25, was injured by a carriage falling on him, evidently mashing his shoulders together. He was badly bruised about the right side of the chest, the right clavicle being fractured in two places, as shown by the marks in Fig. 1. The middle fragment of the bone was misplaced so as to occupy a position somewhat parallel to the vertical line of the body. This dislocated portion of bone was fairly well reduced, so that with a Sayre's apparatus good union was obtained with no marked deformity. At one time, however, soon after the fracture occurred, I thought best to wire all the broken ends together. I am of the opinion now, that the result with the Sayre mole-skin sticking-plaster apparatus is very satisfactory in this case.

CASE No. 2.—C. L., negro, aged 15, while in bathing with his brothers was accidentally shot with squirrel-shot at a distance of about 30 yards. On account of the naked condition of the boy, the shot penetrated more deeply than they would have done otherwise. Negroes have a strong desire that all bullets or shot shall be removed from them, and on this account and from the symptoms which the shot had produced, the boy's father brought him to me. I found several shot in his legs, arms, and back, one shot having entered over the spine just below the lower termination of the spinal cord. There was paralysis of all kinds over an area in the left leg, which corresponds with the area marked in circles in Fig. 2. There was also, some paralysis in areas marked in straight lines and crosses.

In about a month, sensibilities were restored to the straight-line and cross-line areas, the area marked in circles remaining anesthetic for a much longer time. After several months there has been, practically, a restoration of all sensibilities in the leg.

I believe that in this case the fifth lumbar nerve was shot so as to completely sever it, or to destroy its functions entirely, for a considerable length of time, the same shot injuring the fourth lumbar and first sacral nerves.

This photograph, which has been retouched, corresponds pretty closely with the diagrams of Hea

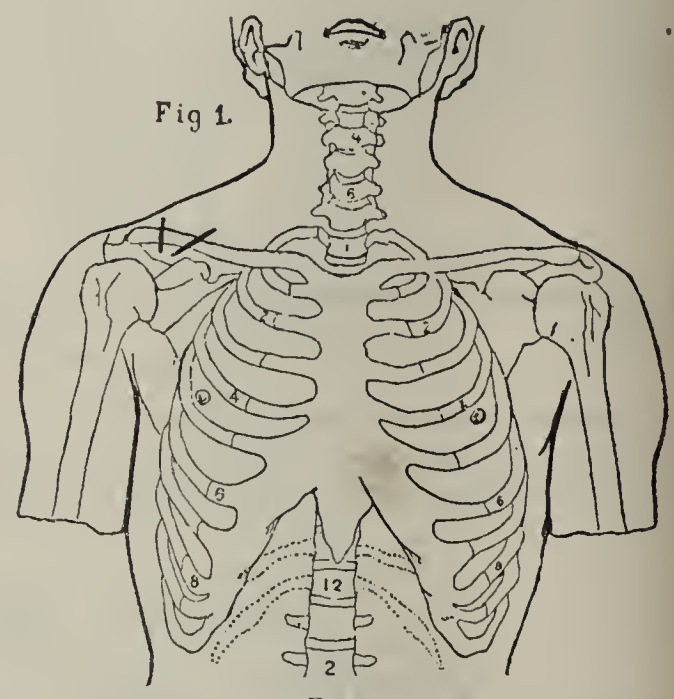


FIG. 1.

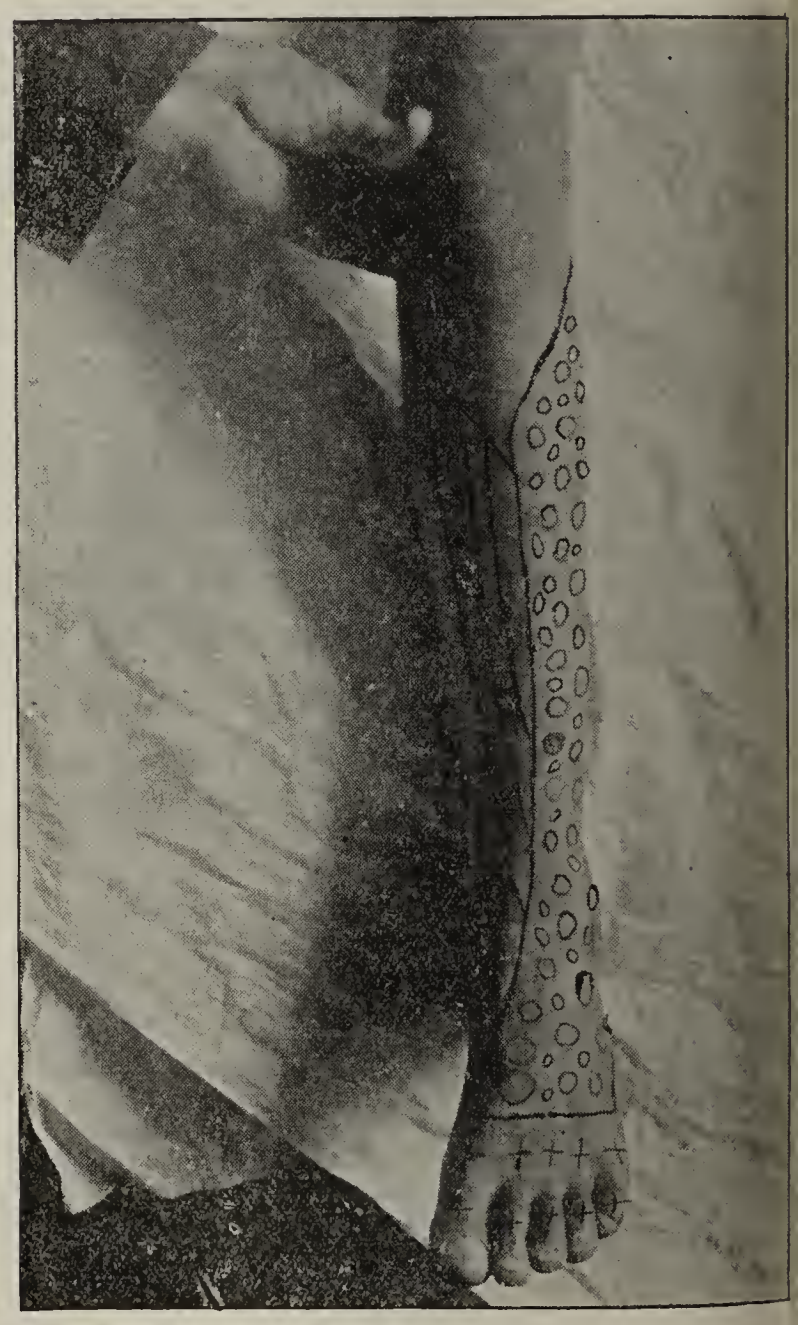


FIG. 2.

Quain's Anatomy and Osler's Practice. The leg, before the photograph was taken, was very carefully marked off and must represent very accurately the distribution of the fifth lumbar nerve, also the fourth lumbar and first sacral nerves.

[4] Quoted by Carson, History of the Medical Department of the University of Pennsylvania, p. 23.

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See Advertising Page 8.

VOL. V, No. 11 — MARCH 17, 1900 — $3.00 PER ANNUM

Politics and the Red Cross.—The National Red ross Association, through Senate Bill No. 2931, because ıe "importance of the work demands" it, seeks at ıe hands of Congress a reincorporation of the already ·incorporated society. When one tries to learn the ɔjects and meaning of the incorporation and reincor- oration, one finds an astonishing indefiniteness, and ıystery beyond mystery. This organization handles illions of money without any accounting of its re- ·ipts or disbursements; its chief officer is a public ıpporter of nostrum-mongering and quackery; its ·lations with the medical profession have been far from tisfactory. So far as it relates to the nursing profes- on we fear it sometimes represents mechanical and lfish charity rather than the good of the nurse, and e are aware that it has too little love for scientific ıedicine and medical men. Altogether we gather from ıe history of our late war that its officers were often ıore interested in themselves than in the poor soldier. annot the United States care for its own soldiers, and e without the aid of the official sentimentalist and lf-advertiser? We do not favor the bill.

Examination of School Children's Eyes.—The ublic Education Association has done a useful service this city by bringing to the attention of the Board of ublic Education the fact that numbers of school chil- ren are pursuing their studies with eyes and ears in ɔ fit condition for work. In another column, all of ıe recent suggestions of the Association's Committee ı Medical Inspection of Schools are given. These ıggestions were presented to the Committee on Hygiene the Board of Education and were in part adopted y the Board on March 13. The system recommended ɔr periodical tests of the sight and hearing of all ·hool children was prepared by eminent specialists ·ready experienced in this work. The Hygiene Com- ittee decided it was not within their province, but we ope that some other committee will take it up. No xtra force of school physicians is required, and the dded work thrown on teachers is so arranged as not to e burdensome. Indeed, it will be of advantage to ·achers by showing them how to relieve the strain of ·aching children in whom defective sight or hearing ıay produce the effect of idleness or stupidity.

While testing the eyes and ears of school children not new in principle, the practical and simple system here given is new in the regularity and scope with which it is now to be applied in Philadelphia; nor is this especial system founded on that of any particular preceding one.

The suggestions as to defective schoolhouses and the overcrowding of classes are even more important than those concerning the pupil as an individual, because universal in effect. Both require careful discussion, but it is likely that good results will follow the serious and determined consideration of the present evils and their causes.

The volunteer corps of physicians now making daily visits at the schools, for the detection of contagious diseases, should find in the Public Education Association, if not in direct recommendations to the Board of Education, an avenue for remedying any defects in our schools and school system that they may note.

The Meeting of the International Medical Congress at Paris, according to a most astute and observant correspondent of the *Boston Medical and Surgical Journal*, is not likely to prove either pleasant or profitable. We would advise every physician who is planning a trip to Paris this summer to read the letter published by our esteemed contemporary March 8. The writer plainly says that it will take all of the art of the Frenchman to conceal the Frenchman's intense hatred of anyone speaking English; that the scientific proceedings are likely to be of little interest or value; that there will be much crowding, and heat, and expense, and little satisfaction for it all. According to the latest plans we have seen there are to be 29 sections of the Congress, all meeting synchronously, to be followed by the Hygiene Congress, not to speak of the British Medical Association Meeting which overlaps the meetings of the Congress. We doubt the science and the wisdom of these International Medical Meetings, and especially when held at Paris and during a great Exposition. If one goes for other reasons than science or wisdom,—that is another matter.

The Loud Postal Bill, when studied with sharp eyes, discloses its fantastic and unjust character. It is chiefly aimed at the sample-copy abuse. According to the post-office statistics the number of sample copies is on the average less than 8% of the paid circulation, but this is more than compensated for by the mail-order

business derived from advertising. It is estimated that the purchase of stamps by the mail-order business of one city amounts to over a million dollars a year. Another error consists in the average of 8 cents a pound as the cost of handling mail, for which the government receives a profit of 56 cents a pound on letters, 8 cents on merchandise, but loses, it is said, 7 cents on papers. But it costs only a fraction as much to handle the 6 newspapers per pound as it does the 32 letters per pound. There is also the fact kept out of sight in the statistics of the uses and abuses of the franking system, whereby untold tons of seeds, documents, political and partisan speeches, etc., are carried free. If passed, the Loud Bill will force publishers to move their publication offices, or the assumed ones, to some of the centrally-located cities of the United States where their thousand-mile radius will not for the most part be inhabited only by fish who care little for literature good or bad. What pains legislators take to injure the people! How representatives misrepresent!

The Prevention of Genitourinary Diseases.—Legislators and physicians have long recognized the importance of this subject; the great prevalence of these diseases and the terrible amount of unhappiness, suffering, and death which the genitourinary diseases cause, is sufficiently evident to anyone who has opportunity to see it. A number of eminent abdominal surgeons have called attention to the fact that a large proportion of the cases of pelvic diseases of women are due to gonorrheal infections, and syphilis still remains one of the scourges of humanity. Yet there are some physicians who treat such matters lightly; who jest about gonorrheal infection before their patients and in their scientific (?) articles published in professional journals. It is time for the profession to awaken to the fact that they have a duty to perform in the prevention of these diseases as well as in preventing tuberculosis, the plague, or cholera; for in the aggregate they no doubt cause much more suffering and death than any one of these diseases. In a recent paper Valentine (*Journal American Medical Association*, March 3, 1900) deals with this question in a very thoughtful and suggestive way. He expresses the opinion that the control of public prostitution, even if ideally carried out, can be but a small factor in the prevention of genitourinary diseases, and in this belief most physicians who have observed the conditions in Europe, where this system is prevalent, will no doubt concur. What then is the remedy? Valentine believes that much may be accomplished by educating the masses to appreciate the gravity of these diseases. Sufficient of the physiology and pathology of the genitourinary apparatus should be taught, in institutions for higher education, to convey to students the dangers of genitourinary diseases to themselves and to others. Similar instruction should be given in schools attended by boys at the age of puberty. Regular physicians should be elected by their societies to deliver evening lectures to the public on genitourinary diseases. Every medical society should elect its most competent member to write at least one article on the subject, worded for laymen's comprehension, and to be published under the auspices of the society. Another matter not connected with education: No man who has ever had gonorrhea should be allowed to marry until it is proved by a physician that he can not infect his wife. Every father should be taught to warn his sons of the dangers of genitourinary diseases. When from incompetency or delicacy the father can not or does not wish to do this, the family physician should discharge that duty.

The idea of teaching general students something of genitourinary hygiene is not entirely new; attention has been called in these columns and elsewhere to the splendid course of lectures of this kind given by Professor Lassar at the University of Berlin. The plan is a good one and deserves to be generally known and introduced, and the other suggestions of Valentine seem equally worthy of acceptance. History shows that illegitimate relations between the sexes have always existed, and moralists, theological or lay, have never been able to suppress vice; however, there seems to be no reason why the evil should not be lessened. Certainly we should not expect to see much accomplished in this direction until physicians come to speak of these diseases seriously and make some organized effort at their prevention.

Politics and the Nursing Profession.—There is a bill before Congress "to provide for the appointment of Women Nurses in Military Hospitals of the Army," and the pertinacity with which public enthusiasm is being aroused, and public meetings instigated in behalf of the bill, stimulates first curiosity, and then wonder. The wonder arises when one learns that we already have such an altogether desirable employment of women army nurses, that the organization is outside of politics, and that, through the Surgeon-General, it is under the control of the medical profession. One can hardly understand what interest the profession can have in releasing the service from professional influence and exposing it to the hazards of politics. The Surgeon-General, while not actively opposing the bill, thinks the proposed legislation wholly unnecessary, and that the service as reorganized by the bill would be far more expensive and far less effective than at present. A few points of criticism of the proposed bill are these:

1. The title is incorrect, as the employment of nurses has been provided for by Congress since April, 1898, and large numbers are still employed in military hospitals. A bill for the purpose specified is, therefore wholly unnecessary.

2. The Army Nurse Corps, which has been in existence since May, 1898, is now thoroughly organized and

nning to the satisfaction of all concerned. This is tirely ignored in the bill, and it is implied in the arth and other sections that this body, with rules olved as the result of experience, is to be superseded a new organization which must necessarily be less isfactory.

3. The provisions in section 3 are almost identical th those obtaining at the present time and do not prove the status of the nurse in any way whatsoever. me of the nurses who have been or who still are in e service and have proved themselves eminently ed for the work are graduates from schools which uld be excluded under the limitation in section 3.

4. The wording of section 1 is so ambiguous as to open to various interpretations, but, judging from an pression in the circular issued by the framers of the l, it appears to be intended that nurses should be ployed only "in general and post hospitals of fifty ls and upward." Before the Spanish War there was t one such hospital in the Army, that at Hot Springs, kansas, where the cases treated are not such as to ke the services of women-nurses desirable. In a r's time, or in a few years, therefore, the effect of the would practically be to exclude women from the ny (excepting, of course, the Superintendent of men-nurses with her $2,000 salary). In view of se facts, the argument of the framers of the bill that urses should be employed regardless of the views of individual officer" becomes an absurdity, as no cial would have authority to employ them.

5. Hospital-ships, transports, and field hospitals often uire the services of nurses, which would apparently prevented by this bill. The same is true of hospitals less than fifty beds in times of epidemic. Several t hospitals of less than that size are supplied with n two to four nurses at the present time. This bill uld also prevent the use of nurses as the teachers of pital-corps men, which is one of the most useful ies to which they can be assigned. The training-ools for hospital-corps men, at Washington and San ncisco, would especially suffer from the loss of their men instructors, who have been most successful in ir work.

6. The bill, in rendering void the present organization the Army Nurse Corps, would exclude a large body eserve nurses now attached to that body, though re-ving no pay. This is composed of women who have ved honorably for four months and over, and is a st desirable feature of the present organization. tead of reserve nurses, section 5 practically states t this Government is unable to nurse its own soldiers, would find itself, in time of war, obliged to call n societies and associations for assistance. Under present organization such a lamentable defect in the dical department would not exist.

7. The bill, it is said, is not supported by the medical artment or by the army nurses, or by the nursing profession in general. If we are correctly informed it was framed by a committee of ladies knowing nothing of the subject and having no army connections.

8. It has been the policy of the Surgeon-General and the officer now in charge of the Army Nurse Corps (who is a woman physician) to make appointments from all good schools and all parts of the country, and this policy has worked to excellent advantage in army hospitals.

9. The bill fails to recognize the need of the male nurse. In time of war women-nurses should not be sent to the front; there are also other conditions in which women-nurses are out of place.

Nerve-Wounds in the South African War.—The war correspondent of the *British Medical Journal* calls attention to the somewhat novel effects in the nerve-trunks of injuries inflicted by the modern bullets. In the first place, in perforating wounds of the limbs, there may be lesions of quite distant tissues, and among these tissues may be included one or more nerve-trunks. Thus some particular nerve may be quite incapacitated, although situated at some distance from the course of the bullet. The small-bore projectile, traveling at high velocity, drills a perfectly clean passage through the tissues, even bone, but the effects, according to this correspondent, are widely disseminated. Thus ecchymoses may appear far from the bullet-track and in places where extravasated blood from the wound itself could hardly have extended. In other words, these bullets cause extensive bruising and shock to the tissues, and may thus do grave injury to remote parts of the nervous system, although from the distance of these parts from the wound this fact might not be suspected. There is an opportunity here, we should think, in fatal cases, for some fine histological work by ambitious cytologists who want to demonstrate obscure and subtle changes in the nerve-cells. The trouble, we suppose, would be that cytologists do not go to the war in South Africa. The correspondent says that in one case he saw the ulnar nerve carefully exposed in the lower part of the axilla in the hope of relieving symptoms that pointed directly to its injury, and yet when the cicatricial tract of the missile was dissected it was found not to affect the ulnar nerve, which was perfectly normal in appearance. In conclusion, this writer says that these cases of nerve-injury show an astonishing power of recovery, and their symptoms are so illusive, apparently, that the diagnosis of the exact seat of injury may be quite mistaken. He thinks that there are few injuries seen in the military hospitals that will better repay careful watching at home. In making such a widely favorable prognosis he certainly differs from most other observers, both civil and military, and his optimism suggests that probably these concussion wounds of the nerve-trunks are not so bad as they look at first sight. In cases, however, in which the trunk of the nerve is directly in-

jured we cannot see any reason why the wounds in this war should differ from the wounds in any other war.

Senate Bill 3424 and Human Vivisection.—Senator Gallinger may always be relied upon! His bill intending to prohibit human vivisection, so far as warranted by facts, seems to be based upon three, and only three instances of human vivisection found in a ransacking of American medical literature. It starts out by making it a highly punishable criminal offense for "any physician, surgeon, pathologist, student of medicine or of science, or any other person, to make or perform upon the body of any human being, any experiment, etc., etc." As a biologic fact we are delighted to learn that all human beings are thus divisible into the following classes: Physicians, surgeons, pathologists, students of medicine, students of science, other persons.

The bill is entitled, "A Bill for the Regulation of Scientific Experiments, etc." But *regulation* implies the right to perform such experiments. This the bill absolutely forbids—a strange admission and a strange confusion of thought.

The muddle is increased in the further reading of the bill, which after absolute interdiction of such experimentation, even upon "other persons," finally does go on to make a lot of exceptions and conditions. The person upon whom the experiment is to be performed must be over 20 years of age, sane, his life must not be jeopardized, he must know the nature of the experiment, consent to it, etc., etc.

We call attention to one hidden danger in this bill: It is entirely possible that the variation of operation practised by every surgeon according to circumstances and condition might be interdicted by the law exploited by fanatic opponents of medical science. Lastly, and we suspect with a Mephistophelian sigh of hope that this exception may be most extensively taken advantage of, "Nothing in this act shall be construed to prohibit or interfere with *any experiments whatsoever* made by medical students, physicians, surgeons, physiologists, or pathologists upon one another." What an excellent way for these pests to rid the world of themselves after the fashion of the Kilkenny cats! Human vivisection is the most horrible of crimes; it must be absolutely interdicted; but must be "regulated;" may be done under conditions, and with the supervision of antivivisectionists—but is to be encouraged and placed beyond all conditions and limitations, when the vivisectors operate upon each other. What wonderful ethics! And the elderly ladies of both sexes clap their little soft hands with glee, and send big bouquets to their darling Senator Gallinger.

Anonymous abstracting is, as a rule, bad abstracting, because the anonymous abstracter's motives are bad motives. There are several kinds of anonymous abstracting. For example, the journal editor wishes to fill up certain spaces in his periodical and some "assistant" is given the exchanges to choose from them what articles he pleases and to epitomize them as he pleases. There is hardly any show of an attempt at thoroughgoing or serious work, and the desire to do the author justice is not even thought of. To get the exchanges without paying the subscription price is the motive, and the results are the choice of articles according to haphazard, or the whims of the abstracter, $\frac{99}{00}$ of the best literature ignored, that chosen skimped, marred, or misrepresented, and even stolen. In some more serious attempts the "department" is placed "under the charge of" the great man who kindly allows his name to be used as a figure-head while his assistant does the work, unthanked, unhonored, and unknown. Even here there is the same lack of literary workmanship, and of anything approaching a review of a thousandth part of the world's literature. Two or three pages of such epitomes once a month are supposed to keep the reader in touch with the world's progress in surgery, or in internal medicine, etc. It is a fraud and a deception. Then there is the new style—a sickly and silly imitation of that inaugurated by our JOURNAL with the first issue, and which has proved most successful and prized by every scientific physician. To carry out our plan required scholarship and conscience upon the part of a large number of collaborators, and tremendous labor and earnestness upon the part of all concerned. After reviling us for a year or two, our competitors have been forced to imitate,—but they have done it in the only way that makes their work valueless. The anonymity shows the cloven hoof of commercialism, poor science and poor literature. The only guarantee of workmanship is the name of the man who does the work placed at the end of his abstract, and only thereby can there be judgment as to the intellect, scholarship, and science of the abstracter. Hackwork, routine-reading, pot-boiling, the exchange system—these are not productions of literary and scientific excellence. The best workman will not bury his individuality in the grave of the journal's general reputation, the journal has no right to ask him to do it, and the profession will not submit to the personal injustice to the man nor to the general injustice to science. The physician who relies upon the results gleaned by the anonymous abstracter will find that he has been deceived, and the author who reads the travesties made by him will vow eternal vengeance upon the sins of commercialism and silly rivalry in medical journalism.

Operative End-to-end Anastomosis of the Large Bloodvessels has not been practised very frequently and every communication on this subject still has the interest of novelty. The procedure seems to have considerable practical value, and when it is better known

nd when surgeons have elaborated the technic of performing it, no doubt it will be more frequently practised. At the last Congress of German Naturalists and Physicians, which was held at Munich, Kümmell of Hamburg (*Centralblatt für Chirurgie*, December 2, 1899) reported anastomosing the femoral vessels twice by circular suture. In the first case, while removing a carcinomatous tumor of the lymphatic glands, Kümmell found the femoral artery involved; he dissected the artery from above and below the site invaded by the growth, clamped the artery with 2 artery forceps and resected a section about 4 centimeters long; he then flexed the leg, invaginated the upper extremity of the artery into the lower extremity and sutured with continuous silk suture without penetrating the tunica intima. After removal of the artery forceps there was some bleeding from the stitch-holes, which was arrested by a second row of sutures passing through the tunica adventitia only. The circulation was immediately reestablished in the leg and the man recovered from the operation. It was impossible to determine what the permanent results would have been in this case, however, for there was soon a recurrence of the growth which again involved the artery at the site of suture. In the second case Kümmell sutured the femoral vein in a similar manner after removing a section 2 centimeters long, which was affected by carcinoma. He did not invaginate the end in this case, but sutured with continuous suture which passed through the tunica intima. It was almost impossible to avoid this on account of the thin wall of the vessel. After removal of the artery forceps the leg immediately lost its livid discoloration; there was some bleeding from the stitch-holes, which was easily arrested by superficial sutures. Recovery resulted in this case and healing by first intention, and the patient left the hospital after 24 days. Kümmell was under the impression that circular suture of the bloodvessels had never been carried out in man before, but in this he was no doubt mistaken, for Murphy, of Chicago, successfully sutured the femoral artery some years since. In a discussion of this subject at the German Congress, Garrè, of Rostock, also reported having sutured the larger arteries in man twice with a good recovery in both cases. In one case the brachial artery was sutured and in another case the common carotid.

A considerable number of experiments on animals have been performed showing the practicability of this procedure. Garrè has carried out a series of such experiments and found that the thrombosis does not result from it. Briau (*La Médecine Moderne*, March 3, 1898, page 151) reported having successfully performed circular suture of the aorta of an ass; thus it seems that the size of the vessel need be no contraindication to the operation. Thrombosis or embolus has not followed in any of the cases thus far reported. Most operators have practised invagination, as did Kümmell in his first case; the invagination should, of course, be made always in the direction of the blood-current. Fine silk is the material which has been chosen almost without exception for suture-material. Some experimenters have suggested suturing the surrounding fascia over the vessels to give additional strength and support. We are not aware that any reports have been given of the later results following this procedure. Thrombus or embolus are dangers which would probably occur early if at all, but there would seem to be some danger of weakness at the site of suture which might possibly result in the formation of an aneurysm. The occasions requiring this procedure will, of course, not be very common; probably it would find most common application during the extirpation of tumors which involve the vessels, as in all Kümmell's cases. Inasmuch as there has not been shown to be any danger of thrombosis or embolism in the operations thus far reported, whether experimentally performed on animals or performed upon man, it would seem that this procedure is preferable to the ligation of the larger bloodvessels under similar circumstances, for such ligations are always attended with serious danger of gangrene.

Feeble-minded children, as well as the insane and criminal, should claim a share of the interest of physicians, for no one should understand so well as the members of the medical profession the influences which heredity and various bodily defects have in producing these unfortunate classes, and the possible means of preventing their increase and ameliorating their condition. Indeed, it is mainly through the studies and the efforts of our profession that the cruelty and neglect that formerly generally characterized the treatment of these poor defectives has been now largely done away with. Even at present, however, most physicians know much less about these conditions than is desirable for the good of the community. "Once an idiot always an idiot," was for ages the received doctrine, and this view still lingers with many otherwise well-informed people not conversant with what has been done during the last fifty years to ameliorate the condition of mentally deficient children. A little book by Shuttleworth, "Mentally Deficient Children: Their Treatment and Training," the second edition of which has just appeared, contains a great deal of valuable information on this subject in a very small compass and is well worth careful perusal.

Shuttleworth's study of the etiology of mental deficiency in 2,380 cases seems to show that a family history of phthisis is the predominant factor which was traceable; this was found in 28.31% of the cases studied; the next most common hereditary factor was mental weakness (insanity or imbecility); then came epileptic or neurotic inheritance, paternal intemperance, and inherited syphilis. Protracted pressure from prolonged labor is believed to be a more potent factor than

the use of forceps among the causes acting at birth; other possible causes are asphyxia neonatorum and premature birth. Among the causes which come into play after birth are mentioned epilepsy, infantile paralysis, traumatism, fright or shock, and severe febrile illness.

General, medical, and surgical measures are discussed, and the author concludes that proper feeding, clothing, excercise, and attention to other hygienic measures, as well as teaching cleanly habits, are specially important in treating these classes. Epilepsy and cretinism are considered and the general dietetic and medicinal means which are likely to prove useful. Operative intervention in cases of epilepsy, the results of traumatism and paralysis, should not be deferred until after the establishment of serious atrophic changes and degenerations. The results of craniectomy practised in cases of microcephalus are not considered encouraging; however, when signs of pressure present themselves in the rare cases in which there is a history of prematurely ossified fontanelles, operative intervention is justifiable.

In the education of mentally deficient children, "the woof of industrial training must be closely interwoven with the warp of scholastic exercises, and a wholesome moral influence must be the pattern pervading the whole." By careful medical examination such children should be separated into three general classes: Those capable of continuing in the ordinary schools, those requiring special instruction, and those whose mental condition is too low for instruction even in special classes, who should be admitted to special institutions. The best teachers are needed for this work, for to penetrate the darkness of the feeble mind, or even the dull mind, singularly lucid teaching is requisite, and a philosophical power of simplification of instruction and of adaptation of methods to the individual peculiarities of pupils. The education of the senses must precede that of the mind; physical training is of first importance, then industrial training, then mental training.

The results of such education of the feeble-minded have been, on the whole, very satisfactory and encouraging. After thirty years of experience in this work, Seguin wrote: "Idiots have been improved, educated, even cured; not one in a thousand has been entirely refractory to treatment; not one in a hundred has not been made more happy and healthy; more than 30% have been taught to conform to moral and social law and rendered capable of order, good feeling and working like a third of a man; more than 40% have become capable of the ordinary transactions of life under friendly control . . . of working like two-thirds of a man; and 25% to 30% have come nearer and nearer to the standard of manhood, till some of them will defy the scrutiny of good judges when compared with ordinary young men and women."

Shuttleworth finds that the last United States census showed a total of 95,609 idiotic and feeble-minded persons; about two for every thousand of the population, and there is at present public provision for only 8,492 of the feeble-minded class. Efforts are being made to make further provision for the education and training of these unfortunates. At present 24 public institutions are supported by 19 States. It is self-evident that from a purely economic standpoint such institutions should be found in every State and large city; they are fully as much needed as insane asylums. Physicians should give such efforts as are being made to establish institutions their hearty sympathy and support, and should use their influence to have placed under proper care mentally deficient children who come under their notice.

Physicians in Public Affairs.—The duties of doctors differ so greatly from those of other professional men in being personal rather than of a general and public nature, that we unfortunately overlook our duties and opportunities in certain very definite matters that concern the public welfare. The best minds of our profession have always and very properly decried that kind of political activity which springs from a desire for notoriety or for commercial advancement. But those same best minds have never faltered accepting and bearing bravely their proper share of public responsibility from motives of civic or national patriotism. Good doctors find it difficult to lower themselves to the level of ward politicians; yet some very busy and intellectual men of our profession hold it to be their duty occasionally to take a day off from their arduous professional work and devote it to the equally arduous work of attending party primaries or conventions. When it is evident that such interest in public affairs is not due to a desire for notoriety, but is caused by a properly active American interest in the problems of self-government, we cannot too highly commend such men. One of the best of our great gynecologists came into high esteem with a certain coterie of men who had heretofore regarded him with doubt, when they heard that he had been at his ward primaries all day, was set upon by a gang of political rowdies, insulted and beaten. Previous to that time they had regarded him as a mere cerebrating machine; now they knew him for a man and a fellow-citizen.

The difference between political activity for the sake of principles and political activity for the sake of spoils is so distinct that it should hardly need emphasis. Yet there are minds so constituted that they do not perceive the unlikeness. Disagreements in national partisanship for example, should never move the sane and conscientious mind in regard to choice of officers for civic duties. This is especially true in matters pertaining to public health. Decent doctors are, and they ought always to be, of one mind in regard to this matter

Given a good sanitarian, a capable bacteriologist or an efficient executive officer in such a position, it should be impossible to find any doctor of ethical standing who, for the mere sake of getting office and salary, would connive at deposing him. The public welfare is too sacred to be played with by such unnecessary, dangerous, and experimental changes. The humorous oddity of choosing a bacteriologist because of his democratic or republican proclivities, irrespective of his technical qualifications, and perhaps in spite of his lack of them, would simply provoke laughter, were it not that there must and do occur tragical incidents dependent upon such an official's ignorance.

The remedy for such occurrences lies with the profession itself. The ethical members of the profession should stand as a unit against professional or political debasement. They should insist that the public health must at no time be made the plaything of political expediency.

Correction.—In the paper by Drs. Keen and Rosenberger in the issue of the JOURNAL of March 10, it should have been stated that the original article of Prof. Pagentecher appeared in the *Centralblatt für Gynäkologie* and not in the *Centralblatt für Chirurgie* as, by accident, the reference was given.

A Case of Suppurative Cholecystitis with Isolation of the Bacillus Typhosus Eighteen Years after an Attack of Typhoid Fever. No Formation of Gallstones.—Hunner (*Bulletin of Johns Hopkins Hospitla*, August-September, 1899) reports the following case: The patient, from whom Dr. Kelly had removed the fallopian tubes and the ovaries with an ovarian cyst, 16 days after the operation developed a cholecystitis. At the operation of cholecystotomy no stone was found, but a calculus was discharged a week later. Cultures from the contents of the gallbladder revealed the typhoid bacillus. The history showed that the patient had had a continued fever, presumably typhoid, 18 years before. In a discussion of this case Cushing (*ibid*) reviewed the development of the present theories concerning cholelithiasis. The experimental evidence now is quite strongly in favor of the view that bacteria play an important part in the formation of gallstones; Cushing was able to produce calculi in rabbits by means of the intravenous injection of the typhoid bacillus; but tt was necessary to produce some traumatism of the gallbladder in order to achieve success. The mere introduction of the virulent organisms alone, as well as the introduction of aseptic foreign bodies without microorganisms, was unsuccessful. One of the factors apparently necessary is an extreme attenuation in virulence of the microorganism employed. Mignot believes that the process of stone-formation and increment in the size of the stones cease with the death of the microorganisms. Stones found in the gallbladder are presumably, in most occasions, all of the same age, and they always possess the same appearance, chemical composition, and bacteriologic characteristics. Old calculi are usually sterile, although their nuclei may contain the faintly staining shadows of bacilli. Mignot thinks that if stones in process of development are removed, the chances are in favor of a new formation. This is an argument against the so-called "ideal operation," and justifies the experience of most surgeons that it is preferable to drain the gallbladder in recent cases, until one is practically sure of the aseptic condition of the bile and convinced that the ducts are sufficiently patent to allow of the free escape of the contents of the gallbladder. D R.]

Correspondence.

THE BUSINESS OF "INSTITUTING" A SERUM CURE.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

MY DEAR SIR:—A physician in this State addressed a letter to a certain "Institute" in ——, requesting to know their prices and methods of use of their product which had recently secured much free advertising in the newspapers. The exceedingly clever, if somewhat overdone, reply which I enclose was their answer. You will observe that they not only indefinitely postpone final dissolution, but cure nearly everything except smallpox and pneumonia. The letter needs scarcely any comment, and really speaks so well for itself that I need not take up, in calling attention to details, the space which will be much better occupied by a transcript of the communication itself.

Yours truly, J. K. M.

DEAR DOCTOR:—Our method of introducing —— —— is as follows: First, we urge doctors to come to —— to investigate our results, methods, etc., and take instructions, but when they cannot do so, we are willing to instruct them through the mail if they furnish us with satisfactory evidence of their standing, reputation, and medical education. If you could only remain with us one day you would be better able to thoroughly convince yourself of the merits of the treatment and become acquainted with the management. We contract to sell you —— —— —— for $25.50 for each ounce and a half. We have a Special —— —— ——, which is very much stronger, that costs you $30.50 for each ounce and a half. These prices include the adjuvant used with both ——, which represents the blood —— —— —— in a perfect state of preservation, and an extract from ——, its functions being nutritive and assimilative. One and one-half ounces of ——, and sixteen ounces of the adjuvant treat one and a half average cases the average time of treatment, that is, 30 days. We treat our patients at the rate of $150 for 30 days' treatment, sometimes lowering this price, but oftener raising it. The average duration of treatment in severe cases is 60 to 90 days. The —— is injected twice a day in most cases. The diseases we treat with the greatest success are as follows:

Tabes, chronic rheumatism of severe types, including gonorrheal rheumatism, primary spastic paraplegia, multiple sclerosis, neuritis, neuralgia, nerve exhaustion, epilepsy, chorea, hysteria, occupation neuroses, insomnia, impotence, spermatorrhea, sterility (when caused by metritis, ovarian torpidity, and debility), endometritis, vaginitis, displacement and pelvic congestion, fatty degeneration and infiltration of heart, myocarditis, arterial sclerosis, chronic gonorrhea, tertiary syphilis, dilated stomach, interstitial nephritis, anemia, obtunded mentality, loss of memory, primary dementia, melancholia, imbecility and paranoia.

We also have been able to cure 80% of the cases of tuberculosis we have treated, and over 90% of certain septic diseases, such as chronic suppuration, fistulae, ulcers, etc. We secure wonderful results in treating old age. Old men are always made stronger, more supple, of better mentality, their eyes become brighter and clearer, the face loses many wrinkles and the color improves, hardened arteries are greatly bettered, and we have rarely failed to cure senile prostatitis. The old men and women always declare that they feel from 10 to 15 years younger. Many functions that have been lost are restored to them.

We have treated 1920 cases, most of the diseases being regarded as incurable, or nearly so. The average age of these cases was 57 years, treated within three years, and only two have died, although the American tables of mortality state that such a number of individuals in average health with an average age of 57 years in three years' time should give a number of at least 85 deaths. Percentage of failures, 6½%, complete cures, 67%, and nearly complete cures, that is, most subjective and objective symptoms removed, 26½%. Over 150 physicians are using ——, all of whom are thoroughly reputable, the majority occupying

prominent positions in the profession. The only expense incurred for using —— is a fee of $100, which each physician pays for membership in our association, which conveys the following benefits and privileges:

First.—Complete instructions in —— —— —— and those animal extracts which are yet to be made, and exclusive right to use and introduce these in the territory assigned.

Second.—For maintaining our —— laboratory and receiving reports from same. It is from this source that new preparations are made, and the present ones are modified and improved.

Third.—For weekly advices of all lessons learned by our various institutes, and monthly statistics of all cases treated in the United States. We also issue a weekly news-bulletin.

Fourth.—For consultation with the Medical Director and assistance in the handling of cases, including use of the references. For referring patients to the institute nearest the correspondent's address.

Fifth.—For maintaining our medical journal and the free use of same as well as samples of all our literature, and for life membership in our medical society.

As soon as I am furnished testimonials, etc., of a physician's ability and reputation, and he sends me the fee of $100, I send him his complete instructions, statistics, samples of literature, etc., and he then can order —— and become a member of our organization. The receipt for the fee states in detail the privileges which it conveys. The formula of —— is published, and all rules of ethics are strictly obeyed. Physicians may use —— with their regular practice or exclusively, as they prefer. This membership fee is not obligatory, but the success of the treatment demands this cooperative assistance. Our profit from the sale is very small.

The formula of —— is as follows:

* * * * * * *

The details of this formula and the other formulas are sent you in the instructions. —— can be preserved indefinitely, and increases in value as it grows older.

Although we give but one physician the exclusive right to use —— in a given city or town, it is to his interest to allow other reputable physicians in that city or town to use —— under his observation and direction, he to receive a part of the fee (¼ to ½) for his consultations. We cannot instruct and keep in touch with all physicians, and hence we endeavor to select a thoroughly competent physician to control a given territory. The therapy is entirely new and the details of its administration, action and uses are usually extensive.

Our results in ataxia have been always beneficial, although we have theoretically only completely cured about 12% of cases. We have always been able to do them a great deal of good and to arrest the progress of the disease, that is, to eliminate all or nearly all of their incoordination, stop pains and most of the symptoms, except the lost knee-jerk.

Under separate cover I send you a copy of our medical journal.

Very truly yours,

—— —— ——.

LESSON OF THE EPIDEMICS.

BY RUDOLPH W. HOLMES, M.D.,
of Chicago, Ill.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN the issue of March 3, 1900, of your journal, on page 466, under the editorial caption of "The Lesson of the Epidemics," inadvertently you have slighted one of the largest typhoid epidemics which has visited a community in the United States, and possibly in the civilized world in modern times; at least it can be stated that never has a large community been ravaged by typhoid to such an extent as was Ironwood, Michigan, in 1893, for fully 10% of a population of less than 12,000—13,000 were seized by the disease in a period of 6 months. That this percentage is not overestimated is evident from these considerations: When the mines were worked to their full capacity the population was as I stated above, but shortly before the outbreak of typhoid the hard times of 1893 forced the mining company to close down most of their shafts; the unmarried men were discharged first, and as there was no other work for them to do, in large numbers they left town, seeking employment elsewhere; in addition, at the beginning of the epidemic fear drove all who could leave to other cities, so when the epidemic was in full swing the population was diminished by nearly 2,000. In the course of the epidemic over 1,200 cases were reported to the Health Department, at the head of which was Dr. James K. Niven. The mortality was difficult of estimation, as death-certificates were not required by the department, but was considered to be about 4 to 6%, taking the results of the staff of the Union Hospital as a basis. In the Armory Hospital—an emergency hospital opened for the occasion—91 patients were admitted, of which 12 died, a percentage of 12.1%. In this hospital only the most critical cases, or those who could not receive proper nursing at home, were admitted. In corroboration of this is the fact that 5 died within 2 or 3 days of admission.

A few people were taken sick about the middle of May, 1893; by June 1 nearly 60 were victims of the disease; for the week ended June 10, 125 new cases were reported to the health officer. For days the list grew at the rate of 10 to 30 a day. Toward the close of July the decline began, and the last cases were discharged about December 1. The brunt of the work fell upon the staff of the Union Hospital, Drs. J. A. McLeod, J. K. Niven, Strout, and myself, who were also the county physicians; they with the assistance of the other physicians of the town did the work without the aid of outside help. The nurses were supplied by the Illinois Training School for Nurses.

The chief interest centers about the cause of the epidemic. As in all new communities, and especially in one which is brought together for mining purposes, typhoid may be said to be endemic, and so it was in Ironwood. Gradually as sanitary measures were instituted the frequency of typhoid lessened, but each spring a number of cases were observed. The water in the early days was taken from wells; finally a chartered company was organized, and put in active operation, taking the water from a small stream which separated Ironwood from Hurley, Wisconsin. The pumping-works were located above, and to the south of the town, on this stream, in a depression into which the natural drainage of a ward of the town emptied. The intake pipe took the water from the stream a few feet from the pumps. At the time the health officer remonstrated at this unscientific plan, but received scant attention for his pains. At that time, 1888 or 1890, if I remember right, the mining company as a matter of convenience pumped the water from the shafts in this location, or ward, into a ditch which emptied itself into a swamp to the north and below the town. This artificial channel in a great measure served as a sewerage system for the ward. Early in 1893 the mining company found it expedient to turn the direction of the ditch towards the natural drainage, thereby lessening the difficulty of the disposal of the waste water; this was done with no conception of the gravity of the procedure. It was but a short time until the damage was irretrievably done, for spring comes late in Upper Michigan; when the spring thaw arrived the saturated ground gave up its burden, and the infected water entered the stream above the water-works, very quickly producing the havoc. That the fluid supplied by the water company was the primal source of the trouble was palpably plain, for only a small proportion of the houses had hydrants, yet wherever the taps were, there also were the early cases. The city of Hurley had water supplied

the same company, but the water was almost exclusively fire protection; in the few homes which had hydrants phoid was a visitor. As Ironwood had only a limited verage system soon the wells in a number of instances be- me infected from contagious privy-vaults, necessitating eir closure by the order of the Health Department. At e investigation of the water-works by a committee of the ty Council, and a committee of citizens, it was learned that e company never had purified the water as their ordinance quired, neither had they cleaned the standpipe which gave e pressure in the mains, in months; in fact, no one knew ıen the standpipe had been emptied and cleaned; truth be id, the presumptive evidence was all in favor that it never d been properly cleaned. The two committees had the wer emptied, and found it in a horrible condition. The posit was some two or three feet deep, was laden with ganic matter precipitated from the water, and from putre- ing birds which had fallen in. A sample of this ooze was aced in a Mason jar for examination by the State chemist, few hours later the tension was too great for the glass and exploded. If my recollection serves me aright, Dr. Vaughn, Ann Arbor, found typhoid bacilli in water drawn from y hydrant. I might add that at best the water was heavily arged with organic matter and had a very unsavory yellow lor. In conclusion, the city quickly decided that munici- l ownership of the water-system was necessary, and raightway bought out the company; at once the intake pe was extended up the stream, preventing further con- mination. The sewerage plant was materially improved.

A brief description of this epidemic was published in the ssociation *Journal* soon after its appearance, from the pen the Secretary of the State Board—about June, 1893; also briefly mentioned the epidemic in a paper on the treat- ent of typhoid which was much lauded at the time, but hich was conclusively proved at our hands to be valueless. his paper appeared in the *Chicago Medical Recorder*, Febru- y, 1898.

THE CORONER'S OFFICE.

o the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN your editorial comment on "The Judge and the Coro- er" you say "so far as we know, in this city the office is, id has been, honestly administered." It is not expedient r a practising physician to criticise the administration of ıe coroner's office, particularly as it is sometimes difficult to ove a charge, and he might be called upon to do so in self- efense. I do not believe that the experience of the practi- oners of medicine of Philadelphia will support your state- ent. Let me relate two incidents which you are at liberty publish if you care to do so without signing my name to ıe publication. I am not afraid to support my statements penly if any good can come of it, but I do not desire to ıvite petty persecutions on my head.

In the spring of 1893 I attended a woman who had a very ıronic form of tuberculosis. She was well enough to pursue er usual vocation, and to all appearances had prospects of ving some years. In May she contracted influenza, which ecessitated confinement to bed. She was nervous and ysterical, and for this reason appeared much sicker than ıe really was. About the fifth or sixth day of her illness ıe became very drowsy, gradually becoming comatose, and ied with all the symptoms of opium-poisoning. My last rescription, the one which had been taken for a day r so before death, contained a very small quantity of deodorized tincture of opium, not enough to have caused poisoning if it had all been taken in one dose. There was apparently either a mistake or a crime somewhere I declined to give a certificate and gathered up the bottles in the room and sent them with an explanatory note to the coroner's office. There was a politician in the family, and on the following day I was directed to give a certificate.

During the early part of 1897, one evening, an elderly lady called at my office and asked me to call to see a member of her family on the following day. The old lady was then in good health. On the following morning another member of the family left a message at my office for me to also call to see the old lady. The two patients lived in different houses, but near each other. When I called to see the old lady she was apparently dying from some violent poison. She died within one half hour from the time I saw her. When a male member of the family called on me for a certificate I informed him that in my opinion the old lady had died of poisoning, and that as a matter of protection of himself and family he ought to insist on a rigid examination. I declined to give a certificate. He apparently acquiesced in all I said, but got a certificate from the coroner's office and buried the old lady. He was a politician. A few days afterward an old lady who lived in the same house called on me and gave me to understand that if she dared say all she knew she could make startling revelations. She evidently believed that the old lady had been deliberately put out of the way. I feared as much myself. The coroner's office, which has only one reason for existence, namely, to detect crime, in this case covered it up, if crime had occurred.

The two incidents show how easily crime can be covered up in Philadelphia through political influence. I am not in a position to say that a criminal act had beeen done in either of the cases I have narrated, but if there had been there was nothing in the administration of the coroner's office to detect it.

MEDICUS.

THE OPERATIVE FUROR IN APPENDICITIS.

BY A. T. SPEER, M.D.,
of Newark, Ohio.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IT seems to me that it is time to call a halt on the number of appendices that are being removed or sought after, and the large mortality that accompanies the same. One can scarcely pick up a paper nowadays without seeing in it the notice of the death of some prominent man who has been operated on for appendicitis. The theory of many of our prominent surgeons seems to be that as soon as pain is felt at or near McBurney's point for several hours, the appendix shall be sought for and if found removed. From what I can glean from medical journals and lay press, the mortality is constantly increasing, and the time has gone by when it should be treated lightly; more time and study should be devoted to the thorough understanding of the conditions present, and the careful medicinal treatment of those who are ill with abdominal troubles. I have practised medicine and surgery for 34 years, and have seen many fads rise and fall, but none to my mind that compares to this, the last and most serious of all.

The deaths in Paris for the week ended February 17 reached the large sum of 1,423, while the births were 1,223, of which 361 were illegitimate.

Special Article.

MEDICAL INSPECTION OF SCHOOLS.

REPORT of Committee on Medical Inspection of Schools of the Public Education Association of Philadelphia, was submitted to the Board of Public Education, March 12, 1900.

It is recommended:

1. That schoolhouses already condemned by the Board of Health as unfit for use or unfit for school purposes, be closed until put in order.

2. That a maximum rule of 45 pupils in average daily attendance upon any one school be adopted, at least for all new divisions.

3. That commencing October 1, 1900, the fitness of the hearing and the sight of all children for school work be annually tested as per report of subcommittee appended.

4. That the use of common drinking-cups be avoided, if possible, by the introduction of a fountain system for drinking purposes, at least in new buildings.

5. That boiled water be used whenever possible for drinking purposes in schools where adequate filtration is not employed.

ARGUMENT.

I. Defective conditions in schoolhouses, as reported annually by the Board of Health to the Board of Education, can only be remedied in so far as appropriations for repairs are granted by Councils. It is believed that the prompt closing of schoolhouses or rooms so defective as to be dangerous to health, will be the surest method of securing improved conditions. That the present methods are unsafe is apparent from the fact that all six of the schoolhouses condemned by the Board of Health in January, 1898, continued in use at least 14 months only to be again reported the following year.

II. Present overcrowding of classes is induced sometimes by Sectional Board Directors, and sometimes by teachers fearful of the minimum rule operation. The present minimum rule of 40 pupils as an average daily attendance for all classes is the direct and serious cause of the overcrowding of lower grades, even in schools where vacant rooms exist. Should a maximum rule be adopted it would be a protection to the teacher and children alike. It would protect the teacher from outside pressure to enlarge her class. It would protect the children from the baneful effects of impure air, and prevent them from being deprived of their proper share of the teacher's attention. It is believed that the teaching of more than 45 children by one teacher is not productive of progress sufficient to satisfy our educational standards, and that our primary-school system is being thereby undermined. The handling of large numbers is too severe a strain upon the health and professional ability of the average teacher for her to preserve the mental and physical vigor necessary to the progress of our school system.

III.—Dr. B. Alexander Randall makes the following suggestions for annual test of the hearing of every school child, and for children entering during the term:

Teachers should test each ear separately, the other being turned away but not stopped. The standard voice test is a distinct "stage whisper," spoken with the "reserve air" that can be forced from the lungs after an ordinary expiration of breath. The cardinal numbers below 100 should be used. This whisper in a quiet place should be heard 50 to 60 feet, depending on the dimensions of the room. Have the words or numbers repeated to show that they were heard correctly.

Teachers should report any child that habitually keeps the mouth open, this almost invariably meaning a stopped-up nose and endangered ears.

REPORT OF THE SUB COMMITTEE ON THE EXAMINATION OF THE SCHOOL CHILDREN'S EYES.

To MISS DORA KEEN, *Chairman of the Committee on Medical Inspection of Schools.*

Your committte beg leave to present the following report embodying their recommendations for the examination of the eyes of the school children of Philadelphia:

A. That at the commencement of each school year the eyes of each and every pupil shall be examined in the manner prescribed on the cards of instruction herewith inclosed. (A and B.)

B. That the examination of the eyes of the children in each class or school-room shall be made by the teacher in charge of the class or school-room, and the result of the examination recorded on the prescribed form furnished for the purpose, a sample of which is herewith inclosed (C). That these records, properly dated, shall be placed, in card index form, in the keeping of the Principal of the school as a part of the school-archives; to be returned to the teacher of each child for the annual examination at the commencement of each succeeding school-year, and to follow the child in case of promotion or transfer.

C. That when the result of the examination discloses defective vision, as set forth in the cards of instruction, the teacher shall fill up and send to the parents or guardian of the child the blank card of advice, a sample of which is herewith inclosed (D)..

D. That new pupils entering at any time during the school-term be subjected to a test of their vision in the manner prescribed, as a part of their entrance examination.

E. That in the case of very young children the examination be deferred until they acquire a knowledge of the alphabet.

Your committee feel that argument as to the great need for these examinations of the eyes of school children is no longer necessary. As to the feasibility of the plan they suggest, they wish to urge that the examinations in the manner prescribed do not require the service of a professional expert, but can be readily performed by the teacher. Ten or 15 children can be examined daily before the opening daily session of the school, or at its close, so that without adding greatly to the labors of the teacher, the entire class can be examined in a week or ten days and the records carefully made and placed on file with the Principal. In this way before the close of the second week of the school year the eyes of every pupil in the city will have been examined and his or her fitness to pursue his or her studies determined.

Should these suggestions and recommendations be accepted, your committee suggest that at the beginning it would be wise to provide for a series of instruction lectures or demonstrations to the teachers in order to secure an accurate understanding of the methods set forth in the cards of instruction.

Chairman, DR. S. D. RISLEY,
DR. B. ALEX. RANDALL,
DR. WM. C. POSEY.

A

(To be printed on the back of the card used to ascertain visual acuity.)

Place the scholar 20 feet distant from this card, and ascertain the smallest letters which can be read at that distance. The card should be placed in a uniformly good light. Each eye must be tested separately, the eye not being examined being excluded by holding a card over it. All pressure upon the covered eye should be avoided. If glasses are worn vision should be tested with them. The number affixed to the smallest letter seen indicates the sharpness of sight, and this number should be recorded on the permanent record card (C.) *e. g.*, if line of letters marked 40 is seen correctly record vision as "40" for right or left eye.

Question the pupil regarding liability to sore or painful eyes, to headaches, or blurring of the letters while reading.

If any of these be complained of, or if he fail to read the type marked XX (20) with each eye, he should be sent home with a note of information to the parent or guardian. If vision be so low that none of the letters on the card are seen at 20 feet, it should be recorded as "less than 200."

The vision, the accommodation, and the character of any complaints referable to the eyes should be entered upon the permanent record-cards provided for the purpose.

B

(To be printed on the back of the card used to ascertain the range of accommodation.)

Ascertain the nearest point with the yard-stick at which the scholar can read the smallest type clearly, each eye being tested separately.

At 10 years of age or under, type 0, diamond type, should be read at 3 inches or less. (3 inches.)

At 15 years of age or under, type 0, diamond type, should read at 3½ inches or less. (3½ inches.)
At 20 years of age or under, type 0, diamond type, should read at 4 inches or less. (4 in.)
If the scholar is unable to read this type at this distance en approximately, he should be referred home as noted on e large test-card.
Record on permanent record-card "C" in inches the arest point at which diamond type can be read.

C.

Example of the manner in which each case should be re-rded:

{To follow the child in case of promotion or transfer.

PERMANENT RECORD OF VISUAL TESTS.

me and address..... Grade.....

This card to be placed in card index form in keeping of principal.

te.	Age.	Vision.		Near Point.		Condition of Eyes.	General Health.	Remarks.
				R.	L.			

JOHN DOLAN.

te.	Age.	Vision.		Near Point.		Condition of Eyes.	General Health.	Remarks.
00 10	12 yrs.	20	15	R. 5 in.	L. 6 in.	Red at times and painful after work.	Good.	Left eye turns in. Has frequent styes, headache. Advised to consult physician.
01 10	13 yrs.	20	20	4 in.	4 in.	Comfortable.	Good.	Wears glasses and eyes are straight.

D.

is card to be sent to parent or guardian of any child whose vision is found to be defective.)

. . . . . .
EAR . . . . . :—The examination of the eyes of . . . . . shows defective sight, which y hinder . . . . . progress in the school work or lead to per-nent injury of the eyes. It is therefore recommended that an surgeon be promptly consulted.

. . . . . Teacher.
. . . . . .
(Name and address of school.)
(A similar card to be used for defective hearing.)

V. It is well known that the early evidence of diphtheria rlet fever, measles, whooping-cough, pneumonia, influ za, and follicular tonsillitis appear in the throat and uth. Thus in the early and incipient stages of such dis-es the common use of a drinking-cup may be the direct ans of transmitting the disease. The fountain system, by ich no cup is required, or individual cups, would avoid e danger.
Report presented and adopted by the committee, March 1900.

DR. SAMUEL D. RISLEY,
DR. B. ALEXANDER RANDALL,
DR. WILLIAM CAMPBELL POSEY,
DR. LEWIS S. SOMERS,
DR. J. MADISON TAYLOR,
DR. HOWARD F. ANDERS,
DR. W. W. KEEN,
MISS DORA KEEN, Chairman.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending March 24, 1900:
Tuesday, March 20—College of Physicians, Section on Ophthalmology.
Thursday, March 22—Pathological Society.

Owing to the resignation of Dr. John Ashhurst, Jr., the John Rhea Barton Professorship of Surgery in the Department of Medicine of the University of Pennsylvania will be vacant August 31, 1900. Individuals desiring to be considered as candidates for the impending vacancy may send notice of such desire to the Rev. Jesse Y. Burk, Secretary of the Board of Trustees, University of Pennsylvania, 400 Chestnut Street, Philadelphia, April 7, 1900.

Mütter Lectureship of the College of Physicians of Philadelphia.—The next course of 10 lectures instituted by the late Professor Thomas Dent Mütter, M.D., LL.D., on some "Point or Points in Surgical Pathology," will be delivered in the winter of 1902–1903 before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating in full subjects of proposed lectures, must be made before October, 1, 1900, to the Committee on the Mütter Museum. John H. Brinton, M.D., chairman.

Pathological Society of Philadelphia.—At a meeting held March 8, DR. A. O. J. KELLY reported a number of **tumors of the vermiform appendix**—2 fibromyomas, 3 carcinomas, and 1 endothelioma. DR. CHAS. H. FRAZIER reported a **vermiform appendix containing a number of oxyuris vermicularis.** DR. G. G. DAVIS reported a case of an **appendix containing a segment of a tapeworm.** DR. WILLIAM G. SPILLER reported a **peculiar cyst of the inguinal region.** DR. JOSEPH SAILER and DR. M. P. RAVENAL reported an **instance of aneurysm in a chicken.** DRS. BLACKWOOD and SPILLER reported a case of **cerebrospinal syphilis.**

Pittsburg (Pa.) Academy of Medicine.—At a regular meeting held February 12 DR. J. I. JOHNSTON reported 2 cases of combined **typhoid and malarial infection.** Malaria developed in one case in the second week of typhoid and in the other in the third week. In most of the reported cases the malaria has appeared during convalescence. The mortality is given as 33⅓%. DR. J. H. ANDERSON reported a case of fracture of both frontal bones with fissure of one orbital plate. The patient became deaf and had paralysis of the left arm. The arm improved, but a paralysis chiefly of the flexor muscles remains, due probably to an injury of the brachial plexus. DR. E. W. DAY reported the case of a man injured by falling and striking back of head. When seen he was blind, almost totally deaf, and paralyzed in arms and legs. All symptoms disappeared except dizziness and deafness in one ear. After 6 months' treatment with increasing doses of pilocarpin up to a grain and a half he was greatly improved and discharged. Later same treatment was resumed with strychnin. Pilocarpin seems to have a selective influence upon inflammatory troubles of inner ear. DR. I. J. ELTERICH reported a case of hydrophobia, symptoms developing 6 weeks after being bitten by a dog. Death resulted in 48 hours. DR. J. H. ANDERSON said that this was one of 8 or 10 cases he had seen in Pittsburg. There was no macroscopic lesion postmortem. But one patient recovered and he had been treated at the Pasteur Institute. The dog undoubtedly had rabies. DR. J. D. HEARD reported a case of bradycardia with a pulse of 46. DR. J. I. JOHNSTON referred to a case with a pulse of 36, but examination of the heart revealed a rate of 72. The systole was not transmitted. DR. J. C. BOGGS read a paper on **gastric ulcer** and reported cases. Two patients died of perforation. DR. H. A. LOOK reported at length a case with persistent hiccoughing and vomiting, the vomitus being tinged with blood and containing lactic acid but no free HCl. The condition persisted for 11 days uninfluenced by treatment, but perfect recovery followed after several weeks in a hospital. The diagnosis was a pure neurosis. In discussion DR. JOHNSTON asked if traction of

the tongue was tried. DR. ANDERSON referred to Weir's recently reported cases of gastric ulcer operated upon for hemorrhage and perforation. In DR. BOGGS' case the ulcer perforated the posterior wall into lesser peritoneal cavity. The ulcer was not found at operation, but lesser peritoneal cavity was flushed and drained. He had seen a case with symptoms similar to Dr. Look's in which autopsy showed multiple gastric ulcers. DR. F. F. SIMPSON said that he had noted the fact that in some 12 out of 21 or 22 cases operated upon for ectopic gestation the vomitus contained blood, and asked if an explanation could be offered. He had not seen blood in the vomitus more than a dozen times in several hundred laparotomies done for other conditions. DR. J. D. HEARD spoke of a neurotic female who vomited daily for 3 years with ultimate recovery. During the discussion DR. Look said traction of tongue had not been resorted to, and he could offer no suggestion in explanation of Dr. Simpson's remarks. The wonderful advance in the treatment of gastric ulcer has been ably set forth in the recent number of the JOURNAL devoted to that subject. The relief of gastric pain after administration of orthoform as a symptom of ulcer is of very doubtful value to say the least.

Pittsburg (Pa.) Academy of Medicine.—At a meeting held February 19 DR. I. G. SIMONTON reported a case of **combined typhoid and malarial infection** with autopsy. The Widal reaction was present and plasmodia were found in blood. DR. J. C. THOMPSON reported a case of **edema of the uvula accompanying acute pharyngitis,** and a case of **peripheral neuritis following shock.** DR. LAWRENCE LITCHFIELD reported a case of **pseudo-diphtheria** in a male in which the bacteria persisted for 6 months. The discussion of the evening was on the topic **Has the time arrived when preventive medicine can be successfully practised by the general practitioner?** and was opened by DR. WM. H. MERCUR. The general conclusion reached was that in spite of the undoubted ethical advantage to a physician and to his patients of a practice conducted conclusively on preventive lines, that the day has not yet arrived when the general practitioner can devote most of his time to preventive medicine. Among the reasons given for this conclusion were: 1. We still know too little about the preventive treatment of certain important diseases. 2. The large majority of people do not yet appreciate the advantages of preventive medicine to compensate the physician sufficiently for the amount of time and skill involved in this work. 3. It must necessarily be an evolutionary process; it cannot be forced upon people until they are ready for it. 4. The practical impossibility of changing the fixed habits of people who have reached a certain age. 5. To get the best results, instruction must be begun at birth. Prenatal influences are also a most important and greatly neglected factor. 6. The habit of people dosing themselves. 7. Physicians themselves must be better examples of the practical results of their knowledge of preventive medicine. 8. The average patient consults a physician at a wrong time economically considered to get the best results, that is, he consults him when acutely ill and only asks for immediate relief. Discussion was participated in by DRS. LITCHFIELD, MAYER, HOWORTH, PETTIT, THOMPSON, and WILLIAMSON, and among the points referred to were the wonderful results obtained by preventive medicine in the fields of obstetrics and surgery and in the feeding of children; the value of inspection of food-stuffs and live-stock; the defection of our school system in compelling all children to do the same amount of work, irrespective of mental and physical ability, and of sex. More attention should be given to physical development of girls and less to their mental development. The consensus of opinion was that more is being done in the line of preventive medicine than is usually realized by either physician or laymen.

At a meeting, February 26, DR. E. E. MAYER showed a case which he had diagnosed as **cervicobrachial neuralgia,** but stated that Ecles had recently reported some cases with similar symptoms (*West London Med. Jour.*) as premonitory of thoracic aneurysm. DR. E. B. HECKEL reported a case of **exenteration of the orbit for epithelioma of the lower lid** and exhibited the specimen. In the technic, which is after Treacher Collins, the conjunctiva is not touched. The orbit is simply emptied. DR. TODD reported a case of **postcecal abscess (appendiceal)** operated and drained posteriorly. The abdominal cavity was not opened. DR. F. F. SIMPSON reported a case of **sloughing fibroid of the uterus** with a normal pulse and temperature, which is quite unusual, although the patient was in the habit of introducing her hand into the vagina to remove the sloughing portions. The mortality of these cases is 70%. DR. J. I JOHNSON reported a case of **hepatic abscess** which proved to be multiple at operation. There was marked leukocytosis. DR. BOYCE referred to a similar case in which there were no symptoms directing attention to the liver. DR. I J. MOYER reported a case for diagnosis. The patient a woman, had persistent vomiting for several days dry tongue, semidelirious, intense headache, no pupillary change, marked general hyperesthesia, increased reflexes, a trace of albumin, but no casts, irregular respirations and a normal temperature. The stupor deepened and patien died. No autopsy. DR. THEODORE DILLER thought the diagnosis rested between **brain-tumor, abscess, and some form of meningitis.** DR. J. D. HEARD read a paper en titled, **Electrolysis for facial blemishes.** The appara tus required was minutely described and the technic of th operation for removal of superfluous hair, moles, warts, an gioma, keloid, portwine marks, etc., explained at length. I discussion, DR. HOWORTH thought electrolysis much superio to caustics, and suggested a graduated controller for turnin on the current. DR. DILLER asked how much current used for hair. DR. R. D. B. MILLER said that such deform ties often cause great mental suffering. He agreed with th writer in advising the wet cell for generating current and ha come to use artificial light exclusively, employing a Wel bach burner with a McKenzie condensor. Ethyl chlori may be used to relieve pain. DR. HEARD closed by statin that ½ to 2 ma. are required to remove hair.

NEW YORK.

Dr. Charles McBurney has resigned the position chief surgeon at Roosevelt Hospital.

Contagious Eye Disease Hospital.—A bill has be introduced into the Assembly to provide for the erection a hospital for contagious eye diseases on Manhattan Islan

Bill for a State Orthopedic Hospital.—The Asse bly has passed Mr. Allds' bill to establish the New York Sta Hospital for the Care of Crippled and Deformed Childre and appropriating $10,000.

Measles Epidemic in Brooklyn.—Reports from t Health Office in the Borough of Brooklyn show that meas is epidemic in that borough, and that it is characterized a rather unusual complication—earache—but relative seldom going on to suppurative otitis media.

Physician Tries Long Fasting.—According to t daily papers, Dr. Charles K. Barlow, of Poughkeepsie, endeavoring to reduce his weight from 265 to 200 pounds living only on two oranges a day. He began on March and at the end of the first week declared that he was feel well and not a bit hungry.

Benefit for Hospital Ship and for Red Cr Societies.—For the benefit of the American hospital s *Maine*, and for the American and British Red Cross Societ a concert will be given this month in the Metropolitan Op House. All the principal artists have voluntered, and tickets will be sold at the regular opera prices.

Case of Pemphigus at Bellevue Hospital.—I reported that there has been a case of true pemphigu the Bellevue Hospital, in the person of a messenger, 24 y old, who was at first admitted to the insane pavilion for ob vation. The physicians did not agree on a diagnosis of skin affection at once, but when he died, a few days later autopsy was held, in the presence of experts, and the d nosis of pemphigus was made.

Pneumonia Prevalent.—The records of the Bu of Vital Statistics show that there has been less than half as many cases of grip in this city since the first of year as there were during the same period last year. H ever, the reports of deaths that have occurred from gri the past three weeks show that this disease is making s headway, although beginning to be noticeable at a m

ter date than in the preceding winter. The deaths during ie last three weeks of February, 1900, have been, by weeks, l, 29, and 29, as compared with 14, 16 and 11 in 1899. In ie same period of the present year there were 203, 256, and 51 deaths from pneumonia, as compared with 151, 157, and 51 in 1899. These figures are for the Borough of Manhattan ily. The death-rate for the last week, however, was 26.76, hile it was only 20.20 for that week in 1899.

A Compromise in the Gerry Society Legislation.—In order to make the bill of the State Board of Charities ore acceptable to the societies affected, and conform to e expressed opinion of the Governor, Mr. Stewart, the esident of the Board, has introduced amendments proding only for "visits and inspection," but not for "supersion," and expressly prohibiting the Board from making gulations for private institutions, or visiting fraternal and nevolent institutions.

Local Hospitals Favor State Care of the Tuberulous.—A meeting was held the other evening in the nited Charities Building, and representatives from all of the spitals in New York and the immediate vicinity had been vited to be present. The topic for discussion was the adsability of the State embarking in the scheme of taking re of those suffering with pulmonary tuberculosis. Among ose present were Dr. Alfred Meyer, of Mount Sinai Hostal; Dr. Charles M. Caldwell, of St. Joseph's; Isaac allach, of Mount Sinai Hospital; George MacCulloch iller, of St. Luke's Hospital; Alexander Maitland, of the esbyterian Hospital; Woodbury Langdon, of the House of st for Consumptives; W. Irving Clark, of the Roosevelt ospital; and Dr. Wickes Washburn, of the Charity Organtion Society. After some discussion, the following preible and resolution were unanimously adopted:

Whereas, The prevalence of pulmonary tuberculosis, especially ong the poor, has been, and continues to be, the cause of more ths among citizens of this State than any other disease, and

Whereas, the great value of treating this disease in special instiions, under proper conditions, has been demonstrated both oad and at home, and

Whereas, the inadequacy of private endeavor, however well ected, in dealing with this enormous problem is admitted by all o have made a study of the question; therefore, be it

Resolved, that this meeting indorses earnestly the bill now before Legislature appropriating $200,000 to establish a State hospital the care of incipient cases of pulmonary tuberculosis, and urges immediate passage.

New York Academy of Medicine.—At the meeting March 1, Dr. D. Bryson Delavan discussed **cancer of e larynx.** He said that in making the diagnosis, there re three fairly reliable signs: (1) Continued hoarseness hout other obvious cause; (2) a characteristic sharp and lden pain; (3) loss of motion on the affected side. He s not in favor of removing a fragment for microscopic amination. The best results had followed the early and total cision of the lesion. Dr. B. Farquhar Curtis read a paper itled **Cancer of the gastrointestinal tract; diagsis and treatment.** The author gave special attention cancer of the stomach. He said that recent statistics owed that over 20% of all cancers were found in the mach. The chief points of interest to the surgeon were size of the tumor, its mobility, its location, and the evious history. In making the diagnosis, gallstones should excluded, and but little reliance should be placed on the diagnostic signs—vomiting and hematemesis. The ience of hydrochloric acid, the presence of lactic acid the gastric juice, and impairment of the power to est albumins should be looked upon as highly sugtive of the presence of carcinoma of the stomach. considering the selection of the operation, it should remembered that gastroenterostomy, done for the relief the pain attending carcinoma of the stomach; is a usion, though this operation may give decided relief from distressing vomiting when stenosis was present. The hor then discussed briefly the subject of intestinal carcoma. He pointed out that, owing to the special arrangents of the lymphatics, the dissemination of this form of cinoma was slow. The symptoms were commonly illined. Among the palliative operations, suitable for anced cases, should be mentioned colostomy and anasosis. Colostomy he considered to be of great value ere the cancer had caused obstruction. Dr. William B. Coley spoke of the **treatment of inoperable cancerous tumors** with the mixed unfiltered toxins of erysipelas and the Bacillus prodigiosus. The injections should be made into the tumor when possible, and the initial dose should rarely exceed half a minim, unless the injections were made at a distance from the growth. He had demonstrated that moderate doses of the toxins could be administered twice a week for two or three years without doing any harm. Of 84 round-celled sarcomas treated by him according to this method, 40 had shown more or less improvement and 3 had been cured. Of the 21 spindle-celled sarcomas, 10 had entirely disappeared, and all the others had shown decided improvement. With proper precautions, the risk attending the treatment was very slight.

NEW ENGLAND.

Thurber Medical Association, Milford, Mass.—At a meeting held March 1, the subject of "Cottage Hospitals for Small Towns" was considered from the standpoint of the general practitioner, and with special reference to the needs of Milford and adjoining towns. Dr. Alfred Worcester, of Waltham, showed the advantages of a hospital to any community, and that it is especially needed by the homeless and friendless, and for the treatment of accident, emergency, and general surgical cases, and contagious diseases. He advocated the organization of a training school for nurses, and believed that this should be made the nucleus for a hospital, rather than the opposite. Dr. O. W. Collins of South Framingham, gave an outline of the history of the Framingham Hospital and Training School for Nurses, which was organized in 1893, and during 1899 treated 284 cases. In the discussion which followed, all present expressed themselves in favor of a hospital for Milford, and plans were considered for the furtherance of the project.

CHICAGO AND WESTERN STATES.

Dr. D. T. Vail was recently elected to the post of ophthalmologist to the City Hospital, vice Dr. Goode resigned.

The Cincinnati Post, an afternoon daily having the largest circulation in the city, recently determined to eliminate from its columns all nasty medical advertisements. The Methodist ministers of the city met on March 6 and passed resolutions expressing hearty approval of such action.

A **special course in ophthalmology** for medical practitioners will be held in St. Louis, beginning April 16, 1900, and continuing six weeks. It will consist of didactic lectures, recitations, clinical lectures, and laboratory work. The instruction will be given by Dr. James Moores Ball, assisted by Dr. E. C. Renaud, and a corps of special lecturers.

Examination of Osteopaths.—On March 6 a class of 21 osteopaths from Illinois and surrounding States took a special examination before the State Board of Health for licenses to practise osteopathy in Illinois. The branches in which they are required to pass a successful examination are anatomy, physiology, chemistry, histology, pathology and hygiene. The license does not permit the administration of medicines or the use of instruments in performing surgical operations.

Cincinnati Academy of Medicine.—At the annual meeting held Monday, March 5, the following officers were elected for the ensuing year: President, Dr. Charles L. Bomfield; first vice-president, Dr. B. P. Goode; second vice-president, Dr. George B. Orr; recording secretary, Dr. S. E. Cone; corresponding secretary, Dr. C. L. Drury; financial secretary, Dr. Magnus Tate; treasurer, Dr. S. E. Allen; librarian, Dr. Arch. I. Carson; trustees, Dr. E. G. Zinke, A. B. Isham, and C. Heady.

Visiting Nurse Association.—This association has been of the greatest value to the city Health Department in its work. This is particularly noticeable in its efforts to suppress contagious diseases. Nurses have been most diligent in ferreting out concealed cases and reporting them, and the individual effort that is made by the nurses in teaching those who so much need it the value of isolation in contagion, the value of antitoxin in the cure of diphtheria and vaccination

in smallpox, together with the value of the generous use of soap and water and general cleanliness of person and habit, is a gentle and valuable influence that cannot be coldly calculated in dollars and cents.

Vital Statistics.—During the week ended March 3, there were 537 deaths recorded by the Health Department. As compared with the corresponding week of 1899 the following chief causes of death show a decrease; Pneumonia, 100, as against 136, a decrease of 36; consumption, 9 less; influenza, 20 less; scarlet fever, 9 less; and the acute intestinal diseases, 5 less. For the first two months of the current year there were 4,396 deaths in Chicago as against 4,736 for the corresponding period of 1899, a decrease of 342 for the current year. This diminished mortality is due to fewer deaths from pneumonia, influenza, typhoid fever, and nervous diseases. The medical inspectors of schools examined 4079 pupils, and of that number excluded 348 because of the danger of infecting others. In the city laboratory 136 bacteriologic examinations were made; 67 cultures from children's throats were made for physicians for the purpose of determining if children had diphtheria, and the bacillus of the disease was found in 11 of this number.

Sociolegal Forum.—This Association, which is composed of physicians, lawyers and sociologists, recently held a meeting at which was discussed "Heredity as a Factor in Developing and Maintaining Crime and Criminals," the essayist being DR. ALBERT SCHNEIDER. Among other things he said that one boy will steal and lie for the same reason that another is honest. It is natural in either case. Acquired characteristics may be transmissible to the next generation to the same extent that inherited characteristics are. Criminals, like poets, are born, not made. Crime is born of crime. The alcoholic habit is not inherited, but the tendency to become a victim of the habit is inherited. One of the most important matters that should be considered today is the prevention of marriages among paupers, criminals, dependents, and delinquents of all kinds. In the discussion DR. DANIEL R. BROWER said that the criminal is usually the subject of the tyranny of his construction. The basis of his character is found in the preceding generations. The law with its conservatism has failed to recognize this fact. The crime and not the criminal has been the consideration. The laws should be changed so that the criminal is the consideration. DR. W. XAVIER SUDDUTH advanced the theory that environment and tradition are stronger influences than hereditary characteristics, and this difference was discussed pro and con by nearly all members present. Tradition and environment have more to do with the place of man in the social scale than heredity. Every child is by nature a savage, and it is his early training that has a large influence in making him one thing or another. A tendency may be inherited, but a habit seldom is.

Chicago Medical and Chicago Neurological Societies.—At a joint meeting of these societies, held March 7, the topic for discussion was **brain-tumor.** DR. ARCHIBALD CHURCH discussed the general symptoms of brain-tumor and the differential diagnosis. Before discusing the principal symptoms he directed attention to a number of subsidiary symptoms which are commonly of late occurrence and which help in making a diagnosis of intracranial growths. He then discussed seriatim headache, choked disc, epileptic and epileptoid convulsions, vomiting, vertigo, erosions of the skull, the x-ray in the detection of brain-tumors, etc. DR. SYDNEY KUH read a paper on **Cerebral localization.** He gave a brief review of what is today known as cerebral localization. The differential diagnosis between so-called idiopathic and Jacksonian epilepsy and the general characteristics of cerebral palsies were discussed in detail. The uncertainty of brain-localization was emphasized particularly and this point was illustrated by a number of interesting cases, partly taken from medical literature and in part from the author's own experience. DR. WILLIAM H. WILDER discussed the **Value of eye and ear symptoms in brain-tumor.** In the list of general symptoms he put optic neuritis second to headache. Optic neuritis should be looked for at once in all cases of suspected focal disease of the brain, for it may be present although normal central vision exists. He found mention of this sign in 104 out of 140 cases of brain-tumor recorded in the literature for four consecutive years. Another important general eye-symptom of brain-tumor, although less frequent than the former, is temporary periodic blindness, coming on in the early stages of the growth. Hemianopsia may be an important localizing eye-symptom of brain-tumor. The ear symptoms relate principally to the labyrinth and the auditory nerve, and consist of subjective sounds and varying degrees of deafness. Careful exclusion of middle-ear disease is necessary before formulating any conclusion as to the relation of ear symptoms to a possible intracranial growth. DR. WELLER VAN HOOK discussed recent work in the surgery of brain-tumors.

Cleveland (Ohio) Medical Society.—At a meeting held February 9, DR. N. ROSEWATER read a paper upon **Enteroptosis relative to disorders of the digestive tract and circulation.** He reported the case of a girl, 7 years old, who had always been speechless, due to a badly hypertrophied tongue, the left kidney floating and the right one palpable. There was gastroptosis and enteroptosis and incontinence of urine from infancy. The skin and extremities were cold and sweaty. She was treated by adhesive strap bandages to hold the viscera in place. There was no medication. Her speech, which was originally only a guttural sound, "guh," is now perfectly normal. The tongue is normal, the kidneys remain in place and are not palpable. The incontinence of urine ceased from the first bandaging; her digestion and circulation improved. The skin is dry and the extremities are warm. The writer asserts that a drag on the main abdominal vessels, arterial, venous or lymph or their branches, at or below the diaphragm, such as may occur in enteroptosis, can cause functional stenosis, resulting in increased heart-action by increased thoracic or cranial pressure and disturbances such as hypertrophies, aneurysms, edemas, etc., as well as visceral and digestive disturbance from pressure, drag, etc., producing local anemias, stasis, hyperemias and nervous disturbances. Other cases are reported illustrating these disorders, etc. DR. F. S. CLARK read a paper upon **Intussusception in a seven-months child.** Operation and recovery. A second obstruction three weeks later, followed by death. This infant was taken dangerously ill with a sudden pain, and in a short time it was found to have a temperature of 99 and a pulse of 160. The pain was paroxysmal and the straining severe. DR. W. H. HUMISTON reported a case of **malignant deciduoma.** A woman, aged 29 years, who had had two children and one miscarried, on November 8, 1899, submitted to a criminal operation. Following the use of the sound she had chills, fever, and the usual symptoms of peritonitis. When seen, on January 5, 1900, she was very anemic and had a temperature of 101°, with a pulse of a 100. The cervix was swollen, the uterus in normal position, but enlarged and tender, and a large fluctuating tubal abscess was found on the left side. There was a slight bloody mucopurulent discharge from the cervical canal. Under anesthesia, a few days later, the abscess was found to be much smaller and only curetment was done. On the sixth day the peritonitis recurred, with a rise in temperature. On January 27 the uterus and appendages were completely removed through the vagina. Subsequent examination disclosed no decidual cells but on the posterior wall of the uterus, near the fundus, was found a small excrescence, which, on microscopic examination, proved to be one of the rare instances of malignant deciduoma.

SOUTHERN STATES.

American Proctologic Society.—The second annual meeting will be held May 2 and 3, 1900, at Washington D. C. President, Dr. Joseph M. Mathews, of Louisville.

Dr. Lewellys F. Barker, Associate Professor of Pathology in the Johns Hopkins University, has accepted an election to the Professorship of Anatomy in the University of Chicago and the affiliated Rush Medical College.

Dr. Sidney O. Heiskell, of Baltimore, has been reappointed Second Assistant Health Commissioner, and assigned to take charge of the Quarantine Station. Dr. Heiskell has served as Quarantine Physician for 15 years, when on change of party administration, 2 years ago, he was deposed. Another revolution has occurred, however, and in view of his former efficient services his own party has reappointed him.

The Medical Society of the State of North Carolina will meet in Tarboro, May 22, under the presidency of Dr. Geo. W. Lon, of Statesville. The annual discussion will be held on the afternoon of the second day, the subject being "The Continued Fevers of North Carolina," led by Dr. James M. Parrot, of Kingston. In the evening the annual essay will be read by Dr. R. H. Whitehead, of Chapel Hill, and the annual oration delivered by Dr. T. S. McMullan, of Hertford. The board of medical examiners will meet May 6, and will make their report before the adjournment of the society.

Smallpox Virulent in a Large Territory.—An official report to the Hinds County, Mississippi, Board of Supervisors reveals an appalling state of affairs in the southern part of the county. The community is literally honeycombed with smallpox of the most virulent and loathsome form, and during the past 6 weeks nearly 100 deaths have occurred. On some days the death-rate has been so large that it was impossible to secure coffins, and rude baskets were made from rails. Whole families have been wiped out of existence, and of several large families only one or two children are left. Many are now in a critical condition, without medical attention, and deaths occur at the rate of from 3 to 5 a day. The death-rate exceeds 75%, and the entire lower portion of the county is demoralized.

Johns Hopkins Hospital Medical Society.—At a meeting held March 5, PROF. W. K. BROOKS delivered a lecture on the **Inheritance of Deafness.** Dr. Brooks referred to Prof. Graham Bell's scientific work for the amelioration of the condition of the deaf and his establishment of the Volta Bureau, of which Prof. Fay is superintendent. He described Prof. Bell's system of genealogical algebra, by which it is possible to express the formula of any degree of relationship, even the most complex. He then reviewed Prof. Fay's recent book, which contains the records of 5,000 marriages among deaf persons, in which 8,000 deaf persons were concerned. It has been long known that deaf people marry much more frequently in this country than abroad, and it was supposed to be due to the easier conditions of life here and partly to the method of education by which deaf children learning a sign language that separates them from other children naturally form strong acquaintances among themselves. Prof. Fay shows, however, that the influences that cause deaf people to marry deaf people are much deeper seated than Bell had supposed. For instance, his statistics show that of all deaf people who marry, whether taught by the old or the new method, about 70% have married deaf persons. So that there must be some psychologic influence at work aside from those given. It is shown that deaf people are very much more likely to have deaf children than are hearing people, but they are much more likely to have hearing children than deaf children. Taking deaf people on the average, those who marry must expect to have one child deaf for every eleven children born, that is ten chances of a hearing child to one of a deaf child, while normally hearing people need expect only one deaf child in 10,000 children. Of course this one may be the first or it may be the last of 10,000 born to the same parents. The liability to deaf children is not equally great with all deaf persons, the character of the parental deafness having much to do with it. Prof. Fay shows that the transmission of deafness depends largely upon the existence of deaf relatives. For instance, of deaf persons with deaf relatives there will follow nearly 40% of deaf children; whereas two deaf persons without deaf relatives who marry, only 1.5 % of deaf children are born. He thinks that where deaf persons have no deaf relatives there is really little more danger of deaf children than there is to normal people; that deaf persons without deaf relatives may marry with as much safety as ordinary people. On the other hand, deaf persons with deaf relatives should be advised not to marry. The case in which the transmission of deafness is greatest and where it rises above 50% is when these persons having deaf relatives are also blood relations. The intermarriage of relatives with deaf relatives is almost sure to result in deaf children. DR. W. T. WATSON exhibited a **three-months-old child with a caudal appendage.** The tail consisted of three segments, a short fleshy one next the body and the rest thin and fibrous. When the child was three weeks old the tail was $1\frac{3}{4}$ inches long; at the age of three months it had grown to $2\frac{1}{2}$ inches, and its function was increasing. It apparently had no connection with the coccyx, although it sprang from the skin over its tip. To some extent the child expressed its emotions with the tail. When crying the tail would shrink up to some extent and when in a better humor it would curl up over the child's back. In discussing this case DR. BROOKS said that it was the custom to call such abnormalities reversions, but he thought it doubtful whether it should be considered as such. Man, like all mammals, has a well-developed caudal region in the embryo, but normally it stops growing at a very early stage and forms the rudimentary coccyx. If it persists and to some extent grows it is simply a retardation of development and is to be regarded as a permanent retention of embryonic conditions. DR. OSLER exhibited pathologic specimens of a **congenital bilateral cystic kidney.** The case was clinically reported to the society last year.

MISCELLANY.

Well Done!—The quack medical men try hard to get their advertisements in the *Farm Journal.* Last month we were obliged to turn down a thousand-dollar order. That new press shall not be smirched in that way.

—[*The Farm Journal.*]

Obituary.—DR. JOHN FREDERICK, Brooklyn, N. Y., March 11, aged 54 years.—DR. WILLIAM L. SMITH, York, Pa., March 12, aged 64 years.—DR. CHRISTOPHER PRINCE, Irvington, N. Y., March 12, aged 77 years.—DR. CHARLES E. WEST, Brooklyn, N. Y., March 12, aged 92 years.

American Medical Association—Section on Diseases of Children.– Edwin Rosenthal, Philadelphia, Chairman; Louis Fischer, New York, Secretary; Executive Committee: A. C. Cotton, Chicago, Ills.; J. P. Crozer Griffith, Philadelphia; H. E. Tuley, Louisville. Annual Meeting at Atlantic City, N. J., June 5–8, 1900.

PRELIMINARY PROGRAM.

Address of the Chairman.

SESSION DEVOTED TO THE CONSIDERATION OF SCHOOL CHILDREN.

1. E. Stuver, Fort Collins, Colo., "Symmetrical Development; or, Does our Present School System Develop the Highest Powers of the Child?"
2. J. Henry Bartlett, Superintendent of the Friends' Select School, Philadelphia, "School Break-Downs."
3. Thomas H. Fenton, Philadelphia, "Eye Strain."
4. Louis J. Lautenbach, Philadelphia, "The Care of the Ear in School Children."
5. A. D. Rosenthal, D.D.S., New York City. "The Neglect of Teeth in Children."
6. Grace E. Spiegle, Philadelphia, "The Physician's Responsibility in the Physical Education of School Children." Summary: Medical Inspection of School Children, Its Purpose, Its Results. Health Supervision of School Children. Attitude of Family Physician toward the School Authorities, Teachers, Parents and Child.

Discussion of the above by Drs. F. K. Dercum, C. F. Wahrer, etc.

SESSION DEVOTED TO THE CONSIDERATION OF CONTAGIOUS DISEASES.

7. C. F. Wahrer, Fort Madison, Ia., "Shall Children be Kept from Measles, and the Exanthemata Usually Incident to Children."
8. Henry Koplik, New York City, "Roetheln, a Distinct Affection Apart from Measles and Scarlatina, and Its Differentiation from these Exanthemata."
9. Jay F. Schamberg, Philadelphia, "A Clinical and Pathological Study of the Rash of Scarlet Fever, with Especial Reference to the Origin and Character of the Desquamation."
10. A. S. Daniel, New York, "Differential Diagnosis Between the Eruptions of Influenza and those of Other Infectious Diseases of Childhood."
11. John Lovett Morse, Boston, Mass., "Fetal and Infantile Typhoid."
12. Joseph Trumpp, Munich, "Decubitus following Intubation."
13. Janos Bokay, Budapest, read by Alexander Klein, Philadelphia, "Resulting Injuries due to Extubation."

Discussions by William M. Welch, W. C. Hollopeter, S. Solis Cohen, Philadelphia; Louis Fischer, New York, and others.

SESSION DEVOTED TO THE CONSIDERATION OF THE FEEBLE-MINDED, AND TO NERVOUS DISEASES.

14. Martin W. Barr, Elwyn, Pa., Pennsylvania Training School for Feeble-Minded, "The Etiology of Idiocy and Imbecility."
15. S. J. Fort, Ellicott City, Md., "The Physiological Method of Training the Feeble-Minded."

16. A. W. Wilmarth, Wisconsin Home for Feeble Minded, Chippewa Falls, Wis., "The Care of the Higher Grades of the Feeble Minded."
17. J. Madison Taylor, Philadelphia, Pa., "A Study of the Circulation in the Feeble Minded."
18. William M. Leszynsky, New York, "Common Forms of Paralysis in Children."
    Discussion by H. N. Moyer, Chicago; Louis Faugeres Bishop, New York; F. K. Dercum, Philadelphia; J. P. Crozer Griffith, and others.

SESSION DEVOTED TO THE CONSIDERATION OF THE DISEASES OF THE BLOOD AND THE CIRCULATION.

19. Henry E. Tuley, Louisville, Ky., "Purpura Hæmorrhagica or Scorbutus—A Clinical Sketch."
20. Samuel E. Woody, Louisville, Ky., "Rheumatism."
21. J. Clements, Kansas City, Mo., "Chorea."
22. Gustavus M. Bloch, Chicago, Ill., "Medicinal and Surgical Treatment of so-called Scrofula."
23. John A. Robison, Chicago, Ill., "The Essential Points in the Treatment of the Adolescent and Senile Heart."
24. Henry Illoway, New York, "Abortive Treatment of Pneumonia."
    Discussion opened by Alfred Stengel, Philadelphia; S. Solis-Cohen, Philadelphia; Edwin E. Graham and S. S. Adams, Washington, D. C.

SESSION DEVOTED TO THE CONSIDERATION OF INFANT FEEDING AND TO DISEASES OF THE DIGESTIVE TRACT.

25. Adolph Baginsky, Berlin, "The Milk-Supply," etc.
26. Alexander McAlister, Camden, N. J., "Infant Feeding."
    Discussion will be opened by Henry D. Chapin, New York, and Victor C. Vaughan.
27. Edward H. Small, Pittsburg, Pa., "Gastro-Intestinal Hemorrhage in the New-Born."
28. Joseph N. Byrne, New York, "Causative Relative Frequency of Typhlitis, Perityphlitis, and Appendicitis in Infancy and Childhood."
29. S. Weis, Vienna, "Statistics on Intussusception in Children."
    Discussion by Frederick Packard, Philadelphia.
30. Thomas Charles Martin, Cleveland, Ohio, "Congenital Malformation of the Rectum. A Case of Maternal Impression."

SESSION DEVOTED TO SURGICAL SUBJECTS.

31. Isaac Abt, Chicago, Ill., "Movable Kidney (Floating Kidney) in Children."
32. Thomas H. Manley, New York City, "Symptomatology of Appendicular Inflammation in Children."
33. John S. Miller, New York City, "Normal Salt Transfusion in the New-Born for Hemorrhage from the Cord."
34. Edward A. Tracy, South Boston, Mass., "Some Joint Diseases in Children; their Diagnosis and Treatment."
35. Louis Fischer, New York City, "Athrepsia Infantum; Diagnosis and Treatment."

    Papers and Discussion have been promised by Drs. I. N. Love, St. Louis, Mo.; A. C. Cotton, Chicago, Ill.; W. S. Christophery, Chicago, Ill.; John S. Musser, Philadelphia, and others.

The Chairman of the Section announces that many visitors will be present, and amongst the guests Dr. Abraham Jacobi has accepted the invitation.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 10, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ARKANSAS:	Searcy	Dec. 25–Feb. 27	40	
"	Aurora	Feb. 14–March 3	4	
ILLINOIS:	Chicago	Feb. 24–March 3	1	
KENTUCKY:	Covington	Feb. 24–March 3		5
LOUISIANA:	New Orleans	Feb. 24–March 3	61	12
MICHIGAN:	Detroit	Feb. 17–24	1	
"	"	Feb. 24–March 3	11	
MINNESOTA:	Minneapolis	Feb. 17–24	11	1
OHIO:	Cleveland	Feb. 24–March 3	26	
PENNSYLVANIA:	Philadelphia	Feb. 24–March 3	3	
TENNESSEE:	Nashville:	Feb. 24–March 3	1	
TEXAS:	For the State	Feb. 21–28	142	
UTAH:	Salt Lake City	Feb. 24–March 3	1	
VIRGINIA:	Portsmouth	Feb. 24–March 3	3	
"	Roanoke	Feb. 1–28	7	
WASHINGTON:	Takoma	Feb. 18–24	13	
W. VIRGINIA:	Buckhannon	Feb. 9	Present.	
" "	Calhoun Co.	Feb. 9	"	
" "	Camden on the Gauley	Feb. 9	"	
" "	Fayette Co.	Feb. 9	"	
" "	Gilmer Co.	Feb. 9	"	
" "	Lewis Co.	Feb. 9	"	
" "	Harrison Co.	Feb. 9	"	

SMALLPOX—FOREIGN.

			Cases.	Deaths.
AUSTRIA:	Prague	Feb. 3–10	6	
BELGIUM:	Antwerp	Feb. 3–10	3	1
"	Ghent	Feb. 3–10		2
CANADA:	Amherstburg	Feb. 24–March 3	3	
"	Quebec	Feb. 15–22	11	
ENGLAND:	London	Feb. 3–17	25	
GIBRALTAR:		Feb. 4–11	1	
GREECE:	Athens	Feb. 3–10	2	
INDIA:	Bombay	Jan. 30		715
"	Calcutta	Jan. 13–20		7
"	Madras	Jan. 27–Feb. 2		3
MEXICO:	Vera Cruz	Feb. 17–24		2
RUSSIA:	Moscow	Jan. 27–Feb. 3	4	1
"	Odessa	Feb. 3–10	10	2
"	St. Petersburg	Jan. 27–Feb. 17	63	18
"	Warsaw	Jan. 27–Feb. 10		5
SPAIN:	Corunna	Feb. 10–17	6	4
STRAITS SETTLEMENTS:	Singapore	Jan. 13–20		1
TURKEY:	Constantinople	Feb. 5–15		1

YELLOW FEVER.

BRAZIL:	Santos	Jan. 29	Increasing.	
"	San Paulo	Jan. 29	"	
CUBA:	Havana	Feb. 16–17	9	4
"	Matanzas	Feb. 10–17		1
MEXICO:	Vera Cruz	Feb. 17–24		1

CHOLERA.

INDIA:	Bombay	Jan. 23–30		9
"	Calcutta	Jan. 13–20		21

PLAGUE—UNITED STATES. (Insular Possessions.)

HAWAII:	Honolulu	Feb. 10–19		5
"	Kahului	Feb. 13	3	
PHILIPPINE ISLANDS:	Manila	Jan. 13–20	4	3
	Total to date		16	12

PLAGUE.

INDIA:	Bombay	Jan. 16–40		872
"	Calcuttta	Jan. 13–20		56

Changes in the Medical Corps of the U. S. Army for the week ended March 10, 1900:

STONE, First Lieutenant J. HAMILTON, assistant surgeon, is relieved from duty at Hamilton Barracks and will report for duty in the city of Matanzas, Cuba.

HIGGINS, AUBRAY F., acting assistant surgeon, is assigned to duty at the U. S. General Hospital, Presidio.

SHATTUCK, EDWIN C., acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

STEVENS, WM. L., acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

ARTHUR, Major WM. H., surgeon, is assigned to duty as assistant to the chief surgeon, attending surgeon, and sanitary inspector at headquarters, department of California.

JOHNSON, Major RICHARD W., surgeon, will proceed to the Philippine Islands on the transport "Thomas," to sail March 1.

STEVENS, WM. L., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned for temporary duty with troops on the transport "Siam" during the voyage of that vessel to the Philippine Islands. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for assignment to duty.

KELLY, JOHN P., acting assistant surgeon, now at the U. S. General Hospital, Presidio, will proceed to Vancouver Barracks for temporary duty on the "Lenox" during the voyage of that vessel to the Philippine Islands. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for assignment to duty.

MEANS, GEORGE E., acting assistant surgeon, now at the U. S. General Hospital, Presidio, will proceed to Seattle, Wash., for temporary duty on the transport "Port Stevens" during the voyage of that vessel to the Philippine Islands. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for assignment to duty.

CLEARY, Lieutenant Colonel PETER J. A., deputy surgeon-general is granted extension of leave for 1 month, on surgeon's certificate.

REED, Major WALTER, surgeon, will proceed from Washington, D. C., to Tampa, Fla., on business pertaining to the medical department, under instructions from the Surgeon-general of the Army.

REED, Major WALTER, surgeon, will proceed from Tampa, Fla., to Havana, Cuba, on business pertaining to an investigation as to the practical use of electrozone as a disinfectant and germicide in Havana, and on completion of this duty will return to Tampa Fla. Major Reed will transmit a report of his investigations to

the Surgeon-general of the Army, through headquarters, military division of Cuba.

HILLIPS, Captain JOHN L., assistant surgeon, is detailed as a member of the examining board at Governors Island, vice Major Ezra Woodruff, relieved.

OODRUFF, Major EZRA, surgeon, is relieved from duty on the examining board at Governors Island.

WIGG, ASHFORD, hospital steward, now at the U. S. Army General Hospital, Presidio, will be sent to Fort Douglas to relieve Hospital Steward George D. Belt.

ELT, GEORGE D., will be sent to Fort Ontario to relieve acting hospital steward Arthur P. Brown.

ROWN, ARTHUR P., acting hospital steward, when relieved at Fort Ontario, will be sent to Jefferson Barracks for duty.

YSELL, Major JAMES H., surgeon, in addition to his present duty as medical supply officer at Santiago, Cuba, is assigned to duty as disbursing officer of the medical department of that place, to relieve Major Valery Havard.

AVARD, Major VALERY, surgeon, is relieved from duty as disbursing officer of the medical department of Santiago, Cuba.

ARSON, SAMUEL K., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

ONOVAN, WILLIAM, acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

ORSEY, RUFUS T. JR., acting assistant surgeon, will proceed from Atlanta, Ga., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

EEPER, JOHN F., acting assistant surgeon, will proceed from Denver, Col., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

OWREY, JOHN M., acting assistant surgeon, will proceed from Baltimore, Md., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

ALKER, WILLIAM H., acting assistant surgeon, will proceed from Henderson, Ky., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

OLHEMUS, Captain ADRIAN S., assistant surgeon, is relieved from further duty at St. Francis Barracks and will proceed to Fort Leavenworth for duty.

ORTER, GEORGE L., acting assistant surgeon, will proceed from Trenton, Tenn., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Changes in the Medical Corps of the U. S. Navy, r the week ending March 10, 1900 :

ISE, J. C., medical director, commissioned medical director, from February 7.

ERR, E. Z., medical inspector, commissioned medical inspector from February 7.

ANDALL, R. P., surgeon, commissioned surgeon from September 24, 1899.

ENNEDY, J. T., assistant surgeon, appointed assistant surgeon.

ARMON, G. E. H., medical inspector, detached from the "Baltimore" and ordered to the "Oregon."

EPHENSON, F. B., surgeon, detached from the "Oregon" and ordered to the "Baltimore."

OVE, W. B., assistant surgeon, detached from the "Brooklyn" and ordered to the "Baltimore."

AAS, H. H., assistant surgeon, detached from the "Brooklyn" and ordered to such other duty as the commander-in-chief of the Asiatic station may assign.

OSENBLEUTH, J. C., passed assistant surgeon, detached from the naval recruiting rendezvous, New Orleans, La., and ordered home and to wait orders.

CULLOGH, F. E., assistant surgeon, detached from the "Nero" when put out of commission, and ordered to temporary duty on the "Independence."

URD, I. N., pharmacist, ordered to additional duty on the "Massasoit," Key West, Fla.

Changes in the U. S. Marine-Hospital Service, r the 7 days ended March 8, 1900.

EAD, F. W., surgeon, upon expiration of leave of absence, to proceed to New York, N. Y., and assume charge of the Purveying Depot during the absence of Surgeon C. E. Banks. March 3.

ANKS, C. E., surgeon, granted leave of absence for 7 days from March 6. March 3.

ALLOCH, P. C., surgeon, to proceed to Mobile Ala., for special temporary duty. March 7.

LENNAN, A. H., surgeon, to proceed to San Francisco, Cal., for special temporary duty. March 8.

ERRY, T. B., passed assistant surgeon, to proceed to Atlanta, and report to the Governor of Georgia for temporary duty. March 8.

UITERAS, G. M., passed assistant surgeon, relieved from duty at Matanzas, and detailed as quarantine officer at the port of Cienfuegos, Cuba. March 5.

ROWN, B. W., passed assistant surgeon, upon being relieved from duty at the Cape Fear Quarantine Station, to proceed to Cape Charles Quarantine Station and assume command of the service. March 8.

CUMMING, H. S., passed assistant surgeon, to report at Washington, D. C., for special temporary duty. March 3.

VON EZDORF, R. H., assistant surgeon, relieved from duty at Atlanta, Ga., and directed to rejoin station at New Orleans, La. March 8.

MCCLINTIC, T. B., assistant surgeon, relieved from duty at Cape Charles Quarantine Station, and directed to proceed to Cape Fear Quarantine Station, Southport, N. C., and assume command of the service. March 8.

TROTTER, F. E., assistant surgeon, relieved from duty at Havana, and detailed as quarantine officer at the port of Matanzas, Cuba. March 5.

SCHERESCHEWSKY, J. W., assistant surgeon, relieved from duty at the Immigration Depot, New York, N. Y., and directed to proceed to Havana, Cuba, and report to Surgeon H. R. Carter for duty. March 2.

LORD, C. E. D., assistant surgeon, relieved from duty at the port of New York, N. Y. (Stapleton), and directed to report to Surgeon L. L. Williams, Immigration depot, New York for duty. March 2.

WILSON, R. L., assistant surgeon, granted leave of absence for 21 days from June 14. March 7.

BAILEY, C. W., acting assistant surgeon, granted leave of absence for 7 days. March 3.

BELLARD, J. C., acting assistant surgeon, granted leave of absence for 4 days from April 17. March 3.

Foreign News and Notes.

GREAT BRITAIN.

The appointment to the Chair of Medicine in Edinburgh University will be made in April.

Lord George Hamilton, the Secretary of State for India, recently stated in the House of Commons that the area of India affected by famine is 445,000 square miles having a population of 61,500,000. The number of persons now in receipt of relief is 4,000,000. A fund has been started by the Lord Mayor of London and bids fair to be generously supported, for the help of the sufferers by famine.

The Liverpool School of Tropical Diseases.—The committee of the Liverpool School of Tropical Diseases have arranged to despatch a new expedition to the west coast of Africa. The expedition will proceed up the river Niger and will investigate further Major Ronald Ross' theory of the transmission of malarial fever by means of the mosquito. The personnel of the expedition has not yet been finally decided upon, but a start is to be made at the end of this month (March).

Ménière's Symptom-Complex in Leukocythemia.—At a meeting of the Royal Medical and Chirurgical Society held on February 27th, Dr. F. Parkes Weber read an interesting paper on acute Ménière's symptoms in splenomedullary leukocythemia. His paper made special reference to the anatomic changes found in acute leukocythemic affection of the ear and was supplemented by a report from Mr. Richard Lake on the pathologic condition of the internal ear in one case. Mr. Lake said that the condition, viz., ossification of the ligamentum spirale, had not been described before.

A new Lunacy Bill has been introduced into the House of Lords by the Earl of Halsbury (Lord Chancellor) which will not be allowed to pass without considerable opposition from the medical men engaged in lunacy work. For the bill makes no provision for pensioning medical officers, attendants and other servants of asylums. Unless a scheme of amendments is forthcoming for the pensioning of these officers the bill will be fought tooth and nail by every influence that the medical profession concerned in its working can bring to bear—and that is not a little. The medical service in lunatic asylums is difficult and dangerous work; it is also work which it is especially desirable for the good of the community should be done by men of a high stamp intellectually and morally. The pay is poor when the responsibilities are taken into account. Unless the future of these men is assured by a pension scheme the service will not continue to be manned in the excellent way that it now is, and the public will suffer accordingly.

The committee appointed to inquire into the causes of the **high death-rate of Dublin** continue to meet every day and take evidence in the City Hall. It is to be hoped that the committee will do more than take evidence in the City Hall, and will go into some of the slums (and, for that matter, into some of the good streets) and observe for themselves how totally devoid of sanitary spirit everything in Dublin is. There is no desire on the part of anyone, rich or poor, old or young, tenant or landlord, to keep the place clean. This fact should be brought home to the committee, for it should influence their recommendations. As a rule, recommendations for improving the sanitation of a city have the ardent support of the citizens, if the question of money to make the improvements can be satisfactorily answered. But in Dublin such recommendations will possibly be received with complete indifference, so that they should be worded as strongly as possible. The death-rate in Dublin has again risen, and for the week ending February 24 stood at 51 per 1000.

The Midwives' Bill was not reached. It stood as the second order at the afternoon sitting of the House of Commons on February 28, but a long discussion upon the preceding measure—one for the regulation of the working hours of miners—took up all the available time. Notice of a motion for the rejection of the measure has been given by Mr. T. P. O'Connor, who moved the rejection when the bill was last before the House, and there is little or no chance of any progress being made in the matter this session. The respite ought to teach medical men to formulate their exact wishes for the information of Parliament. For it is not enough simply to object to the bill on the ground that it will damage their pockets. Imperial Parliament will not legislate for the protection of the pockets of a class. Medical men must show their honest belief that the passing of a bill for the regulation of midwives will, by creating an inferior grade of practitioners, endanger the public safety; and they should be ready with an alternative scheme to the measure that is now being brought forward, in which prominence should be given to the provision of midwifery nurses for the sick poor.

The Relief of Ladysmith and the Capture of Cronje's Army, two events which gladdened the heart of the British Empire, on the last days of February, will throw considerable strain upon the medical department of the army at the seat of war. In Natal, Buller found Sir George White's force reduced to a one-pound meal per diem, with the addition of a little horse or mule meat, and for a time they will require rest and care. A large proportion of these emaciated soldiers will, no doubt, recover energy, flesh, and strength very rapidly under the altered conditions of both food and no anxiety, but hospital accommodation and nursing will have to be provided for a good many. There were also numerous cases of typhoid fever in the town. To these patients must be added the many cases of bullet-wound in Buller's relieving army. In Cape Town, both at the base and along the lines of communication, the hospitals will probably be still fuller. A certain proportion of Cronje's capitulated force are sure to require medical treatment, for typhoid fever was rampant in the Boer laager; 200 severely wounded men were found in the trenches at Paardeberg; many other wounded Boers were captured in the course of Lord Roberts' large turning movement; and lastly, many British soldiers were shot during the engagements that preceded and followed the relief of Kimberley. Fortunately, both in Natal and Cape Town something of this kind has been anticipated, and the R. A. M. C., helped by private residents in the capitals who are one and all offering their houses, and by yacht-owners who are lending their vessels, will be able to find accommodation in the various hospitals for all sick and wounded without dangerous or inconvenient crowding.

The Medical Service of the Royal Navy.—Mr. Goschen, the First Lord of the Admiralty, in bringing before the House of Commons the navy estimate for the year 1900–1901, referred to several changes in connection with the medical service of the navy which have been effected or are in contemplation. These changes are of the highest importance to the medical officers of the service. The numbers of inspectors-general and deputy inspectors-general of hospitals and fleets have been increased and the conditions which are required for promotion to these ranks have been modified. The period of the course of instruction at Haslar Hospital for Surgeons on entry has been extended and the award of prizes at the end of each session introduced. The number of medical officers allowed to undergo periods of study at medical schools has been considerably increased and the privilege extended to the senior ranks. An additional professor has been appointed to the instructing staff at Haslar in connection with the study of diseases of foreign stations. Lastly, medical officers newly entered will in future be required to provide themselves only with a pocket-case of instruments, as all ships bearing medical officers, and naval and marine barracks will be supplied with surgical instruments at the public cost within the next three years. It has always been an absurd regulation in the navy that the surgeons should provide their own instruments. Good surgical instruments are very costly things, while modern modifications of surgical appliances ought certainly to be given a trial in the navy, for sailors ought to have the benefit of increasing surgical knowledge. But it was hardly to be expected that a naval surgeon, out of a somewhat slender pay, should buy the best and newest instruments as they came out, and as a matter of fact many of the naval medical men are working with a completely obsolete armamentarium. This rather scandalous condition of things will be done away with gradually, while the efforts of the Admiralty to improve the course of instruction at Haslar and to give the medical officers of the navy greater opportunities for study, must lead to the popularizing of the service with the best class of young medical men.

CONTINENTAL EUROPE.

Academy of Sciences.—At the meeting, February 19, Stokes, of Cambridge, was elected Associate Member of the Paris Academy of Sciences, and Professor von Zittea, of Munich, and Professor Pfeiffer, of Leipzig, were named Correspondents.

Lecture by Dr. Debore.—February 17, Professor Debore lectured at the Sorbonne upon that most frequent of patients, the "Malade imaginaire." The large Amphitheatre Richelieu was crowded that evening, and the lecturer was much appreciated.

Dr. Marfan, who has had charge of the course of lectures upon Pediatrics at the Hospital "des Enfants Malades," gave his last lecture on Friday, February 23. Professor Graucher, whose place he took, was absent, recovering his health, but will resume the lectures about the middle of March.

Cost of Clinics.—From Russia comes the following statistics of the prices of the new clinics of the Academy of Military Medicine of St. Petersburg: Clinic of Mental Diseases (100 beds), $500,000; Clinic of Nervous Diseases (3 beds), $100,000; Clinic for Infectious Diseases (50 beds), $250,000; Clinic for Diseases of Nose, Throat, and Ear (2 beds), $90,000.

Legion of Honor.—February 20, Dr. Marmorek, laboratory chief at the Pasteur Institute, and Dr. Cimino, medical publisher, were appointed Chevaliers of the Legion of Honor. On February 26, Dr. Parinaud, former President of the Ophthalmological Society of Paris, was made Officer of the Legion of Honor; and Dr. Bar, Professor of Obstetrics, and Dr. de Moteues, were appointed Chevaliers of the Legion of Honor.

Appointments.—Dr. Troisier, President of the Medical Society of the Paris Hospital, has been appointed by that society to represent it at the thirteenth International Medical Congress, August 2 to 9, 1900, in Paris. Professor Joseph Shaffer, Jr., formerly assistant to Professor Ebner, has been appointed Director of the Embryologic Institute of Vienna in the place of Dr. Schenck, retired. Dr. Groenouer, Privat docent of Ophthalmology at the University of Breslau, has been made Extraordinary Professor.

Fatal Poisoning by Paté de Foie Gras.—According to the *British Medical Journal*, M. Papillon reports a case of poisoning from this luxury, the patient being a laborer aged 40, who is cautiously described in the clinical report as fairly sober and but little impaired in health by alcoholism. He was admitted into the Hospital Beaujon, Paris, under

Fernet, for violent indigestion, which had set in two hts previously after a meal composed entirely of *pâté de gras* of bad quality. It is possible that in lands like our d, where this article of diet commands a price which puts bove the means of laborers, bad samples may sometimes old to persons who fear no evil from so eminently re-ctable a dish. The worst signs of irritant poisoning eloped in this patient. Vomiting and diarrhea were ere; a rash like urticaria appeared, then albuminuria in. The conjunctivae became yellow, but not from true ndice; then choleraic symptoms developed, and the ient died in an algid condition six days after admission. ial and hepatic mischief, such as are seen in cholera, e detected in this case after death. Unfortunately, as ally happens, no sample of the noxious food of which patient partook could be procured for bacteriologic mination.

ublic Health in South Africa.—According to the *ncet*, at a recent meeting of the Berlin Medical Society, fessor Kolle read a paper on Hygienic Conditions of th Africa from the Cape to the Zambesi River. He articularly well informed on this question, having visited se countries with Professor Koch, for the purpose of study-rinderpest. He said that the climatic conditions of South ica are not yet thoroughly investigated, the number of eorologic stations being relatively small. The public-lth service is well organized. There are public health-cers whose duties include traveling over their respective ricts and using the necessary means in the event of out-ks of infectious disease. Bacteriological institutions, d hospitals, and leper-asylums exist, and the notification nfectious diseases is strictly enforced. A large portion of th Africa is very healthy and would be very suitable for hisical patients if trees were more plentiful. Water, ever, is very scarce; so that the rain water has to be col-ed and stored in reservoirs, and better methods of filtra-. are required. Among endemic diseases enteric fever ms the first place. This disease is of a severer type in ca than in Europe owing to a greater virulence of the lli. South African practitioners are of opinion that this ravation of the symptoms is due to a combination with aria. The British troops would probably suffer from en-fever to a greater extent than the Boers would, the ority of the latter having had the disease in childhood being therefore protected against it. Some of the British ments have been inoculated with anti-typhoid serum and e have not, and Professor Kolle remarked that it will be reat interest to observe the differences, if any, in the at- and in the degree of malignancy in the two classes. aria is prevalent in many districts of South Africa, and ain species of mosquitos are capable of conveying the ns of the disease. Finality has, however, not yet reached in our knowledge of the relations between quitos and malaria. The endemic dysentery of South ca is comparatively mild. The grave form of dysentery ting the British force was probably conveyed by troops ing from India. Scurvy also occurs in South Africa ow-to the deficiency of fresh vegetables. Bubonic plague never been prevalent there, in the author's opinion, be-e there are no rats. Smallpox is widely spread, but the ical authorities have now succeeded in preparing vaccine ph in the country. Tuberculosis is very little known in th Africa, whereas, on the other hand, leprosy threatens ecome in course of time a real danger for the population. onclusion, Professor Kolle gave an account of the rinder-and the immunization of cattle performed by Professor h, by himself, and by Dr. Turner.

MISCELLANY.

bituary.—DR. BOUCHEREAU, physician-in-chief to the atic Asylum, Ste. Anne.—DR. GUÉRIN ROZES, honorary ician to the Paris Hospital.—DR. GOMBAULT, former ician at the Hospital Beaujon, aged 69 years.—DR. HUR DECÈS, professor of surgery at the Rheims Medical ol, aged 69 years.—PROF. DR. OTTO LEICHTENSTERN, one e most widely-known internes of central Germany, at gne, February 23.

utiplague Inoculation.—The Indian Plague Com-ion, after visiting India, are now completing their report. Recognizing the practical importance of the subject of anti-plague inoculation, they have consented to the separate publication of Chapter IV, which expresses their views on that subject, in anticipation of the publication of their complete report. This has, therefore, been issued by the India Office. The concluding paragraphs of the chapter contain the following recommendations:

1. We have already insisted on the necessity for the accurate standardization of the vaccine, as being essential to the attainment of the best results, both as to the protection conferred and as to the duration of that protection. We have pointed out, also, that the introduction of an accurate system of standardization may possibly obviate the necessity of employing two successive inoculations.

2. With a view of dispelling the natural fears of the people, and avoiding all unnecessary risk to the inoculated, and, further, with a view to enabling the inoculations to be carried on with the least possible amount of attendant inconvenience, we would insist upon the necessity that stringent precautions should be taken to insure that all the vaccine used is quite free from contamination, and we would recommend that the volume of the necessary dose should be made as small as possible.

3. With a view to removing any possible ground for distrust as to the conveyance of disease by inoculation from one person to another, we would recommend that the syringe should be sterilized in the presence of the person about to be inoculated.

4. We are of opinion that inoculations under the safeguards and conditions stated above, should be encouraged wherever possible, and, in particular, it seems to us desirable to encourage inoculation among disinfecting staffs and the attendants of plague hospitals.

We cannot bring to a conclusion this consideration of anti-plague inoculation by Mr. Haffkine's prophylactic fluid without expressing our sense of the importance of the method which Mr. Haffkine has devised, and of the results which have been achieved by it. The credit due to Mr. Haffkine is the greater because the difficulties with which he had to contend in this matter could only have been overcome by great zeal and endurance. Mr. Haffkine's work on anti-plague inoculation, while not based on any new scientific principle, constitutes, it seems to us, a great practical achievement in the region of preventive medicine.—[*London Times.*]

Home Treatment of Consumption.—William Osler (*Maryland Medical Journal*, January, 1900) believes that the arrest or cure of tuberculosis is a question entirely of nutrition, and the object of any treatment is to so improve the physical condition of the patient that he can successfully withstand the attacks of the disease-producing organisms. He advises that the patient spend a great deal of time in the open air, or if this be not possible in a room with a southern exposure, with the windows wide open. The patient should gradually be accustomed to sleep with the windows open. As large quantities of good nutritious food as can be digested should be given; even overfeeding or stuffing should be practised. Raw eggs are recommended, beginning with 3 per day and increasing one each week till one or two dozen are taken per day. He reports the case of a young woman who had well-marked tuberculosis; her grandmother and two of her father's brothers had died of this disease. For more than a year she had had fever, had lost much in weight and had profuse nightsweats. There were signs of extensive disease at the right apex. She was given specific rules as to food and directed to spend most of the day in the open air, even when the weather was very cold. She began with 3 raw eggs per day and gradually increased to 15 per day. Other good nutritious food was used with the eggs. At the end of 11 months she had gained 23 pounds and the cough and fever had disappeared, though there were still some moist rales at the right apex. No medicine was given except a cough mixture part of the time. Osler concludes with the following remark: A rigid regimen, a life of rules and regulations, a dominant will on the part of the doctor, willing obedience on the part of the patient—these, with the conditions we have discussed, are necessary to the successful treatment of pulmonary tuberculosis.

The Latest Literature.

British Medical Journal.

February 24, 1900. [No. 2043.]

1. The Organization of Aseptic Operations and Some of the Causes of Failure. C. B. LOCKWOOD.
2. Notes on Some Cases of Gunshot Wounds from South Africa. WILLIAM DICK.
3. A Case of Bullet Wound of the Chest. F. A. SAW.
4. Report on Three Cases of Gunshot Wound. A. P. BLENKINSOP.
5. Penetrating Wound of the Bladder and Rectum from the Buttock; Recovery. J. R. DODD.
6. Anatomy and Pathology of the Rarer Forms of Hernia. B. G. A. MOYNIHAN.
7. A Case of Exploratory Operation for Dilation of the Stomach. ERNEST A. T. STEELE.
8. A Modification of the Operation of Inguinal Colotomy. R. COZENS BAILEY.
9. Frequent Dislocation of the Right Shoulder. P. O'CONNELL.
10. Foreign Body in the Male Urethra. HORACE WILSON.
11. Fracture of Both Clavicles. THOMAS MILNE.
12. When is Cancer Cured? W. H. JALLAND.
13. The Bromid Sleep. FRANK C. FORD.
14. Dermoid Cyst Simulating a Meningocele. F. MARSH.

1.—Lockwood, in speaking of **aseptic operations,** gives the following method for cleansing the hands of the operator and the skin of the patient: (1) Shave when necessary; (2) thorough washing with soap and water, and in case of hands trimming the nails close; (3) with ether, benzine or turpentine remove all the remaining fat and grease, and (4) saturate for at least 2 minutes with a 1–500 solution of the biniodid of mercury in methylated spirits. As to suture-material, he prefers silk and silkwormgut in ordinary aseptic cases. Sometimes, as in ligating septic stumps or in circumcision in children, catgut is preferable. The catgut is prepared by washing with soap and water, and then soaking in ether until free from grease, and finally it is allowed to stand in a 1–250 watery solution of the biniodid of mercury, at least 72 hours. The biniodid of mercury is of more value than sublimate because it does not coagulate albumin and is less irritating. [G.B.W.]

3.—In this case a line, drawn from the wound of entrance to that of exit, would show that the **bullet** must have gone squarely **through both lungs.** The patient after being hit was temporarily paralyzed in the legs, but soon was able to run 150 yards. Blood ran from the mouth, but there was no coughing. In a month after the injury the patient was practically well. [G.B.W.]

4.—Blenkinsop reports 3 cases of self-inflicted **injury** with a **Lee-Mitford rifle.** A very important medico-legal point brought out was the fact, that though the muzzle must have been in close proximity to the patient there was no scorching or blackening of the surface, which disfigurement always happens when the old black powder ammunition is fired close to the skin. [G.B.W.]

5.—The instrument inflicting the **wound** was an **iron bar** ⅞ in. in diameter. The bar had passed through the posterior and anterior walls of the **rectum,** and through the prostate into the bladder. Though for about a month he passed the urine per rectum he finally made a perfect recovery. [G.B.W.]

6.—Moynihan says that it might be well to include both **properitoneal and interstitial hernia** under the common term "bilocular hernia." The main differences between the two forms is that in the properitoneal, the upper loculus lies between the peritoneum and the transversalis fascia, while in the interstitial the upper loculus lies between the two obliques or between the external and the skin. In the properitoneal the inner sac may point towards the anterior superior spine or it may lie in the iliac fossa or may dip down into the true pelvis. As to the etiology of this variety, the hernia most frequently arises as the result of some congenital abnormality in the inguinal region, but in some cases a more or less complete "reduction in mass" may be the original and responsible factor. In a few cases the inner sac may be first fully formed and the inguinal sac be secondary diverticulum; or possibly the two sacs are at fir distinct and afterwards blend at the ostium abdominal Interstitial hernia may be developed in much the same wa but a very satisfactory explanation is to be had in that i many cases there exists a retained testicle in the can blocking the descent of the hernia and pushing it into oth than the ordinary paths. There is often, too, a weakening the muscles below the superior iliac spine. Properitone hernia is seldom seen until acute or subacute strangulatic has developed, and in the absence of a swelling over t site of the hernia, and as this is a common happening, t diagnosis is most difficult and often impossible. In t interstitial form strangulation is rare and diagnosis compa atively easy. Operation with excision of both sacs is t only justifiable treatment for either variety. [G.B.W.]

8.—The **inguinal colotomy** as performed in this ca consisted in (1) usual incision; (2) stitching proximal end the U-shaped sigmoid loop to the external oblique muscle (3) a second incision 2 inches below the first one; (4) separ tion of the skin between the two incisions from the unde lying external oblique; (5) the drawing of the intestinal loo down and out through the lower incision, where it is held place by a glass rod, and (6) the closing of the upper i cision. Nine days later the bowel was opened and a trus like instrument fitted which would press on the bowel lyi beneath the skin, thus hindering the outflow of its conten [G.B.W.]

10.—The **foreign body** was a hat pin 6½ inches in leng and was so engaged that the head lay in the perineum a the point protruded through the glans **penis.** It w removed by pulling the pin out through the puncture wou until stopped by the head, then by reversing its direction was easily pushed out of the uretha head first. [G.B.W.]

12.—Jalland gives a brief note of a case of **scirrhus the axilla** in which there was no recurrence for 9 yea It is exceedingly difficult to put a "time limit" on the cu of cancer. [D.L.E.]

13.—A boy of 16 took about two ounces of potassiu bromid in 48 hours. He was very drowsy, had a staggeri gait and dilated pupils, but his mind was clear when he w roused. There was no rash. The boy was epileptic and days after taking this large dose he had another convulsio Contrary to McLeod's experience, the sleep was not p found, and Ford thinks there are individual idiosyncrasies the effects upon different persons. [D.L.E.]

Lancet.

February 24, 1900. [No. 3991.]

1. Anatomy and Pathology of the Rarer Forms of Hern B. G. A. MOYNIHAN.
2. Anatomy and Pathology of the Eye. E. TREACHER CO LINS.
3. Radiographic Researches on the Topographical Relatio of the Brain, the Frontal and Maxillary Sinuses, a the Venous Sinuses of the Dura Mater to the Walls the Skull. PAUL REGNIER.
4. Tuberculous Disease of the Kidney: Its Etiology, Path ogy, and Surgical Treatment. DAVID NEWMAN.
5. Epistaxis from the Ethmoidal Veins. A. BROWN KEL
6. Case of Measles in a Patient aged 18 years complica with Meningitis and Spinal Myelitis; Recovery. E. ELIOT.
7. Anomalous Case of Continued Fever with Abscesses Liver. J. G. MCNAUGHT.
8. Two Cases of Pulsus Paradoxus. JOHN HAY.
9. Hemiatrophy of the Tongue. L. A. PARRY.
10. Ocular Phenomena Associated with Cheyne-Stokes R piration. G. YOUNG EALES.
11. Large Doses of Carbolic Acid in Equine Tetanus. FR CIS EVELYN PLACE.
12. Case of Traumatic Tetanus with Recovery. W. DYSO
13. Case of Rupture of the Femoral Artery. W. H. BRO

3.—This paper describes a series of researches which w undertaken by the **radiograph** to ascertain the **relati** of the **brain** to the **skull** and to determine certain po in the anatomy of the skull and face. It was found poss to see the brain through the skull and thus to study the

on between the cerebral convolutions and the walls of skull. Injections of liquids which would become solid which held metallic substance in suspension were made o the venous sinuses, in order to study them. The bony lls, cavities, and the sinuses were best studied in dry parations. In selecting material for this work young jects should be chosen and arterial injections containing dening materials should be repeatedly made. After about ee weeks the brain was carefully removed from the skull, d from its pia mater, and replaced. It is necessary to nove the pia if we wish to have the convolutions visible. e time of exposure varied from 10 to 40 minutes. [M.B.T.]

8.—From a clinical standpoint three forms of **tuberculosis of the kidney** may be distinguished; acute miliary berculosis, local tuberculosis, or renal phthisis, and chronic berculosis or caseous nephritis. Two conditions are necessary to the establishment of tuberculous disease in the kidneys; the presence of a suitable nidus and the conveyance of specific organisms to the part. Tubercle-bacilli carried to the blood from distant parts may be eliminated, however, without any morbid change in the structure in the kidney; therefore, the urine is not pathognomonic of tuberculous disease of the urinary tract. In order that the bacilli may grow and multiply they must be deposited in a part where they are not liable to be washed away by the blood-current or the flow of urine. Acute febrile disease and injuries are important predisposing causes of such disease. Newman reports the case of a man, 30 years old, who fell 26 feet, striking the renal region; after the fall there was severe pain in the left renal region, hematuria, and extravasion of blood around the left kidney. Apparent complete recovery from the injury resulted, but 2½ years later the patient was suffering from advanced tuberculous pyonephrosis, for which nephrectomy was performed. In a second case a woman of 47 had received a blow in the right lumbar region, causing ecchymosis and hematuria of 5 days' duration, with recurrence on the eleventh day. There was severe pain and some swelling in the right renal region. Six months after the injury the urine became mucopurulent and bloody and there were marked symptoms of renal phthisis. **Nephrotomy** was performed and pus and tuberculous débris was evacuated and the cavity was scraped out; later the lungs became involved. The injuries in this case probably reduced the resisting power of the organ, thus resulting in the disease. In a third case a man, aged 41, had had acute **tonsillitis** and abscess followed by what appeared to be a purulent embolic nephritis, but which ultimately became tuberculous. No operation was allowed, but at the autopsy the kidney was found to contain numerous tuberculous centers. The kidney may be invaded in 4 different ways; by the blood-stream depositing tuberculous particles in the ultimate capillaries, thus giving rise to numerous miliary deposits or by infective emboli giving rise to extensive tuberculous areas; invasion may also occur along the lymphatics, the excretory ducts, or it may spread by continuity with other organs. In the majority of cases the blood becomes infected in passing through the vessels of the respiratory organs, alimentary canal, or the mucous or cutaneous surfaces. Miliary renal tuberculosis is always associated with tuberculous disease in other parts, most frequently with pulmonary tuberculosis; it affects children more frequently than adults. Tuberculous embolism causes disease affecting wedge-shaped areas with little or no evidence of involvement of the pelvis or ureter. Such areas may break down, leading to widely disseminated lesions; an encysted form of the disease may also occur, which is, in many instances, amenable to surgical treatment and is usually unilateral. A case of tuberculosis of the right kidney, occurring in a man of 22 years, is reported. By catheterization of the ureters it was determined that the disease was limited to the right kidney. **Nephrectomy** was performed and recovery resulted. The kidney removed contained 2 tuberculous foci. [M.B.T.]

9.—Spontaneous **epistaxis** usually originates from the lower and anterior part of the cartilaginous septum of the nose and is rarely so profuse as to be dangerous. Kelly has met several cases of severe epistaxis, however, in which the bleeding arose from the upper and anterior part of the nasal cavity, coming probably from the ethmoidal veins. He reports 4 such cases. Bleeding can be easily checked by firmly packing gauze between the septum and the anterior half of the middle turbinate bone. The parts below may be left free so that nasal respiration is not impeded. This is a great advantage over the usual method of plugging the anterior or posterior nares. [M.B.T.]

6.—The girl had **convulsions** on the fourth day of the rash. These were repeated and rigidity of the neck muscles and general depression followed and the kneejerks disappeared, the legs wasted somewhat and became helpless, there was pain in the legs, and incontinence of urine. The fever lasted from the last of April to about May 25. After the latter date there was some motion in the legs and she gradually regained power and by the autumn had recovered entire health. Eliot thinks that the cord-changes were vascular and that they were due to the measles-infection. Potassium iodid and mercury bichlorid seemed to produce distinctly good results. [D.L.E.]

7.—The case appeared to be one of **typhoid fever** and had no symptoms of **dysentery.** He died after repeated intestinal hemorrhages and the autopsy showed five **liver abscesses** with dysenteric ulcers in the bowel. The streptococcus pyogenes was isolated from the spleen as was a bacillus which resembled the colon-bacillus but did not coagulate milk, produced gas only after 3 to 8 days' growth in glucose gelatin, and the growth in potato resembled that of the typhoid bacillus. [D.L.E.]

8.—Hay records the case of a child with bronchitis in which **paradoxical pulse** occurred when the pulse became of low tension and disappeared within a few hours when the tension increased, thus showing the dependence of the paradoxical character on the low tension and the fact that the paradoxical rhythm may be of very brief duration. In the second case paradoxical pulse was severe in a case of pneumonia with pleural and pericardial effusion. Removal of the pleural effusion caused disappearance of the paradoxical pulse-curve, thus illustrating again the fact that paradoxical pulse may be observed with pleural effusion and that it is not limited to cases of mediastinal-pericarditis. [D.L.E.]

9.—There was decided hemiatrophy of the tongue but none of the face. There were no evidences of tumor, meningitis, caries of the bone, or other intracranial abnormalities, and the man had been injured several years before, with fracture of the base of the skull. The glossal hemiatrophy was therefore thought to be due to injury of the nerve in the anterior condyloid foramen. [D.L.E.]

10.—Eales records a case in which **Cheyne-Stokes breathing** was associated with **contraction and dilation of the pupils which followed the same rhythm** as the breathing. (The observation is by no means unique. The same pupillary changes have been repeatedly reported by others.) The number of respirations in each cycle averaged 33, an unusually high number. [D.L.E.]

11.—The doses used ranged as high as 36 fluidrams in 84 hours. One dram is injected in the neighborhood of the neck and shoulders every 2 hours for the first 32 hours and less frequently afterward. Place has never given less than 16 fluidrams in successful cases, and yet in other conditions has seen horses die after 8 fluid ounces. Hence he thinks that there is a specific tolerance for carbolic acid in tetanus. [D.L.E.]

12.—A girl, 15 years old, cut her hand and contaminated it with garden mould. Symptoms of **tetanus** commenced somewhat insidiously 12 days after the accident, and gradually increased in severity. The scar was freely excised and 20 grains of potassium bromid with 10 grains of chloral were given every 4 hours. Ten days after admission her condition began to improve slightly and after 3 weeks there was complete **recovery.** The bacillus of tetanus was not found on bacteriologic examination. [M.B.T.]

13.—A man, 33 years old, was **kicked by a horse** in the left groin. On admission to the hospital a swelling the size of a cocoanut completely filled Scarpa's triangle and extended upward over Poupart's ligament. Under anesthesia an incision was made at once parallel to Poupart's ligament and 2 inches above it. Through this wound the external iliac artery was controled and an incision, 5 inches long, was made over the swelling. A large quantity of extravasated blood was removed and the cavity was thoroughly washed out with boric lotion. The **femoral artery** was found to be **torn** across and the ends were separated about 1½ inches; the ends were ligatured by silk and the wound was closed. The subsequent history was uneventful. [M.B.T.]

New York Medical Journal.

March 10, 1900. [Vol. lxxi, No. 10]

1. Six Cases of Chronic Heart Disease Successfully Treated by the Schott Method. VICTOR NEESEN.
2. The Direct Examination of the Larynx in Children. MAX THORNER.
3. Some Homemade and Homely Appliances. JOHN LEVERETT.
4. Shock and its Surgical Significance. JOHN H. RISHMILLER.
5. Results of Hot-air Treatment in Rheumatism and Gout. LEWIS A. COFFIN.
6. The Value of Inorganic Iron in Anemia. G. MILTON LINTHICUM.
7. Report of a Case of Double, or Twin, Uvula. LEWIS S. SOMERS.
8. Perineal Lacerations in Country Practice. H. H. WILSON.

1.—Neesen gives a brief review of the **methods of Schott in the treatment of heart disease,** and reports 6 cases in which good results were obtained by this treatment. He again emphasizes the fact that it is necessary to use the greatest care in this treatment in cases of advanced arteriosclerosis and aortic aneurysm if the baths are used at all; also the effects upon the nervous system are in some cases exceedingly irritating. [D L E]

2.—Thorner reviews the methods of Bauer, Kirstein, Reichert, Escat, and others in the **examination of the larynx in children.** After using the different methods he has reached the conclusion that these direct and more or less forcible methods of examination of the larynx in young children are a great aid in diagnosis. [D.L E.]

3.—Leverett uses **paper receptacles for cotton** which has been used for **dressings,** and then burns the whole. An envelop or paper-box does very well. He also describes a pad which he uses for obstetric cases. He has made a circular tube of canvas, the diameter of the tube itself being 3½ inches, and the diameter of the whole circle being 22 inches. The inner tube of a bicycle tire is inserted into this, and the whole is inflated. A rubber sheet is fastened to it by hooks and eyes. If the air is allowed to escape from the ring, the whole apparatus can be easily folded and readily carried, and it is so inexpensive that the whole thing can be destroyed if necessary after using it in one case. [D.L.E.]

4.—Rishmiller discusses the etiology, symptomatology, psychopathology, and prognosis of **surgical shock** in a thorough manner without adding anything specially new to the subject. [M.B.T.]

5.—Coffin has seen improvement in a number of cases of **chronic arthritis** of rheumatic nature after using the hot-air treatment. He thinks that hot air will do more than any other form of treatment in cases of this kind. [D.L.E.]

6.—Linthicum reports his results from the use of a preparation called **aromatin.** In 6 cases he saw decided increase of both red corpuscles and hemoglobin. [D.L E.]

7.—Somers describes a case of a woman of 25 who had **two distinct uvulas,** which seemed to be complete, each had a normal contour, and independent muscular movement. He states that the woman had had the anomaly since birth. Somers has found that these cases have an associated hyperplasia of the lymphoid tissue of the vault of the pharynx. [D.L.E.]

8.—Wilson discusses **perineal lacerations** and their treatment in country practice. He believes that a properly performed episiotomy will often give sufficient room and preserve the integrity of the perineum. Moderate lacerations and episiotomy incisions should be sutured as soon after delivery as possible. In lacerations involving the rectal wall, operation had better be postponed until 3 or 4 weeks have elapsed, and then the patient be sent to the nearest hospital to be operated upon by the trained surgeon. [W.K.]

Medical Record.

March 10, 1900. [Vol. 57, No. 10.]

1. Progress and Drift in Pathology. T. MITCHELL PRUDDEN.
2. Cystitis Due to the Typhoid Bacillus Introduced by Catheter in a Patient Not Having Typhoid Fever. THOMAS R. BROWN.
3. A Means of Accounting for Gauze Laparotomy Pads. VICTOR COX PEDERSEN.
4. Historical Notes on the Sanatorium Treatment of Alcoholism. CHARLES J. DOUGLAS.
5. Interesting Case of Labor Complicated by the Utero-Abdominal Fixation. JOSEPH M. RECTOR.
6. Remarkable Case of Chloral Poisoning. PHILIP F. ROGERS.

1.—Prudden gives a review of the **changes in the main principles of pathology and bacteriology.** He particularly insists that, as Heppe states, we must not consider bacteria the immediate cause of disease, but that we should hold them to be the inciting causes of changes in energy, which latter constitute disease. Discussing inflammation he insists that we must look upon this as a conservative process, a fact that is as yet not sufficiently recognized by many clinicians. Prudden does not believe that tumors can be looked upon as a form of inflammation or as a reaction to microbic influence. He leans toward Ribbert's conception of tumors as being the result of loss of the mutual restraint of the cells. [D.L.E.]

2.—Brown describes a case in which **laparotomy** was done, and during this operation there was some handling, and perhaps trauma of the bladder. The patient was afterwards catheterized, and developed cystitis. Bacteriologic examination of the urine showed the presence of typhoid bacillus. It seemed wholly probable that the typhoid bacillus had not come from the patient's body, as she had had typhoid fever as long as 35 years before. It was believed, therefore, that the bacillus had been introduced with the catheter and the danger of such an occurrence is emphasized. [D.L.E.]

3.—Pedersen describes an ingenious method of **keeping account of laparotomy pads** by the use of tally snaps, rings, and checks. The number of pads and snaps is recorded before the operation and the snaps are attached to long tapes from the pads which extend far enough out of the wound not to hinder the operator and are hooked into a fenestrated bar. [M.B T.]

5.—Rector reports a case of **labor complicated by uteroabdominal fixation.** Considerable difficulty occurred in the delivery, which was accomplished by podalic version. The hemorrhage following the delivery of the placenta was enormous; the uterus contracted but feebly; that portion above the adhesion contracted slowly, while the lower anterior portion did not contract at all until ice was introduced. [W.K.]

4.—Douglas states that the first sanatorium for the treatment of **alcoholism** was established at Binghamton, New York, in 1858. He is enthusiastic in praise of the sanatorium treatment of alcoholism. [D.L.E.]

6.—The patient was a middle-aged man who had been drinking hard. He was given a mixture of chloral and bromid. He took the mixture by the half glassful, and had it repeatedly refilled. He went into a happy delirium, followed by stupor, with cold extremities. He had taken during three days 640 grains of chloral, and 960 grains of potassium bromid. After a few hours' treatment by the application of heat, and the injection of strychnia, he awakened and appeared practically well. [D.L.E.]

Medical News.

March 10, 1900. [Vol. lxxvi, No. 10.]

1. Recent Methods in Cardiac Therapeutics by Baths and Exercises. THOMAS E. SATTERTHWAITE.
2. Milk Inspection by the New York Board of Health. HERMAN BETZ.
3. Surgery of the Epiphyses. CHARLES L. SCUDDER.
4. A Unique Case in Obstetrics. FREDERICK H. PARKER.
5. A Case of Brain-Tumor, with Exhibition of Specimen. HUGH T. PATRICK.
6. Observations on a Spirillum Occurring in False Membrane on the Tonsil. CHARLES F. CRAIG.

1.—Satterthwaite gives an elaborate description of the methods he employs for the **treatment of heart-disease.** These consist of various gymnastics, some of which are to be resisted by the patients; others are purely passive. The periods of treatment should at first be brief, not exceeding 10 minutes, and should never last more than an hour. In neurotic cases, however, the movements may be pushed to

limits of the patient's tolerance. In addition to this, y exercise in the open air should be advised, although patient should be cautioned never to hurry. It is wise metimes to describe to the patient exactly his condition warn him against the various dangers to which he is osed. In giving baths, he differs from the Schott method, by giving the baths much warmer than is the custom at heim, and by commencing the carbonic acid only in the ond week, and adding chlorid of calcium later. Even proportion of sodium chlorid is very gradually increased. h baths and exercise may be omitted every third or rth day. The contraindications to baths are Bright's ase, exophthalmic goiter, and many cases of arterial rosis. Cases in advanced cardiac dropsy offer very little ouragement. Altogether about 80% of the cases of onic heart-disease with broken compensation improved er this treatment. Among the drugs recommended are italin, nitroglycerin, strychnia, and, as a purgative, calo- or Carlsbad salts. For attacks of dyspnea, Satterth- te recommends capsules containing nitroglycerin $\frac{1}{100}$ amyl nitrite and menthol each $\frac{1}{50}$ gr., and oleoresin sici $\frac{1}{100}$ gr.; the whole suspended in 10 minims of castor Careful comparative methods of fluorography, that is lying the size of the heart upon a fluorescent screen with results obtained by auscultatory compression limits, wed that the limited area was a small fraction of an n. [J.S.]

.—Betz describes the method of milk-inspection prac- l in New York. Inspections are carried out at all times ay and night, the preliminary examination being made the inspector at the place where the milk is received; is with the lactometer and thermometer. If the limits ormal variation are exceeded two samples are prepared, of which is sealed and given to the milk dealer, who is nitted to have it analyzed wherever he wishes; the other nt to the City Laboratory and analyzed there. If there y evidence of adulteration or if the quality of the milk ferior, the dealer is arrested.

.—Scudder says that many of the **epiphyseal separa-** ns are mistaken for fractures until the x-rays reveal the nature of the traumatism. To secure proper func- al results, open incision of many closed fractures and hyseal separations are often necessary. The operative nod should be employed when the bone could not be ced or held reduced. Of course in the open operation, cially when joints are apt to be involved, strict asepsis is ne foremost importance. Four cases are reported, one g a compound fracture with epiphyseal separation, but one was operation necessary. The functional result in nese cases was very good. [G.B W.]

—Parker reports a case in which the patient evidently ed a dead **fetus in utero for two years** and then eived and passed through a normal gestation. The elled fetus was delivered at the same time as the fetus rm. [W K.]

—Patrick reports an interesting case of **brain-tumor.** case at first was diagnosed as general paresis, but use of the localized palsy of the right arm this idea was n up. Under antisyphilitic treatment the patient im- ed remarkably and the diagnosis of syphilitic arteritis nade. At the postmortem, however, a glioma was found t the size of an egg, lying under the fissure of Rolando. W.]

—Craig found a peculiar **spirillum in a false mem-** ne that covered the tonsils in a case of mild **tonsillitis.** s present in almost pure culture in the exudation from crypts. It appears as a slender very active spirillum, 20 to 35μ in length, stains readily by the anilin dyes not by Gram's method. Cultures on various media were tive, and as other microorganisms were present in the brane, inoculations were not undertaken. The spiril- was not present in other parts of the mouth. [J.S.]

Boston Medical and Surgical Journal.

March 8, 1900. [Vol. cxlii, No. 10.]

marks on the Influence of Technic upon the Results of Closure of Wounds of the Abdominal Wall. CHARLES P. NOBLE.

2. Further Experience with the Operative Treatment of Anteflexion. W. L. BURRAGE.
3. The Gastro-Intestinal Tract in Nervous Disease. F. SAVARY PEARCE.
4. A Method of Determining the Digestive Power of Gastric Juice, as Well as the Absorptive Power of the Stomach. A. E. AUSTIN.
5. Two Cases of Thomsen's Disease, and One of Transient Myotone, Occurring in One Family. S. A. LORD.

1.—Noble discusses the influence of technic upon the result of **closure of the wound in the abdominal wall.** He considers that hernia is most frequent in case of fat subjects and in those in which drainage has been employed. After trying various methods for closing the wound, he has now adopted exclusively the following: 1. The peritoneum is closed with fine cumol catgut. 2. The aponeurotic sheath of one rectus muscle (the right) is then separated from the muscle by blunt dissection, thus baring the under surface of the aponeurosis. The upper surface of the aponeurotic sheath of the left rectus muscle is dissected clear of fat with a knife, with the object of suturing the under surface of the right aponeurosis upon the upper surface of the opposite aponeurosis. The suturing is then begun by passing the needle armed with medium chromicized catgut (sterilized by the cumol method) through the aponeurosis of the rectus muscle of the left side of the wound, and thereafter by continuous suture closing the rectus muscle until the opposite end of the wound is reached. The needle is then brought from below upward, through the aponeurosis upon the left side of the wound. The aponeurotic layer is then closed by passing the needle from below upwards through the aponeurosis upon the right side; then passing it through the aponeurosis of the left side, as in the Lembert intestinal suture; and again from below upward through the aponeurosis of the right side, and so on till the end of the wound is reached, when a single knot completes the closure of the muscles and fascia. The subcutaneous fat is then closed with a continuous catgut suture in one or more layers, using fine catgut. The skin is next closed by the intracuticular stitch with fine catgut. He believes the following conclusion is warranted: that in celiotomy wounds which can be closed without drainage, suppuration can be reduced to 2% or less; and postoperative ventral hernia can be reduced to the fraction of 1%. [W.K.]

2.—Burrage as the result of his experience in the **operative treatment of anteflexion** lays down the following rules for his guidance: 1. In anteflexion without ovarian or tubal disease, and free from shortened uterosacral ligaments or posterior adhesions, dilation, cureting, and Dudley's operation or amputation of the cervix, with a preference for the former. 2. In anteflexion with retroposition and shortened uterosacral ligaments or posterior adhesions, and without ovarian or tubal disease, dilation, cureting, and division of the uterosacral ligaments or adhesions by colpotomy and Dudley's operation or amputation of the cervix, with a preference for the former. Amputation of the cervix is a useful operation when the cervix is very long and also where there is extensive erosion of the crown of the cervix. In married women in both of the foregoing classes dilation and cureting without other operation are sufficient, because pregnancy will usually straighten the uterus and stretch the ligaments and adhesions. Should pregnancy not supervene within a number of months, and should the symptoms persist, another cureting and Dudley's operation, with or without division of the ligaments, may be done. 3. In anteflexion, with or without retroposition, having ovarian or tubal disease, dilation, cureting, Dudley's operation, and suspensio uteri, the uterosacral ligaments being divided through the abdominal wound if they are shortened, and whatever may be necessary done to ovaries and tubes. [W.K.]

3.—Pearce gives a description of 14 cases of **gastrointestinal disease** suffering from **nervous manifestations,** all of which disappeared when treatment directed to the gastrointestinal tract alone was employed. He concluded that the nervous system is influenced by gastrointestinal disorders, in the neurasthenic states, and when organic changes are present in the nerve-cells. In cases of chronic gastroenteritis, there are alterations in the mucous membrane in the intestinal tract and in the glands attached to it,

interfering with digestion and giving rise to a permanent autointoxication. This acts upon the nervous system and gradually sets up asthenia. There is also a group of cases in which organic nervous diseases are associated with disorders of digestion, that may be functional or organic. [J.S.]

4.—Austin has made a careful study of the **digestive power of the gastric juice.** He separates the albumin from the albumoses by means of treatment first with hydrochloric acid and subsequently precipitating with sodium carbonate. In order to estimate the quantity of albumoses remaining, these were precipitated by means of phosphotungstic acid and hydrochloric acid. This is then centrifugated in an Esbach tube. All the results were controlled by Kjeldahl titration, and it was found that the error was exceedingly slight. Artificial digestion of albumen with pepsin and hydrochloric acid was undertaken, and it was found that the amount of hydrochloric acid, providing there was sufficient to saturate the albumen, made but little difference. Comparative studies were made with pancreatin and with vegetable digestants, and it was found that the pepsin and hydrochloric acid are infinitely superior in digestive power, 92% of the albumen being utilized by the latter, and only 42% of pancreatin. Five cases of various forms of gastric disorder were carefully tested by removing the gastric contents one hour after a test-meal, and it was found that the quantity of albumose-pepton present varied greatly in amount. Austin suspects that this is due in part to the absorptive power of the stomach. There are four tables in the paper which show the results obtained in various experiments. [J S.]

5.—Lord records three cases of **Thomsen's disease** in the same family. The first, a boy of 18, farmer by occupation, noticed curious myotonic stiffness of the muscles, particularly those of the legs, at the age of 12. Since that time the symptoms have steadily increased in severity, and now practically all the muscles are involved excepting the extensor muscles of the back, of the fingers, and of the toes. The period of rigidity is very brief, but often sufficient to cause him to fall to the ground. The muscles, in spite of the steady progress of the condition, are becoming larger and stronger, and the patient is also increasing in size. No instances of the disease are known among the ancestors. Among the other symptoms, he presented a fine tremor, rapid fatigue of kneejerk, and rapid fatigue of the reaction of the muscles to electricity, a slight residual awkwardness after the spasm, excessive mechanical irritability of the muscles, and electrical irritability. The second patient, a brother, aged 20, has the disease in exactly the same form. In his case the symptoms commenced also at the age of 12. The third patient is a sister, 23 years of age. For about a week before her menstrual period there is a peculiar motor incapacity of the legs, which does not, however, amount to total loss of power. Among the interesting symptoms of the cases to which attention is called is the fact that after exhaustion of the electrical reflex, the muscle can be caused to contract by changing the poles. Lord is of the opinion that inhibition may have something to do with the production of the spasm. [J.S]

Journal American Medical Association.

March 10, 1900. [Vol. xxxiv, No. 10.]

1. Some Points in the Diagnosis of Traumatic Injuries of the Central Nervous System. J. T. ESKRIDGE.
2. Treatment in Compound, Compound Comminuted and Non-Union or Ununited Fractures. C. D. EVANS.
3. Treatment of Minor Traumatisms. R. HARVEY REED.
4. Contribution to Surgery of Common Bile-Duct; Report of Case of Choledochenterostomy. JOHN E. SUMMERS.
5. Hysteric Lethargy, with Report of Cases. G. W. MCCASKEY.
6. Nervous Depression as a Sequel of Influenza. B. J. BYRNE.
7. Treatment of a Common Cold. FRANK WOODBURY.
8. Dangerous Pulmonary Hemorrhage in Tuberculosis, and its Management. NORMAN BRIDGE.
9. An Intestinal Anastomosis in a Case of Tubercular Fecal Fistula of 20 Years' Standing. JACOB FRANK.
10. Description of a Case of Oral Surgery. G. V. I. BROWN.
11. Hygiene of Public Schools. C. F. ULRICH.
12. Insanity and the Turkish Bath. CHARLES R. SHEPHERD.

1.—Eskridge claims that in examining neurotic patient there is often a tendency to make diagnosis of hysteria without making strict search for a true organic lesion. Particularly is this true of many general and railway surgeons, and this is a point of great importance when the case has any medico-legal interest. There are many malingerers trying to get from corporations compensation to which they are not entitled, and perhaps there is too natural a tendency to think of feigning, hysteria, or neurasthenia, especially if symptoms are somewhat contradictory; but it must never be lost sight of that hysteria and organic disease may be associated and no doubt in a person strongly predisposed to hysteria the development of some organic disease, or the occasion of trauma or shock, will give rise to this affection. In such cases the most obtrusive symptoms of hysteria may overshadow, and often entirely obscure, the indistinct symptoms of organic disease. Careful and systematic examinations repeated if possible, should be made to determine the absolute nonexistence of organic lesion; the presence of a multitude of symptoms all pointing to hysteria is not sufficient to make a diagnosis sure if there is but one symptom positively indicating organic lesion. Persons who are severely injured are very anxious to receive the best possible medical attention soon after the occurrence of the accident, and are then very communicative and eager to give the attending physician all the information that they possibly can concerning their personal history. Such history will often reveal the existence of hysteric or neurasthenic conditions prior to the injury. Eskridge gives a very full enumeration of the symptoms distinguishing **traumatic neurasthenia and traumatic hysteria.** A comparison of these states with similar conditions not dependent upon those of injury or shock gives valuable data to the general practitioner. [M.B.T.]

2.—Evans cites a case to prove the difficulty of dealing with **ununited fractures** and details a simple procedure by which he has had great success. After laying open the fleshy portions of the limb down to the fracture, he turns back the periosteum, dissecting it from both fragments toward the fracture with the idea of securing more for the covering of the bone than by dissecting from the site of fracture up and down. The bone thus freed of periosteum the thickened bone is removed until true bone is secured then with a small sized drill in each fragment 3 holes are made, directed toward each other so they would come in direct apposition, none of them being allowed to enter the medullary canal. The fragments are brought together with number 3 chromicized catgut, the periosteum brought together, wound closed with interrupted sutures and bandaged with plastic bandages just far enough to cover the wound then he applies two splints made of "band iron" shaped to the sound limb, fitting it except that at the place corresponding to the site of fracture, a loop is made in the iron so as to raise it about 2 inches from the wound, admitting thorough asepsis in after-dressing. The limb then is covered as far as necessary with raw cotton, enclosed as far up as the lower end of the bandages from the extremity and also bandaged for a considerable distance on the other side of the fracture toward the body; then the cotton around the limb midway between the plaster-of-paris dressings is torn and turned back from the wound between the plaster, making a sort of cuff. The irons are then placed on the anterior and posterior surfaces of the limb, held securely by two assistants and firm plaster-of-paris bandages applied as before. This leaves an open space between the plaster and over the wound which is covered with more cotton and a well tightened roller bandage leaving the limb with equal pressure throughout. [M.B.T.]

3.—Reed speaks very strongly of the necessity of **close attention to minor injuries** because of the frequency of their occurrence and the danger of severe infections from the most trivial wounds. Many injuries to the fingers and toes are followed by suppuration, the sepsis is frequently of so severe a character as to extend to the periosteum and is even followed by necrosis of the bone necessitating amputation. Even the smallest minor injury should be treated with the same precautions as a major wound. In preparing a wound for dressing, after surgical cleanliness has been secured, the ragged margins should be clipped, since the nearer we come to converting a lacerated into an incised wound the better the condition for rapid repair. Reed claims that in skin grafting the section of the entire integument is preferable to scraping off the epithelium or even making Thiersch graft

ce if the parts are healthy and the graft is carefully re-ved and sutured in place there is no more trouble in hav-; a large portion of skin adhere than a small portion. The pillaries are better preserved, and with so much of the cia as may adhere united with a granulating surface more idily than with any other method. The necessity for pres-e is much less, thus avoiding interference with circulation h its consequent ill effects upon union. The chief points cessary to observe are: Strict observance of surgical clean-ess; preservation of normal blood-supply; perfect coap-tion when possible; simplicity and efficiency of dressing, d the use of chemicals which will destroy infective germs t at the same time will not irritate nor disturb cell-repro-ction. [M.B.T.]

4.—Summers details a case in which in operating for lstone found a condition of **stricture** in the common ct, and an impermeable occlusion of the common cystic cts at or near their point of junction. **Anastomosis of te common bile-duct with the duodenum** was de with the aid of a Murphy's button. With the left ex finger passed into the foramen of Winslow, and the mb and middle finger of this same hand in front and posite one another, the one half of the button was con-led, the duodenal half being manipulated by the fingers the right hand and the parts properly brought together. e opening to the gallbladder was sutured into the wound. convalescence the patient developed remittent fever, but s soon subsided without further symptoms of septic infec-n and convalescence progressed rapidly. The button was er recovered, and no bile has ever been discharged from fistula. [M.B.T.]

5.—McCaskey reports a number of cases of persistent wsiness or somnolence, hysteric or epileptic in character, of these very fully, the others cursorily because of insuf-ient study at the time of observation. All of these occurred women. In the case fully reported there was no drowsi-s preceding or following the attacks of lethargy, no aneous anesthesia, but a tremulous motion of the eyelids, rked nutritional disturbance and excessive amount of ds, principally chlorids and phosphates, in the urine. ring the attacks there was complete anesthesia and anal-ia as well. McCaskey thinks the explanation of these cks must be found first in the existence of evanescent nges in some of the constituents of the upper neurons, being constant and essential; second in the presence of ain morbid blood-constituents the results of faulty metab-m, this being contributory and inconstant. [M.B.T.]

6.—Byrne directs special attention to subnormal temper-re and reduced pulse-rate as features of **nervous de-ession following influenza.** For this depressed dition he gives $\frac{1}{20}$ gr. strychnin sulfate 3 times daily n brandy in $\frac{1}{2}$ ounce doses 4 or 5 times a day. Some efit was derived from the use of the cold bath, but entire seemed to have the best effect. [M.B.T.]

7.—See page 87, Vol. V, PHILADELPHIA MEDICAL JOURNAL.

8.—Patients as well as nurses and friends should be rmed as to the rational things to be done in case of **monary hemorrhage.** A hemorrhage need rarely egarded as serious in degree unless it causes faintness or duces considerable acceleration of the pulse. The ent should keep still, avoid taking deep breaths, the els should be kept open, the clothing should be loose and extremities warm. A dose of morphin and atropin ld be given hypodermically; aconite and veratrin may given to reduce the heart-force. Ergot should never be n. [M.B.T.]

9.—Brown reports relief by plastic surgery in a case of **ensive deformity,** occurring in a youth of 20, in which chin was held tightly against the breast by cicatricial e, formed after a burn at the age of three years. The orted cicatricial tissue was dissected away and a large of healthy skin transplanted from the unaffected lder on the opposite side. One week afterward all of inferior maxillary from the bicuspid forward, including teeth it contained, was removed. A sloping surface cut e portion of the jaw remaining making a fair imitation e form of a chin, the soft parts being bound on this with lages in such a way as to cause a natural appearance. ridge supplying the lost teeth, attached by crowns on side of the jaw, restored the usefulness of the arch and a pleasing appearance to the mouth. [M.B.T.]

11.—Ulrich speaks of the necessity for careful attention to the physical welfare of pupils and of the importance of paying close attention to **hygienic laws in the construction of schoolhouses,** the extent and convenience of playgrounds, the hours of confinement, the intermissions, etc. Since many epidemics may be traced to the close association of children in schools, as a prophylactic measure, eternal vigilance by the teachers to prevent the admission of pupils suffering from disease is a necessity. [M.B.T.]

American Journal of Obstetrics.

October, 1899. [Vol. xl., No. 263.]

1. The Gonorrheal Puerperium. CHARLES GREENE CUMSTON.
2. Preparation of the Abdomen for Operation. HENRY HARRIS.
3. The Reflux of Air into the Ureters Through the Air-Distended Bladder in the Knee-Breast Posture. HOWARD A. KELLY.
4. The Diagnosis of Tubercular Peritonitis. A. ERNEST GALLANT.
5. Intrapelvic Adhesions. WALTER B. CHASE.
6. Night-Terrors. E. L. TOMPKINS.
7. The Use of Gloves in Abdominal Surgery. J. WESLEY BOVÉE.
8. Experiences with Intrauterine Vaporization. ABRAM BROTHERS.
9. A Case of Exencephalus with Specimen. EDWARD HAMILTON.
10. Embryotomy and Two Cesarean Sections on the Same Patient. JOHN C. MCCOY.

1.—Cumston is of the opinion that of all acute infectious diseases **gonorrhea** plays the most important part in the complications during the **puerperium.** It has been estimated that of 100 women whose husbands had had gonorrhea at some time in their bachelor life, there were scarcely 10 who were well, and one might assume also of that tenth part that at some time or other gonorrhea would be contracted. Sanger has made the statement that $\frac{1}{8}$ of gynecological affections were of a gonorrheal nature, and examining the records of the Leipzig clinic found that 26% of the pregnant women were affected with this pathologic process. The social danger of gonorrhea is its tendency to entire sterility, and Sanger has very ably demonstrated the frequency of what he terms a "one-child sterility" as a consequence of gonorrheal infection. It is very true that a large percentage of women recover from gonorrheal infection, become pregnant, and give life to children who soon after birth develop a gonorrheal ophthalmia, while others from the very receipt of the infection remain sufferers for the rest of their lives, having recurrent attacks of pelviperitonitis; have abnormal labors and often die in consequence of their diseased genital organs. Reddish blond and light blond females are certainly more severely affected by gonorrheal infection than darker complexioned subjects, and here the diathesis of the individual certainly acts as a locus minoris resistentiae. Cumston reports 5 cases of gonorrheal puerperium. [W.K.]

2.—Harris, after a careful study of the **preparation of the abdomen for operation** reaches these conclusions: 1. It is impossible to sterilize the living skin. 2. Efforts at sterilizing even the superficial parts of the skin by methods used in the operating room are unsuccessful in most cases (and probably so in all cases). 3. The degree of sterilization of the cuticular layer of the abdominal skin, achieved by preparation for abdominal section, varies directly with the amount of cleansing done. [W.K.]

3.—Kelly records his own observations regarding the **entrance of air into the ureters.** Sometimes when the patient is in kneebreast position a little air will enter with catheter introduced as far as the renal pelves and escape later in bubbles with the discharge of the urine. The air occasionally enters the ureter spontaneously and becoming heated to the body temperature is forced out in the form of a little bubble which has shown him the position of the ureteral orifice when it was difficult to find. When the orifice is inflamed there is more frequently a spontaneous entrance of air into the ureter, and the tell-tale bubble is then a most welcome sign of the ureteral opening concealed

by puffy, hyperemic mucosa. Kelly has witnessed this phenomenon not less than 12 times and he has never seen any harm come from it and it causes the patient no pain. [W.K.]

4.—Gallant sums up his observations upon the **diagnosis of tuberculous peritonitis** as follows: 1. Tubercular inflammation of the peritoneum is met with at all ages and is most common in early and adult life. 2. It is most frequently met with in women and between the ages of 20 and 40 years. 3. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum. 4. As a primary lesion of the peritoneum it resembles in its inception, subsequent history, and final outcome the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura. 5. The most distinctive features of this disease are a rather constant subnormal morning temperature, rising to the normal in the late afternoon, reaching a little above at night; hypogastric pain on pressure, on walking, and when urinating; and the presence of tubercle-bacilli in the pulmonary, cervical, or vaginal secretions. 6. Anesthetic examination in pelvic cases will often aid in clearing up the diagnosis, but when the abdomen is tensely distended with encysted fluid, unless immediately preceding operation, it will only subject the patient to useless discomfort. 7. A positive diagnosis other than by exploratory incision is in some cases impossible. 8. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough irrigation of the cavity with saline solution, and closure of the abdomen without drainage of any form, has been shown by later operation for other conditions, and on autopsy, to have resulted in permanent cure. 9. When confined to the pelvis, removal of the original focus usually results in a permanent cure of the disease. 10. Where fluid reaccumulates a second celiotomy will be curative or prolong life. 11. Tubercular disease in other parts, especially the lungs and pleura, is not a contraindication to operation, which will be followed by a more or less prolonged abeyance or retardation of the disease. [W.K.]

5.—There are many cases in which **intrapelvic adhesions** are the principal factor of trouble, though only revealed on opening the pelvic cavity; while in others the adhesions are concomitants of pathological states equally unexpected. These cases embrace wide extremes of symptoms sometimes out of all proportion to the gravity of the conditions really existing. In view of the serious difficulties often attending these adhesions Chase thinks it is well to raise the inquiry, What can be done to prevent their development? A comprehensive answer would be to arrest the septic and inflammatory processes which produce them. The judicious and timely use of potassium iodid and mercurials, and a newer preparation, gold and sodium chlorid, may arrest the processes which make for injury. The danger of dealing surgically *per se* with these adhesions is twofold: first, the liability to hemorrhage, and, second, the liability of new adhesions forming. The latter danger may be diminished by sponging the location of the old adhesions with hot salt-solution or allowing a portion of it to remain in the peritoneal cavity when not contraindicated. [W.K.]

6.—Tomkins believes that **night-terrors** are prone to run into more serious functional neuroses, such as chorea, hysteria, or even true epilepsy; therefore all recognizable exciting causes, such as acid stomach, indigestion, constipation, etc., should be looked after and corrected. [W.K.]

7.—Bovée says that the advantages of **rubber gloves in surgery** are, first, protection of patient against infection of operator's hands, and, second, protection of the operator's hands against infection from the wounds. The bacteriological investigation of hand sterilization has led to the conclusion that it is not reliable, and while no one has the temerity to claim ability to absolutely sterilize the hands, it is also true that the degree of infection increases during the operation. Mikulicz noticed that while the proportion of sterile hands immediately after cleansing was 59 to 78%, a few minutes later it was 47%, germs from the deeper recesses of the skin having reinfected the surface. The use of gloves in his experience had contributed to carry his recovery rate from 83 to 94%. Bovée, since adopting the use of gloves, rubber for himself and chief assistant and cotton for his nurses, all being carefully sterilized, has had but 2 cases of infection and i these the colon-bacillus was the only organism found present The objection to the use of gloves in abdominal surgery i their interference with the sense of touch and with grea speed in manipulation details. But these may be overcom to a great extent by the aid of assistants and by practice After some experience with thin rubber gloves the tactil sense is practically unimpaired. Bovée deems their use is decided step in advance in abdominal surgery and that th abdominal surgeon should consider their use as necessary a sterilization of his paraphernalia. [W.K.]

8.—Brothers after considerable experience in its use i convinced that **intrauterine vaporization** is of unques tioned utility in controling, regulating or checking certai forms of uterine hemorrhage, but it should never be use for postpartum hemorrhage without previous thorough re moval of all placental debris. Neither should it be used fo ambulant patients. He employs the apparatus devised b Pincus. [W.K.]

9.—Hamilton reports a case of **exencephalus.** Th mother had a previous and subsequent normal delivery, giv ing birth to healthy, well-developed children, and no caus could be found for this abnormal result of the second preg nancy. [W.K.]

10.—McCoy reports a case of **embryotomy and tw cesarean sections in the same patient,** a woman c small stature and such small pelvis that the embryotomy wa performed with great difficulty. The cesarean sections re sulted in the birth of two living children. At the secon operation the ovaries and tubes were removed, his only re gret being that he had not pursued the course of Crima and provided against subsequent pregnancy by passing double ligature about the uterine end of each tube, divide the tube between the ligatures, and allowed the ovaries t remain, thus avoiding the nervous phenomena of an artificia menopause. He considers the Sanger cesarean operatio under favorable conditions is fraught with little more dange to the patient than the so-called more conservative procedu of embryotomy. [W.K.]

Berliner klinische Wochenschrift.

December 11, 1900. [36. Jahrg., No. 50.]

1. Acute Lead-Poisoning. W. ZINN.
2. The Scientific Base of Organotherapy. A. LOEWY and F. RICHTER.
3. The Influence of Oophorin on the Elimination of Albumin. A. LOEWY.
4. Some Further Considerations in the Treatment of Tuberculosis. R. E. KLEBS.
5. The Treatment of Whooping-Cough with Antitussin. M HEIM.

1.—The patient, a woman 33 years of age, took i mistake for bicarbonate of soda, a powder consisting **oxid of lead,** 15 grams, and 5 grams of barium sulfat Six days later vomiting and pain in the abdomen began ar persisted for days, the patient gradually losing strength. Sh came to the hospital three weeks after the ingestion of th poison, and was found to have a blue line on the gums ar to be quite anemic. The bowels were constipated and th urine contained lead, but no sugar or albumin. There w no lead in the feces. The pulse was slower than normal, i tension only slightly increased. The patient recovere [D.R.]

2.—True **organotherapy** is a method of **substitutio** and supplies something which the body has lost. To a ce tain extent this is shown in the thyroid therapy, but th authors demonstrate better than has ever been done th function of organotherapy, in connection with **ovarian e tract.** The removal of the sexual organs produces mark changes, particularly in the female sex. Many of the sym toms are nervous in character, and are favorably influenc by the administration of ovarial substance. In order to u derstand the action of this substance, it is necessary to appr ciate the relation of the ovaries to the rest of the body. the first place, they exert an effect upon metabolism bone, and it has been shown that their removal fav ably influences osteomalacia; in the second place, th bear an important relation to general nutrition, especially fat metabolism. The authors showed by experiments

animals that after the removal of the ovaries there was a marked reduction in the gaseous interchange. Although the body-weight increased 9%, there was a reduction in the consumption of oxygen of 20%. These facts are very important in connection with the subject of obesity. Two forms of obesity must be recognized: One, mechanical, in which the condition is forced upon the body, and another in which the obesity depends upon an organic anomaly in which a faulty metabolism of the cells leads to an accumulation of fat. The administration of oophorin in the castrated animals led to a marked increase in the gaseous interchange, which even exceeded the original figure. This would suggest the use of ovarial extract in antifat treatment. The extract is also suggested for the treatment of chlorosis, a disease in which, according to the most recent views, the female sexual organs play an important part. The administration of oophorin to healthy animals did not have the slightest effect. This was to be expected if ovarial therapy is a true substitution method. This method requires that no other extract except that from the organ corresponding to the one which is deficient in the body, should have any favorable influence; no other organic extract should act in a similar manner, nor should the administration of the extract have any effect in cases in which the organ in question functionates normally. Thyroid extract administered to castrated animals did produce an increased oxidation, but (and this emphasizes the difference between it and oophorin) in no greater degree than in healthy animals. Another interesting point referred to by the authors is the difference in the consequences of castration in the two sexes. In man, the effects of the operation set in immediately; in woman, several weeks are required. This method corresponds in a striking manner to the time in which the so-called castration atrophy of the uterus sets in, and this suggests the probability that, in addition to the ovaries, the uterus is also capable of influencing metabolism, a point which the operating gynecologist should keep in mind. Rubenstein has shown that the atrophy of the uterus after castration does not occur if the excised ovaries are implanted somewhere else in the body. [D.R.]

3.—Experiments were made to determine whether the increased metabolism caused by oophorin was at the expense of the nitrogenous or of the nonnitrogenous elements of the body. The result showed that there was no destruction of the nitrogenous constituents, and that the increased metabolism occurred **at the expense of the nonnitrogenous elements.** [D.R.]

4. Klebs maintains that the **specific treatment of tuberculosis** is indispensable, and prefers tuberculocidin for the purpose. There are two conditions which may militate against the success of specific therapy, namely, **gastric disturbances** in the phthisical and **mixed infection.** He believes that the gastric disturbances are connected with atrophy of the thyroid gland, and in administering fresh thyroid juice to patients with achylia gastrica he noted a marked increase in the body-weight. Thyreoiodin had the opposite effect, causing a loss in weight. The result seemed to depend upon the preparation used. Klebs employed the expressed juice from sheeps' thyroids, sterilized with cresol or formol. Mixed infection he has combated with the enzyme of the typhoid bacillus (typhase). He was led to do this by finding that in some cases typhoid fever had a favorable influence upon an existing tuberculosis. [D.R.]

5.—Antitussin is an ointment consisting of 5 parts difluordiphenyl, 10 parts vaseline, and 85 parts chemically pure wool fat. The neck, chest, and back are first scrubbed with warm soapsuds and dried with a coarse cloth towel, and then a portion of the ointment the size of a walnut is rubbed into the prepared skin. Heim found it very useful in 16 cases of **whooping-cough.** It has also a favorable influence upon catarrhal diseases of the throat and pharynx. [D.R.]

December 18, 1899. [36. Jahrg., No. 51.]

1. The Changes in the Clinical Picture of Paralytic Dementia. A. Pick.
2. Absolute Congenital Doublesided Anosmia. Placzek.
3. The Specific Treatment of Tuberculosis. J. Petruschky.
4. The Late Effects of Singer's Nodules. Albert Rosenberg.

1.—Pick maintains that **circular insanity** is gradually undergoing a metamorphosis in its symptomatology. As a similar transformation seems to be taking place in general paralysis, it would appear that the psychoses are not unalterable, fixed forms, but are amenable to change, like everything else in nature. [D.R.]

2.—The patient, a woman, 60 years of age, had all her life had **bilateral absolute anosmia.** She missed the sense very decidedly, and did not know when the food burned, when it was spoiled, and, indeed, had no conception whatever of odor. Strong-smelling substances, which were at the same time tasted, although not recognized, were quite well compared with other substances. There were no local changes in the nose, and no evidence of any nervous affection. Placzek refers to another case, a servant, in the Pathological Institute of the Charitié of Berlin. This man had from birth been without the sense of smell, but, in contrast with the woman before-mentioned, he did not complain of his deficiency, which, indeed, was of indisputable value to him in his occupation. It may be worth while to mention that Lorenzo di Medici was also devoid of the sense of smell. [D.R.]

December 25, 1899. [36. Jahrg., No. 52.]

1. Total Extirpation of a Large Mesenteric Cyst. Justus Schramm.
2. On Endolaryngeal Treatment of Carcinoma of the Larynx. Edmund Meyer.
3. The Specific Treatment of Tuberculosis. J. Petruschky.

1.—A woman, 48 years of age, had been troubled with shortness of breath for two years; there had also been gradual distention of the abdomen and obstinate constipation. On palpation a round fluctuating tumor the size of a man's head could be felt, which extended from the ensiform appendix to the umbilicus, the surface was smooth but the growth was fixed. Operation was overtaken for probable ovarian cyst. On opening the abdomen a grayish tumor was discovered in the folds of the mesentery, the cyst was punctured and 8 liters of this fluid were removed, the cyst-sac was then dissected out. It was a **large mesenteric cyst**; a diseased tube and ovary were removed at the same operation. Uninterrupted recovery followed. [M.B.T.]

2.—A man, 58 years old, had been losing flesh for a few months. Laryngoscopic examination showed the presence of a tumor involving both **vocal cords**; this was removed under cocain-anesthesia at 8 sittings by means of Frankel's forceps and the Landgraf curet. The operation did not disturb the general condition, confine the patient to bed, or cause serious hemorrhage. Microscopic examination proved the growth to be **carcinoma.** Too short a time has elapsed to determine the final result. [M.B.T.]

3.—Observations in Koch's Institute have shown that **tuberculin** is of no value in cases of phthisis attended with secondary infections. Indeed, it might be harmful, a fact explained by Koch on the theory that the increased passage of fluid through the affected area may benefit the organisms causing the acute secondary infections. In the use of tuberculin five possibilities may arise: 1. Acute overloading with toxin. 2. Chronic overloading with toxin. 3. Oscillation between overloading with toxin and immunization. 4. Proper immunization. 5. Inefficiency, on account of hesitating treatment. The best procedure is that in which, with ascending doses, active local but slight general reactions are obtained. It is best to begin with very small doses, less than $\frac{1}{10}$ mgm., and then to increase rather rapidly. The preparation of Klebs was employed in Koch's Institute, but with entirely negative results. In all modern methods of treating tuberculosis the duration of treatment has been underestimated. The author believes that a **permanent cure can be achieved with tuberculin,** especially if the patient is subjected to a periodic course of treatment. Usually two courses suffice. The treatment should not be used in very feeble persons or in those with secondary infection. The author reports 22 cases, in all of which tubercle-bacilli had been found, 4 being advanced and 18 milder cases. In all, Koch's tuberculin brought about an apparently complete cure. Careful statistics of these cases are given. [D.R.]

Münchener medicinische Wochenschrift.

December 26, 1899. [66. Jahrg., No. 52.]

1. Dermatitis Herpetiformis. F. KÖHLER.
2. The Positive Diagnosis of Carcinoma of the Uterus. ADOLF GESSNER.
3. Chorea and Fever. KÜRT WITTHAUER.
4. Tuberculosis of the Lacrimal Canal. O. SEIFERT.
5. The Effect of Heroin on Respiration. C. G. SARITESSON.
6. A Brief Report of the Work in the Polyclinic of Professor Amann. CARL BRAUN.

1.—Köhler reports a case of **dermatitis herpetiformis** in a woman of 21. The affection occurred periodically and usually began at night with severe pains and burning. Small vesicles appeared, which coalesced, and either ruptured or dried into a crust. After healing, scars were left. Treatment proved unavailing; the patient developed a state of mental depression and made an attempt at suicide, which, however, failed. [D.R.]

2.—Gessner thinks that a certain evidence of the existence of carcinoma of the uterus cannot be obtained, at least not in its earlier stages, by palpation or by the use of the sound. In all cases in which there is a suspicion or a possibility of a malignant disease of the uterus, a sure and definite diagnosis ought to be reached; and in the beginning of the growth its true nature can be determined only by a microscopic examination of scrapings from the uterine cavity or the cervical canal. He reports several cases showing the deplorable results of neglecting to make such diagnosis and states as the result of his experience the conviction that by microscopic examination of uterine scrapings a certain diagnosis can be made at a time when all other kinds of examination leave the physician in doubt. [W.K.]

3.—Two cases of **chorea** are reported in which an intercurrent febrile disease greatly modified the choreic movements. In the one case an acute enteritis caused a cessation of the chorea, which did not recur after the patient recovered from the intestinal affection. In the second case, which was one of rheumatic pericarditis, the movements subsided with the beginning of the fever, but the patient eventually died of his heart affection. [D.R.]

4.—A report of some experiments showing that **heroin** has a depressing action upon the respiration. [D.R.]

5.—It seems scarcely probable that a primary **tuberculosis** can originate in the normal **lacrimal duct** because of the rapidity with which the duct will remove microorganisms from the conjunctiva. When, however, the flow is interfered with by catarrh or dilations, a resting-place for the tubercle-bacilli may be afforded and the primary tubercular process set going. For the secondary tuberculosis of the lacrimal duct, 3 methods of infection are possible; first, infection from the bony walls of the duct; second, extension from disease of the nose, or third, from the conjunctiva. This secondary form is much commoner than the primary lesion, and extension from the nose upwards is the most frequent course of infection. [G.B.W.]

Centralblatt für Gynäkologie.

December 23, 1899. [23. Jahrg., No. 51.]

1. The Treatment of Dystocia after Vaginal Fixation of the Uterus. W. RUHL.

1.—Ruhl describes 3 cases of severe dystocia due to the vaginal fixation operation, which were operated upon by him by means of a vaginal cesarean section. The abnormal position of the uterus due to the sinking of the fundus, the rising of the cervix, and its retroposition, made delivery per vias naturales impossible; therefore, an opening was made through the anterior wall of the vagina, the bladder was pushed aside, an incision was made in the uterine wall and the child extracted by version. All the cases made rapid and complete recoveries, and Ruhl maintains that under the above-mentioned conditions this method is much less dangerous than the classical cesarean section. [W.K.]

January 6, 1900. [24. Jahrg., No. 1.]

1. Upon Sterilizing Suture-Material. I. STICHER.
2. Upon Decapitation With Zweifel's "Trachelorhekter." H. FÜTH.
3. Upon Anesthesia. KOBLANCK.

1.—Sticher says that **suture-material** should be absolutely sterile, should be durable, and not too coarse, thus irritating the surrounding tissues, nor too fine so as to cut through them. He describes in detail the method of sterilizing both catgut and linen thread by the cumol treatment as practised in the clinic at Breslau. [W.K.]

2.—Füth describes minutely the construction and action of Zweifel's "Trachelorhekter," a modification of Braun's **key-hook,** showing its superiority to the latter for the purpose of decapitation of a dead fetus before delivery. Füth and Sanger agree in the opinion that a dorso-posterior transverse position or an overdistended cervix indicates a decapitation rather than a turning of a dead fetus as a procedure much more favorable to the mother. [W.K.]

3.—Koblanck calls attention to a sign of **asphyxia from chloroform** rarely mentioned in literature, the peculiar movement chiefly of the fingers, but sometimes also in the wrists, accompanied by a confused motion of the eyes. This symptom he considers the first signal of danger, an evidence that the system already contains too much chloroform, and a warning against its further administration. [W.K.]

January 13, 1900. [24. Jahrg., No. 2.]

1. Prolapse Operation. H. FRITSCH.
2. Operation for Large Ventral Hernia. HEINRICH.

1.—Fritsch believes that total **extirpation of the uterus for prolapse** is proper only when there is some other indication for it beside the prolapse. A plastic method is preferable, requiring much less time and involving small loss of blood. It is often necessary to deviate from a prescribed method, adapting it to varying conditions. Fritsch describes a plastic operation which he had used with excellent results in a case of completely inverted vagina and prolapsed uterus; but adds that it was only advisable for patients past the menstrual period of life. [W.K.]

2.—From his own experience and observation in ventral hernia Heinrich reaches the following conclusions: 1. A large **ventral hernia** must be closed through the fascia. This is best done by forming a crescent-shaped flap out of the upper aponeurosis of a rectus muscle and sewing this flap to the upper part of the opened rectus sheath on the other side. 2. The line of sutures must extend where there is the least possible muscular strain, that is in a vertical direction. In this case there will be no vertical strain, and horizontally only such as is equal to the force of the oblique and transverse muscle less that of the rectus muscle; that is, equal to the strain which in a normal condition the linea alba sustains. 3. The suture of the fascia must be made of material which is absorbed with great difficulty, as silk or silkworm; for the sterility of which the operator must undertake the full responsibility. [W.K.]

January 20, 1900. [24. Jahrg., No. 3.]

1. Criticism upon the Theory of the Expansion and Non-expansion of the Cervix in Pregnancy. H. BAYER.
2. The Question of Atmokausis. FLATAU.
3. Again the Slit Speculum. C. ZEPLER.

1.—Bayer replies at length to Franque's criticism of a certain part of his treatise upon obstetrics and gynecology. [W.K.]

2.—Flatau speaks a few words in defense on the question as to the utility of atmokausis. [W.K.]

3.—Zepler further discusses the advantages and disadvantages of the slit specula, both glass and metallic. [W.K.]

Deutsches Archiv für klinische Medicin.

August 18, 1899. [Heft 5 and 6.]

15. Contribution to the Knowledge of the Origin, Occurrence, and Significance of Eosinophile Cells, with Especial Consideration of the Sputum. FUCHS.
16. Eosinophile Bronchitis. TEICHMÜLLER.
17. The Pathology of the Echinococcus Multilocularis and Alveolaris of the Liver. (Symptomatology and Clinical Diagnosis.) POSSELT.
18. Alimentary Glycosuria, and its Relations to Diseases of the Pancreas. WILLE.

19. Symptomatology and Clinical Diagnosis, with Primary Carcinoma of the Lung. Herrmann.
20. The Source of Oxalic Acid in the Urine. Lommel.
21. Alimentary Pentosuria of Diabetes. v. Jaksch.
22. Brief Communications. 1. Pyloric Stenosis due to Wedging or Encapsulation of Cherry-stones or Mispel. Richter. 2. Potassium Iodid and Sodium Iodid in the Treatment of Hemorrhages. Chelmonski.

15.—Fuchs has examined the sputum in a number of cases for **eosinophile cells,** and found them in all 25 cases of bronchial catarrh, the catarrh of passive congestion, in cases of bronchiectasis, and in five cases of infarct of the lung. They were rare in whooping-cough. He also discovered them in the exudate in cases of pleural and peritoneal tuberculosis, and in one instance found them present to the amount of 12% in the blood. He also observed them in great numbers in a case of pulmonary tuberculosis shortly before death. As a result of an analysis of the literature and his own observations, he believes that the eosinophile cells have not a single mode of origin, but may develop from neutrophilic granulations, or by a process of phagocytosis from altered erythrocytes, and they may arise in any of the tissues and organs. Those occurring in the sputum probably arise in the respiratory tract. They have no differential diagnostic significance in bronchiectasis, but occur in all forms of disease of the respiratory tract that are not associated with fever. In the febrile diseases, they usually appear after the active process has ceased. They probably act as a sort of sanatory police, guarding the organs against the invasion of pathogenic microbes, although this is not absolutely proved. [J.S.]

16.—Teichmüller gives a description of **eosinophilic bronchitis.** The pathology and etiology of this disease are unknown. It seems to bear some relation to the tuberculous diathesis, and may possibly be associated with alcoholism, lues, and neurasthenia in the parents. It appears to bear no relation to nasal disease. The exciting causes are various rheumatic influences, injuries, and exposures. The course usually exceeds 40 days and the disease can, therefore, be described as chronic. There is no marked disturbance of the respiratory rhythm, but the patients often complain of dyspnea and frequently take a pretty deep respiration. Coughing is a very common symptom. The expectoration is transparent, mucoid, but occasionally may be associated with pus. It is characterized particularly by the presence of a considerable number of eosinophile cells. Of the subjective symptoms, the most important are pains in the breast, headache, loss of appetite, vomiting, constipation, disturbed sleep, sweating, etc. Very rarely there is a slight elevation of temperature. Perhaps bacterial agents and certain irritating plants and parasites may be associated with it. The diagnosis is usually easy, but there may be some difficulty in discriminating it from tuberculosis, particularly when bronchiectasis is present. The prognosis is good. The treatment consists in careful regulation of the diet and hygiene, respiratory gymnastics, and in those cases dependent upon hereditary lues, potassium iodid. He gives a brief description of 15 cases. [J.S.]

17.—Posselt gives a very long and thorough review of the literature of the **alveolar echinococcus of the liver.** It is impossible to give a complete abstract, but he mentions as the most characteristic symptoms the increase in the size of the liver, the peculiar alteration in its shape, the increase in its consistency. The diseases with which it is confounded are adenoma, carcinoma of the liver, hypertrophic cirrhosis, cysts of the pancreas, tuberculosis of the liver, etc. Perhaps the most common conditions are the hypertrophic cirrhosis and primary carcinoma. Usually the echinococcus tumor occupies the right lobe, that is to say, it occurs in this situation alone in 65% of the cases, and in the left lobe alone in 10% of the cases. The increase in consistency can usually be detected in the patient; the edge of the liver being sharp and hard. Pain and tenderness may occur when the parasitic growth is at the surface, but is usually absent when it is deep in the substance of the liver. It is possible that the Röntgen-rays might aid in the diagnosis of doubtful cases. Among the general symptoms are icterus, which is usually extreme, and often precedes for many months ascites, which is much less frequent, and in a few cases a marked tendency to perspiration. There is usually constipation, which may continue until the end of the disease, when the feces may contain blood. Curiously enough, the body-weight remains almost constant, and this forms a characteristic differential symptom from carcinoma and hypertrophic cirrhosis. The appetite is good and cachexia therefore appears exceedingly late in the disease. Occasionally the patients become voracious and may, during these periods, slightly increase in weight. Usually the course of the disease is feverless. Among the complicating diseases is tuberculosis, which occurs in about 3% of the cases. Pathologically, we find that the spleen usually remains small, and therefore the spleen-liver index is high. In regard to treatment, various measures are employed. Puncture may be resorted to in the absence of severe inflammatory appearances when the tumor is fixed and when the wall of the cyst is not too rigid. This should usually be employed chiefly for purposes of diagnosis. Occasionally the cyst ruptures spontaneously, and if this should happen to be externally, the diagnosis is usually made very readily. The curious feature is the polyuria, which usually occurs in the noncachectic stages, and which Posselt suggests may be due to the functional hypertrophy of the kidneys. The disease is almost invariably conveyed, as is well known, by the lower animals, and particularly in regions where it is common, it is dangerous for children to be associated with dogs. It is most commonly found in Bavaria, Austria, Switzerland, and Würtemberg. It is very rare in other parts of the world. A large table is appended, giving in brief form the essential points in differential diagnosis of various forms of liver-disease. A full bibliography is appended. [J.S.]

18.—Wille gives a careful study of the subject of glycosuria, and then describes some investigations performed by himself on about 800 patients. Usually the subject, after passing the nocturnal urine, was given from 75 to 150 grams of glucose, either in pure or in commercial form. The urine was then passed at intervals of 2 hours, and each specimen examined quantitatively by various tests. The largest proportion of sugar was found in the first specimen. Several hundred cases were examined in this way, representing a great variety of diseases. The results were somewhat variable. Seventy-seven cases were fatal and autopsies were performed upon them, careful histologic studies being made of the pancreas in each. The results are presented in tabulated form. It seems that although disease of the pancreas does not invariably produce alimentary glycosuria, yet when the latter occurs regularly in any case, it is very likely that some pathological change has taken place in the gland. Alimentary glycosuria apparently represents an early stage of diabetes mellitus; not the common form, but that form known as pancreas diabetes. Wille therefore concludes that alimentary glycosuria is an important diagnostic indication for the existence of disease of the pancreas, and that occasional alimentary glycosuria does not exclude the possibility of the same condition. [J.S.]

19.—Herrmann reports 6 cases of **carcinoma of the lung** with autopsies. The variety of symptoms presented by these patients showed that the diagnosis during life is often either difficult or impossible. The most important sign is the presence of carcinoma cells in the sputum or in the fluid removed from the pleural cavity. These cells, however, do not enable us to diagnose the situation of the tumor; that is to say, a tumor with cylindrical epithelium may spring from an alveolus. Among the other symptoms is hemorrhagic exudate. This is particularly characteristic if at first puncture it is serous and subsequently assumes the hemorrhagic character. Occasionally there may be an exudative pleuritis or sclerotic pleuritis with retraction of the membrane. In some cases there may be suppuration in the pleural effusion. Another important symptom is the metastasis. This usually occurs in the axillary or clavicular glands. The physical signs are variable; there may be dulness from the beginning or only at the end. There may be bronchial breathing or a great variety of rales. The sputum is dark, often resembling that of pneumonia, and it may contain pus-cells, amorphous blood, pigment, and occasionally elastic fibers. Cachexia occurs later accompanied by carcinoma in other parts of the body. Frequently pressure symptoms are prominent. The tumor may compress the superior cava or some of the other veins, producing local edema. When the trachea is compressed there is a curious stridulous breathing, known as cornège. Pressure may also

be exerted upon the esophagus or upon some of the nerves. The differential diagnosis is most important from tuberculosis. In both conditions fever may be present, and of course the discovery of tubercle-bacilli would render confusion impossible. In both conditions fever and enlargement of the glands occur. In some cases the necrosis of the carcinoma gives rise to a copious expectoration somewhat resembling that of gangrene. [J.S.]

20.—Lommel has made 100 quantitative **estimations** of the amount of **oxalic acid in the urine and feces** of various persons. He used a modified method of Neubauer, but found upon applying this method to artificial urines that the error sometimes equalled 19%. The feces were dried, washed with alcohol and ether, and then digested with warm dilute hydrochloric acid, neutralized, and the estimation made by the same method. The experiments were made under various diets and after the ingestion of various quantities of potassium oxalate. He concludes that oxalic acid found in human urine is derived to a very small extent, if at all, from oxalates ingested. The greater quantity of the oxalic acid arises in the organism, and when the excretion is increased after taking large quantities of oxalates, the amount represents but a small portion of that ingested. There is no relation between the oxalates excreted and the decomposition of albumin, but food rich in nuclein causes a distinct increase, as does also food rich in gelatin-substances. [J.S.]

21.—v. Jaksch has performed a number of **experiments upon diabetics with arabinose, xylose and rhamnose.** He gives in detail his method for separating these different substances from glucose. The first experiment was made upon a patient 30 years of age, who was given 50 grains of arabinose and excreted about 50% of this. The second patient, 43 years of age, to whom the same quantity was given, gave the same result. A third patient, 15 years of age, excreted 82% of the amount ingested. He concludes that this substance, which is excreted in such large quantities unchanged, apparently causing an increased destruction of the albumin of the body, and occasionally producing diarrhea, can not be regarded as a satisfactory substitute for glucose. The second series of experiments were made with xylose. The patient received 28.5 grams and it was found that amounts that could be estimated by our quantitative tests were not excreted. There was, however, an increase in the amount of urine and in the amount of sugar. The second patient received 30 grams and excreted 0.89 gram. At the same time there was considerable increase in the amount of glucose excreted. The third patient gave essentially the same results. Although xylose is not excreted, it produces increase of the diuresis and an enormous increase of the destruction of the fats and albumin, and is equally unavailable as a substitute for glucose. The same three patients were given 50 grams of rhamnose each, the first excreting 28%, the second 33%, and the third 49%. There was no decrease in the quantity of glucose excreted, and diarrhea was produced. It, therefore, seems to v. Jaksch that these three substances are not adapted for the diseased human organism. [J S.]

22.—Richter reports the case of a man with a benign **stenosis of the pylorus** which was somewhat improved, as a result of constant lavage. From time to time the patient vomited large quantities of almost pure blood. There was obstinate constipation which was suddenly relieved, as he believed, by the removal of some obstruction which he assumed consisted of 3 cherry-stones and 4 mispel stones that he had removed by washing. He believed that he had eaten the fruit fully a year before. Richter believes that this was probably the case, the stones having become wedged in the pylorus, giving rise to a hard, palpable tumor. The patient appeared to be entirely cured. Chelmonski reports a case of pulmonary tuberculosis with frequent hemoptysis. Doses of potassium iodid (3 grains twice a day) appeared to have great influence in improving the condition of the patient. He believes that the chief indication is increase in the blood-pressure. [J S]

September 29, 1899. [Bd. 65, Heft 1 and 2.]

1. Concentration of the Urine and of the Blood in Renal Disease, with a Contribution to the Knowledge of Uremia. LINDEMANN.
2. Clinical Contributions to the Knowledge of Cardiac Arythmia, with Especial Consideration of Myocardial Fibrosis. EBSTEIN.
3. Pharmaco-Therapeutic Essays on Heart Disease. STADELMANN.
4. The Excretion of Uric Acid in the Urine of Gouty Patients, with Especial Consideration of Periods of Attack, and Definite Methods of Treatment. HIS, JR
5. Blood-Changes as a Result of Reduction of Temperature. REINEBOTH and KOLHHARDT.
6. A Case of Spontaneous Cure of Tuberculous Ulcer of the Larynx. EISENBARTH.

1.—The following points were determined: The total quantity of urine, its specific weight according to Westphal's scales; the total quantity of nitrogen, and of sodium chlorid, and the number of separated molecules by means of a determination of the **osmotic pressure of the urine**; the latter chiefly by means of the estimation of the freezing point. Elaborate investigations were first carried out upon normal urine, then in cases of diseased kidneys without marked induration, upon cases of acute parenchymatous nephritis, chronic parenchymatous nephritis, and in cases of contracted kidney, either the primary form or that secondary to chronic parenchymatous nephritis. The concentration was also determined in cases of febrile albuminuria, cystitis, pyelitis, pyelonephritis. As a result, Lindemann concludes that the concentration of the urine may be estimated with great exactitude by determination of the freezing-point. It renders possible the separation of the two forms of albuminuria, that with and that without coincident nephritis. The freezing point of normal urine ranges between — 1.3° and — 2.3°, and although the extreme limits extended from — .9° to — 2.7°, they very rarely occur under normal conditions, while in abnormal conditions the freezing point is usually lower than — .1°. In the parenchymatous forms of acute nephritis, the diminution of concentration is not so marked; in the interstitial forms it is very pronounced. Sometimes in the latter case the urine may even have a freezing point that is less than that of normal blood-serum. Although no distinction can be recognized between acute and chronic parenchymatous forms by this means, it enables us to appreciate the restitution of function; or, on the other hand, if the freezing point becomes lower, it indicates transition to contracted kidney. Other forms of albuminuria are characterized by the absence of the diminution of the freezing point, with the exception of states of collapse, when pronounced concentration of the urine is present. When in cystitis and pyelitis concentration suddenly occurs, it indicates involvement of the renal tissue. If the total quantity of the substances excreted in the urine is estimated in cases of real inflammation, the results often indicate a retention of a certain proportion in the system. A series of investigations was also made upon the blood in which the specific weight and the freezing-point were carefully determined. It was found that in uremic conditions the freezing-point was increased. Experiments upon dogs in whom artificial uremia was produced by the ligation of the ureters gave similar results, and it was found that the symptoms were due largely to the diminution of water in the tissues, for similar symptoms and results were obtained in dogs in whom artificial dryness of the tissue had been produced, either by withholding water or by injecting strong solutions of sodium chlorid. Lindemann concludes that in nephritis, concentration of the blood-serum is normal as long as any uremic symptoms are present, but the freezing point is increased often to — 0.7° as soon as uremic manifestations appear. This increase in osmotic pressure is a general expression of the uremic disturbances, which are also produced by the injection of large quantities of concentrated saline solutions, if the elimination of the materials from the blood is no longer possible on account of the exhaustion of the tissues. [J.S.]

2.—Ebstein, as a result of the study of 21 cases of **heart disease, without arythmia,** and of 15 cases with arythmia, concludes that arythmia is the expression of an increased demand upon the heart when its cavity is overfilled with blood, when there is disturbance in the relation between the resistance in the general circulation and the strength of the heart-muscle; but that the existence of arythmia does not indicate in any way the particular form

f cardiac disease. Among the most common causes of rythmia are myocarditis fibrosis, the myofibrosis cardis, he fibroma of the heart, and the wall thrombus. [J.S.]

3.—Stadelmann has **investigated clinically** a number f **drugs.** Erythrophleim was tested upon 35 cases; 5 of hese cases showed but slight benefit, in 12 there was no ffect, but all 17 were subsequently improved by the admin- tration of other cardiac tonics, such as digitalis. The emaining 18 cases were not improved, 4 were not given rther treatment, and 14 did not improve upon the adminis- ation of other cardiac tonics. Therefore, it appears that his drug is practically useless in heart disease. Atropin was ractically useless, occasionally it increased the frequency f the heart, but this was accompanied by a decrease in the ze of the pulse-wave, and the patients complained of the sual disagreeable symptoms of the drug. It, therefore, eems likely that at most it can only occasionally be used in he diagnosis of heart disease. Nicotin occasionally pro- uces a slight increase in frequency, and may in cases of chycardia cause slight slowing of the pulse, but it pro- uces disagreeable subsidiary effects, and is practically use- ss. Pylocarpin appears to be equally valueless. Hyoscin oduces no influence upon the heart except in doses that oduce dangerous secondary effects, and physostigma does ot appear to have produced any beneficial results in a mall number of experiments. [J S.]

4.—His has made a number of estimations of the amount **urine,** its **specific gravity,** and the amount of **uric** cid that it contains in patients suffering from **gout,** with e hope of determining whether there is an increased mination of uric acid during the attack, or if in any other ay any influence can be detected upon the excretion of this bstance. He finds that the average quantity of uric acid creted daily by gouty subjects is the same as that excreted healthy persons. In both, considerable variations may cur as the result of some causes that it has not hitherto en possible to determine. An acute attack of gout, how- er, is practically invariably introduced by a very marked pression in the quantity of uric acid, or even its complete appearance. This occurred on the day before the attack 10 instances, 2 days before the attack in 2 instances, and 3 ys before the attack in 3 instances. It was slight in 2 stances, and absent in only 2. It is probably due to the position of the uric acid from the blood, and the increased mination which almost invariably follows during the first e days succeeding the attack is possibly due to the elimina- n of this deposit of the uric acid by the action of the leu- cytes; but in gout, even during the attack as well as in e intervals, the average daily quantity of uric acid is not ered. A series of experiments were then made with ious drugs in order to determine their effects upon the mination of uric acid. The most important were made h the alkalies, such as sodium bicarbonate, Fachinger ter or salt, but none of them showed any distinct influence on the excretion of uric acid. The same is true of vege- le acids, such as lemon juice; lithium curiously enough sed a slight diminution in the quantity of uric acid reted, although it is possible that this alteration may have en due to some complicating circumstance. Piperazin, idin, urocedin and urotropin, all gave practically negative ults. Colchicum produced a very marked increase in the mination of the uric acid, although the experiment was sufficiently thorough to be satisfactory. [J.S.]

5.—Reineboth and Kolhhardt have exposed a number of bits for a period of 5 minutes in water at 2° C., **estimating e hemoglobin** at varying intervals after this time. In all es there was a distinct decrease in the hemoglobin, and in number of red and white corpuscles. Successive estima- ns showed that this effect persisted for a number of days, l successive immersions always produced again a con- erable decrease. In one instance this was associated with enormous enlargement of the spleen. A series of spectro- pic analyses of the blood-serum diluted with water were n made, and it was found that exposure to cold produced endency on the part of the hemoglobin to enter into solu- n in the serum. [J S.]

6.—Eisenbarth reports a case of a man, 47 years of age, fering from tuberculosis of the lungs and intestinal tract, o, at one period in the course of the disease, suffered from er in the larynx. This was not treated in any way, but symptoms gradually disappeared, although the voice remained very hoarse. At the autopsy a healed ulcer was found. [J.S.]

Archiv für klinische Chirurgie.

[Band 60, Heft 2.]

11. The Influence of the Loss of the Thyroid Gland on the Healing of Fractures. MAURICE STEINLIN.
12. On Disease of the Cecum. RENVERS.
13. Stoppage of the Intestine by a Compress. REHN.
14. Intestinal Obstruction from Gallstones. REHN.
15. Communications as Regards Ileus. PRUTZ.
16. The Operative Treatment of Tubercular Disease of the Elbow and its Results. A. OSCHMANN.
17. The Treatment of Bullet Wounds. WIERMUTH.

11.—Steinlin has given us the results of a very interesting research on the influence of the loss of the **thyroid gland** on the **healing of fractures.** He has shown that the absence of this gland materially affects the normal healing of a fracture. There is a delay in the development of both the callus and the following retrogressive metamorphosis. For the first 2 weeks no difference microscopically could be seen, but by 3 weeks the fracture in the normal animal was almost completely ossified, whereas in the animal from whom the thyroid gland had been removed the callus consisted almost entirely of pure cartilage. Even after 11 weeks there was still some cartilage present around the fracture in those animals who had had their thyroids removed, but complete ossification did finally take place. The formation of the new medullary canal began during the eleventh week, but was not completed 24 weeks after the fracture. The callus in the animals deprived of the thyroid gland is smaller than in normal animals during the stage of development, but during the stages of retrograde metamorphosis it is larger than normal. The difference in the healing of fractures between normal animals and those deprived of their thyroids is greater the longer the time since the removal of the gland to the time of fracture. [G.B.W.]

13.—A woman, 32 years of age, was operated on for **ruptured pyosalpinx.** The existing peritonitis disappeared after the operation, and except for a small fecal fistula which, however, closed spontaneously, she made a good recovery. About 4 months later, one day after an indiscretion in diet, she developed gastric pain which increased so that in the course of a day or two she was taken to the hospital. The symptoms which were then present were those of intestinal obstruction and 3 days later, as the obstruction had not disappeared, laparotomy was again undertaken. The peritoneal cavity contained a slight amount of peritoneal fluid. A portion of the intestine, which looked as though it were the seat of a new growth, was brought out into the wound. As it was also gangrenous, 40 cm. were resected and an end-to-end anastomosis done. The abdomen was closed and the patient made a perfect recovery. The resected **intestine,** when opened, was found to **contain** a closely rolled **compress.** The compress had probably been left in the abdomen at the previous operation and had ulcerated through into the intestine. There was a possibility, however, of its having been swallowed. [G B.W.]

14.—The case which started Rehn on the subject of **intestinal obstruction from gallstones** was that of a woman who on examination was found to be suffering from symptoms of intestinal obstruction. No reason for the condition could be found until at the operation 2 gallstones larger than walnuts were found in one of the deep loops of the ileum. Recovery followed their removal. As to the position where the gallstones are most commonly found, it has been shown that the lower part of the ileum is the most common seat, although they may be found in almost any part of the intestinal tract. The etiology of the intestinal occlusion, in cases where the stone is disproportionately large for the intestine, is easy; but those cases, and they form the majority, where the stone is found to lie loosely in the lumen of the gut have occasioned a great deal of theorizing as to how the complete obstruction is brought about. Rehn gives the following as the course of the gallstone after it has gained the intestine either by the natural passage or by perforation. The stone is very slowly and intermittently forced by the peristalsis along the intestine. Sooner or later by pressure on the mucous membrane a small ulcer is pro-

duced. The consequent irritation produces local contraction of the intestinal wall and the stone is forcibly held and pressed against the mucous membrane. The ulcer from the increased irritation and bacterial invasion deepens and broadens and a local peritonitis results. The inflammatory process keeps up until a local paralysis of the bowel takes place or possibly gangrene sets in. Thus it is shown that the intestinal obstruction is not, in the cases of stones smaller than the lumen of the gut, due to mechanical blockage but to inflammation the result of the irritation of the foreign body. As to treatment, although 44–56% of cases are said to recover when left alone, the only rational method to pursue is to remove the stones by operation. [G.B.W.]

15.—By the term **ileus** Prutz includes all those cases of tumors or other pathologic conditions which stenose the lumen of the intestine. He reports 36 cases altogether. Of the cases of volvulus there were 4 of the sigmoid flexure, all of which recovered; one of the cecum which died, and 3 cases of the ileum, 2 of which died. There were 7 cases of intussusception with 2 deaths, all being of a chronic variety. In the 4 cases in which a complete resection of the intussusception was done, all recovered. In 8 cases the stenosis was due to constrictions and bindings caused by band-adhesions which, in their turn, were the result of either puerperal sepsis, removal of a myoma, perityphlitis, tuberculosis of the peritoneum or perforation of a typhoid ulcer. Three of these cases died, one death being due to the lateness of the operation, another to insufficient operation, and the last to the use of a Murphy button which ulcerated through the intestinal wall causing a perforation. Of primary carcinomas there were 8 cases with 5 deaths, and 5 of the 8 were situated in the sigmoid flexure. Three cases of metastatic cancerous occlusions were reported, and in one of these cases there were two separate occlusions of the intestine, one following the other within 5 days. One case of stenosis from a tubercular cicatrix and one case from the pressure of a pelvic sarcoma were also reported. [G.B.W.]

16.—In this, the second part of his paper on the **operative treatment of tuberculosis of the elbow-joint,** Oschmann basis his remarks on observations of 45 old cases in whom considerable time had elapsed since the excision, and thus a chance to find out the permanency of the results obtained. Of the 45 cases, 15 have died, and 10 of these, from some tubercular condition. The time between the operation and death varied from ¾ to 22⅓ years, and in none of the cases was the death a direct result of the operation. The general health of the patients was better after the operation than before it. As to the local result there was no case in which the arm was perfectly useless, and in 68.97% the arm and hand were capable of doing heavy, hard work, while in 31.03% only light work could be done. Flexion and extension was normal or nearly so in 59.3%, while ankylosis occurred in 11.1%. Rotation was normal or nearly so in 46.2% and absent in 11.5%. The form of the joint in many cases was almost normal in appearance, in 96.7% the elbow was healed and painless, in 3.3% a fistula was present, in 3.3% suppurating glands, in 20% luxation and subluxation and in 16.7% a flail-like joint resulted. As to the permanency of the results obtained, out of 30 cases, in 26 the condition improved by time and use, and in none did the elbow become less useful. Flexion of the hand tends slowly to improve, but extension shows an inclination to become less. The principal result of x-ray examination of these elbow-joints was to show the strong tendency to enlargement of the condyles of the humerus and in general of the thickening of the whole lower end of the humerus. There is sometimes an overgrowth of the coronoid process to such an extent as to hinder flexion of the arm. Fear of development of a miliary tuberculosis should not be considered as an indication for resection of the elbow, and on the other hand a fear of miliary tuberculosis as a result of the operation should not be taken as a contraindication; 70.6% of the cases when operated on showed other tubercular conditions than the elbow disease, but of these same patients when examined in 1898, in only 22.2% could tuberculosis be located in the other organs, showing a strong tendency towards healing when the original seat of the injection had been removed. Oschmann does not encourage the conservative method of treating tuberculosis of the elbow, but believes in operating as soon as pain and disability force the patient to see a physician. The operation employed in the cases herewith reported was at first that of Ollier's, though somewhat modified, but since 1888 Kocher's method has been employed, and it has the advantage in that it spares the nerve supply to the anconeus muscle. When this muscle is spared extension is stronger and more complete. Kocher's operation also is productive of more satisfactory results because the artificial formation of a new olecranon prevents an anterior luxation. [G.B.W.]

17.—Wiermuth's paper on the **treatment of bullet wounds** is based on the study of 132 cases from Braumann's clinic in Halle. The indications for primary trephining in cases of penetrating wounds of the skull are: (1) Where the bullet is situated very superficially; (2) where there is profuse hemorrhage from the art. mening. media or other branches; (3) where symptoms of irritation appear soon after the injury showing the lodgment of the bullet or of a splinter of bone in the motor centers. The encapsulation of the bullet in the brain is not a rare procedure, but is the most common sequence of its lodgment. Also in the non-penetrating wounds of the head a strong tendency existed towards the healing in of the missile. In one case the odontoid process had been broken off and a twisting motion by the patient forced the process into the spinal cord causing immediate death. In the majority of cases where the trachea or larynx is wounded tracheotomy is necessary. In one case, in which the 3 lobes of the right lung were perforated by the bullet, no symptoms of lung-injury could be found or detected. In cases of gun-shot injury of the abdomen, where there is a possibility that the peritoneal cavity has been penetrated, the bullet-track is to be enlarged, and if penetration has occurred, immediate laparotomy should follow, and a search for injury of the intestine instituted. Severe shock is a contraindication to operation, but one must not overlook internal hemorrhage as a possible cause of the symptoms. Advanced peritonitis is another contraindication. Speaking of bullet wounds in general two classes of cases exist, first, those in which there is great destruction of the soft parts, and, second, those where both the entrance and exit wounds are small. In the first class the edges of the wound should be thoroughly freshened and this projectile removed when practicable. In the second all operative procedures should be avoided unless suppuration occurs. Exceptions to this rule are penetrating wounds of the abdomen and in some cases those of the brain. Generally, we should not bother about the bullet, but allow it to become encapsulated, and when necessary it may be removed secondarily. [G.B.W.]

Sundry French Journals.

1. Studies of the Pathogenesis of the Gastrointestinal Infections of Infants. PIERRE NOBÉCOURT. (*Gaz. Heb. de Méd. et de Chirur.*, July 30, 1899. 46me Année, No. 61. Paris Thesis, 1898 99, No. 348.)
2. Contribution to the Study of Bismuth Salicylate, Salicylic Acid, and the Uric-Acid Diathesis. THABIUS (*Gaz. Heb. de Méd. et de Chirur.*, December 31, 1899. 46me Année, No. 105. Paris Thesis, 1899–1900, No. 75.)

1.—Nobécourt calls attention to the rarity of agglutination of the Bacillus coli communis by the blood-serum of patients suffering from gastrointestinal diseases, and to the fact that if agglutination does take place, it is not in relation with the virulence of the colon-bacilli isolated from the stools. Agglutination, furthermore, does not permit one to group the colon-bacilli of the summer infections in a special class. Again, the Bacillus coli communis is not the only microorganism that is responsible for these summer diarrheas, since streptococci, proteus vulgaris, and Bacillus pyocyaneus have been found. The author thinks that in infants the association of the streptococcus and the colon-bacillus plays an important role in pathogenesis. An association of the Bacillus coli communis and the Bacillus mesentericus is also often seen in such cases. [J.M.S.]

2.—Thabius demonstrates the inferiority of **bismuth salicylate** to bismuth subnitrate. The former drug precipitates the albumenoid ferments and, therefore, it has an unfavorable action in gastric affections. Bismuth salicylate acts by virtue of the salicylic acid that it contains and, on that account, dyspepsia, renal affections, old age, atheroma, pregnancy, and nervous diseases, in which salicylic acid is contraindicated, also contraindicate this salt. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Iodinpyrin.—This is a combination of antipyrin and iodin, containing 40% of the latter. It is without odor and taste. With acids it forms salts. Junkers (*Therapeutische Monatshefte*, November, 1899) has employed the hydrochlorate for the last eight years in a variety of diseases. As iodinpyrin hydrochlorate is insoluble it is best given in powder. The dose for an adult is 15 grains every 3 or 4 hours; for a child, 2 to 10 grains three or four times a day. In these doses the drug proved very useful in muscular rheumatism. In acute articular rheumatism it had great advantage over salicylic compounds in not causing any unpleasant by-effects. Pain at the beginning of menstruation was relieved by suppositories containing from 8 to 15 grains of the drug, and employed every two or three hours. In some cases of chronic rheumatism iodinpyrin gave rise to the usual phenomena of iodism.

Dysuria from Uric Acid.—

℞.—Benzoic acid.....40 grains.
Borax.....40 grains.
Water..... 8 ounces.
Two tablespoonfuls every 2 hours.

—*Canada Lancet.*

Methylene-Blue in Malaria.—Smithwick (*Merck's Archives*, February, 1900) reports a series of 50 cases of different types of malaria in all of which he administered methylene-blue. These cases were not selected, but for a certain period every person whose blood showed the parasite was given the drug. In all cases the alimentary canal was cleansed with calomel and soda. All recovered except 7, and 3 of these refused to take methylene-blue after the first two or three doses; the four others were in a very bad physical condition, and died in a short while from organic disease. The usual dose was 2 grains 6 times daily, in pills or capsules. Of the 50 cases there were 24 of the quotidian type, 14 of the tertian, 3 of the quartan, 5 of the estivoautumnal, 3 of the hemorrhagic, and 1 of the double quotidian malarial fever. In the hemorrhagic type methylene-blue seemed to be a remedy with a twofold effect—that of a parasiticide and diuretic. After its administration was begun the urine cleared up, and there was no return of the paroxysm. In all cases treatment was continued 10 days after the last chill. From the reports of others and his own observations the writer draws the following conclusions:

1. Methylene-blue is a perfect succedaneum for quinin, and may be given whenever the latter drug is indicated in the treatment of malaria of every form and under all conditions, with the same confidence that has always attended the administration of quinin.
2. Patients need not be selected on account of idiosyncrasies, as no bad effects ever follow the use of methylene-blue, if given intelligently.
3. It is the remedy to use in malaria with hematuric complications, as it acts in a twofold manner.
4. It is the remedy to be given in malaria occurring during the pregnant period, as it has no oxytocic effect and will cause a freer action of the kidneys, which is also beneficial.

Gout.—

℞.—Lithium benzoate..... 2½ drams.
Sodium phosphate..... 5 drams.
Tincture of colchicum root..... 2½ drams.
Cinnamon water to make 4 ounces.
A dessertspoonful 2 or 3 times daily.

—Butler, in *American Therapist.*

Hyperchlorhydria.—Einhorn (*Twentieth Century Practice*) writes: Cold sponge-baths in the morning for ten minutes before breakfast and exercise without overexertion during the day must be prescribed. As to diet, all substances that are likely to intensely excite the glands of the stomach, *e. g.*, acids and spirits, must be excluded. The food should be rich in albumen. Starchy substances should be diminished. Three large and two small meals should be taken daily. The two smaller meals should consist of a glass of milk, with bread and butter, or like fare. The food must be thoroughly and slowly masticated. A rest of at least fifteen minutes should be taken after each meal. In the way of medication, alkalies are indicated, from ½ to 1 dram of bicarbonate of soda should be given three times a day two hours after meals, with the addition of magnesia and rhubarb, when there is constipation. This treatment can be continued for very long periods without any ill effects whatever. When the nervous element is pronounced one may make use of the following:

℞.—Strontii bromid..... 3 drams.
Peppermint water.....15 drams.

Teaspoonful three times a day in milk at meal times. This may be taken for a week or two, then discontinued for a short time, and again taken. The use of electricity may be necessary. The faradic current is applied directly to the inside of the stomach. If the pain is great galvanization must be substituted.

Trigeminal Neuralgia.—

℞.—Tincture of aconite.....½ dram.
Tincture of gelsemium .....5 drams.

Ten drops every 20 minutes, not, however, exceeding 8 doses, and stopping earlier if any tingling is felt in the tips of the fingers.—*Therapist.*

Tuberculosis after Thoracentesis.—Pinquet (*Thèse de Lyon*, 1899) believes with Mollard that the evacuation of the effusion in serous pleurisies is often followed by the development of pulmonary tuberculosis. It is claimed that the fibrinous exudate on the pleural surfaces is loaded with tubercle-bacilli, and that the invasion of the lung by the latter is more readily effected when the surfaces are in contact. The effusion, moreover, prevents friction, keeps the inflamed parts at rest, and exerts a decided bactericidal action. In view of these facts the writer believes that aspiration should not be resorted to unless rendered absolutely necessary for the relief of pressure-symptoms, and even then only as small amount of fluid as possible should be removed. Mollard holds that interstitial pneumonia of pleuritic origin is infrequent, and that in many cases the adhesions remaining after pleurisy do not materially interfere with the full expansion of the lung. Pinquet concludes that as most cases of primary pleurisy are of tuberculous origin, the patient should be treated as one having tuberculosis.

Bromidrosis of the Feet.—Weber (*Journal des Praticiens*) recommends the following:

℞.—Pulverized talc.....1½ ounces.
Bismuth subnitrate .....1½ ounces.
Potassium permanganate..... ¼ grain.
Sodium salicylate..... ½ dram.
Apply over the feet and between the toes.

Chronic Catarrh of the Bile-ducts.—Mayo Robson (Allbutt's "System of Medicine") writes: A tumblerful of the natural Carlsbad water, with a little hot water, taken before breakfast each morning; and every other morning, in addition, a dose of Carlsbad salts, or sulfate of magnesia, are undoubtedly useful; as is also an alkaline tonic dose containing soda and nux vomica taken before lunch or dinner. The spasmodic attacks may require the administration of a sedative: if slight, a grain of exalgin in hot water, repeated in half an hour, will often relieve the pain; or 20 drops of spirit of ether in half an ounce of chloroform water, the dose to be repeated every fifteen minutes until relief is afforded. The application of hot fomentations, and the administration internally of a pint of hot water. will at times afford efficient relief; but in some cases nothing short of a subcutaneous injection of morphia will suffice. If after a few weeks of general treatment, the symptoms are not relieved, the disorder will probably be attributed to gallstones and operative treatment will be considered.

Iodin in Scurvy.—According to the *American Journal of Medical Sciences*, February, 1900, Martinord reports that 4 or 5 drops of the tincture of iodin in a small glass of brandy, thrice daily, relieved in a few days, and soon cured a patient under his care. A second instance, even more remarkable, was one showing much subcutaneous hemorrhage, gangrenous wounds, and diarrhea.

Antipneumococcus Serum in Pneumonia.—McFarland and Lincoln (*Journal of the American Medical Association*, December 16, 1899) state concerning this treatment that in the few observations that have been made by other writers, varying success is reported, but enough cases have been treated to give a very hopeful outlook for the future of serum-therapy in pneumonia. The most important observations made are as follows:

DeRenzi, in 1895 and 1896, studied, comparatively, 13 cases of pneumonia treated without the serum, with 3—23% —deaths, and 14 cases treated with the serum, with 2—14% —deaths. In the latter series, one was *in articulo mortis* when treatment was begun, and the other had renal and arterial disease apart from the pneumonia.

Cooke treated 2 patients, Spurnell and Fanoni 1 each with antipneumococcus serum from different sources with good effect and ultimate recovery.

Pane treated 9 cases with an average of 20 c.c. of antipneumococcus serum each day. All of these recovered except one, in which the treatment was begun late and an insufficient quantity of the serum administered.

Washbourne treated 6 patients, some of them very severe, with his serum, and had excellent results, all of his cases recovering.

Stimulating Liniment.—Huchard (*Journal des Praticiens*, February 10, 1900) recommends the following combination as a stimulating liniment:

℞.—Menthol	8 grains.
Thymol	8 grains.
Turpentine	1 ounce.
Spirits ot lavender	2 ounces.
Spirits of juniper	4 ounces.

Pleural Empyema in Children.—Vaux(*Montreal Medical Journal and Scottish Medical Journal*, January, 1900) writes that there are three indications for aspiration—(1) for the temporary relief of dyspnea; (2) to obtain pus for bacteriological examination in order to determine the most suitable operation; (3) to establish a diagnosis. He emphasizes the necessity of exploring immediately before operating, even if pus has already been found, since the first aspiration may have completely drained a small empyema. The presence of indol in the urine is a valuable aid in the diagnosis of empyema, since absorption of pus takes place from the pleura to a notable degree, thus differing from a mammary abscess, for example, whose pyogenic membrane prevents its occurrence to so marked an extent. As regards the choice of operation, Vaux advises resectiou of a rib (1) in tubercular cases; (2) in long-standing cases with thickened pleurae; and (3) in some cases of streptococcal infection. Simple incision has the advantage of simplicity and rapidity, and probably leads to a more speedy recovery. It is indicated (1) in all cases where even the slightest shock must be avoided; (2) when time is the first consideration; and (3) in the empyema of healthy children, where only sero-purulent fluid is present.

Pills of Silver Nitrate.—According to the *Journal des Praticiens*, the following is a useful formula for the exhibition of silver nitrate:

℞.—Silver nitrate	$1\frac{2}{3}$ grains.
Dehydrated sodium sulfate	8 grains.
Kaolin	15 grains.
Distilled water	10 drops.

Make into 20 pills. Each pill contains $\frac{1}{12}$ of a grain.

The Serum Treatment of Syphilis.—Neuman (*Wien. med. Woch.*, September 30, 1899, and the *Medical Review*, London, January, 1900) summarizes the results obtained. Antitoxic serum is usually obtained by the repeated injection of the pathogenic organisms or their toxins into susceptible animals until immunity to the disease is produced. Since neither the organism of syphilis nor its toxins are known this is impossible in this disease, and the means tried have necessarily been founded on different principles.

1. Tommasoli, Kollmann, Fournier, Richet, and others injected the blood-serum of naturally immune animals such as lambs, calves, rabbits, or dogs. Though the first-named writer claims to have obtained cures, the results have been mostly negative, and it is improbable that natural can take the place of artificial and specific immunity, especially in the small quantities in which the serum is employed.

2. Others have tried to produce an antitoxic serum by imitating the process employed in diseases in which the specific cause is known. Thus, Richet and Héricourt injected blood from patients with recent untreated syphilis into dogs and asses, and claim to have obtained a rapid cure of ulcerating syphilides, and of syphilitic ataxy, by the injection of 6 cc. of the dog's serum. Gilbert and Fournier, supposing that the specific cause of syphilis was present in the primary sore and the local eruption as well as in the blood, not only injected syphilitic blood, but transplanted primary sores and mucous patches into the subcutaneous tissue of dogs and goats. One to 3 injections of the serum of these animals were given in doses of 8 to 20 cc. to 17 patients. Two cases which had been wholly refractory to mercury alone were cured by 2 injections, and 3 of 10 cases treated exclusively with the serum improved, the eruption fading and mucous ulcerations healing. In the others the results were negative or doubtful.

3. The blood of syphilitic men, which theoretically should be rich in active antitoxins, has been employed. It is doubtful whether the necessary venesection is justifiable in a disease accompanied by anemia. Italian and Russian authorities have employed the filtered serum of blood obtained from robust individuals with tertiary syphilis, 4 to 30 cc. being injected every other day under the scapula. No complaint followed; the patients gained weight, and ulcers, roseolous eruptions, hypertrophic mucous patches, iritis and glandular swellings healed or disappeared with 3 to 15 injections. Relapses occurred, however, and were less amenable to the treatment.

4. Tarnowsky claims to have produced symptoms of syphilis in young foals by inoculating them with moist condylomas. The serum obtained from them, however, had no curative effect on human syphilis. He then tried the serum of mercurialized animals, but this proved useless and dangerous, leading to fever, albuminuria, purpura, etc.

5. Boeck states that he obtained good results in recent syphilis by injecting hydrocele fluid taken from syphilitic individuals.

6. Bonaduce injected the serum obtained from the healthy mother into congenitally syphilitic children, and also employed the serum obtained from the children of the same family who had escaped syphilis, and reports cures. This treatment is based on Colles' law.

At present these results, though suggestive, are too contradictory to be of much practical value.

An Application to Shorten the Period of Desquamation in Scarlet Fever, and to Diminish the Risk of Infection.—Williams (*Boston Medical and Surgical Journal*, September 14, 1899) recommends the rubbing of the patient daily with the following mixture:

Glycerin	1 part.
Hydrogen peroxid (10 vol. solution)	7 parts.
Hydrochloric acid to make $\frac{1}{20}$ to $\frac{1}{10}$% solution.	

A quarter of the body may be rubbed at one time.

The Schott or Nauheim Treatment of Heart Disease.—Broadbent (*Heart Disease*, 1900) writes concerning this treatment: In cases of cardiac dilation from loss of tone of the heart-muscle after influenza or some depressing disease, it may be of great service, and effect a cure where drugs and other treatment have failed. In many cases of functional and neurotic heart disease, which are very common and difficult to deal with, it may also give satisfactory results. In valvular disease it is of course unnecessary, when compensation is established and no symptoms are present. When compensation has completely broken down, it is not advisable, as rest in bed and suitable treatment by other means will be more efficacious. It cases of mitral disease, more especially mitral stenosis, when compensation is just maintained with difficulty, and when the degree of stenosis is such that increased contractile power of the right ventricle induced by digitalis would be useless or harmful, it may be of great service. In aortic disease it is not advisable, owing to the risk of syncopal attacks, though when compensation is breaking down and mitral symptoms are present, it may sometimes yield good results. In adherent pericardium with threatened compensatory failure, it may be of service.

Original Articles.

SELECTIONS FROM THE LANE LECTURES,

Delivered at Cooper College, San Francisco, Cal., 1898.

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Lecture II.—Diseases of the Arteries.

(Concluded from page 582.)

Again, if such antecedents as syphilis, abuse of alcohol, and so forth, are found in cases of arterial disease, shall we not add them also to the causes of it, either as cooperative with strain or in some cases as acting independently? When we look well into the matter we find that, as regards alcohol and some other alleged causes of arteriosclerosis, the amount of evidence in support of this imputation is very slender. Whether alcohol alone be capable of setting up arteriosclerosis, is to my mind very doubtful; that it may set up a fatty degeneration of the intima in patches, there is no doubt; this, however, is a process of no very grave clinical consequence. Many atheromatous patients have abused alcohol, as many of them have abused their sexual powers, or have worn bad hats; but that in them the alcohol was more than a contingent and auxiliary cause of the atheroma is unproven. It has not been shown that atheroma is a constant or even a prevailing feature of alcoholism considered apart from syphilis, gout, strain, and hereditary habit. As to some other alleged causes of arteriosclerosis, such as the use of tobacco, we can only wonder at the levity which dresses up vague clinical impressions in the guise of practical axioms. To speak of heredity, again, as a cause is incorrect and mischievous; mischievous because it is to fill ourselves with husks. Heredity is to be regarded as the persistence of a cause—such, for instance, as syphilis—in spite of an apparent solution of continuity; of the cause itself it tells us nothing; nevertheless, I hear daily that heredity is one of the "causes" of such and such a disease. Whether, as I have said, there is in some persons an initial vulnerability of the arterial tissues, or, on the other hand, an inclination to engender some humor destructive to these organs, and, if so, whether this be gout or some dyscrasia allied to gout, or some morbid bent independent of gout, or both, we can not tell. Whatever it be, though often found in alliance with mechanical strain, it seems capable of producing the worst effects without any such ally. I have often noted contracted pupils in the atheromatous, but this association may be fortuitous.

Among the consequences of arterial disease aneurysms, large and small, take a prominent place. Omitting such peculiar conditions as the aneurysms of pulmonary cavities, illustrative as they are, we may divide these diseases clinically into four classes; namely, the large fusiform aneurysm; the large sacculated aneurysm; the small thin-walled aneurysm, most frequent in the cerebral arterial system; and, finally, the miliary aneurysm. The fusiform aneurysm is not a very well-marked division; it may be anything from the mere dilation, yielding or bulging of the aorta found in almost all cases of atheroma of any kind, and the circumscribed expansion which in the experience of many of us is especially, though by no means always, associated with syphilitic arteritis. Of the sacculated aneurysm I believe that in about nine cases out of ten it is the joint product of syphilis and mechanical strain. I believe that in rare and usually unmistakable instances aneurysm is a consequence of mere strain; I say "unmistakable" because in my experience such cases have been directly traumatic rather than results of mere muscular effort. To move to the opposite extreme, we see no doubt, though rarely, the establishment of sacculated aneurysm without the intervention of strain, even of the ordinary muscular kind; as, for instance, in delicately nurtured women. Aneurysm may appear in a woman who has never labored with her body, and in whom syphilis may certainly be excluded—at any rate acquired syphilis and all known signs of the inherited disease. I have seen two such cases at least. In women sacculated aneurysm is seen more frequently in those in whom syphilitic infection had occurred, but even then it occurs rather in women who have had to earn their bread by physical exertion. Such female cases of course take a place beside those in men at once syphilitic and laborers or athletes. Perhaps 90% of sacculated aneurysm is found in persons at once syphilitic, and subject to muscular stress; whether there be a definite report of strain or not. In this estimate I go a long way with Dr. Drummond and other authors; but I do not agree with the farther assumption that the remaining fraction is therefore to be interpreted in the same way. One definite exception is sufficient to overthrow such an axiom, and many exceptions I have certainly taken.

One of the two cases to which I have referred was in a lady whom I saw occasionally with Mr. Nash, of Bedford, for aneurysm of the descending thoracic aorta. In her case Mr. Nash and others made close, I may even say skeptical, inquiries, but without discovering the least evidence, direct or indirect, of infection, but with the discovery of a very remarkable history of a hereditary tendency to aneurysm in her family. The second patient, a tranquil maiden lady, who at the time of my first visit was some 35 years of age, I saw several times in Doncaster, for aneurysm of the arch of the aorta with implication of the innominate. In her case muscular strain was as much out of the history as the risk of specific poison of the kind under consideration. In her family, too, we found evidence of a strong tendency to atheroma; more than one of them, thus affected, came under my own observation. Aneurysm then, in the majority of instances, seems to be the result of syphilis and labor together, not often of either alone; and without the one or the other of these causes is very rare; in these rarest cases we are likely to find a strong bent to arterial disease in the family, and of course in persons so predisposed strain by muscular effort is a matter of degree; yet, as a result of atheroma alone, aneurysm is rare even in men. Aneurysm is not a senile disease; it is a disease of the prime when muscular stress and syphilis work together.

Much of the atheroma found in a vessel about an aneurysm is secondary to the latter, and that aneurysm may be independent of atheroma is well illustrated by some cerebral aneurysms in which it can scarcely be said that these two conditions stand in any causal relation one to another, except now and then under peculiar circumstances. Occasional aneurysms of the cerebral arteries, as opposed to the miliary variety, are not an appanage of old age, and they are usually due to embolism; an embolus damages the vessel at the point

[1] The concluding lecture on Medicine of the Nineteenth Century was published in the Philadelphia Medical Journal columns on December 17, 1898.

of its arrest, and there an aneurysm is apt to be formed. If the embolus be charged with toxic or microbic elements the damage to the vessel will be the greater. These cerebral aneurysms are not self-protected by deposit of clot to the same degree as on the larger arteries of the thorax; they are thin walled and extensile, and lamination, if present, is thin too. An apoplexy in a comparatively young subject is usually due to the rupture of such an aneurysm, probably on the Sylvian artery or one of its branches, or on the basilar. Dr. Tooth states in my System of Medicine that an aneurysm of this kind was found in 18 out of 108 cases of cerebral hemorrhage of all kinds which he has tabulated. Some cases of remittent symptoms of tumor of the brain have been traced to such a sac, which, having these properties, might vary a good deal in size with changes of blood-pressure.

It is to occupy your time with common knowledge to treat of miliary aneurysms of the cerebral arteries; but they are too interesting and important in a discussion on arterial diseases to be passed over in silence. These little bulbous enlargements, which, for the most part, are visible to the naked eye as tiny red grains, were minutely studied by Charcot and Bouchard; though, as Hamilton tells us, they were figured by Cruveilhier. The first full description of them we owe to Virchow. They are almost always multiple, and are either spindlelike or saccular in form. Generally speaking, they may be numbered by scores, and may be found almost anywhere in the cerebrum. Charcot regarded the periarteritic process as the cause of these tiny bombs, for such we may regard them. The mischief in the adventitia invading the media weakens it, and dilation takes place, the periarteritis is, however, but a part of the atheroma.

The miliary aneurysm is not a mere pathologic curiosity, but has immediate clinical importance. When I first read the papers of my friend the late Dr. Mahomed on arterial blood-pressure, I began to surmise that high arterial pressure alone, or even atheroma alone, cannot explain all the phenomena of cerebral hemorrhage. As I grew older in practice I saw persons suffering year after year under high arterial pressure, yet not infrequently dying at last of disorders other than cerebral hemorrhage. Again, after assuring myself that this patient or that, suffering under advancing atheroma, must die of cerebral hemorrhage, I was surprised to find, however extreme the atheroma might become, and however mischievous its effects on many organs of the body and, indeed, on the brain itself, that in a considerable number of such patients cerebral hemorrhage failed to occur. In the wards of an asylum for the insane may be seen large numbers of cases of dementia due to injury of the cerebral circulation by atheroma, in a large proportion of which life is cut short by hemorrhage. The evidence of the necropsy table again tells the same story; arteries of the brain are often seen as atheromatous as coral; yet, with every chance time could give, death often came by other ways than by hemorrhage. That all atheromatous patients should die of hemorrhage would be an unreasonable expectation; yet we might have expected this fate in an overwhelming majority of those whose lives were long enough to give occasion to it. Again, in studying the cases of persons in whom death had taken the form of cerebral hemorrhage, it soon became apparent that in them a positive increase of arterial pressure, though frequent, is far from being a constant feature. While on the one hand, as Heidenhain has shown (*Pflüger's Arch.*, xii 219), no possible rise in blood-pressure can ruptur healthy arteries unless, perhaps, where, as in the con junctiva, unsupported by other tissues, and as th heart hypertrophies and vasa vasorum are better filled their hypertrophy may be favored, yet, on the othe hand, death by cerebral hemorrhage is far from un known in ill-thriven persons and others in whon blood-pressure had run low, as well as in persons i whom this pressure had presented no abnormal char acter one way or another. Still, other things bein equal, a rise in blood-pressure must promote the rup ture of weak vessels. Rupture then seems to be les commonly the result either of atheroma alone or of hig blood-pressure alone; nay, it may fail to occur eve when atheroma and high blood-pressure are combined perilous as such a state is, it is one, nevertheless, whic not a few degenerate old persons survive, to die, at still greater age, of some other incident. We need series of careful investigations into the density of th blood in elderly persons. If we examine the cere bral arteries in one who has died thus atheromatous we may not find them friable, or attenuated, or eve very brittle. Calcification may make an artery hard but such a vessel pinched between the fingers show no little resisting power. Moreover, many of the twig from which hemorrhage might occur are thrombosed and we know that chronic arteritis may tend to throm bosis, and so far to protection from rupture. If a solu tion of the continuity of the intima occur, then th blood will clot; if in a smaller branch, to the degree c thrombosis, in a larger one with some protection of th weak spot. Hemorrhage is probably brought about fo the most part by dissection of the coats of an artery, s that the miliary aneurysm is established, rather than b direct explosion; and if we slit up an atheromatous arter to examine its inner surface we shall not find muc evidence of cracks or flaws in its lining such as to yiel suddenly under the blood-pressure. Thoma has take casts of sclerosed arteries in paraffin, and states tha the casts are superficially smooth; herein, as I hav said, the supervention of widespread thrombosis i often prevented. Hydrostatic pressure may destroy dam suddenly or burst a pipe by sheer thrust; bu this is not usually the case. In dams and channel outside the human body, acute disease is also a rar event; the water, under heavy pressure, insinuatin itself into some softer stratum, bores and dissects lon and unceasingly until the destruction becomes appar ent as a startling catastrophe, a catastrophe often pos poned for some time in an artery by a denser adventitia A diseased artery, whatever its disease, is likely to preser here or there some soft spot which would lend itself t such boring as I have described, and the higher th blood-pressure the more intense the action. In miliar aneurysms we seem to have evidence of the very agenc which we are describing; here is just such a dissec ing of the coats which favors the searching and pene trating process I have described. Every one of thes aneurysms is a sign of an atheromatous vessel wit dissected coats on the way to rupture. Every suc nodule is an apoplexy in posse, yet how potent a indirect cause is atheroma of cerebral hemorrhage w may estimate by the abundance of such spots at whic in all these cases of miliary aneurysm, the vessels ar forced and are ready to break open. At these spo the middle coat seems to be destroyed or softene rather than toughened and thickened.

Again, the integrity of the endothelium, as I have id, is a condition of the stability of the blood. Let is layer be abraded ever so lightly the blood will so far nd to fall into clot; now such a clot as a plaster for ı ulcer may have a conservative effect, and the clot nds to organize; but to give room for such an effect ıe artery must be of a certain caliber. We have en that arterial degeneration of this variety may so jure the tone of the vessel that it dilates under dinary blood-pressures, and still more, of course, ıder the not infrequent condition of excessive arterial essure. If, then, as Thoma reminds us, thickening of e intima may preserve approximately the mean ameter of the channel of the yielding vessel, not only the vessel fortified, but the velocity of the blood-ream is maintained also; yet unfortunately this is but part of the story; the thickening may go beyond is useful degree and, by narowing the channel still rther may hamper the supply of blood to the area of ; distribution; not only so but in the smaller arteries ay even obliterate the vessel, as we may frequently serve in the conspicuous but empty temporal arteries old men.

The direct result, then, of this process under normal low pressures is not so much to destroy the tissues pendent on the affected vessels for nutrition by rup-re as by starvation. And indeed such is our common perience of atheroma in such old people; they suffer erein rather from "softening of the brain" than from oplexy in the sense of hemorrhage. The "apoplecti-rm" attacks which may befall them are often no more an the perturbation due to sudden cutting off of a rger area from the circulation than usual, as in em-lism. But for the most part the process is one of adual obliteration of one little patch of the brain ter another, until by degrees so much of his brain is oiled that the patient slips more or less insensibly to senile insanity or dotage. The morbid anatomy such cases is too well known to need farther descrip-n on this occasion; and the clinical features are no s well known, though they vary with the site and agnitude of the arterial twigs from time to time ected, and with the possibility of collateral circula-n, which may permit of some respite. Thus a par-l paresis, a partial aphasia, or an insanity may clear more or less for a time; but every such attack epens the essentially irremediable and progressive te which is clinically manifested in loss of memory, lness of intellect, irritability, mania, vertiginous or ileptiform attacks and so forth.

These degenerations, so melancholy in their effects the palsied brain, are going on with more or less ivity in other parts of the body also; the heart, the lneys, and other organs fall in capacity as their tis-es are pined. Atrophic fibrosis is substituted after a mpensatory fashion for the more highly specialized renchyma which can no longer be raised to its normal wer. Too often it is by no means a mercy that in the sence of increase of arterial pressure and perhaps cerebral aneurysms, apoplexy does not happen, and e is protracted, in spite of these passive changes, yond the span of the Psalmist. The heart, often ut enough, sticks to its work in the narrower here within which the body functions are restricted; d the kidneys are little the worse for the replacement rosis to be distinguished from that irritative fibrosis "granular kidney" which, in my opinion, at any e, is always due to injury of the secretory structures by circulating toxins. Passive fibrosis of the kidney is not Bright's disease, it is comparable with the small, dense spleen often found with it. Bright's disease, whether the kidney be large or small, is always due in my opinion to a toxic cause; and the rate rather than the kind of the poisoning may determine the form of the resulting renal deterioration.

The relation of renal disease to arterial disease is too thorny a question to discuss in a paragraph. We have seen that as yet no one can say whether arterial disease, as associated with renal disease, is with it a common consequence of some previous and more general perversion—of some "blood-poison"; or whether the arteries suffer secondarily as part of a general perversion of the processes of the body in consequence of the failure of renal purification; or, again, perhaps, whether the body suffers by loss of some internal renal secretion. The hypertrophy of the muscular walls of the smaller arteries, demonstrated by Sir George Johnson, not in the renal circulation only but also over large tracts of the body, was a remarkable discovery; but Sir George Johnson did not see so much of the truth as we see now; he did not discover that this hypertrophy of the media is not peculiar to Bright's disease, and is to be found in a large number of other cases in which there is no renal disease; or nothing more than a passive fibrosis. Hypertrophy of the arterioles signifies no more than dilation by abnormally high arterial blood-pressure, from whatsoever cause; and we may probably infer that high arterial pressure may arise from more than one constitutional cause, and if from vicious metabolism, from more than one kind of such poisoning, whether homebred or imported. A slight difference in the molecular constitution of a vicious humor may determine its harmfulness this way or that; in one phase of false catabolism a poison injurious to the kidney may be generated; in another it may damage the arteries primarily, and the kidneys either not at all or in a secondary, or merely passive sense. The narrow limits of the peculiar selective affinities of certain morbid poisons are well known. In a later lecture I purpose to discuss more at length a well-marked class of cases in which the prominent pathologic feature is "arterial hypermyotrophy" without renal disease; without, that is, revelation of renal disease either by symptoms or by necropsy. Whether this change, if left unremedied, goes on to arteriosclerosis, or to renal disease, or to both together, is at present under investigation; if it be the initiation of Bright's disease it takes a very long time about it. I suspect that to manifest itself prominently as atheroma rather than hypertrophy, a previous hereditary bent in that direction is required; and that to bring about renal disease the quality of the poison must be somewhat different from that which is manifested in arterial hypertrophy without concurrent renal disease. In other words, whether the poison which damages the kidneys is the same as that which raises the blood-pressure in elderly people, and thus induces hypertrophy of the arteries, or whether in these cases there are two poisons—that which damages the kidneys and another which springs directly and inevitably from disablement of the kidney and affects the blood-pressure secondarily—we cannot say as yet; but arteriosclerosis and chronic renal disease may and often do occur quite independently of each other.

That in Bright's disease the coincidence of arterial degeneration with cardiac hypertrophy may well bring

about the catastrophe of apoplexy in a large proportion of cases, is as probable as it is true. But that a state of heart adequate to the maintenance of a degree of arterial pressure high enough to rupture diseased vessels may persist in old persons is insufficiently realized. It has been often remarked, not by myself only, that in old and atheromatous persons the heart may not only be healthy, but may present also no inconsiderable degree of sound and persistent hypertrophy. Even in the presence of no little disease of the coronary arteries the ventricles may be thus sound, or, as it would seem, excessively strong, though as the coronary circulation fails the fiber of the walls may well slip down here and there into lower qualities, on the principle of economy to which I have already drawn attention. However, at this moment I desire not to enter upon these consecutive deteriorations, but rather to discuss sound old hearts, whether of ordinary or excessive size. In old persons there is a tendency, if no other conditions interfere, for the heart to fall in value because in the absence of any abnormal demands, such as aortic iusufficiency, Bright's disease, and so forth, its work should grow less. In such a person a full-sized and vigorous cardiac muscle may be regarded almost as a relative hypertrophy. I repeat, "in the absence of aortic insufficiency, Bright's disease, and so forth;" but in these last three words lurks an obscurity. What besides these conditions may give rise to an increase in the demands on the heart and thus to the increase of its strength, or at any rate to its full maintenance? My hearers may answer at once that one of these conditons is atheroma, which, by stiffening the walls of the vessels, makes the labor of the circulation so much the harder. Now if this very reasonable supposition be true—and it seems impossible to deny it a share of truth—we ought to find from the records of necropsies that considerable atheroma of the arterial tree is always associated with hypertrophy of the heart. That is, if we eliminate all cases of abnormal kidneys, and all cases of gross interference with the valves and main channels of the blood, we ought still to find hypertrophy of the heart (that is of the left ventricle) to be an invariable accompaniment of atheroma, unless, of course, the capacity of the heart for enlargement were checked in some way. Of a collection of cases of arterial atheroma with cerebral hemorrhage, brought together from trustworthy sources for another purpose, I have made such an analysis; but, after some pains, I have only been able to find 19 cases (out of more than 100) which were apt for my purpose; that is, I had to cut out all cases of valvular disease, all cases of suspicious kidney, all cases in which there was no atheroma, or so little as to be negligible, all cases in which the state of the heart was loosely described or not described at all, and so on. Now of the 19 cases so selected, I find that in 9 only was the heart enlarged. Of the other 10, in 2 the heart was "fatty" or otherwise atrophically degenerate; in the other 8 the heart is definitely described as "normal." Although in more than half the cases the heart was enlarged (the 2 atrophic hearts being omitted), yet in but little less than half, in spite of extensive atheroma or arteriosclerosis, the heart was not dilated, not fibrotic, but normal.

Now had there been but one or two such cases it would have been a fair criticism of them to say that some condition had been overlooked which modified the result; but when the number of cases of widespread atheroma attended with normal hea comes to some 50% we are urged to think th atheroma cannot be a direct cause of cardiac hype trophy; or if so, its influence must somehow b counteracted on a large scale. Some compensato change may take place in the peripheral circulation, such a fall in the whole volume of circulating blood th the output of the heart falls. That this latter is a ve causa we know; the blood mass does fall in advance years; but how far this, with possibly some increase velocity, is concerned in the problem before us we do n yet know. We do know, however, that, atheroma or n atheroma, the coats of the arteries in man lose ela ticity, as life passes the third decade, as Roy showe nearly twenty years ago; so that, unless there be som compensatory process, all fairly nourished hearts i men over forty years of age should show more or le hypertrophy; which is contrary to experience.

Again, besides the fall in elastic values the obliter tion of vascular areas must be a very large factor i the work of the heart; the thrombosis of a small a terial branch may seem to us a small matter, but with the eye of imagination we endeavor to conceiv the number of such obliterated areas throughout th body we may realize in some measure how great straitened the field of the circulation must be. In th respect a corresponding fall in the bulk of the bloo probably relieves the stress, though, of course, at th expense of the nutrition of the body as a whole.

Finally, there is some evidence to show that in th subjects of arteriosclerosis and in those in whom bloo pressure rises with advancing years the density of th blood rises, instead of falling as is normal in the elderl If so, we have in this increase of density an importa factor in the physics of the circulation. These thin being equal the peripheral friction will be proportio ately increased, and the heart, if capable of it, will i crease. In apoplectics examined for me the bloo density has always been found in excess. We ma suspect, then, that if the blood-mass falls in propo tion to the restrictions of the arterial area man, in ag becomes a smaller animal; and, if so, my suggesti that a "normal" heart in elderly men is a relative hypertrophied organ is strengthened. In my next le ture I shall propose to you that in many persons, n obviously the subjects of atheroma, or Bright's disea there is a tendency to an increase of arterial pressu as age advances, and that, as the condition is curab these alone could not be the cause of this rise.

The variety and inconstancy of the areas invaded b atheroma are surprising. One radial artery may see almost healthy, while the other is the seat of advanc disease. The dorsalis pedis lies conveniently for e aminations and is often involved. The aorta, on accou of its great differential pressures, must suffer early, b sometimes the weight of the disease falls more upon t larger branches of the abdominal aorta than upon t thoracic vessels. Atheroma is apt to form at the ang of arterial bifurcation. In view of early diagnosis th it is very important not to rest contented with go radials, but to examine suspiciously all vessels with reach on both sides. The brachial arteries lend the selves well to such investigation. The sphygmogra is of little use, as by its aid alone we cannot well d tinguish between blood-pressure and arterial con tions.

I have said that it is difficult to distinguish t morbid process of syphilis from that of atheroma.

syphilis we see a greater tendency to fibrous organtion and to dense gummy affection of the adven- a, than in atheroma, we remember that as in the ıid production of unstable cell-infiltration, of acute ohilitic arteritis, fibrosis may be little apparent, so, the other hand, in a chronic atheroma fibrosis is ostantial enough to obtain for the disease the name arteriosclerosis. In atheromatous as in syphilitic eritis we see that the first seat of the active change is out the elastic lamina of the intima; sometimes be- v it, in which case it begins strictly in the media, but ore often above it. The proliferation may thicken e intima to eight or ten times its normal magnitude. e epithelial layer, as we have seen, may long retain integrity, perhaps because it is fed directly by the bodstream. I think that little has been added to the atomical description of syphilitic arteritis which I ve in 1868; and my purpose in returning to it is to peat that this process tends towards thrombosis rather an rupture of the arteries, because in syphilitic enderitis the endothelium is more often injured and the ocess more ulcerative. As a matter of clinical exrience cerebral hemorrhage is for this reason, and cause of the thick adventitia, as rare in syphilitic teritis as thrombosis is common. In syphilis an atk of aphasia, of palsy, of vertigo, is to be attributed, most always, not to rupture of a vessel but to occlun of it.

Of tuberculous arteritis there were much to say could enter upon the different sphere of disease wherein it curs. In the brain it begins as a granulomatous insion of the sheaths of these vessels nearly always with ningitis; and it may be abundantly seen in the vessels the Sylvian area. The process proceeds to involve e media and the intima, and thus brings about the rebral ischemia and softening so characteristic of berculous meningitis.

Of "periarteritis nodosa" I will speak only in so far to include it in our survey of arterial disease. It is very rare disease; and even the cases which have been corded are apt to be confused with generalized syphiic arteritis; with—in the words of Dr. Mott—"general periarteritis and endarteritis with multiple gumma." e symptoms in the latter disease are those characteric of cerebral syphilis in a very aggravated and comex form; periarteritis nodosa, on the other hand (to ote the same author in my System of Medicine), is tended with the symptoms of general infection; the ole course of the malady, its sudden onset, its pidity and its emaciating effects being suggestive of ch an origin. This whole course of the disease does t run beyond six to twelve weeks. Shivers, diarea, pains in the muscles and viscera, numbness d palsies are among the prominent symptoms of definite infectious malady, the cause of which lies utter obscurity. In sections no microbe has been und, but, so far as I know, cultures have not been ade. While in syphilitic arteritis the cerebral vesls are obnoxious to attack, in periarteritis nodosa they cape. On examination after death the arteries are und beset with nodules of active inflammatory procts, chiefly on the outer coat. They vary in size from at of a poppy seed to that of a pea, and in the subtaneous arteries have been recognized during life. ch a discovery, pathognomonic when possible, are possible if the nodules be confined to arteries out the reach of palpation.

The acuter forms of arteritis are very interesting, and not easy to diagnose during life. Their chief interest perhaps is in respect of the causation of angina pectoris, and I will pass over this part of our subject till I come to deal with that grievous malady.

A CASE OF TETANUS, TREATED BY SUBDURAL INJECTIONS OF ANTITOXIN, AND HYPODERMIC INJECTIONS OF CARBOLIC ACID.[1]

By ERNEST LAPLACE, M.D.,
of Philadelphia.

D. M., aged 32 years, a native of Turkey, ran a rusty nail in the sole of his right foot on November 4, 1899. The wound was allowed to heal, which took place without difficulty. On November 14 he felt a headache, difficulty in deglutition and pain in the back. He entered the Medico-Chirurgical Hospital on November 17, two and a half days after the appearance of symptoms. There was complete trismus, difficulty of deglutition and pain in the back. Temperature 99°, pulse 76, respiration 20. The next day, that is on the fifth day of disease, the patient was trephined, on the left side, a little posterior to the motor area, and 20 cc. of antitetanic serum was injected slowly under the dura. The scalp was temporarily sutured. The patient showed no perceptible reaction from the subdural injection. The temperature rose from 98° F. to 100° F., but quickly returned to normal on the next day; pulse 84, respiration 30. There was no headache. The trismus did not change. Two days after the first injection the scalp wound was opened, 40 cc. of antitetanic serum was injected slowly under the dura, without anesthetizing the patient. He complained of no pain during the injection. In 2 hours his temperature had arisen from 98° F. to 101° F., pulse 102, respiration 24. He complained of a slight headache. In the course of a few hours he complained of a numbness of the right side of the body, with difficulty of motion, but no paralysis. This persisted 2 days, and were the sole symptoms traceable to cerebral irritation from the injection of the antitoxin. The patient was fed on liquids, through a medicine dropper, so tightly were the jaws set. Twenty-four hours after the second injection of antitoxin, opisthotonos set in. The spasms, at first mild, became more severe and lasted from 5 to 15 minutes at a time. They began on the eighth day of the disease. They were so violent as to result in marked cyanosis and necessitated the administration of chloroform to produce relaxation. On the ninth day the spasms became milder and occurred at greater intervals. We then began the injection hypodermically of 5 drops of pure carbolic acid in 15 drops of water every 3 hours. On the tenth and eleventh day the symptoms became milder, there being now but sudden tremors lasting 10 or 15 seconds instead of the regular attacks of violent opisthotonos. On the thirteenth day of the disease the jaws relaxed to the extent of one-fourth of an inch. The relaxation increased gradually afterwards. The carbolic-acid injections were continued during 6 days, making a total of 48 doses of 5 drops each. The temperature remained about normal, though it often sank to 98° F. or even to 97° F. after the carbolic-acid injections. The symptoms gradually disappeared, the patient being able to swallow without difficulty. On the sixth day of the disease, the area where the puncture had taken place was excised, while the patient was still under ether, and the wound thoroughly cauterized with carbolic acid. On the twenty-fifth day of the disease the patient sat up and walked about.

Although by reason of the symptoms of tetanus manifesting themselves 10 days after the injury the case cannot be classed among the most acute forms of disease, still it approaches very near that class, and therefore, the prognosis was unfavorable. Following Roux's suggestion I determined to inject the antitoxin directly under the dura, for I had failed in my three last cases of tetanus after injecting as much as 360 cc. of this same antitoxin in the subcutaneous cellular tissue;

[1] Read before the Philadelphia County Medical Society, January 24, 1900.

furthermore, the subcutaneous injections in the hands of others had likewise so often met with failures, as to further tempt me in trying the subdural method. Kocher and others have used the direct injection of antitoxin in the lateral ventricles. But this procedure, I take it, is too risky especially if large amounts of antitoxin are to be injected. The cases reported by Kocher only received 5 cc. at a dose in the lateral ventricles, whereas our case received 20 cc. at the first dose and 40 at the second dose. I believe that the subdural injection meets the same object as the intraventricular with less risk of traumatism, or hemorrhage. Kocher drills a small hole in the skull, and introduces a long needle in the direction of ventricles. In the subdural injection the fluid spreads over the surface of the brain; as we found that it produced no permanent after-effects, I judge that it must have rapidly mixed with cerebrospinal fluid, which carried it to various portions of the brain and the spinal cord, for direct local absorption and action.

It will be noticed that the symptoms were rather aggravated than improved after the injection of the antitoxin. This, I believe, can be explained. The antitoxin acts not as immediate antidote, but requires time for thorough absorption and assimilation before it gradually alters the nature of the soil upon which the tetanus bacillus grows. There has been no positive proof yet that even in a fatal case of tetanus the bacillus exists in the blood or in the nervous system. It would seem, therefore, that the spasms characteristic of the disease are the result of the local action on the nervous centers of a toxin of intense violence generated by the developing germs at the seat of the injury and gradually absorbed by the circulation. Knowing the reported good effects of carbolic acid I determined to combine it here with the antitoxin injections. I have no further explanation except, having invariably seen death as the result of all these cases presenting the violent symptoms of our patient, I felt there would be no undue risk in combining the two treatments.

I have since asked myself for a sufficient explanation, why subdural or intracerebral injections of antitoxin should be followed by better results that the subcutaneous injection. The following theoretical reason offers itself, and I present it under all reserve. The tetanus-bacillus is essentially anaerobic; its toxin is, therefore, the result of an anaerobic process. The antitoxin is the serum of a horse made immune to tetanus by increasing doses, and therefore is charged with anaerobic material. The part of the patient's body to be acted upon is his brain and spinal cord. When the antitoxin is injected under the skin, it is absorbed by the veins, and going to the right heart is fully aerated and oxygenized in the lung—a condition which possibly alters the aerobic nature of the antitoxin in its new locality, the patient's body. On the other hand, the direct subdural or cerebral injection allows of immediate action locally on the brain and spinal cord, before the circulation can take it to the lungs. From the above case we learn :

1. That a severe case of tetanus of 10 days' incubation has recovered after the subdural injection of 60 cc. of antitoxin-serum, prepared in the Pasteur laboratory of Paris.

2. That the treatment was combined with hypodermic injections of 5 drops of carbolic acid, in 15 drops of water, every three hours until 48 doses had been taken.

3. That no untoward brain-symptoms permanently followed the subdural injections of this comparatively large amount of this fluid.

4. All symptoms of tetanus had disappeared on the twenty-first day of the disease.

THE SPONTANEOUS DISAPPEARANCE OF SENILE CATARACT, WITH REPORT OF A CASE.

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ORDINARILY, after once losing its transparency, the cortex of a cataractous lens remains opaque unless disturbed by traumatism or operation. It is true that, in the stage of hypermaturity, resorption may take place to such extent and the opaque layers become sufficiently thinned to permit noticeable improvement of vision, and, in young people, to produce completely transparent sections in the opaque layers; but in senile cataract with a hard nucleus it is extremely rare for any spontaneous restoration of sight to occur. Occasionally it happens that by the development of myopia in the initial lenticular changes, persons formerly presbyopic are enabled to read without glasses and continue in this condition for many years; sometimes, it is even possible to restore almost complete acuity of vision by means of a concave glass. Norris[63] reports several interesting cases of this nature and epitomizes the literature of the subject, citing instances in which the progress of the cataract beyond the incipient myopic changes had been delayed as long as 25 years. These cases are popularly termed "second-sight," but, unfortunately for the deluded subject, opacity of the lens usually soon follows the myopic changes.

However, from time to time, cases of complete spontaneous disappearance of senile cataract have been reported. Any doubt about the authenticity of such cases was dispelled at a meeting of the Ophthalmologische Gesellschaft at Heidelberg in 1885, when Brettauer,[33] of Trieste, reported 3 cases in which there was spontaneous absorption of senile cataract with restoration of vision, in all of which he had at one time extracted a cataractous lens from the fellow eye. There was absolutely no history or sign of injury, operation, or disease; the histories were carefully taken; and the cases were followed for many years. No less an authority than Becker[35] substantiated the statement of Brettauer and it was unanimously agreed that these were genuine instances of spontaneous complete absorption of senile nucleocortical cataract without injury to the capsule.

Analogous observations have been reported by such competent authorities as Warnatz,[3] del Campo,[7] Ulmer,[8] Kipp,[26] von Jaeger,[9] Becker,[23] Arlt,[16] Lange,[17] Arens,[21] Natanson,[43] Lang,[32] Chisholm,[33] von Hippel,[37] Delbés,[38] Steinhoff,[39] Bitzos,[40] Koenig,[41] Baquis,[42] Norris,[49] Czermak,[29] and others.

After a careful digest of the literature upon this subject, it has been thought advisable to classify the reported cases as follows :

I. Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule.

II. Cases in which there was spontaneous dislocation of the cataractous lens.

III. Cases in which there was intracapsular resorp-

on of the opaque cortex and sinking of the nucleus low the axis of vision, after degenerative changes in organian cataract, without rupture of the capsule or slocation of the lens.

IV. Cases in which there was complete spontaneous sorption of both nucleus and cortex without reported istory of ruptured capsule, dislocation or degenerative anges of the Morganian type.

V. Cases of spontaneous disappearance of incipient taract without degenerative changes or marked ifference in the refraction.

CLASS I.—*Spontaneous Rupture of the Lens-Capsule.*—It is well nown that traumatism may cause absorption of a cataract y opening the lens-capsule, and in the operation of discission r the cataract of young persons the anterior capsule is urposely lacerated, allowing the aqueous to enter the ns-substance and effect absorption. This operation is impracticable in the cataract of later life, as the sclera has ecome tough and resistant, and the swelling of the lens ter discission in an adult eye is very likely to cause great ncrease of intraocular tension and uveal inflammation. owever, there are still many cases on record in which accidental perforation of the lens-capsule has led to absorption f a clear or opaque lens without serious consequences.

Rarely there are instances in which the capsule of a cataractous lens is ruptured spontaneously. In the *Virginia and Maryland Medical Journal*, 1861, there is an editorial note alling attention to a curious case reported by Peachy,[18] hich is described as an instance of spontaneous rupture of ne anterior capsule, with discharge of the opaque mass into ne anterior chamber, followed by ultimate absorption and ood vision. Reference to the original report shows that it is arelessly given and contains nothing to substantiate this xplanation. Either the editors have misread Peachy's eport or were more scientific in their observation. The case as in a man of 50, whose left eye had become cataractous fter an attack of inflammation of glaucomatous nature. It emained blind for many years, until, following a renewal of ain and fulness, the patient "felt something give away, and n raising his lid, as a miracle saw again," and for 6 months, p to time of report, the vision remained. It is further dded that he could "read the newspaper without glasses." nless the patient was originally very myopic, this can hardly e credited. The glaucomatous attack might have been due o spontaneous rupture of the capsule, but there is equal eason to suppose that, from the sudden restoration of vision, here was spontaneous dislocation of the cataractous lens. Liggens[44] recalls a case of senile cataract in which the nterior capsule spontaneously ruptured, causing glaucoma, or which iridectomy was performed. After a subsequent xtraction of the remainder of the lens there was good ision. Before the Heidelberg Congress, in 1881, Arlt[27] eported a case of spontaneous rupture of the anterior capule of a cataractous lens. The patient was a myopic oman of 34, who had suffered detachment of the retina years before. The blind eye, which had become cataractous, and had remained quiet before, became suddenly nflamed, and on oblique illumination it was seen that the ower part of the anterior chamber was filled with remnants f disorganized lens, which were evacuated by corneal inision. Bitzos[54] mentions a case of rupture of the anterior apsule upward and inward in a cataract of 4 years' standng, with absorption of both cortex and nucleus. The patient as a man of 60.

There is sufficient evidence to believe that when the posterior capsule is ruptured, the vitreous acts similarly to the queous after rupture of the anterior capsule. In his work n "Wounds and Injuries of the Eye" (p. 176), White ooper reports a case in which the injury to the posterior apsule after nonperforating traumatism could be plainly een through the slightly hazy lens. Treacher Collins mentions a case in which rupture of the posterior capsule was emonstrated after enucleation. The eye was injured by stone and disorganized lens-matter was seen extending nto the vitreous. Owing to the weak solvent action of this umor, the anterior portion of the lens was still clear. Colns gives a very good drawing of the condition.

In some cases the rupture of the capsule may be caused by separation from the zonula. Brettauer[33] reports such a case. There was mature cataract in one eye and unripe cataract in the other. The mature cataract was successfully extracted, and the patient was lost sight of for 14 years. At the end of this time the lens in the unoperated eye was very much shrunken, containing only a small nucleus and cholesterine crystals, althoughthe capsule was still intact. Four years later, the nucleus had disappeared, and at the lower margin of the pupil was an opening indicating the separation of the capsule from the zonula. In spontaneous dislocation of the lens the rupture of the zonula may similarly involve the capsule, but this will be spoken of in the discussion of the next class of cases.

In the reports of several of the cases of spontaneous disappearance of senile cataract, although exact details are lacking, there is sufficient history of sudden and violent pain, inflammation, rise of tension, or other symptoms, to suggest acute glaucoma or iridocylitis, following rupture of the lens-capsule, such as is seen after traumatic cataract and after discission in adults or dislocation of the lens. Estlin,[3] in 1828, reports such a case of a woman of 66, blind in both eyes for 8 years from mature cataracts. The right eye was operated upon with good results, and, after violent pain and inflammation, the left cataract began to absorb until the eye presented all the appearances of aphakia, and with the proper correction gave good vision. Szili [30] mentions a case in which the absorption of a hypermature cataract occurred after an acute attack of glaucoma. The shrunken nucleus remained and floated about as the eyeball was moved. With vision + 11 D., vision = $\frac{5}{9}$ Szili is inclined to class this as a case of spontaneous rupture of the capsule with partial absorption, T. C. Smith[26] reported a case of this nature. There was great pain and inflammation in the cataractous eye, made worse by atropin, although synechiae could be plainly seen. After subsidence of the symptoms, slow absorption of the cataract followed for 2 years, when there was almost complete disappearance of the opacity, with ordinary aphakic conditions. Paul Meyer [38] saw a case in Leber's clinic, in which absorption took place after an attack of glaucoma lasting 2 weeks. Desogus and Gad [63] are said to have seen somewhat similar instances. del Monte [23] mentions a case in which after an attack of violent inflammation a cataract of 12 years' standing disappeared and sight was restored. What was thought to be the shrunken nucleus was seen in the anterior chamber. With convex glasses, vision = $\frac{15}{50}$. Gary [22] reports a case of a woman of 60 years, totally blind with cataract for 9 years, who, after the subsidence of "supraorbital neuralgia and inflammation of the left eye," partly regained her vision by clearing up of the opacity. In the discussion of Brettauer's paper, Berlin [34] described a case in which a cataract formed after an attack of iritis, and in a few months had so disappeared that reading-type could be deciphered with strong high-power convex glasses. In the same discussion, Becker spoke of a case of spontaneous absorption of a cataract following an attack of specific iritis, in which the opacity had been so absorbed that with + 10 D., vision = $\frac{6}{36}$. There had been a successful iridectomy before the lens began to cloud. In this connection it might be mentioned that Arens reports a case of spontaneous absorption of cataract during a course of cerebral meningitis.

CLASS II.—*Spontaneous Dislocation of a Cataractous Lens.*—Spontaneous dislocation of the crystalline lens is always the result of some previous pathologic changes in the eyeball. In cataractous lenses, Becker believed that the contraction of the newly-formed spindle-cells and effused material on the capsule might be the cause of separation from the zonula. It would be natural to expect greater fragility of the zonula in a senile eye, particularly if there are associated degenerative changes in the lens. In such cases, doubtless, there are great alterations in the ciliary vessels and impairment of nutrition to both zonula and vitreous. When the vitreous is partially fluid, there is still greater liability to dislocation. Again, in cases of partial luxation or subluxation there is increased tension on the weakened zonula and disturbance of the vitreous by the free movements of the lens, causing a progressive increase of displacement.

It is a well known clinical fact that the cataractous lenses are easily luxated, and that they may sometimes be separated from the zonula and extracted without rupture of the capsule or loss of vitreous. Many trivial accidents, such as

coughing, sneezing, a misstep, a light fall, etc., may hasten dislocation. Such slight accidents may entirely escape the memory of the patient when questioned by the physician as to a history of traumatism. Dislocation of the lens is also very common in hydrophthalmos of young persons, in whom the zonula had become so stretched by the enlargement of the eyeball that it is very tenuous and easily ruptured.

There are many cases of spontaneous luxation of a transparent lens in its capsule. Instances are recorded by such well-known observers as Balfour, Schirmer, Duval, Hippel, Andrê, Larrey, Cunier, Fischer, Graafe, Hirschbaum, Holmes, Bickerton, and others. The dislocated lens generally sinks downward (a dislocation upward is either traumatic or congenital) into the anterior chamber, from which it is ordinarily removed; or it may cause no symptoms to indicate surgical treatment, and finally be absorbed entire by the aqueous. Doubtless the rupture of the zonula often extends to the capsule. Rarely the lens may fall into the vitreous and be absorbed without giving rise to serious consequences. This was the occasional result of the old operation of reclination. Recordon[13] reports a case in which a patient of 75, while waiting in a hospital for cataract extraction, had sudden return of vision after dislocation of the lens backward. It is said that the lens disappeared from the vitreous in a few days. Siebold, quoted by Norris,[63] reports a somewhat similar case of spontaneous dislocation of a cataractous lens. When he was first consulted the lens was wabbling with the motions of the eye, and he advised the operation for depression, which was refused. A year later the patient had a clear and mobile pupil, and jubilantly exhibited herself as a case of cure without operation.

The lens may remain in its dislocated position for a long time without causing serious symptoms. In fact, a transparent lens may be dislocated and not become opaque for many years. De Wecker reports a case in which a dislocated lens retained its transparency in the vitreous for 8 years, and C. Jaeger claims to have seen a lens remain transparent in the vitreous for a period of 30 years. Theobald[28] reports a case in which a lad of 18 had for 10 years been able to voluntarily shake a dislocated transparent lens into the anterior chamber, and preferred to do this rather than use cataract glasses. The lens later became opaque and the capsule burst, giving rise to a marked inflammation. Williams mentions a case of spontaneous dislocation of the lens in both eyes without loss of transparency. There was frequent prolapse of the lens into the right anterior chamber.

After complete dislocation of an uncomplicated cataract, as soon as the lens has left the pupillary space the patient should experience restoration of vision, of course, increased by the application of a convex lens. However, the ultimate fate of an eye in which there is a dislocated lens is commonly bad. If a fatal glaucomatous inflammation does not intervene, vision is usually destroyed by degenerative processes of the ciliary process, choroid, retina, or vitreous.

As long ago as 1836, Sichel[5] collected several cases of spontaneous dislocation of a cataractous lens. In one instance the dislocation occurred in a patient of 18 with congenital cataract; in another, there was partial dislocation in a man of 80, followed by glaucoma. In 1844, Eustis reported a case of cataract in a man of 57, whose lens first became opaque 15 years previously. Extraction was advised 5 years after the beginning of blindness. Finally, without the slightest traumatism, the cataractous lens became dislocated. In 1846, Fischer mentions several such cases; in one, the dislocation occurred while the patient was using a common collyrium, to which he attributed his recovery, and ever afterward recommended it as a sovereign remedy for all forms of blindness. More recently cases have been reported by Bernard,[10] Brute fils,[24] Staderini,[36] Chisholm,[47] and others. In the past year, Marlow[59] mentions an interesting case in an Irish woman of 80, from whose left eye he had successfully extracted a cataract 10 years before. At this time there was an immature cataract in the right eye, which had never been operated on. When last seen, the pupil of the right eye was black, and close inspection showed a small brownish-yellow cell-nucleus, lying in the lower line of the anterior chamber, half concealed by the limbus and a broad arcus senilis. Its edge was indented, and from each margin what appeared to be the lens-capsule passed upward, converging to a point in the anterior chamber almost level with the upper margin of pupil. This membrane was for the most part transparent, its limits being very sharply defined and dotted with minute opaque white spots. The fundus could be seen, the only abnormality noted being an atrophy of the choroid immediately around the disc. The pupil was fixed and the iris tremulous; vision with + 10 D. = $\frac{6}{36}$. The left operated eye was $\frac{6}{9}$, with the convex correction.

In some cases the restoration of vision is almost instantaneous. Desgranges[4] relates a case of a peasant of 56, in whom there was cataract existent for 9 years. While attending to some of his agricultural duties he perceived a "kind of shaking" in the eye and could again see with it. In other cases the dislocation may occupy many years before it is complete. In one of Sichel's cases,[5] in a myopic clerk of 50, there was gradual loss of sight from double cataract, and progressive dislocation of both lenses into the vitreous during a period of 5 years, until finally the patient was able to resume his occupation by the use of ordinary cataract glasses.

In some of the miraculous cures from blindness reported by religious enthusiasts dislocation of a cataractous lens is evidently the explanation. Ramos[60] saw such a case in Galezowski's clinic in Paris in a patient who refused operation for mature cataract, but resorted to violent prostrations before the altar. Although vision was suddenly restored, there developed irido-choroiditis, which finally demanded enucleation, when the lens was found in the vitreous. Ramos mentions a somewhat similar case in a priest of 58, with myopia of 14 D. and a ripe cataract in the left eye. He bowed several times at the altar in prayer for relief and caused sudden luxation of the cataract. Santos-Fernandez[61] adds to these cases by citing an instance in the practice of Gonzales, in which a priest with cataract fell down stairs and recovered his sight. He also reports a case of his in which the vision of a cataractous eye was restored after a fall.

CLASS III.—*Intracapsular Resorption in Morganian Cataract.*—In this class of cases the spontaneous resorption is a hitherto but little known late stage, or rather a termination of the retrogressive metamorphosis of senile cataract. There is a transformation of the fluid portion of the cataract into a more or less transparent liquid, to the bottom of which sinks the hard nucleus. If the nucleus remains adherent to the anterior or posterior capsule in the visual axis, there is only good vision when the pupil is widely dilated or a peripheral iridectomy is performed. Fuchs believes that these cases are more common than reports lead us to believe, and that in many instances they are considered as cataracts that have become diminished in size and have been luxated downward. He has seen personally 6 such cases in recent years. Later on, the transparent liquid and even the nucleus itself may be resorbed, so that only a thin membrane is left, allowing good vision with convex glasses. Ordinarily, these retrogressive changes are accompanied by the development of dense white spots on the inner surface of the lens capsule. This form of degeneration may be associated with dislocation and separation of the zonula, as in a case described by Brettauer.[33]

Nordmann[31] describes a typical case of this class in which there was almost complete absorption of the nucleus, distant vision with + 10 D. being $\frac{6}{30}$. There were chalky dots on the anterior capsule and there was a small nucleus, which falling to the bottom of the sac prevented correspondingly good vision for near work. Lange[29] reports a case of Morganian cataract in which, 2 years later, there was complete absorption of the fluid portions. Czermak[43] mentions 3 cases of intracapsular absorption of Morganian cataract, in all of which the shrunken nucleus lay at the bottom of the capsular sac. Natanson[58] has personally observed 3 instances and digested the reports of many other cases of disappearance of opaque lens-substance within the macroscopically closed and intact capsule. Nearly always the resorption occurred under the clinical appearances of Morganian cataract. In the course of time the opaque detritus of the lens, in which the nucleus floated free, became again transparent, through which factor the sight became restored. Later, the contents of the capsular sac and sometimes the nucleus were absorbed, the whole process of resorption extending over a period of from 10 to 12 years. In one case vision through the clear portion of the pupil with + 15 D. = $\frac{5}{60}$. Mitvalsky[48] has carefully observed two interesting cases. In the first, the lens of the left eye had been removed 14 years previously, with resulting vision

$\frac{1}{3}$ with + 12 D. The unoperated cataractous lens of the ght eye began to spontaneously disappear, leaving only a runken amber-colored nucleus, resting on the lower pupil- ry margin, and with the same glass vision equalled twice at of the operated eye. The nucleus was subsequently moved by corneal incision. In a second case, there had en an extraction of cataract from the right eye. At the ttom of an otherwise empty and transparent capsule in e right eye, was a small nucleus. A healthy fundus was early visible, and with a + 12 D. lens, vision equalled $\frac{6}{12}$.

CLASS IV.—*Complete Spontaneous Resorption of Both Nucleus d Cortex without Reported History of Ruptured Capsule, Dislo- tion, or Degenerative Changes of the Morganian Type.*—Illus- ative of this class may be cited those cases in which con- nital cataract becomes spontaneously absorbed. Holscher[8] ports two such cases in children. The absorption took ace in an intact capsule, commencing at the periphery and ogres-ing in various sections at an unequal rate, until at e age of 5 years the pupils were clear. Solomon[16] observed case of double congenital cataract in which vision was re- ored by a rapid intracapsular absorption of the lenses. her similar cases are on record, but it is not the purpose this paper to consider cataracts other than senile.

There are a certain class of cases in which the reporter s not fully given the history or has not been able to trace e case beyond his observation of it, and at the time of re- rt the whole cataract had disappeared or only a few rem- nts of capsular opacity remain. It is perhaps unfair to ssify these cases separately, as doubtless many of them re originally Morganian cataracts, in which both the liquid rtex and nucleus have become absorbed. Others were ely due to dislocation or rupture of the capsule, while ne follow rather an anomalous course. For instance in e last of Brettauer's cases,[33] which was also observed by ck r, the right eye had been successfully operated upon 1862. At a subsequent visit, 9 years later, it was seen by e tremulous iris that there was lenticular anomaly in the operated eye Under full mydriasis a membrane was n in the pupillary space to which was adherent gelatinous liations corresponding anatomically to the sectors of the s, and covered with minute cholesterine crystals. Be- en these opaque radii were clear areas through which a dus reflex was obtainable, and opacities were seen in the erior vitreous. With a $\frac{1}{6}$ convex lens the patient could h difficulty read $\frac{20}{40}$.

Before relating a few of the interesting cases placed in s class I desire to report a new observation. The patient s a man of 73, who had marked senile changes in his cir- atory system as well as prominent muscular and nervous iptoms. Several months before his first visit to me, he l an attack which was at first diagnosed as apoplexy, but r was judged severe cerebral congestion with effusion. vision had always been satisfactory until a few months ore I saw him. He distinctly stated that 25 years before ayish spot came over his pupil and he became blind in left eye. He consulted Dr. Holmes, of Chicago, who gnosed mature cataract. Operation was deferred on ac- nt of the perfect vision of the right eye. Ten years later cataract had become totally absorbed. At my first ex- nation, I found an absolutely aphakic eye, with no signs lens or capsule. The anterior chamber was very deep, the iris was tremulous and slow to react. The media e perfectly clear, but there were evidences of an old rioretinitis, with some involvement of the optic nerve. h + 13 D, central vision was $\frac{30}{40}$, but in the periphery the form and color-fields were almost obliterated. He an inconsiderable defect in his right eye, the correction hich gave him $\frac{20}{20}$ vision, but here again the fields for form color were much contracted on the temporal side. In periphery of the fundus of this eye there were evidences horoidal disease, but the lens was perfectly clear. The akic left eye deviated outward, even when corrected with nvex lens. There was absolutely no history of injury or ation, and the cornea showed no cicatrix. He had never embered having extreme pain or marked external evi- ce of inflammation in either eye. On account of the rnal squint, the limitation to central vision, and the t disparity in the refraction of the two eyes, a plane s only was ordered for the left eye, and a bifocal lens for right.

Higgins[44] records the case of a man of 57, in whom Critchett 10 years before had diagnosed mature cataract of the right eye, but did not operate on account of good vision in the left eye. Without injury, disease, or treatment the cataract had gradually disappeared with noticeable progressive improve- ment of vision. The pupil was circular and freely movable, and although there was considerable opaque membrane, with a $3\frac{1}{2}$ inch lens there was $\frac{6}{36}$ vision, and with an addi- tional correction for reading, there was equally good vision at close range. The unaffected left eye showed signs of old iritic inflammation, but the patient had no remembrance of inflammation in the cataractous right eye. Kipp[39] reports the case of a man, who at the age of 55 had a cataract suc- cessfully extracted from his left eye with good result. At the time of operation there was a nearly ripe cataract in the right eye. When observed 11 years later, he said that he could see better with the unoperated right eye through the cataract glass than with the left. Vision in the right eye was found to equal $\frac{18}{30}$, while that of the left was only $\frac{18}{40}$. A care- ful examination showed no remnant of the cataract in the right eye, but a thin and almost entirely transparent capsule. There were no vitreous opacities. Tension was normal. The fundus was healthy, and the field of vision was intact. No sign of injury or inflammation was discernible, and there was no scar on the cornea.

Schneideman[49] reported the case of a man of 65, who 18 years previously had been given a diagnosis of mature cata- ract in the left eye. The eye had remained blind for 13 years, when a very gradual but progressive improvement began. There was no sign of injury or inflammation, and the eye had never given him pain. At his last visit there was nothing left of the cataract but a small membranous opacity at the upper part of the pupil. The fundus was clearly visible, although the nerve was pale, with some atrophy of the vessels and a shallow cup. For this reason vision with +11.00 only equalled $\frac{12}{100}$. It is possible that this was a case of ruptured capsule. Warnatz[6] observed a man of 40, in whom cataracts of both eyes cleared up, and another case in a woman of 45 in whom after lasting 5 years there was partial disappearance. Lange[37] mentions an instance in which a cataract was 4 years in maturation, remained ripe for 3 years, and then commenced to disappear. Under full mydriasis it was seen that the edge of lens was everywhere present, and absorption was evidently going on within the capsule. With a +6 D. lens, vision equalled $\frac{4}{60}$. Somewhat similar cases of this class have been described by von Hippel Jr.,[51] Koening,[55] von Jaeger,[17] Schramm,[50] Delbés,[52] Steinhoff,[35] and others.

CLASS V.—*Spontaneous Disappearance of Incipient Cataract without Degenerative Changes or Marked Difference in Refraction.*—That incipient cataract may cause myopia without opa- city and remain stationary for many years has already been shown. It is also not uncommon to notice incipient cataract appear, remain stationary, or even disappear, without pro- ducing marked refractive change, and the same is true of traumatic cataract without rupture of the capsule. It has been shown experimentally by Berlin, Voelckers and Schir- mer, and confirmed clinically by many others, that it is possible to produce cataract without necessarily rupturing the anterior lens capsule, although there has been no proof that in these cases there was no rupture posteriorly. Furthermore, it has been shown such opacity may clear up spontaneously. Deutschmann has reported two cases of partial transient opacity that disappeared entirely in 36 hours under rest and a pressure-bandage. Becker observed transient opacity of the lens after iridectomy for glaucoma, with no demonstrable injury to the capsule, that eventually cleared completely. The opacity was attributed to pressure on the anterior surface of the lens after evacuation of the aqueous. Again, there are cases on record in which even a cataract caused by traumatic rupture of the capsule has cleared up, after healing of the capsular wound. In 1856, Robert[15] reported a case in which the lens-capsule was punctured by a spine of a chestnut burr. The spine was removed through the corneal wound, and although the lens became cloudy, it afterwards cleared entirely. That a scar caused by a capsular wound may afterwards clear is proven by cases of Mackenzie, Liebreich, and others. Desmarres, Jr., mentions a case in which a foreign body lodged in the lens, causing opacity, which subsequently cleared up, leaving only a small black spot surrounded by a very limited cloudy area.

The following are two cases illustrative of the disappearance of the opacity in senile cataract, without absorption of the lens-substance—both, curiously enough, commencing after a severe attack of conjunctivitis. The first case was reported by Gardner[42] in 1891. The patient was 64 years old. The right eye had become so defective that reading was no longer possible. In the left eye there was only light-perception. At first glance both lenses presented the same appearance, but on closer examination it was seen that there were superficial clear striated areas in the right cataract, while the left was entirely opaque. The left lens was extracted, and during convalescence the patient was attacked with what was called "a severe conjunctivitis" in the unoperated right eye, which lasted one week. At the end of the fourth week vision with + 11 D. = $\frac{20}{20}$ in the left eye, and with — 1.50 D. = $\frac{20}{30}$ in the unoperated and formerly cataractous right eye. Several months later the refraction of the right eye increased to — S. 4.50—C. 1.50 axis 180, and vision fell to $\frac{20}{50}$. With the exception of a small grayish opacity posteriorly, the whole lens was quite transparent. Norris[63] has observed a somewhat similar case in which the subjective sensations caused by the development, ripening, and subsequent absorption of cataracts within their capsules were well recorded by an unusually observant woman of 75, over a period of 14 years. Following two severe attacks of conjunctivitis considerable visual change was noticed, and on rising one morning of the eighth year of observation, she found that she could see better than usual. Under full mydriasis, with a $\frac{1}{10}$ concave lens vision = $\frac{16}{100}$. Three years later the myopia had decreased, and with a $\frac{1}{30}$ concave lens, vision = $\frac{20}{200}$. With a $\frac{1}{5}$ convex lens, Jr. V. could be spelled out at four inches. This visual state remained the same until the patient passed out of observation, still wearing her glasses and keeping the pupils dilated with a weak solution of atropin. Norris describes minutely the gradual lenticular changes in both eyes.

This naturally leads to a few remarks on the treatment of incipient cataract. Drugs have proven absolutely valueless. The aims in this direction have been to furnish nutriment to the impoverished or vitiated intraocular structures or to apply locally or administer constitutionally some solvent or discutient substance Arsenic, strychnin, phosphorus, hydrocyanic acid, potassium cyanide, castor oil and its derivatives, cineraria maritima, pulsatilla, aromatic oils and many other medicines have been proposed, tried, and found worthless. Electricity was in vogue some years ago, but is now completely discarded.

As long ago as 1862, Sperino, of Turin, published an account of 45 cases of incipient cataract operated on by repeated paracentesis, in which he claimed that the results were very promising, in some cases perfect vision being restored. In 1865, the celebrated Sir David Brewster contributed a paper to the Royal Society of Edinburgh upon the cause and cure of cataract in which he described how he cured himself of incipient cataract. Hogg,[21] who became interested in the subject, wrote for a further explanation. In his reply, Brewster said that he believed incipient cataract to be due to impoverishment of the albuminous liquor Morgani between the fibers of the lens, causing desiccation. He thought that the necessary supply of fluid to the lens was derived from the aqueous, and that when there was too little water and too much albumin in that humor opacity commenced. He further reasoned that therefore incipient cataract might be cured:

1. By evacuating the aqueous by repeated paracentesis, in the hope that the fresh secretion might contain a less proportion of albumin and so counteract the desiccation of the lens.

2. By injecting distilled water or a fluid equivalent to healthy aqueous into the anterior chamber after paracentesis, to take the place of the fluid discharged and lower the specific gravity of the humor. In cases of soft cataract he thought that if simple evacuation did not succeed, a fluid more albuminous than the aqueous might be injected. Although Hogg carefully followed Brewster's experiments his results were practically negative. In a few cases he thought that he prevented the cataract from passing beyond the incipient stage. However, these cataracts might have remained stationary for many years if left untreated, and paracentesis and injection of the anterior chamber are rather formidable procedures to experiment with.

In 1891, Kalish,[41] after discarding all drugs, evolved a form of treatment of uncomplicated immature cataract, including strict bodily and ocular hygiene, careful and repeated refraction, a special form of manipulation and the instillation of a mixture of equal parts of glycerin and 1% solution of boric acid in rose water, for which he claimed good results in several cases. In a paper read in January, 1899,[62] despite the lack of support and unfavorable criticism for 9 years, he still maintained the beneficent results of his method, and claimed 69 successful results in 118 eyes, with even higher percentage in his very recent cases. There is little doubt that with the maintenance of good health, careful and repeated refraction and the proper use of the eyes, the chances of cataract maturing are greatly lessened, but beyond this any reliable method of treating incipient cataract has yet to be demonstrated, notwithstanding the clinical evidence as to its possibility.

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IRPIN REMOVED FROM THE BLADDER THROUGH A NO. 12 KELLY'S CYSTOSCOPE.

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N January 27, 1899, a young woman came to my office h a note from my friend, Dr. Henry S. Dessau, asking me make a cystoscopic examination of the patient. She ed that about two months before, while trying with a rpin to remove a Smith retroversion pessary, which she wearing, she suddenly felt that the pin was slipping away n her fingers and she was unable to find it anywhere r a thorough search. Shortly afterward she began to er from disturbances of the bladder, such as frequent and aful micturition, with a moderate amount of tenesmus. se symptoms persisted with variable severity until the sent time. She had been under the care of a prominent sician, who would not listen to her version that the hair- had mysteriously slipped away from her. He ridiculed idea, and attributed her symptoms to hysteria. Obtain- no relief she consulted Dr. Dessau, who referred her to ne.

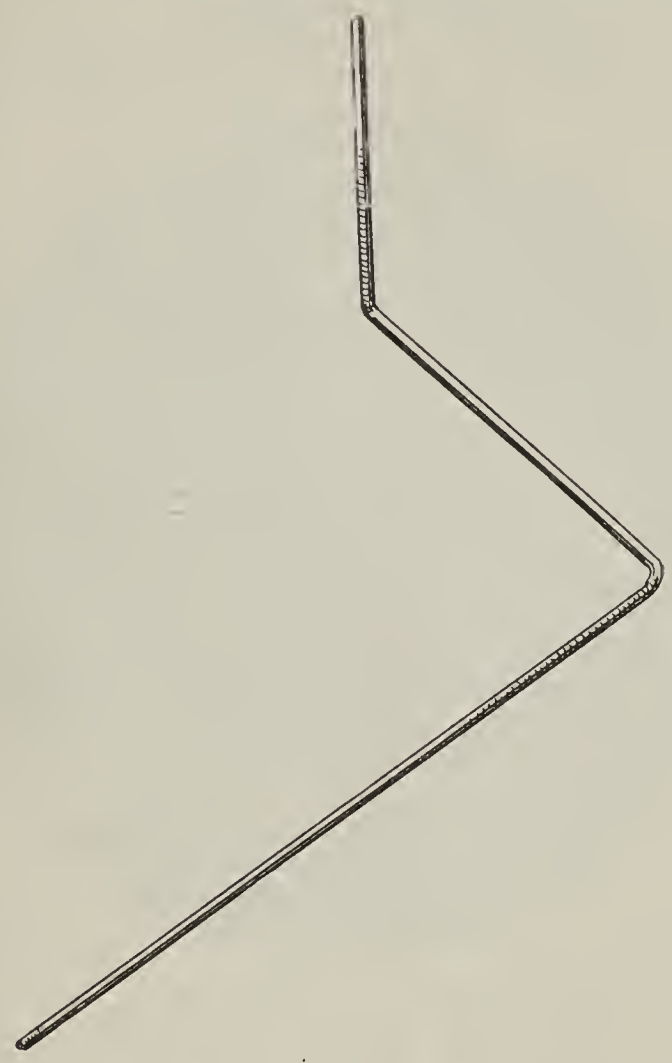
he patient was a very frail anemic young woman, about ears of age, and of rather a nervous temperament. She wearing a retroversion pessary. There was moderate lerness of the whole pelvic cavity. No foreign body ld be felt in the bladder through the vaginal wall.

lacing the patient in the knee chest position, I introduced o. 10 Kelly's cystoscope, and with a head electric lamp I enabled readily to see the missing hairpin lying trans- ely at the fundus of the bladder. The loop seemed to imbedded in the bladder mucosa. There were a few ions and some patches of hyperemia scattered over the le mucosa. I made an attempt to manipulate the hair- so that I might catch hold of the loop and thus extract it. after making several fruitless efforts I decided to break pin into several fragments, each of which could be easily oved through the cystoscope. With this object in view, roduced through the cystoscope (a No. 12) a fine tenacu- with which I hooked one of the shafts of the pin and ght it up against the vesical end of the tube. I then d the shaft of the pin with a long slender artery-forceps pulled it forcibly against the end of the cystoscope. The t did not break, but bent at almost a right angle. I was able to seize the free end of the bent shaft with the same ps and pulled the pin into the cystoscope as far as I d, which was just beyond the bent part. I then pulled the oscope from out of the urethra over the blades of the ps, which still held the pin in its grasp, and by gentle ion outward and upward was enabled to deliver the e pin without doing any injury to the urethral canal. n washed out the bladder with a boric-acid solution, a few days later made a topical application of a 5% ion of silver nitrate to the affected areas of the mucosa. n this time on, the bladder-symptoms entirely dis- ared.

he removed hairpin had a very slight deposit of a substance, presumably phosphates, upon it, and nged to the largest size, measuring 2½ inches (6.5 cm.) in length. It is more than probable that the accident occurred, not in the attempt to remove the pessary, as the patient averred, but in using the pin in the act of masturbation.

The accident reported is not so rare as one might suppose. A recent writer[1] was able to collect 50 cases in the literature of the past 50 years, and reported 2 cases occurring in his own experience. In the majority of cases the accident has occurred when a hairpin was used for the purpose of masturbation. In a few cases it has happened in an attempt to produce an abortion with the same agent, the hairpin being erroneously shoved into the urethra. It appears that the hairpin meets with little resistance until it reaches the sphincter of the bladder, when it is firmly grasped and drawn into the bladder.

Heretofore hairpins have been removed from the bladder either by dilating the urethra so that a finger



could be introduced, or by making a vaginal incision into the bladder and thus removing the foreign body. So far as I know my case forms the first in which a hairpin has been removed through a moderate-sized Kelly's cystoscope without any extensive dilation of the urethra. The patient's control over the vesical sphincter was not in the least damaged by the procedure.

Excision of the Spina Bifida.—Leonard T. Giles (*The Quarterly Medical Journal*, November, 1899) reports the case of an infant with a tumor, half the size of an orange, in the sacral region. Pressure was applied and Morton's fluid was injected without success. When the child was 7 months of age, an operation was performed. An incision was made and the sac, which was found to contain no nerve-fibers, was isolated. The neck of the sac was ligated and the sac cut away. The wound was closed with drainage, and the patient made a good recovery.

[1] A. F. Currier, *Trans. Amer. Gyn. Soc.*, 1898.

CONNECTIVE-TISSUE TUMORS OF THE ABDOMINAL WALL.[1]

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THE region of the body constituting the abdominal wall is made up of a number of well-differentiated layers, from any one of which neoplasms may develop.

Many of us have seen warty growths, pedunculated or sessile fatty tumors, or secondary infiltration of the abdominal walls from malignant intraperitoneal disease.

I propose to consider connective-tissue tumors, namely, fibroids and sarcomas, especially the former. An investigation of the literature of the subject demonstrates the rather frequent occurrence of these morbid conditions in this locality. After a moderately careful search, a sufficient number of cases was found upon which to base satisfactory conclusions.

Only two American writers, Ill and Reed, have described these tumors with some detail. Doran, an Englishman, gives his impressions in a short article, and two Frenchmen, Paèn and Guerrier, have gone into the subject quite extensively, and there are some articles of importance in German, notably that of Sanger.

In the clinical reports of cases much confusion exists as to the exact nature of these growths. Microscopic examination was seldom resorted to and the diagnosis was left obscure. Some have been described as fibroids, which unquestionably were sarcomas, and vice versa. The term "desmoid," which is synonymous with fibroid, has been used by some writers to describe tumors of a connective-tissue origin, developing more particularly from the various ligaments and aponeuroses. Some authorities prefer to look upon fibroids of the abdominal wall as fascial sarcomas. Senn declares that their clinical history and histological appearance does not warrant this conclusion and prefers to give them the name "desmoid fibroma" to distinguish them from the ordinary fibroid. Lisfranc, in 1837, wrote of them.

Boulanger, in 1842, referred to a tumor of the hypogastric region. In 1860 Huguier spoke of them as fibromas of benign origin, which involved and were adherent to the peritoneum, and had their origin from bone, generally the pelvis. Guerrier in his Paris thesis in 1883 says, the first probable mention of an intraparietal connective-tissue tumor was made by Sappey in 1850, who reports a case which answers to the description of sarcoma. The patient was a man, 51 years of age, who had a tumor the size of a melon, occupying the umbilical region. Nelaton, in 1862, attracted attention very particularly to this subject through a very full account of some cases in which the tumors were located in the iliac region, or near the crest of the ilium. Senn describes them as follows: "The tumor is composed of young connective-tissue cells with scant intercellular substance. The cells infiltrate the adjacent tissue, besides displacing them, and in this respect differing materially from ordinary fibroma. The walls of the new bloodvessels in the tumor display an intimate relation with the tumor-tissue. The endothelial cells lining the new bloodvessels are large and the tumor-tissue forms the greater part of the vessel-wall." The cause of the development of these tumors must be left to the pathologist. Cohnheim's theory of "the persistence of germinal embryonic tissues in the otherwise mature organism," or some modification of it, may satisfactorily explain their origin.

Sex is an important factor in their production. Sufficient confirmatory statistics have been collected, substantiating this point. Ill says 82% occur in women. In 38 cases collected by Gratzer, 33 occurred in women. Sanger reports 8 cases, all of which were of females. Guerrier refers to 44 records from the literature, and out of 35, where the sex was specified, only 3 were in men. In my list, which includes 100 cases, and which is in no way complete, 79 occurred in women, 16 in men, and in 5 the sex is not mentioned. The unusual preponderance of these growths in women has unquestionably a direct relation in many instances to pregnancy or labor. During advanced pregnancy or labor the abdominal walls are very prominent, and are often that account more exposed to surgical insults, like kicks and blows, which are frequently associated with the primary development of sarcomas and also fibroids. In 23 cases in this table, mention was made that the patients had either been pregnant about the time the tumors first were noticed, or in labor, or were mothers of several children. The great majority of the 100 were between 20 and 40 years of age; 15 were over 40, and of these, 9 had tumors presenting an appearance of malignancy; 4 were below 20 years. Age, then, seems to be a predisposing factor.

While the details of many of the histories are incomplete, there were enough to prove that another factor in their production was traumatism. In the pregnant condition the disturbances of nutrition, associated with injuries, or muscular violence of the abdominal wall during labor, have to do with their presence in the tissues. Eight cases reported by L'Abbe and Reed were caused by external injuries. A fact commented on by a number of writers is the peculiar susceptibility certain regions of the abdomen have for these connective-tissue tumors. They may make their appearance in any part of the abdominal wall; but their more frequent occurrence in the iliac regions, particularly the right, is a curious reality.

In 12 fibroids reported by Ill, 6 occurred in the right iliac region. Paèn refers to the predilections the region of the umbilicus, the ligament of Fallopius, the iliac spines and the floating ribs have for these tumors. He says the floating ribs are the point of election for supraumbilical and the iliac spines for subumbilical growths. In the table under consideration, 47 out of 100 occurred in the iliac areas, and of this number 10 resembled sarcomas. The umbilicus was the seat in 14 instances and the supraumbilical region in 11.

These tumors are sometimes situated very close to the pelvis, and it is not surprising that they should be confounded with intraabdominal and pelvic growths. A number of times well-known operators have been deceived and have operated for intraabdominal conditions.

Fibroids involve the various muscular and fibrous layers of the abdominal parietes, and may be subcutaneous, intramural or subperitoneal, and the difficulty with which the diagnosis is made generally depends upon their distance from the surface. While any connective tissue may act as a starting-point for the new growth, there are certain fascia like the sheath of the rectus muscle which especially encourage their formation. Fibroid tumors often have strong fibrous tissue bands, consisting in a thickening of some aponeuro-

[1] Read before the Clinico-pathological Society of Washington, D. C., November, 1898.

nich connect them to a prominent bony surface. The ac spines and crests, the floating ribs and the pubis, e the principal points for these ligamentous or oneurotic attachments. Nelaton describes them as ibrous tumors of the iliac crest," on account of bands nnecting them with the ilium. Doran speaks of their quent connection with the bony and cartilaginous rder of the abdomen, and this fact has induced some rgeons to believe in their periosteal origin. Fasciae d ligaments have attachments to bone, and as fibroids d sarcomata develop in these tissues, it is not neces- y to seek an explanation in a periosteal origin.)ran says the posterior sheath of the rectus seemed to the origin in 8 out of 27 cases, the linea alba in 5, e transversalis aponeurosis in 5, and that of the ternal oblique in 3. In 8 of the cases collected for s article the attachment was to the spine of the ilium d in 10 to the rectal sheath. The linea alba is a orite location, and also the umbilicus, which is a ss of fibrous tissue of a low order of development.

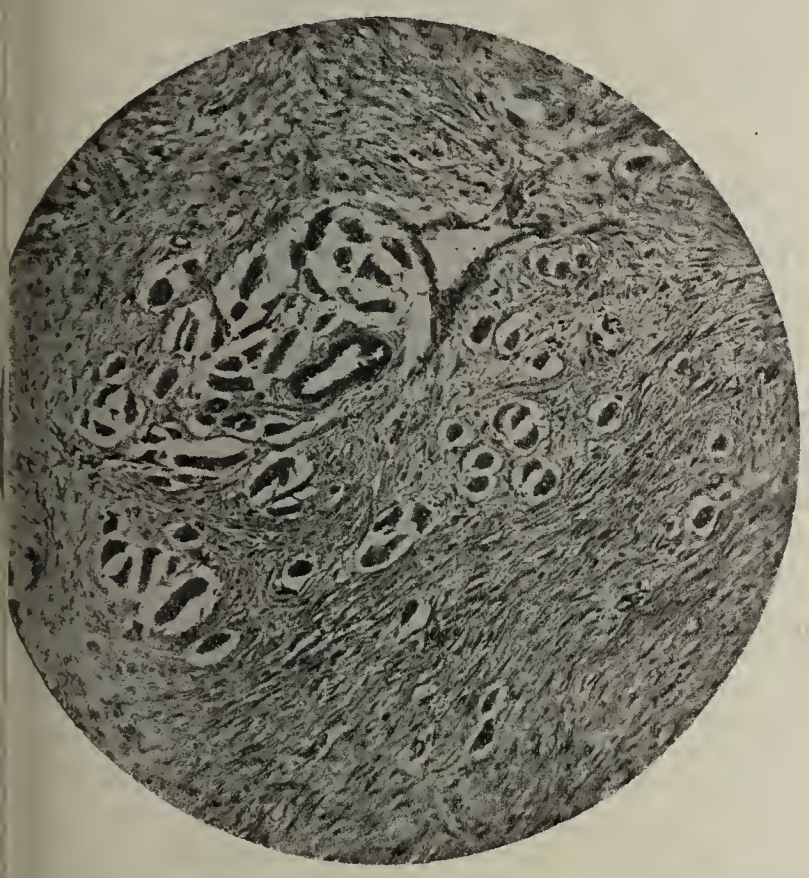


FIG. 1.—Amplification 117 +. Fibromyxoma.

he fibroid tumor usually develops very slowly at , many months sometimes elapsing before it has uired sufficient size to attract the attention of the ent, and it is wonderful how prominent they may me before they are noticed. They may never me large; but often they will grow rapidly, owing the stimulating effect of pregnancy, or of some se in the life-history of the tumors, and may reach a size as to involve nearly all the abdominal area. Weir reports a case of fibroma which extended from iliac spine to the other, reaching to the umbilicus, weighing 11 pounds. In the absence of a micro- ical examination there is always a strong possi- y of very large tumors, described as fibroids, being omas.

ernueil (in 1879) alludes to a tumor the size of a ut in the region of the umbilicus, which in 15 ths occupied three-fourths of the abdominal wall, nding from the pelvis to a point above the umbilicus laterally into the flanks. This he thought to be etal, developing from the cavity of Retzius. When first recognizable a fibroid appears as a small, round, smooth, well-circumscribed nonsensitive tumor. As it grows it may become ovoid or flattened, its shape depending considerably upon its situation. The more superficial it is, the better the original shape is preserved; the deeper, the more it is affected by the planes of the tissues between which it lies. With mature development, it may become multinodular. A superficial fibroid presents a smooth rounded surface, with a rather flattened base, connected with the superficial fascia. The skin is separated from the muscles and fascia by quite a thick fatty layer, which renders difficult the adherence of skin-tumors to the deeper layers and of deeper growths to the skin. Malignant disease and inflammatory conditions form an exception to this general rule. A cutaneous tumor is movable on the muscles below, as is the skin itself over a deeply situated tumor. The skin, then, is movable over it, and with relaxation of the abdominal wall the tumor itself shows considerable mobility; with contraction of the

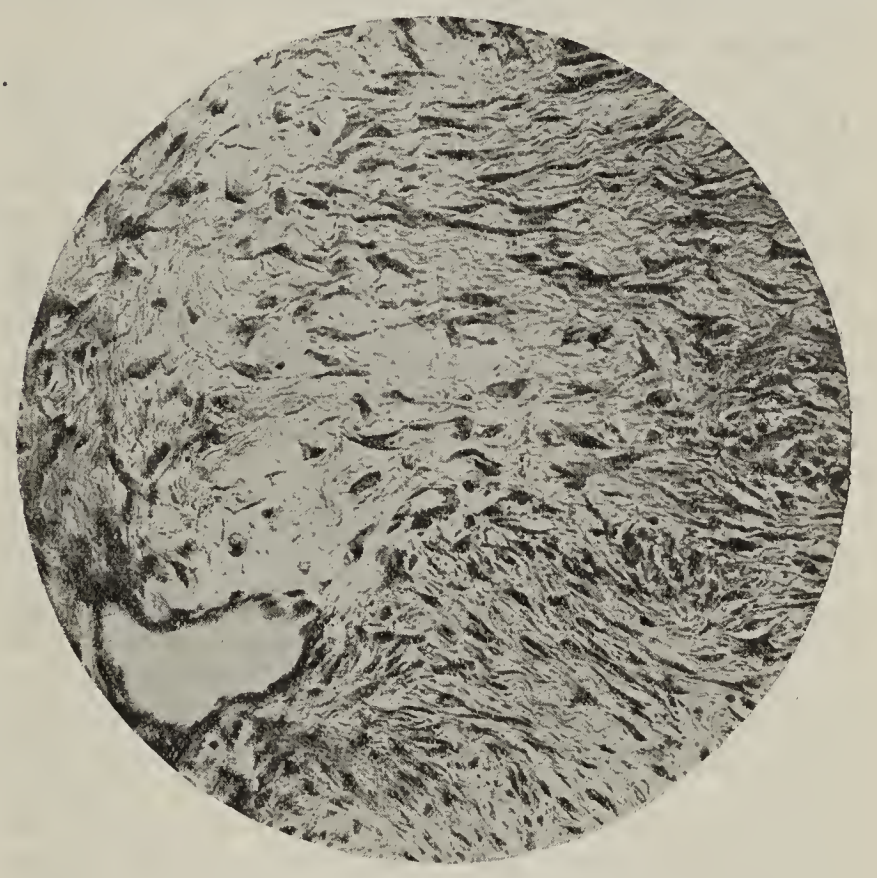


FIG. 2.—Amplification 295 +. Fibromyxoma.

muscles, however, it becomes quite fixed. A tumor imbedded in the deeper layers, and particularly in fat subjects, is more difficult of recognition. The fingers which could outline and even get behind a superficial growth now experience considerable difficulty in defining its limitations. If the muscles be relaxed in spare patients, the tumor may sometimes be pulled up, causing traction at the same time on the neighboring tissue. In firm contraction of the muscles it is apt to slip from the fingers. When the muscles are contracted the superficial tumors become more prominent; the deeply situated less noticeable. This is because they are forced by the muscles in the direction of least resistance.

Centrally situated tumors would project equally toward the skin and peritoneum. All parietal growths of moderate size rise and fall with the respiratory movements of the abdominal walls, and this is a point of distinction between them and abdominal tumors, impinging against the walls; for the latter do not possess this movement and become more obscured with

inspiration and contraction of the muscles. The difficulty in diagnosis here would be to distinguish between a subperitoneal parietal fibroid and an intraabdominal tumor, which has acquired adhesions to the anterior wall. The closer the proximity to the pelvis, the greater this difficulty. Symptoms rarely develop. Occasionally some pain is experienced, and in large tumors we may have certain uncomfortable sensations, due to pressure.

There are three or four varieties of fibrous growths, which occur in, or rather on, the abdominal wall, which are quite different from those which occupy our attention.

They are the mole, which is a flattened fibrous growth, with a tendency to malignant alteration; the keloid, which follows some injury to the skin; the painful subcutaneous tubercle, probably always associated with nerve-fibers and having nerve-tissue as a component part; and lastly, what has been described as the multiple subcutaneous fibroma, which are small fibrous nodules connected with nerve-filaments, and sometimes are very numerous.

Muscular tumors—myomas—never exist in the abdominal wall. This is owing to the fact that the muscles of the abdominal wall are striated, and rabdomyomata are among the rarest of tumors and are almost entirely confined to the genitourinary tract. Any striated muscular fiber found in a parietal fibroid would exist simply through the involvement of the muscle with the fibrous elements of the tumor. Sarcomas in the commencement of their development are indistinguishable from fibromas. They develop much more rapidly than the latter and are more frequently attended with pain.

Lancinating or burning pains are spoken of as characteristic, but there is no rule regarding them. Like fibroids, they may remain smooth, round, firm and movable; as they develop they commonly become nodular and irregular, and, although at first hard, have a tendency to soften in some of the nodules, becoming pulpy or cystic. The older parts of the tumor show the greatest tendency to soften, the younger parts being firm. A sarcoma finally contracts adhesions with the skin, which becomes of a reddish or purplish hue, becomes inflamed, and, after a time, breaks down, and ulcerates, either as a result of pressure or rubbing of the clothes, or owing to the inherent tendency of malignant tumors of the skin to ulcerate. About the ulcerated area the tumor may become soft, spongy and hemorrhagic. It develops rapidly along the planes of the abdominal layers, extending by the bloodvessels and by direct invasion of the surrounding tissues. The history of these abdominal tumors is that of sarcomas in general. The end is usually fatal. After incomplete removal of a benign tumor there is a tendency to recurrence, and this is so with fibroids. In several reports the term "recurrent fibroid" has been used. This name, however, is now generally used to designate a pathologic condition which is considered sarcomatous. Introduced by Paget, it referred to a tumor containing a large number of spindle-cells, which was identical with the spindle-celled sarcoma, the least malignant form of sarcomas. The differential diagnosis from other tumors is ordinarily easy. Localized inflammations, with or without the presence of pus, may be pointed, flattened or tender; the skin being of normal appearance or reddened. These may be confounded with sarcomas.

Tense cysts imbedded in the wall, hemotom resulting from injuries and angiomas, may resemb fibroids. Lipomas have characteristics ordinarily u mistakable. Carcinomas, primary, or secondary infiltration from internal organs, sometimes occur.

About the umbilicus we may find dermoid and h datid cysts, and below, cysts of the urachus. Cutan ous tumors usually lead to no confusion.

When the growth involves the inguinal regions may be a delicate matter to distinguish it from ha tumors and cysts of the round ligaments, glandul enlargements and herniae.

About the proper treatment of these abdominal t mors there can be no question—this is early extirp tion. Very little else has been suggested or resort to. Mention has been made of cutting the pedicl and of making incision into the growth either subc taneously or openly. The result has been what we mig easily expect, continued development with occasion infection. One gentleman, evidently of another scho says he reduced a smooth, fixed, hard tumor, exten ing from the pubis to the ribs, to the size of a lemo by the use of arsenic to the sixth dilution, combin with sulphur. Electricity has been used, but witho success. As an offset to conservative suggestions thr reasons may be advanced in favor of early operation (1) The tendency of fibroids, so located, to take rapid and unexpected growth; (2) the tendency in t same to undergo degenerative metamorphoses or m lignant transformations, and (3) the always prese possibility of their being sarcomas.

One point to bear in mind in operating on the mo deeply situated tumors is their tendency to form adh sions with the peritoneum. This usually necessitat the opening of the peritoneal cavity and the remov of a greater or less portion of the peritoneal lini Once a piece, "the size of two hands," was remove and the patient recovered. The older surgeons the preaseptic days rightly considered the accident one of serious consequence. Twenty references a made to it in the table of cases with two deaths. In report of 86 cases elsewhere, 7 patients died of pe tonitis. On account of the occasional tendency fibroids to recur, another operation may become nec sary later on. One patient had 6 operations before s was considered cured. Where recurrence takes pla after the removal of a sarcoma the use of Coley's tox of streptococcus and Bacillus prodigiosus should considered.

The patient whose case I wish to report is a young marr woman, aged 26 years, the mother of one child 4 ye old. Apart from the condition which concerns us he her clinical history is without interest. I will read no of the case taken from the hospital report. Nearly th years ago her attention was directed to a small, h nodule, situated in the right inguinal region. This cau no symptoms whatever, and the only thing that induced h to seek professional advice was the fear that it might malignant. On examination before operation an elongat ovoid tumor was felt, 2½ inches long and 1½ inches wide, ve slightly movable, firm, occupying a portion one inch wit the anterior superior spinous process of the ilium, extend down in the direction of Poupart's ligament and about o half inch above it. There was no impact on coughing—no t derness on pressure and no subjective symptoms—the appe ance of the skin was normal, the skin being movable over tumor. Date of operation, July 21, 1896. Anesthetic, eth incision 4 inches long, parallel with Poupart's ligament about one and one-half inches above, extending from j within the spinous process to a point a little below the cen of the ligament. On exposing the aponeurosis of the exter

blique, a rounded hard tumor was felt below it, which oved with the muscle. On dissecting, the tumor was und to be intimately connected with the aponeurosis f the external oblique muscle and the muscular layers ing to the left. These muscular fibers were cut through ear the tumor and the inner end liberated; the outer end as held by a fibrous band which was cut through, ordinary ucleation being impossible.

On removing the tumor, peritoneum and fat were exposed ver an area nearly the size of the growth. The operation as completed as if for the cure of hernia, on account of e weakness produced in the abdominal wall; this consisted bringing the muscle and aponeurosis together by means 6 silk mattress sutures, joining the aponeurosis more osely by finer silk and approximating the skin by a conuous subcutaneous suture.

On examining the specimen more carefully, it seemed to volve all the abdominal layers and was intimately conected with the fascia of the external oblique muscle.

The pathologic report which follows was made by r. Gray, of the Army Medical Museum, and his diagosis was fibromyxoma. The diagnosis of fibromyxoma eing established, the necessity of early and thorough moval is rendered especially clear, owing to the ceptional tendency of myxomas to become sarcoatous. After an interval of two years there has been o recurrence.

Pathologic Report.—The growth submitted for microscopic amination proves to be a fibromyxoma. I believe it to ve developed from the interfascicular connective tissue of e abdominal muscle on which it was found; on section it ows wavy interlacing bands or bundles of exceedingly fine nnective-tissue fibers; these fibers are highly refractive, eatly resembling the finest yellow elastic fibers, both in ze and appearance, the bundles run in all directions and e richly supplied with cells. The cells are very variable th in size and variety; the large spindle and stellate cells edominate, but the growth also contains many small indle, small round, and large round cells.

The vascular supply is quite rich, many of the vessels ow typical muscular walls, while others have their walls ade up of one or more rows of spindle-cells. Scattered roughout the growth may be seen small open spaces which e partially filled with muscle bundles, these bundles are identy the remains of the muscle from whose connective ssue the growth developed; the nuclei of the muscle still main, but the striation has entirely disappeared and many the bundles have undergone hyaline degeneration.

GLOSSO-LABIO-LARYNGEAL PARALYSIS, WITH REPORT OF A CASE.[1]

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THE case which I wish to present is one of glosso-labio-ryngeal paralysis, or, as it is otherwise known, bulbar ralysis.

The patient, a white man, 47 years of age, married, entered . C. W. Richardson's service in the Dispensary of the Columan University Hospital on April 3. He was of medium height d good appearance; hair, noticeably thin, short, and filled th dandruff. This last he ascribed to an attack of eczema, m which he had suffered for two years past. Physical amination, aside from the effects of the bulbar trouble gative. No history of venereal disease or of previous rvous trouble could be obtained. Family history, negative. He stated that he first noticed difficulty in his speech in e early part of last February, and that this condition d become progressively worse. Not long after, pain appared in the inner and upper aspect of his left arm, and this s persisted with greater or less intensity, and with occasional intermissions, to the present time. It was accompanied by an increasing weakness of that arm; its strength when first examined, being about ⅓ of that of the right. When he entered the dispensary, his speech was "thick," like that of one "tongue-tied," and his voice had a nasal twang. What he said, could easily be understood, as soon as one became used to it. Examination showed that the posterior part of the tongue especially, and probably the soft palate also, did not enter into the formation of words. He had particular difficulty with the letters S, T, R, L, and N. Examination of the larynx and pharynx was negative. Diagnosis of glosso-labio-laryngeal paralysis was made, which was confirmed by Dr. Richardson He was put upon potassium iodide, and kept under observation.

During the next two months, his condition became gradually worse, and on account of involvement of the muscles of the lips, he had an increasing difficulty in pronouncing the letters P, F, O, A, B, M, and V. He also became unable to pucker up his lips to whistle. The weakness in his left arm also increased. He had difficulty in swallowing solid food, and this was greater at some times than at others.

In the latter part of June he went to the country, and was not seen again until September 19. His condition was then found to be much worse. His speech could with difficulty be understood, even after one became somewhat accustomed to it, so that his wife did almost all the talking for him. The tongue was thin and flabby, and evidently atrophied; its surface was covered with furrows, and there were constant fibrillary contractions of the muscular fasciculi. Its mobility was also diminished, the ability to protude it being about ¾ of the normal, and to move it from side to side not more than ½ of the normal. The condition of the lips was also somewhat worse, although the atrophy was not so marked as one would expect. No atrophy of the muscles of expression could be detected. The naso-labial folds appeared somewhat deepened, and the lower part of the face did not enter into the act of laughing to the usual extent. He was emotional, and cried frequently,—which, however, was not unnatural for one in his position.

As regards the larynx and pharynx, his voice had become weaker, and he had frequent choking spells from food entering the larynx; some of these were very severe. He also had occasional paroxysms of threatened suffocation upon awakening, and he was obliged to sleep propped up by pillows. Reflex action in the affected muscles of the throat was diminished. Sensation appeared unaffected. The muscles were not tested for the reaction of degeneration. Salivation was excessive, and the saliva dripped from the corners of the mouth when he laughed. The pupils were normal, and reacted to light. There was no paralysis of the ocular muscles.

In July, the right arm became affected in the same way that the left had been, and on September 19 the weakness of both arms had become so great that he could not dress himself. A constant twitching contraction of the individual muscles on the anterior inner aspect of the upper arm apparently analogous to that in the tongue, could be seen through his shirt. About September 1 he noticed an excessively tired feeling in the upper anterior and inner aspect of the right thigh, which, after unusual exercise, amounted to an ache. That limb also "gave out" before the other. The weakness increased rapidly, so that at the time of this examination, he was unable to walk to the dispensary.

His condition since September 19, as shown by frequent examinations, has been practically stationary.

Treatment.—He was directed to pass as much of his time as possible in a warm, sunny room. Those about him were instructed to divert his mind from his malady as much as they could, and to spare him all worry and anxiety—in short, everything was done to make his surroundings bright and cheerful. He was permitted to walk out on clear warm days, the amount of exercise always stopping short of fatigue. The food ordered for him was nourishing, and easily digested. Great care was taken to prevent the entrance of particles into the larynx, and so far it has not been necessary to use the stomach-tube in feeding him.

When first seen, he was put upon 60-centigram

[1] Read before the Medical Society of the District of Columbia, November 1, 1899.

doses of potassium iodide, thrice daily. Upon his return to the city, the dose of iodide was rapidly increased until he is now taking 4-gram doses, three times daily. A simple tonic, containing iron and quinine citrate, and compound tincture of gentian, was also administered.

Sulphonal proved effectual in relieving the insomnia from which he occasionally suffered. Early in the case, he was given for this trouble, two $\frac{1}{8}$-grain tablets of morphine sulphate, with $\frac{1}{200}$-grain atropin sulphate, with directions to take one at bedtime, and the other in one hour if he was not asleep. The first one produced such an alarming attack of dyspnea as to preclude the possibility of his taking the second. This effect of opium in bulbar paralysis is worthy of note. It is, in all probability, caused by the depressing effect of the drug upon the respiratory center in the medulla oblongata. Although this physiologic effect of opium is well known, serious, and even fatal results have followed its use in cases in which the respiration was embarrassed,—*e. g.*, in pneumonia, pneumothorax, and similar affections,—depression of the center being added to the already existing respiratory embarrassment. In the case under consideration, however, no embarrassment of the respiration existed before the drug was administered. Whether the proximity of the lesion of the disease to the repiratory center has any effect in intensifying the depressing effect of opium cannot at present be stated.

A spray of Dobell's solution for use in the nose and throat was ordered as a cleansing agent. For the nervous and hysterical attacks, a mixture containing sodium bromide and compound spirit of ether was prescribed. Galvanic electricity was applied every other day, and later, at less frequent intervals; the positive electrode being applied at the nape of the neck, and the negative over the sacrum.

As chronic bulbar paralysis is not a common disease, it may be well to recall some of its more important features. It was first recognized as a distinct affection by Duchenne in 1861, who described it, and reported thirteen cases. In 1861, Baerwinkel, and in 1864, Schultz and Wachsmuth, stated their belief that the seat of the lesion is in the medulla oblongata. This theory was confirmed by autopsies made by Charcot and Joffroy, in France, in 1869, and by E. Leyden, in Germany, in 1870.

Since then, microscopic examination has shown that the primary lesion in the medulla consists of a progressive degeneration of the nuclei of origin of the hypoglossal, glosso-pharyngeal, pneumogastric, and spinal accessory nerves and occasionally of the facial, the process usually commencing in the origin of the hypoglossal nerve. As these parts represent the continuation upward of the nuclei of the anterior cornua of the cord, it is not unusual to find also a corresponding degeneration of these nuclei. There may also be found a descending degeneration of the anterior pyramids of the medulla. The muscles of the tongue, lips, and throat are more or less atrophied.

The disease is therefore a form of progressive muscular atrophy, causing paralysis of the muscles of the lips, tongue, palate, and throat, and is produced by a degeneration of the motor nuclei in the medulla which supply these muscles. It may accompany a corresponding degeneration of the motor nuclei of the cord, causing progressive muscular atrophy; or it may precede or follow the spinal lesion; or, it may affect the bulbar nuclei alone, in which case a pure glosso-labio-laryngeal paralysis results. In the case above reported the spinal lesion followed that in the medulla.

The cause of the disease is obscure. It has been ascribed to the overuse of the muscles affected, as by blowing wind instruments, excessive talking, etc.; to syphilis, lead-poisoning, tumors of the medulla or vicinity, and to excessive exposure to the weather; but in the great majority of cases no cause can be ascertained. It is said to occur more often in men than in women, although Dana states that this is contrary to his experience. It is a disease of adult life, most cases appearing after 40 years of age.

The prognosis in the case reported, as well as in all cases of the disease, is unfavorable. The patient has had remissions, sometimes lasting several weeks, and also intervals of apparent improvement. These have given rise to some hope that the treatment might be successful; but, taken altogether, the course of the disease has been progressively downward. This is in accord with the literature upon the subject of glosso-labio-laryngeal paralysis, according to which, it is a question whether any case has ever recovered. Death is usually caused by bronchopneumonia, interference with swallowing or respiration, or inanition.

The diagnosis usually presents little difficulty. The slow onset, progressive course, evident motor character, absence of disturbance of sensation or of special sense, or involvement of the ocular muscles, and its bilateral character, serve to distinguish the disease from others with which it might be confounded. The most important of these are facial paralysis, bulbar apoplexy, and tumors and cortical lesions producing "pseudo-bulbar paralysis."

In facial paralysis speech is affected but little and in a different manner from that in bulbar paralysis; the onset is acute, or subacute; it is unilateral; and the appearance of the face is characteristic. Bulbar apoplexy is sudden in onset. Differential diagnosis from "pseudo-bulbar paralysis" is somewhat more difficult, but the lesion in this condition usually involves other, as well as, motor functions—sensation, the special senses, or the ocular muscles.

PERONEAL TYPE OF PROGRESSIVE MUSCULAR ATROPHY. REPORT OF TWO CASES.[1]

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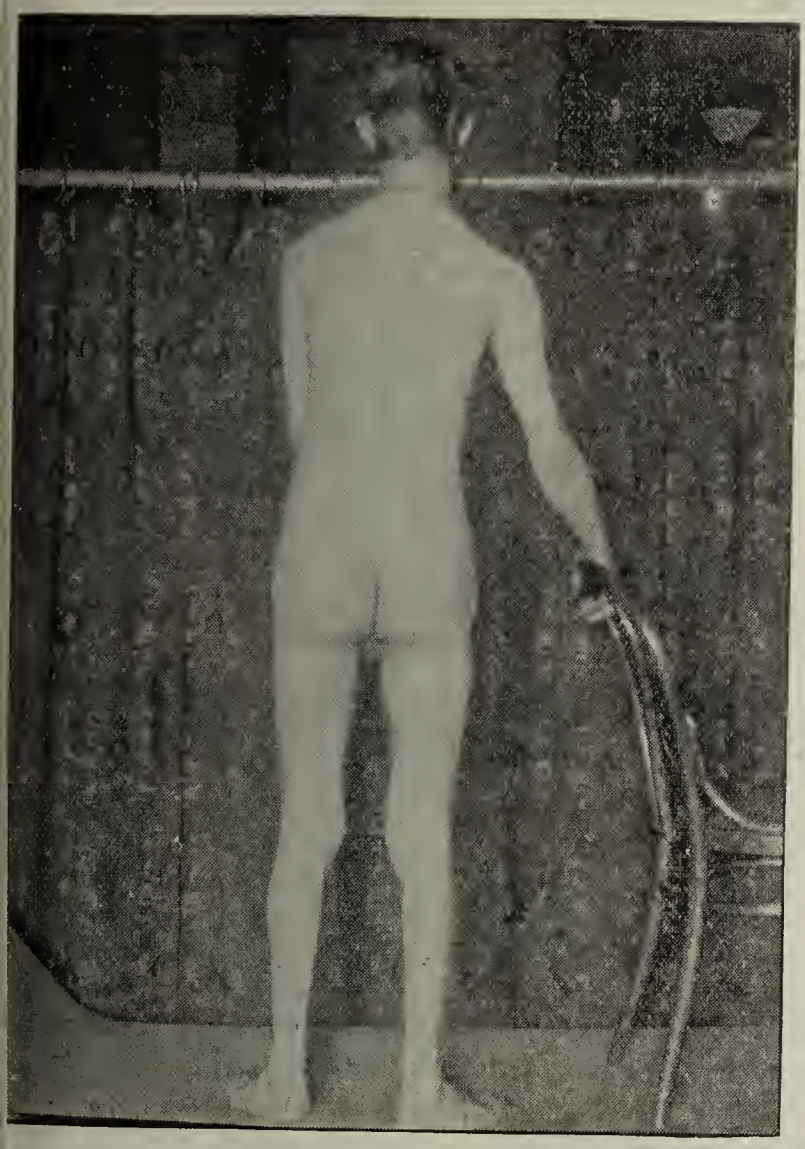
THIS disease, which has been variously termed progressive neural muscular atrophy, progressive neuritic muscular atrophy, and the peroneal form or leg type of progressive muscular atrophy, was first described by Charcot and Marie in 1886, and soon afterwards by Tooth. It has been carefully studied by Hoffman, Dubrenilh, Sachs, Jacoby, Bernhardt, and others. Both in its symptomatology and pathology it probably occupies a place midway between the dystrophies on one hand, where the primary lesion is in the muscles themselves, and the progressive spinal muscular atrophies on the other hand, where the initial lesion is in the gray matter of the cord.

Of all the varieties of progressive muscular atrophy,

[1] Paper read by title before the Section on Nervous Diseases of the American Medical Association at the meeting held at Columbus, June, 1899.

ıe peroneal type seems to present the greatest difficulty ; to its proper classification; and there are very good easons for setting it in a class aside from the group of rogressive muscular dystrophies. Moreover, the dis- ıse is rare. For these reasons it seems desirable that very case of it should be placed upon record. I desire, ıerefore, to present briefly the notes of two cases re- ırring in one family which came under my care.

These two patients, brother and sister, are 20 and 25 ears old, respectively. They have no elder brothers · sisters. But they have a sister, aged 17, and two others, aged, respectively, 9 and 15, who are quite ell. One brother died at the age of 3 years. The ırents are living and in good health. No relatives er suffered from progressive muscular weakness. The sease began in the girl at the age of 16, and in the y at the age of 15. The progress and manifestations



the disease was, in both cases, alike, being more anced, however, in the girl.

ASE 1.—The girl is now 25 years old. Wasting of, and of power in the legs began at the age of 16 and pro- ssed until the age of 21, since which time it has remained ionary. With the cessation of progress in the legs, ting of the arms and loss of strength in the arms begun has progressed up to the present time. There has been pain or other sensory disturbances of any sort during the gress of the disease. At the present time the arms and are greatly wasted. She is, however, able to walk about vly, in a lumbering, waddling fashion; but the slightest h serves to cause her to lose her balance, and she, in sequence, frequently falls. Sensation is normal. There either pain nor tenderness. The kneejerks are absent. eats and sleeps well. Her mind is clear.

ASE 2.—The boy is now 20 years old. Since the age of 15 ıas been losing strength in his legs and they have been ting. He has not suffered from pains or other sensory urbances at any time. For several months past his hs have been wasting and losing in strength.

Three years ago he began to experience difficulty in going up stairs and this has since steadily increased. For many months past his method has been to advance one foot and then to draw the other foot up on the same step on which the advanced foot was placed, at the same time grasping the bannister. In arising from the floor he climbs up his own thighs in the manner described by Gowers many years ago.

The wasting in the legs is now very marked (see illustration), and especially involves the calf-muscles. The thighs are much less but still appreciably wasted. The left buttock and thigh are distinctly smaller than the right. There are no sensory changes. The kneejerks are absent. He is unable to arise from the floor unaided, but can do so by grasping a chair. There is no appreciable wasting of or loss of strength in the arms. The young man has been, up to the present, working in a mill where great strength in the arms is required. But, as in his sister's case, a slight push serves to send him off his balance; and through this uncertainty of station he has met with several severe falls. His gait is waddling, slow and lumbersome. There is talipes equinus in the left foot. Response to electricity in the paralyzed legs is very sluggish and they exhibit the reactions of degeneration. Mentally he is normal.

These cases, I believe, clearly belong to the peroneal type of progressive muscular atrophy; for they exhibit all the cardinal symptoms by which this variety of progressive muscular atrophy may be identified. These features briefly are as follows: (1) The presence of the disease in more than one member of a family; (2) its slow, insidious onset in the leg muscles with the steady progress of palsy and atrophy with later involvement of the thighs and then of the arms; (3) the absence of kneejerks; (4) the early age of onset (before 20); (5) the absence of hypertrophy; (6) the presence of quantitative and qualitative electrical changes in the wasted muscles; (7) the absence of pain (but minor sensory symptoms may be present).

These features are sufficient to distinguish the disease from progressive spinal muscular atrophy, progressive muscular dystrophy, chronic poliomyelitis, or multiple neuritis, diseases with which it might be confounded.

It is pretty generally agreed that the peroneal type is to be distinguished from the dystrophies or myopathies in that the disease does not originate in the muscle itself. It, however, is like the myopathic type of atrophy in that it is due to an original embryologic defect and is a family affection; but whether the anterior horns of the spinal cord or the nerves are primarily involved, or whether sometimes one and sometimes the other, or both, is not yet fully determined. Dubrenilh found degeneration of the peripheral nerves with a normal spinal cord in a case examined postmortem by him. Although the pathology of the disease has been much discussed, only a very few autopsies have been held, not enough to settle it. Obviously further postmortem studies are needed to definitely determine the pathology of the disease.

REPORT OF A CASE OF GANGRENE OF THE TONSIL.

BY ALEXANDER C. HOWE, M.D.

of Brooklyn, N. Y.

Assistant Surgeon, Throat Department of Manhattan Eye and Ear Hospital; Surgeon, Throat Department, Williamsburgh Hospital.

I WAS requested by another physician to call on a patient suffering from a severe sore throat. He had attended him for a week with positively no improvement, and was very anxious regarding his condition. I found the patient, a young man of 26 years, bolstered up in a half-sitting position. He had the peculiar pallor and partial stupor or lethargy of considerable toxemia. The stench in the room was simply fear-

ful, and at once suggested some necrotic process. A vessel at his side contained a dark brownish semi-solid material that he had expectorated. Both lips were excoriated and swollen. In fact, the whole of the lower part of the face and submaxillary region, especially the left side, was swollen. Fetid dark-brownish mucus was constantly oozing from his open mouth. Respiration was entirely oral. Every few minutes a painful effort to expectorate was made. Deglutition was almost impossible because of the great pain.

The history given was that the throat had begun to get sore a week before. Chill, fever and myalgia were severe at the onset. For the first few days the symptoms were similar to an unusually severe case of peritonsillar abscess. The usual local and internal treatment for such a condition had been given except that no incision had been made. Both the pain and swelling in the region of the left tonsil had increased, and the day before I called he had begun to expectorate a brownish, foul-smelling discharge. He was rapidly becoming emaciated and prostrated, and was bathed almost constantly in a profuse perspiration. Almost from the first it had been impossible for him to sleep except sitting up, and then only for a few moments at a time. Temperature was 104.4° and pulse from 110 to 120.

On looking in his mouth I found his gums, the inner surface of the labia and the under surface of his tongue greatly swollen and covered with deep excoriations or ulcers. Both tonsillar regions were swollen and of a deep red or purplish color, indicating considerable stasis. On the left side was a large tumor that involved the entire tonsillar region extending beyond the median line nearly to the opposite tonsil and well up into the nasopharynx. On the anterior surface of this tumor was a circular necrosed spot about half an inch in diameter of the peculiar greenish color of gangrenous tissue, and in its center was a perforation through which came a dark brownish grumous discharge. This evidently was the source of the brownish material he was expectorating. On the inner surface of the mass was a similar spot, also perforated, and exuding a similar material. An incision was made connecting the two gangrenous portions. No pus flowed, but a dry, stringy or fibrous, gangrenous mass presented itself at once, indicating that the whole interior of the mass was necrosed. With the forceps a rounded mass about the size of an ordinary hickory nut was removed without effort, much as a nut could be picked from its shuck or shell. The odor was foul beyond description. The mass, which was the entire necrosed tonsil, was black and firm and could be sliced much as putty or moulding clay can. It had every appearance of having rapidly undergone a dry gangrenous process. The removal of the tonsil exposed a large cavity lined with a half an inch or more of greenish black, necrosed tissue. There was very little evidence of disintegration or breaking down, but it was in a dry stringy or fibrous condition. H_2O_2, 25%, was applied thoroughly to the entire cavity without causing pain, and an alkaline cleansing wash was given, with supporting treatment.

The following day it was evident that the gangrenous process was still active, as it had extended further anteriorly and the excavation was somewhat deeper. As much of the necrosed tissue as possible was cut away and H_2O_2, 25%, again applied. The same treatment was again given in the afternoon. The following morning the necrotic process was still actively progressing and the cavity had deepened to about an inch and a half, and seemed to include some of the larger bloodvessels. Considerable necrotic tissue was again cut away and pure nitric acid applied. That also caused no pain, but seemed to dry and whiten the dead tissue. The case was now desperate. Severe hemorrhage was possible at any moment with the patient on the verge of collapse and in a pitiful condition.

Fortunately the nitric acid seemed to stop further gangrenous process. The next day indications appeared of an attempt to slough off the necrosed tissue, the temperature began to drop, and there was less exquisite pain on deglutition. After removal of the necrosed tonsil there had been but little pain in that region except on motion of the parts. The ulcers on the lips and tongue showed no tendency to heal so long as the sloughing off of the dead tissue continued.

Nitric acid, H_2O_2, and the cutting away of as much necrosed tissue as possible was continued until the tonsilar region was entirely free from dead tissue. Healthy granulations soon appeared and the cavity rapidly filled. The healing of the labial and lingual ulcers was slow and tedious. The patient rapidly recovered and in about three weeks after I first saw him was about and out. After healing, the soft palate was drawn considerably to the left side and backwards, but in no way interfered with deglutition or phonation.

The patient, before this attack, had been apparently a well, strong fellow, except for a certain amount of pallor, that was accounted for by his habits. He was athletic in build and tastes, weighing about 170 pounds, and standing about 5 feet 11 inches. His weight during his illness had fallen considerably below 130 pounds. He did not use alcohol in any form and was a moderate smoker, but had practised excessive venery and had deprived himself of a great amount of sleep. He gave no history of venereal disease other than occasional attacks of gonorrhea. He was perfectly frank in his statements, and I had no reason to doubt his word.

His subsequent history was as peculiar as the attack just described. About three months after this illness, while doing camp duty in the militia, he contracted a severe cold, which manifested itself chiefly as a rhinitis. Severe epistaxis followed, which was only stopped by intranasal packing. Free hemorrhage returned at every attempt to remove the packing, and in this condition he was brought home. There he was attended by his family physician, who was unable to control the hemorrhage, except by continuing the nasal plug. Hemorrhage resulted from every removal of the packing, and it was replaced. In a few days a foul-smelling discharge began from his nares, similar in odor to that noticed during his previous illness. Multiple abscesses and superficial capillary hemorrhage appeared, and he died from a general septico-pyemic condition. The history of this last illness I secured from the attending physician.

There is apparently but one deduction to draw from this history. There was an inherent lack of tissue vitality, which was exaggerated by his excesses and bad hygiene, so that in the usual inflammation of a peritonsillar abscess the nutrition of the involved tissue was reduced to such an extent that the tissues rapidly necrosed without any severe infection, and so rapidly that a large amount of tissue was dead before disintegration could take place to any extent. In his last illness necrosis probably followed an acute rhinitis, aggravated by a diminished nutrition, due to the pressure of the packing placed in the nasal cavity to stop the hemorrhage. I have since treated several immediate members of the family and have found no unusual vitiated constitutional conditions.

Night Air of New England for Tubereulosis.—C. S. Millets (*Maryland Medical Journal*, January, 1900) reports the result of sleeping in the open air for relief from tuberculosis. A young man whose family history was very bad, who had dulness from right apex to second rib, impaired resonance in both apices, a pulse of 84, and a temperature of 100°, was advised to begin sleeping in the open air. This was begun in the month of June and had continued for 5 months at the time the report was made. Improvement was soon observed. His fever disappeared, he gained 2 pounds in weight, appeared perfectly well and worked hours per day in a shoe factory during the course of treatment without the loss of a day. Several other cases were reported, in all of which the treatment was practically the same—sleep in the open air, full feeding on nutritious diet and regular and systematic bathing. In all the cases reported there was marked improvement.

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The Association of Medical Librarians has for s purpose the encouragement of self-supporting pub- c medical libraries wherever they can be of use to the cal profession. The work it has undertaken is one ncerning which medical men are strangely indifferent. he association has appealed to the publishers asking em to supply its membership libraries, at present out 22, with gifts of the medical periodicals published y them, and so far they have secured only the follow- g journals, the names of which we publish as the st Roll of Honor:

THE PHILADELPHIA MEDICAL JOURNAL.
THE PHILADELPHIA MONTHLY MEDICAL JOURNAL.
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
THE CLEVELAND JOURNAL OF MEDICINE.
THE ALBANY MEDICAL ANNALS.
THE BROOKLYN MEDICAL JOURNAL.
THE KANSAS CITY INDEX-LANCET.
THE WESTERN MEDICAL REVIEW.

The association has also appealed to the publishers medical books, asking for gifts of books, remainders editions, etc., and with two noteworthy exceptions, be spoken of at a later time, have been met with the buff that they do not believe in the establishment of cal medical public libraries, and that every book given even bought by a library reduces their private sales. his is one result of the commercialism of the medical blishing business. We are convinced that even as a siness policy this egregious selfishness is far from being se and shrewd—a question to be treated later. We sh today to urge upon the members and officers of ery medical society which publishes medical trans- tions to bring before the next meeting the request of e Librarians that 50 copies of every volume published all be donated to the Librarians' Association for atuitous distribution. This is the best and the most onomic manner of properly distributing their Trans- tions.

"His Private Honor."—All lovers of Kipling re- ember the capital story in which, without reason or ovocation, in a fit of exasperation, a young officer ruck one of the noble soldiers three. With true sol- erly instinct Ortheris denied the blow, and screened uless by his lies until, conscience-stung, his supe- or invited the soldier beyond possible observation and ve him the Marquis of Queensbury pummeling needed reestablish respect all around.

"My right," Ortheris answered with deep scorn. "My right! I ain't a recruity to go whinin' about my rights to this and my rights to that, as if I couldn't look after myself. My rights! 'Strewth A'mighty! I'm a man."

During the recent Spanish-American war, according to a well-vouched-for report, a similar incident occurred, the participants being two army surgeons, the one a General justly famed and honored, the other an inferior in rank, and not yet famous. Some difference of opinion or misunderstanding arose between the two, and the inferior, in a fury of passionate recklessness, struck the General a stinging blow in the face. The splendid stuff of which the General is made was shown by the fact that he scorned to call for the punishment which a court-martial would have brought the hot-head, and at once himself gave him a thorough drubbing according to improvised rules of the ring. That the youngster was worth the whipping is also shown by his present honor of the hand that chastised him, and by his excellent confession, *He gave me a good licking, and—I deserved it.*

The Prevention of Tuberculosis.—At the Munich meeting of the Tuberculosis Commission held under the auspices of the German Naturforscher und Aerzte-Versammlung, Italo-Tonta of Milan summarized in an admirable way the regulations which should be established by the authorities for the prevention of tuberculosis. These regulations are so concisely and clearly stated that they might well be embodied in a tract and scattered broadcast through the world. They are as follows:

1. The periodic disinfection of all localities much frequented by the public, especially rooms in which many individuals congregate, such as schools, society rooms, churches, cafés, restaurants, hotels, orphanages, barracks, libraries, convents, hospitals, dispensaries, stores, tramway and railway cars, and cabs.
2. The prohibition of spitting on the floors in rooms and public conveyances; the placing of cuspidors in parks and other public places, and in vehicles of transportation.
3. The establishment of special playgrounds for children, in order to avoid their playing in localities which phthisical patients might visit.
4. The disinfection and whitewashing of rooms where a case of phthisis or a death from that disease has occurred.
5. The annual medical inspection of persons frequenting schools, academies, offices, factories, etc. Any cases found should be reported to the authorities.
6. The establishment of people's sanatoriums.
7. The hygienic instruction of the tuberculous, so that they may be able to protect themselves and those coming in contact with them.
8. The isolation of the phthisical cases in military and

general hospitals—if possible, the erection of separate pavilions.

9. The prohibition of the bathing of the tuberculous with healthy persons; the establishment of separate bath-houses for the former, under medical supervision.

10. The removal of all tuberculous individuals from the schools and their transfer to colonies in the country, where they may be treated.

11. The formation of committees with the object of sending the children of poor persons that are suffering with tuberculosis or that have died of that disease to the country in order to remove them from the infected houses The children of rich families should also be removed from their homes for a certain length of time.

12. The improvement of the hygienic and dietetic conditions of the poorer classes, by the erection of public kitchens, wayfarers' lodges, bathhouses, etc.

13. Philanthropists should make it their object to improve the nutrition and hygiene of individuals in poor families in which tuberculosis has occurred.

13 *a*. The linen of tuberculous persons must be disinfected before being brought into contact with the linen of others.

14. The marriage of very young persons whose appearance suggests that they are inclined to tuberculosis should be opposed. Persons in whose sputum bacilli are present should be prohibited from marrying.

15. The compulsory periodic examination of domestic animals which might become tuberculous.

16. The monthly inspection of stables; supervision of the hygiene of the kitchen, of milking and milk vessels; scrupulous care in creameries.

17. The supervision of markets and abattoirs,

17*a*. The erection of stations at the borders of countries for the inspection of imported animals.

18. Strict regulations regarding the products of factories.

19. The giving of weekly lessons in hygiene at all public schools.

20. Each child at school must have its own drinking cup and its own towel. School children should not kiss each other.

21. Instructions to second-hand dealers in books, clothing, etc., to have their wares disinfected. Disinfection of library books, as well as of objects that serve for school or general use, must also be performed at certain intervals."

It may not be possible to carry out all the suggestions contained herein, but they form a very excellent guide for modern sanitary efforts.

The Colony-Treatment of the Epileptic and the Insane.—One of the most beneficent therapeutic measures adopted during the present century, with particular reference to epilepsy and insanity, is the colony-farm plan of treatment, and it is only a matter of regret that it has not yet received wider and more general application. Anyone at all familiar with the obstacles that aid in preventing the victims of the diseases named from following ordinary pursuits and with the comparative inutility of drugs in their treatment must appreciate the boon afforded by a procedure that offers chances not alone for improvement or recovery, but also for some degree of self-support. That colony-farms are capable of accomplishing both of these ends has been amply demonstrated. Additional testimony in this direction is afforded by the results obtained at the Craig Colony for Epileptics at Sonyea, N. Y., as exhibited in various communications. According to the sixth annual report of the Board of Managers there were in the colony at the end of the fiscal year on October 1, 1898, 322 patients. Ninety-five new cases were admitted and 39 discharged—recovered, improve unimproved, dead or transferred—during the ye The death-rate was 2%. The good results consist in cures effected, marked and general reduction the number and violence of the seizures, great phy cal improvement, often amounting to complete physic regeneration, in a large number of cases, the stea growth and development of the idea of colony-life, a the marked increase in the ability and the number colonists to become fixed and useful factors in t colony's everyday life. The colony asks of the leg lature for improvements $135,000, for maintenan $125,000, and for scientific research $4,000. In vie of the character of the work and the success with whi it is carried out, these are modest demands indeed, a the State can make no better investment than lavi expenditure for so noble, so beneficent a purpose.

Poisonous Snakes of North America.—Eve physician should have a hobby—some avocation which he can turn from the burdens and trials a responsibilities of practice, to find enlightened recre tion. If the avocation is well chosen and pursued wi some system during leisure hours, the physician m become as great in his secondary field as in his prima one. His success will, of course, depend upon h capacity and his ambition.

No one in this country so well illustrates the pos bilities in this direction as S. Weir Mitchell; and fr the fulness of his experience he has counseled his p fessional brethren, on more than one occasion, to se pleasure and solace along some congenial bywa Another busy man who seems to find time for no medical pursuits is Howard A. Kelly, of Baltimo who has apparently found a peculiar charm in t rather gruesome study of snakes, and has attained very good command of the subject of ophidology. a recent address he entertainingly described the snak of North America, and showed how the poisonous or may be distinguished from those that are harmless.

The poisonous snakes of this country, with the sing exception of the harlequin-snake of Florida and t South, belong to the group known as pit-vipers; that to say, they possess a conspicuous blind depression the fore part of the head, over the upper lip, betwe the eye and the nostril, in what is known as the lo region. This pit is hollowed out in the thick, sho superior maxillary bone, which here has the sole fu tion of supporting the poison fangs. The pit-vipers dif from the harmless snakes further in that their hea are triangular, and possess a massive maxillary develo ment. They have fewer large scales on the head greatly increased number of small scales taking t place of these and giving to the head more of a wa appearance. The snake is thicker in proportion to length, has a shorter tail, and the dorsal scales keeled, making the surface continuously rough. T

pil is elliptical. If the mouth is open, the usual mber of small teeth are seen in the lower jaw; while ove there is a row of short, recurved teeth, and just tside of these, under the lip, are long mucous folds ich hang like veils over the powerful, recurved fangs. the snake is living, he is apt when the fangs are ached to throw one or both forward, projecting and ecting them as in striking.

Kelly espouses the cause of the harmless snakes, ich have an important function in the destruction of ld-mice and other pests, and are also the worst emies of the poisonous snakes. They should not, erefore, be wantonly destroyed.

Among the poisonous snakes in this country are the pperhead, the moccasin, and the rattle-snake. Of the rmless snakes, or Colubers, Kelly mentions the corn-ake, the coach-whip snake, the hawk-nosed viper, and e green snake.

In the treatment of snake-poisoning, as Thomas R. own very properly states in an article upon the emistry, toxicology, and therapy of snake-poisoning, e principal object is to prevent the absorption of the ison. A tight ligature should be applied above the tten spot, and as much of the poison as possible ould be removed by scarification of the wound, by cision, or by amputation, if need be, or by cauteriza-n of the bitten area, by cupping or sucking the und. Into the tissues about the wound some sub-nce destructive to the venom should be injected, such potassium permanganate, calcium hypochlorite, or ld chlorid. When the poison has once been absorbed, elimination should be hastened by washing out the mach and keeping the bowels and bladder well ptied, and its effects should be counteracted by propriate means. Drugs seem to possess but little tue in this respect, and the best hope lies in the anti-ins prepared by Fraser and by Calmette.

Medical French and German.—Among the large mber of Americans who will attend the coming Paris position will be included many members of the dical profession, and a large proportion of these will ve but slight, if any, acquaintance with the foreign guages. Many are no doubt making an effort to quire a certain knowledge of French, but it may be ely said that few will find any use for their knowl-ge, for the very imperfect use of a foreign language ich one acquires in a few months while pressed th other urgent duties is not likely to be sufficient be of much help. However, a spoken knowledge the language will be entirely unnecessary, for at arly all hotels and other public places some one will found who can speak a little English, which will be a better quality than the average American's French. t there is a second class of physicians who are study-g the foreign languages from a different standpoint; o hope to acquire such knowledge as will enable them to read foreign medical literature readily. The value of such knowledge can hardly be overestimated, for probably over two-thirds of the most valuable medical literature originally appears in French and German. Efforts are being made, especially by the PHILADELPHIA MEDICAL JOURNAL, to render much of the important foreign literature accessible, but there remains still a great mass of valuable matter which cannot be translated, and translations of foreign works are often done late and very unsatisfactorily.

An important question in taking up the study of languages is whether the most attention shall be given to the spoken or written language; unquestionably if one can acquire only one, the ability to read is of far greater value than to be able to speak. Few Americans ever gain the ability to speak foreign languages fluently without long residence in a foreign country, while hundreds are able to read sufficiently well to be of great value to them. Moreover, even after once acquired, it is difficult to retain the ability to speak well from the lack of sufficient opportunity to converse. Whether an ability to read or speak is desired, a certain acquaintance with grammar is necessary, but the study of grammar has been much overdone in the past, and it is desirable to cut such study to the lowest limit. The acquisition of a vocabulary is of the first importance; this is acquired unconsciously by those who reside long in foreign countries, or who read much, but a rapid acquisition of a vocabulary is aided by memorizing the more important words and phrases. A very good way to memorize is to jot down words in a vest-pocket memorandum-book, and to read the list over several times daily; in this way much may be accomplished with comparatively little drudgery. The physician should remember that, for medical reading and conversation, he needs a medical vocabulary, and this can be acquired only from medical reading. The ability to read Racine and Goethe is about as valuable to the medical student of French and German, as a konwledge of Shakespeare would be to one who wishes to read Gray's Anatomy. Those who intend to study in German or French universities would do well to go to the country some time before the beginning of the university lectures and devote their time for a month or two to acquiring some knowledge of the language of the country. Americans have gained the reputation abroad for being superficial, by going into clinics and lectures with little knowledge of the language and completely misinterpreting that which they saw and heard. In acquiring a language a good teacher will be of great help, but much more depends upon personal effort than the ability and interest of a teacher. Moreover, the effort must be persistent; a thorough knowledge of a foreign language cannot be obtained in a few weeks, or even months. It should be remembered that a child devotes a large part of the first twelve years of its life to acquiring ability to speak, read and understand its native tongue, and it can hardly

be expected that anyone, no matter how brilliant, can attain anything like a thorough knowledge of a foreign language without long-continued effort.

The Great Work of a Little Hospital.—Little hospitals with definite lines of work, thorough scientific attendance and simple, business-like administration have great fields for good in every community. The public eye is so taken with grand buildings erected in fashionable localities that it has become more or less of an article of faith with the general public that such a building and such a location is necessary if a hospital is to be real and enduring. There are some proper arguments in favor of big hospital buildings, enormous aggregations of patients, and attending staffs made up of celebrated names. There are also some very good and proper arguments against such things.

The four-story building, with its long corridors and big, crowded wards, is usually about as perfect a fire trap as could well be devised. The celebrated members of the attending staff rarely give careful attention to all of the patients; only the especially interesting cases come to their personal attention; the assistants and residents do the hard routine work, and fortunately as a rule do it well. That is to the credit of our profession as a whole and is good evidence that these same men will do equally high-grade work if they become the regular members of the staff of a smaller and less ambitious hospital-organization.

It is not really necessary to have either a large building or a big staff for a good hospital. Great sums of money are not necessary for establishing such an institution upon a proper basis. In the sparsely built-up portions of every city may be found blocks, half-blocks, or corners, upon which a cottage-hospital may rear its modest front and do its noble work. In a one-story building, 30 by 60 feet, may be included a ward that will accommodate from 12 to 15 patients,good bathrooms and accommodations for two nurses. At a distance of say 30 feet away, another such building may be constructed when the first outgrows its capacity. Covered pavilions with glass sides will furnish connecting paths and at the same time do for sun-rooms. Plenty of air-space about each building, grassy lawns and a few big trees will conduce to make a homelike, safe and attractive institution with the best hygienic surroundings.

Such plans of buildings, with proper administration, may be especially recommended to cities of moderate size for contagious-disease hospitals. A group of small buildings, well apart from each other, may be used for the accommodation of all the ordinary contagions of childhood, and separate playgrounds for convalescents will provide against spread of disease during the period of enforced isolation. Each such building can be erected and equipped for about $3,000; in one city such a complete institution, now numbering six cottages, has been built up during eight years at a to outlay of about $15,000 for land and buildings a an expenditure of about $3,500 a year for maint nance. In the four years, 1895, 1896, 1897, and 18 it cared for 488 patients and had 11 deaths; 208 cas were diphtheria, of whom 6 died; 124 were scarl fever, of whom 4 died; 156 were measles, whoopin cough and chicken-pox, and of them 1 died. T life-saving work of this one hospital has been ve great. It may be duplicated in every city at sm outlay of money.

The Interrelation of Biology and Medicine.—Probably few readers of the JOURNAL are ignorant the fact that the biologists of America rank with t most eminent and most productive of the world. Th mantles of Dana, Grey, Stillman, and Agassiz ha fallen on eager successors, until now there is a rapid increasing army of investigators in every departme of biology. To these earnest students the world science looks for the advances of each year.

It may be that few medical men know of the pa ticular stimulus that, more than any other one caus brings about this progress. It is to be found in a ur versity—the only democratic and self-supporting ur versity in the world—the biological laboratory at Woo Holl, Massachusetts. Every summer brings togeth from the colleges of the continent a group of professo and students in every department of biology, histolog physiology, embryology, physiological chemistry, a even pathology. In the sheds, which have cost litt the brightest and greatest, the oldest and youngest me together to study with unlimited material their sever problems. So open is all work and so intimate are th associations that everybody knows what everybo else is doing. The inspirations of the best are cont gious, and crotchets of the provincial are good—ratio ally laughed out of court. With all of its endowme and magnificent equipment the biological station Naples has not done one-half the work or exerted on tenth the influence of Wood's Holl.

The biologic university at Wood's Holl is a labor love. It has no endowment, no buildings, no equi ment. The professors and directors have no fees. Th buildings are mere shelters. The equipment comes fro the adjoining colleges and universities lent for the se son. Each student is expected to pay fifty or a hu dred dollars for "a table." Practically the tables a supported by the colleges and universities of the countr nearly every one of which supports one or more tabl by an annual contribution of fifty or two hundred do lars. With this small income the laboratory is ke supplied with material. Most students bring their ow microscopes and instruments. Many colleges send dow their whole equipment. An instrument-maker has i struments to lend. No desirable student is turned awa Board and room can be had at twenty dollars a mont

A lover of the good name of medicine is struck by absence of medical students and professors of medie at this most inspiring of all American schools. st summer there were a few, five at most, coming m our profession and studying problems that were tinctly medical. The coming summer a group of hologists will be there. The results of last summer's rk promise to be almost revolutionary, something parable to the germ-theory of Pasteur. Can not soberminded members of the profession stay the d rush of the best men in the graduating classes the hospital internship and inspire a few of them to ose Wood's Holl as the place most likely to result in ntific advancement. To do this one hundred or re medical colleges should each follow the example literary colleges and secure one or more tables at the oratory, equip them sufficiently and send down ir best students or graduates to get impetus and inration from this most American institution.

Ovarian Transplantation.—Since the advent of the ny surgical procedures for the extirpation of the inal organs of generation, the various unpleasant mptoms attending the premature climacteric thus duced, have led gynecologists to a careful study of se physical and psychical phenomena in the hope heir alleviation. The magnitude of the discomforts difficulties following ovariotomy and other sacrifioperations having been strongly realized, in order void these there have been devised many conservaoperations upon the tubes, ovaries, and uterus, mpanied by a wide recognition of the fact that a sease of part of a structure, ovary, tube, or uterus demand the removal of only that portion which is ased." Dudley, of New York, has reported a brilt series of 103 conservative operations upon the uterappendages without a death. He did not hesitate to away the diseased portion of a tube and stitch the lthy end to a healthy ovary, and good results foled. Others have proved the possibility of vaginal ion in the treatment of pelvic abscesses and evacuaof pyosalpinx, and have led to the retention of the mal ovary in cases of hysteromyomectomy, experie having shown that the symptoms occurring after terectomy without removal of the ovaries resemble se of the normal rather than the artificial menopause. onset is less abrupt and the discomfort much less n in the complete extirpation of ovaries with the us.

n spite, however, of the progress of conservatism, e are many cases in which, in order to save the life he patient or to insure her subsequent health, a ificial operation is imperative. Hence the gynecolt, knowing the splendid results derived from organoapy in other directions, was inspired with the hope possibly ovarian extract might bring the coveted ef and alleviate the symptoms associated with the natural and artificial menopause. Jayle (*Revue de Gyn. et de Chir. abdom.*, 1898) details his experience with ovarine, but finds that although the congestive symptoms of that period may be relieved, the extract has little influence upon the nervous phenomena and that often it proves absolutely valueless without any explicable reason; so, although we have in ovarine a remedy of relative value, the work must continue; and, undoubtedly, one of the most valuable contributions to the solution of the problem, as well as most interesting scientific experiments of the past few years, has been along the line of ovarian transplantation. To Emil Knauer belongs the credit of having initiated these investigations. In 1895 he began a series of experiments on animals by transplanting the ovaries of a number of dogs. The operation was performed always with antiseptic precautions under ether-narcosis, the incision into the abdomen was made along the median line, the intestines pushed aside with sponges of aseptic gauze, the uterus drawn forward, and the ovaries removed with greatest care so as not to bruise or injure the tissues; they were then, in his later experiments, attached to the broad ligament. A large majority of the animals lived for years after the operation, and two at least brought forth young. In most cases the abdominal cavity was opened for examination at intervals and the ovaries were found to be functionating and generally in a healthy condition. Graafian follicles were distinct in a number of cases. He believes it does not matter from which side the ovaries are taken, as the results are the same whether they are placed on the normal side or vice versa.

McCone, of San Francisco (*American Journal of Obstetrics*, August, 1897), began a series of experiments in September, 1897, and from his observation of ovarian transplantation on 30 animals has thus far reached the following conclusions: 1. Contact between ovary and tube is not essential to conception. 2. Ovaries grafted from one part of the animal to another part of the same animal continue to grow, to functionate, and pregnancy can and does occur. 3. An ovary grafted from one animal to another of the same species continues to functionate, maintains the normal condition of tubes and uterus. Pregnancy can occur. 4. Ovaries grafted from one species to another continue to functionate, and seem to prevent postcastration atrophy of tubes and uterus. 5. Best results are obtained when the raw surface of the transplanted ovary is sewed to a denuded surface. Knauer combats the assertion of Arendt, that notwithstanding the greatest precautions atrophy of the entire genital apparatus will occur in a few months after ovarian transplantation, with the statement that there must be a failure in the technic in the unsuccessful cases. Clarke, in discussing the subject, considers that there is no reason why, with the splendid vascularization of the ovary with blood and lymph-vessels, ovarian transplantation should not be successfully done, the circulation reestablished, and nutrition be main-

tained in the transplanted ovary. Knauer and Grigorieff have both reported pregnancies occurring in these cases, and Morris, Frank, and others, have reported the operation on the human species. Time alone will solve the problem, and every added experiment will either confirm or disprove the practical value of the procedure.

Laboratory Work in Small Communities.—One of the great drawbacks to advanced scientific work throughout the whole country is the absence of laboratory facilities in our smaller cities and towns. There is a very simple manner of obviating this drawback, which will require just a little unselfishness at first among some older and busier members of the profession.

In almost every such neighborhood there is some young and ambitious fellow who has given special study to bacteriology and microscopy. As the days and months go by with but few opportunities occurring which give him a chance to put his skill and enthusiasm into practice, he is apt to lose interest in the purely scientific aspect of this kind of work. He loses his interest with double rapidity if he finds that his elders in the profession simply ask his services in order to satisfy their own curiosity as to some aspect of their cases and show no intention of recompensing him for his time and labor.

Of course every doctor ought to know a great deal about the microscopic appearances of urinary deposits and something about methods of cultivating and staining bacteria. But every doctor cannot hope to be even reasonably expert in these lines. Therefore let the older and more busy men in every community make it a point to choose some one capable and conscientious young man, and help him along by recognizing his work in these lines. Recognize it not simply as scientific enthusiasm to be sated by free work, but as his business in life, from which he must make an income and by which he must live. A little income is a wonderful stimulus to good scientific work. Send the urine analyses and the sputum examinations and the diphtheria cultures to him in every instance when the patient is able to pay for such service. Regard his service as a consultation is regarded and be just as rigorous in collecting his fee as though he were a celebrated consultant. In the end it will be found that the aid rendered by such a competent young man will far more than repay for all the fees that go into his pocket. The scientific character of the work of every general practitioner associating himself with such an assistant will be elevated.

The need of just such encouragement for capable young men is emphasized by the very many instances in which busy practitioners, making from twenty to thirty visits a day, make most lamentable mistakes in diagnosis when they depend upon their own hasty and imperfect microscopic examinations of urinary deposits or of sputum. Such busy men in clinical work a simply not capable of doing justice either to the patients or themselves when they pretend to wind u the day's work by making three or four sputum e aminations. Diagnostic errors are committed th hazard the patient's future welfare, and that eventual break the practitioner's own reputation when a genuir bacteriologic examination shows the mistake made first.

Help along the struggling bacteriologic speciali then, both for selfish and for unselfish reasons. He entitled to recognition; medical science is advanced l his specialty; your patients profit by his labors; yo yourself are kept from errors and mishaps.

Medical Sermonets, No. 14. Professional Ata vism.—In biology there is no problem of greater scienti interest than that of reversion, spontaneous degeneracy, atavism, whereby an animal illustrates the qualities a charaeteristies of a distant and lower aneestry, rather th those higher and later acquired. Lovers of animals kno that in their soeiologic relations these again illustrate t same eurious psyehologie tendeney. Dogs, even the high bred and trained, exhibit this morbid reaetionary dr towards aneestral wild habits. There are instanees in whi the shepherd and watch dog most faithful by day and wh on duty, would slip away by night and indulge in the into eation of noeturnal marauding and sheep-slaughter. Eve family of animals has its renegades and outeasts, who erimes against the esprit de eorps of the *grex* have been ba ished, or punished in many ways. Animal pariahs a criminals are most interesting subjects of seientifie obser tion.

The pariahs, degenerates, and reversionaries of hum soeieties are equally valuable to the student of mor psychology. The postponed and suppressed bloodthirstin of a life seems to break loose in the final fury of running *am* and in the Afriean's going fantee the long training of civ ization is thrown aside for the delights of the older savage

In our professional life this biologie law has just as f sway, and we have our apt illustrations of reversion a "throwing back" to aneestral habits, of cunning selfishn and crime against the herd, of noeturnal desertion, and suieidal individualism. The quack and advertising phy eians are the most eommon examples of professional rev sion—these eriminals and hypoerites who seek to steal t advantages of professional ethics and solidarity without turn serviee, these sneaks who elaim police protection wh tax-dodging and burglarizing the professional house.

The downright seoundrels, the out and-out quacks a nostrum traders, the sectarians and erazy-faddists are treat by us as the pariah-wolf and tramp-dogs, the solitary c phants, the forest eats, etc., are treated by their brethr We expel them and they are known as enemies forever. eourse they eontinue to use the edueation stolen from t profession and their old knowledge of eivilized life to co mit depredations on their former masters. That is in acc with renegade ethics.

And how they hate us! A never-failing and distinct trait of renegade animals is bitter hatred toward their fello who have not followed them to the lawless wild.

But unlike animals we have a large elass of reversioni or fanteeists who, though worse traitors — worse becau

ypocrites — still remain with the herd and claim its lvantages, but while secretly breaking every law of the sociation. These are they that use the news-pages and ciety-columns of the newspapers for personal advertisc- ent; they who supply reporters with secret information out their operations, etc.; they who use patients as pawns the game of money-making and fame-spreading; the iefs at medical society meetings, and not infrequently they e great professors in great (or small) medical colleges; ey hob-nob with ward bosses and corrupt politicians, they arge ten prices for sham medical services, and the foolish ople fill their offices. About them, however, whenever ked, the true physician can only shake his head in silence id shame. To drive them to the woods and to their frankly serting renegade brethren, to do this or to reform them, is once our plainest professional duty and self-interest. But e make no sign of corporate action. Why? Because we ve no corporate life.

Correspondence.

PENETRATION OF BULLETS FROM SMALL ARMS.

By HENRY LA MOTTE, M.D.,
of Northampton, Mass.
sistant Surgeon U. S. Navy, formerly Major and Surgeon First U. S. Volunteer Cavalry.

the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In Dr. Arnold's letter on "Penetration of Bullets from nall Arms," in the PHILADELPHIA MEDICAL JOURNAL of arch 10, he has, I believe, misunderstood the meaning that ofessor Nancrede intended to convey when he says that m his observations at Siboney over 25% of the Spanish llets that struck our soldiers made lodgment in the unds.

I think that Professor Nancrede meant to say that over e-fourth of the cases that *came under his observation* at the spital at Siboney were wounds complicated by lodgment the missile. Now as only a bare majority of the men unded in the field before Santiago de Cuba were sent to boney; and as many of those sent were directly put aboard ip and sent home; and as the men who were treated at the boney hospital were usually sent there because of the cessity for some more serious operation than could readily done at the field or division hospitals, it would seem ely that a greater percentage of wounds requiring the traction of bullets would come under Dr. Nancrede's obser- tion at Siboney than at any other hospital.

After the fight at Las Guassimas, in which fight my regi- ent had forty-eight men wounded and in no case did the issile lodge in the wounded man, nearly all of the injured en from my regiment were, within a few days, sent aboard ransport or the hospital ship *Relief*.

Dr. Arnold has been misled upon another point. He s accepted as facts the statements in a book written hur- dly for the amusement of the general public, and there- re not strictly accurate on all points. I refer to his otation from Governor Roosevelt's book telling of his men llecting the ammunition abandoned by the Spaniards and its use by Lieutenant Parker in the Gatling guns. The ns in which this ammunition was used were Colt auto- atic machine guns, caliber 7 mm., which had been bought th the idea of using captured Spanish ammunition. While in Cuba Colonel Roosevelt always spoke of these guns as "rapid fire guns," which of course they were, but this term is generally, among military and naval men, applied to an entirely different kind of ordnance.

During the day and night of July 1, 1898, in the Second Cavalry Brigade Hospital, I had under my care 82 men with gunshot wounds and of these wounds but 4 were complicated with lodgment of the missile, and these 4 were all shell or shrapnel wounds.

In addition to the two models of the Mauser rifle which the Spanish had, some of their troops were also armed with the Remington rifle, caliber 43, firing a brass-jacketed bullet. This arm I believe was largely in the hands of the naval contingent from the Spanish ships, which probably numbered about 1,000 and which, I believe, rendered good service in the defense of Santiago.

RÖTHELN.

By CHARLES M. LANG, M.D.,
of Meridian, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

An epidemic of rötheln has spread over West Central New York and prevails still in many localities. As this is not a very common disease I will record a few observations which I have made during its prevalence in my practice. I consider it a somewhat rare disease from the fact that during 17 years' active practice I never saw a case to recognize it until the present winter, and from the fact that during this epidemic as I see it no age is exempt, among those having it at this writing being a lady of 40 years and her daughter of 7 years. The contagion of the disease seems to be feeble, hardly an instance when every member of an affected household suffers from it. Many families will escape with only one case. The disease came to Meridian from the neighboring village of Cato. Several tobacco-handlers in a warehouse there suffered from it without leaving work, supposing it to be contracted from handling the tobacco. Two young men from Meridian left their work there when the rash appeared and drove home. One of them picked up a third Meridian boy, allowing him to ride half a mile, thus exposing him. The incubation stage in this case, No. 3, dating from exposure till appearance of rash, was nine days. Since this one case it has been impossible to estimate the length of the incubation stage owing to constant exposures. The first case I treated and called measles, attaching a card to the house, etc. The second patient had no physician and was out on the street the third day before the rash had entirely subsided. The first case had a temperature of 102°, rash well developed, very much like measles, but no photophobia, lacrimation or conjunctival congestion or cough. Appetite remained good. I was beginning to weaken on my diagnosis of measles, especially upon seeing the second patient out in the blizzard with no ill effects, when the third case appeared. This was the most severe case in the epidemic so far presented to my view, and strengthened my diagnosis of measles. The rash was delayed till the third day, there was backache, headache, intolerance of light, congested sclerotics, cough, mousy breath and a temperature of 101°. The day the rash appeared there was delirium and the night following the temperature was 105° at 2 A.M. But in five days more the patient was clamorous to go out-doors and was fully convalescent. From this time on the cases have been frequent and uneventful; more have been in young adults than in children; most of

them have not thought of prodromal symptoms till the rash appeared, then often say they had not felt well for a day or two. Two cases occurring in blond young women have strikingly resembled scarlet fever when the rash was at its height, with no sign of papulation (though this was noticeable the day before) and the face a bright smooth scarlet with the skin swollen and stiff (this latter subjective). The white spot upon pressure was more evanescent than in scarlet fever. The rash lasted 3 days, a day to come, a day to tarry, a day to go, and was followed usually by a dry furfuraceous roughness hardly amounting to desquamation. In several cases I noticed the enlargement of the postcervical glands at the base of the skull and usually a slight sore-throat followed in one case by deafness (catarrhal pharyngitis). The eruption is always papular in beginning, so much so that I frightened the first patient by asking if he had been vaccinated. We have had smallpox near us a few months ago, and at present have within our town-limits scarlet fever, diphtheria, whooping-cough and German measles.

The temperature in no case has gone above 102° except in the third case. Many patients treat themselves throughout. The most remarkable thing about the epidemic is the free exposure these patients stand. Many go about their duties in the open air of a northern winter while the rash is still plainly visible, and in no case have I heard of any bad results.

THE PLACARDING OF HOUSES FOR CONTAGIOUS DISEASE.

BY WILLIAM PHIPPS MUNN, M.D.,
of Denver, Colorado.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE communication of Dr. Arthur V. Meigs in the current number of the JOURNAL is so out of harmony with what I have long believed and publicly upheld that I ask your indulgence for a reply to some of his arguments.

Diphtheria and scarlet fever are contagions so general and at times so fatal, that we can conceive of no one who approaches their consideration with any other than the most conscientious intent. To lessen the horrid mortality of these two affections is a hygienic effort in which every intelligent physician and every good citizen should be willing to cooperate to the utmost. A little personal sacrifice of convenience, of money interest or of too rigidly held ideas of personal liberty is not much to ask of any one in our efforts toward this most desirable consummation.

The object of placarding a house in which contagion exists is to notify neighbors, passers-by and others that danger exists within the placarded premises. The people next door have a right to know, and to know officially, that it is unsafe for their children to enter into the infected premises or to play with children who live therein. The tradesmen, letter-carriers, milkmen and others who are daily brought into contact with the inhabitants of the house have a right to first-hand and official information as to the existence of these diseases, so that they may not unnecessarily expose themselves or be subject to carry infection home to their own families. People residing in the same school-district have a right to public information so that they may know whether their children going to school are apt to be exposed to contagion from residents of the affected house. The placard does all this. It does it in a plain, straightforward way to which no well-meaning man can take exception. It does not say "you must stay out of this house," but it does say "entrance into this house is dangerous, you have fair warning."

The physician who is willing to slip out of reporting a case of such contagion to the health office under pretext of "having failed to make a diagnosis" well needs to have his communications published anonymously, whether he is a professor in "one of the largest universities" or not. His own words brand him as a bad citizen and undeserving of the honorable position which he has managed to secure.

The cases of contagion in every city which have occurred simply because houses were not placarded and so innocent children were ignorantly allowed by their parents to run into unseen danger, have been legion. Deaths thus occurring are simply murder. If Dr. Meigs or his eminent professor in "one of the oldest" universities had ever suffered the sting of personal bereavement incurred through just such ignorant neglect of placarding by responsible city officials, he might feel differently upon this matter. He will pardon any seeming heat of this reference if he thinks twice and thinks hard upon it.

There evidently persists in many minds the old fallacy that the placard has something to do with the clinical severity of the case. This is a mistake. The sanitary officer is concerned solely with its infectious quality, and of that the presence of the Klebs-Löffler bacillus is the absolute and incontrovertible index. In such a case as that of a school teacher, cited by Dr. Meigs, I have known, under parallel circumstances, the teacher to have been the continuous source of infection of a series of children attending the kindergarten under her charge. There were a number of fatalities among the children. The little epidemic ceased only when the infected teacher was discovered and excluded from the school until her throat-cultures were negative.

It is obviously unfair in Dr. Meigs' discussion of this incident that he should attempt to cloud the issue as to the principle by an extraneous discussion of the wisdom or unwisdom of the course of a subordinate health-officer who refused to allow the infected but clinically well teacher to ride her bicycle.

If in the Pennsylvania Hospital "attacks of sore throat are common, especially among the servants," we have ample justification for regarding them as contagious; if the Klebs-Löffler bacillus is usually present in these cases they are certainly diphtheric, regardless of their clinical mildness or severity. If any lesson at all is to be drawn from such a recital it is that the report upon the culture was too long delayed, since two days elapsed, and that the Pennsylvania Hospital is sadly in need of a practical sanitarian to supervise its internal administration.

The attempt to contrast an English method of dealing with a plague ship, with an American method of dealing with diphtheria is a hopeless and useless attempt to further cloud the issue. The cases are in no manner parallel. The principle in each cases is dependent upon our definite knowledge of the particular disease that is being dealt with.

It cannot but be a matter of deep regret to all good citizens that any physician should so badly and recklessly commit himself to the policy of encouraging damage suits against health officers engaged in the conscientious performance of their duties as Dr. Meigs has done in his communication.

In a brief letter it is impossible to go deeply into the late literature of this subject, especially as regards diphtheria I am content to say that in general it will be found that communities that have faithfully and without favor followed

the plan of placarding and of isolating during the perence of the diphtheria-bacillus in the throat have had a e diminution in diphtheria mortality per 100,000 of popion. It is not necessary that the methods or the weakses of the Philadelphia Health Board should at all be sidered in the discussion of the principle; we should ply congratulate Philadelphia that a conscientious effort ns to be made now to do what is right in regard to this ase. Good citizens will best serve the community, and he end themselves, by giving the Board the benefit of r cordial sympathy, intelligent cooperation, and hearty port.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

alendar of Meetings of Philadelphia Medical ieties for the week ending March 31, 1900:
onday, March 26—Neurological Society.
ednesday, March 28—County Medical Society.

ndividuals desiring to be considered as candidates for impending vacancy in the Chair of Surgery in the Uniity of Pennsylvania may send notice of such desire to Rev. Jesse Y. Burk, Secretary of the Board of Trustees, re April 7, 1900.

hiladelphia County Medical Society.—At a meetheld March 14, Dr. Edmund W. Holmes read a paper tled, **The anatomy of hanging.** He drew a comson between strangulation and hanging, gave a descripof the lesions produced by hanging, considered the hods of judicial hangings, and spoke of the sensations of e hanged and resuscitated.
R. Solis Cohen delivered the address of the retiring pres.t, entitled, **Progress of therapeutics.**

or Purer Milk in Philadelphia.—The following the program of the meeting of the Keystone Veterinary ical Society, March 20: Dr. Robert Meade Smith—steurization of Milk." Dr. George S. Woodward—"Prac. Bacteriology on the Farm." Mr. Walter R. Cuthbert—e Improvement of the Milk-Supply for Philadelphia." C. J. Marshall—" Certified Milk." Dr. F. A. Packard—ans of the Pediatric Society in Reference to Milkply." Dr. M. P. Ravenel—" The Part of the Bacteriolo- in the Production of Pure Milk." Discussion by Drs. nard Pearson, Alfred Stengel, J. Madison Taylor, J. P. C. fith, J. C. Morris, S. S. Kneass, W. Horace Hoskins, E. M. ck, John W. Adams, George Strawbridge, Joseph Mcand, M. E. Conard.

ütter Lectures on Surgical Pathology, College Physicians of Philadelphia.—The course of Mütter ures for 1899–1900 will be delivered in the hall of the ter Museum of the College of Physicians, N. E. corner 3th and Locust Streets, Philadelphia, by Dr. John B. erts, on Tuesdays and Fridays, from March 27 to April t 8 30 P.M. Subject: "The Surgical Treatment of Contal and Pathological Disfigurements of the Face."

CTURE I, March 27.—" A Brief Review of the Development of rative or Plastic Surgery."
c. II, March 30.—" A Rapid Survey of the Anatomy (Construc- Regional, and Artistic) of the Human Face."
c. III, April 3.—" Characteristic Features of the Operative Sur- of the Face. The Fundamental Principles of Successful Plastic ations."
c. IV, April 6.—" Removal of Disfigurements due to Pigments, ricial Distortions, Fistulas, Congenital Fissures and Errors of lopment, Tumors and Skin Diseases."
c. V, April 10.—" The Correction of Deformities of the Mouth Lips."
c. VI, April 13.—" The Reconstruction of the Lips and Cheeks."
c. VII, April 17.—" The Correction of Deformed Noses."
c. VIII, April 20.—" The Construction of New Noses. (Total Partial Rhinoplasty.) "
c. IX, April 24.—" The Operative Treatment of Deformed or ient Ears."
c. X, April 27.—" The Cosmetic Surgery of the Eyes."

Members of the profession are cordially invited to be present. Dr. John H. Brinton, chairman; Dr. George McClellan, Dr. Frederick A. Packard, committee on Mütter Museum.

Vital Statistics of Philadelphia for the week ended March 17, 1900:—

Diseases.	Cases.	Deaths.
Total mortality		580
Pneumonia 74, congestion of the lungs 6		80
Pulmonary tuberculosis		64
Apoplexy 26, paralysis 10, softening of the brain 3, diseases of the brain 1		40
Heart-disease 34, fatty degeneration of the heart 3, neuralgia of the heart 3		40
Nephritis 23, uremia 11, diseases of the kidneys 1		35
Inanition 16, marasmus 9, debility 7		32
Gastroenteritis		27
Measles		26
Diphtheria 22, membranous croup 1	71	23
Senility		22
Inflammation of the brain 16, congestion of the brain 1		17
Typhoid fever	106	17
Carcinoma 16, tumor 1		17
Convulsions		15
Bronchitis		14
Peritonitis		10
Casualties 9, burns and scalds 1		10
Scarlet fever	56	3
Influenza 7, cystitis 1, fracture 2, appendicitis 2, cirrhosis of the liver 5, cyanosis 5, suicide 5, asthma 4, jaundice 4, suffocation 4, alcoholism 3, hemorrhage 3, pulmonary edema 3, rheumatism 3, surgical shock 3, aneurysm 2, diabetes 2, dropsy 2, erysipelas 2, intestinal obstruction 2, opium poisoning 2, sclerosis 2, tetanus 2, parturition 1, laryngitis 1, hepatitis 2, adenitis 1, tonsillitis 1, pyemia 1, retention of urine 1, septicemia 1, ulceration of the stomach 1, pertussis 1, fistula 1, homicide 1, locomotor ataxia 1.		

Philadelphia Pediatric Society.—At a meeting held March 13 Dr. D. J. M. Miller presented a patient, a girl 8 years old, with **chronic ulcerative phthisis,** both apices being affected, with cavity-formation in one; the infection was evidently received from the father who had died of tuberculosis, the child having slept in the same room for some time before his death; hospital treatment has improved the child greatly, the night-sweats, cough and expectoration having ceased and the child has gained greatly in weight. Dr. Miller also presented a girl, 2½ years old, with a marked **secondary anemia;** the child is rachitic, has had measles, the bowels are inclined to be loose, indicating a disturbance of digestion, polyuria is present, the liver and spleen are slightly enlarged, there is slight edema over the tibia, the superficial lymph-glands are not enlarged; three urinanalyses showed low specific gravity and a slight amount of albumin, but the centrifuge gave no casts; examination of the blood gave 23% hemoglobin, 3,900,000 red corpuscles and 24,000 white cells; a differential count of the leukocytes showed an increase of the large mononuclears at the expense of the polymorphonuclears; the case was considered to be one of anemia secondary to the bad hygienic surroundings and the digestive disturbance. In the discussion Dr. Pearce thought that the degree of rachitis present could explain the anemia, the prognosis being good under hygiene and good feeding. Dr. Hand thought that the further course of the case would indicate whether the kidneys were primarily at fault with a chronic nephritis which the urinanalysis strongly indicated; although it is rare in infants yet it does occur. Dr. Stengel said that the absence of casts did not exclude nephritis.

Dr. J. M. Swan reported a case of **chronic valvular endocarditis following chorea** and presented the patient, a girl 10 years old; there was marked hypertrophy of the heart, the apex-beat being in the fifth interspace in the midaxillary line, with a systolic murmur at the apex and another one, also systolic in time, at the aortic cartilage transmitted into the great vessels; at one time there had been lost compensation, with tremendous general anasarca, recovery following rest and the use of digitalis with other drugs. Dr. Hamill thought that the murmur sounded like a double murmur at the mitral valve. Dr. Pearce referred to the intimate relationship between chorea, rheumatism and endocarditis. Dr. Packard spoke of the importance of

determining in such cases the extent to which the pericardium is involved; in the present case he observed systolic retraction at the apex with Broadbent's sign of dimpling in the fourth interspace posteriorly also present, the adherent bands of the pericardium offering an explanation of the mitral incompetency.

DR. J. H. MCKEE reported a case of large **sarcoma of the kidney** in a girl, 6 years old; the family history was negative and the child had always been well up to 4 weeks before coming under observation, when she began to complain of pain in the left leg, and the abdomen was seen to be distended; the growth filled the left side of the abdomen and extended up to the spleen, which could be felt in the left hypochondrium; hematuria was present and emaciation was extreme; operation and the successful removal of the tumor at the Polyclinic Hospital by Dr. Morton was followed by apparently complete recovery which lasted for several months when recurrence and metastasis occurred followed by death. DR. ALFRED HAND, JR., exhibited the kidney removed from a child, 21 months old, at the Children's Hospital by Dr. Wharton. The tumor, which proved to be a **sarcoma of the kidney,** was noticed a few days before the child was brought to the hospital; increase in the size of the tumor was very rapid; examinations of the blood and urine were negative; operation was followed by prompt recovery and gain in general health; recurrence and death happened in 5 months after discharge.

NEW YORK.

State Hospital for Tuberculosis. — The Senate Finance Committee has reported favorably the bill appropriating $150,000 for the establishment of a State hospital in the Adirondacks for incipient cases of pulmonary tuberculosis.

School for Crippled Children.—A school for crippled children is being organized under the auspices of the Children's Aid Society. As the sum of $2,000 is needed to provide a conveyance for the children and the services of a nurse in attendance, a concert is to be given at the Waldorf-Astoria hotel on March 26.

Site for the New Harlem Hospital.—The Harlem Board of Commerce has again taken up the question of the erection of a new building for the Harlem Hospital. A majority of the members of the committee favor the site advocated two or three years ago, *i.e.*, at Lenox Avenue and One Hundred and Thirty-fifth Street.

An Exceptionally High Death-Rate.—According to the report of the New York Department of Health the death-rate of the city for the week ending March 3 was 25.71 per 1,000, the estimated population being 3,654,594—the highest for several years. For the corresponding week of last year it was only 18.97 per thousand of population. In the week first referred to there were 420 deaths from pneumonia and 103 from bronchitis.

Drug Clerks' Bill Defeated.—When Dr. Henry's bill for the regulation of the working hours of pharmacists and their clerks was brought up before the Senate for final passage, an effort was made by Senator Grady to so amend it as to give the power of inspection and enforcement to the local board of health, instead of to the factory inspector. This attempt was unsuccessful. On the final vote on the bill a constitutional majority could not be secured in its favor.

Working with a Fractured Skull.—A lumber-handler fell down a flight of stairs the other evening, and believing himself to be only slightly injured, refused to have surgical attendance, and continued at his work all the next day, though suffering from pains in his head. The next morning he felt too ill to go to work, but it was not until afternoon that he became delirious and was taken to a hospital. The surgeons there declared that his skull was fractured, and that he was in a critical condition.

Municipal Tuberculosis Hospital.—Dr. N. H. Henry, member of Assembly from New York, has introduced a bill, providing that the Corporation Counsel of New York City, on written request from the health department, shall take the necessary steps to acquire a site for a municipal hospital for the regular treatment of consumption. He is directed t issue corporate stock for $100,000 to pay for the site, an $250,000 for construction. The hospital is to be under th jurisdiction of the health department.

Status of the Oleomargarin Case.—Since 189 litigation has been pending between New York State and th firms of Armour & Co., G. Hammond Co., and the Armou Packing Co., because of alleged violation of the oleomargari laws of the State. Delays, usual and unusual, have been en countered, and the Attorney-General now reports to th Legislature that no evidence has been procured or appea to be in sight, and that he does not feel warranted in con tinuing the litigation unless money is appropriated for futur expenses as well as for those already incurred.

Drug Trust Sustained by Court.—A suit wa brought 3 years ago by a drug dealer of Cincinnati again the National Wholesale Druggists' Association for refusing t sell the plaintiff patent medicines made by members of th Association because he would not abide by the prices whic they stipulated should govern the resale of these good Judge Russell, of the Supreme Court, has just handed dow a decision in the case, in which he holds that such a comb nation to keep up the prices on things not necessities of li may be lawful, especially when these things are the pr ducts of one's inventive genius.

Anti-Gerry Society Bill.—The Senate Judiciary Com mittee has reported favorably Senator Brackett's bill, givin the State Board of Charities the power to visit and inspe this, and other Societies for the Prevention of Cruelty t Children. Only four senators dissented. Council for th State Board of Charities have filed a motion for a reargu ment in the case recently decided against them and in fav of the "Gerry" Society. The motion is based on the asse tion that the Court overlooked certain important const tutional provisions, and that if the decision was allowed t stand without revision the jurisdiction of this board over n less than 663 of the State institutions would be affected.

New York Academy of Medicine—Section o Pediatrics.—At the meeting of March 8, PROFESSOR JOH ADRIANCE gave an address on the **chemical compositio of milk and cream.** He showed that wheras it was ge erally assumed that milk contains 4% of proteids, the late analyses demonstrate that the average is not over 3.5%. I diluting milk for the purpose of modifying it for infant-fee ing this error would not greatly affect the result, provide the dilution of the milk or cream was not over 1%, but, o the other hand, if the dilution was as much as 2%, th resulting product would contain .75% less proteid than ha been intended. The importance of avoiding such an err could be well imagined when one recalled the disturban in digestion produced in some infants by altering the pr teids by so small a quantity as .2%. The composition milk was well represented by the following: Fat, 4.28% sugar, 4.71%; proteids, 3.59%; other solids, .77%. An im portant fact to be borne in mind in connection with th modification of milk for infant-feeding, and one not gene ally appreciated, was, that as the fat increases the percentag of the other ingredients materially diminish. In the discu sion, DR. J. E. WINTERS said that clinical observation ha long ago convinced him of the truth of this statement re garding the diminution of the percentages of the oth ingredients as the fat is increased, and he had made this th basis of his modification of milk. Physicians quite co monly overlook the effect on the result of varying the qua tity of cream taken from the upper part of the milk bott and of the influence of temperature and the time the mi is allowed to stand. Thus, if two ounces were taken fro the upper part of a quart of milk that had been standing f 16 hours, it would contain 7½ times as much fat as protei whereas if four ounces were taken from the upper portion a quart of milk that had been standing only 8 hours, would be found to contain 3⅓ times more fat than protei He was sure that many of the poor results obtained in t feeding of infants on modified milk could be ascribed to t use of milk containing too low a percentage of protei The muscular development of the child was very large dependent upon the percentage of proteids present in t food. DR. L. EMMETT HOLT also emphasized the great i

ortance of increasing the percentage of proteids in the ilk as rapidly as the infant could digest it, but cautioned gainst commencing with too high a percentage. Begin ith only .25 or .5% of proteids, and increase it rapidly, so at, in many instances, the food would contain 1.5% of roteids at the end of the first six weeks. This, in his opin-n, was the keynote to success in the artificial feeding of fants. DR. VANDERPOEL ADRIANCE said that rickets was ften the result of using food deficient in proteid and in ash. hese two diminish together, and the salts are requisite for e proper development of the osseous system. DR. CHAS. ERMAN said that the recent complaint of Dr. Louis Starr, f Philadelphia, that he had been disappointed with the sults of feeding infants on laboratory milk, had led him to ndertake some experiments and microscopic studies to test e truth of the assertion that laboratory milk was not igestible because the milk and cream had been separated chanically, and subsequently the ingredients had been combined. The speaker said that his studies had shown o grounds for the belief that the fineness of the natural nulsion had been materially altered.

NEW ENGLAND.

Massachusetts General Hospital.—The Warren riennial Prize was founded by the late Dr. J. Mason War-n in memory of his father, and his will provides that the cumulated interest of the fund shall be awarded every ree years to the best dissertation, considered worthy of a emium, on some subject in physiology, surgery, or path-ogical anatomy; the arbitrators being the physicians and rgeons of the Massachusetts General Hospital.

The subject for competition for the year 1901 is some bject in physiology, surgery or pathology.

Dissertations must be legibly written, and must be suitably und so as to be easily handled. The name of the writer ust be enclosed in a sealed envelop, on which must be ritten a motto corresponding with one on the accompany-g dissertation.

Any clew given by the dissertation, or any action on the rt of the writer which reveals his name before the award the prize, will disqualify him from receiving the same.

The amount of the prize for the year 1901 will be $500.

In case no dissertation is considered sufficiently meritori-us, no award will be made.

A high value will be placed on original work.

CHICAGO AND WESTERN STATES.

Free Medical Dispensary.—Under the auspices of e Englewood Bureau of Associated Charities a free medical spensary has been opened at 611 Sixty-third Street, Chi-go. The medical staff consists of Drs. Frank Billings, eller Van Hook, W. E. Schroeder, Frank X. Walls, Fred-ck R. Green, Harry Kahn, and H. T. Tillotson.

Defense of Medical Inspection.—The attorneys of e Chicago Board of Education have filed an answer in the perior Court to the petition for a mandamus, asked by ul Wright, who asserted that his daughter, Mary, had been egally prevented from reentering the Kershaw school by e operation of the medical inspection rule. The conten-n of Mr. Wright that his daughter had the certificates of e family physician that she was without contagious disease answered by the attorneys with the statement that unre-ble certificates from family physicians have become so quent that the Board has been compelled to employ med-l inspectors. The attorneys for the Board claim that as e result of the medical inspection in the public schools, ere has been a decrease of contagious and infectious dis-ses since January of over 60%. The officials of the Board end, if necessary, to carry the case to the Supreme Court fore abandoning the rule requiring medical inspection of pils before they shall be permitted to reenter school.

Chicago Pathological Society.—At a meeting held arch 12, Dr. ALFRED SCHALEK read a paper on **The histo-thology of melanosarcoma of the skin.** Melano-rcoma of the skin was previously regarded as a connective-sue tumor, but this theory has been recently the subject of ch controversy among pathologists, since Unna first declared that it originates from the epithelium of the surface. Ribbert takes another view, claiming that a special pigment carrying connective-tissue cell, the chromatophore, is the only possible matrix of pigmented moles and melanosarcomas arising from them. The histological examination of sections of several pigmented nevi and melanosarcomas of the skin show very nicely the gradual separation of pigmented epithelium from the rete; they become isolated and undergo a metaplastic change, and are surrounded by fibrillar connective tissue, form alveolar nests of new cells, and are particularly stellate and branched cells of the shape of chromatophores. The writer arrives at the same conclusion as Unna, that melanosarcoma of the skin is of epithelial origin and should be classed with carcinoma.

Chicago Academy of Medicine.—At a meeting held March 9, DR. HAROLD N. MOYER read a paper on **Castor oil in the treatment of neuralgia,** in which he said that during the last two years he had treated about 15 cases of neuralgia by this method, but only 7 of these patients were sufficiently long under observation to enable one to speak definitely of the results of the treatment. Some years ago Dr. A. J. Ochsner called his attention to the value of castor oil in the treatment of neuralgia, particularly of the fifth nerve. Five of the cases were neuralgias of the facial nerve and two were typical cases of brachial neuralgia. Of the cases of brachial neuralgia, one had lasted one week and the other two weeks. The one of the shorter duration was exceedingly severe and had been under the care of a competent neurologist for more than a week. He was given a large dose of castor oil at 1 o'clock and by 4 o'clock the pain had largely decreased in the arm; the following night he rested well and the next morning the pain had practically ceased. Three or four doses of the oil were taken afterward, and there was no return of the pain. An acute and recent case of neuralgia of the inferior dental nerve was cured in two weeks. Other forms of neuralgia were treated with the oil with satisfactory results. The oil is administered in the morning before breakfast and the dose is from one to two ounces.

Chicago Medical Society.—At a meeting held March 15, DR. SANGER BROWN read a paper on **Permanent non-progressive sequential ataxy** in which he reported 3 cases. He described minutely the primary illness to which the ataxy was secondary in each case. He said that the cases, from the clinical side, had much in common: a more or less severe acute and probably infectious illness of varying duration and character, which resulted in profound general muscular ataxy, showing itself conspicuously in the muscles concerned in articulate speech. In none was there any lasting impairment of special sense or of general sensation. The ataxy has been essentially stationary; the general health has been excellent after the primary acute illness had subsided, and the mental condition normal. In cases 1 and 2 the residual symptoms are very similar, almost identical throughout, while in case 3 there were remaining other prominent symptoms besides ataxy. That in this case other nervous tissues may have been injured besides those concerned in muscular coordination was not material to the purpose of this report. The essential question in the opinion of the writer is, what part or parts of the normal adult brain have to be injured in order that ataxy shall result. Experiments on the lower animals, studies in embryology, clinical and postmortem observations on the human subject have abundantly demonstrated definite relations between the neurons of the cerebellum and those of other parts of the nervous system, both sensory and motor. Now, assuming that the cerebellum exercises a predominating influence upon the coordination of voluntary muscular movements, then it would not be unreasonable to assume in the cases cited that one effect of the primary disease had been in two of the cases to permanently injure those parts of the organ subserving this function, or, what would amount to the same thing, a considerable number of the neuron processes connecting it with other parts of the nervous system. Except in the cerebellum or its peduncles, these connecting fibers are so intimately related to, and intermingled with, other structures that it is difficult to conceive of any acute pathologic process that might severely injure or destroy them without also injuring the others, thus giving rise to

other permanent symptoms. And yet it is hardly more difficult to conceive that a toxin might limit itself say to the cells of Clark's column, which are believed to send their processes to the cerebellum, forming the so-called direct cerebellar tract, thus connecting it with the sensory nerve system, than to understand why in certain cases only the bodies of the peripheral motor neurons should be attacked, as in anterior poliomyelitis. The condition of the muscular system, especially in cases 1 and 2, was very similar to that of one of the well-marked and advanced cases of hereditary ataxy in the series reported by him several years ago. If it is conceded that the influence of the cerebellum is paramount in controling muscular coordination, when the position and extent of the various tracts are remembered which connect it with other parts of the nervous system, then it is not difficult to understand how far apart pathologic processes might be situated, and yet by destruction of one of these connecting paths throw the cerebellum out of circuit, so to speak, and thus give rise to ataxy. In many cases of the progressive types of ataxy, as locomotor ataxy and the so-called hereditary ataxies, the pathologic process apparently begins and is for a long time confined to the spinal cord, while in the cases described it was apparently in the brain. DR. BROWN said that the mere clinical report of such cases as he had described by itself was of little value in helping to locate the center or centers in the brain which control muscular coordination, or the relation of these centers with other parts of the nervous system; but if the cases could be brought to autopsy they might go a long way in that direction. His main purpose in describing them is founded on the hope that in the end, if enough similar cases are recognized, autopsies may be obtained which will render valuable contributions to a subject resting, at the present time, in considerable obscurity. A not very exhaustive examination of available literature has revealed several reports of cases similar in some respects to those of his. They have been variously designated as acute ataxy, bulbar ataxy, the symptom-complex of Friedreich's ataxy—all following acute infectious diseases. In none, however, so far as he is aware, has the ataxy alone been of long standing, if indeed it has yet become stationary.

DR. GUSTAV KOLISCHER read a paper entitled **Pawlik-Kelly's and Nitze's cystoscopy in the female.** He said that cystoscopy in the female is not only of value in obtaining information of the morbid conditions of the bladder, but also for diagnostic purposes in certain changes and affections of the genital organs. Cystoscopy is likewise of great value in the differential diagnosis between vesical and renal diseases by observing the urethral opening, by sounding the ureters and collecting the urine from each kidney separately. The principle of modern cystoscopy consists in unfolding the bladder by distending it to such an extent that its inner surface becomes visible, throwing light into the viscus either by means of reflected mirrors or by introducing an electric lamp into the cavity. The bladder is distended with air or water. The first method was introduced by Pawlik, and later on utilized by Kelly. For the second method the profession is indebted to Nitze. In performing Nitze's cystoscopy the bladder is filled with water through a catheter; general or local anesthesia is not required. Nitze's method, therefore, is preferable to others as far as the comfort of the patient is concerned. From an experience extending over ten years, and a large amount of clinical material to work on, after having previously used Pawlik's cystoscopy, the author believes that cystoscopy as practised by Nitze is far superior to any other method, in that it is exact and comparatively harmless.

DR. J. HOLINGER read a paper on **Ankylosis of the stirrup.** He said the condition is comparatively frequent, and leaves the patient utterly hopeless. The pathology has been studied by Professor Lieberman, and was given by the essayist in a paper read before the Chicago Pathological Society. The etiologist is able to make an accurate diagnosis with the aid of functional tests. The treatment is unsatisfactory; the prognosis unfavorable. The number of cases, where postmortem examinations have verified the diagnosis of this disease in the living, is increasing year by year.

DR. CHARLES D. LOCKWOOD read a paper on the **treatment of gonorrhea** in which he extolled the use of silver-salts, saying that he had obtained very gratifying results from them.

SOUTHERN STATES.

Orleans Parish (La.) Medical Society.—At a meeting held March 10, DR. QUITMAN KOHNKE offered for discussion the question as to **When may patients convalescent from smallpox and scarlet fever be discharged with safety to the community.** It was his own opinion that such patients were liable to convey infection until the last piece of epidermis of the desquamation had been shed, and as a further precaution the patient should be given a bichlorid bath. DR. R. MATAS said that, as infection is conveyed in these diseases chiefly through the products of desquamation, the position taken by Dr. Kohnke was most safe. As to what length of time should elapse before the shedding of the epidermis is complete, this was difficult to define. The sanitary code of most European countries, as well as those of several of the Northern commonwealths of this country, are agreed upon this subject. Generally desquamation is complete in from one to two weeks.

DR. R. MATAS reported several cases of surgical interest:

1. **A vermicular abscess of the anterior abdominal wall, which contained a large living ascaris lumbricoides** 9 inches in length, and which healed after the removal of the worm without trace of fecal matter or the formation of fecal fistula. The patient was a man, aged 53 years. The abdominal abscess, of traumatic origin, began to develop very gradually about three days after a severe contusion caused by the falling of a very heavy timber upon the right lumbar and iliac region. When examined by Dr. Matas three weeks after the accident there was detected in the right iliac region a tumor which was exceedingly hard; almost woody and absolutely painless to the touch. The patient's general condition was that of profound sepsis. A free incision opened a small foul-smelling (colonic) focus of suppuration beneath the transversalis aponeurosis. A living ascaris lumbricoides was detected and removed without leaving behind it any trace of feces or fecal fistula. After the removal of the worm the abscess gradually healed and the patient made complete recovery. Vermifuges were administered, but no other worms were expelled by the natural passages. Dr. Matas believed that as a result of the contusion a submucous or subperitoneal rupture of the colon occurred at the time of the injury which favored the migration of colonic germs. A saphrophytic abscess followed which softened and weakened the intestinal wall sufficiently at least to permit the worm to bore its way through by a small passage, possibly valvular, which closed spontaneously, and in this way prevented the formation of a fecal fistula. The reader referred to the literature of the subject and noted among others an article by Davaine (1870) in which 47 cases of abscess of the abdominal wall containing ascarides had been collected. Of these 21 occurred in the groin (chiefly adults); 19 in the umbilicus (mostly children with umbilical hernia), and 7 in other regions. The conclusion arrived at was that the migration of lumbricoides out of the intestinal tract could only take place in pathologic conditions which weakened the intestinal walls. It was exceedingly doubtful according to all evidence that a worm could by its own efforts ever perforate a normal intestine.

2. The second case was one of **nephrectomy for multilocular pyonephrotic abscess** with almost total destruction of the kidney. The case was presented with the view of emphasizing the great practical value of the Harris urinary segregator in the differential diagnosis of kidney-lesions. Examination with the instrument plainly and unmistakably determined that pus escaped exclusively from the right kidney and that the urine of the left was normal. Dr. Matas also referred to other cases in which the differential diagnosis of pyuria and hematuria had been clearly established by the Harris apparatus.

3. The third case was one of **impermeable gonorrheal stricture** of long standing in a young subject. It was presented to illustrate the value of "retrograde catheterism" by the suprapubic route in those rare cases of impermeable stricture in which after a diligent search the surgeon lost his way in the perineum and failed to find the vesical end of the urethra.

CANADA.

Canadian Medical Association.—The annual meeting will be held in Ottawa, Sept. 12, 13, and 14. Dr. Edmund Owen, of London, Eng., will deliver the address in surgery.

MISCELLANY.

American Medico-Psychological Association.—e Executive Committee finds that the Jefferson, the most sirable hotel in Richmond for the purposes of the Associa-n, is engaged for the week, May 7 to 12. The Council has cided, therefore, to again postpone the meeting until May 23, 24, and 25.

Health-Reports.—The following cases of smallpox, llow fever, cholera, and plague, have been reported to the rgeon-General, U. S. Marine-Hospital Service, during the ek ended March 17, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ABAMA:	Mobile	Feb. 24–March 10	11	
ORIDA:	Jacksonville	March 3–10	2	
DIANA:	Evansville	March 3–10	5	
NTUCKY:	Covington	March 3–10	6	
UISIANA:	New Orleans	March 3–10	79	22
CHIGAN:	Detroit	March 5	12	
"	Grand Rapids	March 3–10	1	
NNESOTA:	Minneapolis	Feb. 25–March 3	10	2
SSOURI:	St. Louis	Feb. 17–March 10	8	
BRASKA:	Omaha	March 3–10	1	
IO:	Cincinnati	Feb. 26–March 9	17	
	Cleveland	March 2–10	15	2
NNESSEE:	Nashville	March 3–10	1	
AH:	Salt Lake City	March 3–10	4	
RGINIA:	Portsmouth	March 3–10	3	
ASHINGTON:	Centralia	Feb. 26	150	
"	Seattle	Feb. 10–17	1	
"	Takoma	Feb. 24–March 3	4	1
"	Walla Walla	Feb. 21	2	

SMALLPOX—FOREIGN.

GENTINA:	Buenos Ayres	Dec. 1–31	6	4
STRIA:	Prague	Feb. 10–17	12	
LGIUM:	Antwerp	Feb. 10–17	6	3
"	Ghent	Feb. 17–24		1
AZIL:	Rio de Janeiro	Feb. 19–26	20	15
ITISH COLOM-IA:		Feb. 8–28	2	
NADA:	Quebec, Gaspe Basin	March 2–9	9	
LON:		Jan. 13–27		4
YPT:	Cairo	Jan. 21–Feb. 4	11	
GLAND:	London	Feb. 10–24	19	
ANCE:	Lyons	Feb. 10–17		2
"	Nice	Feb. 14–21	6	2
DIA:	Bombay	Jan. 31–Feb. 6		225
"	Calcutta	Jan. 20–Feb. 3		28
"	Kurrachee	Jan. 21–Feb. 4	22	12
"	Madras	Feb. 3–7		1
XICO:	Chihuahua	Feb. 24–March 3		8
"	Cuidad Porfirio Diaz	March 1–7	2	
"	Mexico	Feb. 11–18	27	19
"	Vera Cruz	Feb. 26–March 3		2
SSIA:	Moscow	Feb. 3–10	2	2
"	Odessa	Feb. 10–17	15	
"	Riga	Dec. 1–31		34

YELLOW FEVER.

AZIL:	Bahia	Feb. 3–10	3	1
"	Rio de Janeiro	Jan. 19–26		9
"	Santos	Jan. 19–Feb. 9	23	19
OMBIA:	Panama	Feb. 27–March 6	2	1
BA:	Havana	Feb. 24–March 3	2	1
XICO:	Vera Cruz	Feb. 24–March 3		2

CHOLERA.

DIA:	Bombay	Jan. 31–Feb. 6		7
	Calcutta	Jan. 20–Feb. 3		76

PLAGUE—UNITED STATES AND INSULAR.

LIFORNIA:	San Francisco	March 6		1
WAII:	Honolulu	Feb. 17–24	4	4
"	Kehei	Since Feb. 21	1 suspect.	
ILIPPINE ISLANDS:	Manila	Jan. 20–Feb. 3	10	6

PLAGUE.

GENTINA:	Buenos Ayres	March 10	Present.	
STRALIA:	Adelaide	Feb. 28	"	
AZIL:	Santos	Feb. 4	Last case discharged.	
DIA:	Bombay	Jan. 31–Feb. 6		458
	Calcuttta	Jan. 20–Feb. 3		152
	Kurrachee	Jan. 21–Feb. 4	36	37
RAGUAY:	Asuncion	Jan. 8–15		14

Obituary.—DR. ROBERT M. GIRVIN, a graduate of Jefferson Medical College, class of 1862, one of the founders and, at the time of his death, president of the staff of the Presbyterian Hospital, and a distinguished physician of West Philadelphia, at his home, March 16, aged 65 years.—DR. GEORGE H. WHITE, as a result of a railroad accident, Woodbury, N. J., March 16, aged 56 years.—DR. SAMUEL H. PENNINGTON, the oldest living graduate of Princeton, and a member of the Board of Trustees of the University, Newark, N. J., March 14, aged 94 years.—DR. B. S. LEWIS, formerly of Camden, at Plainfield, N. J., March 16, aged 43 years.—DR. STEPHEN P. DENNIS, Salisbury, Md., March 16, aged 73 years.—DR. A. B. STRONG, of Chicago, at Kankakee, Ill., March 16.—DR. JUSTUS LESSEY, Philadelphia, March 13, aged 81 years.—DR. AARON E. PECK, Brooklyn, N. Y., March 8, aged 66 years.—DR. OLIVER P. HUNNURD, emeritus professor of chemistry in Dartmouth Medical College, N. H., at New York, March 9, aged 91 years.—DR. FRANK W. GRAVES, Woburn, Mass., March 13, aged 58 years.—DR. W. H. TEMPLE, Brunswick County, Va., March 18.

Changes in the Medical Corps of the U. S. Army for the week ended March 17, 1900:

MCCALLUM, FRANCIS, acting assistant surgeon, is granted leave for one month, on surgeon's certificate, with permission to visit Japan.

LYON, PALMER H., acting assistant surgeon, assigned to temporary duty with troops on U. S. transport "Thomas," to sail about March 1. Upon arrival in Manila Surgeon Lyon will report to the commanding general, department of the Pacific, for assignment to duty.

BEATTY, WALTER K., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Thomas," to sail about March 1. Upon arrival in Manila Surgeon Beatty will report to the commanding general, department of the Pacific, for assignment to duty.

ROEMMELT, CHARLES, acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

MEYER, HERMAN, acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

A board of medical officers will be convened at the military hospital San Juan, P. R., March 5, for the examination of candidates for appointment as first lieutenant and assistant surgeon of the Puerto Rico regiment, U. S. Vols. Detail: Major P. R. EGAN, surgeon; Captain G. M. WELLS, assistant surgeon; First Lieutenant F. F. RUSSELL, assistant surgeon; Acting Assistant Surgeon JOSE LUGO VINA.

CALDWELL, R. E., acting assistant surgeon, leave granted is extended 10 days.

CABADA, EMILIO F., acting assistant surgeon, will proceed from Denver, Colo., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

CARR, Major LAWRENCE C., surgeon, is, in addition to his other duties, appointed sanitary inspector of Santiago, vice First Lieutenant JAMES R. CHURCH, assistant surgeon.

CHURCH, First Lieutenant JAMES R., assistant surgeon, is relieved from duty in Santiago, Cuba, and will proceed to Manzanillo, Cuba, for duty.

SMITH, BAT, acting assistant surgeon, is assigned to the command of the yellow fever hospital, Santiago, Cuba.

MENDOZA, F. F., acting assistant surgeon, is relieved from duty at the yellow fever hospital, Santiago, Cuba, will remain on duty at the hospital until further orders.

WOLFE, First Lieutenant EDWIN P., assistant surgeon, is granted leave for one month, with authority to go beyond the limits of Cuba.

DE YOARRA, A. M. FERNANDEZ, acting assistant surgeon, will proceed to Washington, D. C., and report to the Surgeon-General, U. S. Army, for annulment of contract.

MANLY, First Lieutenant CLARENCE J., is relieved from further duty on the U. S. Army hospital ship "Missouri," and will report to the commanding general, department of California, for assignment to duty with troops on the first available transport leaving for Manila, P. I., and on arrival will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

REILLY, JOHN J., is relieved from further duty on the U. S. Army hospital ship "Missouri," and will report to the commanding general, department of California, for assignment to duty with troops on the first available transport leaving for Manila, P. I., and on arrival will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

FOWLER, E. W., acting assistant surgeon, on temporary duty at El Cancy, is assigned to that post as surgeon.

MACY, ROBERT C., acting assistant surgeon, is relieved from duty at El Cancy.

MENDOZA, F. F., acting assistant surgeon, is relieved from duty at the yellow fever hospital Santiago, Cuba, and will proceed to Puerto Parde, Cuba.

MAURA, F. R., acting assistant surgeon, is relieved from duty at Puerto Parde, Cuba.

CARTER, Major W. FITZHUGH, surgeon, is relieved from further duty in the division of Cuba, to take effect April 1, and will proceed to Fort Totten for duty.

TURRILL, Major HENRY S., surgeon, is relieved from duty at Fort Totten, will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

TURRILL, Major HENRY S., surgeon, upon the completion of the duty assigned him by the commanding general, department of California, will proceed to Manila, P. I., and report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to duty.

MORELL, HARRY, acting assistant surgeon, will proceed from Slayton, Minn., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Changes in the U. S. Marine-Hospital Service, for the 7 days ended March 15, 1900:

GEDDINGS, H. B., passed assistant surgeon, to assume temporary charge of the hygienic laboratory. March 13.

YOUNG, G. B., passed assistant surgeon, granted leave of absence for 4 days from March 20. March 13.

CUMMING, H. S., passed assistant surgeon, to proceed to Millboro, Va., for special temporary duty; then to rejoin station. March 12.
Granted 4 days' extension of leave of absence. March 12.
Extension of leave of absence for 4 days' granted by Bureau letter of March 12 revoked. March 13.

WILLE, C. W., assistant surgeon, upon being relieved from duty at Boston, Mass., to proceed to the Cape Charles Quarantine Station and report to the medical officer in command for duty and assignment to quarters. March 9.

GOLDSBOROUGH, B. W., acting assistant surgeon, granted leave of absence for 15 days from March 15. March 9.

SOUTHARD, F. A., hospital steward, relieved from duty at the port of New York, N. Y., and directed to proceed to Baltimore, Md., and report to the medical officer in command for duty and assignment to quarters. March 14.

WARHANIK, C. A., hospital steward, upon being relieved from duty at Baltimore, Md., to proceed to New York, N. Y., and report to the medical officers in command for duty and assignment to quarters. March 14.

Changes in the Medical Corps of the U. S. Navy, for the week ending March 17, 1900:

WRIGHT, B. L., assistant surgeon, commissioned assistant surgeon from May 13, 1899.

PLUMMER, R. W., assistant surgeon, commissioned assistant surgeon from June 17, 1899.

EAKINS, O. M., assistant surgeon, commissioned assistant surgeon from October 31, 1899.

ODELL, H. E., assistant surgeon, commissioned assistant surgeon from November 8, 1899.

TAYLOR, J. S., assistant surgeon, commissioned assistant surgeon from November 8, 1899.

DAVIS, E., assistant surgeon, commissioned assistant surgeon from November, 21, 1899.

DIEHL, O., surgeon, detached from the naval recruiting rendezvous, Philadelphia, Pa., and ordered home and to wait orders.

LOWNDES, C. H. T., passed assistant surgeon, ordered to the Naval Academy.

MCCULLOUGH, F. E., assistant surgeon, order detaching from the "Nero" and ordering to the "Independence" is revoked; detached from the "Nero" and ordered to the "Philadelphia" immediately.

LIPPITT, T. M., assistant surgeon, detached from the "Baltimore" and ordered to such other duty on the Asiatic station as the commander-in-chief may assign.

WOOD, F., pharmacist, detached from the Washington Navy Yard and ordered to be examined, March 15, for retirement, and thence home and to wait orders.

STOKES, C. F., passed assistant surgeon, detached from the naval hospital, New York, March 24, and ordered to the "Buffalo," April 2.

WARD, R. R., passed assistant surgeon, detached from the "Independence" and ordered to the naval hospital, Mare Island, Cal.

BROWNELL, C. D., passed assistant surgeon, detached from the "Solace" and ordered home and to wait orders.

SPEAR, R., assistant surgeon, detached from the "Constellation" and ordered to the naval hospital, New York.

EAKINS, O. M., assistant surgeon, detached from the Naval Academy March 24, and ordered to the "Buffalo," April 2.

Another Lay-Journal Refuses "Medical" Advertisements.—The publishers of *Frank Leslie's Popular Monthly* inform us that beginning with the April number they will eliminate from the pages of this periodical all advertisements claimed by many readers and advertisers as objectionable, such as those for the cure of opium, morphin, and the liquor habit; rupture; teaching of hypnotism, mesmerism, and mind-cure, and others of the objectionable medical class.

Foreign News and Notes.

GREAT BRITAIN.

Aberdeen University intends to present the honorary degree of LL.D. to Dr. Mitchell Bruce, of Charity Cross and the Brompton Hospital, a well-known physician and a special authority on pulmonary diseases, and Surgeon-Major David Prain, I.M.S., the director of the botanic gardens in Calcutta.

The Tercentenary Celebration of the Faculty of Physicians and Surgeons of Glasgow.—On March 3 the Faculty of Physicians and Surgeons of Glasgow gave a conversazione to the members of the medical profession in Glasgow and the West of Scotland in celebration of the tercentenary of their incorporation.

The late Thos. Scattergood, of Leeds, has been actively connected with the Leeds School of Medicine for 55 years, first as student, then as lecturer in chemistry, and afterwards as teacher of forensic medicine, in which branch of medicine he enjoyed a great reputation. When he died, on February 22 last, he had just completed his seventy-fourth year.

The cost of alcoholic drinks in Great Britain during 1899 was £162,163,474, this figure being about £6,000,000 in excess of the total for 1898. An enormous amount of this sum represents the duties upon the alcohol, so that one person can hardly fail to rejoice over the size of the national drink bill—and that is the Chancellor of the Exchequer. And truly, as the South African war bids fair to cost Great Britain, temporarily at any rate, £50,000,000, the national coffers are glad of replenishment this year. Still, without being an expert in political economy, it is easy to see that it is a wasteful proceeding to expect a country to drink itself free from its liabilities incurred by war. It is the same man who drinks and who fights; and if he doesn't drink too much he will fight better and the war will be over quicker.

The Medical Arrangements for the War go on quietly. The sick come back to Great Britain and fill hospitals, and officers and men of the R. A. M. C. go out to South Africa weekly. There have been extraordinary cases of bullet-wound reported by Sir William MacCormac and Mr. Treves, both from Modder River and Tugela River battles. The hospitals at the bases and on the lines of communication are full as a result of the operations of Lord Roberts and Sir Redvers Buller, but it seems generally believed that the Boers will retreat, rapidly or slowly according as they are pressed, into the Transvaal, and that there will be a lull in actual fighting. Sir William MacCormac and Mr. Treves have suffered from dysentery during their sojourn in South Africa, but both have been able to shake off the malady. Sir William MacCormac started on March 10 for England, going from Durban up the East coast of Africa. Mr. Treves is also returning home. The government has accepted the services as consulting surgeon of Sir Thomas Naghter Fitzgerald, of Melbourne, Senior Surgeon to the Melbourne Hospital and president of the last Intercolonial Medical Congress of Australasia.

A Plucky Monarch.—Queen Victoria has announced her intention of visiting Ireland and staying there for a fortnight before Easter. Her action is due to her desire to testify her gratitude to the country which has furnished to her army such splendid soldiers as the Irish regiments now serving under their Irish Commander-in-Chief in South Africa; and it may be of the happiest import, for it may mark the commencement of a truce to the racial feud which has hitherto made Ireland a very disunited part of the United Kingdom. The Queen of England is 81 years of age and Dublin, where she proposes to sojourn, is an exceedingly dirty and unhealthy city, separated from England by a sea-passage which is almost invariably rough. Her visit to Ireland must necessarily be of a fatiguing character, and she displays great resolution in allotting herself so arduous a task. It is needless to say that her intention has been welcomed with acclaim by all the better residents in the country to which she has designed to pay so marked a compliment, and equally needless to point out that the Queen's medical advisers will take every care possible to make the

ain upon her as small as possible and to preclude dangers sing from the notoriously insanitary state of the city.

Crook vs. Crook and Horrocks.—This case was con-ded on March 8. It was an action for a divorce brought Mr. Herbert Evelyn Crook, a medical man, against his e, adultery being alleged with the well-known gynecol-st, Dr. Peter Horrocks, obstetric physician to Guy's Hos-al. Mr. Crook based his case upon a confession made to n by his wife. Mrs. Crook consulted Dr. Horrocks pro-sionally, and some time afterwards stated to her husband d other people that she had habitually misconducted her-f with her physician. Mrs. Crook's defense was that when made the confession she was the victim of a delusion, ilé Dr. Horrocks gave a flat denial to the charges against nself. The verdict was an unsatisfactory one. The jury nd that Dr. Horrocks had not committed adultery with s. Crook. This they were bound to do, for the only basis the action against him was Mrs. Crook's confession, which, English law, was evidence only against herself and not ainst the co respondent. But they disagreed about Mrs. ook's guilt. This result is very hard upon Dr. Horrocks, although he has been found innocent, the preposterous arge against him has been semi-endorsed by the fact that e jury refused to acquit Mrs. Crook, against whom pre-ely the same evidence—viz., the confession—was brought. ere is something wrong with the law when a man of Dr. rrock's stainless reputation and exemplary past remains ufferer from a charge of which a jury of his countrymen ve found him entirely innocent. He has our best sym-thies. We also wonder if it would not be possible for him bring an action for libel against Mrs. Crook, and so have e case retried on other issues.

The Bill for the Regulation of the Practice of Midwives, somewhat unexpectedly was approved by a jority of four to one for a second reading in the House of mmons on Friday evening, March 9. There was nothing a surprise in the fact that the House accepted the measure, t the opposition to the second reading was feeble, owing the fact that it was not expected that the bill would come the *tapis*. Mr. T. P. O'Connor pointed out to the House t the circular-letter issued by the *Lancet* to the medical fession had resulted in a consensus of opinion against the l, but he met with no support. Undoubtedly the House of mmons believes that the opposition of the medical pro-sion to the bill is purely selfish, that they fear to lose their dwifery fees and are led by those fears to neglect the best erests of the community. The House is entirely wrong in s conception of the general medical view. The medical fession in England as a whole regard the possibility of ing some portion of their midwifery practice among poor ple with indifference, for the work is arduous and very paid; but they look upon a measure which licenses a m of medical practice by persons who have only received ery limited professional education as an innovation that fraught with peril for the public. The licensed midwives der the bill are only to attend normal cases. But who is say where the physiology of obstetrics ends and pathology gins? Who is to teach a woman, and especially one not roughly grounded in science, so that, while she is only to small things, she can recognize when large things will ve to be done—and recognize this in time to send for the istance of a medical man?

Munificent Gifts to London Hospitals.—The estate been valued at £472,704 of Professor David Howard ghes, F.R.S., the famous electrician, who died in January t, aged 69. He left £30,000 and some handsome annuities certain relatives, mostly resident in the United States; d £13,000 allocated in different sums to the Institute Electrical Engineers, the Société Internationale des ctriciens de Paris, the Royal Society, the Royal In-ution of Great Britain, and the Académie des Sciences l'Institut. Of the entire residuary personal estate he has stituted a trust fund, to be called the "David E. Hughes spital Trust Fund," the trustees to be the treasurers for time being of the Middlesex Hospital, the London Hos-al, King's College Hospital, and Charing Cross Hospital. e trustees are to pay annuities to his widow and his sister d her husband amounting to £2,000 per annum, and to ep the capital intact. For 21 years the income is to be divided into 2 parts, one-half is to be added to the capital and one-half is to be distributed in equal shares between the Middlesex, the London, King's College and Charing Cross Hospitals. At the expiration of 21 years the whole income of the largely increased capital is to be distributed equally between the four hospitals. If any one of the hospitals showed decay so that the charity no longer supplied 100 beds, it will cease to benefit by the trust, as will any hospital that refuses to allow its treasurer to be a trustee. Professor Hughes, who had evidently studied the finance of London hospitals closely—this is shown by the choice of hospitals to be dowered—expressed a wish in his will that one-third of the income derived by each hospital from his trust fund should he added annually to capital. The spendthrift policy is much in vogue in London, and it is to be hoped that the recommendation to increase their capitals which thus reaches four treasurers from their dead benefactor will be respected. The sum by which the hospitals will eventually benefit is over £400,000.

The General Medical Council vs. Alabone.—There is a person practising medicine in London, named E. W. Alabone. He is described by himself as being M.D. of Bellevue College, M.D. Phil. U.S.A., D.Sc., F.R.M.S., and Ex-M.R.C.S. Eng. Concerning the D.Sc. there is no information of its source. F.R.M.S. indicates Fellow of either the Royal Meteorological Society or the Royal Microscopical Society, entrance to which bodies can be obtained without any trouble on payment of the usual subscriptions. The two American degrees he seems to have purchased. Against this man the General Medical Council brought an action, alleging that he was falsely pretending to be a doctor of medicine; and their legal counsel urged that he was pretending to have the excellent American degrees of the Pennsylvania University and the New York Bellevue Medical College, whereas his American degrees were of quite a different sort, while his only English qualification, the M.R.C.S., had been taken away from him for professional misconduct. Mr. Alabone's counsel at once admitted for his client that the two degrees in question were not the degrees which he was supposed to be pretending to enjoy, but had been purchased after the reading of theses. The magistrate, before whom the action was brought, was so captivated by Mr. Alabone's candor that he found for him against the General Medical Council, who have obtained some distinctly nasty criticism by the way they conducted their case. The magistrate never seems to have been informed that Mr. Alabone was on the horns of a dilemma, that either his degrees were the ones which he admitted and which the Council argued that they were not, or they were degrees obtained from two bogus institutions, one in Boston and one in Philadelphia, which have been suppressed for fraudulent practices. If the character of the defunct places where Mr. Alabone purchased his degrees, had been made known to the magistrate, surely he would have given a different decision. And why such information was withheld from the magistrate passes understanding.

MISCELLANY.

Obituary.—WILLIAM MACNEIL WHISTLER, M.D., senior physician to the London Throat Hospital, February 27, aged 63 years.—DR. GUSTAVO PACETTI, lecturer on neuropathology in the University of Rome, aged 34.—DR. A. VALENTI, extraordinary professor of general pathology in the University of Rome.—DR. L. BRUNETTI, emeritus professor of morbid anatomy in the University of Padua.—DR. OSCAR WIDMANN, extraordinary professor of medical pathology at Lemberg.—DR. ARTHUR DECÈS, professor of clinical surgery in the Rheims School of Medicine, aged 69.—DR. GIOVANNI CANESTRINI, professor of comparative anatomy in the University of Padua, aged 65.—DR. EUGENE BOECKEL, surgeon to the Civil Hospital, and formerly *agrégé* professor in the French Faculty of Medicine, Strasburg, aged 69.—DR. GÉRIN-ROZE, formerly physician to the Paris hospitals, aged 65.—DR. JOSE HERNANDEZ Y SANZ, medical director of the baths of Alceda, Spain.—DR. FELDMANN, described as the Nestor of the German medical profession, aged 92.—DR. ERNST KRUSE, a member of the German Reichstag, aged 63.—PROFESSOR O. LEICHTENSTERN, chief of the Medical Department of the Augusta Hospital, Cologne, aged 55.

The Latest Literature.

British Medical Journal.

March 3, 1900. [No. 2044.]

1. Clinical Lecture on Cases of Myasthenia Gravis Pseudo-Paralytica. THOMAS BUZZARD.
2. Abstract on an Address on Suicide in Scotland. JOHN SIBBALD.
3. The Eye-Symptoms of Locomotor Ataxia, with a Clinical Record of 30 Cases. C. O. HAWTHORNE.
4. Case of Tabes Dorsalis with Bulbar Symptoms. GEORGE E. RENNIE.
5. Experiments to Determine the Efficacy of the Different Constituents of Haffkine's Plague Prophylactic. C. BALFOUR STEWART.
6. A Contribution to the Study of the Pituitary Body. W. A. OSBORNE and SWALE VINCENT.
7. Abstracts of the Arris and Gale Lectures on the Anatomy and Pathology of the Rarer Forms of Hernia. B. G. A. MOYNIHAN.
8. A Case of Tetanus Treated by Antitetanic Serum; Recovery. W. MURRAY.
9. Maniacal Excitement During an Attack of Influenza. JOHN H. SPITZLY.
10. Supernumerary Nipple. E. G. SALT.
11. Poisoning by Water-Parsnip(Œnanthe Crocatal). EDWARD W. GRIFFIN.

1.—Cases which are exampled by the two reported here, show symptoms of **bulbar paralysis,** usually of mild degree, with ptosis and sometimes **ophthalmoplegia,** weakness and great susceptibility to fatigue of the muscles of the trunk and extremities, as well as of those innervated from the bulb. There are no tremors. If the muscles are not at the time already much fatigued the reaction to electric currents is normal, but the excitability rapidly decreases and soon disappears, to return again after a very short rest. There are usually marked remissions and exacerbations. Sensory troubles are absent, the bladder and rectum are not afected, nor is the mind. Autopsies have been negative. The first case which is here reported showed marked variations. At one time the man was apparently profoundly ill with alarming dyspnea. When exhibited in clinic he was apparently well except for the myasthenic reaction. In the other case the symptoms had shown little improvement at any time, tending to grow worse continuously. In the first case the weakness was particularly striking in the neck muscles, in the other case the muscles of the jaw were especially affected. In both cases the kneejerks, contrary to the readiness with which the muscular system became fatigued, showed lively response, even after repeated tapping upon the patellar tendon for as long as 15 minutes. [D.L.E.]

2.—Sibbald states that the **percentage of suicides** in Scotch males rises after the twentieth year to reach a maximum at between 65 and 70 years of 300 per million. In females the suicides increase to the age of 55 to 60 when they are found in about 100 per million. Suicide is always much more frequent in males except that between 15 and 20 years of age drowning is more frequently a method of suicide in females than in males. There are more suicides in summer than in winter. There is no evidence that suicides are more frequent in town than in the country. Figures show a steady increase of suicide in Scotland, but this, Sibbald thinks, is to be attributed to the greater efficiency of registration, and the greater frequency with which cases are considered suicide now when formerly they were considered accidents. It may be observed in those regions where accidental deaths are less frequently reported now that suicides are more frequently reported; also deaths by hanging or other methods in which suicide is perfectly evident are not now more frequently reported than they were previously. It is only the kinds of deaths in which it may be either accident or suicide that one sees the increase in reports of suicide. [D.L.E.]

3.—Hawthorne believes, after a study of 30 cases, that he is justified in concluding that the existence of otherwise **unexplained ocular lesions** should arouse a suspicion of locomotor ataxia. Either atrophy of the optic nerve, ocular paralysis, or Argyll-Robertson pupil may exist for a long time as an isolated symptom. If more than one of these be found it is more probable that the cause is locomotor ataxia. Sometimes minor evidences of spinal disease may be found upon careful examination, and thus the suspicion is increased. At times cases which have for a long time had only ocular symptoms suddenly and rapidly develop spinal symptoms of locomotor ataxia. But although these ocular changes may arouse a suspicion of locomotor ataxia, the prognosis cannot be established at once, as the eye symptoms may remain for years the only indication of the disease. [D.L.E.]

4.—In the case reported there was hemiatrophy of the tongue, bilateral abductor paralysis with paralysis of the pharyngeal muscles, and dysphagia. The marked involvement of the pharyngeal muscles is considered to be very rare. [D.L.E.]

5.—Stewart had observed that when inoculating rabbits with varying doses of **broth cultures of the plague-bacillus** the animals that receive the larger dose showed the lesser mortality. He thought this was due to the fact that substances capable of conferring immunity, or of reducing the severity of the disease, were injected with the microbes. Since the microbes were living and young he thought that these substances were probably contained in the broth. Inoculation experiments showed that while smaller doses killed, larger doses were less frequently fatal, also that the filtrate was found alone to possess the power of conferring immunity or of modifying the attack, while a suspension of sterilized microbes had bactericidal properties. Stewart considers therefore that the sediment contains the bactericidal properties, while the substances conferring immunity are found in the filtrate. [D.L.E.]

6.—The authors confirm the results which have previously been obtained by Oliver, Schafer and Vincent. From a saline decoction of the gland they obtained an alcoholic precipitate which produced depressor effects, and with ammonium sulfate, a precipitate which produced pressor effects. The same substances were found in teleostean fishes, and in many mammals, and are thought to be the same throughout the vertebrate kingdom. The authors have also found that depressor effects are produced by various parts of the nervous system. They have shown too that the infundibular portion of the pituitary gland of the ox consists of two parts, an outer and an inner. The central part is much more active than the outer. [D.L.E.]

7.—Moynihan defines **encysted hernia** as that form of hernia in which the sac with its contents, wholly covered on the outer side by a reflected layer of serous membrane, hangs downwards from the internal ring in the cavity of the processus vaginalis. He describes three forms: 1. Encysted hernia of the tunica vaginalis, the testis lying at the bottom of the cavity. 2. Encysted hernia of the tunica vaginalis, the testis lying at the lower end, the apex of the encysted mass. 3. Encysted hernia of the funicular process. In the first variety, in order to reach the hernial contents, three layers of peritoneum must be divided, (*a*) outer layer of tunica vaginalis, (*b*) inner reflected layer of same, and (*c*) the sac. In the second variety an undescended testicle must have existed previous to the descent of the hernia, which as it proceeds pushes the testicle before it. **Hernia of the bladder** may be defined as the appearance of the bladder at any of the usual hernial orifices, whether in relation to the peritoneum or not. The inguinal variety is more common than the femoral, the frequency of occurrence for both being estimated at from 1 to 5%. Bladder hernia may be of three kinds: (1) Intraperitoneal, (2) paraperitoneal, and (3) extraperitoneal. Besides these, there is the operative cystocele, in which the stripping up of a sac during a radical operation drags a portion of the bladder down into the opening. Cystocele may be primary or secondary. Primary cystocele results from two conditions: 1. In which the bladder, through persistent overdistention, associated with muscular atony, laxity of the abdominal wall and "effort," is forced into the inguinal canal. 2. In which traction or fixation of a lipoma causes the descent of the organ. Secondary cystocele results from: 1. The traction of a preexisting hernia. 2. The protrusion of the peritoneally clad portion of a lax, distended bladder into a hernial sac of old standing. As to treatment, the most important part is to recognize the condition before the bladder has been accidentally opened. [G.B.W.]

8.—The patient developed tetanic symptoms about 10 days ter a wound of the face. The paroxysms were moderate. e was given 10 cc. of serum, and chloral and bromids, the jections of serum being continued daily for 9 days. Re- very was good. [D.L E.]

9.—The patient, a man of 25, became very delirious, and the fourth day went into maniacal excitement which ntinued in greater or less degree for about a week, when subsided, and the man became entirely well. There emed to be no other cause than the influenza. [D L.E.]

10.—The supernumerary nipple was discovered in a imipara of 26. There was milk-secretion from both pples. [D.L.E.]

11.—The symptoms were convulsions, with vomiting. One the two patients died. The plant which caused the poi- ning is a common one in Ireland, and is often used for me-made dressings. [D.L.E.]

Lancet.

March 3, 1900. [No. 3992.]

. Rabies. JOHN ROSE BRADFORD.
. Anatomy and Pathology of the Rarer Forms of Hernia. B. G. A. MOYNIHAN.
. Tuberculous Disease of the Kidney: Its Etiology, Pathology, and Surgical Treatment. DAVID NEWMAN.
. On the Relation of Blood to Lymphatic Vessels. CECIL H. LEAF.
. A Contribution to the Surgery of the Kidney. LEONARD W. BICKLE.
. Hallux Valgus, and Hallux Varus. J. JACKSON CLARKE.
. A Case of Leprosy. JOHN D. GIMLETTE.
. A Case of Suppresion of Urine of 60 Hours' Duration Treated by Operation. FRANCIS JAFFREY.
. The Treatment of Some Forms of Appendicitis at Plombières Without Operation. SKENE KEITH.
. A Case of Pregnancy Complicated by Fibrous Tumor of the Supra and Infravaginal Cervix; Abdominal Hysterectomy; Operation; Recovery. WILLIAM DUNCAN.

1.—Bradford's interesting lecture deals first with the history of **rabies,** and then with its occurrence in various animals, the manner of infection, and the diagnosis. It affects l mammals, and also birds, but there is a question as to hether it affects the amphibia. It affects birds chiefly as e result of experimentation, and accidental inoculation of em would be difficult. It is common in wild animals. It not uncommon in cattle, particularly in horned cattle. is somewhat rare in horses, and particularly rare in pigs, obably because the pig has so much subcutaneous fat, and t is not readily infected. It occurs with striking frequency some localities, and is hard to eradicate from those local- es. It frequently occurs in epidemics. It is usually communicated by bites; the cat is the most dangerous animal, cause it is likely to fly toward the most exposed part, nich is often the face, and inoculation of the face seems to particularly dangerous, perhaps because it is so near the ntral nervous system, and the virus has its chief influence on the nervous system. Rabies can be communicated by king, but not readily. At best it is not easily inoculated, e easiest method being by subdural injection. Probably out 10% to 20% of people who are bitten by a rabid ani- al acquire rabies. The disease has been acquired by post- ortem infection, and it is said that animals may acquire it eating the flesh of other animals which have died of the sease; probably in these cases it is acquired through abra- ons of the gastrointestinal tract. It has been communi- ted to the suckling animal through the mother's milk. ne virus is present in the central nervous system, but the ood is not infectious nor are most of the tissues. It is, wever, present in most of the glands and in the secretions om them. It is destroyed by drying in air in about a fort- ght; when exposed to air and sunlight it loses it virulence about 14 hours; in water it remains virulent for from 20 40 days; in carcasses from 3 to 6 weeks, though Bradford s found it absent in two instances a few days after the ath of the suspected animal. It is of course likely in any instances that there will be no evidence of the pres- ce of the virus, if other organisms, particularly those using septicemia, are present, because these kill before the rabies' virus has time to act. The incubation period in the human subject lies between 20 and 60 days, and it is exceedingly rare to have it appear after 3 months, and a 6-months' incubation is practically unknown. This is very important in diagnosis. Bradford insists that it is unwise to kill a suspected animal, because by watching it one can tell in a few days whether it had rabies or not, while if one attempts experimental diagnosis one must wait several weeks. [D.L.E.]

3.—Newman reports 3 cases of **tuberculous disease of the kidney.** A young woman, 12 years old, had profuse hematuria with slight pain in the left kidney recurring thrice; there was no deposit in the urine and no swelling in the lumbar region. Apparent recovery for 2 years was followed by a relapse of the symptoms and a swelling in the left lumbar region. There was at this time a mucopurulent deposit in the urine with tubercle-bacilli; there was no irritation of the bladder. In a second case a man, 39 years old, had suffered from hematuria 13 years previously to admission and again 9 years after the first bleeding. On operating, a large tuberculous pyonephrosis was discovered; the left kidney was healthy. The tuberculous kidney was scraped and evacuated. In the third case a man of 37 had had occasional slight hematuria followed by one profuse bleeding in the advanced stage of renal phthisis. About a pint of blood and blood-clot escaped. [M.B.T.]

4.—After making a number of dissections, Leaf decides that: 1. The azygos veins normally receive numerous lymphatic vessels. 2. Some smaller arteries in the thoracic region open directly into lymphatic vessels, and some veins communicate directly with large lymphatic trunks. These factors quicken the movement of the lymph. 3. The communications between bloodvessels and lymphatics are found in many regions. 4. Because of these direct communications it is evident that the cells of malignant growths may readily find entrance into the veins, and that the veins should be considered as channels through which carcinoma may readily be transmitted. [D.L.E.]

5.—A woman, 29 years old, had had pain and swelling in the left side for 2 years; a decided tumor was noticed 3 months previously which was apparently cystic in character and not painful; the urine had been normal until 12 days before operation, when pus and albumin were noted. The tumor could be pushed into the loin and a diagnosis of hydronephrosis was made. **Nephrectomy** was performed and good recovery followed. The **woman** was 3 months **pregnant** at the time of operation, but the pregnancy was not influenced by the operation and she was delivered at term of a healthy infant. In a second case a man, 56 years old, had had pain in his left side over 12 years; blood had appeared in the urine on two occasions and there was localized area of sweating about 2 inches broad in the left renal region. The urine contained red and white blood-corpuscles and oxylate of calcium corpuscles. A diagnosis of stone in the left kidney was made, nephrolithotomy was performed after a stone had been located by the systematic use of the searcher. Recovery was complicated by a febrile delirium, but followed rapidly after the seventeenth day. The stone which was removed weighed over 240 grains. [M.B T.]

6.—Clark discusses the definition, anatomy, causation, and operative treatment of **hallux varus** and **hallux valgus** without adding anything specially new to the subject. [M B.T.]

7.—The patient was a man of 27 years, who was a clerk and interpreter in the Police Court at Pekan. He had **leprosy of the combined tuberculous and anesthetic type.** It had begun with infection of the tendon sheaths and swelling of the glands, and was diagnosed rheumatism. Subsequently it was considered to be beriberi. A diagnosis of leprosy was, however, established by several observations. Gimlette thinks that leprosy is undoubtedly contagious, but does not believe that it is wise to isolate such cases absolutely, as he does not consider that there is any public danger from such a case so long as the patient has no open sores. [D.L.E]

8.—A man of 53 entered the hospital with acute suppression of urine of 60 hours' duration; attempts had been made to draw the urine with a catheter, but only blood-stained mucus was passed. For several weeks he had experienced some pain and a dragging sensation over the left kidney, but the urine had been normal though micturition

was frequent. On palpation a soft rounded swelling could be felt in the abdomen and exploratory operation was undertaken for suspected hydronephrosis. On opening the swelling it was found to consist of a bloodclot instead of urine and was located between the perinephritic fat and the kidney. On incising the kidney-capsule blood was found between it and the cortex; no calculus was felt and the cause of suspension was not definitely determined. **Nephrotomy** was performed and a large drainage-tube was passed into the pelvis of the kidney. Two hours later urine was being freely secreted and was passing from the drainage-tube; 26 hours later all the urine passed by the urethra. A good recovery followed and the patient left the hospital well on the sixteenth day. [M.B.T.]

9.—Keith advises **baths at Plombières**, the patient to lie for from 40 to 50 minutes covered to the neck with water at a temperature between 34° C. and 36° C., the Tivoli douche being used toward the end of the bath. He describes the baths at Plombières, and the methods of reaching there, and considers that this place has not received sufficient attention from medical men. [D.L.E.]

New York Medical Journal.

March 17, 1900. [Vol. lxxi, No. 11.]

1. The Sheldon Murder Trial: Resume of the Expert Testimony for the State. WILLIAM CHEESEMAN and ALBERT H. HAMILTON.
2. Tinea Favosa. CHARLES A. KINCH.
3. Shock and its Surgical Significance. JOHN H. RISHMILLER.
4. The Administration of General Anesthetics. C. ALGERNON TEMPLE.
5. Apomorphin as a Hypnotic. CHARLES J. DOUGLAS.
6. Extensive Thrombosis of the Lateral Sinus and Internal Jugular Vein following Acute Suppurative Otitis Media. Ligation of the Internal Jugular Vein in its Lower Portion. Secondary Periphlebitis. Recovery. M. D. LEDERMAN.
7. The So-called X-ray Burn. J. RUDIS-JICINSKY.
8. Varicose Spinal Veins. An Unusual Postmortem Find. CLARENCE E. COON.

2.—Tinea favosa spreads chiefly by means of the domestic animals, the most important animals being mice, the next in importance being cats; dogs, rats, and rabbits are also susceptible; but there are no authentic instances of transmission through other animals. The cause of the eruption is a schizomycete, the spores of which grow at the opening of the hair-follicle. The number of cases of favos in this country seems to be increasing. The treatment which is most satisfactory is probably the old treatment by epilation and brisk rubbing of the surface with a watery solution of corrosive sublimate. The prognosis in cases affecting the skin or nails is good; in the scalp it is likely to run a long course and to be difficult to treat, but cure will ultimately be effected if care is taken in the treatment. [D.L.E.]

3.—Rishmiller considers hemorrhage the most pronounced cause of **surgical shock**, particularly if venous, as then the equilibrium of the vasomotor mechanism is too suddenly deranged. Peritoneal absorption of septic material invariably terminates fatally through shock before evident manifestations of peritonitis have developed. The severity of operative shock largely depends upon the length of time in the performance of the operation, and the duration and degree of the anesthesia. Shock may to a large degree be prevented by any counterirritation applied to the extremities. Brandy *per os* and morphin subcutaneously before operating are imperative precautions toward prophylaxis. The main treatment consists in stimulating the vascular system and to preserve the animal heat and supply artificial heat in the body. In acute hemorrhage or other excessive anemia an infusion of normal saline solution is indicated. [M.B.T.]

5.—Douglas considers **apomorphin** the nearest approach to an infallible **hypnotic** that we have. This is said to be true of all forms of insomnia. He gives it in doses of $\frac{1}{30}$ grain hypodermically. He gives it just before the patient gets into bed, or just after getting into bed, as otherwise it may cause nausea. Sleep is said to follow in a few minutes, and appears to be a natural sleep. The effects last only an hour or two, but oftentimes it is most difficult of all to get insomnia patients to fall asleep, and if this is accomplished sleep continues. [D.L.E.]

6.—A young woman, 19 years old, had suffered pain in her right ear for some days. Perforation of the membrana tympani occurred, free discharge followed, and the pain then extended over the entire head; the left membrane was also reddened and bulging. The left drum was incised, hot douches were used and ice coils were applied over both mastoids. The temperature rose and was variable, but the mastoid tenderness became less and the discharge from the right ear was lessened. The opening in the right drum was enlarged, the flow of pus increased, and the elevated temperature gradually subsided. About four days later there was a chill (the only chill during the illness) and the temperature rose again. Tenderness along the sternomastoid muscle developed, the girl was somnolent, there was stiffness of the right shoulder and arm, and an examination of the eye showed a tortuous condition of the retinal veins. Three days later an attempt was made to open the mastoid, but after the first chip of bone was removed the abnormally superficial **lateral sinus** was exposed. The bony covering was further removed and on introducing an aspirating needle pus was withdrawn. The sinus was then incised and considerable pus escaped, but no blood appeared until the **thrombus** was removed with a wire curet. Iodoform gauze was introduced to prevent bleeding and the thrombus was cureted from the other end of the sinus in the same manner. The internal jugular vein was then tied above the clavicle and on cutting into it pus escaped. It was flushed out but not dissected out; a drainage-tube was introduced, the mastoid wound was packed and dressings were applied. For 4 days there was no rise of temperature, then a tendency to irregular rise and fall appeared and there was tumefaction in the neck. Under anesthesia an incision was made and it was evident that there was periphlebitis, though no pus could be found. An tiseptic dressings were applied, the swelling gradually subsided and a satisfactory recovery resulted. [M.B.T.]

8.—The case reported was that of a man of 58 who had a history of syphilis, but whose history otherwise was negative except for protracted constipation, associated with hemorrhoids and an enlarged prostate, with cystitis. There were large varicose veins of the leg. His spinal symptoms consisted of violent shooting pains in the extremities, which were always worse when he was exhausted. There were no paralyses of any kind. The patellar reflexes were somewhat exaggerated. He died of tuberculosis of the lungs. The postmortem showed in **the spinal canal a large varicose vein** at the junction of the dorsal and lumbar vertebrae, about 3 inches long. This was the posterior spinal vein. Above and below the dilation the vein was very small. Anteriorly there were two dilated veins in the extreme lower lumbar region. The posterior varicose vein was in position to press upon the posterior spinal nerves and it is considered probable that the pain was due to such pressure. [D.L.E.]

Medical Record.

March 17, 1900. [Vol. 57, No. 11.]

1. ome Points in Therapeutics of Heart Diseases. W. E. THOMSON.
2. The Inoculation Wound of Lues. CHARLES WARRENN ALLEN.
3. Chorion Epithelium and Decidua in Tubal Gestation. I. S. TALMEY.
4. Some Remarks on Whooping-Cough as Seen in Dispensary Practice. WALTER A. DUNCKEL.
5. Six Nephrectomies. F. V. CANTWELL.

1.—Thomson outlines his treatment of **acute inflammatory conditions of the heart** as follows: Absolute rest, leeches to the precordia, careful protection from cold, vascular sedatives over the precordia, and aconite with the usual exclusion of digitalis and its congeners. In acute degeneration digitalis is considered powerless and is likely to cause serious distress. Strychnin, caffein, and camphor ar

nsidered valuable. In pericarditis strapping of the chest found useful. In cardiac pains belladonna is valuable. omson insists upon the importance of degeneration in e myocardium causing cardiac disease in patients beyond ddle life, and it is especially important to investigate the ndition of the arteries in such cases. The treatment of yocardial degeneration is largely a treatment of the organs general, particularly combating any gastrointestinal uble and producing a sufficient secretion of urine. For e latter purpose Kemp's rectal irrigator with a salt solun at 110° F. is considered most useful; for gastrointestinal fficulties a blue pill is particularly valuable. When the art fails, digitalis must be used; nitroglycerin should be ven with it. But with such measures it is essential that e patient should have fresh air, and that his blood should improved, usually best with iron. Oertel's and Schott's ethods should be used only with great care in such cases. L.E.]

2.—Allen reports several cases of **extragenital chancre.** one case a young man was infected by having his ear ten in an election fight; the wound was dressed simply d appeared to do well for 3 weeks, then it developed in a anner suggesting chancre. The diagnosis was based in is case chiefly on the color of the skin-eruption and engement of the lymph-glands. In a second case a woman d been struck by her husband on the bridge of the nose 2 nths previously. The ecchymotic area was painted by a ck-eye artist and probably the infection came through his istening his brush in his mouth. In another case a man s infected in a small area which was burned while a rber was curling his mustache. In a series of 200 conutive cases of syphilis at the Good Samaritan Dispenry, Allen finds records of 20 extragenital chancres. [M.B.T.]

3.—Talmey made a careful **microscopic study of the ternal genital tract** which had been removed for fullm tubal gestation, and found the following interesting structral modifications in this case: 1. The hyperplasia of the Fallian tube in tubal gestation consists only of a proliferation the connective tissue and not of the hypertrophic muscu- coat. The muscular part, on the contrary, has almost tirely disappeared by the direct destructive action of the owing connective tissue. 2. The tube, at the placental e, is thinner than normal, consisting only of thickened rosa and a layer of fibrin without any muscular elements. e growing placenta had the same effect upon the tube as malignant growth. 3. Decidual cells are entirely absent this full-time tubal gestation. 4. The stroma of the chornic villi, as well as their covering, have entirely lost their llular elements. [W K.]

4.—Dunckel has seen 261 cases of **whooping-cough** nongst 22,666 new cases seen in dispensary work. 55% of e cases seen were in the summer months and during Septmber and January. 40% were males and 60% were males. 67% occurred between 6 months and 5 years of e. 25.6% had complications, though bronchitis is spoken always as a complication; there were 6 cases of hemopsis, besides a few other hemorrhages. Moderate bronitis occurred 25 times, severe bronchitis 8 times, bronopneumonia 19 times. 46% of the complications occurred ring January, July and August. There was an increased bility to grave complications in the very young. Relapse s noted 5 times. The longest case lasted 4½ months, the ortest 2 weeks. One child had empyema, was operated on and recovered completely; the paroxysmal cough was ought to have aided in the expansion of the lung. Dunckel tes that emphysema is a very uncommon sequel, and he lieves that pulmonary tuberculosis is always very unmmon; he considers that it is difficult for the bacilli to cure lodgment because of the violence and frequency of e cough. He saw few cases of tuberculosis following ooping-cough. This is often true of dispensary practice ere the children are lost sight of, but one has only to llow whooping-cough cases over a considerable period en seeing them in their homes to be convinced that tuberlosis is an extremely frequent sequel. There were no inances showing a relation between cardiac disease and ooping-cough. There were no definite cases of nephritis. the treatment belladonna was preferred to other drugs. L.E.]

5.—Six **nephrectomies** are reported. In the first case a an of 35 suffered an injury over the kidney by falling into a ditch; he was kept quiet, ice-bags were applied and ergot and gallic acid were administered internally. The patient grew steadily worse, however, and continued to lose blood with his urine. On operating, the kidney-capsule was found unbroken, it looked bluish and bruised and on incision a tear was found in the substance of the organ from which the blood had come, the pelvis of the kidney was filled with old blood-clots. The man died as a result of his weakened condition. In a second case a man of 34 had suffered from stone in the kidney for several years. For 6 months he had been losing considerable blood with his urine. At the operation a large lump was found in the kidney and after removing the organ this was found to be cavity which was packed with hundreds of small stones. In a third case a woman of 38 had been ill for over a year with pain in the region of the left kidney; she was much emaciated and the urine was loaded with pus. On operating the kidney was found enlarged and studded with tuberculous nodules. She recovered well after a nephrectomy, but a discharging sinus remained which did not heal until it was scraped out at a second operation. The woman is now well and able to do her work. In a fourth case, a man of 25 fell 3 feet, striking the region of the right kidney on the end of a railroad-tie. He soon developed symptoms of collapse and blood appeared in the urine. On incision over the kidney about a quart of loose blood-clot was turned out and 2 large rents were found from which blood was pouring. Uninterrupted recovery followed nephrectomy. In a fifth case operation was undertaken on a male child of 2 years for the removal of a tumor which extended from the lower border of the ribs to the anterior superior spine. The diagnosis of sarcoma of the kidney, which had been made previous to the operation, was confirmed after removing the organ. Recovery followed the operation, but the child died a little over a year later from some disease near the site of the former operation, whether from recurrence of the growth or from an abscess is uncertain. In the sixth case a man of 31 had suffered from painful urination ever since he could remember. After removal of a large stone from the bladder he remained comfortable for 8 years, pain returned in the right kidney. On removal the kidney was found to be simply a collection of abscesses, a typical surgical kidney. The ureter which was infected was sewed into the wound. It still continues to discharge pus and probably ureterectomy will have to be performed before complete recovery follows. [M.B.T.]

Medical News.

March 17, 1900. [Vol. lxxvi, No. 11.]

1. The Significance of Earache in Children. T. H. HALSTED.
2. Case of Pulmonary Tuberculosis Successfully Treated by Drainage and Iodoform, with Apparent Recovery. ALEXANDER HUGH FERGUSON.
3. The After-Treatment of Fractures and Dislocations. D. N. EISENDRATH.
4. Instruments and Apparatus Used in the Diagnosis and Treatment of Gastric and Intestinal Diseases. H. W. LINCOLN.
5. Tympanomastoiditis. EMDON FRITZ.

1.—Halsted says that **earache in children** is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. On the other hand, infants and young children may have suppuration in the middle ear without showing evidence of pain and without rupture of the drum-membrane. From clinical and pathologic examinations it has been shown that purulent otitis media is nearly always present in acute infectious diseases of the gastrointestinal and respiratory tracts in young children, especially in gastroenteritis and bronchopneumonia, to which it probably stands in a causative relation. The cause of death in many acute and chronic infectious diseases is unrecognized and untreated abscess of the middle ear. Repeated earaches in children are ordinarily but a sign of acute exacerbations of a chronic otitis resulting from adenoids. In adult life, so-called catarrhal or progressive deafness is often but a final stage of the otitis media which had its beginning in early childhood, when it was due to adenoids and practically curable. [G.B.W.]

2.—This patient presented himself with symptoms of **tuberculous disease of the lungs.** He also had an

abscess on the anterior aspect of the chest, which, on being opened, showed tuberculosis of the rib. At a second operation, done to evacuate a supposed abscess, a consolidated and tubercular portion of the lung was found. This mass was stitched to the parietal pleura, 2½ inches of the fifth rib resected and the wound packed with iodoform gauze. A third operation was done without ether and a dram of iodoform powder was introduced into the very center of the tubercular mass. Following this there was great improvement in the patient's condition. Once or twice a week for a period of 5 months and 14 days a dram of iodoform was put into the different parts of the tuberculous mass. The patient steadily improved, normal lung-tissue evidently replacing the diseased portions, until finally no evidence of tuberculosis in the lung could be found. [G.B.W.]

3.—Eisendrath says that in cases of **fractures** near or into **joints,** active motion by the patient himself is one of the best guides to the amount of exercise which such joints should have. His method of treatment is as follows: After 10 days the temporary splint is removed and the limbs encased by two casts, one on the distal and the other on the proximal sides of the joints. The casts are connected by hinges, the ends of which are firmly imbedded in the casts, the joints of the hinges being so placed as to allow of the normal movement of the joint injured. If these principles are followed with variations to suit the individual case ankylosis after fractures and dislocations will be far less frequent. [G.B.W.]

4.—According to Lincoln, the most important instrument used in the **diagnosis and treatment of stomach-disease** the stomach-tube, which may be employed for the purpose of obtaining test-meals, to test the fulness or emptiness of the stomach, and for obtaining small pieces of the gastric mucous membrane. (The danger of the latter procedure has already been pointed out in these columns.) Lincoln prefers a tube closed at the end with lateral openings. When it cannot be employed, he suggests the stomach bucket, a small silver receptacle that is attached to a thread, swallowed, and then withdrawn. The only danger in its use is that in its passage upward past the larynx, no traction should be made unless the patient swallows. Among the other instruments are the esophageal probe, the gastrodiaphane, intragastric bag, which is of the exact size and shape of the human stomach, through which the intubator, a thick tube, is passed into the duodenum; the gastrograph which consists of a metallic ball, hollow, and so arranged that at every motion of the stomach, an electric circuit is completed that influences a needle recording on a drum; the gastroscope which is exceedingly disagreeable; and finally the x-ray and intragastric photography. In the treatment of stomach diseases, lavage, the intragastric spray, the intragastric electrode, the gyromele, and the intragastric blower are used. The latter has been employed with benefit in ulcer, hemorrhage, erosion, gastralgia, and for the purpose of sprinkling bismuth over the surface of the stomach preliminary to an x-ray examination. [J.S.]

5.—Fritz says that over one-half of the pathologic conditions found in the **tympanum** have their origin in hypertrophy of the pharyngeal tonsil. The most notable symptom of mastoid involvement is deep-seated, persisent, dull pain, always worse at night, and as a rule limited to the area immediately behind the auricle. Tenderness over the mastoid is also an important symptom. [G.B.W.]

Boston Medical and Surgical Journal.

March 16, 1900. [Vol. cxlii, No. 11.]

1. Injuries About the Shoulder at Birth. J. S. STONE.
2. Steam in the Treatment of Chronic, Hyperplastic and Senile Endometritis, Putrid Abortion and Puerperal Sepsis. F. W. JOHNSON.
3. Idiopathic Dilation of the Colon. R. H. FITZ.
4. Instruction in Coordination in Tabes. Muscular Dystrophy. J. J. PUTNAM.
5. Case of Akromegaly. G. L. WALTON.
6. A Case of Poliencephalitis Superior and Inferior, with Acute Anterior Poliomyelitis. E. W. TAYLOR.
7. A Second Case of Chronic Cyanosis without Assignable Cause. RICHARD C. CABOT.
8. 1. Resection of a Portion of the Liver for Adenocarcinom of the Cystic Duct. 2. Fresh Fractured Patella, Su ured with Catgut through the Periosteum. 3. Tw Cases of Rupture of Quadriceps Extensor Tendon. C. WARREN.

1.—Stone believes that of the **injuries of the shoulde** which occur **during parturition** those that affect th brachial plexus are the most important. He describes th characteristic position of the arm in obstetric paralysis, an the best method of treatment is detailed. He emphasize the following points: True congenital dislocation of th shoulder, that is, defective development of the scapula an head of the humerus, is of extremely rare occurrence. Tru traumatic dislocation of the shoulder at birth or in earl infancy is of extremely rare occurrence. True traumati dislocation of the shoulder at birth or in early infanc is of extremely rare occurrence. Obstetrical paralysis which, as has long been recognized, is of Erb's type, i due probably almost invariably to a stretching, and in som cases a rupture, of the upper roots of the brachial plexus, a is proved by anatomical study. Obstetrical paralysis i usually recovered from entirely in the course of a few week or months. If recovery does not occur within this perio the prognosis is much more serious, although improvemen may occur even after the lapse of many years. [W.K.]

2.—Johnson advocates the employment of a steam jet a a temperature of 100° C. in **endometritis** and in variou septic and chronic inflammatory conditions. Used care lessly, there is some danger of obliterating the lumen, bu with ordinary precautions it is perfectly safe. The report of 31 cases are appended. [J.S.]

3.—Fitz describes a case of a child 2 years of age wh had been **constipated** from birth, with occasional attack of **frequent loose discharges.** The abdomen wa greatly distended, tympanitic, and the flaccid abdomina walls permitted the recognition of a greatly distended colo without obvious cause of obstruction. [J.S.]

4.—Putnam showed the marked progress made by a cas **of tabes** previously helpless as a result of instruction ac cording to Fraenkel's method, and a case with advance muscular atrophy of the idiopathic type, who, in spite of th extreme character of the lesions, was able to continu peddling. [J.S.]

5.—Walton exhibited a case of **akromegaly** in a ma of 59, whose symptoms had continued for 15 years. Th ordinary characteristics of the disease were well pronounced He also exhibited a specimen prepared from a pituitar body of the case reported in the *Boston Medical and Surgica Journal* for December 7, 1899. It showed increased activit on the part of the gland. [G.B W.]

6.—Taylor reports a case of influenza followed by par alysis of various cranial nerves and paresis of both arms There has been improvement. [G.B.W.]

7.—Cabot reports the case of a woman, 49 years of age who apparently had an attack of **lead-poisoning.** Sh suffered from headache, polyuria, and occasional attacks o dizziness. There has been slight dyspnea. When examine there was marked cyanosis. The urine showed the charac teristics of chronic diffuse nephritis. The hemoglobin wa considerably above 100 and the red blood-cells more tha twice as numerous as normal in 1 c.mm. This polycythemi continued throughout the entire course of observation There was no **leukocytosis,** and the differential count o leukocytes was normal. No cause could be detected for th condition, but the spleen enlarged, and some of the super ficial veins showed pulsation. [J.S.]

8.—In this case of **adenocarcinoma of the cysti duct,** the gallbladder contained 13 large stones. A wedge shaped piece of the liver, including the gallbladder and cysti duct, was excised with the cautery knife, followed by little o no hemorrhage, and the patient made a good recovery. Th other cases reported by Warren are a freshly fracture patella, sutured with catgut through the peritoneum, and tw cases of rupture of the quadriceps extensor tendon. [G.B.W.

Journal American Medical Association.

March 17, 1900. [Vol. xxxiv, No. 11.]

1. Symptomatology, Diagnosis, Treatment of Neoplasms o the Kidney. L. L. MCARTHUR.

Renal Calculi. M. L. HARRIS.
Pathology of Renal Neoplasms. DANIEL N. EISENDRATH.
The Physician as a Witness in Court. WM. J. HERDMAN.
Infantile Diseases from Standpoint of Biology. JOS. CLEMENTS.
May Not Gonorrheal Vulvovaginitis be Acquired by Children Indirectly? CHARLES O'DONOVAN.
The La Grippe Exanthemata. HARRIET E. GARRISON.
Nutritive Function of Bronchial Arteries in Growth, Disease, and Repair of Pulmonary Tissue. D. LICHTY.
Some Points in Treatment of Severe Crush Injuries of Extremities. JOHN P. LORD.
Treatment of Gunshot Wounds of Abdomen, with Some New Statistics. H. H. GRANT.
Professional Education and Ethics. A. E. BALDWIN.
Case of Hepatic Abscess Presenting Some Points of Interest. HERMANN B. GESSNER.
Gastrectomy. W. S. THORNE.

1.—A tumor in the renal region, hematuria, pain and chexia are mentioned as the cardinal symptoms of **tumors the kidneys**; two or more of these cardinal symptoms almost always sufficient to enable us to make a diagnosis; most frequent symptom is usually the enlargement. In king a diagnosis the surgeon should consider the relation the peritoneum, the colon, and the liver or spleen; also bility with respiration and the condition of the urine. maturia is present in about 50% of the cases; the hemorges are usually small and the blood is well mixed with ne; occasionally blood-casts of the ureter are present. in is a not a very constant symptom and is usually present ly after the growth has reached a larg size; it is dull and gue in character, radiating into the lumbar and inguinal ions; cachexia occurs relatively early. In reaching a gnosis, the history of the case, exact and frequent examtion of the urine, palpation, the use of the cystoscope, thral cauterization, and direct exploratory incision are pended upon. Renal tumors of the first 4 years of life almost invariably sarcomas; they generally appear hin 15 months after birth, they grow rapidly, attain large e, involving neighboring tissues and are prone to recur, nce operation is contraindicated unless undertaken early. is necessary to differentiate between sarcoma, cystic ease, and hydronephrosis and pyonephrosis. In case of dronephrosis the tumor disappears on catheterization of ureter or possibly spontaneously. Cysts usually develop wly. In addition to the ureteral catheter the Harris regator and the cystoscope are very useful. On palpaa diseased kidney is sensitive while a normal kidney uld not be. Exploratory incision is justifiable in certain es, but preparation should be made for operation if necesy. Separation of the muscular fasciculi, as in McBurney's ration for appendicitis, is recommended. The renal licle should be temporarily clamped and cut, and only r the removal of the kidney should the separate elements he pedicle be tied. Traction on the vena cava should be ided, as death may result from this. Nephrectomy uld never be performed until the condition of the kidney the opposite side had been determined. The lumbar inon is preferred. [M.B.T.]

2.—In the formation of **renal calculi** it is now recoged that something more than the presence of uric acid is essary. Harris believes from a study of the formation of ncretions in other parts of the body that such calculi are sibly of bacterial origin. Under the symptomatology are cussed the character of the urine and abnormal urination. ide the usual form of renal colic, reflected pain on the posite side may be present and may radiate in any direcn. Blood, pus, epithelial cells, corpuscles, and bacteria y be present in the urine. The constant presence of few blood-corpuscles increased by exercise is quite characstic of renal calculus. The collection of urine directly m the separate kidneys is of importance, the x-rays are of a diagnostic value. The medicinal treatment is ost entirely symptomatic. In operating the kidney uld be exposed by the lumbar route, thoroughly freed carefully palpated; if any stone is felt it should be ly incised along the convex border; needling is unsatisory. After removal of the stone the kidney should be hed with warm salt-solution, the patency of the urethra uld be determined and hemorrhage should be controled hot water and pressure. The incision in the kidney is closed with catgut. In case a septic condition is found, primary nephrectomy is sometimes advisable. [M.B.T.]

3.—Primary **renal tumors** have been estimated to occur in one-half of 1% of all necropsies. The kidney is very seldom secondarily involved. Embryonic defects are an important factor in the etiology and are believed to explain the frequency of sarcoma in children. Heredity, traumatism, and floating kidney have little influence; race has apparently no influence. In most cases the general outline of the kidney is retained, but this is not true of carcinoma. Both sides are affected with about equal frequency. Secondary growths occur late and are not extensive; pneumonia or secondary growths in the lungs are the most frequent causes of death. Benign growths are of little importance; fibroma, lipoma, angioma, and adenoma are mentioned without further description. The sarcomas form the great majority of renal tumors; they occur most frequently in children, they grow rapidly, often without symptoms and are usually of the round-celled spindle type. Carcinomas occur as alveolar or papillomatous tumors. Epithelioma may arise from the pelvis of the kidney. [M.B.T.]

4.—See PHILADELPHIA MEDICAL JOURNAL, Vol. III, p. 1398.

5.—See PHILADELPHIA MEDICAL JOURNAL, Vol. III, p. 1399.

6.—O'Donovan considers it possible that **vulvovaginitis** may arise from infection following the use of towels or from an uninfected child wearing the clothes of one suffering from gonorrhea. Girls who suffer from this affection should wear napkins which should be frequently changed and disinfected. [M.B.T.]

7.—See PHILADELPHIA MEDICAL JOURNAL, Vol. IV, p. 13.

9.—Lord emphasizes the importance of establishing adequate early **drainage** in cases of severe **contused or lacerated wounds.** Such free drainage often averts sepsis, with the possibly resulting lymphangitis, gangrene, septicemia, or pyemia. He highly recommends formalin as a disinfectant agent. [M.B.T.]

10.—Grant has sent letters of inquiry to 100 prominent surgeons to determine in what proportion of cases perforations of the hollow viscera or dangerous wounds of the solid viscera follow **gunshot injuries of the abdomen**; also to determine in case of death the number of unsecured perforations and unchecked hemorrhages and evidence of peritonitis. In this way he was able to obtain information with regard to 253 cases. The total mortality was about 52%; in 28 of the 133 fatal cases unsecured perforations or hemorrhage was found; peritonitis at the operation was found in 11 of the cases that recovered, showing that about 5% of such cases recover even if this dangerous complication is present. The results of the investigation seem to indicate the necessity of operation in all definitely diagnosed gunshot-wounds of the abdomen. [M.B.T.]

11.—Baldwin emphasizes the importance of ethics in medical education; ethical principles should be taught by precept and example during the student's preliminary and professional education. [M.B.T.]

12.—A man of 30 years, with no history of importance except of dysentery 6 years previously, was taken with irregular chills, fever, and constipation; the liver was enlarged and tender. Blood examination excluded typhoid fever and malaria; the results of examination of the lungs were negative. There was dulness and bronchial breathing at the base of the right lung posteriorly. On introducing an exploring needle in the sixth intercostal space about 2 inches to the right of the vertebral column, fetid pus was aspirated, and a culture showed the presence of staphylococci. A little later the sputum became extremely foul with mucopus, and there was flatness and absence of respiratory sounds over the right side of the chest below the fourth rib anteriorly and the sixth rib posteriorly. A diagnosis of empyema was made and under local anesthesia about 3 inches of the ninth rib was resected near the posterior axillary line, and a large quantity of foul pus escaped. By inserting the finger it was found that the pus came from a **hepatic abscess** which had been shut off from the pleural and abdominal cavities by adhesions. The cavity was irrigated and packed with iodoform gauze. Closure of the abscess was rapid, but the expectoration of fetid pus continued for some time. It has now ceased, however, and the patient's general condition is much improved. It is thought probable that suppurative hepatitis in this case may be traced back to the dysentery of 6 years previously. [M.B.T.]

13.—A woman, 52 years old, whose previous health had been good, had been suffering for 4 months from severe cramps and vomiting of clear bitter fluid; during 6 months an abdominal tumor had grown more and more prominent; she had been able to take but little food and had lost flesh steadily and was comfortable only in a recumbent position. The diagnosis lay between floating kidney and **carcinoma of the stomach.** The tumor was situated so far to the left that the incision was made along the border of the left rectus abdominus. On opening the peritoneal cavity the lesser curvature of the stomach was found to be affected by a large tumor. The peritoneum was very lax and the stomach was nearly vertical and was easily displaced inward or upward. The greater omentum, the gastrosplenic, and gastrohepatic omentum were tied off and divided, the pyloric extremity was then grasped with forceps, protected by rubber tubing and after packing gauze about it was severed. The esophageal end was fixed by the gastrophrenic ligament which necessitated some dissection in order to free it sufficiently for the adjustment of a Murphy's button. The stomach was then raised, forceps with rubber protectors applied, and the esophagus was severed near the stomach. The Murphy's button was adjusted and the 2 halves were clamped; accessory stitches were placed about the region of anastomosis; the parts came together without undue tension. The loss of blood was not great and the operation lasted 1 hour and 45 minutes. In spite of free stimulants the patient never rallied from shock; the temperature remained subnormal, the pulse-rate was about 150, and she secreted only 6½ ounces of urine. At the necropsy the union was found in perfect condition and there was nothing but the unusual manipulation of vital parts, exposure and prolonged anesthesia to account for the fatal issue. Thorne believes that under certain conditions the operation of **gastrectomy** is capable of prolonging life. The operation presents no greater obstacles than are daily encountered by most abdominal surgeons. The time of the operation could, no doubt, be lessened with experience. [M.B.T.]

American Journal of Obstetrics.

November, 1899. [Vol. xl, No. 26.]

1. The Rights of the Unborn—Prevention of Conception. EDWARD J. ILL.
2. The Present Position of Gall-Stone Surgery, with a Report of Cases. WILLIAM WOTKYNS SEYMOUR.
3. Ectopic Gestation: Shall the Case be Operated Upon at or Near Term, the Child Being Alive? L. H. DUNNING.
4. Observations Respecting the Symptoms and Treatment of the Menopause. AUGUSTUS P. CLARKE.
5. Hemorrhage and the Menopause. JOHN MILTON DUFF.
6. Report of Four Additional Cases of Uterine Fibroids Complicating Pregnancy. M. ROSENWASSER.
7. Two Cases of Dystocia Following Ventrofixation, One Requiring Cesarean Section. X. O. WERDER.
8. A Simple, Effective, and Esthetic Operation for Shortening the Round Ligaments. H. W. LONGYEAR.
9. Intestinal Adhesions in Suppurative Pelvic Disease: Their Significance after Vaginal Hystero Salpingo-Oöphorectomy; With a Report of a Case of Ileus. F. BLUME.
10. What Shall We Do with the Post-operative Hemorrhage of Celiotomy? D. TOD GILLIAM.
11. Three Rare Cases of Kidney Cysts. J. F. BALDWIN.
12. Retroperitoneal Tumors, with Report of a Case and Presentation of Specimen. RUFUS B. HALL.
13. One Form of Ovarian Disease not Generally Recognized: Primary Sclerosis of the Ovary. WILLIAM H. HUMISTON.
14. House-to-House Operating. EDWIN RICKETTS.
15. Hemostasis in the Tubo-ovarian Pedicle. THOMAS BARKER EASTMAN.
16. Technic of Abdominal Hysterectomy. J. H. CARSTENS.
17. Postpartum Repair of Lacerations of the Cervix Uteri. CLINTON CUSHING.
18. Choice of Method for Total Hysterectomy, and Some Points of Technic. B. SHERWOOD-DUNN.
19. The Treatment of Inertia and Subinvolution. CHARLES STOVER.
20. Post-Operative Acute Toxic Hyperemia and Inflammation of the Kidneys. F. F. SIMPSON.
21. Suprapubic Cystotomy for the Removal of a Large Encysted Calculus Containing a Hairpin. L. W. SWOPE
22. Abdominal versus Vaginal Section in the Treatment of Pelvic Disease. O. G. PFAFF.
23. The Nose a Factor in Post-Operative Disease. Report of a Celiotomy Followed by Malignant Septicemia of Nasal Origin; Further Observations; Remarks. H. O. PANTZER.

1.—President Ill, of the American Association of Obstetricians and Gynecologists, in his address at Indianapolis in September, makes a plea for the more patient and careful use of other remedies before resorting to artificial abortion in cases in which the mother's life seems to be threatened. He believes the indication should be drawn so close that the most sensitive conscience will not find fault. [W.K.]

2.—From the results of 27 **operations on cases of gallstones** Seymour derives the following conclusions: 1. In Tait's operation of simple cholecystotomy with drainage of the gallbladder, the really ideal operation for gallstones in most cases, removing, as it does, the stones, and draining infected bile-canals, and leaving no sutures as a nidus for another crop of stones, as Kehr and Homans have experienced. 2. Incision of the common and cystic ducts is the safest and most surgical means of removing stones in them. The question of sutures and drainage of the ducts must be decided by the future. 3. In view of the splendid results of incision of the ducts for obstructing stones, excision of the gallbladder may find a wider field than heretofore. 4. McBurney has shown that incision of the duodenum, and either dilation or incision of the common duct through this incision is, in skilled hands, both efficient and safe for the removal of stones low down in the common duct. In neglected cases with dense and many adhesions and dilated stomach, an additional gastroenterostomy or pyloroplasty will save cases which would otherwise die. 5. The mortality of the simple cases is practically nil. [W.K.]

3.—From the statistics tabulated from various sources of cases of **ectopic gestation** occurring during the year 1894-95-96, Dunning finds that of 25 cases in which the fetus was alive at the time of operation, there was 60% of recoveries of mothers, and in 33 cases in which the fetus was dead at the time of the operation, the percentage of recoveries of mothers was 57.7. He therefore concludes that the death of the fetus need not be awaited before operating. [W.K.]

4.—A complete resume of the disorders that may occur during the menopause is given by Clarke. [W.K.]

5.—Duff points out the fact that there is among the laity an almost universal belief that **hemorrhage** is a necessary concomitant of the **menopause**, and, therefore, many to often fail to report this serious condition to their physician until it is too late, and present themselves only when malignant disease has reached the stage where operative procedure were hopeless. Duff had questioned 482 healthy women over 52 years of age and found in that number only 39 who had any history of what might be termed hemorrhage during the menopause. [W.K.]

6.—Rosenwasser reports 4 additional cases of fibroids complicating pregnancy, making a series of 7 with 2 deaths and 5 recoveries. [W.K.]

7.—Werder believes that the 2 cases of **dystocia following ventrofixation** which he reports, were due to faulty technic, one because of a too broad attachment, the other because the operation was followed by infection and suppuration, resulting in extensive adhesions. [W.K.]

8.—The method advocated by Longyear is an adaptation of the method of Kellogg, of **shortening the round ligaments** by anchoring them to the aponeurosis forming the tendon of the external oblique at the bottom. The advantages urged for this operation are, short skin-incision; bloodless field; no mutilation of either ring and no slitting of the inguinal canal, and, consequently, no danger of future hernia; method of anchoring ligament accomplished by use of but one stay suture; no tissue is cut away; the ligament can always be found; the operation can be done in a short space of time and the patient recovers sooner than by any other method. [W.K.]

9.—Blume believes that the time has past when a surgeon could say, without jeopardizing his reputation, that he operates exclusively by the abdominal or the vaginal route, but that method must be adopted which is best adapted to the case. He thinks, however, that the results of vaginal hysterose

ngo-öophorectomy, in suppurative pelvic disease, are excel-nt, notwithstanding the suprapelvic complications, and at there is no class of cases which, as a whole, gives more tisfaction. [W.K.]

10.—Gilliam considers the question when we shall and ıen we shall not open the abdomen for hemorrhage, but scussing the matter from an interrogative standpoint ar-ves at no conclusion. He believes, however, that in many stances **operative interference** is not necessary **for ollapse** seemingly due to hemorrhage. [W.K.]

11.—Baldwin reports three interesting and rare cases; st, enormous hydronephrosis simulating ovarian cystoma; cond, large paranephritic cyst; third, cyst of a retrorectal, ngenitally misplaced and sarcomatous kidney. The cases ere all successfully operated upon. [W.K.]

12.—Hall presents a case of **retroperitoneal tumor** ccessfully removed. He believes cases of this kind that e operable are rare, but if they are somewhat movable and e peritoneum not firmly agglutinated to the tumor mass, ey may be removed. [W.K.]

13.—The diagnosis of **primary sclerosis of the vary** should be made by palpation. The diseased append-:e is invariably within reach of the examining fingers, is obular in shape, and very firm and tense. One with a actised touch can in most cases feel the corrugations, ıich are more marked in this condition than in fibrosis due inflammatory change. Humiston believes there is no medy for this condition except castration. [W.K.]

14.—Ricketts is of the opinion that as good surgery can done in the ordinary rural districts with attention to ex-uisite cleanliness, as can be accomplished amidst the useless raphernalia of the modern hospital. [W.K.]

15.—In discussing methods of **treating the ovarian edicle** Eastman thus summarizes: The silk ligature is ll used by many operators of ability; if of proper size, it s some advantage over catgut; it is the ligature for the ginner and the infrequent operator. Given an aseptic, ong catgut ligature, it is perhaps the best for the skilful ature tier. The angiotribe represents a step in the right ection, but is not yet perfected. The electro-hemostat ks but little of being an ideal hemostatic, and should come o general use in the treatment of the tuboovarian pedicle. conclusion, the writer is of the opinion that he will have st success with the ovarian pedicle who confines himself, t blindly to any one method, but rather uses a wise dis-mination between the various methods now at hand. .K.]

16.—Carstairs discusses the **technic of the abdominal ethod** and concludes: 1. In abdominal hysterectomy, mp the broad ligaments and remove the growth and rus. 2. Ligate the 4 bloodvessels separately. 3. Carefully ver all raw surfaces with peritoneum. 4. In cases without rs and healthy mucous membrane, leave in the cervix. In any diseased condition of the cervix and malignant wth, perform total hysterectomy. [W.K.]

17.—Cushing advocates the necessity of repairing, within ew hours after birth, all lacerations of the cervix and per-um. [W.K.]

18.—Sherwood Dunn formerly advocated the **vaginal ethod** for all cases of **hysterectomy,** but has upon ther study become convinced that in cases with firm adhe-ns, cancer and fibroid, removal through the abdomen much more satisfactory. In pus cases, however, the gina offers such advantages for drainage and the barrier s route sets up against pus accumulations makes it the thod of choice for the treatment of all pus cases. [W.K.]

19.—Stover calls attention to the fact that the puerperal riod is the precious time for the prevention of subinvolu-n and urges that the obstetrician see that the uterus main-ns its function of muscular contraction at all stages of or and during convalescence. [W.K.]

20.—Simpson gives the following conclusions as the re-ts of his study: 1. **Postoperative acute hyperemia the kidneys and nephritis** are conditions that often st, but seldom give rise to serious symptoms or perma-nt lesion. They occasionally cause both. 2. They are e to predisposing causes plus exposure during and after eration, and toxic agents such as anesthetics, ptomains, komains, etc. 3. Anesthetics are undoubtedly irritating diseased kidneys, but often the condition requiring opera-n is such as to render a moderate kidney-lesion a second-ary matter. A hyperemia of the kidneys, and even a nephritis, is often relieved by appropriate operation, notwithstanding the effects of the anesthetic. 4. Anesthetics are also irritating to healthy kidneys, but in the vast majority of cases this effect is recognized only by a systematic study of urine before and after operation. 5. The bacterial poisons met with after operation are in themselves usually irritating to the kidneys, and when their effects follow immediately upon the congestion resulting from the anesthetic, impaired function results. The toxins along with effete products are retained. 6. The retained poisons give rise to their own definite train of symptoms, which differ widely from those usually met with in the ordinary forms of nephritis, and hence the absence of edema, coma, convulsions, and other classical symptoms. 7. This condition is analogous (with important differences) to the nephritis of the acute infectious fevers, in which the symptoms of the original disease are decidedly intensified with but a slight kidney-lesion. 8. The practical lessons to be drawn are to see that the emunctories are acting normally, and to use every effort to promote their continued activity; to prevent undue exposure; to use the smallest possible quantity of anesthetic; to be absolutely clean in technic and to recognize the condition at once and institute prompt and energetic treatment. 9. Tnis condition has a significance of its own, because it occasionally causes serious symptoms, which may be averted or promptly relieved if it is recognized at once and appropriate treatment instituted. [W.K.]

21.—Swope reports a case of **cystotomy** in which it was found from the patient's clinical history that, 15 months before, she had been troubled with a urethral irritation, and in endeavoring to relieve it with an ordinary steel wire hairpin, the pin slipped into the bladder and formed the nucleus for a large phosphatic calculus. [W.K.]

22.—Pfaff is convinced that if we can find some practical method of drainage in those cases in which it is indicated, we may choose between the vaginal and abdominal methods of hysterectomy without having to weigh any very serious questions. [W.K.]

23.—Pantzer reports an interesting case of **nasal disease** associated with pelvic trouble. After incising some small cysts of the ovaries and doing a ventrofixation, his patient developed an unaccountable septic condition; every means was taken to discover its source which was finally found to be a catarrhal condition of the throat and nose. This being aseptically treated the patient recovered. Later she was operated upon by a nasal specialist and again had a short, severe attack of septicemia. [W.K.]

Berliner klinische Wochenschrift.

January 1, 1900. [27. Jahrg., No. 1.]

1. New Names and New Conceptions in Pathology. RUDOLF VIRCHOW.
2. Operation for Fibroma of the Mesentery, with Extensive Resection of the Small Intestine. E. LEXER.
3. The Significance of Glycuronic Acid for the Phenyl Hydrazin Test. PAUL MAYER.
4. The Artificial Production of Gout. H. KRONKA.
5. A Case of Ascites with Cirrhosis of the Liver. POLJAKOFF.
6. Endemic Bath Conjunctivitis. FEHR.
7. The Character, Course, and Treatment of the late Epidemic of Trachoma in Berlin. PAUL SCHULTZ.

1.—Virchow inveighs against the tendency to employ new names for old concepts in pathology, and denounces various **linguistic barbarisms** that are current in medical parlance. Thus, there is no warrant for the word "luetic" nor for "tabetic." The Latin adjective for *tabes* is *tabidus.* The word "tabes" itself has its genitive *tabis.* The only condition justifying the introduction of new names in pathology is the discovery of a new disease. It is not absolutely necessary that the disease should be a newly developed one; it may have been dimly known before. Virchow illustrates this by referring to the historic development of our knowledge of rickets. He also emphasizes the fact that the popular belief that rickets is a disease of the bones is erroneous, since it is the cartilages that are involved. He gives the good advice, too often neglected, always to read the writings of our predecessors in the original, particularly when the study of an important disease is undertaken. [D.R.]

2.—A man, 41 years of age, had suffered from abdominal pain and frequent attacks of colic for several weeks. When he came under observation a large hard tumor was found in the abdomen. The growth was somewhat movable as the patient lay in the dorsal position. Celiotomy was performed and immediately on opening the abdomen it was seen that the **tumor** grew from the **mesentery** of the ileum. The anterior surface was firmly adherent to a large loop of the small intestine. The pedicle of the tumor was divided after passing ligatures through and tying, and it was necessary to resect about 2 meters of the small intestine in order to remove the growth. Lateral anastomosis was performed; gauze drainage was inserted; and the abdominal wound closed, and uneventful recovery followed. The growth weighed 5 pounds and measured 25 cm. in its greatest diameter. On pathologic examination it was found to consist mainly of **fibrous** tissue. [M B T.]

3.—Mayer points out that **glycuronic acid,** under certain circumstances, forms crystals with phenylhydrazin, which are indistinguishable from the glucosazons. In such cases it will usually be possible to determine that the patient has taken some medicament (as *e. g.*, menthol) which pairs with glycuronic acid; and as the urine will also not respond to the fermentation test, the existence of sugar can generally be excluded. [D.R.]

4.—Gout occurs not only in chickens, but also in ostriches and birds of prey kept in captivity. To determine the influence of a meat diet in avian gout, Kronka took a series of vigorous adult **hens** and fed them twice daily with lean horse-meat. The hens quickly accustomed themselves to meat diet; but after from 3 to 5 months, symptoms of true **gout** developed. In the acuter cases the symptoms were unsteady gait, apparently due to pain in the legs, with gradually increasing debility, swelling of the joints, and loss of appetite. The disease became worse paroxysmally. In these cases the uratic deposits were present, but not in large quantities. The more chronic cases presented well-marked **tophi** about the joints and between the tendon sheaths of the feet and legs. Uratic deposits were also found on the serous surfaces and in the kidneys—indeed, the gouty kidney was a regular concomitant of the disease. The uric acid elimination a day was markedly increased. Under the administration of lime (cracked egg shells), the uric acid was diminished to the extent of 40% or 50%. It is probable that in man also, under the administration of lime, the quantity of uric acid eliminated is diminished. [D.R.]

5.—A case of **milky** (not chylous) **ascites** in syphilitic cirrhosis of the liver. The milky appearance of the exudate was not due to fat. [The author does not say what was the cause of the milkiness, but it is to be presumed that the turbidity was due to the presence of precipitated albumin. D.R.]

6.—Fehr reports 18 cases of trachoma in which he believes the infection may be traced to the public baths of the city of Berlin. [M.B T.]

Wiener klinische Wochenschrift.

November 30, 1899. [12. Jahrg., No. 48.]

1. Bilateral Disease of the Convexity of the Cerebrum. D. G. ANTON.
2. The Phenomena Resulting from Electric Irritation of the Corpus Striatum and the Optic Thalamus. J. PRUS.
3. Opinion of the Medical Faculty in Vienna. Repeated Burglary. Successful Simulation of Mental Disturbances and Epilepsy. V. WAGNER.
4. The Operative Opening of the Middle-ear Cavity in Chronic Tympanic Suppuration. V. HAMMERSCHLAG.

1.—Lesions of the parietal region of the brain may produce loss of muscle-sense on the opposite side, hemianopsia, alexia, pure or optical aphasia, psychic disturbances, and disturbances of the movement of the eye-muscles. The effects of bilateral lesions in the parietal region are illustrated by the case reported by Anton. The patient, a man of 27, had almost complete loss of automatic and mimic movements, while pronounced paralysis did not occur until late in the course of the disease and then affected the legs. Visual disturbances were marked on both sides, and were not entirely dependent upon imperfect movement of the eyes. The eye-muscles could not be innervated voluntarily when the eyes fixed objects, but when the patient was at rest conjugate movements occurred, as also during conversation. Very early in the disease the patient lost the power of estimating distances and locating objects, and there was a general loss of the sense of orientation. At the autopsy a soft new growth was discovered in the white matter of both parietal regions. The cortex was nowhere involved. Microscopic examination showed that the growth was a neuroglioma and that it had started on both sides in the white matter of the upper and median parietal lobules. The following nerve-paths were destroyed: (*a*) The fibers from the upper and lower parietal lobes; (*b*) the occipital white matter, with the exception of the lower lip of the calcarine fissure and the adjacent temporal gyrus; (*c*) the nerve-tracts of the central convolution, especially in their upper portion, were to a large extent interrupted; (*d*) the tracts of gyrus fornicatus, to the plane of the central convolutions, and in part, also, the gyrus hippocampi; (*e*) the optic thalamus, with the exception of the most anterior ventral and median portions. The pyramidal tracts were destroyed completely. The sensory tracts were even more altered. The author ably tries to bring the clinical symptoms into harmony with the anatomic findings. [D.R.]

2.—The **corpus striatum** is electrically excitable. The phenomena that result are in part reflex, due to irritation of sensory nerves, and are in part dependent upon direct stimulation of the motor pathways, which are found in the striatum and connect with the quadrigeminal bodies. To the first group of phenomena belong running movements, epileptic attacks, suspension of the respiration, and slowing of the pulse; to the latter, tonic and clonic spasms and rise in blood-pressure. As regards the **optic thalamus,** Prus found that stimulation of the surface produced, in general, no results; strong currents evoked certain motor phenomena —changes in the respiration, in the blood-pressure, in the pulse-rate, as well as manifestations of anger. The motor phenomena varied with the section of the thalamus stimulated. Upon stimulation of the posterior lateral portions or the outer portions of the ganglion, the animal's features assumed a wrathful expression. Stimulation of the posterior median portion produced a marked lowering of the blood-pressure, and Prus concludes that the **vasodilator center** is situated **in the optic thalamus.** Regarding the interpretation of clinical symptoms in lesions involving the corpus striatum, Prus is of the opinion that the absence of focal symptoms in the case of new growth of the striatum is to be explained on the ground that the nerve-elements can resist slow pressure, or that other portions of the nervous system substitute for the striatum. Where focal symptoms do occur, they are not necessarily to be attributed to destruction of the internal capsule, as is generally done. He believes that **increased temperature** and redness of the skin are phenomena of the **destruction** of the **striatum**—specifically, signs of a paralysis of the vasomotor center situated there. Tremor and choreic movements are probably also related to the function of the striate body. Disease of the thalamus, if small, may be without effect. There may be hemianopsia, especially when the pulvinar and the externa geniculate body are involved. Characteristic phenomena are disturbances of the mimic expressions, as well as hemichorea. The vasomotor disturbances and muscular atrophies probably also belong to the characteristic symptoms. In view of the expressions of wrath in animals when the thalamus is stimulated, patients should be carefully watched during attacks of anger. The muscular atrophy of the paralyzed muscles which has been noticed in lesions of the optic thalamus, is best explained on the assumption that it is due to a paralysis of the vasodilator center situated in it. [D.R.]

December 7, 1899. [12. Jahrg., No. 49.]

1. Ovarian Transplantation. EMIL KNAUER.
2. The Question of Autoinfection. RICHARD V. BRAUN-FERNWALD.
3. A Case of Carcinoma of the Oviduct. J. FABRICIUS.

1.—Knauer gives further results of his investigations on the **transplantation of ovaries** of animals. This series of experiments was begun by him in 1895 and continued to the present time with interesting results. See Editorial column. [W.K.]

2.—Braun-Fernwald believes that there is no such thing as **self-infection,** and that all cases so-called are but form

infection due to Streptococcus pyogenes, staphylococcus, i-bacillus, diphtheria, or typhus-bacilli, or possibly mixed ɛction. In the puerperal period he believes that all ptic measures should be more rigidly observed. [W.K.]

3.—Fabricius describes two cases of **carcinoma** of the ɒe, both cases occurring in women of 41 years of age who d repeatedly borne children. Both were successfully ɛrated upon. A complete review of the German litera- e on this subject is given. [W.K.]

December 14, 1899. [12. Jahrg., No. 50.]

Pest. A. WEICHSELBAUM, H. ALBRECHT, A. GOHN.
The Formation of Filaments in the Serum Tests. C. TARCHETTI.

1.—The authors give a summary of the studies of the **ague** made by the Imperial Austrian Commission sent to lia. They first bemoan the radical measures taken by the enna municipality after the outbreak of plague in the thologic Institute to which Dr. Müller and the diener of laboratory fell victims. The authorities have decreed destruction of all animals infected with the plague, as ll as those immunized to it; likewise the destruction of all ltures of the plague-bacillus in Vienna. They have also erdicted the further study of the disease, either in culture in animal experiments.

Plague may be either local or general. According to the int of entrance, two forms are recognizable: the **bubonic ague** and **pulmonary plague.** 1. *Bubonic plague.* ith few exceptions, there is always a primary focus in a nph-gland (primary bubo) from which the bacilli pass to regional lymph-glands, causing primary buboes of the ond order, in contradistinction to the secondary buboes, ich occur in various parts of the body in cases of general ection. The primary bubo is situated in the groin or the illa; rarely in the neck. In certain fulminating cases the mary bubo may not be visible. Primary buboes may also ur in the tonsils or in the lymph-nodes of the pharynx. The **imary bubo** is characterized by a total destruction of the nphoid tissue, with purulent and hemorrhagic infiltration. om the primary buboes, the bacilli enter the circulation. emorrhages on the serous surfaces, in the mucous mem- anes, and in the parenchymatous organs are common. In region of these hemorrhages the bacilli are always ind. The hemorrhages are the consequence of a necro- ing action exerted by the poison in the bodies of the cteria upon the walls of the bloodvessels. There is always acute splenic tumor. The disease sometimes takes the m of pyemia, with metastatic foci in the liver, lung, kid- y, spleen, and muscles. The most important secondary boes are those in the tonsils, at the base of the tongue, d on the posterior wall of the pharynx. Their disintegra- n favors the invasion of pyogenic organisms and the velopment of secondary infection, which may entirely literate the characteristic picture of plague. Plague pus- les and plague carbuncles occur, but are rare at the pri- ary seat and more frequent in connection with the primary boes. Buboes either undergo resolution or suppuration; e latter generally occurs about the ninth day. The **pul- onic form** of plague is much rarer, and presents itself as primary lobular pneumonia, either focal or confluent in pe. In addition to this form, there is a metastatic pneu- onia and a true aspiration pneumonia brought about by e inspiration of particles from the necrotic buboes of the sils and lymph-follicles of the pharynx. There is also a culiar plague-marasmus, coming on after the disappear- ce of an ordinary plague-infection. The **points of en- ance** of the plague-virus are the skin, the mucous embranes of the mouth, nose, and pharynx, and e trachea, bronchi, and pulmonary parenchyma. The thors never observed infection by way of the stomach or testines. The slightest abrasion suffices to give entrance the germs; and in susceptible animals the mere painting a culture on an unshaved portion of the skin is enough to oduce typical plague. In plague pneumonia the sputum ntains innumerable bacilli; also in cases of the bubonic rm, when secondary foci have developed. The details of e morphology and biology of the plague-bacillus are given. e need only say that the bacillus stains well with the ordi- ry methods, but not by Gram's. Neither spores nor flag- ella have been found. The organism grows on all media, but not so well on those containing glycerin. The animals most susceptible are the rodents; and of these, rats and mice are spontaneously susceptible. The guineapig makes a very good experimental animal for plague studies. Cultures of the bacillus contain a toxin, which increases in strength with the age of the culture. The bodies of dead bacteria are likewise toxic. The diagnosis of plague in man is best made by incising or puncturing one of the buboes and examining the materially bacteriologically. In some cases the organism may be found in the blood, the saliva, or the urine. The agglutination test may be made, but its negative result does not decide against the diagnosis of plague. At the autopsy, in suspected cases of plague, the necrotic or hemorrhagic purulent appearance of the surface of section of the primary buboes is quite characteristic. Cover-glass preparations will show the bacteria. For animal experiments, it is best to rub a little of the suspected material into a shaved part of the body of a guineapig. In from 24 to 48 hours, the characteristic primary buboes will develop. Regarding **prophylaxis,** the general principles observed in epidemic diseases hold good. Attention should be bestowed upon rats and mice, and also upon cats. The case of a seaman who developed plague at Trieste is then reported in detail. In this case the diagnosis was established by bacteriologic examination at autopsy. [D.R.]

Centralblatt für innere Medicin.

January 6, 1900. [21. Jahrg., No. 1.]

1. The Determination of the Presence of Phenetidin in the Urine. G. EDLEFSEN.
2. Anomalies of the Body in Connection with Cardioptosis. L. FERRANNINI.

1.—There is often difficulty in determining the presence of **phenetidin in the urine,** even when it is known that phenacetin is being used. Phenetidin is one of the excretion products of phenacetin. Edlefsen thought it probable that the phenetidin might be present only as an ethereal sulfate. He therefore boiled the urine with hydrochloric acid to break up this combination and found that he was able to demonstrate the presence of phenetidin in many instances when the older test showed its absence. He boiled the urine for two or three minutes with about ¼ of its volume of hydrochloric acid, and then added two or three drops of sodium nitrate solution. After shaking he added to half of the mixture one or two drops of an alcoholic 4 or 5% solution of alpha-naphthol, and added sodium nitrate solution to alkalinity. If phenetidin was present there was a pure red color which, after the addition of hydrochloric acid became dark cherry red or reddish violet. To the other half of the mixture he added one or two cc. of a 3% solution of carbolic acid in water, and then made alkaline with sodium hydrate solution, and it turned yellow, and after acidulating with hydrochloric acid became pale red. Either test is useful, but the alpha-naphthol test is the better. A more marked violet color is obtained if, after boiling with hydrochloric acid, cooling, and adding sodium nitrate, one adds lead acetate solution. [D.L.E.]

2.—The previous causes which have been given for cardioptosis are almost exclusively mechanical, such as **compression of the heart** by an overlying tumor or aneurysm, or by a pleural exudate. Ferrannini discusses 4 cases of ptosis of the heart which he has recently observed. There were no hereditary factors in any case; in one instance he was able to examine all the members of the family and found no anomalies of the circulatory apparatus in any member. All four of the patients showed epigastric pulsation, and percussion showed that the dulness began lower than normally, and reached to an abnormally low point, but was of the normal size. All these cases showed distinct abnormalities elsewhere, as, for instance, dolichocephalus, inequality of the two sides of the body, and other irregular developments. The skeleton was usually imperfectly developed, the thorax somewhat deformed, and one case showed marked psychic defects. In other words, there were abnormally developed individuals whose circulatory systems were particularly imperfectly formed. All of them, also, had mitral stenosis, which Ferrannini considers congenital. He thinks

that the enlargement of the heart resulting from this lesion and a loss of the elasticity of the bloodvessels explain the sinking of the heart to a lower level than normal. [D.L.E.]

January 13, 1900. [21. Jahrg., No. 2.]

1. On the Origin of Hemoglobin and the Red Blood-Corpuscles. F. APORTI.
2. On Elementary Glycosuria e Saccharo in Acute Febrile Infectious Diseases. D. R. v. BLEIWEIS.

1.—It has been observed for a number of years in Riva's Clinic that the use of **injections of iron and arsenic in primary anemia** had very different results; the iron increased only the hemoglobin, while the arsenic increased only the number of red corpuscles. The present report is the result of experimental work to determine the behavior of the hemoglobin and red corpuscles when blood was rapidly abstracted, and when iron from food was given; and in the second place to learn the influence of arsenic and iron upon the regeneration of the blood in animals from whom blood was repeatedly abstracted, and who were kept on iron-free nourishment. In the regeneration of the blood two things are necessary, the restitution of the protoplasm of the red cells, and iron for the production of hemoglobin. When no iron is given in the food, whatever is used for the production of hemoglobin must be obtained from the organs of the body where it is deposited, and this is chiefly from the liver. The rapid destruction of blood showed that there were evident attempts at increase in the amount of hemoglobin, until finally if the blood were reduced beyond a certain point, and the call upon the body iron continued too long, the iron was apparently exhausted and the animal died. There was an attempt constantly at the production of new red blood-cells. These became paler and paler as the iron was more completely exhausted. Aporti considers that he has proven that this is what takes place, by determining the amount of iron in the various organs of animals who had been bled repeatedly. The iron was determined by Jolles' apparatus. He found that when the period of exhaustion had been reached the iron in the liver had been very greatly reduced, so that the amount in this organ had become about the same as the amount present in the other organs, such as the muscles and spleen and the iron in all the organs was considerably below the amount in an animal which was normally fed. He then treated animals in the same way until they had reached the point where in spite of increase of the red corpuscles the hemoglobin showed no more tendency to increase, but a tendency to fall in amount. The injection of arsenic at this point in the experiments caused a very considerable increase in the number of red blood-corpuscles, but the hemoglobin was unaffected. Injection of iron now caused a very striking increase in the hemoglobin, the amount becoming almost double in 7 days, advancing in this time from 50% to 95%. Repeated experiments gave the same result, and he concluded that undoubtedly the production of the hemoglobin and the increase in the number of red corpuscles depend upon different factors, certain substances increasing one while others increase the other. Arsenic certainly increases the number of red blood-cells, while iron causes the production of new hemoglobin. [D.L.E.]

2.—The patients studied were given 100 grams of grape-sugar each morning, with the customary breakfast, which consisted of milk or soup, usually without bread; the urine was examined every three hours by Trommer's test, controling this with the fermentation and **phenylhydrazin** tests. Quantitative estimation was made with the polarimeter. The cases examined were pneumonia, typhoid fever, and erysipelas. The results were similar to those of Poll and de Campagnolle, who frequently found **alimentary glycosuria in acute infectious fevers.** Bleiweis was particularly struck by the large amount of sugar excreted in several cases. In 3 cases the total amount was respectively 6.5, 8.7, and 6.6 grams. This was an evidence that the power of assimilation of sugar in acute infectious fevers varies between wide limits, for a number of the 20 cases examined showed no glycosuria. Together with the authors mentioned he found that with typical croupous pneumonia alimentary glycosuria occurs most commonly on the days the excretion of sugar is greater. In 2 cases which showed exceedingly large excretion of sugar, he tested the effect of large starch meals and found them negative. [D.L.E.]

January 20, 1900. [21. Jahrg, No. 3.]

1. On Blood Changes from Chilling. REINEBOTH.
2. A Reply of Reineboth's Remarks on Blood-Change Resulting from Chilling. E. GRAWITZ.

1.—Reineboth's remarks are in answer to a criticism of Grawitz (previously abstracted from this journal) concerning work done by Reineboth and Kohlhardt. Grawitz was unable to determine the presence of hemoglobinuria in chilling. Reineboth considers that the chief reason for this was that Grawitz did not use sufficiently cold water in chilling the animals experimented upon. Grawitz answers that his animals were dropped into ice-water after being shaven, and insists that his criticism was chiefly of the fact that Reineboth and Kohlhardt depended upon the investigation of stagnating blood taken from constricted veins, that they used the hemoglobinometer to support their results, while the records obtained with this instrument are not trustworthy. [D.L.E.]

February 3, 1900. [21. Jahrg., No. 5.]

1. Concerning Hypeosinophile Granules. BETTMANN.

1.—Bettmann refers to the work which has recently appeared on this question, and particularly to that of Grünwald, previously abstracted from the same journal. He believes that the character of the granules, that is, whether they take the neutrophile or the hypeosinophile appearance, is merely the result of the method of fixing. If the preparations are allowed to dry in the air, the granules will appear to be hypeosinophile; while if fixed according to Ehrlich they will seem to be neutrophile. He believes that the differences in staining are due to degenerative processes, and that if degeneration goes far enough the granulation disappears altogether, as is evidenced by the fact that some authors have noted that in stagnating pus the neutrophile granules can no longer be found. He does not think that there is any definite reason for considering Grünwald's technic inferior to that of Ehrlich, but he does think it extremely important that in drawing conclusions from work of this kind similar methods should always be used. [D.L.E.]

February 10, 1900. [21. Jahrg., No. 6.]

1. The Presence of Iodinophile Leukocytes in Diseases of the Blood. L. HOFBAUER.

1.—The granules concerning which Hofbauer writes are those that stain with iodin. Other work on this question by Kaminer has been abstracted previously in this department. Hofbauer used in staining a solution composed of 1 part iodin, 3 parts potassium iodid, 100 parts of water, with sufficient gum arabic added to bring it to a sirupy consistency. The dried preparation was placed upon this for about one minute, and then the excess removed with filter paper in order to prevent the diffuse and confusing coloring which occurs when there is excess of the iodin solution. Of 17 cases of chlorosis examined, none showed the reaction. In 2 there were reddish-brown granules in the leukocytes, but both of these patients had suppurative processes in the body. Moderate degrees of secondary anemia showed scarcely any of the granules in the leukocytes, while in anemia gravis the granules were present more or less constantly. They were always present in varying number in pernicious anemia, and were particularly marked toward the end of the disease. The result of his studies was that the granules were found in those cases which were of severe degree and of grave prognosis, and were absent from the leukocytes in mild cases; hence their presence or absence seemed to depend largely upon the severity of the disease, and they seemed to have some prognostic importance. Leukemic blood showed numerous granules, while pseudo-leukemic cases always showed their absence. One other case he notes particularly. This was of purpura hemorrhagica in which there were found large numbers of the extracellular reddish brown plates. This corresponds with the teaching of Goldberger and Weiss, who stated that the extracellular bodies which take the stain are increased in extravasation of blood into the tissues or with hematomas. His results disprove the statement of some other authors, particularly of Livierato, who stated that the granules were seen only in connection with a leukocytosis. In some of the cases he reported, no leukocytosis was present. [D.L.E.]

Zeitschrift für klinische Medicin.

[Band 38, Heft 1, 2 u. 3.]

1. Myxedema and the Hypophysis. E. PONFICK.
2. On the Fixation and Preservation of Primary Sediments. MARTIN COHN.
3. Can Malaria Plasmodia be Confused with the Nuclei of Nucleated Red Blood-Corpuscles? C. S. ENGEL.
4. Concerning the Demonstration of Typhoid Bacilli in the Feces and in the Spleen by the Method of Piorkowski. ALB. SCHÜTZE.
5. Sporadic and Epidemic Cerebrospinal Meningitis. E. STADELMANN.
6. Chemical and Experimental Details Concerning Coma Diabeticum. WILHELM STERNBERG.
7. Concerning the Importance of the Liver in the Assimilation of the Various Forms of Sugar by the Organism. HANS SACHS.
8. Heredity in Chronic Nephritis. P. K. PEL.
9. On the Influence of Artificial Sweating upon the Secretion of Gastric Juice. A. SIMON.
10. Contributions Concerning the Pathology and Treatment of Basedow's Disease. JULIUS DONATH.
11. On Methods of Obtaining Pure Gastric Juice. J. TROLLER.
12. Two Further Cases of So-called Trophic Disease of the Vessels in the Course of Neuritis. MICHAEL LAPINSKY.
13. On the Metabolism of Proteids in Continued Insufficient Nourishment. ALBU.
14. On the Treatment of the Suppurative Stage of True Variola. N. J. KOTOWTSCHICOFF.

1.—Ponfick reports two cases of **myxedema,** one case ing early in the disease from a pneumonia, the myxedema t yet having reached a sufficiently advanced stage to cause ath. He discusses the changes found in the thyroid gland myxedema as chiefly of two kinds, interstitial inflammam, and pure atrophy. In the first case here reported, that e dying early, there was found beside the atrophy a arked involvement of the bloodvessels of the gland. though the atrophy was advanced only to the stage where had involved about ¾ of the gland, the remainder had dergone a marked degree of colloid change. But in spite the advanced changes attention was directed to the pophysis which showed almost complete loss of the glandar elements, while there was marked induration of the rous stroma. The resemblance between the change in the yroid gland and in the hypophysis was striking. The ond case also showed alteration of the hypophysis o a mass of fibrous tissue. The fact that in a good many es of myxedema considerable portion of the thyroid nd is found unaltered and partly capable of functionating uses a suspicion that the hypophysis may be closely ated to the production of myxedema, and in these cases e changes were so much further advanced in the hypophy- than in the thyroid that it seemed probable that the ange had begun in this organ before there had been any eration in the thyroid. [D.L.E.]

2.—The method of preserving **urinary sediments** here ommended is, first spreading the sediment carefully upon an cover-glasses and allowing it to dry in air, then place or ten minutes in a 10% formalin solution, being careful t the preparations are not strongly shaken, lest the sedint be washed off; then wash in water and place in a conntrated solution of sudan (70% alcoholic solution) for ten nutes, and then wash from ½ to 1 minute in 70% alcohol; nter-stain with hematoxylin and mount in glycerin. ne handsome illustrations are given with the article, owing beautiful preservation of various forms of casts, od-corpuscles, fatty cells, and other portions of sediment. L.E.]

3.—Engel discusses the illustrations which accompany article and which show the various forms of **nucleated od-corpuscles,** which he has described as the mother ms, metrocytes of the first and second generation, and ers which result from the alterations in the nuclei of these ms. He reaches the conclusion that there is no danger confusing malarial plasmodia with nucleated blood-corscles if the plasmodia are of the older forms and contain lowish black pigment, since the latter never is seen in cleated corpuscles. If the plasmodia show ameboid movents they cannot be confused, nor can they be confused with the polychromatic normoblasts in stained preparations, since the intensely stained nucleus and the irregular form of the surrounding polychromatic protoplasm will suffice to distinguish these nucleated cells from the orthochromatic normal erythrocytes. There is also no danger of confusing the plasmodia with the small nuclei of the orthochromatic nucleated red cells so long as the latter are deeply stained, for the staining of the plasmodia is much less marked. The plasmodia may be confused with those forms of nucleated red cells in which the nuclei gradually become smaller and finally vanish, and also with those forms in which the nucleus has broken up into small particles. He also insists that the blood-plates may at any time be confused with plasmodia spores. [D.L.E.]

4.—Schütze reports a number of cases investigated by **Piorkowski's method.** The culture-medium is prepared by taking normal urine of specific gravity of 1.020 which has stood for some time and become of alkaline reaction; add ½% of pepton, 3.3% of gelatin and subsequently sterilize. The characteristic colonies will be seen within 20 to 24 hours, and make a diagnosis of typhoid possible within this time. He reports 4 cases of typhoid fever in which the diagnosis was doubtful, but in which in every instance this test was positive. In 3 cases postmortem examination confirmed the result of the Piorkowski method. In the other case the Widal reaction was negative, but the Piorkowski method positive, and the subsequent course showed that it was typhoid fever. In another case which was very difficult of diagnosis the Piorkowski method was negative, and subsequent operation showed that the trouble was a pelvic cellulitis. Schütze has also investigated the question as to whether the colonies found by the Piorkowski method are really typhoid bacilli, and by other cultural methods he reached the conclusion that there were undoubtedly Eberth bacilli. [D.L.E]

5.—The article in briefer form was abstracted from the *Deutsche medicinische Wochenschrift.*

6.—Sternberg first discusses the previous work on the relation of various organic acids to **diabetic coma** and then reports his own work concerning the effect of the amidobuteric acids when administered to animals. α and γ amidobutyric acids proved to be without any poisonous influence, while on the contrary β amidobutyric acid when given in doses of about 3 gm. caused profound symptoms of intoxication which closely resembled diabetic coma in human subjects, there being a profound narcotic effect associated with strikingly deep, slow inspiration and increase of blood-pressure. It is therefore a notable fact that this acid is one of the extremely few substances which produce a condition of coma; and it is also striking that the numerous acids found in cases of coma belong to the β-series of acids. Schütze would not conclude from this at once that β-amidobutyric acid is a cause of diabetic coma. He does, however, believe that it is possible by studying the changes taking place in this acid in the laboratory under the influence of various chemicals which may be used as drugs that we may be able to provide a cure for diabetic coma. [D.L.E.]

7.—Sachs' work consisted of administering various forms of sugars to frogs and testing the urine subsequently, both without removal of the liver and after extirpation of the liver. The sugars investigated included as hexoses, dextrose, levulose, and galactose, and as an example of pentoses he used arabinose. He also investigated several cases of chronic severe disease of the liver as to their ability to assimilate these various forms of sugar. He reaches the conclusion that the various forms of sugar are assimilated by the frog in the following order: Best dextrose, then levulose, then galactose, finally arabinose. The tolerance is not different in winter and summer frogs. The tolerance for **dextrose and galactose** seems to depend largely upon the body-weight, while the tolerance for levulose depended somewhat upon the size and condition of the liver. Extirpation of the liver caused no distinct alteration of the tolerance for dextrose, galactose and arabinose, but largely decreased the tolerance for levulose. If dextrose and levulose, in amounts under the normal assimilation-limit, be given to normal frogs, dextrose will be eliminated; if the liver has been removed levulose will be eliminated; if dextrose, levulose and galactose be given together in amounts about equal to the assimilation-limit galactose will be eliminated. Human patients, with disease of the liver, frequently showed a lessened tolerance for levulose,

i. e., 100 gm. of levulose caused alimentary levulosuria. These investigations show that cane-sugar, which is changed in the intestinal tract into dextrose and levulose, is not well fitted for the study of alimentary glycosuria. The most interesting point about the investigations is that the patients with disease of the liver and frogs whose livers had been extirpated, showed a marked loss of tolerance for levulose, while in diabetes levulose is very well tolerated. This is a strong, further evidence that the condition of the liver has little to do with the production of diabetes, and the investigations seemed to show that the tolerance for levulose is much more dependent upon proper functionation of the liver than is the tolerance for other forms of sugar. [D.L E.]

8.—Pel discusses the importance of **heredity in chronic nephritis,** and records an extremely interesting family-history which showed in three generations in one family 18 cases of chronic nephritis. Almost all the members of the family in these three generations were subjects of nephritis, and the striking family-tendency to the disease can best be understood by examining the genealogic table given by Pel. Almost all the members of the family affected had the disease for years, but reached an advanced age, and, almost without exception, became uremic and died in coma. The sex of those affected was equally divided between male and female, but it was notable that of one family of 6 children—2 boys and 4 girls—whose father was nephritic, both sons showed nephritis ultimately, while the 4 daughters remained free; while in another instance when the mother was nephritic and the father not, the daughter alone showed the disease, so it appeared that the daughter inherited the disease from the mother and the sons from the father. It is also striking that a child not included in this list died of acute nephritis complicated with chickenpox, an extremely rare complication of this mild affection. This seemed to show that this child was congenitally subject to the disease. The fourth generation is as yet too young to state whether they will acquire the disease or not. Pel does not consider this series merely a series of rare and curious coincidences, but believes that it indicates a hereditary disposition of the kidneys to become diseased; in other words, that the kidneys in these cases furnish a locus minoris resistentia. [D.L.E.]

9.—Simon notes that the **inorganic salts of the perspiration** are very much like those of the urine, and that there are considerable amounts of sodium chlorid in sweat, so that there is evident relation between the excretion through the kidneys and the skin, one varying inversely as the other. There has been some discussion as to whether a similar relation existed between the sweat and the gastric secretions, and his investigations have been purposed to settle this question. He observed in one case of severe acid gastritis, that the acidity of the stomach-contents was much reduced after a steam bath, and therefore used sweat baths in a number of cases which are here reported in order to see whether this was a constant effect. As a rule there was a slight increase in the acidity directly after the bath, but following this within about 2 hours there was a very striking reduction in the acidity. The effect varied somewhat in different persons and was undoubtedly dependent upon the condition of the stomach. In some cases there was no reduction in the acidity. With healthy persons as those with acid gastritis, the acidity was usually reduced, while if there was subacidity this was commonly little affected. The peptic digestive power of the gastric secretion varied in direct relation to the amount of HCl, though pepsin was never found absent. Further investigations were undertaken with pilocarpin and it was found that the sweats produced by the use of this drug also reduced the amount of gastric secretion. The effect produced by both these methods of causing sweating is probably attributable to the excretion of chlorids through the perspiration. Simon's results from the treatment of cases of hyperacidity due to ulcer and other conditions by sweating have been satisfactory, 3 years' experience convincing him that this is a valuable method of treatment. [D.L.E.]

10.—Donath has used 3 methods in attempting to demonstrate the presence of **iodin in the urine of normal persons** and of those with exophthalmic goiter. The first was carried out by adding potassium carbonate in order to form an iodid of potassium and then reducing to an ash, extracting with alcohol and evaporating to dryness; the second was done by adding potassium carbonate and concentrated HCl after reducing the urine by evaporation to $\frac{1}{8}$ or $\frac{1}{10}$ of its volume. It was then allowed to stand for 24 hours, made strongly alkaline with potassium carbonate, evaporated, extracted with alcohol, again evaporated and dissolved in water; it was then distilled with sulphuric acid and iron chlorid; the third method was modification of the sulphuric acid method of Baumann and Goldmann. The slightest amount of iodin which could be determined to be present in 1 liter of iodin after adding potassium iodid was 3 mg. with the sulphuric acid method; 5 mg. with the ash method; and 8 mg. with the chlorid method. No iodin could be determined to be present in persons with normal urine, nor in the urine of those with Basedow's disease, and after taking an amount of iodothyrin corresponding to 1.8 gm. iodin no iodin could be determined to be present in the urine; hence the urine of normal persons or those with exophthalmic goiter either contains no iron or it is of such small amount that it cannot be determined to be present. The remainder of his paper consists in a report of a case of bilateral partial resection of the sympathetic nerve of the neck in a case of Basedow's disease. He considers the resection of the sympathetic the less dangerous and more valuable surgical method of treatment, but in instances in which there is stenosis of the trachea the gland should be partly removed. In the severe case reported the eye-symptoms, the fever, and the excessive sweating disappeared after four days. The opposite side of the face became extremely flushed; the exophthalmos decreased rapidly; there was some decrease in the size of the thyroid, and subsequently a general improvement in the symptoms. [D.L.E.]

11.—Troller first notes that his studies of Talma's method of obtaining **pure gastric secretion** by the use of Liebig's meat-extract solution showed him that the acid varied quite as much after this test-meal as after those usually in use; and he also shows that a solution of the extract contains albumin, and that, therefore, it is not a satisfactory method of obtaining pure gastric juice. He then records some experiments for obtaining pure gastric juice by mere introduction of the tube and expression, by chewing pieces of lemon rind—the saliva and lemon being entirely expectorated—and by chewing mustard. The lemon and mustard both caused a marked secretion of gastric juice, the amount being much more striking and the acid greater than after chewing mustard only, the solution evidently being produced reflexly by the irritation of the nerves of taste. He then investigated the effect of chewing bread and beefsteak, and found that a considerable secretion was discovered after both of these, the amount being greater after chewing the meat. Pathologic cases (hypochlorhydria and carcinoma with marked decrease of secretion) also showed a secretion after chewing foods. In other cases he notes some peculiar results obtained after the use of test-meals introduced into the stomach. In one case a girl, 18 years of age, who had marked hypochlorhydria showed the presence of free HCl during the menstrual period, while during the intermediary period there was no HCl, a paradoxic case, but one showing that the gastric glands were unusually irritable during the menstrual period; in this case chewing lemon and bread caused no secretion, but chewing beefsteak did. This is evidence that intense physiologic irritation may produce secretion when a less intense irritation will not; not even a test-breakfast or a test-dinner caused the secretion of free HCl in this case. In another case, contrary to this one, free HCl could be found only after the patient had swallowed the test-dinner, never after mere chewing. In another case free HCl was found several times after chewing beefsteak, but never after taking test-meals. The conclusions arrived at are that energetic chewing of chemical irritants or food causes a variable amount of gastric secretion which contains varying quantities of HCl. The secretion obtained after chewing chemic irritants is less in both acidity and amount than that obtained after chewing food; meat causes freer secretion than bread and the acidity is greater after chewing meat. In cases of hypochlorhydria the amount of the acidity becomes less after repeated chewing until finally the most severe chemic and physiologic irritation produces no secretion. The first impulse to the secretion of gastric juice is caused by chewing, and thus digestion is set in motion. The administration of food in other instances showed in consonance with the results of

ers that the secretion was always greater after chewing swallowing the food in the normal way. Troller insists we must recognize that part of the secretion of the ric juice is due to what takes place in the mouth, and we must subsequently learn to determine how much of alteration in gastric secretion is due to abnormities in reflex from the mouth and how much to changes in the ct irritation of the gastric glands. He also determined effect of various food-stuffs upon the secretion of gastric e, giving meals composed of albumin, starch, olive oil, ar, and also plain water. Albumin caused the most ked irritation; next starch; sugar decreased the secre-, as did fat. [D.L E.]

2.—The literature is first reviewed and then the two s are recorded. The first was one of **peripheral neu-s** of the hands and feet. The evidence of changes in the els consisted of cyanosis, increase of temperature, in-se of the size of the limbs, together with distention of vessels, both arteries and veins, and tortuosity. Subse-ntly there were spontaneous subcutaneous hemorrhages, the vessels became thick and hard. Microscopic exam-ion of a piece of skin removed from the left foot showed ked thickening of the walls, narrowing or complete teration of the lumen, and severe endarteritis. In the nd case there was neuritis of the sciatic nerve and ked widening of the skin capillaries and larger arteries he distal portion of the paralyzed leg. The foot became nosed and swollen and its temperature was above the nal; the arteries of the leg became widened and tortu- and there were subcutaneous hemorrhages, and ulti-ely the walls of the vessels became hard and dense. re were no signs of any local reason for such change of vessels, such as mechanical or local injuries or local mmations, and there was absolutely no evidence that e had been any disease of the vessels before the neuritis eared. The inflammation of the vessels is thought to lue to a change in their trophic supply because of the rrence of changes in the vessel coincidently with the ase in the nerves, because the changes in the vessels were lized to the areas supplied by the diseased nerves, and use there were severe changes in vessels widely sepa-d from each other, and therefore not subject to any sim-local influence. [D.L E.]

3.—Albu believes that it has never been proved that a **rogen retention** with an actual increase in the body-eids can be produced in normal persons by overfeeding albumins. He thinks that it is not at all proved that g's personal albumin-retention was not due to the in-se in the fats and carbohydrates in the foods and to the riction of albuminous destruction and not directly to the ease in proteids, and he does not think that it is possible roduce an actual increase of body-proteids in normal ons by increasing the albumin in the food. He thinks the only result is an increase in proteid metabolism. there is every reason to believe from clinical observation from the work that has been done that an albuminous ntion can be produced in patients whose nutrition has n much reduced by protracted lack of sufficient nourish-it. Albu insists that this lack of sufficient proteids is an ex-nely common cause of chronic ill-health, more especially ng the poorer classes, who are unable to obtain a proper unt of the more costly albuminous food. He records ogen and metabolism experiments in several cases of ciated patients who, because of disease, had been taking insufficient amounts of albumins. He increased their min intake largely by adding a new dietary preparation, mon, which is a milk albumin, and has a pleasant taste, heap, and is well absorbed. He found that in all the s investigated he could cause a marked nitrogen-reten-by increasing the amount of albumin in the food. en large amounts of albumin were given there were king variations in the nitrogen-excretion through the s, and apparently, coincidently with this, a marked iation in the nitrogen-excretion in the urine. These s, however, showed an approach to a nitrogen equi-ium after two weeks, and Albu does not believe that otracted proteid-retention can be caused even in such s, and that a proteid-retention is merely a method of porarily repairing the tissue-waste. [D.L.E.]

4.—The method of treatment here suggested was brought he author's mind by observing that satisfactory results have been obtained by several clinicians by **vaccinating patients with smallpox** in several situations. Kowtowtschicoff modified this practice by vaccinating at once when the case was observed and repeating the vaccination every day for several days, and each day in two or three situations. Three cases are reported, and he believes that the excellent results were obtained, and therefore recommends that twice daily several vaccinations should be undertaken, preferably in the prodromal stage of smallpox, but also in the initial stage. If the patient is already in the first or second stage of the disease the vaccination should still be undertaken, and he thinks that even on the third day, or perhaps later, the suppurative stage will follow a less violent course if vaccination is carried out in this manner. [D.L.E]

Deutsche Zeitschrift für Chirurgie.

November, 1899. [Band 53, Heft 5 u. 6.]

13. Cubitus Valgus Femininus. C. Hübscher.
14. Fracture of the Tibia with Clipping off of the Fragments. Carl Lauenstein.
15. Foreign Bodies of Joints. (Conclusion.) M. Martens.
16. Experimental Research in Surgical Tuberculosis. Friedrich.
17. Two Cases of Intestinal Strangulation in a Pocket of Peritoneum not yet Described. W. Meyer.
18. Internal Inguinal Hernia in Women. Theodor Escher.
19. Periarthritis Humeroscapularis. F. Colley.
20. Etiology of Varicose Veins. C. Schambacher.
21. Inflammation of the Costal Cartilages following Typhus Abdominalis. Richard Lampe.
22. Jejunostomy in Cases of Inanition from Ulcus Ventriculi (Duodenali) and the Results of the Same. L. Heidenhain.
23. Statistics Regarding Gastroenterostmy by means of the Murphy Button. N. Kaefer.

13.—Hübscher, in connection with his researches on **cubitus valgus,** or outward bending of the arm at the elbow, took measurements with a special apparatus, in 125 persons, 50 of whom were men and boys, and the others being women and girls. In only 5 cases of the 125 was there a cubitus *varus*, and in these trauma and rachitis were present as etiologic factors. In 48% of the cases the angles of both arms were equal, in 38% the angle of the left arm was the larger, and in 14% the angle of the right was the greater. The arms of men, boys and girls up to 12 years of age are comparatively straight, but in girls over 13 and especially in adult women the cubitus valgus is very marked. In other words, the cubitus valgus feminis begins to develop during puberty. The outward bending of the arm of woman is most marked when the forearm is in extreme supination, indeed when the forearm is prone there is little difference between the two arms. There are two theories for the development of the cubitus valgus in women: (1) Pressure theory due to the extra width of the pelvis; and (2) traction theory, caused by the habit in women of holding the arm flexed, thereby allowing of a one-sided pull from the muscles. Both of these theories are supported by pathologic findings. [G.B.W.]

14.—Lauenstein reports 4 cases of **fracture,** all of which were characterized by the fragment being, as it were, sprung off from the **anterior surface** of the **lower end of the tibia.** The fragment was in all the cases a flat, triangular piece of bone, the base being attached to the joint-capsule and the apex corresponding to the anterior edge of the tibia. In 3 of the cases the fragment was displaced so that the apex pointed outward, and in one the piece of bone had remained in its normal position. In all there was rigidity of the fragment. The diagnosis in these cases is almost impossible without help of the x-rays. [G.B.W.]

15.—(Continuation and conclusion.) It is possible for a **foreign body** to exist in a **joint** as the result of a new growth, or as an ecchondrosis, which very often is the pathologic manifestation of arthritis deformans. The knee is the joint most frequently affected, next the elbow and then the hip. The age of the patient is generally advanced, all of the cases reported being over 30 years. By far the greatest number of patients were men, 8 men to only 1 woman. In 3 of the cases there was history of traumatism. The greatest number of foreign bodies found in one joint was 12 and the size

varied in the different cases from that of a pea up to that of a hen's egg. The bodies may consist of cartilage or bone or connective tissue or combinations of the same. The diagnosis of these cases is certain when the body can be felt. The typical symptoms are sudden arrest of motion in the joint followed by pain and effusion, sudden pain in ordinary movements, snapping in the joint, and in the elbow inability to extend the forearm. The x-rays are of course of the greatest assistance. The treatment of free joint bodies can only be extirpation, except that in fresh cases of injury one may endeavor by fixation of the limb to have the loosened fragment grow fast. [G.B.W.]

16.—See editorial columns, February 10, 1900.

17.—Meyer reports 2 interesting cases of **intestinal strangulation.** The first was a man, 48 years of age, who entered the hospital with symptoms of acute intestinal obstruction. At the operation a pocket of peritoneum was found in the posterior abdominal wall into which a large part of the small intestine had entered. The edge of the hernial opening was divided between hemostat and the intestine restored to the abdominal cavity. The wound in the edge of the pocket was sutured and the abdominal wound closed, but the patient died within ½ hour after the operation. The opening of the pocket admitted 3 fingers and was at a level with the cecum, while the sac itself extended down into the pelvis as far as the bladder. The second case was a man, 22 years of age, who like the former entered the hospital with symptoms of acute intestinal strangulation. On opening the abdomen an intraperitoneal pocket about the size of 2 fists was found containing a number of markedly congested coils of intestine. The intestine was easily drawn out of the pocket which was then ligated and cut off. The abdomen was closed and the patient made a good recovery. [G.B W.]

19.—Colley says that in certain persons there may be present to a marked degree all the symptoms of a fibrous ankylosis of the shoulder joint without the joint itself being involved. The cause of these symptoms lies outside the joint and is chiefly due to a connective-tissue metamorphosis in the bursae subacromalis and subdeltoidea, characteristic for the **periarthritis of the shoulder joint** is fixation of the joint, except for rotation in the long axis of the humerus and a pendulum-like to-and-fro movement in an antero-posterior direction. In some cases, however, the disturbances of motion are a secondary feature, while pain with a slight flexion and supination of the forearm are prominent symptoms. The best treatment for chronic cases is forcibly to restore motion under narcosis. [G.B.W.]

20.—Schambacher says that a distinction must be made between varicose veins, in which condition there is a change in the vessel-walls and phlebectasia, which is a simple dilation without any pathologic change. In the latter form the doing away with the exciting cause, viz., pressure on the centripetal portion of the vein will effect a cure; whereas, in the former, thrombosis is the only process whereby the dilated veins may be healed. In true varicose veins the blood-pressure is heightened, and this probably is due, as has been suggested by Trendelenburg, to an insufficiency of the valves of the veins permitting a backward gravitat on of the blood. This increase in pressure, however, it must be understood, is not the cause of the varicose condition, but rather the varicose condition, by causing the valve insufficiency, increases the pressure. The true etiology of varicose veins depends upon a deficiency in either the elastic or muscular constituents of the vessel walls. When there is a lack of development in the elastic portion only, the consequential ectasia is of but a moderate degree, because a partial compensation is afforded by the hypertrophy of the muscular layers. However, in many cases the vessel-wall may become so weak that ruptures may take place. When the muscular bundles are small and more or less separated, the varicose condition may then become enormous, and this for two reasons—first, that the walls consist mostly of connective tissues, and second, the slowing of the blood-current consequent to the enormous dilation, greatly hinders the nourishment of the vessel-wall. [G.B W.]

21.—Lampe says that the **typhoidal inflammation of the costal cartilages** begins in the cartilage itself, and secondarily, extends to the perichondrium. For the development of this enchondritis, there must exist some old pathologic change in the vascularization or in the medulla for the typhoidal germ to take start in. The treatment of th two forms of the typhoidal costal enchondritis without sup puration should be expective, but when suppuration exist some surgical procedure should be undertaken even to th removing of diseased cartilage. [G.B.W.]

22.—Heidenhain suggests the performing of **jejunos tomy** in cases of ulcus ventriculi where the inanition is s great as to prohibit any more serious operation. He report 2 cases in which temporary relief was thus obtained, bu both patients died later on, 1 within 14 days after the opera tion from a suppurative parotitis. [G.B.W.]

Archiv für klinische Chirurgie.

[Band 60, Heft 3.]

18. The Operative Treatment of Old Irreducible Luxation of the Elbow-Joint. R. BUNGE.
19. Thrombosis as the Result of Tumor-Growth. PAU ROSENSTEIN.
20. Research over the Production of Coloring-Matter by th Bacillus Pyocyaneus. DR. v. KUESTER.
21. A Case of a Congenital Tumor of the Sacrum in a Adult Treated by Operation. E. J. HAGEN-THORN.
22. Suture of the Urinary Bladder. E. J. GOLISCHEWSKY
23. A Report of 630 Cases of Vesical Calculus. EDMUN ASSENDELFT.
24. The Bactericidal Action of Carbolic Acid and Its Worth in the Practice of Surgery. R. MINERVINI.
25. Further Contributions on the Pathogenesis and Therapy of Prolapse of the Rectum. K. DUDLOFF.
26. Gastroptosis and Its Operative Treatment. THORKILI ROSVING.
27. Smaller Communications.

18.—Bunge reports 17 cases of **old irreducible luxations of the elbow-joint.** From a study of these cases, he shows that a breaking off of a small fragment of bone in 14 of the 17 cases was the chief hindrance to a proper restoration of the dislocation. In 8 cases there was a transverse supracondyloid fracture. In cases where union with good position follows these supracondyloid fractures, very little inconvenience was experienced in reducing the dislocation, but in the majority of cases, the peripheral fragment healed in malposition. The operation for restoring the parts to their proper position varies with the deformity present. Sometimes a transverse incision with temporary resection of the olecranon, as advised by Trendelenburg and Völker, will answer, and in other cases two longitudinal lateral incisions are required. However, in many cases, a simple external longitudinal incision passing between the extensor carpi radialis longior and extensor digiti communis, is all that is necessary. Abnormal bands of connective tissue, malplaced pieces of bone and other obstructions to proper restoration of the parts, should be removed and the bones replaced in normal position. Generally the wound can be closed without drainage and the dressing applied with the forearm flexed at an obtuse angle and in full pronation. After-treatment is most important and should begin early and end late. Commencing with passive movements, after-healing of the wound, should consist in massage, hot applications and active movements with various gymnastic apparatus. In the large majority of cases, the results obtained under such treatment were most satisfactory. [G.B.W.]

19.—Rosenstein reports an interesting case of **myxosarcoma** which had penetrated into several of the large veins. Patient is a child of 6 years. Operation for abdominal tumor was undertaken, but a total extirpation because of the size of the growth and the poor condition of the child was impossible. The child died 8 months after the operation. At the postmortem a myxosarcoma of the left kidney was found; also a thrombosis of the left renal vein, and of the inferior vena cava, and of the right auricle of the heart; the thrombosis being due to an ingrowth of the tumor. There was also present a purulent meningitis. [G.B.W.]

20.—Kuester carried out a series of experiments on **color-production by the Bacillus pyocyaneus,** the result of which shows that in small quantities carbolic acid, boric acid, albuminium aceticum, increase the color-production whereas in larger quantities they decrease it. Bichlorid of mercury, even in the most minute quantity, absolutely

)ped the production of color. Alcohol, when added in quantity of .27% to the bulk of culture-medium, has no ct; but when added up to 6½% absolutely stops the color-duction. Further experiments demonstrated that the moniacal constituents of the urine, together with the l properties of the bladder, so hinder the growth of the ve microorganism that color-production is impossible. G.W.]

1.—Hagen-Thorn reports a case of **congenital tumor the sacrum** occurring in a patient who, at the time of mination, was 16 years of age. The tumor had been sent since birth and was slowly increasing in size. Its ition was over the coccyx and left buttock. The tumor removed in two separate operations. At first when ned it seemed to consist of coils of intestine, and it was ught that possibly the tumor was a hernia. After resect- a portion of the intestine the wound was closed. As no stinal symptoms developed the second operation was e and the whole mass thoroughly removed. The patient de a good recovery. Examination of the specimen wed it to consist of intestinal coils covered with peri- eum and possessing a mesentery of what might be taken a stomach, of osseous and cartilaginous tissues, of fat, odvessels, nerves and muscle-fibers, and of connective ue, which sometimes resembled fibroma, sometimes oma or myxosarcoma. [G B.W.]

2.—Golichewsky says that in the proper cases the dern method of **suturing the bladder** gives most ex- ent results. The latest modification and probably the t is that described by Rasumowsky, in which the ends of sutures of the bladder-wall are brought out through the ues of the opposite side of the wound, and therefore they be readily removed after healing has taken place. As to indications and contraindications: First wounds of the lder should not be sutured when a severe or chronic titis exists. Marked hypertrophy of the bladder-wall is a traindication, although a slight degree of thickening does interfere with the suturing of the bladder-wall. Exces- hemorrhage, deeply placed wounds and, most important ll, disease of the kidneys are to be considered as contra- ications. Very large wounds are amenable to suturing, ystotomy is practised in connection therewith. Prostatic ertrophy, paresis of the bladder-wall, and wounds of the itoneum or urethra are indications for continuous cath- rization. Urinary retention, leakage of urine through the nd, and the formation of a fistula call even more strenu- ly for the tying in of a catheter. Sometimes because of ne-infiltration, infection of the wound, or secondary hem- hage from the bladder, it becomes necessary to reopen the nd. In 35 cases of complete closure of the bladder- nd there were 2 deaths. In 5 cases there was some leak- of urine through the wound. In the remaining cases ling *per primam* took place. [G B W.]

3.—Assendelft reports **630 cases of vesical calculus** ich have been treated in the private hospital of Paschkoff ing the last 20 years, 600 of which were operated on. Of se 600 there were 35 lateral perineal incisions, 38 medium ineal incisions, 460 suprapubic incisions, and only 12 es was litholapaxy done. The remaining 63 cases were iously operated on. From a study of these cases he says t for the ordinary surgeon the cutting operation and not olapaxy is the operation of choice. He says that in ssia many cases come to the surgeon in such a condition t nothing except suprapubic cystotomy is to be thought [In this country, at least, exceptions must be taken to above, as litholapaxy is considered by the great majority our surgeons as by far the safer and better method for noval of vesical calculus in uncomplicated cases. [G.B W.]

4.—Minervini has carried out quite an elaborate series experiments on the **bactericidal influence of car- lic acid.** The ordinary bacteria, not the spore-bearing ieties, with the exception of the staphylococci, perish hin 1 hour in a 1% solution. The staphylococci require % solution, while with a watery solution of the mild con- tration, or an alcoholic solution of equal strength ($\frac{1}{25}$%), influence whatever is exerted on the spore-bearing germs. these a solution of $\frac{50}{100}$% is necessary. These are the ults of experiments with the pure culture itself, and as the luction of trials with infected materials he concludes that: bolic acid in mild solutions, which would naturally be de up with water, possess a very limited bactericidal action, so that in practice where a surgical disinfectant is wanted, little faith should be placed in this substance. Also stronger solutions, because of the cauterizing action, are not practicable. The good results which Lister and others have obtained with this substance are due rather to a retardation of the development of the bacteria than to the destruction of those already present. [G.B.W.]

25.—Ludloff gives the results of an elaborate research on the **pathogenesis and therapeusis of prolapse of the rectum,** as follows: Rectal prolapse should be divided into 3 distinctly separated classes: (1) Prolapsus ani; (2) prolapsus recti, prolapsus ani et recti; (3) prolapsus coli invaginati. These groups are to be distinguished from each other both as to their pathogenesis and also their treatment. The prolapsis ani consists of a rolling out of the anal mucous membrane to a comparatively limited extent, and is generally due to a congestion of the lower portion of the rectum. It cannot be looked upon as a precursor to the prolapsus recti. Prolapsus recti and prolapsus ani et recti are, however, different degrees of the same condition, both being a protrusion of all the layers of the rectal gut. The etiology of these cases is based on internal abdominal pressure. Prolapsus coli invaginati is an invagination in the proper sense of the word. All three of these forms demand different methods of treatment. The Mikulicz-Nicoladoni resection is, however, applicable to all cases except the long colon invaginations. It is especially indicated in incarcerated and irreducible prolapsus. Massage and fixation of the colon are suitable measures where for some reason the resection is not applicable. They are contraindicated in incarcerated, irreducible, or badly ulcerated cases. Amputation by ligature is indicated in very weak patients. Excision of the mucous membrane should be done in very large prolapsus ani. Cauterization is a very proper procedure in prolapsus ani and in moderately large prolapsus ani et recti, and in cases where other methods have failed to effect a cure, it is useful as an adjunct. Galvanism may be tried in hysterical or nervous individuals who dread an operation. Rectopexy, Gersung's torsion, and the silver wire ring should always be avoided. The formation of an anus sacralis may be prepared after large rectal operations. Where a specific history is suspected, antisiphilitic treatment should be instituted. [G.B.W.]

26.—Rosving reports 4 cases of **gastroptosis** on whom gastropexy had been done with good results. But in the last case the patient after gaining several pounds in weight died from tuberculosis of the lungs. At the postmortem the fixation of the stomach was found to be strong and the position good. His method consists, after restoring the stomach to its proper position, in passing 3 sutures so as to hold it firmly against the anterior abdominal wall. The suture is first carried through the abdominal wall, from without inwards, then is brought across the anterior surface of the stomach, entering, coming out and reentering the serous and muscular coats 3 times, and finally is brought out through the opposite side of the abdominal wound. A number of small scarifications are made on the anterior surface of the stomach, and the abdominal wound closed by several rows of sutures. The ends of the silk threads which are to hold the stomach in place are then pulled upon and tied around small rows of gauze, thus holding the scarified surface of the stomach firmly against the anterior abdominal wall. [G.B.W.]

Deutsches Archiv für klinische Medicin.

February 6, 1900. [Heft 5 u. 6.]

18. A Case of Cerebral Commotion with Remarkable Changes in the Brain. HAUSER.
19. Notice Upon an Epidemic of Meningitis in Trifail, in 1898. BERDACH.
20. The Treatment of Tuberculosis with Cinnamic Acid. FRÄNKEL.
21. The Action of Certain Used Medicaments Upon the Formation of Methemoglobin in the Blood. DENNIG.
22. The Excretion of Nitrogen and Diaphoresis in Cases of Renal Disease. KÖHLER.
23. The Character of the Urine in Diseases of the Stomach. FRIEDBERGER.
24. The So-Called Hemisystole. FRANK and VOIT.
25. The Simultaneous Occurrence of Iodiocy and Diabetes Mellitus; the Neurogenic Glycosurias, with Remarks

upon the Color, Relation and Alkalinity of Diabetic Blood. STRAUSS.

26. Addition to the Article of Freudweiler, Experimental Investigation upon the Character of Tophi. HIS.

27. Brief Communications. 1. The Differences in the Pulmonary Resonance in Inspiration and Expiration, and Their Application to Pathologic Conditions. AUFRECHT. 2. The Sudden Withdrawal of Alcohol in Disease of Healthy Persons. AUFRECHT. 3. Traumatic Pneumonia in a Person Apparently Drowned. AUFRECHT. 4. A Typical Pneumonia in a Case of Puerperal Endometritis. AUFRECHT. 5. A Case of Primary Cylindrical Carcinoma of the Tail of the Pancreas. GÜNTHER.

18.—Hauser reports the case of a man, 50 years of age, who fell down a flight of stairs and fractured the base of the skull, and when found had a **flaccid paralysis** of the left hand, some paraplegia, and was somnolent. For a brief period there was some improvement in the symptoms, then there was an elevation of temperature and the patient died. There was softening at the base of the brain in the basal ganglia, and subarachnoid hemorrhage at the region of injury and at the contrecoup. There was moderate degeneration of the fibers in both situations and also very pronounced degeneration in the central ganglia in the line of injury. Large globular masses were also found in various regions, particularly in the corpora striata, which were evidently the products of degenerated axis-cylinders. These changes Hauser ascribes to the **commotion of the brain** in a direct line of the injury, particularly as there was an absence of any indication of squeezing of the brain, and of any bleeding in the part of the brain chiefly involved. [J S.]

19.—Berdach reports an **epidemic of meningitis** that occurred in Trifail from the middle of February to the middle of September of 1893. Altogether there were 72 cases, and from 26 to 30 abortive cases, that is altogether about 100 cases. Forty-five patients died, which was about an average mortality. The majority of the patients were young, the greatest number occurring between the ages of 20 and 25. The next largest group occurred before 10 years of age. The youngest patient was 3 weeks and the oldest 58 years. The majority of patients, that is 42 of the 72 severe cases, were ordinary working people employed in the mine. The disease, as is shown on the map appended to the article, appeared to travel considerable distances from house to house, sometimes missing a number of houses in its route. Only occasionally was multiple infection in the same house observed. The majority of cases (43) occurred in March and April, the epidemic thereafter becoming very much milder. Berdach reports a case typical of the acute form fatal on the third day in whose tissues the Diplococcus meningitidis of Weichselbaum was found. He also gives the notes of a characteristic acute case in a child, death occurring on the fourth day with the same results in the cultures. The abortive form was characterized by sudden unconsciousness, then severe headache, pain in the neck, and finally rapid improvement. In the brief analysis of the symptoms, Berdach mentions the fact that headache is usually found in the occipital region. The temperature is usually moderate, only rising in the preagonal stage. One case was associated throughout with continual vomiting. The pupils were dilated and usually reacted slowly or not at all to light. In nearly every case herpes was present. Stiffness of the neck did not usually develop as rapidly as the other symptoms. Among the nervous disturbances, facial pareses were most frequent. The treatment unfortunately is purely symptomatic. The total population of Trifail is 8,500. [J.S.]

20.—Fraenkel, in view of the great importance of the various communications by Landerer upon the use of **cinnamic acid in the treatment of consumption,** has undertaken first a careful analysis of the literature of the subject, and secondly a series of experiments upon persons suffering from the disease, in order to determine, if possible, whether it actually possesses curative value. He has been able to collect various groups of statistics. In one including 45 cases, 21 were cured or improved, and 24 died or failed to improve. In another group of 329, the proportion of improvements was 65%. In the latter, the cases are grouped according to the degree of severity, but it seems difficult to determine just what influence this may have had, and naturally a greater proportion of cures occurred in the milder forms. It appears from the statements of the opinions that general improvement in the state of the patients is not greater than can be obtained by other means, and it appears that the results of Landerer himself are not much better than those obtained by other men with other methods. There is much difficulty regarding the method of administering the drug. It appears to be useless as an inhalation, the results of the administration by the stomach are doubtful, intravenous injection is excessively painful, and subcutaneous injection equally so, unless cocain be used. Fraenkel has treated 10 cases of pulmonary tuberculosis, 5 of lupus, the cases being divided into four groups according to their severity. In general it can be said that the tendency to hemoptysis was increased. There was no influence upon the fever nor upon the sweating. In addition an attempt was made to study the effect upon local lesions produced in the anterior chamber of the rabbit's eye. The bacilli were injected on one day and the cinnamic acid immediately afterwards or on the following day. Absolutely no difference could be observed between the experimental and control animals, although the observations were continued for three months. The results of 12 cases were that 3 died, 1 became worse, 3 were unchanged, and 5 were improved; of the latter only 1 to such a degree that any influence on the part of the medicine could be suspected. [J.S.]

21.—Dennig has studied the effect of certain drugs known to produce **methemoglobin** in order to determine the amount required to the degree of change produced. The experiments were performed upon dogs, and the presence of methemoglobin determined by the spectroscope. The results showed that antifibrin and phenacetin administered by the intestinal canal rapidly produced changes in the blood. These changes were progressive and continuous, lasting at times for one or two days. As soon as two-thirds of the oxyhemoglobin was converted into methemoglobin death ensued, usually there was decrease in temperature, rarely hyperthermia. Although Dennig expresses himself with some reserve with regard to the possibility of applying his results to the human organism, nevertheless, be believes that they possess a certain value. [J.S.]

22.—Kohler has undertaken to study the amount of **nitrogen excreted** in the sweat of persons suffering from **renal disease.** A study of the literature shows that the opinions of various authorities differ widely. In one experiment performed by himself, the amount of nitrogen was 0.13%, considerably more than the amount normally excreted. Nevertheless, this patient became uremic the following day. As a result of other careful experiments, he concludes that an abnormality in the quantity of nitrogen excreted could not be determined in cases of nephritis; that during violent perspiration the amount of nitrogen excreted in the urine varied inversely to that of the sweat; that the total quantity of nitrogen excreted could even exceed that found in health; nevertheless, sweating as produced by hot baths does not appear to have any effect in the prevention of uremia. [J.S.]

23.—Friedberger has studied the acidity and quantity of **pepsin found in the urine in cases of disease of the stomach.** In cases of pure rectal alimentation in which gastric digestion was completely lost, it was found that a few hours after the administration of the clysma, there was increase in the acidity of the urine, that is not only relative but absolute. In cases of diminished HCl the maximum depression in the curve occurs earlier after a meal than normally. In order to determine the amount of pepsin n the urine, a solution containing one part of protogen in 100 parts of 0.2% solution of HCl was subjected to digestion in the incubator, 10 cc. being mixed with 3 cc. of urine. After a certain period of time the amount of albumin was determined by precipitation in Esbach's albuminometer. A number of experiments were made on various patients, but only one complete report is given. The results are that the method employed (Troller's) is more delicate and more convenient than those previously used; that there is a proportion existing between the amount of pepsin secreted in the stomach and secreted in the urine, but there are certainly variations even in the urine of healthy persons. In cases of hyperchylia, the amount of pepsin excreted is considerable, but not sufficiently great to be of diagnostic importance, but

e loss of pepsin in the urine in cases of diminished secre-
n of the gastric juice is so pronounced that some diagnostic
ferences can be made. [J.S.]

24.—Frank and Voit made a series of experiments upon
bbits and dogs in order to determine whether **inequality**
the action of the two ventricles of the heart ever
curs. Small metal catheters were introduced into the right
d left ventricles respectively, and these were united with
anometers that registered upon drums. The animals were
en either suffocated or poisoned with ergot. Nevertheless,
e results were absolutely negative. In no case was their
y inequality in the action of the two ventricles, although
me of the experiments were continued for half an hour or
ore. Irregularities were of course produced in the various
rves, but they were invariably synchronous. Of course, it
is possible that one part of the heart-wall contracts while
e other remains motionless. [J S]

25.—Strauss has made a series of studies upon various
ses of **diabetes,** particularly with reference to the in-
ence of **diet upon the glycosuria.** The first patient,
idiot, 49 years of age, had a slight alimentary glycosuria
ich apparently was increased by carbohydrates, but was
en variable under constant diet. It does not appear to be
oven that there was more than an accidental complication
this case, for in 5 cases of idiocy and in 21 of imbecility,
t were investigated by the author, there were no cases of
mentary glycosuria, and in 28 cases of imperfect develop
nt of the mind, it only occurred twice. He also reports
ier cases of diabetes, in one of which there was paradoxic
erance for carbohydrates; a case of encephalomalacia
h diabetes, showing marked increase whenever glucose
s administered; and a case of exophthalmoplegia passing
egular and sometimes enormous quantities of sugar which
med to be influenced, very markedly, by the quantity of
bohydrates that were taken. In a case of senile melan-
olia there was apparently no definite relation between the
t and the quantity of sugar; 7.25 gm. being excreted when
gm. of bread were given; 17.72 gm. when 150 gm. of bread
re given, and 4.32 gm. when 200 gm. of bread were given.
the case of idiocy already reported, the influence of diet also
s very doubtful, even the addition of glucose failing on
ne occasions to produce glycosuria. Muscular activity
o failed to produce glycosuria. The blood was tested for
emer's reaction, and it occurred in 4 of 9 cases during
sugar period. [J S.]

26.—His has repeated the experiment of Freudweiler and
nd that when urate of sodium was injected beneath the
n of a rabbit it produced a small nodule surrounded by
bryonal tissue that did not contract, the salt remaining
orphous. He found that by feeding the animals (rabbits)
h small quantities of alcohol, a connective-tissue capsule
s formed around the lesion and the salt assumed a radiate
angement. [J S.]

27.—1. Aufrecht calls attention to the value of studying
alteration produced in the percussion note of the lung
inspiration and expiration. It is particularly valuable in
es of involvement of the apex of the lung and especially
differentiation between the pleural exudate and pneu-
nic consolidation. [J.S.]

. He calls attention to the possibility of the sudden with-
wal of alcohol from persons who are in the habit of con-
ing considerable quantities of it. He does not believe
is is followed by any serious after-affects, even in cases of
irium tremens or alcoholic myocarditis in delirium
mens. He is in the habit of administering chloral hy-
te about 60 grains every evening, dissolved in one-half
ce of simple sirup and half an ounce of elixir cont.
entii. Sometimes the patients will sleep on the first
ht; on other occasions it is necessary to administer a sec-
l dose of about 45 grains the following morning. In cases
which the **delirium tremens** is complicated by pneu-
nia, erysipelas, or fracture of the bones, this treatment is
ticularly satisfactory. He also mentions an experiment
formed by a physician and a merchant, both of whom
e in the habit of consuming large quantities of beer
ly, who, for one month, absolutely avoided all acoholic
uids, and neither of whom had symptoms of any disturb-
e whatever. [J S.]

. Aufrecht reports the case of a man, 19 years of age, who
le swimming was struck a violent blow on the chest by a
panion, and immediately became unconscious. He sank to the bottom of the pool and was not brought to the surface for 4 minutes. When examined it was found that there was slight dulness posteriorly over the right lung. The following day there was a rise of temperature, the day after that a slight chill, and the lower portion of the lung was consolidated. The sputum was viscid and slightly hemorrhagic. The patient died on the sixth day. At the autopsy the whole right lung was found consolidated and adherent to the thoracic wall. The left lung was also slightly adherent with hypostatic congestion in the lower lobes. The spleen was also increased in size. It appears that in this case there was a lobar pneumonia following an injury and not the result of water penetrating into the lung and carrying infection with it. The whole course of the disease resembles more closely that of **typical traumatic,** than of typical aspiration, **pneumonia.** It could not, however, be determined that the injury had affected the breast. Cultures were apparently not made. [J.S.]

4. Aufrecht reports the case of a woman, 39 years of age, who, 17 days after a miscarriage, was admitted to the hospital suffering from pneumonia of the lower portion of the right lung. She gradually became delirious and died on the fourth day of her stay in the hospital. At the autopsy the right lower lobe was found heavy and consolidated, was quite friable, and there was no granulation of the surface. **In the uterus a diphtheritic membrane** was found occupying the site of the placenta. Smear-preparations from this membrane and from the lung showed the presence of a large bacillus distinctly encapsulated in the former situation, probably the bacillus of Friedländer. The case represents one of a typical pneumonia of the type previously described by Aufrecht. Cultures were not made in this case. [J.S.]

5. Günther reports the case of a woman, 63 years of age, who had suffered from swelling of the feet and pain in the right side. The mother had died of carcinoma. The patient gradually became weaker and died in collapse. At no time was there glycosuria, and the feces were normal in consistency and color and did not contain an unusual quantity of fat. At the autopsy the tail of the pancreas was found adherent to the spleen and contained a hard nodule that microscopically presented the characteristics of a **cylindrical epithelioma.** The interest of the case is the absence of symptoms that ordinarily indicate the presence of disease of the pancreas. This absence is to be explained by the situation of the growth and the failure of any general hyperplasia of the connective tissue. [J.S.]

Revue de Médecine.

November 10, 1899.

1. Analgesia of the Ulnar Nerve in Epilepsy. LANNOIS and CARRIER.
2. Sexual Instinct. C. FÉRÉ.
3. Researches concerning Disurbance of Gastric Sensibility. J. C. ROUX.
4. The Measure of the Olfactory Power by Camphorated Water. E. TOULOUSE.
5. Two Cases of Blennorrhagic Arthritis of the Hip. F. DUPLANT and M. PEHU.

1.—The authors first discuss the previous work which has been done on the question of **analgesia of the ulnar nerve** in general **paralysis of the insane,** in epilepsy, and in other conditions. There is a general consensus of opinion that it is frequent in general paralysis of the insane, though the statements as to its frequency vary somewhat. It has been reported by some authors as an almost constant sign in epilepsy, while others have found it much less frequently, and almost solely in the hours following epileptic attacks. Lannois and Carrier have studied 130 epileptics, 50 of them men and 80 women. They found variations in the sensibility on the two sides, sometimes analgesia being present on one side and absent on the other. Their results in the men were as follows: Sensation was normal on the two sides in 27 of the 50 cases; normal on one side only in 4 cases; it was diminished or markedly obtuse in 11 cases on both sides, and diminished on one side in 6 cases. There was complete analgesia on the two sides in 5 cases; a complete analgesia on one side in 4 cases. In other words there

were 58 normal cases per hundred, diminished sensibility in 28%; analgesia in 14%. The 80 women gave the following results: Normal sensibility on the two sides in 40 cases; on one side in 9; sensibility was diminished on the two sides in 11 cases; on one side in 11; there was complete analgesia on the two sides in 14 cases, and on one side in 10. The percentages in women were therefore: Normal conditions, 55%; diminished sensibility, 20.6%; and analgesia, 23.7%. In 10 cases in which examination was undertaken a few hours after an attack it was shown that analgesia, more or less complete, was observed always after the epileptic attacks. The percentages in the two sexes were, normal conditions, 56.5%; diminished sensibility, 23.4%; and complete analgesia, 20%. They decide that the sign is by no means a constant one in epilepsy, and not even very frequent, and that it cannot in any sense be called a stigma of epilepsy. It is not of any special value in the separation of hysteria from epilepsy since analgesias are very likely to be found in hysteria. It is present in a large number of cases after the epileptic attack either on one side or both. Marked analgesia generally disappears about 12 hours after the attack. They found the tactile sensibility always completely preserved, even in those who showed complete analgesia. They believe this indicates that the analgesia was of central origin. [D.L.E.]

3.—Roux has made a study of the point of **epigastric tenderness** which is so often complained of, either spontaneously or upon pressure, by those suffering from disease of the stomach. This point is commonly situated in the middle line at the middle point of the epigastrium. It is, of course, particularly noticeable in gastric ulcer, but is often seen in other cases, such as alcohol gastritis, gastric hysteria, and other affections. The question is as to the cause of the pain. It has been explained by some as due directly to the tenderness of the ulcer, and others have considered it due to contraction of the pylorus. But these are insufficient grounds for its explanation, since ulcers occur in various situations, and the pylorus moves from time to time, while this tenderness is almost always in the same spot. The truth according to Roux is that the tender point corresponds to ganglia of the solar plexus. In making necropsies on a number of cases that presented epigastric tenderness shortly before death he found that a mark made over the point of tenderness corresponded upon dissection to the position of the sympathetic ganglia beneath. He has studied the variations of the point of tenderness at various times and finds that from time to time during the day the tenderness is of less intensity. It is much less marked in the morning, as a rule, and increases after food, often resulting in severe epigastric pain. It diminishes after careful dieting and other treatment of the stomach. He has had an instrument made in order to measure the intensity of the tenderness of the stomach. This he calls the gastric esthesiometer. By means of it he measures the number of pounds of pressure that one can use upon the epigastrium without causing pain. He says that the results obtained by this instrument are constant, and that it can be considered as giving accurate measures of the epigastric tenderness. Roux found that there were two classes of causes which produced changes in the sensibility. One class he discusses as peripheral irritations, the other as irritations of central origin. The peripheral irritations are exampled by excessive secretion of HCl; by the use of irritating foods, alcohol and the like. Foods cause distinct changes in the tenderness, the tenderness being much more marked after the use of meats than after the use of eggs, for instance, and seeming to correspond to the length of time that the food remained in the stomach. Alcoholic drinks seemed to cause an especial degree of increase. The central causes of increase of the tenderness were exampled by emotion, general neurasthenia and similar conditions. The tenderness was decreased by a number of causes, for instance, in a case of gastric ulcer a marked hematemesis caused notable decrease. Cocain had a similar action, as did cutaneous revulsive measures, such as the application of a blister. Roux considers this tenderness a direct indication of the irritability of the stomach, and considers that it is important to determine the degree of tenderness as a direct measure of the gastric sensibility. [D.L.E.]

4.—Toulouse notes first that the **measure of the olfactory power** has previously been inexact, no method having been devised that was of more than rough use. He discusses the various substances which have been used to test olfaction, and then states that he has found camphor the best substance for this test. The reasons for the use of it are that it is a very familiar substance, the solutions are of constant strength, contrary to mixtures of essences, which are likely to vary in different preparations. The subjects tested do not perceive the odor of camphor when entering the room when it is kept bottled, while they do perceive at once the odors of other substances. Camphor is readily washed from the hands, so that no odor is left, and the fumes of camphor are not poisonous. He gives a table of the solutions which he uses. One should perceive readily a solution of camphor in water of 1 to 1,000. He has the flask containing the various solutions at hand, and, beginning with the weak solutions, progresses in strength, letting the patient inspire with the open flask under the nose, then allowing them to breathe freely he tries the next flask, until he reaches the strength which they first recognize. The test is repeated two or three times, in order to tell that a constant result is obtained. The points to be determined are the weakest solution which can be detected; the lowest point at which the odor of camphor itself is detectable; the possibility of detecting the odor of camphor at all. [D.L.E.]

5.—Gonorrheal involvement of the hip-joint is rare. The first case here reported occurred two months after the acute infection. This case ran a favorable course, and when the patient left the hospital about two weeks after admission he was practically well. The second case was less satisfactory. He was in the hospital for more than a year and had severe attacks of pain. He suffered almost constantly during this time, and even at the end of this period he had great difficulty in moving the hip, and the pains were still so intense that it was often necessary to use morphia. Clinically this affection shows little redness, swelling, and inflammation, as compared to arthritis of other joints. It was often necessary to examine it carefully to determine the tender points, and the points painful upon movement in order to differentiate it from sciatica, sacroiliac rheumatism and the like. They usually have an especially severe pain in the inguinal fold. The tender point is partly superficial also. The x-rays would probably prove of value in determining the presence of the disease. [D.L.E.]

Sundry French Journals.

1. An Experimental Study of Tetanus. JEAN BINOT. (*Gaz. Heb. de Méd. et de Chirur.*, July 30, 1899. 46me Année, No. 61.) (Paris Thesis, 1898–99, No. 460.)
2. Myocarditis. HUCHARD. (*Sem. Méd.*, August 2, 189[9] 19me Année, No. 33.)
3. The Therapeutic Effects of the Nucleoses. BOVET. (*Sem. Méd*, January 10, 1900. 20me Année, No. 2)
4. A Contribution to the Study of Nucleoalbuminuria. ERNEST-ARMAND EVENO. (*Gaz. Heb. de Méd. et de Chirur.*, January 11, 1900. 47me Année, No. 3.) (Paris Thesis, 1898–99N, o. 639.)
5. Cardiac Murmurs in Chlorosis. AUGUSTE NICOLAS. (*Gaz. Heb. de Méd. et de Chirur.*, January 11, 1900. 47me Année, No. 3.) (Paris Thesis, 1898–99, No. 471.)
6. A Contribution to the Study of Pleural Effusions in the Relations with Asystole. ALBERT FERRAND. (*Gaz. Heb. de Méd. et de Chirur.*, January 11, 1900. 47me Année, No. 3.) (Paris Thesis, 1898 99, No. 589.)
7. Asytole Produced by Pleural Effusion in Chronic Myocarditis. BEDROSSE TACHDJIAN. (*Gaz. Heb. de Méd. de Chirur.*, January 11, 1900. 49me Année, No. [3] (Paris Thesis, 1898 99, No. 289.)
8. Studies of the Role of the Leukocytes in Subcutaneous Experimental Tuberculosis. B. DEMBINSKI. (*Gaz. Heb. de Méd et de Chirur.*, January 11, 1900. 47me Année, No. 3.) (Paris Thesis, 1898–99, No. 616.)
9. General Paralysis of the Young or Cerebral Syphilis. RAYMOND. (*Sem. Méd.*, January 17, 1900. 20me Année, No. 3.)
10. The Common Forms of Infantile Pneumonia. MARFA (*Sem. Méd.*, January 24, 1900. 20me Année, No. 4.)
11. Periodic Vomiting in Children. JOSEPH SOLELIS. (*Gaz. Heb. de Méd. et de Chirur.*, February 18, 1900. 47me Année, No. 14.) (Paris Thesis, 1899–1900, No. 76.)

.—Binot's paper is based on a large number of personal eriments performed at the *Institut Pasteur*. He has cted the poison of tetanus into the testicle, the perito- l cavity, the liver, the kidney, the bladder, the stomach, uterus, the trachea, the lungs, and the lymph-nodes. As sult of these experiments, he has been able to show that ecial form of **tetanus** follows the injection in every case; tanus that is distinct from cerebral tetanus, as well as n ordinary tetanus, with convulsions. The fatal dose of nus toxin is almost the same when it is introduced into organs as when it is administered subcutaneously; but the ptoms of **splanchnic tetanus** appear later (40 to 48 rs, instead of 16 to 22 hours), and the course of the dis- is more rapid after the first symptoms appear. The inning of the disease is characterized by a peculiar gen- vibratory tremor. The manifestations are always sym- ric, and consist of extreme dyspnea, with convulsive ning and hiccough, and spasmodic contractions that nd the jaws. These phenomena begin at a point some ance from the seat of inoculation; they present vari- remissions; there are never permanent contractures; ir course is often impulsive and automatic; trismus never permanent, and death is often accompanied by reme hypothermia, with complete flaccidity of the mal during the agony. The epithelium of the digestive t forms an almost inseparable barrier to the toxin, and author has injected nearly 1 ccm. of the toxin into the cav- of the bladder without result. On the other hand, inocu- on of several drops of the toxin into the unwounded res- tory tract produces a splanchnic tetanus, that is surely l. All the so-called vegetative organs being innervated cipally or exclusively by the sympathetic system, it is bable that there is a special type of tetanus of the sympa- tic system, as opposed to tetanus of the motor nervous em, which differs completely from the point of view of erimentation, as well as from the clinical standpoint. er inoculating the toxin into the spinal cord in the neigh- hocd of the cauda equina, a clinical form with perma- t contractures, special attitude, and attacks of tremor t became marked clonic convulsions, was produced. When inoculation is made in the carotid artery, the symptoms very irregular and incoherent, and the results of inocu- ons within the spinal canal resemble the intracarotid nomena closely. The free application of pure toxin to skin after scraping and scarification was without result; insertion of several drops of the toxins into the non- nded external auditory canal produced no effect; but, the other hand, in the healthy nasal fossae, pure toxin duced a typical splanchnic tetanus. Inoculations into different groups of striated muscles have given constant lts, except in the case of the diaphragm. One-tenth of ordinarily fatal dose, when injected into the latter muscle, duced a permanent localized contraction, and caused th very rapidly by extreme dyspnea with syncope. The orption of the toxin by the nerves is rendered more rapid is injected at several points instead of at a single point, l, consequently, a dose that would be without effect, if in- ed at one place, becomes fatal if injected in fractional ts at different seats. In cases of splanchnic tetanus, th can surely be prevented if the serum is injected 6 hours r the toxin; but, if the symptoms once appear, it is im- sible to save the animal. By the intracerebral injection he antitoxic serum, all animals that have been inoculated he extremities can be saved, even if treated several hours r the appearance of the symptoms. This method does suffice for the treatment of splachnic tetanus, if one waits the appearance of the symptoms, or even if the injection nade several hours before the symptoms make their ap- rance. Diaphragmatic tetanus may be prevented by the acerebral method, 2 and even 4 hours after the inocula- n of the toxin. [J.M S]

.—Huchard opened the discussion on **myocarditis** at fifth French Congress of Internal Medicine, held at Lille n July 28 to August 1, 1899. Taken in its proper sense term myocarditis should mean an inflammation, a myo- s of the cardiac muscle. When a microorganism or a in reaches a tissue its action, if it is suficiently virulent, nifests itself by a destruction of the anatomic element, a cellular necrobiosis. The dead cell becomes a thorn to the enchyma of the organ and then inflammation, a process defense essentially vascular, intervenes in order to rid the organism of the foreign body. In the acute form of myocarditis, therefore, the inflammation is merely a secondary and transitory phenomenon; and the same is true of the inflammation in the chronic forces of the disease. Furthermore, all the lesions that have been classified under the term chronic myocarditis (parenchymatous or interstitial changes, sclerosis, fatty infiltration, and segmentation of the cardiac fibers) are usually inflammatory only in name. Forgetting the extreme rarity of muscular inflammations, the term myocarditis has been abused so as to include all the connective-tissue hyperplasias of the myocardium and all the degenerations of the cardiac muscle fiber. All chronic myocarditis present lesions of the interstitial tissue, changes in the parenchyma, and vascular lesions in different proportions. Sclerosis in placques or dystrophic sclerosis, arteriosclerosis of the heart, is characterized by degenerative lesions in foci corresponding to the area of distribution of stenosed arterioles that terminate in a dystrophic sclerosis; a term used to denote nutritional disorders due to anemia. In diffuse, radiating sclerosis or perifascicular sclerosis, chronic interstitial myocarditis, or periarterial sclerosis, the bands of sclerotic tissue directly surround the artery and extend by destroying the cardiac fibers. The changes in the myocardium due to the lesions that asystole produces in the heart (interstitial edema and venous stasis) are in the nature of capillary ectasis, edema of the connective tissue, and degeneration of the cardiac fibers in the neighborhood of the vessels with the consecutive development of perivascular sclerosis. The senile sclerotic heart is characterized by senile atrophy of the cardiac fibers. Fibrillae of the connective tissue replace the cardiac fibers and fill up the empty spaces. The sclerosis is, therefore, much better developed than the periarterial sclerosis of the renal heart. Segmenting myocarditis is characterized by dissociation of the muscle fibers due to the softening of the cement substance that normally united them. This lesion is noninflammatory and is common in such conditions as asystole, nephritis, pulmonary tuberculosis, carcinomatous cachexia, and heart-strain. Myocarditis may be secondary to the neoplasmic affections, such as tuberculosis, syphilis, and carcinoma. Tuberculosis of the myocardium may be seen as miliary tubercles, as caseous masses, or as a sclerotuberculous myocarditis. Gummatous, sclerogummatous, and sclerotic myocarditis may be due to syphilis, and is particularly prone to affect the newborn, as well as children of older growth who inherit the disease. Carcinoma of the heart is rare, is always latent, and is usually seen in the right ventricle when it does occur.

Charrin has produced **chronic myocarditis** in the rabbit by the use of pyocyaneus toxin. Mollard and Regaud have demonstrated chronic lesions of the myocarditis following diphtheric intoxication in which the changes in the muscle fibers predominated and were clearly primary. All authors who have produced the lesions agree upon the starting point of the anatomic changes. Incomplete and progressive obliteration of the nutrient arteries of the heart, such as would produce anemic sclerosis, has never been positively demonstrated experimentally. Lesions of the pneumogastric nerves and of the cardiac ganglia do not produce dystrophic sclerosis of the myocardium. Clinically, arteriosclerosis is preceded by a period of presclerosis that is characterized by a more or less permanent arterial hypertension. The second period is distinguished, first, by endarteritis of the peripheral vessels; afterwards, by endarteritis of the visceral vessels and of those of the myocardium; and always by increased blood-pressure. During the third period, the cavities of the heart and auriculoventricular orifices become dilated, the heart becomes weak, the arterial tension diminishes, and asystole is imminent. There are three principal clinical forms of cardiosclerosis: the painful form, stenocardia; the arryhthmic and tachycardiac form; and the myovalvular form. The arrhythmic form is characterized either by intermittent crises of arrhythemia or by a cardiac irregularity that may persist for years. In the myovalvular type a murmur of stenosis or of orificial insufficiency may be present that either may be functional or that may be due to the sclero-atheromatous change of the valve. Toxic alimentary dyspnea is a phenomenon that supervenes usually in the beginning of an arterial cardiopathy; it yields to a milk and vegetable diet that contains a minimum of alimentary toxins. Perivisceritis frequently occurs late in the course of arterial cardiopathies, such as pleural or pericardial symphysis, peri-

hepatitis, and perisplenitis. Sudden death may occur from syncope or from angina pectoris, from the rupture of an aneurysm of the coronary artery or from rupture of the heart, from acute edema of the lungs, from uremia, from cerebral hemorrhage or from cerebral softening. Death may be slow by asystole, cardiac thrombosis, toxic accidents, or by arterial cachexia. The author then notes four additional types of chronic myocarditis, speaks of some of the conditions that produce pseudomyocarditis, and discusses the etiology and the treatment of the condition. In the discussion that followed Renaut described the experiments of his pupils, Mollard and Regaud, on the productions of myocarditis by the injection of the diphtheria-toxin into guineapigs, dogs, and rabbits. [J.M.S.]

3.—Bovet reported a number of cases, both experimental and clinical, to the *Académie de Médecine*, that tend to prove that **nucleoses** or mixed albumoses, including the vegetable nucleoalbumins, should be useful both as a food and as a medicine. As a food-substance, nucleose is indicated in all wasting diseases (chronic tuberculosis, albuminuria, diabetes, etc.). This is explained by the composition of nucleose (albumin, phosphorus, diastase, and mineral salts), the elements of which are found in the body of the animal and in the organic fluids. From the point of view of a medicine, nucleose, on account of its equal richness in nucleinic acid and albumin, becomes an antiseptic, bactericidal and phagocytic agent. Furthermore, it has an undoubted diuretic action. These different properties entitle it to be used in all disorders of nutrition, in uremia, in alimentary intoxication, in moderate poisoning, etc. [J M S.]

4.—Nucleoalbuminuria, studied by Eveno, always arises from the disintegration of the nuclei of cells that are shed on account of a lesion of the renal epithelium or of an irritation of the vesicle and genitourinary epithelium. In rare cases it may have an hematic origin. According to the author, who indicates the different methods for the detection of nucleoalbumin, it should be sought for at the same time and estimated in proportion to the amount of albumin whenever its presence is suspected. It should not be confounded with mucin, which exists in very small quantities in the normal urine. [J M S]

5.—Nicolas believes that **cardiac murmurs** appearing **in the course of chlorosis** are indicative of gastro intestinal disorders that influence the volume of the heart. [J.M S.]

6.—According to Ferrand **pleural effusion and asystole** may occur together (1) by independent development, (2) by the asystole causing the pleural effusion, and (3) by the pleural effusion aggravating the asystole as it always does. Simple cases of asystole of pleural origin are very rare, complicated cases, are the rule. In all cases it seems as though an organic defect, usually a cardiac lesion, keeps the organism in a state of unstable equilibrium, so that the pleural effusion will produce asystole. In the first, the pleuritis is cured after one or a few punctures, and the asystole disappears with it. In the second type, the asystole is improved, but does not entirely disappear after the evacuation of the fluid. The effusion reappears more or less rapidly and the asystole appears with it to be again benefited by puncture. In such cases the prognosis becomes more grave in direct proportion to the increase in the number of attacks of asystole. [J M.S.]

7.—Tachdjian calls attention to the fact that **pleural effusions** exert considerable **pathogenic influence on the cardiopulmonary apparatus,** the effects of which are seen upon the intracardiac circulation. These pathogenic influences are (1) the embarrassment of the pulmonary circulation and (2) the marked interference with thoracic inspiration. They produce dilation and hypertrophy of the right side and ischemia of the left side of the heart. They may even produce tricuspid and pulmonary insufficiency, asystole with all its morbid phenomena, and death. The coexistence of pulmonary lesions aggravates all these troubles and hastens their production. If cardiac lesions are present the appearance of a pleural effusion may destroy compensation and produce asystole rapidly. Again, the effusion may cause the production of secondary dropsies in cases of asystole, and the disappearance of these dropsies should be the sign of relief of the condition. In the majority of cases, however, by the persistent reproduction of the effusion, there is constant danger to the heart, since it gives rise to new crises of asystole. [J.M.S.]

8.—If a healthy guineapig is **inoculated with a cultur of tubercle-bacilli,** the resulting **leukocytosis** is poly nuclear for the first two days and mononuclear from th third day on. At the end of 24 hours phagocytosis shoul be marked and energetic. If a tuberculized guineapig is in oculated with a tuberculous culture, the resulting leukocy tosis presents a mixture of mononuclear and polynuclea elements from the beginning. Phagocytosis is much mor energetic and appears sooner: the bacilli are containe within the cytoplasm of both the polynuclear and the mono nuclear elements from the first hours following the inocula tion. If a living or dead culture of the Bacillus tuberculosi is inoculated into a tuberculous guineapig, therefore, th cells do not become necrosed, as Koch thinks; but, on th other hand, being accustomed to the struggle against th bacillus, they react more rapidly and more energeticall than the cells of a healthy animal. If a pigeon is inoculate with a culture of avian tuberculosis, the leukocytosis i marked, the bacilli are enclosed in the first two days by th polynuclear leukocytes and from the third day on by th mononuclear elements. On the contrary, if the human typ of tubercle-bacillus is inoculated, the phagocytosis by isolate leukocytes is not marked; but during the second day gian cells may be demonstrated that enclose large numbers o bacilli. In the former case (avian) the phagocytosis is powe less to arrest the spread of the disease; in the latter (human the development of the malady is stopped by the more pow erful phagocytosis of the giant cells, thus explaining contra diction of results. [J.M S.]

9.—Raymond reports the case of a girl, aged 9 years, wh suffered from progressive intellectual weakness, loss of mem ory that almost reached complete amnesia, sensory moto disturbances localized in the right side of the body, disorde of speech and trembling of the lips, pronounced inequality o the pupils with abolition of the papillary reflexes, nystagm form movements and slight strabismus, double, noncon genital, pigmented retinitis, and exaggeration of the reflexe The psychic symptoms were much benefited, although tem porarily, by mixed treatment. The disease was thought t be one of organic cerebral origin. It was possible that th lesion was diffuse or circumscribed; but the indication pointed to the former rather than to the latter; and conse quently the diagnosis of **general paralysis** was mad The patient died several months later from a tuberculou bronchopneumonia. The brain presented the lesions typic of general paralysis; but there were also **multiple smal gummata** situated in the cortex of each hemispher These gummas were older than the changes of true gener paralysis because they were the seat of old calcification an fibrosis. [J.M S]

10.—In discussing the forms of **pneumonia** as seen i **children**, particularly in babies under 5 years of age, Ma fan calls attention to the fact that the typical physical sign of pneumonia, dulness, crepitant rales, and tubulous breath ing, appear late in the course of the disease, fourth or fift day. When the signs are elicited they are more likely to b found between the vertebrae and the posterior border of th scapula or in the superior portion of the axilla than at th right apex or at the left base, as stated in the textbook For the diagnosis of the condition the author depends upo the sudden invasion, and the continuous and very high feve He thinks that the appearance of a distinct network fibrin in the blood, at the moment of coagulation, when th fresh blood is examined under the microscope, as describe by Hayem, is of greater service in the differential diagnos between pneumonia and typhoid fever than in the agglut nation test. In pneumonia the fibrin network is very di tinct; in normal blood and in that of typhoid-fever patien this network can scarcely be seen. [J.M.S.]

11.—There exists in children a rare syndrome characterize by periodic crises of vomiting, accompanied by absolute co stipation, and a generally grave condition. This syndrom occurs unexpectedly in children who are habitually in goo condition. Following the example of Leyden, Solelis d scribes these troubles under the name of **periodic vomi ing.** According to the author the children thus affecte are subjects of uricemia or are neuroarthritic. The paro ysmal crises from which they suffer are caused by an exce of uric acid. It is necessary to treat the diathesis by a car fully regulated diet and strict hygiene rather than the attac itself. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

The Treatment of Cardiac Sclerosis.—Huchard (*urnal des Praticiens*, December 23, 1899, and *British Medi- l Journal*, February 24, 1900) divides the treatment of c diac sclerosis into two stages: That of the excessive erial tension, with vaso-contriction—the presclerosis ge; that in which the vessels of the myocardium have ome implicated—the cardio-arterial stage. In the first presclerosis stage the treatment consists of milk diet, the idance of all stimulating beverages as tea, coffee, and ohol, also of all foods containing ptomains; the reduc- n in the amount of liquid drunk, except that the diuretic neral waters are advocated, with a small dose of lycetol— tartrate of dimethyl piperazin. Gymnastic exercises also indicated, with general and abdominal massage. At stage digitalis should never be used, although diuretics erally are indicated. The salts of potassium, too, are uitable; among the best diuretics are caffein and theo- min. Purgatives, and especially saline purgatives, are uable in this first stage. Occasionally small doses of oglycerin, 3 drops of 1% solution, 3 to 5 times a day 10 to 15 days in each month, are of service, but potas- in iodid is useless. The following should be strictly inter- ed: All agents capable of increasing the arterial tension ich as ergot, digitalis, atropin, and caffein in large es; all agents tending to diminish the purification of the od by the kidneys, such as antipyrin, atropin, and mor- n; all sulphurous and highly chlorinated waters and ns containing compressed air or carbolic-acid gas, while elling in high altitudes is contraindicated. Tobacco and stimulating drinks must be avoided. The treatment of second or cardio-arterial stage consists in continuing dietetic and hygienic measures of the first, and in addi- the administration of iodids, particularly the iodid of ium with medium doses of nitroglycerin. If symptoms heart-failure should intervene, recourse must be had to liac tonics as digitalis and the sulfate of spartein. In third or intra-arterial stage the treatment is that of fail- compensation, a strictly milk diet, diuretics, especially obromin, and large doses of digitalin. To bat the dyspnea due to the absorption of toxic material a the alimentary tract and secondarily the insomnia of stage, a rigidly milk diet is necessary and theobromin uld be administered. If the dyspnea be due to cardiac tole, digitalis should be given; if due to cardiac throm- s, rest, digitalis, and small doses of opium are to be pre- ed; if due to acute edema of the lung a copious vene- ion should be practised, and if from pleural effusions centesis should be performed. It is useless to treat the ythmia of myocardial weakness with digitalis. In the or presclerosis stage it is possible by the measures de- ed to check and even to cure the disease.

lver Salts in the Treatment of Acute Pneu- nia.—Cacci niga (*Bull. dell. Assoc. Sanitat*, Milan, An. i, N. d *British Medical Journal*, February 10, 1900) has collected ases of acute lobar pneumonia in which treatment by silver ate seemed to be clearly beneficial. Of the 60 cases 3 were fatal, the rest recovered. The dose was from 0.10 a in children (8 to 10 years) up to 0.25 to 0.30 gram in ts, given in pill or suspension. In cases of urgency a % sol. of protargol was injected hypodermically. Beyond e vomiting no ill effects were observed from the treat- t either by silver nitrate or protargol. The most marked t of the silver salt was the reduction of the temperature, h began in the first twenty-four hours and was noticed l the cases. Apyrexia occurred by crisis in 48 cases, by in 12. When small doses were given apyrexia generally rred by lysis, with larger doses by crisis. In the defer- nce due to silver the pulse did not come down at the e time but later. Resolution under the silver treatment somewhat prolonged and unaccompanied by redux itation. The author is so satisfied with his results that leads for a more extended trial of this mode of treating e pneumonia.

Seborrhea of the Scalp.—Walsh (*The Therapist*, February 15, 1900) says that one of the best remedies we possess for all kinds of seborrhea of the scalp is soft soap—the common yellow or "black" soap sold by the oilman should be used, as the green *sapo mollis* is comparatively inert. It should be thoroughly rubbed and scrubbed into the scalp for at least 10 minutes or a quarter of an hour, and the suds well washed out with warm water, and the head dried with a warm towel. Care should be taken not to rub the soap into the skin outside the margin of the hairy scalp. This should be done once a week in slight cases, and every other night, or even nightly, when there is much crusting and scaling. The washing, however, had better be omitted for several days if it makes the scalp sore. Every night an antiseptic application should be made to the whole scalp. The following is a lotion for the purpose:

℞.—Resorcin..... 1 dram.
Tincture of cantharides..... 6 drams.
Whisky, Cologne water } of each..... 1 ounce.
Water to make 6 ounces.

A small quantity to be rubbed into the scalp at night.

Or,

℞.—Lysol..... 1 dram.
Glycerin..... 3 drams.
Cologne water..... 1 ounce.
Water to make 6 ounces.

If the scalp be dry and scaly, or greasy, or marked with scattered red papules, or more or less dandruff, the following ointment will be found useful:

℞.—Salicylic acid..... 20 grains.
Carbolic acid..... ½ dram.
Ammoniated mercury..... 20 grains.
Vaselin to make 2 ounces.

An important point is the systematic care of combs and hair-brushes, which should be washed at regular intervals, and soaked on each occasion for half an hour in an antiseptic solution, for which purpose lysol or resorcin (1 dram to half a pint of water) is most suitable. There can be no doubt whatever that the use of strange hairbrushes is the commonest cause of the spread of the contagious infection known to us as seborrhea.

Conditions Contraindicating the Use of the Stomach-Tube.—Simpson (*Treatment*, February 8, 1900) gives the following as contraindications:

1. All gastric affections in which the diagnosis is possible without the use of the stomach-tube, and in which its therapeutic employment is not necessary.
2. Thoracic aneurysm.
3. Recent hemorrhage, whether this be from the stomach or any other organ.
4. Uncompensated cardiac disease.
5. Advanced age, cachexia, and extreme debility.
6. Pregnancy when a tendency to abortion exists.

Tinnitus Aurium.—According to the Paris correspondent of the *Therapeutic Gazette* (February, 1900) Mendel and Robin have drawn the attention of the medical public to the use of cimicifuga racemosa in this affection. The preparation used is the fluid extract, which contains the greatest quantity of the active substance. From 10 to 60 drops is prescribed, the average dose being 30 drops a day. In such cases a cure has been obtained rather rapidly. Two or three days after beginning the use of this preparation the subjective sounds disappear.

Trional in Solution.—Pouchet (*Bull. Gén. de Therapeutique*, December 8, 1899) believes that the inconstant results obtained with trional are dependent to a large extent upon its insolubility. He states that the drug is soluble in the oil of sweet almonds in the proportion of 1 to 20. He recommends the following combination:

℞.—Trional..... 1 part.
Oil of sweet almonds .....20 parts.
Sugar ..... 8 parts.
Gum arabic ..... ⅓ part.
Orange-flower water .....10 parts.
Cherry laurel water..... 2 parts.

This may be given with water or milk.

The Pains of Locomotor Ataxia.—Hirschkron (*Centralblatt f. d. ges. Therapeutik*, November 1899) states that for lessening pains acetanilid and phenacetin are most useful. Acetanilid is given in doses of 3 or 4 grains, in a little wine to hasten absorption, and repeated in 10 minutes. Phenacetin may be given in doses 6 to 8 grains, two or three times a day. A combination of antipyrin, caffein, and cocain is also useful in some instances. Quinin sulfate (7 grains) is occasionally efficacious. When these fail, chloral and a hot bath may be recommended, and finally morphin. Exposure to cold and wet often excites the pains. Of the external remedies a 30% ichthyol ointment is the best, and its action is enhanced by hot applications. A flannel bandage firmly and evenly applied from the toes up and around the body sometimes lessens laminating and girdle-pains.

Belladonna in Painful Defecation.—Murray (*Rough Notes on Remedies*) writes: With regard to the use of belladonna in those cases where there is spasm plus some more organic condition, such as exudation in the pelvic cellular tissue, adherent or displaced ovary, and short lateral ligaments causing fixation of the uterus, I have this to say, that it is a most material aid to other remedies, such as mercury or potassium iodid. In the case of mercury the best plan is to combine it with belladonna in a suppository, such as the following, for continuous use until a perceptible effect on the thickened tissues or adherent organs is produced:

℞.—Mercurial ointment..... 2 grains.
Extract of belladonna..... 1 grain.
Oxid of bismuth..... 3 grains.
Oil of theobroma q. s.
To be inserted twice a day.

In this way one secures relief of pelvic pain, and if there is painful defecation, the relief of that, too; for there is no remedy which brings about such a comfortable action of the bowels as belladonna. For this latter purpose it may be added to a glycerin suppository, which secures a free as well as an easy movement of the bowels.

Subacute Bronchitis.—Edgeworth (*British Medico-Chirurgical Journal*, September, 1899) writes if there be a large amount of secretion, accompained with more cough than is sufficient to get rid of it, no drug probably does more good than ammonium chlorid, in 20 grain doses every 4 hours. It has, unfortunately, an unpleasant taste; but this may be partially corrected by spirit of chloroform and sirup. Sometimes a large amount of secretion coming up freely is accompanied by a troublesome cough, and in such a case codein phosphate in doses of $\frac{1}{4}$ to $\frac{1}{3}$ of a grain every 4 hours will be found most effectual. But, as a rule, the amount of expectoration is moderate, and one needs drugs which will act as astringents. Senega and ammonium carbonate are valuable drugs in diminishing bronchial secretion, but occasionally they make the expectoration so viscid that the cough is increased. Tincture of Virginian prune, in one-half to one dram doses, is useful; it reduces the amount of phlegm, and also (probably from the hydrocyanic acid which it contains) allays any irritating cough. Its astringent effect, however, is not very great. Tincture of hydrastis is a more effectual astringent, in half to one-dram doses, and may often with advantage be combined with Virginia prune. Euphorbia pilulifera has a somewhat limited use. It is useful in diminishing secretion, and has also the advantage of allaying bronchial spasm. Like stramonium and lobelia, it is apt to cause nausea if given in too large a dose. In asthma its effects are often striking, but they are liable to wear off in the course of a few weeks. It may be given in the form of the tincture, in 10 to 30 minim doses. Bronchial spasm in the course of the second stage of bronchitis is best treated with caffein or potassium iodid.

Glycerin in Uric Acid Calculi.—Hermann (*Medical Chronicle*, January, 1900) states that he has used glycerin internally in 115 cases of nephrolithiasis, and that in 60% of these good results were obtained, the concretions being discharged or the pain relieved. One to four ounces of the drug were dissolved in an equal quantity of water, and were given in a single dose between two meals, and repeated two to three times in several days. The only unpleasant effects observed were headache in 12 nervous patients, and diarrhea in 3 patients who had indigestion. In all of these instances the untoward effects ceased in the course of a few hours. In view of the possibility of these symptoms occurring the writer thinks it advisable to begin treatment with a smaller dose than the one above recommended, and to gradually increase the amount. Albuminuria is not a contraindication and the albumin is not increased by the glycerin. In 6 of the 115 cases hematuria occurred and this the writer attributes to the concretions, changing their position. Hermann believes that the good results are due to a lubricating action, the urine after the administration of glycerin becoming somewhat oily. Although glycerin exerts a solvent action on uric acid, he does not believe its efficacy in nephrolithiasis is to be ascribed to this, but to the physical changes which it effects in the urine. Rosenfeld, Ortner, Kugler, and Casper have also spoken very favorably of glycerin in renal calculus.

Influenza.—Crawford (*Journal of the American Medical Association*, January 27, 1900) recommends the following combination:

℞.—Acetanilid ..... 2 grains.
Caffein ..... $\frac{1}{2}$ grain.
Camphor monobromid..... 1 grain.
Capsicum..... $\frac{1}{2}$ grain.

One every hour, for two or three times.

When the fever is high and headache severe, a single full dose of phenacetin, followed by three pills as required, has been a most satisfactory palliative treatment. Small repeated doses of calomel, carried to mild purgation, are beneficial at the beginning of almost all cases. For the extreme prostration the following is useful:

℞.—Quinin ..... 1 grain.
Cinchonidin ..... 1 grain.
Iron pyrophosphate..... 3 grains.
Sulfate of strychnin..... $\frac{1}{40}$ grain.

One pill 4 times a day, or every 4 hours.

A useful combination in heart-weakness is:

℞.—Tincture of strophanthus..... 3 drops.
Tincture of cactus grandiflorus..... 12 drops.

To be taken 3 to 6 times in 24 hours.

Thyroid Extract in Insanity.—The *Therapeutic Gazette*, February 15, 1900, quotes from the *American Journal of Insanity* an article by Mahon and Babcock giving the results of the use of thyroid extract in 1032 cases of insanity. These writers conclude:

1. That the dose of the extract depends entirely on the individual case. In some cases 25 grains three times a day will be necessary to bring about a circulatory or temperature reaction; while in others the same results may be had with the use of 5 grains three times daily. Each case must be a law unto itself.
2. It is essential that the patient should be placed in bed to obtain the best results, and he should be confined there during the entire treatment and for a week following its discontinuance.
3. The treatment should be continued for at least 30 days.
4. We should not be discouraged by failure in the first administration, but should resort to two, three, or more trials, if necessary.
5. The most gratifying results in thyroid treatment are to be obtained in cases of acute mania and melancholia with prolonged attacks; puerperal and climacteric insanities, stuporous states and primary dementia alienation do not respond to the usual methods of treatment.
6. A high temperature reaction is not essential, as the average maximum temperature in the recorded cases among men, was 90.6°.
7. Physical improvement is the outcome in most cases whether mental improvement takes place or not.
8. The proportion of individuals who recover under thyroid treatment and then relapse is less than the proportion that relapse, after recovery from other methods of treatment. In their own series of cases, only one patient who recovered has relapsed.

Original Articles.

PRELIMINARY REPORT ON THE ETIOLOGY OF SCARLATINA.[1]

By R. H. B. GRADWOHL, M.D.,
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THE inspiration for my efforts to search out the bacial cause of scarlet fever was a meeting with Dr. lliam J. Class, of Chicago, who published in June, 99, the results of his work upon the bacteriology of s disease. Dr. Class stated in this publication that had isolated a diplococcus from scarlatinal cases ich diplococcus he thought was the specific cause of t disease. The history of this disease is somewhat ilar to many other diseases in that many accidental roorganisms have been described from time to time rue etiologic agents which time and renewed efforts the part of assiduous investigators have proven to but coincident factors in the diseases in question. d so I will not deny my skepticism which I enterned at first in regard to this discovery. I will say t my skepticism has vanished in this regard and a confidence in the truth of the discovery has taken place. Prompted by this investigation by Class, I ermined to carry out similar work upon the cases scarlet fever that I might see at the St. Louis Hospital. I regret that up to this time I have estigated but seven cases of this disease in that itution, for the reason that we have had only that nber of cases during the winter up to the present ting.

'erhaps something should be said about the hith- futile attempts to search out the cause of this ase. Ever since the advent of bacteriology into realm of medicine, it has commonly been taken granted that scarlatina is essentially a microbic dis-; but, strange to say, all endeavors at finding the roorganism at fault have been barren of results of manent value. It is true that several investigators e launched forth divers bacteria on the sea of medical literature as *bona fide* bacterial causes of this disease, but each in its turn has been deposed from the seat upon which its respective discoverer has placed it. Crajkowski, Klein and Edington have each sought in vain for the microorganism concerned in the production of this disease. Klein laid special emphasis upon the streptococcus as the microbic agent of scarlatina. Others adhered to this belief and many still assert that the streptococcus is responsible for the outbreaks of this disease. Still another class contend that the streptococcus causes only the local manifestations of the disease, such as the inflammatory conditions in the throat, ear, etc.

I will briefly narrate Dr. Class' experience with this disease. While examining cultures taken from the throats of patients with various forms of angina, he noticed the frequent occurrence of a diplococcus in these cases, and upon further investigation found that such cultures were obtained from scarlatinal throats. Moved to a spirit of further investigation, he made cultures from the throats, scales and blood of individuals suffering with scarlatina and easily separated this diplococcus from these places and at the same time reproduced the disease in mice, guineapigs and swine. Having noticed that Behla in the *Centralblatt f. Bakteriologie* reproduced a scarlatiniform rash in swine by inoculating them with the blood of scarlet-fever patients, he utilized these animals for his initial inoculation-experiments and likewise reproduced the same phenomena by injections of his diplococcus.

In the seven cases seen by me I found the Diplococcus scarlatinae of Class in every case and in every stage of the disease, from the first week until the period of convalescence. I did not examine the blood of the first three cases for the diplococcus, but contented myself by finding it in the scales and throat. In the last four cases it was obtained in pure cultures from the blood. In the seventh case it was separated from the urine in pure culture. It was not obtained in pure culture from the throats and scales, but was obtained subsequently from these sites in pure culture by plating. I might mention an eighth case in which this microorganism was demonstrated in the throat. During the course of daily examin-

DIPLOCOCCUS SCARLATINAE.

Source: { Blood / Throat / Scales / Urine } of scarlatinal cases ..... Habitat not known.

Morphologic examination of agar culture grown 2 days at 18 20° C., ditto grown 2 days at 35-37° C.
" " " gelatin " " 4 " " " "
" " " both cultures " 2 " " " " " " " " " " " "

Diplococcus:

Size, variable.
Stains, with standard watery dyes easily, uniformly, regularly.
Capsule, none observed.
Spores " "
Vacuoles " "
Crystals " "
Motility " "

Pleomorphism? Yes.
Growth at 18-20° C. is less abundant than at 35-38° C.
Thermal death point 49° C.; time of exposure, 15 minutes.
Permanence of morphologic characters? No.
Optimum temperature, 36° C.
Optimum reaction of media from 1.0 to 1.5+ % to phenolphthalein.
Growth limits, maximum, 39° C.
minimum, 18° C.

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BIOLOGY.

REACTION OF MEDIUM NEUTRAL.

	DEEP COLONIES.	SURFACE COLONIES.
Gelatin plate: Size. Shape. Margin. Texture. Color.	Pin-point, round, smooth regular margin, granular in center, slightly yellowish in color, darker in center.	About 1 mm. in diameter, dark center, ligh periphery, round, even margin, granular yellow-white.

REACTION NEUTRAL.

Agar plate: Size. Shape. Margin. Texture. Color.	Round, about ½ mm., regular margin, whitish in color, homogeneous. About 1-2 mm., round, smooth, even margin finely granular, whitish color; periphery lighter than center.
Gelatin tube: Puncture.	2 inches deep, uniform breadth throughout, slight surface growth; faint growth along punc ture.
Agar tube: Streak.	Over 2 inches long, about same breadth; margin on level with center; at room-temperatur grows in studded colonies; at incubator temperature as one continuous white streak; no change in medium.

BIOLOGY.

NUTRIENT BROTH IN TEST-TUBE.

Body of Liquid:
Is turbid in 8 hours at 37° C.
Does not clear on standing.
Slight evidences of moss-formation on shaking.

Surface of Liquid:
Pellicle does not form.
Slight deposit in 48 hours at 37° C.
Odor does not develop.
Reaction at end of 1 day is alkaline. } Broth and
3 days ditto, 5 days ditto. } milk.

MILK.

No visible change in 5 days at 37° C. Reaction in 3 days, alkaline.
Does not curdle in 2 days at 36-38° C.
" " " " " " " 18-20° C.
Color is not developed.

SUGAR-BROTH IN FERMENTATION-TUBES.

No gas-formation with
glucose
lactose } broth.
saccharose
In bulb, pellicle does not form, becomes clouded, no color.
In connecting tube, growth is marked by clouding.
In closed branch, growth does not develop.

POTATO.

REACTION TO PHENOPHTHALEIN 0.5% ACID.

Growth occurs.
Invisible.

BLOOD-SERUM. (SOLID.)

Growth like that observed on agar.
Medium is not liquefied.

Pigment, none developed.
Relation to free oxygen, facultative anaerobe.

ations of diphtheria-cultures at the Health Department's Bacteriologic Laboratory of this city, I came across a diplococcus in one case which looked very familiar to me. I telephoned the doctor who had sent in this culture and found that it had been taken from the throat of a case of scarlet fever in which the physician in charge thought there might be a mixed infection of both diphtheria and scarlet fever. Further examination with plating, etc., proved that it was really the Diplococcus scarla tinae.

As this is essentially a "new" microorganism, I hav described it fully according to the plan laid down b the American Public Health Association and will sub mit it in that form. The morphologic characteristics c this diplococcus are interesting. It is a diplococcus c varying size, changing its form and size under artificia

wth conditions, attaining a larger size with frequent nsplantations, sometimes becoming so large that it ks like a diplobacillus. It can be made to return to original size by passing it through the body of a ceptible animal, such as a mouse.

Pathogenesis.—The Diplococcus scarlatinae is pathoic for mice, guineapigs, swine; nonpathogenic for gs, cats, white rats, and rabbits. My first inoculations o animals were confined to dogs and cats, but I failed nally to reproduce any disease-manifestations in them to find the microorganism in their blood or organs er they were killed by other means. These negative periments convinced me that these animals are not ceptible to scarlet fever. I arrived at the same consion with regard to rabbits, rats, and white rats, quite umber of which were utilized without any success. nally began to use domestic mice and easily succded in killing them, sometimes within 8 hours, by cutaneous injection of a small quantity of an agarture rubbed up in a little sterilized water. The croorganism was easily recovered from the organs of se mice after death and in each instance proved to more virulent than it had been before its passage ough the animal. The organs of these mice did not w much in a pathologic way from a macroscopic w, but I will give in detail the results of a microscopic mination in a more complete report later on. other point of interest that I noticed in connection h my work with mice was this: If a healthy mouse ut into a cage in which another mouse which has n inoculated with the Diplococcus scarlatinae has n kept, the healthy mouse will sicken and die and l show the Diplococcus scarlatinae in its organs postrtem. This illustrates the contagiousness of the ease which is produced in mice by the Diplococcus rlatinae. Guineapigs inoculated intraperitoneally l die within 10 days and will show gross signs of hritis and will yield the Diplococcus scarlatinae from ir blood. I inoculated two young swine with the lococcus scarlatinae. The inoculation was made the vein upon the ear. A rash appeared in the first which was inoculated 8 days later. This was fold by desquamation and recovery. The animal was ed and a pronounced acute nephritis noted. The lococcus scarlatinae was recovered from the blood from the kidneys. The rash did not appear in the nd pig until the tenth day after inoculation. Thus roved conclusively that this microorganism is pathoic for these animals.

While my work has been necessarily limited for the son stated in the beginning, that is, the limited nber of cases with which I was thrown in contact, I think the uniformity of the results obtained in se few cases and the interesting points in the inocuon experiments, together with the more extensive k of Class, will lay some claim at least to the right alling this microorganism the specific etiologic factor earlet fever. The discovery undoubtedly has more hentic data to support it than has any one of the viously reported microorganisms of this disease. In light of the results obtained by Class and in contion with the few observations made by me, I feel esitation in applying the name of "Diplococcus latinae" to this microorganism, with the firm belief that name will cling to it and that its relationship he disease scarlatina will be borne out in this name further and more extensive clinical and bacteriocal observations.

CLINICAL MEMORANDA ON CHRONIC SUPPURATIVE OTITIS MEDIA.

A Clinical Lecture.

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GENTLEMEN:—It is my purpose today to present to you a resumé of our clinical study within the past few months of chronic middle-ear suppuration, and its treatment. We have been especially favored with an abundance of clinical material and are prepared to collect the data for the formulating of rules to guide us in the treatment of this form of otitis which is, and has been the *bête noir* of the aurist.

For convenience of study we have divided our cases into three clinical groups. The *first group* comprises those cases in which the chronicity is more or less influenced by a morbid condition of the nose and postnasal spaces and are largely due to simple retention of the morbid secretions and saprophytic putrefaction.

In this class of cases we have to deal with the following pathologic conditions, viz: hyperemia of the mucosa with progressive round-cell infiltration and a pyogenic process.

In the earlier stages of chronicity, this pyogenic process is usually limited to the tympanic cavity, the accessory spaces being only slightly, if at all, involved.

The *second group* is composed of those cases in which the chronicity is due to more serious pathologic changes, viz.: hypertrophy of the mucosa, round-cell infiltration, hyperplasia, granulations and polypoid degeneration. As a result of the hyperplasic process, we have degeneration of mucosa extending to and involving the periosteum, interfering with the protection and nutrition of the ossicles and bony walls of the tympanum and accessory spaces, giving rise to foci of necroses and caries.

The third group comprises those cases in which there are evidences of progressive involvement of the mastoid antrum, pneumatic structure of the mastoid process and cholesteomatous formations, the subjective and objective phenomena of which you have been made familiar.

In the *fourth group* we place those cases whose chronicity is due to some constitutional dyscrasia, viz.: syphilis, tuberculosis, or the autointoxications following diabetes, Bright's disease, etc.

In this connection let us recall briefly a few factors in the differential diagnosis of chronic suppurative middle-ear otitis, viz.: 1. If the disease, although of recent date, was not preceded by pain or other manifest symptoms, except the discharge, a tuberculous etiology is suggested. 2. If in the presence of the otitis on testing with the tuning fork, there is found to be considerable diminution of bone-conduction, this would indicate disease of the labyrinth associated with the middle-ear disease, and in all probability secondary to it.

From our clinical experiments in the past few months we may formulate the following rules and guide for satisfactory treatment. A complete discussion of the therapeutic and surgical measures would involve of necessity much repetion and take us beyond our time-limit. Therefore, we shall give only the more salient features of the treatment we have found to give the best

results. The object of the treatment is *first*, to secure and promote asepsis; *second*, to insure free drainage from tympanum and also accessory spaces when involved; *third*, to eliminate the etiologic factor or causes of chronicity.

The first indication, asepsis or "surgical cleanliness," may be secured by syringing or irrigating the ear with a warm, unirritating, sterile antiseptic solution.

Of the many therapeutic agents that fulfil this requirement, I have found the sodium salts to answer best, because they are compatible with the secretions, have solvent properties, and are nonirritating. My reasons for preparing in my clinic the sodium salt of nosophen called antinosine we shall speak of later on. For aseptic reasons the syringe must be sterilizable; the cleansing solution should invariably be prepared with sterilized water, and used as warm as the patient can comfortably bear it.

Politzerization should proceed and follow the use of the syringe, so as to force out of the tympanic spaces the morbid secretions or any residuum of the irrigating solution. This should be followed by mopping out with wisps of absorbing cotton previously sterilized by the flame of a spirit lamp carried into the ear by probe or forceps, as exemplified in this clinic. It is also very important to remember that the cleansing of the nose and post-nasal space is imperative before the use of the Politzer bag.

This is followed by the instillation of alcohol, 50 to 90% (according to tolerance of the patient), for the purpose of dehydrating the tympanum and reducing engorgement of the mucosa. The alcohol drops (10 to 20) should be left in the ear from 5 to 10 minutes, after which the ear is mopped dry with sterilized cotton. This is followed by the insufflation of (not too large quantity) an unirritating and drying powder, like boric acid and nosophen equal parts, or nosophen alone, (my reason for preferring nosophen I will refer to later on), and the auditory canal loosely packed with sterilized gauze.

The packing with gauze not only promotes drainage, but also prevents infection from without. This is our "preliminary routine treatment" or dressing, and when correctly done should accomplish all in simple and uncomplicated cases. This dressing should be renewed as soon as there is a suggestion of moisture.

This is also known as the "wet treatment," in contradistinction to the "dry treatment," the technic of which is the same with the exception that irrigation or the use of syringe is dispensed with. This "wet treatment" may be used in all cases as a preliminary routine treatment except where there is evidence of a desquamative process, disclosed by the presence of cheesy and epithelial masses, indicating the presence of cholesteatoma, in which case watery instillations are injurious, for reasons you already have been made familiar with. The treatment recommended under these circumstances is the instillation of carbolized glycerin, 1 to 10. After the removal of the cholesteatomatous debris, redevelopment may be prevented by the use of a 5% boric acid, 2% salicylic acid in a 50 to 90% solution of alcohol, according to the tolerance of the patient. In the event of discharge from the middle ear having been cured or nearly so, the "dry treatment" is to be continued for some time at longer intervals, which will in all probability be all that is needed for a cure of those cases that comprise our first group.

If, however, the above routine treatment has been faithfully carried out for a reasonable time, and has failed to cure or benefit, then must we look for the various causes of its chronicity. If the size of the perforation obstructs drainage or interferes with the object of our treatment, it must be enlarged even to the removal of all of the tympanic membrane; granulations may be removed by the use of ferri perchlor or chromic acid, or by the persistent use of alcohol drops. Better to remove them with the curet or snare, or both followed by "dry treatment," as exemplified in the clinic.

If there is necrosis of the ossicles an ossiculectomy is indicated. If in addition we find caries or necrosis of the walls of the attic or antrum with obstruction to drainage from the attic, exenteration of the tympanic and epitympanic spaces is called for. This may be accomplished by an intratympanic operation, or, better still, one of the more radical surgical procedures.

In mastoid involvement, early operation is now universally endorsed. Delayed action frequently leads to extended invasion and largely influences post-operative results.

Conservatism is a worthy quality when it is supported by clinical experience, which is the criterion for rational treatment. Therefore, when faithful and correct treatment has failed to accomplish a cure of chronic suppurative middle-ear otitis, even if there are no manifest symptoms of serious destructive processes within the attic, antrum or mastoid, we must, without hesitation, resort to more heroic measures.

In conclusion, let me recall our experience with two very valuable agents we have learned to use with much satisfaction—antinosine and nosophen. Antinosine is the sodium salt of nosophen. It is nonirritating, cleansing and germicidal. Its free use is harmless. The color of the antinosine solution is somewhat objectionable, but it does not stain permanently. When it is used as a spray or for irrigation of the ear or nose, the patient should be informed of its red color to prevent shock on account of its resemblance to blood. According to Dr. Perekhan,[1] we make a stock-solution with distilled water and glycerin, equal parts, from which we prepare solution for immediate use, the strength varying from 2% to 5%. Of the various powders recommended for insufflation, although boric acid has held its own because of its natural qualities, nosophen has in our hands proved to act admirably. It possesses decided desiccative and cicatrizant properties. It has proved hemostatic and sedative[2] to the nasal mucosa.

Its bactericidal and drying effects have been testified to in our clinical use of it, not only in the ear, but in the nose.

In conclusion, I wish to remind you of the important relationship between the nose and the ear, and of the great benefit we have derived from the use of Theisen's formula[3]

℞.—Sodii bicarb. } Sodii biborat. }	of each.....	.....1 grain.
Amyli		.....$\frac{1}{3}$ grain.
Acaciae		.....4 grains.
Nosophen		.....$\frac{1}{2}$ dram.

in those cases of exacerbation of the disease due to an intercurrent acute exacerbation of rhinitis chronica.

[1] Perekhan, *Chicago Medical Record*, January, 1899.
[2] Dr. Seifert, *Wiener klinische Wochenschrift*, 1895, No. 12.
[3] Theisen, *Albany Medical Journal*, vol. xviii, No. 1, January, 1897.

DIOGRAPH OF BULLET SEEN THROUGH OSSEOUS TISSUE, IN FEMORAL TROCHLEA, 2 LINES FROM SURFACE OF BONE.

By CHARLES VERGE, M.D.,
of Quebec City, Can.

M. H. M., an engineer on board the S. S. *Turret Crown*, this port on September 1, 1899, was brought to me the Jeffery Hale Hospital physicians of this city, the localization by x-rays of a revolver bullet he identally received in the knee-joint. Previous prob- of the wound had proved utterly useless. The oroscope immediately revealed the foreign body to be ated in the lower epiphysis of the femur, the above liograph was at the same time taken with an expo- e of 2 minutes 45 seconds, using my large 8 plate



Radiograph of a revolver ball lodged in the lower epiphysis of the femur, two lines beneath the surface of the bone in the region of the femoral trochlea.

tic machine. The patella is quite discernible on picture as a shadow in front of the bullet. The in interest in this particular case rests principally h the fact of the radiograph being taken through bone itself. Nothing short of complicated, not to dangerous, surgical intervention in this instance uld have located the septic object.

CASE OF CESAREAN SECTION.

By GEORGE G. HOPKINS, A.M., M.D.,
AND
EARLE E. WOOLWORTH, A.M., M.D.,
of Brooklyn, N. Y.

THE object of this report is threefold—to call attention to the importance of a thorough examination and measurement of the pelvis whenever we are asked to attend a case of confinement; to show that the time-honored precept, "mother first and child afterwards," has its limitations, and to make one more addition to the testimony of medical literature in regard to the justifiability and safety of the Cesarean section when indicated.

On June 15, 1899, the writer was engaged by Mrs. Kate D——, age 34, nativity Ireland, to attend her in confinement. August 8 was the probable date of delivery. Of her early history, especially in regard to rachitis, nothing could be learned by oral or physical examination. She is below the average height, measuring exactly 5 feet. Her weight is 135 pounds. Her previous history is good and she is an unusually strong, vigorous woman.

Her first labor in February, 1893, lasted only 5 or 6 hours and was normal. The presentation was vertex. The mother says that the child—a female—was born at full term. Her second child was born in March, 1895. The breech presented and, after a difficult labor, she was delivered with instruments. The child—born dead—had reached full term. The head was large and ossification advanced. In May, 1896, she was again delivered of a dead child and the same experience was repeated in August, 1897, and August, 1898. Of these three one was a breech-presentation. The presentation in the other two cases is unknown. In all four cases the child was living when labor began. The children were all of good size with large, hard heads.

A physical examination of the patient showed that the various organs were in normal condition. The urine was negative. The abdominal tumor presented a peculiar appearance. It was wider than usual from side to side and narrow from above downwards. The fetus was carried entirely outside and overhanging the pelvis and was in the transverse position. I could not hear the fetal heart. Late in July the presentation changed to breech with the sacrum pointing to the right sacroiliac synchondrosis.

The pelvic measurements were as follows: Between the anterior superior iliac spines, 8¼ inches. Between the central points of the iliac crests, 9⅜ inches. According to Playfair, the average measurements are 10 and 10½ inches respectively. The external conjugate was 6½ inches. The internal conjugate 3¼ inches. The averages for these two measurements are about 7 and 4½ or 4¾ inches respectively. The entire anterior surface of the sacrum was smooth, but its first portion was unusually prominent and protruded into the pelvic cavity. The perineum was badly lacerated.

After the disastrous experiences of the past four years the parents were exceedingly anxious to have a living child. Induction of labor and Cesarean section were considered. The time of induction was to be about three weeks previous to the estimated date of labor. At my request Dr. G. G. Hopkins examined the patient and advised Cesarean section as the only hope of a successful result so far as the child was concerned. At this time the fetus was easily palpated and the head found to be large and unyielding to pressure. The patient gladly accepted Dr. Hopkin's advice.

Antiseptic precautions were elaborate. Furniture, carpets and curtains were removed and the walls and floors scrubbed with soap and water. Later they were twice cleaned with bichlorid solution 1:500. The abdomen was prepared in the usual way.

The operation was performed by Dr. Hopkins, July 31, eight days before the expected date of labor. A median incision was made extending 2¾ inches above the umbilicus, and 4 inches below. The abdominal wall was very thin—not over ½ inch. Through the incision the uterus was lifted out and wrapped in towels dipped in hot normal salt solution. Other towels were packed at the sides. A few sutures were now placed in the upper end of the incision to aid in keeping back the intestines. The hands were inserted through the incision back of the uterus, and the two uterine arteries compressed digitally. By this measure hemorrhage was perfectly controled. A straight uterine incision was made immediately under the abdominal one, and of about the same length. Thirty seconds later the child had been removed and placenta and membranes were removed in another 30 seconds. The uterus contracted promptly and vigorously. The uterine incision was then brought together with 6 buried sutures of No. 3 chromicized gut and 1 suture-ligature, and the uterine peritoneum was joined with fine catgut by Kelly's continuously interrupted suture. After wiping with a towel wet in hot salt-solution the uterus was replaced and the omentum drawn down. The towels packed at the sides of the uterus prevented the escape of a single drop of amniotic fluid or blood into the abdominal cavity at any time. The abdominal wound required 18 silkworm-gut sutures. The time consumed from beginning of abdominal incision to tying of last suture was 36½ minutes. A vaginal drain was inserted and the usual dressings and a snug binder applied.

Convalescence was rapid and uneventful, though during the first three days tympanites was very troublesome. This yielded to hypodermatic injections of strychnin sulfate gr. $\frac{1}{30}$, small, frequently repeated doses of magnesium sulfate, and rectal injections, A free lochial flow was established on the first day. Milk was secreted as usual on the third day. At midnight of the operation-day the pulse was 96 and temperature 100°. The highest temperature was 100.6° on the third day, and the highest pulse-rate 104. At no time after the first day did the pulse rise above 100, and the average rate was between 80 and 90. The sutures were removed August 9—10 days after operation—and 2 days later the patient was allowed to sit up in bed. On the eighteenth day a light binder was applied and she walked about the room, although cautioned against doing so. No ill effect followed this indiscretion. At the end of a month she resumed her household duties and is now in excellent condition.

A few measurements of the child are of interest when we recall that the estimated true conjugate was under 3½ inches. They are: Suboccipito-bregmatic, 3¾ inches occipitofrontal 5 and occipitomental 5½ inches, biparietal 3¾ and bitemporal 3½ inches. The length was 20½ inches; weight, 9 pounds 8 ounces. Ossification of the cranial bones was more advanced than usual, and the fontanelles rather small.

It seems strange that the first labor should have been so easy and the four later ones so difficult. It is a matter of regret that the history of the first labor is incomplete. This first child—now 7 years old—is rather small for her age. Possibly the mother is mistaken and did not carry the full time.

A MEDICOLEGAL CASE IN ALASKA: FORCIBLE INJECTION OF CORROSIVE POISON WITH BUT SLIGHT GROSS LESIONS.

BY SURGEON HENRY B. FITTS,
United States Navy.

ON July 3, 1899 (2 days after my arrival in Sitka) I was informed by the United States Commissioner that some Indians had brought the body of an Indian baby from Killisnoo for examination, on account of suspected poisoning. I made an autopsy and found the body that of a well-nourished infant of about 10 months of age (said by its parents to be only 7), apparently dead about two weeks, and showing no signs externally of injury or of disease. The internal organs were healthy, with the following exceptions: One small eschar inside right angle of mouth upon lower lip, dry and black, and another about the middle of the posterior part of the esophagus, white in color; the whole cardia of the stomach entirely destroyed; 3 perforations of intestines, 1 near middle of duodenum, the others close together, about 15 inches below the pylorus, all being about ½ inch in diameter; rectum congested. The contents of the stomach, which appeared to be made up of blood, mucus and curds of milk, had escaped from the destroyed cardiac portion of that organ and occupied the left side of the belly cavity. It made up about 10 ounces of a dark reddish-brown mixture, with white curds, very frothy and acid in reaction. There were no inflammatory adhesions.

I concluded that the child had died of the effects of corrosive poison. But how had it been introduced with so little injury to mouth, pharynx and esophagus?

Before the Commissioner's preliminary examination the child's mother testified that she had seen a woman whom she considered her enemy in the act of drawing away from the child, which was screaming and foaming at the mouth and soon went into convulsions. She had noticed that the woman held in her hand a small glass syringe—the ordinary male urethral syringe. The child had, she swore, always been healthy; and she had left it only a few minutes before, quiet and secured in its hammock. The woman accused had long borne her a grudge, she declared. She testified further that the child lived for 5 or 6 days and died in great agony. All of the other testimony was very conflicting, not to say amusing; nor did the dignity of a United States Court trial, 4 months afterwards, wholly serve to add reliability, or to exclude many Indian crudities. For instance, a blind Indian testified for the defence and his infirmity did not appear to have excluded any of the details of the case from him; and a man that was deaf appeared to have heard a great deal in favor of the defendant. But these points are mentioned to

ow the untrustworthy character of the Indian evi-
ence, and by no means to criticise the verdict of
quittal, which I considered entirely unavoidable
der the circumstances.

My facilities did not justify me in attempting to make
omplete analysis of the contents of the stomach, so I
t it to Seattle. But the Court would not order an
alysis; hence none was made.

I suspected that sulphuric acid had been used, and I
epted the syringe as the explanation of the immunity
the *prima via* to the middle of the esophagus, and
ieve that the injury to the lower lip was made at its
hdrawal. With the infant's head forcibly extended,
fingers holding the proximal end of the barrel of
syringe might have been thrust easily into the
arynx. I explained the few postmortem changes by
then temperature, which was rarely above 50° F.
erefore, in my testimony before the Court, I excluded
m, except in as far as they permitted a continued
ct of disintegration, begun by the corrosive agent.
eclined to set a limit to the duration of life in hypo-
tic cases covering the one in hand, but I did not
nsider the period observed in this case very highly
probable.

Expert medical testimony in rebuttal of mine was to
effect that an ordinary glass "clap" syringe could
have been used for the purpose and with the effects
ged; that it was not long enough, etc.

I regret keenly the absence of the necessary chemical
alysis in this case, and I should not have ventured to
blish this incomplete record but for its bearing upon
clumsiness of what should be our best courts' facili-
and the present acute disorder of medical expert
imony. I shall have been amply rewarded if the
rices of these primitive natives secure a little authori-
ve attention to the puzzle they arranged for me.

CASE OF ADDISON'S DISEASE, WITH AUTOPSY.

By WILLIAM FITCH CHENEY, M.D.,

of San Francisco, Cal.

essor of Principles and Practice of Medicine, Cooper Medical College and Physician to Lane Hospital.

N the morning of November 9, 1899, my attention was
ed to a case in the male ward of Lane Hospital with a
ner unusual history. The man gave his age as 37. He
unmarried and his occupation had for most of his life
n sedentary, mainly clerical. Previous to the illness
ch now brought him to the hospital he had been a large,
rous man, rather liberal in his indulgence in food and
nk, but always in perfect health, with one exception.
s exception was an attack of pleurisy with effusion, in
4, which lasted for several weeks. He recovered fully
n that, however, and his lungs after the illness seemed as
d again as ever before. The symptoms of his present
ible were gradually developed as follows:

Weakness.—This had been noticed ever since the spring of
9, but grew especially pronounced in August and Septem-
and had steadily increased since then. At first the man
erved that he felt tired all of the time and indisposed for
exertion. Gradually the sense of weariness increased to
of exhaustion. Latterly he found it difficult even to
ss himself on rising in the morning—it would often take
an hour and a half to get on his clothing. He could
rcely crawl about before he entered the Hospital, because
the sense of faintness and prostration that the effort to
lk produced. He felt better in bed, but even sitting up to
his meals caused complete exhaustion.

Discoloration of the Skin.—This had attracted the patient's
ention for the first time in April and May, 1899. It had
n persistent ever since, and had gradually grown more
ensive. At first it was noticeable only on the forearms and legs, but ultimately it extended over the entire body, varying somewhat in the deepness of the shade in different parts. Accompanying the discoloration came an itching of the skin, particularly annoying where the pigmentation was deepest, over the forearms and legs. The color of the skin over the face, trunk and thighs was very peculiar and gave me the first suggestion as to the diagnosis. It was not sallowness or jaundice, but corresponded closely to the tint of bronze. Over the extensor surfaces of the forearms and legs the discoloration was much darker, like that of a man whose skin has been long exposed to the sun. The same dark brownish tint was present around the neck and over the genitals. Scattered through the dark areas on forearms and legs were numerous small spots, brownish black, the size of a pinhead or slightly larger, resembling moles. The conjunctivae were not discolored and there were no pigmented patches in the mucous membrane of the mouth.

Palpitation of the Heart.—This symptom had impressed the patient himself more than any other, and he firmly believed that all his troubles were due to heart disease. For a number of weeks he had noticed that any overexertion, such as walking rapidly or climbing stairs, would bring on an attack in which his heart beat violently and thumped so against his ribs that he feared it would jump out. With this attack he



became breathless, so that for the time being he could not stir.

Loss of Weight.—Six months before entering the hospital this man had weighed, stripped, 230 pounds; while a day or two before his admission he weighed, on the same scales and again without clothing, 170 pounds. He was in the habit of weighing himself regularly at the baths which he frequented and so was able to give this definite statement, showing a loss of 60 pounds in 6 months.

Loss of Appetite.—The patient, previous to his illness, had always been a very hearty eater; but his appetite began to fail him as early as May, 1899, and had steadily grown poorer. While in the hospital he seemed to have a positive aversion for food and had to be urged to take even the small amounts of liquid diet he was regularly offered.

The rest of the history was negative; there had never been any pain in any part of the body during the man's illness; he had always slept well at night; the bowels had always been regular; and though the loss of appetite was progressive, there was no complaint of flatulence or of distress after taking food.

Physical Examination.—This revealed no abnormity in the lungs; no enlargement of the liver or spleen; no distention of the abdomen nor tenderness anywhere over it. The urine averaged 47 ounces per day; was dark amber in color, acid

in reaction, 1.019 in specific gravity, contained no albumin nor sugar; and tests for bile-pigments were persistently negative. The feces were brownish-yellow in color, semisolid in consistency, never white nor light-colored nor like putty.

One striking discovery, however, made by the physical examination, was the condition of the heart and blood-vessels. No murmur could be heard over any of the valves of the heart, but the tones were exceedingly weak and distant. It caused me the greatest surprise to find a heart with such feeble action in a man with such large frame, who looked as if he ought to be possessed of great strength. The radial arteries confirmed the impression given by the stethoscope. The pulse was remarkably lacking in volume, in force and in tension. At times it was impossible to find it at all at the wrist; its average rate was 90.

Diagnosis.—I thought of Addison's disease as soon as I had heard the man's history and had seen his peculiar tint of skin. But a diagnosis had previously been made of disease of the liver, before the case came to the hospital; and this possibility, as well as that of diabetes, had to be eliminated. Disease of the liver was finally thrown out of consideration for the following reasons: (1) The discoloration of the skin did not resemble jaundice and the conjunctivae were not involved; (2) there was no enlargement of the liver and no tenderness over its accessible margin; (3) the feces never showed the absence of bile from the intestine; (4) the urine never showed resorption of bile into the blood. As for diabetes, it was suspected because of the marked and progressive loss in weight and strength; but there was no polyuria, no excessive thirst or appetite, and finally the urine-examination showed no sugar.

After the conclusion had been reached that the case was really one of Addison's disease, it became of interest to discover, if possible, whether the affection of the suprarenals was tuberculous. To determine this point, injection of tuberculin was used; and after a dose of 2 milligrams, a positive and typical reaction was obtained. In this way at last it was decided that the man had a tuberculosis of his suprarenal glands, as the cause of his singular clinical history; and we were just making arrangements to try the effect of suprarenal extract, when the case came to a somewhat sudden end.

The direct cause of death was asthenia and cardiac weakness. One morning after a restless night, no pulse could be found at the patient's wrist. For most of this day he was extremely uneasy, tossing and turning constantly in bed; though with no complaint of any pain and with complete retention of all his mental faculties. Toward evening his mental condition grew less and less clear, until for the last 2 or 3 hours preceding his death he became entirely unconscious. In spite of every effort made, the pulse could not be recalled, and no treatment seemed to have the slightest effect upon it. The respirations gradually grew more and more rapid; the heart's action likewise increased in rate as it decreased in strength, and finally at 11 P.M. the circulation ceased entirely, without a struggle on the part of the patient and apparently without any discomfort of any sort.

Autopsy was made November 15, by Dr. William Ophüls, Pathologist to Lane Hospital. From his detailed record I abstract the following pertinent facts.

"1. The left adrenal gland is enlarged to the size of a walnut, is very hard and shows on its cut surface a number of large caseous areas, surrounded by grayish-white granulation-tissue. The right adrenal is also enlarged and shows even more diffuse caseation on its cut surface; there is only a small area of normal adrenal tissue remaining. Under the microscope the adrenals show diffuse caseation; in the center, beginning calcification; the cheesy masses are surrounded by dense scar-tissue with large areas of lymphocytic infiltration. In the scar-tissue are a few groups of small nodules, with epithelioid cells in the center and lymphocytes in the periphery. A little way from the cheesy mass there are found a few small remnants of adrenal tissue; the adrenal cells in them have their typical arrangement and contain much dark-brown pigment. The liver shows no marked abnormality on gross inspection; but with the microscope there are found scattered tubercles, with slight caseation in the center, surrounded by epithelioid cells and lymphocytes. 3. The left pleural cavity is obliterated by old adhesions; and in the apex of the left lung there is a very small tuberculous scar, in which is found a yellowish-white calcified mass the size of a millet seed."

Thus from the autopsy the anatomical confirmed the clinical diagnosis, viz., tuberculosis of the adrenal glands. The only other important changes found were likewise tuberculous: secondary involvement of the liver, and an old healed tuberculous lesion in the left lung.

PAROTITIS COMPLICATING CROUPOUS PNEUMONIA.

BY JAMES ELY TALLEY, M.D.,
of Philadelphia.

PAROTITIS, secondary to croupous pneumonia, is an exceedingly rare condition. Dr. J. Claxton Gittings and myself have investigated the literature in English for the last ten years, and have succeeded in finding only four cases recorded and about the same number mentioned. In two of the cases recorded, the pneumonia itself was a complication of influenza, a disease not infrequently accompanied or succeeded by parotitis, according to Liebermeister.[1] Since the introduction of the Brand treatment, suppurating parotitis as a complication of typhoid fever has been reduced from 1% to $\frac{1}{5}$%. Jurgensen, quoted by Carslaw,[2] says that parotitis, secondary to pneumonia, occurs in .1% of all cases of pneumonia, which makes it 50% less common than the above somewhat unusual condition.

This complication of pneumonia is usually characterized by rapidity of development, excessiveness of swelling, and its marked tendency to terminate in suppuration. It is commonest in advanced life, and is considered of very bad prognostic significance, though the cases we found and the one to be reported do not support this view.

There appears to be reason for believing that this condition occurs more often when the pneumonia is also complicated by endocarditis, though Osler's case did not support this view on postmortem, in spite of the fact that a mitral systolic murmur developed during the progress of the disease. Also the two cases seen by Anders as well as those found reported were free from endocarditis.

The pathology of the affection is supposed to be due to bacteria finding their way from the mouth to the gland by way of Stenson's duct. This supposition is more probable than that the morbid process is due to infection through the blood.

Carslaw's two cases were in women, aged 50 and 60 respectively, and both had influenza and pneumonia. The first case had croupous consolidation of the left base; the crisis occurred on the tenth day, and the right parotid began to swell at the same time. The swelling increased for 6 days, but underwent resolution without at least macroscopical suppuration, and the recovery was complete. The second case had croup-

s pneumonia of the right base, with crisis at usual ne, and 6 days later swelling began in the left paro-l. The swelling increased enormously, but finally derwent resolution without at least any appreciable iount of pus.

Osler's[3] case was a man, Italian, aged 33 years, ad-itted to hospital October 30, with no history. There s consolidation of whole left lower lobe. October there was swelling of left parotid, and pleurocardial ction. November 2, soft mitral systolic murmur veloped. There were no cutaneous ecchymoses. tient died November 4, and postmortem showed: oupous pneumonia, pleurisy, no endocarditis, two farcts in spleen, none in kidneys. The left parotid s deeply congested, the interlobular septa infiltrated th blood, and here and there were distinct foci of s.

Hawthorne[4] reports a case of parotitis in a young man, aged 17, who had croupous consolidation of t lower lobe. The crisis occurred on the ninth day, d the left parotid began to swell on the tenth day, t returned to normal, in 3 days undergoing resolu-n without suppuration.

The case under my care was in a woman, 76 years l, who, when seen, had a temperature of 103,° pulse , and respirations 36, with distinct signs of consoli-tion in left lower lobe. The whole process was char-teristic of a senile pneumonia. On the seventh day e left parotid began to swell, and during three suc-eding days continued to do so in spite of any treat-ent. The swelling was rapid and most extensive, the ema extending from the left malar prominence to e left clavicle and well around the neck, both ante-rly and posteriorly. The part pitted very freely on essure, and the gland itself was very tender. On the th day there was evident pointing, permission to ise was refused, and the abscess ruptured the same ght. The amount of pus was not great, and the bsidence of the swelling was as rapid as the develop-nt. The patient made an uninterrupted recovery, d died a year later of an interstitial nephritis which isted at the time she had pneumonia.

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THE ETIOLOGY AND PATHOLOGY OF MAJOR EPILEPSY.

BY WILLIAM HOUSE, M.D.,
of Buffalo, N. Y.

THE darkness of centuries of unsuccessful research shrouds the etiology of the disease which, recognized d classically described by Hippocrates, has claimed, gether with millions of lesser mortals, some of e mightiest characters in history, including Caesar, hammed, and Napoleon. Conditions bearing on e production of the sickness have been mentioned, s true, but they are mainly of a predisposing, and t of an exciting nature. Everyone is familiar with e textbook etiology, ranging through heredity, sex, e, mental stress (excitement and fright), trauma, alco-lism, inherited or acquired syphilis, as a sequel of ite disease, diabetic and renal disease, sunstroke, ual and menstrual disturbances, reflex causes, diges-e troubles, emotional excitement, badly ventilated surroundings, sudden interruption of some course of treatment (bromids), and disturbances of health generally, as quoted by Peterson,[1] who comments upon the relative importance of each, and assigns it to its proper place as a predisposing or exciting cause. To these may be added constitutional poisoning with lead, the inevitable bacterial theory, and the now familiar, if somewhat indefinite "autotoxic theory,"[2] or "toxemia,"[3] that is, a separate and distinctive toxemia from that of specific constitutional disease or drug poisoning.

Certain of the above conditions influence the onset of epilepsy in a manner that is as yet unexplained. Certain other among them, trauma, brain-tumor, and syphilis, are productive of conditions which explain the convulsions in a manner that is not only logical, but pathological, for they are accompanied by the formation of a cerebral lesion which appears to become the center of a cerebral epileptogenetic zone or area, acting as the primary seat of a discharge of nerve-cells, which extends by irridiation to the motor areas about the fissure of Rolando.[4] Van Giessen,[5] of the New York State Pathological Laboratory, has examined and described the histologic appearances of several such areas, using for the purpose, fresh specimens procured from traumatic cases of Starr's, on which McBurney had operated, and it is sufficient for present purposes, to note that the changes observed were of a degenerative nature, such as might logically be expected to follow injury to brain-tissue. Acquired syphilis and brain-tumor produce a new growth, which may become a center of irritation, or, by its presence, cause pressure on surrounding parts; the point of greatest pressure becoming, under suitableco nditions, an epileptogenetic center, and producing a convulsion. But such circumscribed areas, though fully, recognized, are productive of a type of disease which, under the name of Jacksonian epilepsy, produces only a local convulsion, or at times a local, followed by a general seizure. Moreover, such lesions are found only in a minority of cases, and in the vast majority, no gross pathologic lesion is discoverable. Even the histologic changes in the brains of epileptics of the socalled idiopathic type are subject to dispute, for their investigation is attended by difficulties which up to the present have proved all but insurmountable. Their description may be found in any recent reference-work,[6] but we are as yet unable to accept such descriptions as reliable; certainly the changes noted are just as liable to be the result, as the cause of epilepsy, and until further contribution has been made to the study of these changes we must accept them as of small value. Thus we are without definite knowledge of any pathologic changes to account for a sickness which is said to afflict one in every five hundred of the Caucasian race. Even the presence of a distinct and easily recognized lesion, such as a scar or tumor, does not explain the periodic character of the attacks, followed by prolonged intervals of quiet; for such lesions should produce, once started, not the irregular spasmodic seizures separated by intervals of quiet, but a continuous, prolonged convulsion, or a series of shorter, oft-recurring attacks, with short intervals of quiet from exhaustion, and returning with greater or less severity according to the strength of the victim until death results; such a condition indeed occurs in status epilepticus.

After careful consideration of the known power of cortical irritation to produce convulsions, together with a review of the physiology of the cortex, thorough ex-

amination of the literature of the subject, and an analysis of 790 personal cases of epilepsy, Hare[7] concludes that the cortex is the seat of the epileptic explosion, and his logical deductions appear unanswerable in the light of present-day knowledge. Peterson, as already quoted, says that the convulsion is due to a nervous explosion, or a discharge of nerve-cells, but he is unable to offer any adequate theory to account for the production of this nerve-cell discharge; nor does Hare provide an unanswerable theory of the method of production of the cortical irritation which he considers so important in the genesis of the attack. If convulsions only took place during periods of intense excitement or emotion, during sthenic febrile attacks, following injury to the skull, or from any other of the causes which are supposed to produce cerebral hyperemia, we might consider such hyperemia as the distinctive exciting cause. But attacks frequently take place without such a condition, occur in individuals who pass their days in the peace and quiet of an environment, in which, by no series of diseases, which, though bearing marked relation with one another, are productive of convulsions of two distinct types. At one end, true epilepsy, causing general convulsions not followed by paralysis; at the other end, cerebral hemorrhage, causing a localized convulsion followed by paralysis; and between the two, alcoholism and general paresis in either of which we may have convulsions of the epileptiform type, and either of which is especially prone to cerebral hemorrhage, and may produce true apoplectic seizures. All three of these latter conditions are accompanied by pathologic lesions, which in certain respects are of similar nature.

If these four conditions be compared, step by step, during the convulsive stage, they will be found to present symptoms of marked similarity, so marked indeed, that during a first attack it may well puzzle even trained alienists to arrive at a speedy diagnosis. It is true that each class of cases presents, if watched for a short time, fairly pathognomonic symptoms, and a correct

COMPARATIVE DIAGNOSIS OF

Epilepsy, Grand Mal.	Paretic Convulsions, Epileptiform Type.	Alcoholic Convulsions.	Cerebral Hemorrhage.
Auræ, present in nearly all cases.	Present at times. Not easily recognized because of defective mental state.	Unrecognized.	Often preceded by muscular irritability and twitching.
Pulse, prior to attack usually slow, may be 50 or less per minute.	Unrecorded.	Variable.	Slow, full, tense.
Face usually flushed and congested. Occasionally becoming pale immediately before seizure.	Flushed.	Acutely congested.	May be pale, usually congested, and may even become cyanotic.
Pupils inactive or sluggish, often dilated.	Iris fails to respond to light. Pupils may be contracted, more often are dilated, and nearly always unequal.	Dilated, sluggish.	Usually sluggish; one of them dilates as attack progresses.
Respiration slow, deep—even labored both before and during convulsion.	Slow, stertorous during attack.	Same as in epilepsy.	Slow, labored, becoming stertorous as attack progresses.
Convulsion ushered in with cry.	Cry often present.	Onset indistinguishable from epilepsy.	If onset is sudden accompanied by gurgling choking cry.
Loss of consciousness sudden.	As in epilepsy.	As in epilepsy.	If hemorrhage slight loss of consciousness is gradual. It may be almost instantaneous.
Convulsion general, at first tonic (chest and extremities rigid) soon becoming clonic and involving some parts more than others.	Convulsion may be either general or localized.	As in epilepsy.	General relaxation followed by unilateral clonic spasm.
Not followed by paralysis.	Sometimes followed by local temporary partial paralysis.	Not followed by paralysis.	Paralysis always, usually unilateral, may be partial or complete.
Pupils remain inactive and dilated, often becoming unequal as convulsion progresses.	Pupils inactive and dilated during seizure.	As in epilepsy.	One pupil much dilated. Do not respond to light.
Pulse at first slow, and full, gradually returns to normal.	As in epilepsy.	May be very weak and rapid, owing to cardiac overstimulation from alcohol.	Remains full and slow.
Consciousness returns at once, or more frequently is preceded by period of relaxed sleep; the third stage of the attack.	Consciousness returns more slowly as a rule than in epilepsy.	Consciousness returns as in epilepsy.	Consciousness returns gradually after days of coma.
Death from status epilepticus infrequent.	Death frequent after convulsion.	Death not uncommon.	Death frequent.
Morbid lesion usually unreckonized.	Morbid lesion involves entire cerebrum.	As in paresis.	Morbid lesion localized.

stretch of the imagination are we able to find adequate cause for such a cerebral state. However, an unrecognized condition must exist, and if pathologic examinations have failed to reveal its nature, we must look for it elsewhere, and believing (with limitations) that "like causes produce like effects," study the disease clinically, comparing it with similar disease in which the pathology is known.

There are a number of diseases which produce or are accompanied by convulsive seizures, resembling in greater or less degree the seizures of epilepsy. They are hysteria, infantile, puerperal, and uremic eclampsia, tetany, alcoholism, cerebral hemorrhage, and the epileptiform and apoplectiform convulsions of general paresis. In the three latter conditions the pathology is well known, and very little study is required to figure out a reasonable pathogeny for the seizure. If these three conditions be compared with epilepsy, we have a diagnosis is usually assured. Not infrequently, however, a diagnosis in a given case may be made only after months of observation. I have seen in at least two instances, paretic patients under the observation of experienced State hospital physicians, for periods of three or more months, before a differential diagnosis from epilepsy was definitely assured.

In chronic alcoholism, seizures which it is impossible to differentiate from true idiopathic epilepsy, frequently occur, and such convulsions are often classified as alcoholic epiplepsy. In the comparative synopsis offered, only the epileptiform convulsions of alcoholism as well as of paresis are considered, for in both diseases the apoplectiform attacks are due to true hemorrhage, and the seizures differ from ordinary apoplexy only in being superimposed upon an already well-marked pathologic state; nor is the chart prepared so much for differential as for comparative purposes.

Careful study of the above chart reveals the very arked similarity in the convulsions of these four dis-ses. Indeed we might add a fifth, localized brain-scess, which, though slower in its development, pro-ices, besides septic constitutional symptoms, disturb-ces of pulse, respiration, and pupillary reaction, not sily distinguishable at times from cerebral hemorrhage.

We are taught by the clinician that unequal, or arkedly dilated and inactive pupils, if accompanied slow respiration, and full, slow, infrequent pulse—rticularly if there is coma—may be considered as due some condition which has produced cerebral pressure, drug poisoning be excluded. In each of the four seases compared, as well as in abscess of the brain, ese symptoms, together with others equally recognized pressure symptoms, are to be found. In abscess or morrhage, the localized character of the lesion, to-ther with the resulting paralysis of the muscles verned by the particular area involved, and the quency with which these conditions may be studied stmortem, permit of no misapprehension as to the thogeny of the events immediately preceding death for the symptoms noted are the symptoms of localized ebral irritation, followed, as the abscess or hemor-age develops, by cerebral pressure and its more or s characteristic somatic manifestations.

A study of the morbid anatomy of alcoholism and of neral paresis yields an equally distinguishable pathol-y and pathogeny, for if they are productive of clinical nifestations of a transitory nature, these disturbances no less, in many respects, characteristic of pressure n the symptoms of hemorrhage or abscess; with the ference, that hemorrhage and abscess are productive localizing constitutional symptoms, because the cere-l lesion is localized, while alcoholism and paresis productive of convulsive symptoms, which, in addi-n to their transitory nature, are general or universal their extent—because the cerebral lesion which pro-es them is not localized. I reiterate that I am con-ering only the epileptiform seizures, as distinguished m the apoplectiform convulsions to which alcoholics l paretics are prone.

t requires no study to perceive the method by which norrhage or abscess is productive of cerebral pres-e, for in both we find a new and easily recognizable hologic change on postmortem examination. It is ally true that the study of the fresh brain of an holic discloses easily recognized and characteristic nges. The soft, edematous,[8] swollen brain, which ns too large for the cranial cavity, which drips fluid section, which is surrounded by dropsical mem-nes and an excessive quantity of cerebrospinal fluid, ventricles distended with fluid—the "wet brain" Bellevue Hospital, is too well known to require de-ption. And this excessive fluid is, to me the logical se of the pressure symptoms, recognized in convul-s from this disease.

eneral paresis is productive, more than alcoholism, arked pathologic changes in the cerebrum. Besides characteristic cortical destruction, the histologic cell-nges, the adherent dura, there is increased fluid in subdural space,[9] which is often excessively dis-led, the ventricles are distended with fluid (cystic eneration of the choroid,[10] or ependymitis[11]) and the n is surrounded with an excessive quantity of ulent, turbid, cerebrospinal fluid, and again the ologic findings justify the clinical assumption of a se cerebral pressure.

In these two diseases we find convulsions occurring which are indistinguishable from epilepsy. The grosser cerebral lesions are productive, it is true, of somatic changes which are not present in epileptics, and a differential diagnosis of epilepsy is often possible only by the exclusion of alcoholism and paresis; while the diagnosis of alcoholism, as the cause of a particular seizure, is further obscured by the fact that epilepsy, with its accompanying loss of mental acumen, predisposes to alcoholic excess, and may thus exist as a true complication in inebriates.

A typical seizure of major epilepsy (grand mal) may be studied here with profit. Such an attack is usually preceded by certain aurae, which may or may not be recognized. Aurae may be of a constitutional, or of a psychic nature, and among the most interesting for present purposes, are a dreamy state, a bursting headache (which may exist for hours preceding a convulsion) a sensation of "blood rushing to the head"[12] or "vague heaviness." Aside from these more or less distinctive aurae, certain manifestations are noticeable to the clinician, which may be classified as prodromal symptoms. These are essentially, diminished excretory activity, especially renal—urine scant and high colored—pupillary reaction sluggish, and pupils frequently dilated. Pulse full, slow, infrequent. Respirations are often slow, and occasionally labored, and the patient is in an apathetic state. The convulsion is ushered in with a cry, and the patient falls to the ground with muscles set and rigid. In repeated instances I have found the pulse at this stage, full, of markedly increased tension, and often as low as 50 per minute. The face is congested, at times cyanotic. For a moment the chest and extremities are fixed, then the tetanic contraction gives place to spasm of a clonic nature. The eyes now begin to roll in their sockets, the pupils are dilated, the iris fails to respond to light,[13] the respiration is slow and stertorous, the extremities begin to move with surprising rapidity, and if grasped firmly in the hand a coarse muscular tremor will be noted. Some sets of muscles are frequently more affected than others, though all are usually involved. The bladder, which has been distended because of spasm of the deep urethral sphincter, is habitually forcibly emptied, in many cases, at this period of the seizure; or later, at the beginning of the comatose stage, the urine may escape gently, unobstructed by the relaxed urethral muscles.

The clonic convulsion lasts for a variable period, and in the majority of cases, terminates by gradual lessening of its activity, and the patient sinks into the third stage of deep comatose slumber. The eyes are at rest, the pupils continue dilated and sluggish, the breathing is full and deep, the facial congestion diminished, the pulse slowly resumes its wonted 72 beats per minute, and after an interval varying from a few minutes to five or six hours, the patient awakens from what, to him, has been but a "deep dream of peace," and resumes his normal activity, reminded perhaps, by a dull headache or a swollen, bruised and bloody tongue, that something has transpired of which he has no knowledge or memory. At times, the stage of coma is of short duration, and is succeeded by a second clonic convulsion, and a third, until at last the prolonged and intense physical strain is terminated by death or exhaustion; this condition is known as status epilepticus.

The slow respiration, the full and infrequent pulse, the sluggish, dilated, and often unequal pupils, indicate

a more or less definite cerebral condition, which, like the changes in paresis and alcoholism, must be diffuse; and on postmortem examination, the apparent cause is not impossible to find.

I have witnessed the autopsies of 5 cases of status epilepticus, were there was present, in each instance, a distinctly increased quanity of cerebrospinal fluid, sufficient to cause distention of the membranes as soon as the cranium was opened. Two of these cases were seen at the Erie County Hospital, of Buffalo, and three at the Manhattan State Hospital of New York. Unfortunately no attempt was made to measure the fluid in any of these cases, for no importance was attached to the matter by the examiners at the time, although it was noted in the hospital records by the pathologist, at the time of the examination. In four of these cases the ventricles were full of fluid, and in the fifth (Erie County Hospital), in addition, there was marked constriction of a small convolution in the right occipital lobe, occasioned by a process of dura which dipped down into the sulcus, and encircled the convolution in a ring-like band. No other changes, save slight cortical congestion were noted.

In addition to the above five cases, I have examined the autopsy records of the Manhattan State Hospital, and found there upwards of 30 cases in which examinations were made of patients dying of status epilepticus. The older records are of little value in this connection, as they are not sufficiently explicit. In only a few cases is the cerebrospinal fluid mentioned at all, and in these an "increased quantity" was noted.

Arguing from analogy, I am forced to the conviction that this increase in the quantity of cerebrospinal fluid, must bear a causal relation to the convulsions, and this view is aided by reference to the physiologic action of the normal secretion. The cerebrospinal fluid[14] is said to have as its function, lubrication of the membranes, and protection of the cord and encephalon, which rest, practically, upon a water-bed, which it provides. Its normal quantity is about two ounces. It is contained in the subarachnoid space, which communicates with the ventricles, by means of foramina, and directly with the perivascular and perineural spaces of the brain-substance proper. "If suddenly withdrawn, epilepsy or convulsions may ensue; if rapidly increased, coma may be produced."[15] Its ability to produce convulsions if interfered with, is further attested by surgical experience with spina bifida. "It[16] (spina bifida) may be reduced by gentle pressure, or at least diminished in size, the diminution being attended with increased tension of the fontanelle and sometimes with stupor, convulsion, or other nervous state." Pressure on spina bifida simply causes the fluid contents of the sac to be forced upward through the spinal canal into the cranial cavity, thus increasing the quantity of fluid about the brain, and it depends upon the degree of the resulting pressure whether convulsions or coma ensues.

The presence of an increased quantity of cerebrospinal fluid provides an explanation of the periodicity of the convulsions, for its excess is probably due to a diminished lymphatic activity, or a marked loss of balance in the relation between the circulatory and lymphatic systems. The theory that an excessive quantity of cerebrospinal fluid, with its accompanying pressure on the cortex, is provocative of the epileptic convulsion, may be contested on the ground that such pressure, like the pressure of a hemorrhage or abscess, should result in paralysis. The fundamental difference in the nature of the two lesions instantly refutes suc an argument. In hemorrhage, we have a new and dis tinctly pathologic collection of fluid, which first irri tates the cortex and produces a convulsion, and as th fluid increases in amount, paralysis of the parts gov erned by the affected cerebral area ensues; and thi fluid leaves behind it a fibrinous clot which require weeks or months for its absorption, and which i accompanied by a gradual, partial return of functio of the paralyzed parts. The cerebrospinal fluid, o the contrary, is a physiologic secretion, ever varying i amount from day to day, and there is no reason wh it should not be temporarily present in excessive quan tity, during periods of lymphatic inactivity or spasm just as blood is present in excessive quantity, in activ or passive hyperemia. Thus the condition might b called "lymphatic congestion." The slow accumula tion of fluid prior to the seizure would readil account for the characteristic "diffuse aurae," the slov pulse and respiration, the sluggish pupils, the menta apathy present in a majority of cases, and especiall the bursting headaches, which so often exist as pro dromal symptoms; until, finally the cortical nerve-cell (the site of the epileptic explosion, as recognized b Jackson, Hare, and Peterson), overtaxed and irritated at last yield to the encroachment of an ever-increasin fluid pressure, and, like a loaded gun, becoming warme and warmer above the newly-lighted fireplace, finall "go off," discharging their stimulus to the peripher portions they control.

It is noticeable that immediately after the convul sion has ceased, the pulse and respiration slowly reas sume the normal type, the pupils become activ and muscular contraction and spasm cease; what then, more natural than that lymphatic spasm relaxes together with relaxation of the muscular and circula tory systems, and during the comatose period the super abundant fluid is absorbed? Or if, on the contrary the patient goes into status epilepticus, why is it no natural to assume that the condition is due to failur of absorption, and in the presence of a slowly increas ing fluid pressure, impulse after impulse is transmitte from the excitable and irritated cortex, until complet relaxation occurs from exhaustion, the convulsions cease and death terminates the scene? In a clinical way, i is worthy of note that the administration of activ hydragogue cathartics, particularly croton oil, ofte promptly cuts short the condition of status epilepticus and furthermore, will be found of service in abortin attacks of grand mal even after the advent of well marked prodromes, and I believe this result due, no so much to the removal of intestinal toxins as to th derivative effects of the evacuation of large quantitie of fluid from the intestinal tract, just as similar fre catharsis, as well as venesection, are of universally rec ognized value for the purpose of aborting threatene cerebral hemorrhage.

From observation of over 200 epileptics with whom have at one time or another come in contact; fro careful comparison of their symptoms with the symp toms of 60 alcoholics in the wards of the Erie Count Hospital, and of a large number of paretics, during year and a half of service in the Manhattan State Hos pital, from the pathologic findings in the five cases her recorded, and from an analysis of recent literatur touching the subject, it appears to me that:

1. We have no record of pathologic findings whic logically explain the symptoms of epilepsy.

2. An increase of cerebrospinal fluid would readily count for the seizures. In many instances it is analous to the marked increase of fluid in the crania of oholics and paretics, and is not dissimilar in clinical ects to the more localized lesions of hemorrhage or scess.

3. This fluid, physiologically subject to more or less riation in quantity from day to day, is fully capable pathologic increase, and from analogy must bear citing relation to the convulsion.

4. Its increase is probably gradual, and to this we y ascribe the aurae.

5. Its absorption probably begins with the third ge of the convulsion (relaxation and coma), and if is fails, repeated convulsions (status epilepticus) sue.

6. Its superabundance may be due to lymphatic asm, or to marked disturbance of equilibrium between mphatic and general circulatory activity, which may favored by heredity, toxemia, or any of the recogzed predisposing causes.

7. And in conclusion I wish to again state that this ed applies to the so-called idiopathic epilepsy, as stinguished from the convulsion of Jacksonian epiosy, in which there is a local cerebral lesion, although en in such cases, the condition which I have enavored to describe will help to explain many otherse unexplainable symptoms.

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REFLEX NEUROSIS FROM PHIMOSIS.[1]

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Of the numerous and familiar manifestations of rex phenomena I need not speak. As physiologic and nical phenomena they are matters of daily observan. When some visual defect is discovered by the hthalmologist; as a lacerated cervix, or diseased ary, is located by the gynecologist; the headache, rasthenia or others of the long train of symptoms, diagnosed as reflex, and a correction of the error of raction by suitable glasses, in the one case, and a pair of the cervix, or, perhaps, the removal of the ary, in the other, cures the patient and proves the rectness of the diagnosis; proves and illustrates the lex character of the disorder.

I suppose, however, that we each, in the circle of our rsonal acquaintance with the manifold and complicated ms of nervous disease, are at a loss to determine, in a en case, between a local peripheral, a central, or a reflex se; and we are compelled to a hypothetic diagnosis, d a course of treatment based on that hypothesis; in other words, to experiment. To say that physicians learn from experience is but repeating a truism. Perhaps it is true that the lessons taught by experience make a more indelible impression on the mind than those we learn from books or didactic lectures.

The object of this paper is to set before you a few facts occurring under my own observation, leaving the inferences and conclusions to your unbiased and intelligent judgment.

Case 1.—This occurred in a married man, aged about 27. He presented the emaciated form, pallid complexion and pearly conjunctiva of pulmonary tuberculosis. Neither physical examination nor hereditary or personal history, however, revealed any pulmonary or other organic trouble. He complained of muscular weakness, neurasthenia, and especially of almost complete sexual impotence. He acknowledged former indulgence in masturbation, and had never before possessed the courage to consult a physician. He was not hypochondriac, but, naturally, somewhat despondent. Disorder of the important viscera being excluded, I made an examination for urethral stricture, with negative results. In making the examination I was struck by the extreme redundancy of the preputial covering, and advised its retrenchment by surgical means. This was done without anesthesia and, I may add, without antiseptic precautions, except, of course, the attempt at cleanliness which we all practised 25 or 30 years ago. The wound healed inside of 2 weeks and without other treatment except 1 dram of compound tincture of cinchona with 4 or 5 drops of tincture of cantharides at meals. He steadily gained in flesh, strength, color and sexual power, and continued in the enjoyment of health, and, I may add, paternity (his wife was delivered of a healthy child within the next year or two), for the next 4 or 5 years that he was under observation.

Whether the result was accomplished through psychic influences purely, or through the physical one of removal of that mysterious cause of reflex irritation alone, or whether by a mixture of both, I will not attempt to decide. This case does not prove much. It doesn't prove as much as I thought it did at that time, for, remember, this was before the study of the psychoses had reached its present stage of development. My apology, if any is needed, for bringing it before you is, that it directed my attention to reflex causes of a train of symptoms, some of which seem so remote as to challenge credulity.

Case 2.—In trying to recall some of the more striking instances of reflex pathologic phenomena, the following, occurring about 4 or 5 years ago, comes to mind. This was a case of retention of urine in a male child 24 hours old. I found the little patient screaming in apparent agony, and the bladder very fully distended. There is usually nothing alarming in the delay of micturition for 24 hours in these cases, but this was unequivocally a case of inordinate overdistention. Hot baths had been tried before my arrival. I was averse to catherization in an infant of that tender age, and the danger of rupture or damage to the cystic walls seemed to me to be too imminent to warrant the delay attendant upon other and usual means of relief. An examination at the time of birth revealed a remarkably long and tight prepuce, and I had intended to do a circumcision at the expiration of a few weeks or months, anyway. The patient was removed to the operating room (the mother was a patient in the hospital) and I forcibly and thoroughly dilated with forceps the preputial orifice. No relief following this procedure, I drew forward the fold and with one cut of the knife severed a liberal portion; and at the same instant the urine spurted with great force and quantity, and with such a rapid diminution in size of the tumor, and with so great and permanent relief of the symptoms as to leave no doubt of the character and cause of the complaint; that is, a genuine retention from some functional cause, standing out in sharp contrast with a mechanical organic obstruction. Thorough dilation of the rubber-like ring at the preputial opening demonstrated that the obstruction was not mechan-

[1] Read before the Academy of Medicine, March 7, 1898.

ical at that point. The instantaneous and free evacuation showed that it was not an organic obstruction at the sphincter or in the course of the urinary tract. It must have been a spasm of the urinary or bladder sphincter.

By what law of nerve-function, physiologic or pathologic, this simple fold of reflected dermal and mucous membrane supplied by branches of the pudic and sympathetic nerve, should, by its mere presence seem to be the seat of pathologic phenomena so diversified, so remote, and so grave, is one of the unsolved problems in the science of the physiology and pathology of the nervous system.

CASE 3.—Three or four years ago a boy, aged about 15 years, was brought to me from a northern town as a supposed victim of lung-trouble. His father, who brought him, gave the following description of his symptoms: Whenever in walking he came to a little rise of ground his breathing would stop, or he would choke up and sometimes he would fall to the ground gasping for breath. This would occur every few days and sometimes daily. This had occurred for three or four years, gradually getting worse. He was unable to attend school with regularity or perform any of the light duties required of him. He was not emaciated, had no cough, and I was unable to detect any organic lesion whatever. No history of masturbation and none of inherited predisposition to pulmonary or neurasthenic or any other constitutional disorder was elicited. He was well developed though somewhat undersized. The only observed abnormality was an elongated and contracted prepuce.

Chloroform was administered by Dr. W. H. White and the redundant membranes retrenched by circumcision, and he was taken home. From a postal card written about one week afterward, I learned that the wound was doing well and that he had no more attacks of his strange paroxysms. A second card, perhaps two months later, informed me that he had remained entirely well in every respect. I have heard nothing from him since, but, judging from the paternal gratitude, I think I would have been notified had he not been entirely relieved.

CASE 4.—Some two months since, I was called in consultation in a case of insanity in a young man aged 27. He had fixed delusions; was quiet and harmless, but obstinate. One of his mental freaks was a strenuous objection to having his hair cut. There were others equally as absurd, but I spare you the details. The first symptoms of insanity dated about two years back, and had gradually grown more pronounced until his family grew afraid to live with him, and he was sent to the hospital, pending his subsequent removal to the Kalamazoo asylum. He was sallow, and thin in flesh, notwithstanding a ravenous appetite, enormous quantities of food being ingested. In the absence of any known cause for the mental malady, and in consideration of the appearance of the prepuce, the operation for its removal was advised. The patient was, with some difficulty, owing to resistance on his part, taken to the operating-room, chloroform was administered, and the constricted and elongated prepuce removed (and, incidentally, the patient, while still unconscious, underwent a tonsorial operation on his 6 or 8 months' growth of hair at the hands of a barber). On turning back the foreskin the gutter behind the corona glandis was found filled with smegma and pus, and encircled with ulcers. There was a slow, gradual improvement in the symptoms, which continued until he left the hospital at the end of about three weeks. No medicinal measures were used further than an occasional laxative, and the compound syrup of the hypophosphites.

CASE 5. — At the time I was treating this last mentioned case of insanity, I was invited to visit another room in the hospital wherein was confined a patient who, I was told, had acute mania, and who also was destined for the asylum at Kalamazoo, but was not considered well enough to be moved. No one present could tell me anything of this patient's history, and I could get no sane or coherent answer to questions addressed to the patient himself. His age (I subsequently learned) was 42. He was emaciated to an extreme degree, his countenance haggard and wild. The dorsal surface of both hands was covered by an eczematous eruption, and the unremitting watchfulness of an attendant was required to prevent the patient's co stant digging at the sores. Compelled, with this meage data, to attempt a diagnosis from the objective symptom alone, with no etiologic facts other than these to guide i the discrimination between a central lesion and an obscur reflex, the body was further exposed, revealing an eno mously elongated prepuce, with an opening contracted t the size of uterine probe. This was so firm that it was im possible to retract the foreskin over the glans. A guarde diagnosis was made of insanity, produced by reflex influ ence exerted on the sensorium, and that the eczema wa caused by disturbance of the trophic nerves supplying th dorsum of the hands, both the direct result of the prepu tial irritation. Circumcision was performed two days late and in less than 48 hours he was perfectly rational, hi hands had begun to heal; his improvement in strengt flesh and appetite continued without interruption, an without any other treatment he left the hospital in abou two weeks, a comparatively healthy and perfectly rationa man.

On my first visit a couple of days after the operation, h gave me a coherent and intelligent history of his case. H had a wife and two children and had never had any seriou illness, until two months previous, but worked at his trad of cabinetmaker until that time. I hear that he has ha no trouble since his return to his home.

In this brief sketch from memory, I have presente simply facts, from them each may form his own con clusion.

Of course I cannot tell what that may be, but to me they convey a valuable lesson in the study of morbi reflex phenomena.

Laryngectomy.—George T. Hankins (*The Australasia Medical Gazette*, January 1900) reports the case of a man 4 years old, who began complaining of hoarseness, dryness o throat and occasional loss of voice. A lump appeared in lef side of throat, which on several occasions had ruptured an discharged fluid. There was no history of venereal disease and no deformity of larynx apparent externally. The laryn goscope showed a lump 1 inch by ¾ inch in left hyoid fossa On palpation the mass was hard. Full doses of iodids were tried for 3 weeks without relief. The glands below the angle of the jaw were enlarged. The diagnosis was epithelioma Tracheotomy was performed: the left half of the larynx with the epiglottis attached, was removed. The mucous membrane was left so as to shut off the pharynx as far a possible. A catheter was passed into esophagus, the other end coming out of the incision. The upper part of the trachea was packed with iodoform gauze. On the second day the esophageal tube was removed, and on the eleventh day the tracheotomy tube was removed. The man could speak in a whisper. At the end of 3 weeks he could swallow a bolus of food, but cannot drink without passing the tube into esophagus, but the swallowing is improving. A microscopic examination of the growth showed it to be epithelioma [M.B.T.]

Nephrectomy During Pregnancy.—Leonard M Bickle (*The Australasian Medical Gazette*, January, 1900) re ports the case of a woman, 29 years of age, who had a tumor suddenly appear, reaching from the left side to near the mid dle of the abdomen. Pain was great at times. The urine was diminished in amount, but otherwise normal. The patient was a multipara, and was now about 2 months pregnant. She was kept under observation for about 20 days, and then operated upon. A retroperitoneal cyst was found. I ruptured and much fluid escaped. No mother nor daughter cysts were found, proving it was not hydatid. It was decided to remove the kidney rather than have a urinary fistula. Al drainage was removed after 36 hours, and healing was un eventful. The patient did well the first week after the oper ation, but the second week the remaining kidney did no perform its full function. Gradually, however, the ful amount of urine was excreted and all disagreeable symptom disappeared. The patient made a good recovery and wa delivered of a child at term. [M.B.T.]

The Philadelphia Medical Journal

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The Loud Bill, we are glad to know, has been overelmingly voted down at Washington. This fortunate ult, we suspect, is largely due to Mr. Wilmer Atkin-., of Philadelphia, the author of a timely pamphlet itled *A Bogy Unveiled.* There are undoubtedly many ises of the postal service, and none would be more er than we to see them reformed, but to do so by ill-nsidered laws, to punish the regiment for the crime one or two privates, is bad morals, poor discipline, l worse politics. So we hope it may prove with a of other bills now being pushed in Congress, and ich like the Loud Bill have direct relations to pro-sional welfare. Three of these especially we wish y share the fate of the Loud Bill—the Nurses' Bill, t against human vivisection, and that against animal isection. The first would defeat its own purpose, so as that purpose has in view the good of the army vice, of the nurses, or of the medical profession. e second is ostensibly for a good end, and for one we nestly believe in, but this special bill is not needed, d if passed it could only result in harm. The third l is not only itself unscientific, but is motived in a tred of science. All three bills illustrate a lack of tesmanship and intellectual breadth in their origin-rs and supporters.

To disseminate medical literature and encourage public medical libraries, says the Association of dical Librarians, there is no better way than for thors of medical books to give a copy to each of the raries of the association. Only those libraries which well established, have a regular organization, and for the use of the local profession, can become mbers of the association, and to these the associa-n will distribute the books without further trouble to donor. There are not probably half a dozen medi-authors who have made or who expect to make a y-laborer's wages for all the time, work, and intellect vested in their books. It is for science and for the ofession that they have written. In making con-cts, or by special request, they can secure from the blisher 25 or 50 (it should be 50) copies of their oks at an inconsiderable expense. Many authors have ured such gifts for the association by renouncing ir royalties and securing the volumes from the pub-hers by gift or at the price of the cost of production. e earnestly commend the plan. We appeal to every medical author to secure for the membership libraries of the association such gifts of their publications; it would bring them professional honor and gratitude, would not lessen the sales, and would largely help to raise the medical libraries of the country out of their present pitiable and disgraceful condition of neglect.

A Relation of Politics and Medicine appears in an incident, for the truth of which we can vouch, that occurred recently in a large city of the United States. A physician was summoned in haste to attend the child of a family living in the heart of the city, and of which the entire house consisted of two rooms. The child had been seized suddenly and seriously, and just at election time; the mother was in despair, and when the doubtful prognosis was given she broke into wailing and violent self-condemnation for some horrible sin of the family, to which she said the child's illness was due—a direct punishment for their crime. She would go and curse the magistrate for it all, her husband should resign from "The Force," and such evil ways should be forever renounced. Curious to know how the magistrate could be held responsible for the child's illness the doctor finally secured the confession that the crime of the poor conscience-stricken woman consisted in allowing the names of many fraudulent voters to be registered as resident in her house, in swearing to the lie, etc. The magistrate had also demanded this of all the neighbors in return for indescribable political favors. The end of the story is that the child recovered and the magistrate paid the physician's bill!

The Treatment of American Medical Writers by a Contemporary.—In our issue of March 10, p. 542, we spoke of abstract-theft, and promised to give some instances in the future. One expects to find stolen literary property in a certain class of irresponsible medical journals making little or no pretense of professional or ethical principles, but one is occasionally astonished to find the plan unblushingly carried out in journals claiming to speak officially by professional sanction and for professional interests. It is with genuine pain that we find ourselves compelled to point out a peculiarly odious example of the sin condemned, appearing in the editorial columns of the *Journal of the American Medical Association* of March 24, p. 755.

We should premise our criticism by a statement which every reader of the PHILADELPHIA MEDICAL JOURNAL will know is true, that the American Medical Association has had no more sincere and outspoken friend than our JOURNAL. As one of a dozen proofs of this we might refer to an editorial published in our issue of August 12, 1899, p. 278, beginning, "*The first duty of American physicians is to join the American Medical Association and attend its meetings.*" Before the appearance of this editorial the evidences had long been accumulating that the *Journal of the Association* by no means was actuated by the same kindly spirit toward us as we had so often shown to it. The evidences have grown more striking up to now, until at last we wish to call the attention of the trustees and other officers, and all the members of the *Association*, to an abuse of medical journalism that can only work irreparable harm to the organization. Among the many proofs we could cite we shall choose but one as an illustration of the general animus and method.

Our issue of February 3 was a special number, devoted to diseases of the stomach, containing 20 noteworthy original articles by the best physicians of the United States. A glance at the abstracts of these 20 contributions as published in the *Association Journal* of February 17, must be a pleasing experience to the authors of the articles, and as members of the Association they must feel delighted and encouraged by the recognition of their work in their official journal. Among these remarkable abstracts was one of an exceptionally fine paper by Dr. Max Einhorn on "Syphilis of the Stomach." It was 10 lines long,—and needs no further comment.

Five weeks pass (the memory of medical men is flattered by the short period), and on March 24 there appears in the *Association Journal* an editorial on *Syphilis of the Stomach* in which the array of bibliographic references is plainly drawn from Einhorn's paper in our journal, and in which the gathering of facts, and the whole discussion is only disguised repetition and awkward echoing of the same author and the same journal.

But in this editorial there is not a word or hint of the fact. No reader could guess where Dr. Einhorn's article appeared, nor that this distinguished American specialist furnished the references and the data for this parade of editorial wisdom and journalistic courtesy.

What a patriotic method of honoring American authors! What a successful way of winning journalistic friends! What a certain plan to secure new members for the Association, and for bringing honor to its journal!

We write with utter ingenuousness, and in the interests of American medical authors, and of American medical journalism. As for the self-interest of our journal we can smile and even laugh at such puerile attempts to harm us. Simple cunning would be pleased at them. But they do harm the *Association Journal* itself (for which we are not glad), because they fi American medical writers with disgust of the journa and the Association, for such a scandalous treatment their best work. To attempt to punish a friendly riv journal by laboriously ignoring and misrepresenting th work of its contributors is "worse than a crime, it is blunder."[1]

The New York Pathological Institute.—We hav taken occasion several times in these columns to spea in high terms of approval of the work of this Institut and of its *Archives*. Only recently, in noting a scientifi paper by Dr. Herrick, we called attention to the fact tha this splendid publication was entirely supported by th wise public policy of the New York State Commissio in Lunacy. Surely there is no other public body like kind either at home or abroad that has contribute to the scientific world such a noteworthy series volumes as these *Archives*. We regret now to learn tha there is danger of the appropriation for the support the Institute being withdrawn. The immediate caus of this defection seems to be a difference of opinion be tween the commissioners and the superintendents o State Asylums, on the one hand, and Dr. Van Gieser and his collaborators on the other. The bone of con tention is the character of the scientific work now bein conducted at the Institute. The superintendent apparently think that this work is not sufficiently "practical," while the scientists conducting the Insti tute think that they should not be restricted to ordinar routine laboratory work.

By way of comment we desire chiefly to say that n work in psychiatry can be too scientific. If there i anything that psychiatry needs, especially in thi country, it is more science.

The reproach, both with some justice against ou insane institutes in the past, has been that they have been too "practical" and have too much ignored the claims of pure science. This reproach, we thought, wa to be met, in a measure by the work of this Institute under the auspices of a State Commission in Lunacy. Many outsiders, we are sure, have watched the progress of this work with sympathy and approval. On the other hand, it must have been felt that the work of this Institute should be confined within lines that are truly pathological; in other words, that the doings of the Institute did not include clinical or experimental work in psychiatry. This seems to be the ground of contention. Unfortunately, the Institute has been placed inadvertently in a position of antagonism to the asylums by some rather enthusiastic claims on the part of its workers that strictly clinical work could be done better than it is done in the hospitals.

[1] While being thus treated, we were giving proper credit to authors in our own editorial columns, with the most full and frank mention—and in the text be it noted—of the *Journal of the American Medical Association* in which their articles appeared. Sec. *e. g.*, our issues of March 17, p. 594, Valentine; February 24, p. 414, Grant; February 3, p. 235, Wende; January 13, p. 78, Holmes; and December 23, p. 1198, Adami. It is fortunate that we do not look for our reward for this courtesy from the journal in which the communications appeared.

We trust that these differences will be settled and the nstitute allowed to live under its present management. r. Van Giesen is well-known as a competent histologist ad pathologist, and we are sure that his work on these nes will be profitable to the science of psychiatry. If ie character of the work is to be restricted to these elds he should recognize that he has an unequalled pportunity for scientific research, and the Commission ould perceive that the State of New York is already mmitted to this beneficent work, and should do all ey can to support and further it.

The Embalmer as a Disinfector.—In small towns, nprovided with boards of health or in which such oards are not equipped to carry out disinfection, this ork, when demanded, may be delegated to qualified nbalmers or undertakers, as suggested by Dr. H. M. racken, secretary and executive officer of the Minnesta State Board of Health, and as has been practised ccessfully in that State in connection with the prevance of smallpox.

The dangers of city slums are many and great; rhaps no class of people appreciate the real gravity these foul ulcers in our modern civilization so well do the members of the medical profession who are rown into more or less intimate contact with the less osperous masses. All the social and economic relaons which affect the slums need careful study and y efforts in this direction should be of interest to ery public-spirited physician, and certainly every physian should be public-spirited. "The City Wilderss," a settlement study by the residents and associates of South End House (formerly Andover House), oston, gives the results of much practical and intelent observation and experience with life among the wer classes of a crowded section of a large city, and worthy of careful reading by anyone interested in ese problems. Education, work and wages, amusents, politics and religion, all receive their due share attention, but the chapter on public health will of urse prove of the greatest interest to medical men, though Boston is more fortunate in having a pure ter-supply and clean streets than some of her sister ies, most of the other evils are the same in all large ies. Among the evils specially mentioned are: overwding of buildings upon the land and overcrowding the occupants of these buildings; lack of yard and thes-drying space; inadequate sanitary arrangents, especially water-closets and baths; and insufient street and park areas.

People who live under such unfavorable conditions nnot be expected to develop and maintain sound dies, sound minds, or sound morals; so long as such favorable hygienic conditions prevail, it must be exted that drunkenness, prostitution and political bery will flourish, for it is impossible to elevate a man's intellectual and moral condition, while he lives among such squalid and unfavorable surroundings. "Improvement in these matters must be brought about through an illuminated public sentiment, by the enactment of new laws of the city and State, which shall more thoroughly safeguard the poor as to their homes." It is evident that individual effort will count for little in effecting such reforms; nothing short of strong united effort on the part of influential men can count for much in working against the jobbers who own the overcrowded, unsanitary tenements, whose only concern is to get the greatest returns from the least investment. The initative in such action with regard to improvement in matters of public health might well take its origin in the large and influential medical organizations of our large cities.

The Present Status of Pathology in the United States.—There are many indications that this country is more than sharing in the progress that is being made in pathology. Of this the growing number of institutes devoted to that subject, the increased importance attached to it in undergraduate instruction, and the creditable original studies made by a number of competent investigators are all direct evidence. That this movement is not confined to the teachers and the so-called purely "scientific men" is shown by the work in which the Indiana State Medical Society has been engaged for several years, and whose fruition was seen in the admirable pathologic exhibit made by this body at the last meeting of the American Medical Association at Columbus. So successful was this venture that the President of the American Medical Association has unofficially appointed a committee consisting of Dr. Joseph Stokes, of Moorestown, N. J., chairman; Dr. Alfred Stengel, of Philadelphia; Dr. W. W. Fox, of Atlantic City, N. J.; and Dr. Frank B. Wynn, of Indianapolis, Ind., secretary, to arrange for a similar exhibit at the coming meeting in Atlantic City. The committee has already received assurances that bespeak the success of the movement. As a further indication of the activity in the field of pathology, the President of the Association, after corresponding with prominent pathologists, has unofficially appointed a committee of 26, with Dr. Ludvig Hektoen, of Chicago, as chairman, and Dr. Frank B. Wynn, of Indianapolis, as secretary, to arrange for the organization of a section on pathology.

The Surgical Treatment of Gastric Ulcer.—Although both surgeons and physicians admit that in the majority of cases the treatment of gastric ulcer belongs to the physician, in certain other cases the truest conservatism lies in prompt surgical intervention. No progressive surgeon now questions the advisability of operating in every case of perforation from gastric ulcer, and most physicians have learned that such inter-

vention affords the only hope for recovery of their patients. However, the operative treatment of gastric ulcer is not limited to the treatment of perforation; there are certain very definite indications for surgical intervention under other conditions, and these indications for operation are very clearly stated by Mr. Mayo Robson in his article on the surgery of the stomach which appears in the *Lancet* for March 10, 1900. Robson believes that in all cases, except in case of perforation, medical treatment should be thoroughly tried and that it should be persisted in after pain and discomfort have subsided, for very often at this stage healing has only well begun. When ulceration persists, however, with such symptoms as severe pain and intractible vomiting and indigestion which are leading to loss of flesh and impairment of health, gastroenterostomy should be performed to give rest to the stomach. In case of chronic hemorrhage surgical treatment is advisable, as it is also in some cases of recurrent acute hemorrhage. Dieulafoy has urged immediate operation in every case of hematemesis with which the loss of blood exceeds half a pint, especially if it recurs within 24 hours. Complications such as adhesions, pyloric contraction with dilation, and hour-glass contraction which result from ulcer, demand surgical treatment if they are producing impairment of health. Robson very properly states that in many cases medical treatment should give place to surgical treatment at a much earlier stage than has hitherto been the custom. It is unfair to the surgeon to hand over to him moribund patients, as is at present so often done, and it is unjust to the patients to persist in dosing them with medicine or otherwise treating them palliatively, when they can only be benefited and cured by surgical means.

When we consider the statistics which are presented by leading authorities these statements do not seem so radical as they at first appear. The mortality from gastric ulcer has been estimated at from 2 to 15% with an average of about 5%. Robson has operated in 34 cases of intractible ulcer which must have caused permanent disability or would have ended fatally, with a total mortality of 17.6%, which includes a number of cases that were in very serious condition at the time of operation. The mortality in cases operated upon in private practice was only 5.5%, a figure which will compare very favorably with the results of medical treatment in uncomplicated cases.

Suggestions to Writers, No. 61. Abbreviations of Titles of Medical Periodicals.—A valued correspondent asks for a list of the abbreviations of titles of medical journals, for use in references, foot-notes, etc., when writing medical articles or books. We regret that this is impossible. Our correspondent has not chanced upon the list published as an appendix to Vol. XVI of the Index Catalog of the Library of the Surgeon-General's Office. This volume makes 382 pages, and subsequent lists would swell it considerably. We append lists of individual letter and separate-word contractions, to show the general principles governing the construction of abbreviations, and in a general way, in the interest of a desirable uniformity, we advise acceptance of the rules and practice of the Index Catalog.

The abbreviations are prepared as far as possible in accordance with the following principles:

1. To follow the exact order of the words of the title.
2. To make them as brief as is consistent with clearness to those who are familiar with medical literature.
3. To follow strictly the orthographic usuages of each language. This disposes of the question of capitalization.
4. To attain uniformity.

Some exceptions to this last rule have been found expedient. An abbreviation which is quite intelligible in the body of a title is not always suitable as the first word, and the context may make an abbreviation sufficiently clear in a long title which in a short one would appear obscure. The convenience of the reader is regarded as of more importance than a rigid adherence to uniformity. The following minor details, with the list of single-letter abbreviations, will assist in the comprehension of the scheme:

The article with which a title commences is omitted.

Prepositions as well as articles are entirely omitted in English titles, and in other languages when their elision would not lead to obscurity.

The place of publication is not added when it forms an integral part of the title; in such cases it is given without abbreviation, except in instances of constant recurrence, as London, Paris, Berlin, etc., which are condensed into Lond., Par., Berl., etc., on all occasions. Nor is it added to the titles of Transactions or journals the places of publication of which have been changed from time to time, as the references in each instance furnish the locality.

SINGLE-LETTER ABBREVIATIONS.

a. aan, alla, auf, aus, aux, etc.
b. bei.
d. das, degli, dei, del, della, der, des, det, die, dic etc.
E. East.
e. ein, eine, einer.
F. Folge.
f. för, for, fra, für.
J. Jahr, Jahres, Jahreszahl, Jornal, Journal.
k. kaiserlich, königlich, koninklijke.
k.k. kaiserlich königlich.
l. las, les, los, etc.
M. Medical, Medicine, Medico, etc.
m. mit.
N. North.
n. neue, neueste, new, nouveau, nuova, nya, etc
n.F. neue Folge.
n. p., n. d. no place, no date.
o. och, oder, over.
p. par, pel, per, pour, pri.
Q. Quarterly.
r. real, reale.
S. Surgery, Surgical.
s. seinem, series; *e. g.*, **1. s., 2. s., n. s.,** new series.

u. und.
ü. über.
v. van, vid, von, voor, vor.
v. p. various places.
v. s. various sizes.
W. West.
z. zu, zur.

SUNDRY WORD-ABBREVIATIONS.

Abhandl.	Abhandlungen.
Abstr.	Abstract.
Acad.	Academy.
Aerztl.	Aerztliche.
Allg.	Allgemeine.
Am.	American.
Amtl.	Amtliche.
An.	Anales.
Anat.	Anatomisch. / Anatomy, etc.
Ann.	Annales. / Annals.
Arb.	Arbeiten.
Arch.	Archiv, Archives, etc.
Assoc.	Association.
Austral.	Australian.
Bacteriol.	Bacteriology, etc.
Balt.	Baltimore.
Beitr.	Beiträge.
Ber.	Bericht
Berl.	Berlin, Berliner, etc.
Biblioth.	Bibliothéque.
Biol.	Biology, etc.
Bl.	Blätter.
Bol	Bollettino.
Brit.	British.
Bull.	Bulletin.
Calif.	California.
Canad.	Canadian.
Centralbl.	Centralblatt.
Chem.	Chemistry, etc.
Chir.	Chirurgical, etc.
Clin.	Clinical, etc.
Coll	College, etc.
Compt.-rend.	Compte-rendu.
Cong.	Congress, etc.
Cor.-Bl.	Correspondenzblatt.
Deutsch.	Deutsche, etc.
Edinb.	Edinburgh.
Gaz.	Gazette.
Gior.	Giornale.
Handb.	Handbuch.
Hosp.	Hospital.
Indian	(spell in full.)
Indiana	(spell in full.)
Internat.	International.
J.	Journal.
Jahresb.	Jahresbericht.
Klin.	Klinisch, etc.
Lond.	London.
M. & S. J.	Medical and Surgical Journal.
Mag.	Magazine.
Mass.	Massachusetts.
Med.	Medical, etc.
Mém.	Mémoires.
Mem.	Memoires.
Misc.	Miscellaneous, etc.
Mitth.	Mittheilungen.
Month.	Monthly.
N. Am.	North American.
N. Eng.	New England.
N. Orl.	New Orleans.
N. York.	New York.
Nachr.	Nachrichten.
Nat.	National.
Northwest.	Northwestern.
Nouv.	Nouveaux.
Obstet.	Obstetric, etc.
Ophth.	Ophthalmic, etc.
Pharm.	Pharmaceutic, etc.
Phil.	Philosophic, etc.
Phila.	Philadelphia.
Physiol.	Physiology.
Pop.	Popular, etc.
Prag.	Prager.
Proc.	Proceedings.
Pub.	Public.
Quart.	Quarterly.
Rap	Rapport.
Rec.	Recueil.
Rep.	Report, etc.
Rev.	Revue, etc.
Riv.	Rivista.
Roy.	Royal.
San.	Sanitary.
Schweiz.	Schweizerisch, etc.
Soc.	Society, etc.
South.	Southern.
St.	Saint.
Stud.	Studies.
Syst.	System.
Therap.	Therapeutic etc.
Tr.	Transactions.
Univ.	University, etc.
Untersuch.	Untersuchungen.
Ver.	Verein.
Verhandl.	Verhandlungen.
West.	Western.
Wien.	Wiener.
Woch.	Wochenschrift.
Ztschr.	Zeitschrift.

Rupture of Long Head of Triceps.—George Homan (*St. Louis Medical Review*, September 30, 1899) reports the case of a man, 60 years old, who had fallen, with his right arm partly outstretched, striking the edge of the curb with his chest and rupturing the long head of the triceps. There was much pain, especially on motion, at a point inside and rather behind the upper end of the humerus. No fracture or dislocation could be found. The next day a deeply ecchymosed condition was found at the upper, inner and posterior aspect of the right arm. This soon involved the entire inner and posterior aspect of the triceps, extending to the elbow. It was the effort of this muscle to prevent a downward and backward dislocation of the head of the humerus which caused the rupture.

Brain-tumor.—O. M. Steffenson (*The Chicago Recorder*, January, 1900) reports a case of a brain-tumor occurring in a man, 32 years of age. The trouble began 3 years previously with dizziness which lasted for one and one-half hours, followed by numbness in the right arm, and complete aphasia lasting a few moments. Some movement of the arm and a severe frontal headache followed. Patient remained well for 1½ years, when there was a numb sensation shooting through the right forearm, followed by severe headache which lasted 10 hours. The patient again seemed well for 6 months, when flashes of numbness, followed by frontal headache, appeared. A few hours later there was a tonic convulsion followed by a clonic convulsion, and unconsciousness. Some time after this there was projectile vomiting, which would recur about every 2 weeks, followed by frontal headache, lasting from 1 to 3 days. Six months after the first attack of vomiting, there developed a lateral nystagmus, following which was an outward deviation of the right eye, and diplopia. The patient was then rigid for 24 hours, after which he spoke and acted naturally, saying he could hear perfectly during the rigid state. The eyes remained impaired. The patellar reflex was absent in the right leg. The right leg moved considerably during sleep. Agraphia, aphasia, and alexia were present. Appetite was fair, bowels sluggish, and urine normal. The patient was becoming progressively weaker mentally. The diagnosis of a brain-tumor in the region of the angular gyrus on the left side was made. An operation revealed a tumor 7 inches in circumference and weighing 3½ ounces. In its removal it was found to extend into the cerebral tissue 3½ inches, involving the angular, supramarginal, and base of the first temporosphenoidal gyri. Death occurred 2 hours after operation, from hemorrhage and shock. [M.B.T.]

Correspondence.

BULLETS FROM SMALL ARMS.

BY W. F. ARNOLD, M.D.,
Passed Assistant-Surgeon U. S. Navy.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

I HAVE just found my original notes upon small arms, etc., which have been mislaid for some time, and ascertain from them that I misquoted Professor Nancrede as to the proportion of lodged bullets from the Spanish Mauser rifle in my letter that appeared in your issue of the 10th. He gave the percentage as from 10% to 15% in his paper, which appeared in the *Medical Quarterly*, I, p. 51.

I regret extremely to have made this error, and I apologize sincerely for having been so inexact.

A DIFFICULTY OF THE METRIC SYSTEM.

BY JOHN LEVERETT, M.D.,
of Binghampton, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

ONE very serious practical objection to the general adoption of the metric system I have not seen mentioned. A large number of practitioners depend largely on ready-made pills and tablets. The wholesale druggists and tablet manufacturers list all of their goods in the old apothecaries' system. Many hospital formularies also employ this. After reading Dr. Rubinow's letter in your issue of February 17, I decided to adopt the metric system in my prescriptions, but it was only a short time before I had to write for ten ¼ grain tablets of codein sulfate. To write otherwise would have been ridiculous, and yet to use both systems simultaneously looks like an abortive attempt at pedantry.

The remedy for this I leave you to suggest in your own way.

HEROISM OF NURSES AND PHYSICIANS IN THE PATH OF DUTY.

BY W. W. KEEN, M.D.,
Professor of Surgery, Jefferson Medical College.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

I FEEL that it is due to all concerned that public professional notice should be taken of the conduct of the students, the house staff, the nurses, and the employes at the Jefferson Hospital in the recent explosion in the vicinity, followed by very considerable damage to the property of the Jefferson Hospital by fire.

As soon as the explosion occurred, the students who were in the College building immediately went to the hospital and placed the fire-hose in service, under the direction of the engineers, and did most effective service before the fire-engines reached the spot. All the employes, especially the engineers, were on the alert and did all that was possible, and the house staff of resident physicians were most active and intelligent in their efforts to subdue the fire which followed, aud especially to calm the fright of the patients and place them in entire personal safety.

But I especially feel that the conduct of the nurses deserves more than usual commendation. They were on the first floor of the hospital-building attending a lecture and were in a position of great advantage, of course, for immediate escape from the building in case of danger. The instant t explosion across the street occurred, the Superintendent the Training School, Miss Hearle, rose and issued the orde "Every nurse to her ward," she herself leading the way a going to the post of greatest danger, the fifth story, at the t of the building. As an old fireman, who was a patient in t ward and who rendered conspicuous service at the time, a an inspector of the fire department, both of whom witness this, remarked, "it was a very new thing in their experien to see a lot of young women running *into* smoke and dang instead of running away from them." Not a nurse falter in her duty, though the wards were filled with smoke, a unknown dangers, perhaps, awaited them on any floor.

I have never known a finer exhibition of the results training and a sense of duty than was shown by the nurs and everyone else in connection with the Hospital a College.

It would be very ungracious also if the kindly offices of number of other hospitals in the city should pass unnotice Their ambulances were on hand at once with offers of assi ance not only to those injured in the building where the fi took place, but for the transference of any of our patien who needed it. No one in the Jefferson was injured, a fortunately no patient seems to have been materially t worse for the accident.

PATHOLOGIC MATERIAL DESIRED.

BY CHARLES E. SIMON, M.D.,
of Baltimore, Md.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL :—

DURING the past months I have been engaged in the stu of the chemistry of malignant growths, but find it extreme difficult to obtain the necessary amount of material. It h therefore occurred to me to apply to the medical professi at large for aid in this direction, and it is my belief that statement of my request in the columns of your valuab JOURNAL will lead to the desired end. Growths which are special value to me are carcinomas of the breast and liv but any specimens will be most welcome. Such materi should be placed in jars with chloroform-water (containi about a teaspoonful to the quart), and shipped directly express. Alcoholic specimens can also be utilized, but a less valuable. Any expenses to which the gentlemen w may thus favor me should be put, I shall, of course, be m happy to meet. Records will be kept of every specime and due credit given at the proper place.

1302 Madison Avenue.

STRYCHNIA POISONING.

BY CHARLES L. LANG, M.D.,
of Meridian, N. Y.

I WISH to report briefly two cases of strychnin poisonin

S. B. L., a boy of 2½ years, while unobserved, secured p session of a small bottle containing 13 gelatin-coated pills the following formula :

Aloin	¼ grain.
Strychnin	1/60 grain.
Ext. belladonna leaves	⅛ grain.
Powdered ipecac	1/16 grain.

All of which he swallowed, though this fact was not d covered till later when he was able to relate what had curred, the first symptoms seemed to be produced by t belladonna, as the child lost control of the legs, falling to t

)r as fast as he would partially rise. When taken up and errogated he looked up and smiled in an intelligent man- but he did not speak. His face was flushed deeply and pupils were widely dilated. He was placed upon a couch l search was made for the source of the poisoning; after few minutes violent convulsions began, consisting of a gle violent jerk, apparently engaging most of the volun- y muscles of the body, but not being prolonged; any ex- ant, as a jar to the room or a breath of cold air upon his e would provoke one of these jerks, otherwise he lay in a found stupor, breathing somewhat noisily. The skin was p red and dry.

With these symptoms of strychnin and belladonna poison- to guide me, I asked the mother if she had any tablets of in, strychnin and belladonna, which led to the discovery the empty bottle which she had noticed contained 13 pills ew hours before.

Probably 10 minutes elapsed from the time he was discov- d until he began taking an infusion of tobacco-leaves, a spoonful every 5 minutes and at longer intervals later. er about half an hour the face began to grow paler and spiration started. Four hours later very little remained to licate the peril through which he had passed.

neglected to state that vomiting occurred after the third e of tobacco-tea.

The other case was in a girl, aged 18 years, 7 months gnant, who took probably 50 grains of strychnia sulphate d died in less than half an hour. At half-past four the ther left the house to look for her little boy who had not urned from school, leaving the girl at home alone and parently happy. Another brother entering the house a w moments later found the girl wildly excited, saying she d taken strychnin. I was hastily summoned, reaching her e at 4.45, when I found her in a tonic spasm, lying upon r back upon the couch. Opisthotonos well marked, toes inting to the floor over the foot of the lounge, fists clenched, ver jaw firmly closed, face livid, lips swollen, bloody froth ng expelled in quick jerky puffs. These contractile jerks med somewhat rhythmic and occurred at intervals of about e-third of a second. Occasionally the muscular system uld relax for a second or two. During one such interval laced half a dozen tablets of apomorphin in solution hin the mouth, but as she did not swallow I forbore to minister the melted lard which I had asked the family to pare. At 4.55 P.M. she died asphyxiated. The family duced a nearly empty bottle, which had held ⅛ ounce rychnin sulphate which they used to poison mice, having us used this drug for many years; this particular bottle had en very nearly full the last time the family noticed it. No ss, cup, spoon or other dish was found soiled by it, the in- ence being that she had taken it dry and washed it down th a drink of water. There was no external evidence of erine contraction.

CLIMATIC TREATMENT OF TUBERCULOSIS.

the Editor of The Philadelphia Medical Journal:—

I have noticed in the correspondents' column of the Jour- L recently, some discussion in regard to the comparative erits of the treatment of pulmonary tuberculosis in the estern health resorts, and in sanitariums at home. Not to ter upon a discussion of the merits of the two plans of eatment, it seems to me that there is one phase of the sub- t as regards the health resorts of the West that is not well ough understood by the Eastern physician. I refer to the nger of reinfection. I myself am a sufferer from pulmon- y tuberculosis, and have spent the greater part of the last 3 ars in the various health resorts of New Mexico, and what- er conclusions I have drawn in the matter are the results my own observations. As hospitals and sanitariums are t few in New Mexico, the vast majority of health-seekers, d by health-seekers I mean sufferers from some form of berculosis, are obliged to take quarters in hotels, in board- g houses many more than in hotels, but by far the greater number in rented furnished rooms in private houses. Now it is my observation that proprietors of hotels, boarding houses, and furnished rooms, almost without exception take no means whatever to carry out disinfection, contenting themselves with cleaning and airing the rooms, as occupants change, but too often the cleaning is but a farce. I have known of the renting of a room after the death of a consumptive occupant, and no change of mattress or bedcoverings was made, to say nothing of no attempts at disinfection. The bed and its coverings were not even placed in sunlight out of doors before use by the succeeding occupant.

The profession can draw its own conclusions as to the dangers of such a practice, as this is not an isolated instance, but a common occurrence. It seems high time that such facts be placed more fully before the profession. It is a phase of the subject that I see but little comment upon, and considering its importance to the health-seeker, I am forced to the conclusion that the facts are not generally known. I am satisfied that more cases of reinfection occur from the state of affairs outlined above than the medical world at large dreams of.

It is generally thought that consumption among the native Mexican population of this region does not occur, but one case has occurred to my personal knowledge, as I discovered the tubercle-bacilli in the sputum, and this case, which resulted fatally, is one that serves to prove the point I have called attention to.

The occupation of the Mexican was that of painter and paperhanger, and there is no doubt but that he acquired the disease in the pursuit of his occupation in just such rooms as I have been describing.

Considering the fact that the native Mexican population enjoy a good degree of immunity from tuberculosis, and that one of them, placed in the conditions I have endeavored to describe, contracted tuberculosis and died from its effects, how much greater must the danger be to those already reduced, and with resistance greatly lessened by disease already present? Although I do not wish to be considered an alarmist, the picture is not a pleasant one to contemplate.

Obviously it would be wise for physicians having occasion to send patients to health-resorts, to call their attention to the fact that such a condition exists, that it may be overcome as best it can.

J. L. B.

Shoulder Presentation; Spontaneous Evolution.—Alberto S. de Bustamante (*Revista de Medicino y Cirurgia de la Habana*, February 25, 1900) reports the case of a multipara, 42 years of age, who had never suffered from any disorder of menstruation and had passed through 8 normal labors; she had also had one abortion and one premature labor. Labor began with a slight bloody discharge without very severe pains; the dilation of the os was completed during the first 24 hours and rupture of the bag of waters occurred spontaneously. The midwife who had charge of the labor thought that she was dealing with a breach presentation, but on examination it was found that the presentation was of the shoulder with the back anterior and the head in the iliac fossa. At the time the case was seen and the diagnosis was made podalic version was attempted, but it was found impossible to introduce the hand. The contractions of the uterus continued, the dorsal surface of the scapula presented at the vulvar orifice and spontaneous evolution resulted. The woman did not suffer any lesion of the genital tract during the labor and the convalescence was normal. The child was, of course, born dead as a result of the long duration of the severe labor; it weighed 1500 gm. and measured 46 cm. in length. [M.B.T.]

Reviews.

Brain in Relation to Mind. By J. SANDERSON CHRISTISON, M.D. Chicago, 1899.

This little book is evidently designed as an attack upon materialism and utilizes for that purpose the data of modern physiologic psychology. The author's views are best stated by himself in his opening chapter. "The materialistic theory of mind, "he says, "is a natural child of the current evolution idea, the greatest delusion of the nineteenth century." John Locke somewhere says that it is as easy to conceive of mind without matter as it is to conceive of matter without mind; and in the opinion of those who agree with Locke's logic on this subject Dr. Christison's book will probably be a welcome addition to the armamentarium of controversy.

Transactions of the Indiana State Medical Society. Fiftieth Annual Session held in Indianapolis, Ind., June 1 and 2, 1899. Indianapolis, Ind.: Central Printing Co., 1899.

This volume contains some forty essays on subjects in almost all of the many departments of medicine, reflecting credit alike upon authors and society. A few are historic or reminiscent, while the majority are practical and scientific. This society deserves further credit for the pathologic exhibit made under its auspices at the last meeting of the American Medical Association, and the success of which must have dispelled the doubt to which expression is given as to the wisdom and the feasibility of the plan.

A Pocket Medical Dictionary, Giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences, etc. By GEORGE M. GOULD, A.M., M.D. Fourth edition, revised and enlarged. 30,000 words, 837 pages. Philadelphia: P. Blakiston's Son & Co., 1900. Limp morocco, gilt edges, $1.00 net.

In addition to the scientific and lexicographic good things which this little volume may contain, the publishers deserve praise for the remarkable work we believe they have done in giving more printed matter for the money than is supplied on strictly commercial lines by any publishing house in the world. To furnish a book with the pronunciation and definition of over 30,000 words (837 pages) in leather binding for $1.00 is a feat of which any firm might be proud.

The Refraction of the Eye. Including a complete treatise on Ophthalmometry. By A. EDWARD DAVIS, A.M., M.D., New York. 119 illustrations, 431 pages. New York: The Macmillan Co., 1900. $3.00.

The title of this book should be reversed, for while much of its space is devoted to the various errors of refraction and their correction, the book is really a treatise on the ophthalmometer and how to use it. With the improvement in mechanical convenience and scientific precision that now marks the evolution of the instrument it is possible that its findings will ultimately become as reliable as the retinoscope and the subjective test. Until that time, judicial workers will prefer to base their prescriptions on the objective results with the retinoscope as compared with the findings at the test box. To those who are ready to trust to the readings of the ophthalmometer, Dr. Davis' book will be of vast assistance. At every point it gives evidence of the author's extended experience with ophthalmometry. It is the best presentation of this phase of refraction we have seen.

Crime and Criminals. By J. SANDERSON CHRISTISON, M.D. Chicago, 1899.

The author believes that "the brain is the tool of the mind, and when certain parts of it are diseased or defective the mind has lessened or lost control of those organs which have their nerve-centralization in the parts affected." He thus evidently wishes to avoid a possible materialistic taint in his psychiatry. His book is a short exposition of the various types of degeneracy and criminality. It is illustrated with many interesting photographs of criminals—some of whom are celebrities, such as Prendergast and Luetgert. From the clinical or practical standpoint the book is both interesting and valuable, but from the purely scientific standpoint it is somewhat at variance with advanced thinkers because of the author's beliefs about the relations of mind and brain. To the medical jurist this little book will have interest for the analysis af the Luetgert case, in which the author's conclusions are favorable to the innocence of the condemned man.

Transactions of the Mississippi Valley Medical Association. Twenty-fifth Anual Session held at Chicago, Ill., October 3, 4, 5 and 6, 1899. Vol. I. Printed for the Association. 1899.

The question has no doubt been often raised in the past—as it has grown more urgent in the present, with abundant and increased facilities for publication—whether the good accomplished justified the not inconsiderable expenditure involved in the publication of volumes of transactions. The answer seems to have been made in the affirmative, and the vote of the Mississippi Valley Medical Association is on this side, for although this body is 25 years old, being the successor of the Tri-State Medical Society of Indiana, Kentucky and Illinois, the present volume is its first, and it should be added that the Association may view with a feeling of pride its first formal and collective publication. The Association is not a delegated body, but it has adopted the code of ethics of the American Medical Association. The present volume contains 47 papers, naturally of varying degrees of merit and originality, and while many of them have already appeared in current publications it is convenient to have them all together under one cover. The volume affords additional evidence of the prosperity of the Association.

On Diabetes Mellitus and Glycosuria. By EMIL KLEEN, PH.D., M.D. Octavo, 313 pages. Philadelphia: P. Blakiston's Son & Co., 1900. Price, cloth, net, $2.50.

Dr. Kleen's experience permits him to speak with some authority on the subjects discussed in this book, which represents a translation by the author from his native language, Swedish. The work is divided into nine chapters, in which are discussed successively Definition and History, Geographic Distribution and Etiology, Glycosurias, Symptoms and Complications of Mild and Severe Diabetes, Diabetes Infantitis, Diabetes Mellitus following Extirpation of the Pancreas, Metabolism and Nutritive Needs, Investigation of a Case of Diabetes and Treatment. A table of the commonest kinds of food in percentages of proteid, fat, and carbohydrate is appended. Dr. Kleen separates sharply the condition of glycosuria, in which under ordinary conditions more than the traces of sugar assumed to be present in urine normally are excreted, from true diabetes mellitus, of which he distinguishes two grades or stages, the mild and the severe. Glycosuria may arise from various causes, some functional, some organic. Thus it may be of alimentary origin or be due to disease of the nervous system, to abnormal function of the liver, to toxic influences or be secondary to infectious disease or be related to obesity, starvation, fatigue, senility, cachexia, marasmus, and disease of the kidneys. Diabetes mellitus, on the other hand, is a syndrome, of which the chief and the most constant symptom is glycosuria. Particular consideration is given to the treatment. The book altogether is one that can be read with profit.

The Treatment of Diseases of the Nervous System. A Manual for Practitioners. By JOSEPH COLLINS, M.D., Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School. Illustrated by 23 engravings. New York: Wm. Wood & Co, 1900.

The claim, often made, that neurology is not a therapeutic science, meets its ample refutation in this fine work. This reproach, never merited by neurology more than by any of the other specialties, is rebuked in the presence of a treatise which marshals every resource of science to the aid

the neurologist's clientele. In the therapeutic field this therefore, one of the most important, just as in the neuogic field it is one of the most useful, books that have ently appeared.

The plan of Dr. Collins' book is most comprehensive. e work is more than a mere therapeutic monograph in e ordinary sense, because it enters fully into a discussion the etiology of nervous diseases and never leaves out of ht the pathology and clinical features of these affections. e author has thus imparted to his work a truly philohic aspect which reminds us not a little of Trousseau and e older therapeutists. It is, moreover, a thoroughly practal work in which the bedside worker will find ready to his nd the most approved remedies, and is so exhaustive that one will be likely to be disappointed in even his most exting demands. We hold that a complete treatse on neuroerapeutics should be just such a book as this; a book, in ner words, that bases the science of treatment on a thorough owledge of the science of pathology, and so adjusts these their relative importance that the result is a harmonious d rational scheme. Such a scheme is truly scientific, and isfies the mind at the same time that it enlightens actice.

It is not within the scope of this brief notice to enter into letailed review of this valuable book. Our readers must willing to accept our general judgment. It would be unr, however, not to mention the special chapters on hydroerapy, electrotherapy, massage, and the general use of ugs. These are all in the author's best style, and the one hydrotherapy is especially noteworthy. We trust this apter will be the means of inducing a more extended use this invaluable agent. In the main body of his work Dr. llins takes up in turn all the diseases of the nervous stem, describes briefly their causation and pathology, and oceeds to a discussion of their appropriate treatment. He s thus practically given his readers what almost amounts a treatise on diseases of the nervous system—in fact, we d almost said that he has written what will pass for a ry excellent textbook on these affections. We know some ch textbooks, in fact, that will not compare with it for iginality and lucidity of description. In his discussion of medies the author is admirably judicial; he is neither a nilist nor an enthusiast, but preserves his balance everyere as a rational expounder of the remedies he describes their application to the pathologic states which he underands so well. The book is thus entirely devoid of therautic claptrap; the reader everywhere feels that he is on re ground, and has a reason for every move in the therautic game. We have been much impressed with the value the work. It is quite unlike any work that has yet peared in neurologic literature, and is as interesting and structive as it is unique.

he Principles of Treatment and Their Application to the Practice of Medicine. By J. MITCHELL BRUCE, M.D., F.R.C.P., Lecturer on the Practice of Medicine in Charing-Cross Hospital, London; Examiner in Medicine, Royal College of Physicians, London. Revised to conform with the U. S. Pharmacopeia by E. Q THORNTON, M.D., Jefferson Medical College, Philadelphia. In one octavo volume of 625 pages. Cloth, $3.75, net.

The profession in general, and particularly the younger embers thereof, should be grateful for this work of Dr. uce. The most common method of teaching therapeutics a recital of the physiologic effects of drugs and a statement of their usefulness in certain diseases, and this usually aches the student very little about the actual management cases. Dr. Bruce departs completely from the ordinary ethods. The first part of the book, consisting of 264 pages, devoted purely to the study of the etiologic, pathologic, and neral clinical characteristics and course of disease, and the dications for treatment to be found in the consideration of ese matters. He discusses in an interesting way the personal ctor in disease, the means of treatment in general, and the ethods adopted by nature in the cure of disease. In this ortion of the work perhaps too much space is occupied by scussions which are rather philosophical than practical, nd, as in the writings of a distinguished American essayist, ere is a tendency to say the same thing over more than once, which somewhat interferes with the readiness with which this portion of the book can be used. This is, however, a minor fault, and one's viewpoint of disease becomes very greatly broadened by reading Dr. Bruce's discussion. The second portion of the book is a consideration of diseases of the kidneys, lungs, heart, gastrointestinal tract, the liver, certain nervous diseases, and finally, typhoid fever. This portion may be enthusiastically commended. The most elementary points are included in the discussion, and yet there are many points which are as a rule not touched upon at all in works on therapeutics or on the practice of medicine. Each disease is discussed in its relation to etiologic and pathologic, as well as to clinical indications for treatment. There is a direct discussion of the minor matters which so often turn up in the course even of uncomplicated diseases; the indications for their treatment are clearly set forth, and the management of the case is discussed from its inception to the end of the convalescence. At the end of the discussion of each disease there is given a list of general directions and of prescriptions which may be used in the beginning of the case, at various periods in its progress and in convalescence. In spite of the fact that large lists of formulas usually tend to make those who use them slavishly dependent upon books, we do not think that this can be said of this work, as the whole tendency of the book is to lead one away from the administration of drugs merely because it is somewhere said that a certain drug is good for a certain disease. The whole tone of the book is rational and healthful.

The Nervous System and its Constituent Neurons. By LEWELLYS F. BARKER, M.B. New York: D. Appleton & Co., 1899.

THIS is not a work on the anatomy of the nervous system in the ordinary sense; it is, rather, a critical digest of recent histological literature. This distinction is an important one, and one that we must insist upon at the very outset. The book contains a maximum of histology with a minimum of morphology; hence it is not a work for every student or practitioner—or, in fact, for most persons who merely want to be informed about the gross anatomy of the nervous system. It is a work rather for reference in the laboratory. The author has evidently been a most diligent student and quotes with facility from contemporaneous literature, and he has practically composed a book on contemporaneous cytology; but he has not written an anatomical treatise in the sense, for instance, in which Edinger has. That great morphologist has constructed for us an unmistakable picture of the nervous system as a whole, in which the principal lineaments are forever recognizable and unalterable, whereas Dr. Barker has rather given us a voluminous digression into the realms of histology where knowledge is still far from perfect and opinions are still as shifting as the sands of the sea.

If any one wishes to be assured of the accuracy of this criticism, let him turn to Barker's description of the Nissl stain. He will find there an elaborate literary history of the Nissl technic as well as the Nissl controversy—in other words a commentary not so much on anatomy as on Nisslism.

The plan of the book is in accord with the histological method: it is based upon a description of the constituent neurons of the nervous system. This seems like beginning at the very foundations and building upwards, and will therefore probably commend itself at first thought to most persons—but upon second thought it must be evident that in our present state of knowledge such a plan is not yet entirely feasible, and the result must be a more or less imperfect presentation of the anatomy of the nervous system. Such, we think, is the case in Barker's book.

In summing up his estimate of the value of the Nissl stain and the knowledge it gives us of the internal structure of neurons, Barers is clear and explicit. How much is due to technic and how much is of real structural significance; or, in other words, whether the reaction of the stainable substance depends upon chemical or physical conditions, remains undecided. He thinks, however, that so long as the "stainable substance" of Nissl (the "tigroid" substance of Lenhossek) in the cells of healthy animals of the same age and species, killed in a prescribed manner and submitted to the same technic, is constant in appearance and

arrangement in the same group of nerve-cells, it supplies a fact of extreme importance in neurology. This is a common-sense statement, free from enthusiasm, and claiming nothing more than most rational men would admit. It may strike some readers, however, that such a result is still far from opening to us all the mysteries of cell-life, and scarcely justifies all the claims that have been made for it

The author's plan enables him to give, as an opening chapter, an excellent history of the development of the neuron concept. This chapter well covers the ground which constitutes the dividing line between the old and the new neurology. The same praise is due to the section on the histogenetic relations of the neurons—a series of chapters which contain a condensed record of the embryology of the nervous system.

So fully intent is Barker upon making his book a complete treatise on the neurons that he does not ignore pathology, but gives many illustrations of the changes that take place in the cytoplasm under the influence of poisonous and injurious agents. This fact still further illustrates how different in design and scope is this work from the ordinary treatise on anatomy. The fifth section indeed is devoted entirely to physiological and pathological processes—in fact the physiology of the neuron, as possibly correlated with its structure, is made a conspicuous subject in some parts of the book. The author's opinion on this subject, as well as his admirable critical sense, is best expressed in his own language: "As a matter of fact we do not know the exact histological mechanism in the protoplasm of the neuron underlying the conduction of what we call nerve stimuli, and we should be willing to confess it." This opinion is delivered after a very able and exhaustive resumé of the attempts of Apáthy, Bethe and others to demonstrate the existence of fibrils in the unstainable substance of the nerve-cell. Barker evidently is most cautious in estimating the value of the work of these observers—whose results apparently differ so widely from those obtained by many of the best equipped histologists. No one can read his book without being impressed with the fact that this whole subject is still a maze of speculation and controversy; and not a small part of the value of the book consists, indeed, in the fact that the author has so arranged and digested this great mass of matter that the rapid reader can obtain the gist of it in short space and time. Many a busy neurologist in the future will owe the author many an unacknowledged debt for what he can dig out of this erudite work.

It is not until he is almost one-third of the way through his book that the author begins to describe the nervous system itself by grouping together the neurons in a complex system like that of man and mammals. Beyond this point we cannot follow him here, except to say that his histological method is conspicuous all through. In other words his descriptions are characterized by minute and conscientiously scientific accuracy, and yet, as we said in the beginning, the book is not at its best in its anatomical descriptions. In reviewing the work we have done little more than deal in generalities, and we cannot do better in closing than to make a final general statement to the effect that Barker's book is certainly the most scholarly and, in many respects, the most noteworthy work that has graced American neurology in recent years, and that while it will be a great aid to the laboratory worker it will be perhaps be a still greater boon to the practising neurologist who cannot spend most of his time in the laboratory and the library.

The advertisements of the St. Paul Daily News.—According to its editor, it refuses to accept any advertisement dealing in disgusting details of symptoms, referring to venereal diseases or diseases of the sexual organs. It has also started a crusade against an alleged medical institute which advertised no cure, no pay—and then failed to refund the money to the patients who were not benefited. "In other words, we are endeavoring and have endeavored since our first issue to print a clean paper in every respect—advertising as well as editorial and news. The experiment may be worth watching, as our prohibition extends to massage parlors, clairvoyants, indecent personals, and all those sources of heavy revenue of many other newspapers. We rely upon the support of the legitimate advertiser and the man who wants a reputable home paper."

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending April 7, 1900:

Monday, April 2—Academy of Surgery.
Wednesday, April 4—College of Physicians.
Thursday, April 5—Obstetrical Society.

The proceeds of the recent Charity Ball have been distributed, and such was the success of the ball, that $3,000 were given to each of the following beneficiaries: The medical wards of the Hospital of the University of Pennsylvania, the Jefferson Medical College Hospital, the Southeastern Dispensary, and the Women's Directory.

Vital Statistics of Philadelphia for the week ended March 24, 1900:—

Total mortality		637
Diseases.	Cases.	Deaths.
Pneumonia 111, congestion of the lungs 12,		123
Pulmonary tuberculosis		70
Heart-disease 39, fatty degeneration of the heart 1, neuralgia of the heart 4, inflammation of the heart 2		46
Apoplexy 26, paralysis 6, softening of the brain 7		39
Convulsions 27, epilepsy 2		29
Nephritis 21, uremia 7, diseases of the kidneys 1		29
Inanition 13, marasmus 12, debility 3		28
Diphtheria 21, membranous croup 5	79	26
Senility		22
Carcinoma 17, sarcoma 4		21
Inflammation of the brain 10, congestion of the brain 9		19
Measles		17
Gastroenteritis 13, diarrhea 3		16
Casualties 11, burns and scalds 4		15
Typhoid fever	75	13
Bronchitis		12
Influenza		11
Scarlet fever	75	3
Cerebrospinal fever	1	1
Septicemia 9, diabetes 8, cirrhosis of the liver 7, congestion of the liver 7, asthma 5, cyanosis 5, alcoholism 4, peritonitis 4, suicide 4, parturition 3, appendicitis 3, pertussis 3, pulmonary abscess 2, anemia 2, disease of the liver 2, dropsy 2, cellulitis 2, hernia 2, pleuritis 2, phlebitis 2, intestinal obstruction 2, pulmonary edema 3, arteriosclerosis 2, renal abscess 1, carbuncle 1, drowned 1, erysipelas 1, gangrene 1, pulmonary hemorrhage 1, gastric hemorrhage 1, laryngitis 1, jaundice 1, malformation 1, opium poisoning 1, pyemia 1, rheumatism 1, surgical shock 1, strangulation 1, tetanus 1, tumor of the brain 1, gastric ulcer 1.		

Pathological Society of Philadelphia.—At a meeting held March 22, DR. J. ALISON SCOTT reported a case of **hemorrhagic pancreatitis.** The patient was a woman, aged 50 years, who was ill three days with symptoms of acute intestinal obstruction. There was diffuse tenderness of the abdomen, and she was in such a critical condition that operation was undertaken three hours after her admission to the hospital. She died suddenly 20 minutes after the commencement of the anesthetic. There were found the lesions of hemorrhagic pancreatitis with extensive fat necrosis of the omentum and mesentery. In the discussion DR. SIMON FLEXNER spoke of the similarity in the lesions of Dr. Scott's case and those produced experimentally by himself some time ago, and emphasized the probable importance of the vascular alterations found in Dr. Scott's case.

DR. SCOTT also exhibited a large **lymphosarcoma containing giant cells** from the anterior mediastinum of a man, aged 32 years.

DR. WILLIAM G. SPILLER exhibited for himself and DR. W. S. WADSWORTH the specimen from a case of **sinus thrombosis,** from a boy aged 7 years. It was especially interesting from the fact that a portion of the superior longitudinal sinus had become obliterated by atheroma and the two layers of the falx cerebri has parted and assumed the function of the sinus. Drs. Spiller and Wadsworth also exhibited the specimen from a case of **extensive hemorrhage into the pons.**

Dr. Spiller presented microscopic preparations showing at numbers of the **malarial parasite in the vessels the central nervous system.**

Dr. Jay F. Schamberg reported a case of **tuberculosis the skin of the hand from accidental inocula-n.** The patient was a physician who probably inoculated himself while treating a patient with tuberculous laryngitis. ere formed on his index finger an indolent sore which at end of some weeks was recognized as tuberculous, and s excised. Microscopic examination revealed the well-own lesions of tuberculosis but no tubercle-bacilli. Inoc-tion into guineapigs, however, resulted in the death of animal at the end of 117 days from tuberculosis, and the er being killed at the end of 120 days showed also tuber-ous lesions.

Drs. Joseph Sailer and M. P. Ravenel presented a speci-n of **aneurysm in a chicken.** It was a very extensive eurysm of the subclavian and axillary artery that had tured, producing an extravascular collection of blood.

Dr. J. H. Jopson read a paper on **hernia of the vermi-m appendix.** In reporting a case, he detailed very y the pathology, symptomatology, diagnosis, and treat-nt of the condition.

At the annual conversational meeting of the society to be d April 20, Prof. Theobald Smith, professor of compara-e pathology in Harvard University, will read a paper en-ied, **The relations of comparative pathology to logy and medicine.** The members of the medical fession are invited to be present.

Philadelphia Neurological Society.—At a meeting d March 26, Dr. F. A. Packard presented a **case of pos-le akromegaly.** The patient was a man, of middle life, o exhibited, in addition to great increase in the size of his s, due to repeated attacks of lymphangitis, increase in the e of the bones of his head, particularly those of the fore-d, and the maxillary alveoli, and some apparent enlarge-nt also of the hands. There were none of the clinical dences of enlargement of the pituitary body.

Dr. F. X. Dercum exhibited a patient who for some months l been affected with spasms of the muscles coming on r resting. The case was characterized as one of **diffuse ic myospasm** resembling in a superficial way, Thom-'s disease. There was in addition slight waddling when patient walked.

The president, Dr. William G. Spiller, reported a case of **liomyelitis in an adult resembling Landry's ralysis.** The patient was a woman, who suffered with a rine infection, and who was first affected with weakness in legs, then in the arms, and finally became totally paral-d. She was thought to be suffering with Landry's alysis, but eventually began to improve, and was now ost entirely recovered. Dr. Spiller referred to another e, recognized during life as one of Landry's paralysis, and ich upon examination of the spinal cord, revealed a dif-e myelitis, the gray matter, however, being especially in-ved. He suspected this to be a similar case. Dr. Spiller exhibited the **brain from a case of congenital ndness.** The brain was from an idiot who died at the of 22 years. There was no appearance of an eye on er side of the face, and at the necropsy there was found e no optic foramina, no optic chiasm, and no optic tract. e specimen was of especial interest, with regard to the ction of the anterior corpora quadrigemina, which were well developed as normally.

Dr. Stewart Paton, of Johns Hopkins University, and Shepherd and Enoch Pratt Hospital, read a paper on **e study of mental diseases.** He referred to the alling increase in insanity and of the necessity of the entific study of the subject that its nature might be under-od and its horrors mitigated. He emphasized the para-unt importance of laboratory investigation in association h more careful clinical observation, and believed the one hout the other of little value. He recognized that in se particulars, the Americans are far behind the psychi-ists of Germany, and urged a widespread general move-nt for the study of mental diseases.

Dr. Edward N. Brush, of the Shepherd and Enoch tt Hospital, concurred in the opinions of Dr. Paton, and lined the history of the hospital with which he is con-ted.

Dr. James Hendrie Lloyd read a paper on **rhythmic motor disorder in hysteria.**

NEW YORK.

State Hospital for Consumptives.—Senator Davis' bill for the establishment of this hospital has been advanced to the order of third reading.

Extra Factory Inspectors.—Another bill which is supported by the organized charities is one now pending, which provides for the appointment by the State Factory Inspector of 15 deputy factory inspectors "at large," five of whom may be women. They are to serve without compensation.

Women's Inspection Bill Defeated.—The Women's Prison Association endeavored to obtain from the Legislature, through what is known as the Slater bill, permission for its members to visit public institutions for the care of women. The measure was defeated by a vote of 59 to 45 in the Assembly.

An Indian Hospital.—The New York City Indian Association has been engaged for a long time in building and furnishing the Rebecca Collins Memorial Hospital for the Navajo Indians. This has been completed, and paid for, and at the regular monthly meeting last week, it was announced that Dr. Harper would soon enter upon her duties in this hospital.

Work of United Hebrew Charities.—In the month of February the United Hebrew Charities received 4,209 applications for aid, representing upwards of 14,000 individuals. In 942 of these cases aid was refused for sufficient cause. In addition to the above, regular monthly allowances were given to 380, and 60 persons were supplied with transportation to different parts of this country and Europe. Work was found through their employment bureau for 233, and in the Industrial School, where sewing and dressmaking are taught, 193 girls, on an average, were in attendance.

Dr. Byrne is Still Assistant Register of Records.—Judgment has just been entered in the Supreme Court, Brooklyn, in favor of Dr. Sylvester J. Byrne, the defendant in proceedings brought by Dr. George E. West, for the office of Assistant Register of Records of Kings County. Dr. Byrne was appointed to this position on March 8, 1898, but Dr. West claimed that having been appointed after a competitive examination he could not be removed except after trial. Justice Keogh, in handing down his opinion, holds that this provision applies only to regular clerks, which Dr. West was not.

Governor Favors Drug Clerks' Bill.—The opposition which this bill developed is apparently in great part a matter of party politics, Tammany opposing it because the power of inspection is given to the State Factory Inspector instead of to the New York City Board of Health. Governor Roosevelt has expressed an earnest desire that the bill should become a law, and would be willing to give up the power of inspection to the Health Board rather than have the bill defeated. At the instance of Senator Ford, the bill has been amended by striking out the section providing for the enforcement of the act by the State Factory Inspector.

A Blessing in Disguise.—It is not often that a street fight becomes an able ally of the surgeon; it more commonly furnishes the latter with a good deal of dreary routine work. However, that is what is claimed to have been the result of a fight which took place the other day in Williamsburg. One of the parties to this row, and the one who received the roughest treatment happened to have appendicitis. He had dreaded an operation, but his opponent having very thoughtfully stabbed him in the region of the abdomen, the surgeon at the Eastern District Hospital found it a comparatively simple matter to finish up the work of the assailant by removing the offending appendix. It is reported that the man was sadly in need of an operation, and that he is doing well in spite of the peculiar circumstances attending its performance. Another indirect advantage is that the patient is beginning to feel somewhat pleasantly disposed toward his opponent and bitter enemy of only a few nights ago.

Tenement-house Legislation.—Among the bills now before the New York Legislature which have the support of organized charity, none, perhaps, are more warmly advocated than those introduced by Mr. Stranahan in the Senate, and Mr. Fellows in the Assembly, having for their object the appointment by the Governor of a tenement-house commission. This commission is to make a careful investigation into the construction, rentals, and other elements going to affect the life, health and morals of our tenement dwellers. The present tenement-house laws are wholly inadequate, and the importance and far-reaching influence of this tenement-house problem was impressively presented to the public, and to the Governor himself, in the recent Tenement-house Exhibition held in this city under the auspices of the Charity Organization Society.

Pure Beer Bill.—The pure beer bill has precipitated a hot debate in the Legislature. This bill provides that all beer containing any material other than pure barley, malt, hops, extract of hops, yeast, water, or cereal products made only of wheat or corn, shall be branded as "inferior." It has been reported favorably by the Committee on Public Health. The Chicago Glucose Company opposed the bill on the ground that it would prohibit the sale of glucose brewers within the State, and that this was a harmless ingredient which should be included in the list of materials for the manufacture of pure beer. A firm of rice dealers asked that the bill be amended so as to include rice in the list of materials permissible in the manufacture of pure beer. The Brewers' Association contended that the bill was wholly unnecessary and complained that if the bill became law it would put the brewers of the State at a disadvantage because of the competition which would result with brewers of other States. Senator Malby said he could not understand how such a bill could injure the brewers when all it asked of them was to be honest.

Smallpox in Columbia University.—Consternation reigned among the students of Columbia University when it was announced the other day that one of the second year classmen in the law school had been stricken with smallpox. He had been ill since Monday, but a correct diagnosis had not been made, and the Board of Health authorities not notified until Wednesday. He had not, however, been on the college-grounds since the previous Friday. Several students who had called to see him, hearing of his sickness, were excluded from the college until they could show a clean bill of health from the proper authorities. The Dean, Professor Keener, of the law school, announced that the authorities would proceed to vaccinate all students, and that those not complying with this order would be excluded from the college-grounds for three weeks. Most of the Faculty, and many of the students of the law school, as well as of the other departments of the university, have been vaccinated. The student who is sick with smallpox boarded in a house in West 121st Street. Smallpox has also broken out in a five-story colored tenement in West Forty-third Street, and it is said that there are a few mild cases among some colored people living in West 137th Street near the Harlem River.

New York County Medical Association.—The meeting of March 19 was devoted to a **Symposium of serumtherapy.** DR. E. K. DUNHAM made some introductory remarks on the subject of **immunity,** and explaining Ehrlich's "side-chain hypothesis," which he characterized as the most philosophic, and, on the whole, the most satisfactory of the theories that had been propounded.

DR. E. A. DE SCHWEINITZ, chief of the Biochemic Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C., presented a paper on **Tuberculins and their use,** in which he pointed out the differences between "old tuberculin" and "T. R." The old tuberculin is a solution containing a mixture of several foreign substances besides the poisons of the germs, while T. R. is a solution of the substances which have been produced within the cells during the growth of the tubercle-bacilli, and, in its preparation, has never been subjected to a sufficiently high temperature to destroy or injure the germs or their products. As a proof of the diagnostic aid which tuberculin might furnish he cited the report of Beck, of Berlin, on the use of tuberculin in 2,508 cases. Excluding 371 cases in which the diagnosis could be readily made without the aid of tubercul there remained 1,154 in which the diagnosis had been bas on the information furnished by the use of tuberculin. Fr the results of his own experiments with tuberculin he lieved that it might be of use to arrest tuberculosis in incipiency, and that partial, if not permanent, immun could be secured by injecting a tuberculin free from what known as "the necrotizing substance." Such a seru could be readily obtained if attenuated instead of virule germs were employed.

DR. ALEXANDER LAMBERT spoke of the use of **Antipne mococcus serum,** and pointed out clearly its limitatio He stated that this serum is not bactericidal but bacteri lytic, and could not by itself stop the infective process. T serum that he had used had been proved in the laborato to have a definite protective influence, yet in the 12 cas in which he had employed it clinically the results had n been very striking. It had neither produced a crisis nor c short the pneumonic process in any case. He would adm however, that in certain cases it had seemed to prevent general pneumococcus septicemia.

DR. W. H. PARK discussed **diphtheria antitox serum.** He said that for the 15 years prior to the intr duction of the antitoxin treatment of diphtheria the avera number of deaths annually from diphtheria had been 2,37 whereas in the last four years, during which this treatme had been quite generally adopted, the average had sunk 1,341, and the same remarkable diminution in the numbe of deaths had been noted in all parts of the world in whic this treatment had come into vogue. From 1895 to 1900 t Board of Health had immunized 6,500 cases. Out of th large number only 27 had developed diphtheria in a perio varying from twenty-four hours to thirty days after the i jection. About 3% had shown rashes, and 5% some febril reaction. A number of persons had exhibited distressin symptoms, but, so far as known, none had been permanentl injured. In cases seen early, and apparently mild, he rec ommended the injection of 1,000 units; in cases seen earl but apparently severe, the dose should be 2,000 to 4,0 units; in cases seen rather late, but apparently mild, 1,0 to 2,000 units should be administered, while in severe cas coming under treatment when advanced, as evidenced b necrosis, swelling of the glands or laryngeal stenosis, th dose should not be less than 3,000 or 4,000 units.

DR. CHARLES B. FITZPATRICK presented a short commun cation, setting forth the experience at the quarantine statio with **yellow fever antitoxic serum.** The conclusio was that serum prepared from the Bacillus icteroides exerte no controling influence on this disease.

DR. WILLIAM H. WELCH, of Baltimore, sent a communica tion on the subject of **typhoid serum,** in which he ex pressed the belief that there was, as yet, no good clinica evidence of the efficacy of the so-called curative serum, bu that there was sufficient experimental proof to justify th use of the vaccine as a prophylactic against typhoid infec tion.

DR. ROBERT J. WILSON spoke of **antirabic serum,** an expressed the opinion that its value had been very greatl overestimated, although it was possible that it might prov useful in those cases seeking, at a late stage, for the benefi of the preventive inoculation treatment.

DR. HOWARD LILIENTHAL spoke of **antistreptococcu serum,** and asserted that in none of the cases comin under his observation had recovery taken place when th presence of streptococci in the blood had been demonstrated He thought if, in a given case, streptococci were found i the urine, the serum treatment should be resorted to, but i they were found in the discharges from a wound, it wa better to await the result of the blood-culture test.

DR. WILLIAM B. COLEY spoke of his experience with **serum containing mixtures of the toxins of erysipelas and the Bacillus prodigiosus** in the treatment of inop erable sarcoma. He said that 11 of his successful cases had been of the spindle-cell variety and 4 of the round-cell kind He had used the method in 230 cases, and could point to several cases in which the person had been known to be alive and well 6 or 8 years afterward. If properly conducted, there was but little risk from the treatment. The action o these toxins, to his mind, afforded another argument in favor of the infectious nature of cancer.

CHICAGO AND WESTERN STATES.

Chicago Eye, Ear, Nose and Throat College.—At meeting of the Board of Directors, recently held, Dr. A. G. ippern was elected vice-president and treasurer, and Dr. illiam L. Ballenger was reelected to the chair of Otology, aryngology and Rhinology.

Chicago Drainage Canal Board.—The Engineering mmittee of the Board has received a report on the examitions of Illinois River water, carried on in the interests of e Board. The report states: "The condition of the water the mouth of the Illinois was almost normal with that of e general water-supplies of main tributaries of the Illinois ver. The investigation so far shows clearly that there has en scarcely any pollution of water supplied to St. Louis at e intake."

Smallpox Increasing.—Chief Clerk Pritchard, of the icago Health Department, has made a tabulated list of allpox cases throughout the various States, which shows a ge increase in the United States for the last week ended arch 10, of 1,272. The figures for the week ending March in 36 States and Territories show 3,952 cases. The State owing the largest number of cases is Louisiana, with 2,015 es, and Texas next, with 517. California is the State least ected, having but 3 cases. New York has 11 cases, as ainst 74 for Illinois. Five of these 74 have been discovered Chicago.

Gift to Evanston (Ill.) Hospital.—Mrs. Herman D. ble has made known her intention of presenting to the anston Hospital a gift of $50,000 prior to her departure f Europe. Half of this amount is to be used in the erection the Herman D. Cable Memorial Building, and the rest is e devoted to the maintenance of a children's ward therein, ich will be known as the Anita Hutchins Cable Ward—a morial to the donor's daughter. Mrs. Cable's munificent ion has led to the formation of a plan by President Elliot l others interested in the hospital for the establishment of ermanent endowment fund for the institution.

Medical Inspection of Schools in Chicago.—Mr. Lester Bodine, Superintendent of Compulsory Educa-, has submitted his report to the Board of Education on dical Inspection from February 19 to March 16. The ort shows there were 21,404 examinations during this iod. As a result of them, 1,213 pupils were excluded ause of contagious diseases. The reports of the indiual medical inspectors show that the number of cases of mps has increased largely, while there are fewer scarlet er and diphtheria cases. Since January 8 there have n 54,000 medical inspections, and 3,444 pupils excluded. . Bodine believes the great good which results from the dical inspection is rapidly becoming apparent. Words praise are heard on all sides for the Board of Education establishing the medical inspection.

Appointments at Rush Medical College.—Dr. L. Barker, Associate Professor of Anatomy and Assistant. hologist at the Johns Hopkins Hospital, Baltimore, Maryd, has accepted the position of Professor of Anatomy in University of Chicago and Rush Medical College. Dr. ary B Favill will be Professor of Therapeutics and Pretive Medicine. Dr. Daniel R. Brower, who formerly upied the Chair of Materia Medica, Pharmacy and rapeutics, and Dr. John M. Dodson, of the Chair of siology, will in the future have special departments conted with the Chair of Medicine, now under the direction Dr. Frank Billings, jointly shared with Dr. James B rick and Dr. Henry M. Lyman. Dr. J. Loeb of the versity of Chicago will be the successor of Dr. Dodson as fessor of Physiology. It is said that much of the work he Junior Class will in the future be done at the Unisity of Chicago. Other changes in the Faculty are under sideration. Dr. Frank Billings has been selected Dean.

Chicago Gynecological Society.—At a meeting held rch 21, DR. ALEXANDER HUGH FERGUSON showed a **clamp l enterotome,** a modification of Grant's enterotome, ch he uses as an aid in suturing in intestinal anastomosis. bowel clamps are applied to the bowel on either side of field of operation for the purpose of preventing the escape of intestinal contents while operating. They are composed of two blades, one of which is fenestrated, and both are covered with rubber, so that the pressure does not come directly on the bowel between the blades, but on the rubber itself. This pressure is controled by two screws, one at each end, which can be regulated to a certainty. The instrument is employed in extraintestinal methods of suturing in end-to-end, lateral, or end-to-side anastomosis as an aid while doing the sewing. It is easily and rapidly applied; it minimizes the chances of soiling the peritoneum with intestinal contents; it holds the bowels firmly and securely together, so that the most accurate stitches can be quickly applied, thus greatly lessening the liability of leakage. It aids in completing the operation except the small hole through which the blades of the clamp entered; the stitches are inserted first, the intestinal walls cut afterwards, and the pressure of the clamp on the bloodvessels of the mucous membrane for several minutes while sewing is being made lessens the tendency to hemorrhage. The new passage made between the bowels may be of any size necessary, thus preventing the possibility of stricture formation.

DR. ALBERT GOLDSPOHN read a paper in which he dealt with the principles and the most rational and effective methods in treating pathologic **retroversions and retroflexions of the uterus.**

DR. FRANKLIN H. MARTIN exhibited a clamp as an aid in performing **ureterorectal anastomosis.**

Cleveland Medical Society.—At a meeting held February 23, DR. H. S. STRAIGHT presented a case of a **new growth of one tonsil** that had been thought to be malignant, but which he preferred to regard, at least for a time, as syphilitic. With this idea in view he put the man upon mixed treatment, although there was no specific history, which he had found to be the rule in these cases. He was somewhat better at the end of a week's treatment. He thought it was wise in these cases to let the diagnosis be partly made by treatment without depending too much on the microscope.

DR. W. E. LOWER reported a case of **amputation at the middle third of the left leg under anesthesia produced by injecting the spinal cord with cocain.** On account of advanced arteriosclerosis general anesthesia could not be used. This amputation has been previously made by injecting the sciatic and anterior crural nerves with cocain, but as recently some foreign surgeons had been injecting cocain into the cord, he had thought this a good case upon which to test the merits of this plan. Between the last dorsal and the first lumbar vertebrae he injected a syringeful of $\frac{1}{3}$ of 1% solution of cocain. In about 3 minutes the man had complete anesthesia of both foot and leg. Motion was not entirely abolished, but the amputation was performed without the least evidence of pain. Further than that there was no shock, and the pulse did not vary beyond from 64 to 72 throughout the entire operation. DR. R. J. WENNER asked whether it were not true that he had injected the cocain into the subarachnoid space rather than into the spinal cord. He said that the credit for first producing general anesthesia from the thorax down by this method belongs to an American, Dr. Leonard Corning, who had reported some cases 24 years ago. He thought that grave disturbance would be produced by injecting the substance of the cord, and that in adults, as the syringe is put in between the last dorsal and first lumbar vertebrae, it would be just about at the end of the cord. DR. W. E. LOWER said that he did not think he had injected the cocain into the cord as it was done too low down. However, he had injected into the cord of dogs which had all recovered, and while there was afterwards found to be some change in the cord microscopically, it was not so pronounced as to affect the animal.

DR. H. S. STRAIGHT read a paper upon **The treatment of otitis media.** He said that this disease is fairly common in this climate and that most cases occur in the spring and autumn. It is impossible in the beginning to tell whether a given case will take the catarrhal or suppurative form. He was not sure that the catarrhal form ever passed into the suppurative. He was inclined to believe that in the absence of meddlesome treatment one class of cases was almost certain to end in resolution while another class, in spite of any treatment, was just as certain to result in suppuration. The individual case must be carefully studied. The one

thing absolutely essential in the treatment of this disease is rest in bed, and next in importance is the application of heat. The heat will not abort a threatened abscess, but is used simply to relieve the pain, which is the chief aim of all treatment. One full dose of opium is useful in the severe pain of the early stage. If, after the above measures have been carried out, relief does not promptly occur, a paracentesis should at once be done. Drainage being established the cure results promptly as a rule. He insisted that the inflamed ear should be kept quiet and especially that no attempt at inflation should be made.

DR. C. A. HAMANN read a paper on **Foot-pains.** Among the subjects discussed were gonorrheal rheumatism, involving the various articulations and bursas of the feet, achillodynia, which was described as an affection of the *bursa retrocalcanea* due to gonorrhea, tuberculosis, gout or to traumatism, plantar fascitis and Morton's disease of the toes. The pains caused by flat-foot were particularly described, as were also those following certain injuries of the bones and joints. Various forms of plantar neuritis were stated to be responsible for the pain in some cases, as are also certain diseases of the arteries. Raynaud's disease and erythromelalgia were briefly alluded to. Urethral, vesical and uterine affections were mentioned as causing reflex pains in the feet at times.

It was announced that at the next quarterly special meeting of the Society, upon March 23, an address would be delivered by Dr. Robert T. Morris, of New York, upon **A Definite Account of my Position upon Some Appendicitis Questions.**

SOUTHERN STATES.

Dr. A. B. Richardson, superintendent of the Government Hospital for the Insane, has been appointed by the Secretary of the Interior a delegate at the Congress of Professional Medicine and Medical Ethics to be held at Paris next July.

The history and etiology of the bubonic plague was the subject of a lecture by Surgeon-General Sternberg, at Georgetown University, March 22. The lecture was illustrated by a series of lantern slides thrown upon a screen, and dealt mainly with the historical data of the disease. He referred briefly to the recent outbreaks in the new possessions of the United States and the serum-treatment.

Epidemic Meningitis Among Cows at the Insane Asylum in Washington, D. C.—During the past month there has been an epidemic among these cows characterized by fever, stiff neck, and retracted head, and death in from 2 to 5 days. The autopsies have shown intense congestion of the meninges at the base of the brain and upper part of the spinal cord. A large number of cows have died and the epidemic is still in progress. The bacteriologic report of the autopsies has not yet been completed.

Medical Society of the District of Columbia.—At the meeting held March 21, DR. WM. B. FRENCH read his report on the **Investigation of the Causes of the Prevalence of Epidemic Cerebrospinal Meningitis in the District of Columbia.** A majority of the cases occurred among the very poorest classes and in one section of the city where the hygenic surroundings were extremely imperfect. Cases occurred sporadically, however, where the sanitary conditions seemed perfect. The number of hospital cases, together with the number of autopsies in private cases, removed the question of diagnosis beyond dispute. There were 17 autopsies made, in 16 of which the diagnosis was confirmed by finding the diplococcus intracellularis in the cerebrospinal fluid or in the exudate, and in many other instances the organism was obtained by lumbar puncture. Nothing resembling a streptococcus was found, but over and over again the diplococcus intracellularis was seen, sometimes in almost pure culture, but often associated with other organisms resembling the staphylococci. In one or two instances only the arrangement of the diplococcus was in chains of 4 or 5 members; tetrads were rather frequent, but generally the individual organisms were scattered about at random. In two cases a bacillus morphologically and in grouping corresponding to the diphtheria-bacillus was found, but an effort to get it in pure culture failed. Dr. French classified the types of the disease se in this outbreak under five heads, viz: The fulminatir 12–36 hours; the acute, 3–10 days; the chronic, weeks months; the intermittent or remittent, lasting a variat time; and the abortive. He then referred to the symptor of the disease and exhibited charts arranging the symptor in the order of their most frequent occurrence. The mc prominent of these named in the order aforementioned we fever, rapid pulse, altered pupils, vomiting, retracted hea muscular contractions, headache, hyperesthesia, chill, eru tion, pain over spine on pressure, opisthotonos, unconcio ness, tumors, convulsions, strabismus, delirium, photophob herpes labialis, etc.

Louisiana State Medical Society.—The following the preliminary program of the meeting to be held at Ne Orleans, April 19, 20, 21:

Subjects for general discussion in the various sections:

General Medicine.—Tuberculosis.

Surgery.—Local and Regional Anesthesia in its Application Minor and Major Surgery.

Mental Diseases.—The Care and Treatment of the Insane.

Diseases of Children.—Measles and Smallpox in Children.

Obstetrics and Gynecology.—1. Surgical Aspect of Salpingitis. Electricity in Gynecology.

Ophthalmology.—The prevention of blindness: from 1. Ophth. mia Neonatorum. 2, Sympathetic Ophthalmia. 3. Corneal Ulce 4. Acute Iritis and Glaucoma—Their Differentiation.

Otology, Laryngology, and Rhinology.—On the Management Foreign Bodies in the Air Passages, with the report of a few cas being the Address of the Chairman of this Section (Dr. A. W. Roaldes).

Medical Jurisprudence.—"Pullen Case" from a Toxicologic Standpoint.

Dermatology.—The Commoner Affections of the Feet and Han and their Treatment.

Oral and Dental Surgery.—Restoration of Symmetry of the Face l Mechanical Means after Disfigurement Resulting from Disea Accident or Operation.

Quarantine.—Variola.

Bacteriology.—The Present Status of Blood Examination in Ba teriological Laboratories for the Determination of Malaria ar Typhoid Fever.

Anatomy and Physiology.—Vivisection as a Necessity for Medic Progress.

Genito-Urinary Surgery.—Stricture of the Urethra. *A.* Duratic of the Disease. *B.* Bladder Complications, if any. *C.* Method Treatment.

Miscellaneous Papers:

1. Improved Method of Vaccination. 2. On the Successful Trea ment of Variola, by Dr. V. Lehmann.

3. Complete Transposition of Viscera, Report of a Case, by Dr. P. Delaup.

4. Report of a Case of Recurrent Dermatitis Exfoliativa, by D A. R. Robertson.

5. Suprapubic Cystotomy, for the purpose of Retrograde Catl eterism in a Case of Complete Laceration of the Male Urethra, b Dr. C. J. Ducoté.

6. The Physiological Treatment of Typhoid Fever, by Dr. T. Dabney.

7. A Case of Gunshot Wound of Abdomen with 3 Perforations Colon and an Egaze Wound of Stomach. Laparotomy. Recover

8. Typhoid Fever in Childhood, with a report of three Cases, b Dr. E. D. Fenner.

Johns Hopkins Hospital Medical Society.—At th meeting held March 19, DR. FUTCHER exhibited a case **idiopathic dilation of the colon.** The patient was male white child, 4 years of age, who had seemed perfectl normal during his first year. At one year of age it wa noticed that the abdomen was very large and the child ha alternate periods of constipation and diarrhea. During th periods of constipation the child would be more or less dull but at other times quite bright mentally. At the present tim he presents a very markedly distended abdomen, particularl above the level of the umbilicus. A side view made the ab domen appear quite pendulous. No definite peristalsis coul be made out even under stimulation. The treatment ha been daily irrigation, and the child is quite comfortable. Dr Futcher divided colon dilation into three different classes including in the first those cases in which there is simpl gaseous distention, in the second those in which there is dis tention from fecal contents, and in the third the cases o so-called idiopathic dilation. In the latter the colon become very markedly hypertrophied, that is, the muscular tissue o the wall is much increased in thickness, but in the majorit of cases no change has been observed in the mucosa. No much can be done in the way of treatment and these case generally terminate fatally in early life. Surgical interferenc

dvised in some cases and may consist in excision of part the colon or in the formation of an artificial anus to pre- it the accumulation of material in the involved part of intestine. Dr. Futcher also exhibited photographs of ther case of a similar nature which had been treated re- tly in the hospital. It was a colored boy who had an rmous abdomen and who also gave the history of alter- e constipation and diarrhea. His trouble began when he s 8 years of age and he was 14 when admitted to the pital. The operation of excision was performed in this e and the colon measured 49 cm. at its largest circum- nce. Peritonitis followed, however, and the boy died. discussing these cases DR. THAYER called attention to the t that they might be mistaken for cases of intestinal ob- ıction. He referred to a case admitted to the hospital ears ago with marked peristalsis and alarming symptoms obstruction. A careful examination, however, led to the rect diagnosis and later he was operated on. In this tance an artificial anus was made and the boy improved y markedly. He was kept under observation for more n a year, but eventually discontinued his visits to the pital.

DRS. GABNEY and HARRIS reported a case of **gonorrheal docarditis.** The patient, a colored woman, was con- d on January 19 and was admitted to the hospital Feb- ry 12. She was examined repeatedly by those who nded her in labor, and four days later she had a fever, dache, nausea and vomiting. When admitted to the hos- l she appeared to be septic and was in such a stupid con- on that she could not answer questions intelligibly. The mination showed puerperal septicemia followed by ulcer- e endocarditis, the history seeming to show infection at time of labor. She died on the day after admission. Dr. rris reported the autopsy findings, which showed vegeta- , ulcerative endocarditis involving the tricuspid pulmon- and aortic valves. Cover-slips and cultures from the etations showed the presence of gonococci. In the dis- sion DR. THAYER referred to the frequency of endocar- s following gonorrhea and reported 2 cases directly owing this disease that he had seen during the past year. first was a young man of 21 in whom the endocarditis owed within a few weeks of the attack of gonorrhea. He previously been a healthy young man and there was no er clinical explanation of the heart infection. In the ond case a man, 30 years of age, the heart affection fol- ed within a week of the acute gonorrheal attack. topsy showed an ulcerative endocarditis, but cultures only wed the presence of streptococcus. Dr. Thayer called ntion to the necessity of distinguishing between gonor- al and gonococcal endocarditis and stated that we may e a pure gonorrheal infection, or a gonorrheal infection ginally followed by a mixed infection, which may or may outgrow the gonorrheal infection; or, lastly, we may have rely secondary infection. He also remarked on the greater quency with which ulcerative endocarditis affects the right of the heart than do the more chronic forms of endocar- s. DR. BARKER pointed out the necessity of proving cases of posed gonorrheal endocarditis and called attention to the that the first definitely proved case was that reported ne years ago from the Hopkins by Drs. Thayer and mer. He stated that the mere presence of the gono- cus in the vegetations would not prove their gonorrheal gin, nor would she absence of the gonococcus from a case ndocarditis be proof that it was not the cause of the ction. Among the pathologic characteristics of this iety of endocarditis he considered as of importance the quence of occurrence on the right side of the heart the massive nature of the vegetations. These must be en into cousideration along with the history and bacterio- c findings. In this connection he referred to the use of **neutral roth** method of staining and recommended rongly for rapid differential work of special service at opsies.

DR. MILLER reported a series of **gynecologic cases.** Case **cute gonorrheal peritonitis.** The patient was a young rried woman whose husband had been under treatment for orrhea for two years but had been pronounced cured by mpetent observer after repeated examinations of a slight harge that still remained. Two months after her mar- ge she developed severe pain in the pelvis, the abdomen ame distended and she had all the signs of general peri- tonitis. Dr. Kelley operated and from the findings concluded that the infection had traversed the tubes. Case 2, **ovarian abscess with general peritonitis.** Recovery followed removal of the cyst and of the free pus in the abdominal cavity. Case 3, **suppurative ovarian cyst** with the formation of gas. The woman, 43 years of age, had been admitted 10 years previously, but declined operation for the cyst and was discharged. She returned in a septic condition, the abdomen being tympanitic, and she was operated upon. Incision into the cyst was followed by an immediate escape of gas and a very offensive brownish necrotic material with some pus. The gas-bacillus was not found.

MISCELLANY.

Dr. Osler asks us to state that he is not a candidate for the Chair of Medicine at the University of Edinburgh.

Gratitude and the Majesty of the Law.—A woman at Council Bluffs, Iowa, attempted to commit suicide by poison recently, and a near-by druggist saved her life by administering emetics. Now she threatens to bring a damage suit against the druggist, on the ground that his pharmacist's license did not entitle him to practise medicine.

Hospital Ship Board.—By direction of the Secretary of War, a Board consisting of Brigadier-General Alfred E. Bates, Paymaster-General of the Army; Major Henry S. Kilbourne, Surgeon, and Major J. M. Carson, Jr., has been appointed to investigate all the facts relating to the fitting up and equipment of the hospital ships *Missouri* and *Relief* including their condition at the time of purchase by the Government, and particularly to report upon the present condition of these ships.

Obituary.—DR. ADOLPHE CALLISEN, New York, March 24, aged 81 years.—DR. EDWARD Y. BOGMAN, formerly of Boston, at Atlanta, Ga., March 5, aged 50 years.—DR. U. K. MAYO, Boston, Mass., March 9, aged 84 years.—DR. WILLIAM YANDELL, El Paso, Texas, March 24, aged 57 years.—DR. FRANK B. KELLER, Pottstown, Pa., March 24, aged 51 years.—DR. WILLIAM W. VIBBERT, New York, March 26, aged 27 years.—DR. HENRY B. CARPENTER, Rochester, N. Y., March 22, aged 36 years.—DR. JAMES CUMMISKY, Philadelphia, March 26, aged 64 years.

The Wonderful Powers of Christian Science.—An appreciative writer in the Philadelphia *Record* quotes, as showing the length to which the followers of "Christian Science" carry credulity, the following tale, told to him, he says, in sober earnest by a woman who is an ardent devotee of the Quimby-Eddy cult. "One day last week," she declared, "I was walking on Green Street, near Sixteenth, when I saw a runaway horse galloping toward me. The driver had lost all control over the animal, and as the wagon was swaying from side to side the driver seemed in great danger of being thrown out and severely injured, if not killed. I stepped into the street and prayed for the horse with all my might. It gave one look at me, stopped, and hung its head abashed. But that isn't all. The driver, seeing the horse was submissive, was about to seize the whip, with the intention of lashing the beast, when I directed my prayers toward him. He at once gave up his cruel design, jumped down from his seat and began patting the horse's head. Then I went on my way rejoicing." A now forgotten humorist once said that the way to stop a runaway horse was to stand directly in front of him, look him sternly in the eye, and in a firm voice utter the words, "Lie down, Sir!" The humorist didn't go so far as to say that this formula would palsy the arm of an angry driver, but he was evidently on the right track, and doubtless he would have made the added claim if he had lived in these days and learned from "Mother" or some of her book agents that the fear of passing the bounds of human belief may be put aside with safety and profit.—[*New York Times.*]

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 24, 1900:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
ALABAMA:	Mobile	March 10–17	5	
FLORIDA:	Jacksonville	March 11–17	1	
GEORGIA:	Brunswick	March 12	31	
"	Cordele	March 12	Present.	
"	Tifton	March 6	"	
ILLINOIS:	45 counties	Dec., Jan., Feb	1000	
"	Chicago	March 10–17	1	
INDIANA:	Evansville	March 10–17	3	
KANSAS:	Wichita	Feb. 10–March 17	53	
"	24 counties	Feb. 1–26	437	14
KENTUCKY:	Covington	March 10–17	1	
LOUISIANA:	New Orleans	March 10–17	71	21
MICHIGAN:	Detroit	March 3–17	2	
MINNESOTA:	Minneapolis	March 3–17	52	1
NEBRASKA:	Omaha	March 10–17	1	
NEW YORK:	New York	March 10–17	7	
OHIO:	Cleveland	March 10–17	7	
SO. CAROLINA:	Greenville	March 10–17	2	
UTAH:	Salt Lake City	March 10–17	1	
VIRGINIA:	Portsmouth	March 10–17	6	1
WASHINGTON:	Spokane	March 10–17	5	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Feb. 17–March 3	7	
BELGIUM:	Antwerp	Feb. 17–March 3	13	3
"	Ghent	Feb. 24–March 3		4
ENGLAND:	London	Feb. 17–March 3	18	1
EGYPT:	Cairo	Feb. 4–18		15
FRANCE:	Lyons	Feb. 3–10		3
GIBRALTAR:		Feb. 18–March 4	22	2
GREECE:	Athens	Feb. 17–March 3	9	2
INDIA:	Bombay	Feb. 6–13		268
"	Kurrachee	Feb. 4–11	22	2
"	Madras	Feb. 10–16		1
MEXICO:	Chihuahua	March 3–10		7
"	Mexico	Feb. 18–25	23	11
"	Vera Cruz	March 3–10		1
RUSSIA:	Moscow	Feb. 10–21	9	1
"	Odessa	Feb. 17–March 3	21	3
"	Warsaw	Feb. 10–17		2
SPAIN:	Corunna	Feb. 10–17	6	4
"	Madrid	Feb. 3–24		24
STRAITS SETTLEMENTS:	Singapore	Jan. 20–Feb. 3		11
SWITZERLAND:	Geneva	Feb. 17–24	1	

YELLOW FEVER.

BRAZIL:	Santos	Feb. 8–16	12	6
CUBA:	Havana	March 3–10		1

CHOLERA.

INDIA:	Bombay	Feb. 6–13		2

PLAGUE—INSULAR.

HAWAII:	Honolulu	Feb. 24–March 2	2	2

PLAGUE—FOREIGN.

INDIA:	Bombay	Feb. 6–13		570
JAPAN:	Formosa	Jan. 1–Feb. 5	75	43

American Surgical Association.—The following is the provisional program of the meeting of 1900, at Washington, D. C., May 1, 2, and 3, 1900:

1. President's Address, "Perforating Ulcer of the Duodenum."
2. "Gastric Ulcer—Non-perforating—Hemorrhage," Wm. L. Rodman, Philadelphia.
3. "Perforating Ulcer of Stomach," J. M. T. Finney, Baltimore.
4. "Benign Obstruction of Pylorus," Frederick Kammerer, New York.
5. "Malignant Disease of Stomach and Pylorus," Wm. J. Mayo, Rochester, Minn.
6. "Gastric Dilation—Gastroptosis," B. F. Curtis, New York.
7. "Hourglass Contraction of Stomach," F. S. Watson, Boston.
8. "Diagnosis of Cancer of Stomach," John C. Hemmeter, Baltimore.
9. "Traumatism of Stomach, including Foreign Bodies," Rudolph Matas, New Orleans.
   The discussion of Surgery of the Stomach will be opened by W. W. Keen, Philadelphia (ten minutes), and M. A. Richardson, Boston (ten minutes).
10. "Stricture of the Esophagus following Typhoid Fever. Gastrostomy," Frederic S. Dennis, New York.
11. A Series of Demonstrations upon the Cadaver, illustrative of the Mechanism of the Various Dislocations of the Hip (by request), Oscar H. Allis, Philadelphia.
12. "The Methods of Closing Abdominal Incisions," M. H. Richardson, Boston.
    Discussion opened by John B. Deaver, Philadelphia.
13. "Strangulated Hernia through a Traumatic Rupture of the Diaphragm—Laparotomy—Recovery," E. W. Walker, Cincinnati.
    Discussion opened by N. P. Dandridge, Cincinnati, and S. J. Mixter, Boston.
14. "A Case of Subpubic Hernia of the Bladder through the Pelvic Floor—Operation," P. B. Harrington, Boston.
    Syllabus: Varieties of hernia of the bladder.—Causes.—Hernia of the bladder through the pelvic floor rare.—Hernia in the case reported due to traction of an edematous fibroid originating in the subperitoneal tissues in front of the bladder.—Treatment.
    Discussion opened by J. Collins Warren, Boston.
15. "A Case of Acute Tuberculosis of the Mesenteric Glands of the Ileocecal Coil—Removal—Permanent Recovery," M. H. Richardson, Boston.
16. "Successful Removal of Acutely Inflamed Tubercular Mesenteric Glands," J. W. Elliot, Boston.
    Discussion of Nos. 15 and 16 by Robert Abbe, New York, and S. Chalmers Da Costa, Philadelphia.
17. "Congenital Cystic Tumor of the Pelvis," DeForest Willard, Philadelphia.
18. "Extirpation of a Very Large Aneurysm of the Renal Artery," W. W. Keen, Philadelphia.
    Discussion opened by Wm. J. Mayo, Rochester, Minn.
19. "Carcinoma of the Rectum," John B. Deaver, Philadelphia.
    Discussion opened by C. B. Nancrede, Ann Arbor, Mich.
20. "Spontaneous Disappearance of Carcinoma of the Lip. Union following Pathological Fracture of the Femur due to Secondary Carcinoma," Leonard Freeman, Denver.
    Discussion opened by P. S. Conner, Cincinnati.

Titles of volunteer papers will be received by the Secretary up to April 10.

American Proctologic Society.—The following is the scientific program of the second annual meeting, to be held at Washington, D. C., May 2 and 3:

1. President's Address, Joseph M. Mathews, Louisville.
2. "Excision of the Rectum through the Vagina," Samuel T. Earle, Jr., Baltimore.
3. "Curettage vs. Excision in Advanced Malignant Diseases of the Rectum, Report of Cases," Leon Strauss, St. Louis.
4. "A Few Novel Cases in Rectal Surgery," Samuel G. Gant, New York.
5. "Fistula in Ano," Geo. B. Evans, Dayton, O.
6. "The Treatment of Pruritus Ani," Louis H. Adler, Jr., Philadelphia.
7. "Mooted Questions," A. Bennett Cooke, Nashville.
8. "The Technic of Valvotomy, the Radical Operation for Obstipation, with Practical Demonstration of Proctoscopy," Thomas Charles Martin, Cleveland.
9. "Catarrhal Proctitis, as a Factor in Constipation or Obstipation and its Radical Treatment," J. Rawson Pennington, Chicago.
10. Paper, James P. Tuttle, New York.
11. "Rectal Abscess," William M. Beach, Pittsburg.
12. "Submucous Ligatures for Hemorrhoids and Rectal Prolapse," B. Merrill Ricketts, Cincinnati.
13. "Treatment of Internal Hemorrhoids by Injection of Caustics or Astringents," George J. Cook, Indianapolis.

Association of American Physicians.—The following is the preliminary program of the fifteenth annual meeting, to be held in Washington, D. C., May 1, 2 and 3, 1900:

1. The President's Address, E. G. Janeway, New York.
2. Discussion. "Endocarditis, and its Relation to Other Diseases." Referee: Wm. Osler, Baltimore.
3. "Report of Cases of Pernicious Anemia, with a Special Reference to the Blood Findings," Frank Billings, Chicago.
4. "Some Conclusions arrived at after a Study of 104 Cases of Pernicious Anemia," Richard C. Cabot, Boston.
5. "Clinical Notes on Cases of Pernicious Anemia," Frederick P. Henry, Philadelphia.
6. "Case of Filaria, with Specimens of the Adult Parasite," W. T. Councilman, Boston.
7. "Cases of Diarrhea Associated with the Presence of Strongylus Intestinalis in the Stools," W. S. Thayer, Baltimore.
8. "Actinomycosis," J. H. Wright, Boston.
9. "Proliferation and Phagocytosis," F. B. Mallory, Boston.
10. "The Relative Infrequency of Acute Transmissible Diseases during the First Year of Childhood, with a Discussion of the Probable Reasons for the Same," A. C. Abbott, Philadelphia.
11. "Recurrent Vomiting in Children," J. P. C. Griffith, Philadelphia.
12. "Would It Not Be a Gain to Both Pathology and Practice if a Direct Interaction Between the Morbific Agent (Noxa) and the Reparative Effort Were Recognized, and the Conception of an Intermediate, So-called Inflammatory Process Abandoned?" Andrew H. Smith, New York.
13. Completion of Paper. (By Abstract.) "Clinical Types of Uric Acid Diathesis." Treatment, J. N. Danforth, Chicago.
14. "Communication on the Relation of Uric Acid Secretion to Epileptic Attacks," James J. Putnam, with F. Pfaff, Boston.
15. "An Experimental and Clinical Study of Acid Intoxications," C. A. Herter, New York.
16. "Report of a Case of Acute Ascending Paralysis, Showing Hematoporphyrinuria," Chas. G. Stockton, Buffalo.
17. "Notes on Diabetes." 1. On Casts in the Urine During Diabetic Coma. 2. On the Occasional Low Specific Gravity of Diabetic Saccharine Urine, James B. Herrick, Chicago.

The Attitude of the Physician and Surgeon to Appendicular Symptoms Complicating Typhoid Fever," H. A. Hare, Philadelphia.
'Observations on Appendicitis," Ira Van Gieson, New York.
'Sub-Pectoral Abscess." J. H. Musser, Philadelphia.
'Aneurysm of the Aorta with Rupture into the Superior Vena Cava, Recognized During Life," Alfred Stengel, Philadelphia.
'The Circular Fibers of the Heart (Mitral Sphincter) as a Factor in Functional Disturbances of the Heart with Mitral Insufficiency," Morton Prince, Boston.
Minor Forms of Cardiac Dilation," Beverly Robinson, New York.
'Presentation of a Case of Addison's Disease under Treatment with Suprarenal Extract," W. W. Johnston, Washington.
'Graves' Disease without Exophthalmic Goiter," W. H. Thompson, New York.
'Some Observations on Human Temperature in Disease," Norman Bridge, Los Angeles.
'Sanitarium Treatment of Pulmonary Tuberculosis, and Its Results," E. L. Trudeau, Saranac Lake.
'The Elimination of Deleterious Substances from Antitoxic Sera," William H. Park, New York.
'apers will also be read by Drs. W. H. Welch, F. P. Kinnicutt, dler, G. B. Ward, C. F. Withington, and J. S. Thacher, the of which will be announced in the final program.

hanges in the Medical Corps of the U. S. Army

he week ended March 24, 1900:

D, Major MARSHALL W., surgeon, is granted leave for 15 days.
IIDT, HENRY G. G., acting assistant surgeon, is assigned to temporary duty at the U. S. general hospital, Presidio, awaiting ransportation to the Philippine Islands.
, W. E., acting assistant surgeon, is assigned to temporary duty at the U. S general hospital, Presidio, awaiting transportation o the Philippine Islands.
OWIN, HUGH, acting assistant surgeon, is assigned to temporary luty at the U. S. general hospital, Presidio, awaiting transporation to the Philippine Islands.
AGE, HENRY E., acting assistant surgeon, is assigned to temporary duty at the U S. general hospital, Presidio, awaiting return ransportation to the Philippine Islands.
H, THURSTON, acting assistant surgeon, is assigned to temporary luty at the U. S. general hospital, Presidio, awaiting transporation to the Philippine Islands.
NER, First Lieutenant GEORGE A., assistant surgeon, is assigned o temporary duty at the U. S. general hospital, Presidio, awaitng transportation to the Philippine Islands.
HALL, EDWARD A., acting assistant surgeon, is assigned to duty .t the U. S. general hospital, Presidio.
AN, GEORGE H. R., acting assistant surgeon, is assigned to temorary duty at the U. S. general hospital, Presidio, awaiting ransportation to the Philippine Islands.
DMAN, SAMUEL, acting assistant surgeon, is assigned to temporary duty at the U. S. general hospital, Presidio, awaiting transortation to the Philippine Islands.
G, Captain CHARLES E. B., assistant surgeon, is relieved from urther duty at San Francisco, Cal., and will proceed to Fort rant for duty, relieving Major Edwin F. Gardner, surgeon.
NER, Major EDWIN F., surgeon, will proceed to San Francisco, al., and report to the commanding general, department of Calfornia, for duty.
NER, Major EDWIN F., surgeon, on the completion of the duty ssigned him by the commanding general, department of Calfornia, will proceed to Manila, P. I., and report to the comnanding general, department of the Pacific and Eighth Army orps, for assignment to duty.
GEORGE W., acting assistant surgeon, is assigned to temporary luty at the U. S. general hospital, Presidio, awaiting transporation to the Philippine Islands.
OU, PORTER V., acting assistant surgeon, is assigned to temorary duty at the U. S. general hospital, Presidio, awaiting ransportation to the Philippine Islands.
G, Captain CHARLES E. B., assistant surgeon, is assigned to luty at the U. S. general hospital, Presidio.
GYS, Major EDWARD T., surgeon, upon the completion of his uties pertaining to the medical supply depot at Savannah, Ga., vill proceed to San Francisco, Cal., and report to the commandng general, department of California, for assignment to duty.
GYS, Major EDWARD T., surgeon, upon the completion of the luty assigned him by the commanding general, department of alifornia, will proceed to Manila, P. I., and report to the comnanding general, department of the Pacific and Eighth Army orps, for assignment to duty.
RY, Lieutenant Colonel PETER J. A., deputy surgeon-general, n the expiration of his present sick leave, is relieved from furher duty at Fort McPherson, and will proceed to San Antonio, ex., and report to the commanding officer, department of exas, for assignment to duty as chief surgeon of that departnent, to relieve Major Charles L. Heizmann, surgeon.
MANN, Major CHARLES L., surgeon, will proceed to San Franisco, and report to the commanding general, department of alifornia, for assignment to duty.
MANN, Major CHARLES L., surgeon, upon the completion of the luty assigned him by the commanding general, department of alifornia, will proceed to Manila, P. I., and report to the comnanding general, department of the Pacific and Eighth Army orps, for assignment to duty.

BAKER, FRANK C., acting assistant surgeon, will proceed from Washington, D. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
THORNBURGH, ROBERT M., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
BELL, LEONARD P., acting assistant surgeon, will proceed from Indianapolis, Ind., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
BYARS, CASPAR R., acting assistant surgeon, will proceed from Columbus, Texas, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
COLLIE, JOSEPH A., acting assistant surgeon, will proceed from Williams Bay, Wis., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
ENGLISH, RICHARD M., acting assistant surgeon, will proceed from New Haven, Conn., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
HIMES, BOWER E., acting assistant surgeon, will proceed from Fort Sheridan, Ill., to San Francisco, Cal. and report to the commanding general, department of California, for assignment to duty.
HOWELL, LUTHER P., acting assistant surgeon, will proceed from Washington Court House, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
MARION, GEORGE L., acting assistant surgeon, will proceed from Elgin, Ill., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
MERRICK, JOHN N., acting assistant surgeon, will proceed from Columbus, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
NORRIS, JOHN L., acting assistant surgeon, will proceed from Washington, D. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
OHLIGER, CONN B., acting assistant surgeon, will proceed from Canton, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
SPRINGWATER, SAMUEL A., acting assistant surgeon, will proceed from Chicago, Ill., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
STONEY, RANDELL C., acting assistant surgeon, will proceed from Charleston, S. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
STROMBERGER, HENRY H., acting assistant surgeon, will proceed from Washington, D. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
TROOK, EDWIN M., acting assistant surgeon, will proceed from Marion, Ind., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.
WARD, JOSIAH M., acting assistant surgeon, will proceed from Newbern, N. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Changes in the Medical Corps of the U. S. Navy, for the week ending March 24, 1900:

GATEWOOD, J. D., surgeon, detached from the "Lancaster" and ordered to the Bureau of Medicine and Surgery, Navy Department.
WOOD, F., pharmacist, retired from active service, March 20, 1900.
THOMPSON, E., assistant surgeon, detached from the "Celtic" and ordered to the "Nashville."
JOHNSON, M. K., assistant surgeon, detached from the "Nashville" and ordered to the "Celtic."
HAAS, H. H., assistant surgeon, detached from the "Baltimore" and ordered to the "Don Juan de Austria."
GROVE, W. B., assistant surgeon, detached from the "Brooklyn" and ordered to the "Scindia."
BENTON, F. L., assistant surgeon, detached from the naval hospital, Yokohama, Japan, and ordered to the naval hospital, Cavite, P. I.
TAYLOR, J. S., assistant surgeon, ordered to the "New Orleans."

Changes in the U. S. Marine-Hospital Service, for the 7 days ended March 22, 1900:

PURVIANCE, GEORGE, surgeon, granted leave of absence for 15 days from March 24. March 22.
GLENNAN, A. H., surgeon, to proceed to Port Townsend, Wash., as inspector of quarantines. March 17.
WHITE, M. J., assistant surgeon, to proceed to Reedy Island Quarantine Station, for special temporary duty. March 16.
STEPHENSON, CHAS. W., hospital steward, to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters. March 21.

APPOINTMENTS.

WAAS, W. THEO., appointed acting assistant surgeon, for duty at Fernandina, Fla. March 17.

STEPHENSON, CHAS. W., of Ohio, appointed hospital steward. March 20.

Foreign News and Notes.

GREAT BRITAIN.

The medical report upon the condition of **Sir William O. Priestley, M.D.,** member of Parliament for Edinburgh University and consulting obstetric physician to King's College Hospital, is by no means reassuring.

The Italian Hospital in London does admirable work among a numerous, hard working and by no means wealthy section of London's cosmopolitan population. On March 14 the hospital was the scene of a pleasant gathering, when the Italian Ambassador formally opened the new hospital building on the anniversary of the birthday of the King of Italy, and with a key presented to him by Mrs. Ortelli, the widow of the founder.

The National Antivaccination League held a conference in London on March 14, at which a resolution censuring the Local Government Board for making the guardians of Leicester appoint a vaccination officer was adopted. The language of the speakers showed that the action of the Board in making the guardians do their duty rankled much. The ridiculous guardians were made to look ridiculous, and all the antivaccination party share with them their resentment at the position.

On the second reading of the bill for the **regulation of the practice of midwives** being taken in the House of Commons, the Honorable Vicary Gibbs claimed for the measure the approval of the General Medical Council, of the Royal College of Physicians of London, and of the Royal College of Surgeons of England. It is to be regretted that his statement was not challenged, as undoubtedly it had considerable weight, for it gave to the bill exactly that appearance of being endorsed by the medical profession which it should not have worn. As a matter of fact the bill does not contain a clause, suggested by the General Medical Council, enacting that on the occurrence of any abnormality in the labor or the appearance of any symptom of disease in the mother or child a medical practitioner shall be summoned. Both the Council of the Royal College of Surgeons of England and the Executive Council of the General Medical Council condemn the bill for the omission of this provision.

The National Association for the Prevention of Consumption held their first general meeting of members on March 13th at that popular place of medical reunion, the room of the Royal Medical and Chirurgical Society. The report showed a small surplus of income over expenditure, and showed also that the movement has not received the pecuniary support from the public that it deserves. Like many other projects of an eleemosynary or scientific character it has doubtless suffered from the diversion of most of the spare cash of the Englishman towards one of the war funds. The Council of the Association, in reply to many representations from individuals and societies as to the widespread habit of spitting on pavements, especially in vehicles and closed public places, have made the following statement: "As this habit is not only offensive, but a direct cause of spreading consumption the council propose to ask the various railway companies to post upon their premises a card printed by the association urging persons to repress, as far as possible, the highly dangerous habit. Care has been taken in wording this notice to invite the cooperation of the general public, rather than to express any authoritative prohibition." Such placarding of the danger to the community of a filthy habit may lead to an abatement of the evil.

The late Dr. William Marcet, whose death occurred at Luxor, Egypt, at the beginning of March, was famous as a physician, a chemist and a meteorologist. He graduated 50 years ago in Edinburgh, and coming to London with a good reputation for powers of research was elected assistant physician to the Hospital for Consumption and Diseases the Chest at Brompton and to the Westminster Hospital. 1857 he was elected as Fellow of the Royal Society. In 18 he was chemical expert to the Royal Commission sittin upon cattle plague, and a few years later he commenced th work with which his name is most closely associated, viz., h researches into the influence of high altitudes upon respir tion. He started his inquiries in the High Alps in 1876 a continued them for four years. Afterwards a laboratory w placed at his disposal at University College, London, whe he went on with the work, aided by competent assistants, f some 15 more years. In 1895 he embodied the results of a his work in the Croonian Lectures delivered in that ye before the Royal College of Physicians of London. In 18 he was elected President of the Royal Meteorological Societ Dr. Marcet had for a long time been in delicate health an his death at Luxor in the seventy-third year of his age w not wholly unexpected.

The English-speaking Practitioner in Italy.—"American medical men," writes a frequent correspondent in England, "will be as interested as we are on this side the developments that appear to be taking place in Italy with respect to the foreign practitioner in medicine. A bi which is shortly to be discussed in the Italian Chamber, pro poses to prevent medical practice by foreigners with the fo lowing exceptions: (1) Foreign physicians and surgeons ex pressly called in for special cases or for exclusive attendanc on a specified individual or family; and (2) foreign physician practising their profession among foreign visitors only an belonging to States that grant similar or reciprocal privilege to Italian medical men." If the measure containing thi clause becomes law Italy will be a great pecuniary loser, an the Italian medical men, whose protection is designed, wi not gain. The English speaking medical man, the Britis and American practitioner, is the person aimed at, and hi presence in Italy is due entirely to the presence there o many of his compatriots. These sojourners in a beautifu foreign land spend money freely, but they will find anothe country to live in, if not to travel in, if they cannot hav the ministration, when sick, of medical men speaking thei own language. When the Italian residents in London o New York, Dublin or Philadelphia, Edinburgh or Chicago can be compared in numbers or social influence with th English-speaking residents in Italy, it will be time to insis upon the justice of a system of reciprocity.

MISCELLANY.

The Most Prevalent Infectious Disease.—The question propounded by the medical profession as to "wha infectious disease is the most widely diffused," has been an swered by Neisser, who claims that aside from measles, gon orrhea heads the list and quotes as an example the Germa Army with 467,000 soldiers had 8,364 cases of gonorrhea the French Army 467,000 soldiers with 14,865 cases of gon orrhea.

Free Courses at the University of Paris.—The council of the University of Paris has authorized the open ing of the following free courses, to be held at the Faculté de Médecine: "Psychology, physiology, and pathology o hypnotism," by Prof. Bérillon; "Modern discoveries and their application to medicine;" this course comprises a study of electricity, x-ray, chromolithograph, liquid air, etc. and is to be under the direction of Prof. Bonnet. "Surgery and pathology of the teeth," Prof. Dunogier; "Biological minerology" (demineralization and remineralization of the human body), by Prof. Gaube.

The Prevention of Malaria in Spain.—According to the *British Medical Journal* the Spanish Government has issued a decree ordering the Royal Academy of Medicine to prepare, within the next two years, a report as detailed as possible as to the foci and sources of malaria in Spain, the injury which it causes, and the best means of combating the scourge. All local sanitary authorities and all medical practitioners are enjoined to give every assistance in their power to the Academy in its inquiry. When the report is presented it will first be referred to the Royal Council of Health, and afterward the Government will submit to the Legislature a scheme for the extinction of malaria in Spain.

The Latest Literature.

British Medical Journal.

March 10, 1900. [No. 2045.]

Practical Observations on Cancer of the Breast. SIR WILLIAM BANKS.
Surgery of the Stomach. A. W. MAYO ROBSON.
Surgery of Perforated Gastric Ulcer, with Special Reference to the Results of Operation in Ulster. A. B. MITCHELL.
Perforating Gastric Ulcer, with Notes of Two Successful Cases after Operation. P. RHYS GRIFFITHS.
Gastrojejunostomy for Gastric Ulcer. W. JONES GREER.
The Causes and Treatment of Movable Kidney. C. MANSELL MOULLIN.
Diphtheria: Parturition: Retained Membranes: Influenza: Diphtheria in the Infant: Recovery. R. H. STEEN.
Retention of the Placenta for Nine Days: Recovery. GRIFFITH GRIFFITHS.
A Case of Complete Inertia and Prolapsus Uteri. F. L. POCHIN.
Unilateral Facial Paralysis for Emotional but not for Voluntary Movements. R. T. WILLIAMSON.

and **2.**—See abstracts of the *Lancet*, this issue.

.—Mitchell reports 13 cases of **perforated gastric er** operated on in Ulster, 6 of which recovered. He goes o say that taken early, cases of perforation are apt to get l after operative treatment. Some of the more import- symptoms of perforation are: Pain coming on with tling rapidity; shock, due either to a disturbance of the t sympathetic ganglia and peritoneum by the stomach- tents or to the presence of gas in the peritoneal cavity; iting; hematemesis, which is a very rare condition; and period of repose which often is the cause of a too late ration. The operation, which should be done as early as sible, consists in gaining access to the abdominal cavity ough a small incision which may be enlarged later; then uturing the ulcer, seldom excising it; cleansing the peri- eal cavity either by douching or sponging, and the inser- of drains, preferably gauze. The dangers which must net after the operation are shock, peritonitis, tympanitis, ess, empyema, hemorrhage, etc. Adhesions also may trouble. [G.B.W.]

.—Griffiths gives the mortality for **perforating gas- ulcer** as 70% in acute cases and 55% in chronic, in rative cases, as opposed to 95% when the case is left to re. He reports two cases, both of which recovered. G.W.]

.—In this case of **gastric ulcer** the patient was a nan, 28 years old, who had been suffering from symptoms his disease for over 10 years. The gastrojejunostomy done with a small-sized Murphy's button and the patient greatly shocked by the operation. The recovery, how- r, was steady and uneventful. [G.B.W.]

.—A distinction between **movable and floating kid-** is that in the latter there is a true mesonephron. Nor- ly the kidney possesses a range of motion from 3 to 5 cm. kidneys are surrounded by a provisional fascia which is evelopment of the subperitoneal tissue. Between the ia and the kidney, however, is a very soft fat through ch run strong bands of fibrous tissue connecting the two. neither fascia nor the fat are capable in themselves of ntaining the kidney in position when the influence of the ominal pressure is removed. As to treatment, in all but very mildest cases, nephrorrhaphy should be done. In e very mild cases an abdominal belt may correct the position. [G.B.W.]

.—Steen reports a case of **pregnancy** in a woman 33 rs of age **complicated by diphtheria.** Labor oc- red during the attack and the child, when 5 days old, wed evidences of infection. An injection of 1000 units given to the infant, which made an uninterrupted recov- and was in no way harmed by the large dose of serum. K.]

.—Griffiths reports a case of **retention of placenta** 9 days after labor. When removed the mass was in an advanced stage of decomposition. The patient ultimately recovered after the removal of the tissue. [W.K.]

9.—In Pochin's case the puerperal uterus was found projecting from the vulva after the case had been attended by a midwife. [W.K.]

10.—The case was that of a woman of 41 who had **chronic nephritis with high arterial tension.** She became suddenly hemiplegic, the face not being affected as far as ordinary movements such as showing the teeth were concerned, and there being no difference in the wrinkles on the two sides, but on smiling the right angle of the mouth was well retracted, while there was practically no movement on the left side. The facial symptoms afterward disappeared and the hemiplegia improved considerably. It is considered that the paralysis was organic owing to the presence of marked predisposing factors. There was hemianesthesia, and therefore the lesion was probably well back in the internal capsule, and may readily have involved the optic thalamus, and thus have made emotional movements impossible on the left side of the face. [D.L.E.]

Lancet.

March 10, 1900. [No. 3993.]

1. Surgery of the Stomach. A. MAYO ROBSON.
2. Practical Observations on Cancer of the Breast. WILLIAM M. BANKS.
3. The Sanitary Condition of Irish National Schools. ANTONY ROCHE.
4. A Case of Rupture of the Brachial Plexus. PURVES STEWART and MAYO COLLIER.
5. A Suggestion for a Method of Opening the Pericardial Sac, founded upon a Case of Purulent Pericarditis. CYRIL OGLE and HERBERT ALLINGHAM.
6. On the Application of Electricity in Medical and Surgical Practice. H. LEWIS JONES.
7. Tuberculous Disease of the Kidney: its Etiology, Pathology, and Surgical Treatment. DAVID NEWMAN.
8. Complete Ossiculectomy (Removal of Remains of Drumhead, Larger Ossicles, and External Attic Wall) in Chronic Otitis Media, with Analysis of 50 Cases. R. LAKE.
9. A Case of Gunshot Wound of the Abdomen with Injury to the Intestine; Recovery Without Operation. C. REISSMANN.
10. A Case of Traumatic Tetanus with Recovery. H. P. POTTER.
11. A Case of Intestinal Obstruction due to Thrombosis of some of the Mesenteric Vessels; Laparotomy; Death; Necropsy. C. WHIPPLE.

1.—Robson believes that in the future the treatment of **diseases of the stomach** is destined to become more and more **surgical** from the fact that many of the diseases are only capable of relief or cure by operative treatment. He has operated personally in about 150 cases. The anatomy of the stomach is first described. In place of the usual method of dividing the abdomen into 9 regions the use of 2 lines is suggested; these lines passing from the anterior superior spine of the ilium to the most prominent part of the ninth costal cartilage and crossing near the umbilicus. The various means of diagnosis of diseases of the stomach are discussed. Robson believes that exploratory incision as a means of diagnosis is necessary in only a small percentage of cases. Incision in the median line is not considered best because of the likelihood of yielding of the scar, the fact that the round ligament of the liver is apt to be in the way, and because that to prolong the incision is inconvenient because of the umbilicus, an oblique incision along the costal margins is undesirable because it divides muscles so freely and weakening of the abdominal wall is likely to follow. All these conditions are obviated by an incision through the inner margins of the rectus abdominus just to the left of the median line. The operation of **gastrotomy** is indicated for the removal of foreign bodies, polypi, or tumors, for the purpose of dilating strictures of the esophagus, or of the pylorus and for cureting cancer of the pylorus. The abdominal incision should be free and flat sponges or gauze pads should be packed around the stomach to avoid soiling the peritoneal cavity. Incision of the stomach in its longitudinal axis is advised; the stomach incision can be closed after the

object of the operation is accomplished by continuous catgut suture, for the mucous margins and a continuous silk suture for the serous edges. Lembert sutures are sometimes applied over all for greater security. Gastrotomy for partially removing cancerous growths by the curet as suggested by Bernays is not spoken of favorably because of the uncertainty and the danger from hemorrhage and perforation, and from the fact that the relief can only be very temporary. For a discussion of gastric ulcer see editorial columns. [M.B.T.]

2.—Banks believes that while imperfect methods of diagnosis and more numerous necropsies account for a moderate **increase of mortality from carcinoma**; yet these causes do not entirely account for the remarkable increase in the number of deaths from this disease in recent years. In considering the cause of such increase he mentions that the mortality in England and Wales is lowest in the lime district, while it is highest in the flat, low-lying districts, the flat, clay regions. He is unable to find that confirmed drunkards are any more liable to the disease, and has never been able to trace any connection whatever between syphilis and carcinoma. Bad sanitary arrangements are not entirely at fault, for there have been great improvements of late in water-supplies, drainage, housing and clothing. A great change in the modern life is the introduction of richer and more abundant food; people are eating healthier food in much increased quantities, and the highest mortality is to be found among persons who eat and drink abundantly but do not take much exercise. The most tainted places are London, the Thames valley and the counties adjoining, where the most luxurious habits of life prevail. Heredity is a factor of some importance, but no doubt too much value has always been attached to it. In many cases there seems to be clear evidence of the origin from traumatism. Banks strongly emphasizes the importance of early diagnosis. No lump in the breast, however small, should be considered harmless or unworthy of the utmost attention, and all small lumps should be cut out if they do not speedily disappear. [M.B.T.]

3.—Roche presents extracts from various reports to indicate the **wretched condition of the Irish schools.** There seems to be little doubt that there is need for improvement, as one of his recommendations is that the schoolrooms should be warmed in winter, even if it is necessary to apply to Parliament for a grant to pay the expense. He also wisely recommends amongst other things that the teachers should be instructed in hygiene, and that the children should be taught the simple elements of hygiene. [D.L.E.]

4.—A man, 33 years old, was admitted to the hospital in a semiconscious condition; he had been found lying on the road apparently having fallen from a machine road-brush. A contusion of the right side of the neck extending from the right shoulder to the front of the axilla was found, but there was no other evidence of injury. It was learned that the patient was subject to epileptic fits and probably he sustained his injury by falling under his own cart during such a fit and the wheel ran over his right shoulder and the lower part of his neck. His right arm and hand remained completely paralyzed and no improvement whatever ensued. The bruise on the left side of his head with the paralysis of the right arm suggested paralysis due to cerebral injury, but the profound anesthesia of the limb was against such a theory; moreover, the paralysis was of a flaccid type entirely unlike the rigidity of cerebral paralysis. Subsequent examination showed marked muscular atrophy and the presence of the reactions of degeneration. Such a combination of anesthesia, motor paralysis, and muscular atrophy pointed to an extensive lesion of the peripheral nerves supplying the upper limb. A detailed description of the results of the examination is given from which a diagnosis of **rupture of the brachial plexus was made.** [M.B.T.]

5.—A man of 36 was admitted to the hospital with delirium and dyspnea. The diagnosis seemed to lie between **pericardial inflammation** or an enlarged fatty heart with clotting in the right cavities. The condition became worse and it was decided to operate. An incision was made along the fifth left cartilage; 2 inches of the cartilage was removed and careful dissection was made down to the pericardium; this was opened and 15 or 16 ounces of thin nonoffensive pus escaped. Great masses of tough lymph were adherent to the heart and sac; these were loosened and removed by the finger; the sac was then irrigated with hot water and edges of the pericardium were sewn to the skin. After operation the pulse improved and the distress in breath was somewhat relieved so that the patient could lie down comfort. He lived only 14 hours, however, dying as a res of his much weakened condition. It is believed from results in this case that the heart and pericardium may p haps be more frequently subjected to **surgical treatme** in the future. Opening of the pericardium from below suggested as favoring cleansing of the sac from all sides a proper drainage. [M.B.T.]

7.—The prognosis, in cases of **tuberculosis of t kidney,** is always favorable, especially when the disease not limited to one kidney; Newman believes that sp taneous cure is not impossible, however. In the treatm of such conditions nephrotomy may be practised if t disease is limited to a small area or has formed only o cavity. Partial excision is not so suitable an operation for many other lesions. It would be applicable only in t case of localized growths in the cortex of the kidn Nephrectomy should be performed as a primary operati when the disease extends over a large area and in cases which nephrectomy has been previously performed, but which a sinus persists. When there is no reasonable pr pect of saving useful renal tissue nothing can be gained delay and much may be lost. The operation should resorted to at the earliest possible date. [M.B.T.]

8.—Lake mentions as the indications for **ossiculectom** intractable disease of the attic; perforation in Sharpne membrane, especially if accompanied by caries or deafnes intractable disease with perforation in the posterior superi quadrant or with considerable destruction of the membra in any other situation; residual deafness after suppurati without nerve-deafness. He tabulates 50 cases in which performed this operation. Cure resulted in 42 cases, the was improvement of hearing in 21 cases, and in 3 cases t hearing returned to normal. [M.B.T.]

9.—A man, 31 years of age, was shot by a Mauser bull which took effect in his abdomen; he never suffered a universal abdominal pain nor other symptoms of perforatic but it was thought certain that such perforation had occurre No operation was performed, but uninterrupted recove followed. [M.B.T.]

10.—A man of 45 had pricked his heel with a needle days previous to his admission to the hospital. At the tin of entrance he was suffering with the typical symptoms **tetanus.** Fifteen grains of potassium bromid and chloral were administered every 4 hours and later the do was increased to 30 grains. Uninterrupted recovery follow the treatment. [M B.T.]

11.—A man of 48 was admitted to the hospital sufferi from nausea, vomiting, and constipation, which had lasted days. The abdomen was moderately distended and dull fro the presence of fluid in both flanks. There was also fulne and tenderness in the hypogastric-regions. His conditi was rapidly becoming worse, an incision was made in t middle line below the umbilicus and chocolate-colored flu escaped. The intestine was deeply congested and distend and in the pelvis there was a distinct nodulated mass. O of the distended coils of the intestine was brought out in the wound and incised, when gas and a little fecal matter e caped. The man was carried to his bed in an almost mor bund condition and he sank rapidly and died. At t necropsy there was found **thrombosis of the mesenteri vessels** corresponding to the affected bowel, and a portio of the ileum, 38 inches in length, was badly congested an in places was becoming gangrenous. [M.B.T.]

New York Medical Journal.

March 24, 1900. [Vol. lxxi, No. 12.]

1. What Precautions Shall we take to Avoid Leaving Foreig Bodies in the Abdomen after Operations? HOWAR A. KELLY.
2. The Sheldon Murder Trial: Resume of the Expert Te timony for the State. WILLIAM S. CHEESMAN, an ALBERT H. HAMILTON.
3. Gout and Rheumatism: Their Etiology and Dietet Treatment. WILLIAM HENRY PORTER.
4. The Administration of General Anesthetics. C. ALGE NON TEMPLE.

ebral Complications caused by Extension from the Accessory Cavities of the Nose. Robert H. Craig.
Treatment of Retrodisplacement of the Uterus. I. L. Watkins.
ctation, Regurgitation, and Rumination. H. W. Lincoln.
ase of Acetanilid Poisoning. O. R. Summers.

Kelly reports several cases which have come under tice in which **foreign bodies** were **left in the abn after operations.** To prevent such an accident vises the following precautions: always commence definite number of pieces (7 marine sponges and 9 of gauze is a convenient number); the number of pieces be written down on a slate or piece of paper; if more ded they should be written down at once; the use of pieces of gauze and small sponges should be abandoned; packing pieces of gauze in the abdomen out of sight, ttach a bit of tape to the corner of the gauze; the angs from the wound and with forceps attached makes tracer; marine sponges may be enclosed in a loose bag with a tracer attached; at the close of the operation erator should ask how many pieces of gauze are called l how many sponges; never, under any circumstances, the account be muddled by cutting the gauze or g a sponge. Kelly is accustomed to make two people sible for the number of pieces used, the assistant who s the sponges and the nurse. The discarded gauze or s should be put into a receptacle and never mixed oiled dressings, towels, or sheets. To facilitate countese articles Kelly has devised a wire frame with sharp ; gauze pads are thrown over the horizontal bars of me and the sponges are fixed on the spikes. In addio all these precautions the surgeon must exercise al vigilance, taking exact note of everything put into domen and mentioning it aloud. An examination be made in all cases to determine by actual inspecd by touch that nothing has been left behind. [M.B.T.]

-Porter believes that the weight of evidence indicates oth **gout and rheumatism** are due to defective oxi- in the general system. They result from one of two , the use of an excess of food, or diminution of the food- so that the body of necessity has to reduce its oxidaocesses. Uric acid and other end-products found in creta are merely the evidences of imperfect metab- and not the products of the disease. He believes ric acid is formed by the kidneys. He does not think is an antecedent to urea but is a true end-product of d oxidation. The treatment which he recommends is e of food which is given in a quantity which is within xygenating capacity of the system; and at the same he care of the digestive system so that the food which n is properly digested. [D.L.E.]

-A case is reported in which **attacks of dizziness** elieved by removal of the hypertrophied middle tur- of the nose. In another case attacks of headache elieved by draining the antrum of a large quantity of A third case is mentioned in which meningitis was l by extension of infection from the right ethmoidal nth. [M.B.T.]

-Watkins gives the **causes of retrodisplacements** temporary physiologic displacement; (2) a sudden or fall under favorable conditions; (3) prolonged decubitus, as after parturition; (4) inflammatory deposits ning the sacral ligament and destroying the natural y of other muscular fibers; (5) imperfectly developed sacral and round ligaments with infantile generative . The inflammatory deposits are accompanied by n the hips, lower part of the abdomen and back. Resturbances are common. Displacements due to falls s are accompanied by headaches, pains in the back gs, and hemorrhoids. Those due to imperfect develt of the fibrous structures show hysterical symptoms rregular menstruation, often painful and scant. He es that simple cases which are not bound down by ons, are best treated by the pessary, providing intelledical care can be given while the patient is wearing should be removed at intervals of 3 to 6 months, and organ remains in position, the patient is discharged. strong, pelvic adhesions exist, or in case of illy-develibrous structures, surgical measures should be resorted the uterus attached to the abdominal wall. Difficulty during labor and interference with the bladder are the results of including too much uterine tissue anteroposteriorly, and limiting too much the upward and downward movement of the organ. [W.K.]

7.—Lincoln reviews the characteristics of **eructation, regurgitation, and rumination.** Oftentimes he thinks regurgitation is due merely to overloading of the stomach; he considers it an advanced stage of eructation. In both, suggestion should be freely used in treatment; when regurgitation is habitual the patient should be forced to swallow the regurgitated food. Small ice pellets, bromids, and electricity internally and externally, are often useful. Rumination usually is voluntary in the beginning, but later becomes involuntary. It is commonly caused by heredity, custom or imitation. The actual condition of the stomach may be normal, or there may be hyperchylia or achylia; it does not endanger life, but is not likely to be readily cured. The best treatment is removal of the cause, having meals served in company, and the administration of a bitter preparation, such as quinin, with the meals, which is likely to do away with any desire to ruminate. [D.L.E.]

8.—Summers' patient was a woman who was given two 4-grain powders of **acetanilid.** Within an hour and a half she became cyanotic and cold, and the pulse very rapid, the temperature much depressed, and respirations rapid. She improved under treatment, and, though confined to her bed for 4 days with vertigo, became entirely well. [D.L.E.]

Medical Record.

March 24, 1900. [Vol. 57, No. 12.]

1. Non-Malignant Gastric and Duodenal Ulcers; With Illustrative Cases. Thomas E. Satterthwaite.
2. On the Treatment of Fatty Heart. Th. Schott.
3. Round Ulcer of the Duodenum. Percival R. Bolton.
4. The Prophylaxis and Treatment of Gonorrhea by Methylene-Blue. Joseph Alan O'Neill.
5. Uretero-vaginal Fistula; Operation; Cure. F. W. Johnson.
6. Epileptiform Convulsions, Following the Intranasal Application of Cocain. Samuel Kohn.
7. Gunshot Wound of the Kidney. William F. Barry.

1.—Satterthwaite gives a general discussion of **gastric and duodenal ulcers.** He draws attention to the fact that syphilitic ulceration of the stomach is apparently not so rare as is usually taught. In his first 5 cases there was an indefinite history of syphilis. He also records one case in which there were, he states, numerous tuberculous focci in the stomach in a case of generalized tuberculosis. The treatment he advises is, first, absolute rest, withdrawal of all food by the mouth, rectal alimentation for a week, food being given by the mouth after this period in the form of small quantities of liquids. The stomach-tube should not be used. [D.L.E.]

2.—Schott first reviews the various mechanical and other **methods of managing cases of fatty heart,** and then goes over the details of his own treatment. For fatty heart he advises the use of baths of a temperature of about 88° F. gradually reduced to about 76° F., the duration of the bath at first to be 10 minutes, and when at first given to be administered only every other day. The duration of the bath should be gradually increased up to 20 minutes. Fatty heart with anemia is often much benefited by effervescent baths. Schott thinks that this is a much more successful method of treating cardiac diseases than the method of Oertel in which the body-weight is rapidly reduced. He warns against an attempt to reduce the fat too rapidly. [D.L.E.]

3.—Bolton reports 5 cases of operation for **ulcer of the duodenum.** All of the cases occurred in men, the youngest being 20, the eldest 45 years of age. In 4 cases the pain seemed to be referred to the appendix, and as appendicitis was suspected an incision was made over the appendix. The real cause of the trouble was not found at the operation in any of the cases, the condition of the patients not permitting of extended search; the peritoneum was infected and contained a turbid fluid. The real lesion was found at the necropsy. In all cases the definite character of the symptoms and particularly the indefinite location of the pain, makes the diagnosis difficult in those cases. Abdominal pain is present in all cases, vomiting is present in about a third of the cases. The treatment may be described under the treat-

ment of peritonitis and the treatment of the ulcer; resection of the intestine or simple suture of the ulcer are not favored. The best plan is thought to be excision wide of the ulcer and closure by Czerny-Lembert sutures. In the treatment of peritonitis, eviscerating the patient to remove all the infection is not favored. Bolton advises flushing the abdomen thoroughly with large quantities of salt-solution until the fluid returns clear; the peritoneum should then be sponged dry and a considerable quantity of salt-solution left in the abdomen; a strip of gauze should lead down to the point of infection for drainage. [M.B.T.]

4.—O'Neill has found **methylene-blue** valuable in the treatment of **gonorrhea,** and states that disturbance of the stomach was not seen when the methylene-blue was put up with oil of nutmeg and oil of sandalwood. He believes that the use of this drug before impure intercourse would have decided prophylactic value, as suggested by Flint. [D.L.E.]

5.—Johnson reports a case of **uretero-vaginal fistula** in a woman patient, aged 35 years, the fistula following an operation for the removal of uterus, tubes and ovaries because of adenocarcinoma. After the operation a part of the urine began to run away through the vagina, the rest was passed naturally. No improvement occurring in two years, the patient was again operated upon for the relief of this condition. The fistula was found in the lateral wall of the ureter. An oval denudation was made in the vaginal wall, and in the ureteral walls around the opening, and the sides of the denudation brought together by interrupted silver-wire sutures. The patient was entirely cured, there being no further leakage of urine. [W.K.]

6.—Kohn applied a 10% solution of cocain to the nasal mucous membrane in a case of **epistaxis.** The patient rapidly became pale, then cyanosed, had twitching of the facial muscles, became generally relaxed, and fell to the floor comatose. He had marked epileptic convulsions most notable on the right side of the body, which continued for from five to ten minutes. This is thought to be the only case on record of convulsions from application of cocain to the nose. [D.L.E.]

7.—A woman received 2 **gunshot-wounds;** one in the right lumbar region, the other in the abdominal wall. The wound in the abdominal wall was only muscle deep, but a wound of the kidney was made evident by the appearance of urine saturating the dressing in the lumbar region. The amount of urine which appeared on the dressing gradually decreased, however, and after about 6 weeks the sinus had entirely closed. [M.B.T.]

Medical News.

March 24, 1900. [Vol. lxxvi, No. 12.]

1. Suprarenal Therapy. W. H. BATES.
2. Some Directions as to the Care of the Hair. GEORGE THOMAS JACKSON.
3. Neurological Observations in the Hawaiian Islands. DANIEL R. BROWER.
4. Alcohol as a General Stimulant and Heart Tonic; Its Use to the Animal Economy in Health and Disease. T. J. HILLIS.
5. The Thrush-Fungus as a Cause of Gastritis. W. A. BASTEDO.
6. A Case of Transverse Presentation; Double Uterus. A. H. HAYDEN.

1.—Bates is thoroughly convinced of the **value of suprarenal extract** in various forms of disease. Applied locally, it contracts the bloodvessels, they remain contracted for some time, and then return to their normal size without any dilation; the nutrition of the part is in no wise affected; there is no subsequent irritation; the tissues do not become accustomed to the drug, but each renewed application has as great an effect as that preceding. There is no action upon the nervous system, and, therefore, no habit can be formed. In eye disease it acts upon the bloodvessels of the conjunctiva without affecting the pupils or the accommodation. Taken internally, practically the same effects are obtained, but the dose required is larger and the internal viscera may be more or less affected. Practically the only preparation is the dried gland, which must be mixed with water in the proportion of 1 to 10, filtered after five minutes, and may then be sterilized by boiling. The extract is valuable in a great variety of diseases, such as acute inflammation of nose and throat, in hay fever, in various inflammatory eases of the eye, in congestion of the middle ear, the appl tion being made either to the Eustachian tube or the dr and in all forms of hemorrhage, even in cases of he philia when secondary hemorrhage does not appear to oc Probably due to its tonic or other properties, it may be u in Addison's disease, asthma, and exophthalmic goiter. also appears to act as a powerful stimulant to the heart, after its administration a pulse that is weak, intermitt and rapid will become regular, slower and stronger. C ously enough, it appears that there is no increase in blood-pressure, the action being directly upon the he The great advantage of this drug is that practically unlim doses may be taken without the production of any form poisoning. [J.S.]

2.—Jackson believes that the **hair should not be after fevers,** but brushed and combed every day for the p pose of removing all hairs that are loose. It should be was thoroughly every two or three weeks, and once a week a li pomade or ointment containing sulphur rubbed thoroug into it. Under ordinary circumstances, bathing the h every two or four weeks is sufficient, some good soap be employed and then carefully washed out. Afterward i desirable to use some form of artificial grease to take place of the natural grease removed from the hair. It ma no difference how often the hair is cut, but in the case women it is undesirable to cut it at all after they h reached the age of 12 years. Singeing is entirely unnecessa [J.S.]

3.—Brower notes that as a result of the depressing eff of the climate of the coast of the **Hawaiian Islan** neurasthenia is very common and the average Anglo-Sa cannot live in that region for more than three years at a tir Insanity is not very common, the proportion of insane be only 1 to 100 of the inhabitants. Among the natives, gene paresis, spinal scleroses, paranoia, and the violent manias very rare. There are now about 1,200 lepers in the le settlement, the anesthetic and neural forms forming ab 25% of all the cases. The spread of the disease is probal due to the enervated conditions of the natives as a result general syphilitic infection, and their habits of eating a smoking which render contagion very easy. The period incubation apparently lasts for about five hours. The d ease is contagious and apparently not hereditary, for childr born of leprous parents who have not at the time of bi some symptoms of the disease do not subsequently devel it. Segregation is carried out with as much thoroughness possible, but as the natives conceal the cases, the bacilli become spread before they are finally sent to the island. T renders more or less nugatory the efforts of the authorities stamp it out. [J.S.]

4.—Hillis discusses the various conditions affecting t **quality of whisky,** particularly the value of amyl alcol or fusel-oil in rendering the whisky more healthful and p atable, providing it has been allowed properly to ripe This process of ripening, that is the slight oxidation of t carbon of the amyl alcohol, requires from 10 to 20 yea Under these circumstances the alcohol is not really ve dangerous, and it probably makes a thousand persons hap to every one that it injures. Alcohol is an excellent stim lant, particularly when the body is in a state of exhaustic Under these circumstances it enables a person who takes it continue at work for a certain time longer, and prevents su sequently the utter collapse that would otherwise ensu Similarly, in states of exhaustion due to disease or other co ditions large quantities may be taken with only benefic effects. Thus, a woman after severe postmortem hemorrha was given 10 oz. of whisky and showed not the slightest effe from it. [J.S.]

5.—Bastedo reports a curious case occurring in a wom 26 years of age, who 10 days before admission to the hospit had had a severe chill followed by persistent vomiting. S had been unable to retain anything in the stomach, becar exhausted and anemic. The vomitus consisted of a cle fluid containing a little mucus and many grayish partic that under the microscope were found to consist chiefly the sacchomyces albicans. There was slight leukocytos The stomach and rectum obstinately rejected all forms nutriment. Lavage was resorted to, codein and chlorofo given by the mouth, and in the course of a few days t

was restored to health. On account of the large y of fungus in the stomach and the absence of any tiologic factor, **thrush** is accepted as the cause of ase. [J.S.]

Hayden reports a case of **transverse presentation** ng in the ninth pregnancy of a woman aged 40, and is found to have a double uterus. He first saw the after 36 hours of labor, when she was in a state of e, the fetus, which was without life, being in a dorso- or position with the shoulder completely wedged. He ned pedalic version and delivered the child with some ty; the placenta, of necessity, was removed manu- Shortly after delivery the patient's condition im- slightly; but on the tenth day she died, apparently haustion. In the process of delivery Hayden found ere were two distinct openings at the os externum, into two entirely separate cavities, the right alone mpregnated; yet she had experienced no difficulty ything abnormal in any of the 8 previous labors.

Boston Medical and Surgical Journal.

March 22, 1900. [Vol. cxlii, No. 12.]

Open or Operative Treatment of Fresh Fractures; Is t Ever Justifiable? With an Analysis of the Results f the Present Methods of Treatment in 153 Fractures f the Lower Extremity. Charles L. Scudder.
rmittent Gastric Hypersecretion with a Report of a ase. Arthur W. Elting.
ew Needle-Holder. George H. Monks.
elf-Closing Stopper for an Ether Bottle. L. R. G. randon.
arcoma of Tonsil. 2. Slipping Patella. 3. Cysts of oth Ovaries: Hydatidiform Mole Removed by bdominal Incision. 4. Dislocation of Internal Sem- lunar Cartilage; Removal; Good Recovery. 5. nunited Fracture of Olecranon. 6. Floating Carti- ages in Both Knee-Joints. 7. Fracture of Right atella. 8. Comminuted Fracture of Humerus. 9. racture of Surgical Neck of Humerus, with Displace- nent of Head of Humerus. C. B. Porter.
ay Plates of Traumatic Separation of Epiphysis. harles L. Scudder.
gulated Diaphragmatic Hernia. S. J. Mixter.
Case of Acute General Peritonitis; Operation; Re- overy. 2. A Case of Chopart's Amputation, with endon Implantation and Tenotomy. J. G. Mumford.
matic Rupture of Echinococcus Cyst of Liver. C. A. orter.

Scudder, in beginning his article on the **open treat- of fresh fractures,** rehearses the results obtained Massachusetts General Hospital by the old method orts from various writers a number of cases which n treated by operation. He says that from an analogy ions and osteotomy, closed fractures of bone may be treated by open incision. Also that reported cases trate that the open method is satisfactory, and is a dvance upon generally accepted methods. So it is say that closed fractures should be treated by open and internal fixation, when other methods fail to reduction and immobilization. The open method will e used more and more in oblique fractures of the es of long bones; in complicated fractures about in all fractures associated with injury to nerve with injury to great bloodvessels, and when associ- th threatening gangrene. [G B.W.]

Elting reports a case of **paroxysmal hypersecre- f the stomach** occurring in a man, 33 years of age. apparently brought on during a period of convales- rom a fracture of the leg, at which time he had an lasting 4 weeks, and since then the attacks have d frequently. The attacks consist essentially of ms of pain, followed by vomiting, the vomitus con- ly exceeding the amount of fluid ingested. During rvals he is apparently normal, usually eats heartily, ins the weight lost during the attack. Physical ation and the analysis of the stomach-contents during ervals failed to indicate any abnormal condition. the attacks the vomitus contains a slight amount of pepsin and rennin, but no free acid. The treatment of this condition is very unsatisfactory. During the interval, the patient should have a carefully arranged diet, and perhaps mild tonics. During the attack, the most efficient method is lavage with weak alkaline solution or 1 to 1,000 nitrate of silver-solution. In severe cases morphia may be required. [J S.]

3.—This **needle-holder** grasps the needle readily and holds it firmly in a position at right angles to the instrument and only very light pressure on the handles is required. The needle is released automatically as soon as the jaws are allowed to open. [G B.W.]

5.—Porter reports a case of **sarcoma of the tonsil** removed by an incision along the lower edge of the ramus of the lower jaw, opening up the digastric fossa. Some facial paralysis occurred as a result of the operation. Another case in which the **patella slipped** to the outer side of the femur when the knee was flexed, was cured by excising an elliptical shaped piece of the internal lateral patellar ligament. A woman with symptoms resembling those of extra-uterine pregnancy was operated on and a **hydatidiform mole** was removed from the cavity of the uterus. The patient made a good recovery. [G.B.W.]

6.—Scudder says that, with a more exact diagnosis because of the x-rays and with better operative results thanks to asepsis, the open treatment of closed fractures and epiphyseal separation is coming to be more and more the duty of the surgeon. [G.B.W.]

7.—Mixter reports a case of intestinal strangulation due to **hernia through the diaphragm.** The intestine, which was found to be gangrenous, could only be sutured to the abdominal cavity after enlarging the opening in the diaphragm. Death, 14 hours after operation, from shock. [G.B.W.]

8.—In a case of **gangrenous appendicitis** operated on by Mumford, there was a **general peritonitis,** the peritoneal cavity being filled with a "thin pus." The appendix was removed and the whole abdominal cavity thoroughly washed out with 6 gallons of a hot, sterilized salt-solution. The patient made a good recovery. [G.B.W.]

9.—Porter reports a case of **echinococcus cyst ruptured** by a kick on the abdomen. There was a good deal of pain, temperature 102°, and pulse 120. At the operation the collapsed cyst was found. The abdomen was cleared of clots and fluid and the cyst-wall stitched to the abdominal wound. The recovery was uneventful, though a sinus remained. [G B.W.]

Journal American Medical Association.

March 24, 1900. [Vol. xxxiv, No. 12.]

1. Selection of Anesthetic in Surgery. John A. Wyeth.
2. The Amount of the Anesthetic. Thos. L. Bennett.
3. Nitrous Oxid and Its Modifications in Prolonged Surgical Operation. S. Ormond Goldan.
4. Experiences with Ethyl Chlorid in General Anesthesia. James P. Tuttle.
5. What are the Most Efficient and Practical Means for Limiting the Prevalence and Fatality of Pulmonary Tuberculosis? N. S. Davis.
6. Prevention of Tuberculosis. Homer M. Thomas.
7. Frequency of Rickets in Infancy in Boston and Vicinity. John Lovett Morse.
8. Mental Fatigue. Edward Thorndike.
9. Thyroid Feeding in Obesity. A. W. Sherman.
10. Case of Double Congenital Luxation of Hips: One Replaced by Manipulation and the Other by Operation. Gwilym G. Davis.
11. Progress of Bacteriology. Edwin Baldwin.
12. Shoulder-Humero-Scapula Articulation. Some Complications and Sequels Attending or Following Reducible or Irreducible Dislocations, with Brief Review of Various Modern Operative Measures Now Employed for Their Treatment. Thomas H. Manley.

1.—Wyeth states that during the first 10 years of his practice he used **ether** exclusively as an anesthetic, but at present he employs **chloroform** in about 75% of his cases, either wholly or at some stage in the operation. He invariably injects $\frac{1}{4}$ grain morphia with $\frac{1}{150}$ grain atropin 15 minutes before anesthesia. If there is interruption of the

heart's rhythm, which may be due to nausea, the anesthetic is removed, and the head and chest lowered, but if the heart does not steady up ether is substituted. Sudden pallor of the face or wide dilation of the pupil are also danger signals. It is not best to try to bring the patient too rapidly under the anesthetic and there should be free admixture of air with the vapor. Ether is safer in the hands of the inexperienced and in children. Wyeth makes this latter statement in spite of the usual teaching to the contrary. [M.B.T.]

2.—The **amount** of the given **anesthetic** required will be found to depend on: The particular patient; the particular operation; the method of administration; the administrator. Patients who, as a rule, require more than the average are the large, strong, energetic, wiry, excitable, neurotic and intemperate. Those who require less than the average are the small, weak, lethargic, languid, calm, phlegmatic, and temperate. Patients in a state of nervous excitability and who have restrained themselves by great effort, frequently require large amounts of the anesthetic. Those exhausted and emaciated by prolonged illness not only require small amounts to produce complete anesthesia, but will remain quiet under a much lighter degree of narcosis than will most patients in usual health. Many children at the age of puberty require an unusual amount of the anesthetic. Operations on the rectum, perineum, bladder, urethra, eye and ear, and abdominal procedures involving severe or deep manipulations require deeper anesthesia. Light narcosis is sufficient for most superficial operations. It is preferable to use small quantities of anesthetic frequently rather than large quantities at greater intervals. The smallest amount of anesthetic that will keep the patient quiet, relaxed, and free from reflexes will give the least danger and after-disturbance. [M.B.T.]

3.—In using **nitrous oxid for prolonged anesthesia,** it is important to be sure that the supply of gas is sufficient. If the gas freezes at the tap a towel wrung out in hot water may be applied around the valve. Organic disease of the circulatory organs, operations involving delicate dissection or when venous engorgement is undesirable, or when relaxation is desired in abdominal operations, contraindicating the use of nitrous oxid. The time required to induce anesthesia varies from 30 seconds to 2 minutes. The best signs that narcosis is complete, are: small hard pulse and rapid shallow respiration; it is possible to produce anesthesia without intense cyanosis. About 4 gallons of pure nitrous oxid are required to anesthetize the ordinary patient, and about 100 gallons of gas by volume will be used in an operation lasting 1 hour. It is expensive for use in long operations, but used to precede ether, it is cheaper than ether alone. While nitrous oxid is not generally applicable, yet in cases when for any reason it is undesirable to give ether or chloroform, or when the anesthetic factor combined with the operation would be more, probably, than the patient could survive, it is particularly indicated and satisfactory. [M.B.T.]

4.—As a **local anesthetic** Tuttle considers **ethyl chlorid** much inferior to cocain. It is not satisfactory as a general anesthetic because it does not relax the muscles, but it acts well when used in combination with ether. An Esmarch chloroform inhaler, covered with several layers of gauze, is placed over the patient's nose and mouth; the ethyl chlorid is sprayed on its under surface and the patient directed to inhale deeply. The spraying is renewed whenever the vapor ceases to appear on the patient's exhalation. As soon as the patient becomes insensible the ether inhaler is applied and the anesthesia completed. Tuttle has used this method in 40 cases; the shortest time required for complete anesthesia was 3 minutes; the longest 7 minutes. The results were satisfactory except in 4 cases in which the patients seemed insusceptible to the influence of ether and chloroform was substituted. The time required was less than that required with nitrous oxid as a precedent to ether. There were no accidents and no physical symptoms which indicated that the drug was unsafe. The amount of ether used was greatly lessened; the recovery from anesthesia much hastened; nausea and vomiting practically obliterated, and the elements of shock have been greatly reduced. [M.B.T.]

5.—The beginning of **tuberculosis** is insidious, slow, and, in the majority of cases, its progress is through several months before its presence is suspected or even a physician is consulted. Consequently, if it is true that the escape the tubercle-bacillus in the sputum and moisture of breath, in the meat and milk of animals, or in any ot eliminations, is capable of infecting the walls and furnit of dwellings, or drying up and floating in the atmosphere streets and public places sufficient to infect those who inh it, then certainly the **preventive measures** that are n occupying so much attention can never do more than afford a very limited amount of protection from the pro gation of the disease. However, Davis advises continu care with infected sputum and cattle, and the provision as good sanitariums as possible for those already tuberculo but as the bacillus or germ is already diffused over b hemispheres, success in preventing its spread will depe mainly on the efficiency of efforts to restore and maintain their full vigor, the natural conditions and processes of vi resistance to toxic agents possessed by the living hum body. [M.B.T.]

7.—During June and July, 1898, Morse examined for e dences of **rickets** 400 infants under 2 years old, in the me cal out-patient department of the Boston Infants' Hospit He gives a very thorough report of the results of his stu Some of his more important conclusions are as follow Eighty per cent. of the children under 2 years old, of t poorer classes of Boston and adjacent cities, have rickets. rosary is not a normal phenomenon but is an evidence rickets. It is a constant symptom of rickets. It is t earliest symptom to develop, and in 40% of all cases patients under 2 years old is the only symptom. The n most common symptom is delayed dentition. Other sym toms, while they may show themselves at any age, do not, a rule, develop earlier than the tenth month. The cause rickets in Boston and vicinity is to be found in improp hygienic surroundings rather than in race or diet. [M.B

8.—From a study of **mental fatigue** in himself a others, Thorndike disagrees with the common view th fatigue begins as soon as work begins. Mental work is not simple matter of mental energy, of quantity of positive inhibitory nervous discharges, but of their direction as we It is influenced by mistakes and inappropriate reactions much as by the amount done. Mental fatigue is not like physical weariness, and requires different treatment; warning signs are more complicated, less efficacious and more often neglected; there is, in particular, no pure feeli of mental incompetency which might be a reliable sympton the feelings that we do have are not measures of the degr of inability, but indefinite, and at present ill-understood, sig of danger. [M.B.T.]

9.—Sherman reports having used **thyroid extract** in number of cases **to reduce obesity.** He gives the h tory of a woman of 26 who reduced her weight 36½ poun in about three months by taking the extract, which was b gun in 2.5-grain doses and increased to 5 grains. No speci claim is made for the treatment, more than that it reduc weight, adds to comfort, and Sherman has seen no delete ous effects from its use. He believes that in properly s lected cases it is of great value. [M.B.T.]

10.—A girl of 3½ years, after she had been walking f two years and nine months, came under treatment f **congenital dislocation of both hips.** Lordosis w quite marked, and both trochanters were well above Nél ton's line. She did not stand perfectly erect, but slight flexed both the hips and the knees. Tenotomy of the a ductors of both thighs performed. Then, by manipulatio both femurs were restored to their sockets. Both the lux tions being dorsal ones, the limbs were put up in plaster-c paris, in an abducted and outwardly rotated position for s weeks. On examination, the right hip was found still position while the left was again out. The right leg showi a tendency to inward rotation, a silicate-of-soda dressi with an iron strip was applied to keep it in proper positio Extension was applied to the left hip. About 6 months aft the right hip had been replaced, the left was again put place and an incision made down to the capsule, and it w gathered together and sewed with three chromicized catg sutures. The wound was packed with gauze. It w thought that enough contraction might be produced in t capsule to hold the bone in place. On removal of the pla ter cast, 6 weeks later, the hip was found to be again out place. Two months afterward the joint was opened and new acetabular cavity was formed with a gouge and ro

Eleven months after the last operation, and a year 10 months since the nonoperative replacement both are shown to be in place by the x-rays. The child walks slight limp, the waddling gait has disappeared, as has he lordosis. For 3 months she has worn no apparatus. r.]

—Some of the most patent ways in which **bacteri-**y has contributed to the advancement of medicine are: ording a quick and certain diagnosis; in affording val- remedies for the prevention and cure of certain dis-, and, in giving us more definite knowledge as to the e of the disease and the prevention of its spread. Those es in which the laboratory diagnosis is perhaps of most to us are tuberculosis, diphtheria, typhoid fever, gon-a, malaria [bacteriology?], and hydrophobia. Baldwin ses some of the methods of bacteriology and the results have been obtained. [M.B T.]

Archives of Pediatrics.

November, 1899. [Vol. xvi, No. 11.]

me Clinical Features of Rheumatoid Arthritis. R. Tunstall Taylor and Smith Hollins McKim.
Case of Meningitis Due to the Typhoid Bacillus. A. H. Wentworth.
n Vaccinoid. F. Forchheimer.
continence of Urine in Children. Francis Huber.
ew Binaural Stethoscope for the Examination of Infants and Children. Henry Koplik.
urvy in an Infant of Six Weeks. Floyd M. Crandall.
sition of Antenatal Pathology. J. W. Ballantyne.
se of Acute Iodoform Poisoning. B. B. Mosher.
bnormal Temperature During an Attack of Malaria. Charles G. Lucas.
heumatism in Young Infant. Ewing Marshall.

-Taylor and McKim made a study of **rheumatoid itis and allied affections.** From a review of the ure and their own cases they suggest the following sification as better calculated to meet the clinical and logic findings of the majority of the chronic bony es than any of the previous classifications mentioned: heumatoid arthritis; (2) Chronic fibrous rheumatism, el to subacute attacks of articular rheumatism; (3) is deformans, the general progressive form of Charcot; eitis deformans of Paget; (5) Heberden's nodosities; rtial or monoarticular deformans. They discuss the of distinction between these various conditions and with photographic illustrations a case of rheumatoid is in a girl aged 8 years. Her illness began at the 7 years with acute, painful swelling of the ankles hees, and at no time was she thought to have had When she first came under observation her gait ted double tuberculous hip-disease with rigid flex-d adduction of the thighs. Examination showed d muscular spasms in the adductors, the quadri-extensors, and the tensores vaginae femoris of highs, with pain on attempted motion. The thighs eld in a position of flexion of 45° with 5° of adduction. ighs and legs were atrophied. The chest was con-l and elongated; the heart's action was rapid, the were clear. All the joints were thickened and flat-including the phalanges of the fingers; there was lar spasm and limitation of motion of the wrists and as well as of the hips. The shoulder-joints were y involved. The kneejerk was a little more active on than on the right side, but scarcely increased. Ankle-was marked on the left side; slight on the right. The examination showed good, normal color to the reds ight leukocytosis. In the differential count more rphonuclear leukocytes were seen than any other Eosinophiles were at the extreme limit of normal and granules were unusually large. Shortly before the this report, it was noted that for several weeks there en a limitation of motion of the neck. Motion had more limited at the elbows, the wrist-joints were volved, and the phalanges were flexed on each other the metacarpal-phalangeal articulation. All of these were much thickened and boggy. There existed slight halmos; both epitrochlear glands were much enlarged. g had never been a prominent symptom, and the temperature ranged between 99° and 100° F. The case has been progressive from its beginning and not much influenced by treatment. [S.M.H.]

2.—There came under Wentworth's care a girl aged 4 years, on whom he made a provisional diagnosis of **typhoid fever.** She had some anomalous symptoms when first seen, but subsequently the disease pursued the course of a moderately severe typhoid fever until 24 hours before her death. The Widal test was negative on the two days preceding her death. Twenty-four hours before death she became very stupid and later she became unconscious and developed tonic and clonic convulsions and Cheyne Stokes respiration. She never regained consciousness. Strabismus occurred, and there was general rigidity of the muscles of the trunk and extremities and at intervals clonic spasms occurred. The head was retracted, but the pupils were widely dilated and reactionless. An autopsy could not be obtained. Lumbar puncture was performed for the second time a few hours before her death. The spinal fluid was very turbid and soon showed a deposit of puriform material in the bottom of the test-tube. Coverglass preparations of the sediment were made and stained with Löffler's methylene-blue. Microscopic examination of these preparations showed large numbers of polymorphonuclear leukocytes, some fibrin, and a certain number of large phagocytic endothelial cells, some of which contained blood-corpuscles and detritus in their protoplasm. Enormous numbers of bacilli were found in every field. A culture on blood-serum was made at the time of puncture by allowing the spinal fluid to drop from the needle on to the serum. The surface of the serum was covered with a growth of fine colonies in 24 hours, and coverglass preparations from the growth revealed a bacillus exactly similar to that found in the coverglass preparations made from the spinal fluid. This bacillus responded to all the tests for the typhoid bacillus. Specimens of blood were taken from two typhoid patients, and a positive Widal test was obtained from the cultures taken from this case. There seemed to be some question as to whether or not the child had had typhoid fever during the three weeks' illness preceding the meningitis; in favor of the condition having been typhoid fever was the nature of the onset, the duration of the disease, the character of the temperature-chart and symptoms, an enlarged spleen, failure to obtain any evidence of the presence of other diseases by means of physical examination, the negative result of the first lumbar puncture and the small number of leukocytes. Against typhoid fever stands the failure of Widal's test and the occurrence of doubtful convulsions in the early appearance of the disease. In favor of **meningitis due to the typhoid bacillus** is the presence in the meninges of a purulent exudation which contained enormous numbers of typhoid bacilli, and the failure to detect the presence of other organisms by means of careful bacteriologic examinations. Wentworth remarks that during the last two years he has failed to obtain a positive Widal's test in quite a number of children treated at the Children's Hospital. [S.M.H.]

3.—Forchheimer means by **vaccinoid** an atypical course of the lesions produced by the act of vaccination. Vaccinoid protects against variola, but this protection is less than that of vaccination. Vaccinoid, in the majority of instances, is due to faulty method, rarely to increased resistance or immunity. When it occurs in primary vaccination the vaccination should be repeated until either true vaccinia is produced or until it is positively shown that immunity exists. When epidemics are present revaccination should be done in both primary and secondary cases. [S.M.H.]

4.—Huber remarks that while **incontinence in children** is met with in many varied states, underlying all cases there is one common factor—a neurotic condition or family history. Too much importance cannot be attached to this. Prognosis in cases of organic brain or spinal-cord disease, and in malformations, unless amenable to surgical treatment, is very poor as to cure. In the majority of cases if the cause can be discovered the prospects of speedy cure are good. The treatment should be directed to the cause. The following is a good routine plan in a large proportion of cases: Restriction of fluids, particularly in the evening; a light early supper several hours before retiring; evacuation of the bowels and micturition before going to bed; one full dose of tincture of belladonna given at bedtime; a tonic of

strychnia and iron to be given three times daily for a prolonged period, and rousing of the child once or twice during the night to void urine. Huber defines six main causes for incontinence: (1) Malformations; (2) organic disease of the nervous system; (3) functional nervous disorders; (4) weak sphincter; (5) irritability of the bladder, which may be due to inflammatory processes; local processes, such as stone; external processes, such as phimosis, preputial adhesions, etc., and distended bladder; (6) deficient innervation, which may be emotional, autosuggestive, depending upon undue excitability of the sphincter or enfeeblement of the will. [S.M.H.]

5.—Koplik describes a **binaural stethoscope** which he has constructed **for the examination of infants and children.** It is built on the same principle as the adult binaural stethoscope manufactured by Tiemann & Co., of New York, which is made after the suggestions of Dr. Yankauer. The opening in the chest-piece tapers gradually to the division into the conducting tubes. At this point the cross-section of the chest-piece is equal to the combined cross-sections of the two arms, which results in the production of a perfect acoustic instrument. Koplik's instrument differs from this one in that it is geometrically reduced in size, making the opening in the chest-piece a scant 2 cm. in diameter. The advantage of the instrument is that it is compact and durable and much more convenient for application to the chest-wall in infants. [S.M.H.]

6.—Crandall observed a child who at the end of 5 weeks and 5 days developed symptoms of **scurvy.** The child had been exclusively breast-fed. Its symptoms were pain, limpness of the left arm, and tenderness to the touch. On the third day the arm began to swell and became more painful and tender. At the end of 5 days the right arm became painful, limp and swollen. There were no other definite symptoms. Physical examination showed an extremely anemic child, not much wasted, without beating of the ribs, enlargement of the epiphyses or craniotabes. The left arm was markedly swollen between the wrist and elbow; the upper arm above the elbow was swollen, and there was some swelling on the flexor aspect of the elbow where the surface was dark in color. The swellings were exquisitely painful to the touch. On the right forearm there was a pad of swelling just above the wrist over the flexor surface; this was shiny and tense. There was some attempt to move the right arm but none to move the left. There were numerous mottled spots over the child's body. A day or two later the legs began to swell, appearing chiefly along the shaft of the femur, but extending over the knee itself and a little below it. The legs were apparently paralyzed, and were drawn up into the position which is typical of scurvy. The supply of breast milk was so abundant that the child was simply getting the fore milk, being unable to empty a breast before being satisfied. A milk analysis showed a neutral reaction with a specific gravity of 1.027; it contained only 1.6% of fat. A later examination showed 2.4% of fat with a specific gravity of 1.026. The breast-milk was gradually withdrawn and a milk mixture approached. At the end of 8 days the child took exclusively a milk mixture composed of fat, 3; sugar, 6; proteid, 1. On the second day of treatment improvement manifested itself; at the end of a week the pain was practically gone and all the limbs were moved naturally, and the child was well at the end of two weeks. By this time the breast milk had improved to such an extent that the child was given three nursings daily, but the quantity of breast milk could never be increased beyond this. The child died some weeks later of pneumonia. [S.M.H.]

8.—Mosher reports a case of **iodoform poisoning in a boy aged 6 years,** upon whom he excised a portion of the eighth rib for the purpose of draining an empyema. After three or four days the tube was removed and a wick of iodoform gauze was substituted. A couple of hours later the child complained of tasting medicine, became nauseated and vomited incessantly. He was very restless, with a cold, clammy skin, widely dilated pupils, extreme thirst, delirium, weak, thready pulse, incontinence of urine, diarrhea, a temperature of 105° F., and an indistinct general erythema. Death seemed imminent. After vigorous stimulation the child began to improve and improved persistently, until at the end of 36 hours he was practically well. The symptoms were attributed to iodoform absorption. [S.M.H.]

9.—Lucas had under his care a boy, aged 7 years, sufferir from **malaria.** He was first seen on a Saturday, at which tim he had a chill; his temperature was 104° F. On the follov ing day under a quinin mixture it had fallen to 99° F. O the next day following, the temperature rose to 102° F. Th quinin mixture was continued, and he was given a dose c calomel. Two days later his temperature was normal whe seen. Near midnight of that day the mother found his ski very cold and his radial pulse absent. He had taken 1 grains of quinin during the previous 24 hours. A the mometer registering 94° F. was introduced into the rectu and no registration was made. The pulse was very feebl beating 66 to the minute. The child said he felt all righ During the night his temperature gradually rose, and by 7.3 A.M. it reached normal. The quinin is suggested as a po sible cause of the lowered temperature, but the child ha been accustomed to take large doses of the drug. [S.M.H.]

10.—Marshall observed swelling in the region of the rigl thumb and in the right foot, accompanied by pain, in an in fant aged two weeks, whose mother was suffering from **acut rheumatism.** Potassium iodid administered to the moth relieved her symptoms after a few days, and at the end c ten days the child had practically recovered. [S.M.H.]

American Journal of the Medical Sciences.

January, 1900. [Vol. cxix, No. 1.]

1. Report of Five Cases of Endocarditis Occurring in th Course of Tonsillitis. FREDERICK A. PACKARD.
2. Tracheal Diastolic Shock in the Diagnosis of Aortic Aneu ysm. J. N. HALL.
3. Report of a Family Outbreak of Trichinosis. GEORG BLUMER and LEO HAENDEL NEUMAN.
4. The Relation of Migraine to Epilepsy. WILLIAM (SPILLER.
5. Facial Spasm and its Relation to Errors of Refractio E. W. STEVENS.
6. Cystinuria and its Relation to Diaminuria. CHARLES I SIMON.
7. On Splenic Anemia. WILLIAM OSLER.
8. A Critical Summary of Recent Literature on Gonorrhea i Women. JOHN G. CLARK.

1.—Packard reports 5 cases of **endocarditis** occurrin **in the course of tonsillitis.** In none of the patients wa there any history of rheumatism, and it is reasonable t suppose that the endocarditis was secondary to the tonsi litis. Packard thinks that we are not warranted in conside ing that the tonsillitis in such cases is a manifestation of th rheumatic poison and that the endocarditis is analogous t that occurring in connection with the articular form c rheumatism. He would rather view tonsillitis as an ind pendent infectious process that is capable of giving rise t endocarditis or arthritis, alone or in combination. [The fa that endocarditis may follow tonsillitis without the interve tion of articular rheumatism, may serve to throw light upo certain cases of valvular heart disease in the young tha hitherto have been explainable only with difficulty. It well in examining cases to inquire into the history for prece ing tonsillitis, as well as for preceding rheumatism. [D.R.]

2.—The tracheal tug cannot be considered a pathognom sign of **aortic aneurysm,** as it does not always distinguis between aneurysm and solid tumor. Of more value in i differential diagnosis, according to Hall, is a **tracheal, dias tolic shock,** originating at the time of the closure of th aortic valves, transmitted through the aneurysm to th trachea, and manifested by a distinct, sharp impulse, follo ing the tracheal tug at the same interval as that between th apex beat and the closure of the aortic segments. [D.R.]

3.—The report of an interesting family outbreak c **trichinosis,** affecting nine persons. The disease was a quired through eating sausage, although the latter had bee cooked twice before being eaten; once, at the time of man facture, and again, just before being eaten, at which time was thoroughly fried. On rare occasions, the frying w omitted. The large size of the pieces of pork which mad up the sausage was probably responsible for the failure the cooking to kill the trichinae. The symptoms close resembled those of typhoid fever. Edema of the face w present in all the cases. The blood-examination confirm the observations of Brown and others, regarding the exi

e of a **leukocytosis** characterized by a great increase the number of **eosinophiles.** There was a relative de-ase in the neutrophiles; and in many, but not in all the es, there was a decrease in the small mononuclear ments, early in the disease. [D.R.]

4.—Spiller's conclusions are as follows: 1. Attacks of **graine** occur associated with nausea and vomiting; this m is known as simple migraine, and usually remains un-ered during the life of the patient. 2. In other cases ual disturbances (hemianopsia, scintillating scotoma, aurosis, etc.) are associated with the migraine, and the ease is then known as ophthalmic migraine. 3. When ralysis of the ocular muscles occurs with the migraine, the ease is described as ophthalmoplegic migraine. 4. Mi-aine, especially the ophthalmic form, is related to epi-sy, and the attacks of migraine may precede for many ars the convulsive attacks of epilepsy, although in most es of migraine no convulsions are ever detected. 5. In ne cases epilepsy appears in the form of one or more of e disturbances seen occasionally with migraine, and later, en after many years, convulsions develop. The disease y be epilepsy from the beginning. It matters little, with r uncertain knowledge of the pathology of the two dis-es, whether we regard these as abortive cases (*formes stes*) of migraine that later become associated with epi-sy, or as abortive forms of epilepsy (sensory epilepsy), in ich the convulsions later become apparent, provided we cognize a relation between some forms of migraine and ilepsy. [D.R.]

5.—There is in some cases a **relation between facial imic or habit spasm and errors of refraction,** and evens reports 6 cases, in 8 of which a correction of the re-ctive error was followed by a cure of the spasm. In 2 of e other cases no result was obtained, evidently because the rve-centers had acquired a vicious habit, which they did t lose after the removal of the cause. He advises that in ery case the refraction and muscle-balance be carefully amined. The former should be determined under com-ete mydriasis, and a full correction ordered. [D.R.]

6.—Cystinuria is apparently due to a fault in metabol-n, an insufficient oxidation of the albuminous substances. here this retardation in metabolism occurs, cannot be finitely determined. It is probable that the liver plays the ost important role. Cystinuria is often associated with aminuria—both indicate general disturbances of metabol-n. Cystinuria occurs in families, and in this respect it can placed in the same category as diabetes, gout, rheumat-n, obesity, etc. Cystin, according to Simon, is derived m the nonhydroxylated benzol radical of albumin, a deri-tion which he illustrates graphically. He also collects in bular form all the cases of cystinuria (103) hitherto re-rted, and adds 4 personal observations. [D.R.]

7.—Osler reports 15 cases of **splenic anemia;** 12 in men d 3 in women. Although it is generally stated that the sease is of short duration—from six months to two years—some of Osler's cases the malady extended over five, and en twelve years. In all of the cases enlargement of the leen seemed to precede the anemia. Hemorrhages, par-ularly from the stomach, were noted in some of the cases; cites was present in three. The latter symptom is not cessarily connected with cirrhosis of the liver. The mphatic glands were not enlarged in any of the cases. he amount of anemia varied from slight pallor to the most tense grades. Melanoderma was present in 6 cases; in me, it was perhaps arsenical in origin. The most striking **atures of the blood** were the following: 1. The rela-vely high blood-count. 2. The relatively low hemoglobin. The low leukocyte count, marked leukopenia being pres-nt in 6 cases. In the differential diagnosis, pernicious emia, splenic leukemia, Hodgkins' disease with splenic nlargement and cirrhosis of the liver with enlarged spleen, ust be excluded. Regarding the **etiology** of the disease, thing is known. The **treatment** is that of the severe pes of anemia, viz.: iron, arsenic, sunshine and good food. n chronic cases, with recurring hemorrhages, the question f removal of the spleen should be considered. The opera-on was done in one case and the patient remained well for ore than a year. [D.R.]

8.—A review of the work of Bumm and others on the sub-ct of **gonorrhea in women.** The primary points of fection in young women with more or less virginal vaginae, are chiefly the external organs, especially the urethra. In women with relaxed structures the vaginal vault and cervix are points of election. The tendency of gonorrheal infection in women is to become chronic, and while the patient her-self may not suffer from appreciable lesions, a sufficient number of gonococci are present to transmit the infection, and a few organisms may induce just as virulent an attack as myriads, on account of the almost incredible rate of multi-plication of the gonococcus. On account of the persistence of the disease in the female, individual questions concerning the fidelity of married women who may reinfect their hus-bands may arise. Outside of sexual intercourse gonorrhea may be transmitted in various ways. Clark always uses separate vaselin jars for each examination, so as not to carry infection from one patient to another. Special caution should be exercised in making a rectal examination after contact with an infected vagina, otherwise a virulent gonor-rhea may be carried from the one passage to the other. Ex-perimentally Bumm found the period of incubation to be 12 hours; in 24 hours the attack was well established. Bumm's pathologic studies have shown that **gonorrhea** is essen-tially **a disease of the epithelial layers,** and does not pass beyond this boundary. In Bartholin's glands the gon-orrheic process has a tendency to cause occlusion of the duct and the formation of a purulent retention-cyst (pseudo-abscess). Chronic spreading abscesses in Bartholin's glands are due to the superimposition of a pyemic infection upon the gonorrheal process. The peritoneum is a poor, but not an impossible culture-ground for the gonococcus. Regarding the ability of the gonococcus to produce suppuration in tissues lying beneath the mucosa, Bumm is sceptical. Although admitting the possibility, he believes that the suppuration in such case is generally due, not to the gonococcus, but to a mixed infection. [D.R.]

Edinburgh Medical Journal.

December, 1899. [N. S., Vol. vi, No. 6.]

1. Appendicitis—The Results of Operation in 117 Cases, with Some Considerations on the Questions of Diagnosis, of Recurrence, and of Mortality. GILBERT BARLING.
2. Akromegaly. G. A. GIBSON.
3. The Bacteriology of Typhus Fever. ANDREW BALFOUR and CHARLES PORTER.
4. Atheroma of the Aorta. JOHN R. AMBLER.
5. Two Cases Showing the Effect of Extreme Cold on Injury. HENRY A. DUFFETT.
6. A Case of Recovery after Drinking Half an Ounce of Liniment of Aconite. W. A. POTTS.

1.—Barling reports having operated in 117 cases of **appendicitis.** Forty-two were operated upon in the inter-val with but one death. He divided the other cases into 4 groups: those in which pus was localized by adhesions and some part of the abscess adherent to the anterior parietal peritoneum. For this class of patients he operated 18 times with one death. In no case was the appendix removed; one patient suffered from recurrence. In a second group of cases the abscess is shut off by adhesions from the peritoneal cavity, but the abscess is not adherent to the pariet-al peritoneum. The operator has to open the general cavity to evacuate the pus. Barling operated in 21 such cases and all the patients recovered. In one case there was left a bad fecal fistula which 2 operations failed to close. A third class is the subacute gen-eral perforating peritonitis; there were 9 such cases with 3 deaths. A fourth group includes the acute fulminating cases due to perforation or gangrene before limiting adhe-sions of any degree have formed. There were 26 such cases with 15 recoveries and 11 deaths. In opening abscesses care should be taken not to break down the adhesions; if the abscess is of the nonadherent variety sponges should be packed about before opening it. Removal of the appendix is not advised if considerable manipulation is required. The incision should be made over the tumor if a tumor be pres-ent; McBurney's incision is preferred in operations during the interval. If there is a limited abscess-cavity cleansing with sponges without irrigation is advised; if there be gen-eral peritonitis irrigation is preferred, and there should be provision for efficient drainage. [M.B.T.]

2.—Gibson makes an exhaustive report of a case of

akromegaly in a woman aged 42 years. The first manifestations of the disease occurred at the age of 25. He makes a brief analysis of the symptoms of akromegaly in general, comparing these with the symptoms manifested in his own patient. His case conforms in all respects to the usual type of the disease. A photograph and skiagram of the lower jaw brings out well the usual changes which occur there. In addition to the symptomatology, he discusses the etiology, morbid anatomy, diagnosis, prognosis and treatment of the condition. In his own case the employment of thyroid tabloids produced a persistent and decided improvement in the patient's condition. [S.M.H.]

3.—Balfour and Potter make a **bacteriological study of 43 cases of typhus fever.** In every case the blood was taken from the thumb. The skin was thoroughly washed with warm water and soap, then with lysol, after which it was wrapped with absorbent wool soaked in sulphuric ether, and a corrosive poultice, 1 in 2,000, or carbolic, 1 in 20, was applied for ten minutes. The skin was then soaked in sterilized water and partially dried by means of a pledget of wool which had previously been plunged into boiling water. The skin was pricked with a needle sterilized in the flame of a spirit lamp. The first drop of blood was discarded and that exuded subsequently was lifted by means of a sterilized platinum loop. The 43 cases were of both sexes and of all ages. Forty were examined while the fever was acute, the three remaining, after convalescence was well advanced. In 88% a diplococcus was found; it was 1 millimeter in breadth and about 2 millimeters long; it was noncapsulated, nonmotile, and did not possess flagella; it had, however, a marked oscillatory movement. It stained well with carbol fuchsin and gentian violet, and retained the stain in Gram's method. In plate films and hanging drop preparations the organisms were always found in typical diplococcal form, but in such preparations they were extremely difficult to detect, being often hidden beneath the corpuscles and being very few in number. When examined in broth culture, in addition to the diplococcal form tetrads and short chains and clumps were sometimes present. The culture-characteristics were as follows: The broth became cloudy but cleared by forming a grayish-white deposit; on agar there occurred a copious and rapidly-spreading streak, looking like white cement. A similar growth occurred on blood-serum and Löffler's blood-serum. On potato the growth was white and showed nothing peculiar; on jelly, stab and streak preparations, the growth was slow at room temperature, but fairly rapid at 22° C. In stab cultures the growth occurred as a continuous streak or as small dots. Liquefaction took place from above downwards, beginning about the fourth day. The organisms grow rapidly when plated on agar-jelly and more slowly when plated on nutrient jelly, appearing in the latter as tiny white colonies. Liquefaction did not occur in plated cultures kept at the room temperature. There was no gas-formation in glucose jelly; milk was coagulated in 48 hours; litmus broth showed acid reaction within 24 hours; the best temperature for growth and development seemed to be 37° C. The organism was a facultative anerobe. No other form of organism was at any time encountered in these experiments with the exception of three severe cases in which there was a mixture of diplococci and staphylococci. In the vast majority of cases one examination sufficed to prove the presence of the diplococcus. In only one instance after finding the organism did they fail in subsequent examinations to obtain it again. Control experiments were made on normal cases, cases of measles, scarlet fever, and typhoid fever. Of the latter, 46 cases were investigated, and in 87% the same organism above described was found. These cases gave the Widal reaction, with one exception. The cultures were pure in the great majority of cases. In both typhus and typhoid the organism disappeared after convalescence was well advanced. The authors believe that the organism was derived from the blood and was not a skin infection for the reason that it occurred so persistently in typhus and typhoid cases, and because they demonstrated postmortem an organism almost identical with that derived from the living blood, save that while the latter was apparently nonpathogenic and nonpigmented, the former was both pigmented and pathogenic. Another reason for believing it to be from the blood was that it was met with only in cases of typhus and typhoid. [S.M.H.]

4.—Ambler studied 100 consecutive postmortems carefully with a view of determining the frequency of **atheroma of the aorta**; the cases were composed of 53 males and 47 females. Atheroma of the aorta existed in 69%, some degree being present in 10 males and 16 females; marked atheroma in 17 males and 9 females; very marked atheroma in 14 males and 3 females, the total number of male cases being 41 and female cases 28. [S.M.H.]

6.—Potts had under his care a man, aged 75 years, who accidentally **swallowed a half-ounce of aconite liniment.** The mistake was immediately discovered; he was made to vomit very promptly by the administration of mustard water and he was freely purged. There was marked slowing and depression of the heart's action, the pulse falling to 55 and becoming very feeble. Aside from this there was tingling of the entire body; great dryness of the mouth; loss of the sense of taste; slight impairment of vision; coldness of the extremities and pain in the epigastrium. One-fortieth of a grain of sulfate of strychnia was injected hypodermically, and repeated a short time after. As soon as the vomiting ceased he was given an ounce of whisky. At the end of two hours the symptoms began to abate, and at the end of six hours he had recovered entirely. [S.M.H.]

Deutsche medicinische Wochenschrift.

December 14, 1899. [25. Jahrg., No. 50.]

1. Cholecystotomy with Drainage of the Gallbladder. POPPERT.
2. The Etiology of Epidemic Cerebrospinal Meningitis. LEO ZUPNIK.
3. The Status of the Question of Sugar Formation from the Albumins. FERDINAND BLUMENTHAL.
4. Disinfection of Rooms with Formaldehyd. M. FRIEDEMANN.

1.—Poppert says that the normal **operation for gallstones** is to open the gallbladder and stitch its walls to the abdominal wound so that it may drain extraperitoneally. This method, he says, is only applicable to normally placed and abnormally large bladders with safety, as vomiting and retching tend to tear out the stitches. As a safer and better operation Poppert describes his method of operating, which he terms the "waterproof-drainage" method. The gallbladder is exposed, aspirated and incised in the usual manner and is thoroughly cleared of all stones. The end of a large Nélaton's catheter is then inserted in the corner of the wound nearest the fundus of the bladder, and fastened there with a stitch. The rest of the gallbladder-wound is accurately united, when feasible, with the Lembert suture. A few small gauze drains are placed over the suture and carried out the abdominal wound alongside the catheter. The abdominal wound is then closed except for 2 cm. where the drains come out. The after-treatment consists in the changing of the dressings twice a week, with gradual shortening of the gauze drain which is finally removed in the third week. The catheter is removed at the end of the third week, by which time a complete fistula has been formed. [G.B.W.]

2.—Zupnik's article in this number consists in a description of a case of **epidemic cerebrospinal meningitis,** in which lumbar puncture showed the presence of cocci which were of the same morphology as the meningococci, but did not show their cultural characteristics. No cultures developed upon blood-serum, or bouillon, and only very slight growth on agar. Also, on postmortem, similar cocci were found which did not grow upon glycerin-glucose agar. Zupnik has also found similar diplococci in the exudate of two cases of pyothorax. The nature of the cocci he was of course unable to state, as no other cultures were made since it was thought that they were meningococci, and only the usual culture-media were used. [D.L.E.]

4.—Friedemann has made numerous experiments in the **disinfection of rooms** and of various objects (furniture, bric-a-brac, clothing, etc.) with formaldehyd, using both the Ligner and the Schering apparatus. He decided that the Ligner apparatus is decidedly more effective. It was possible to kill a number of ordinary bacteria experimented with, even under the most difficult circumstances. The usual pyogenic organisms were killed even in a mass of pus, and typhoid bacilli, colon-bacilli, diphtheria-bacilli, pneumococci, and also, possibly, tubercle-bacilli, were readily killed

He notes, however, that the odor from the formaldehyd is ikely to make the halls, rooms, etc., around that to be disnfected temporarily uninhabitable. Nevertheless he believes his to be the readiest, quickest and most practical method of disinfection. [D.L.E.]

December 21, 1899. [25. Jahrg., No. 51.]

. The Diagnostic Significance of Effusions in the Abdominal Cavity. H. BRAUN.
. The Question of Diabetes of Renal Origin. P. F. RICHTER.
. The Question of Diabetes of Renal Origin. EGER.
. The Etiology of Epidemic Cerebrospinal Meningitis. LEO ZUPNIK.
. Hysteria in the Male Sex. KARL UIBELEISEN.

1.—Braun gives the following practical suggestions as the utcome of his considerations of **acute serous effusion n the abdominal cavity.** In all cases of internal stranulation of the intestines where there is an acute or rapidly ncreasing exudate, laparotomy should be done as soon as ossible, because it is in these cases that rapid changes take lace in the intestines, especially gangrene. Further, when aparotomy has been done for suspected strangulation and a anguinous exudate is found in the abdominal cavity, the eat of constriction must be found even when this is most ifficult and the surgeon must not be content with the forıation of an artificial anus. However, Braun says that the bsolute diagnostic value of the serous effusion, because of nsufficient number of cases, cannot be given. [G.B.W.]

2.—Richter reports his results from his experimental ork concerning the existence of a renal diabetes. He was ble to produce glycosuria by injection of corrosive sublinate. There was at the same time, however, an increase of ugar in the blood. He, therefore, considers this glycosuria nerely a result of the toxic action of the mercury of the ver. With very small doses (0.005 grams) of cantharidin, owever, he produced a decided glycosuria, which was ccompanied by only an extremely slight hyperglycemia, seemed probable to him that the kidneys were damaged y the cantharidin and allowed of the passage of sugar when ney would not had they been normal, for the hyperglyemia was of such slight degree that normal kidneys would robably not have allowed of the passage of sugar. The antharidin caused albuminuria, and postmortem examinion showed that there was marked nephritis, particularly ffecting the glomeruli, the epithelium of the tubules being naffected. It is known, however, that chronic nephritis is ten antagonistic to the occurrence or continuance of a ycosuria, and Richter denies any intention of drawing posive conclusions from his results. He thinks there has been nly one case reported, in which it is probably that a glycouria was of renal origin. In this there was marked glycouria without any hyperglycemia.

3.—Eger reports two cases in which he believes that there as a renal diabetes. In both cases there was a history of ephritis of long standing, and toward the end of life sugar as present in the urine. He believes that the chronic ephritis was the important and primary disease in both ases, and that the glycosuria must be attributed to the disse of the kidneys. He admits, however, that the observaon is of little importance without an estimation of the nount of sugar in the blood, and this he was unable to ake. Had there been hyperglycemia in these cases they ould have been of no value as proof of the existence of nal diabetes.

Berliner klinische Wochenschrift.

January 8, 1900. [27. Jahrg., No. 2.]

Isolation Hospitals for Leprosy, Past and Present. MARTIN KIRCHNER.
The Pathology of Lead-Poisoning. M. BERNHARDT.
Simultaneous Gunshot Injury of the Thorax and Abdomen. FRITZ KÖNIG.
Psoriasis and Glycosuria. FRANZ NAGELSCHMIDT.
A New Method of Treating Syphilis by Inhalation. ROBT. KUTNER.

1.—Kirchner, in an interesting article, reviews the rise leprosy hospitals, or **leproseria.** [D.R.]

2.—A report of some peculiar cases of **lead-paralysis.** In two painters there was an isolated palsy of the small muscles of the hand, supplied by the median and ulnar nerves. The muscles supplied by the musculospiral nerve were not affected. In a file-cutter, whose case is also reported, the paralysis affected, in addition to the extensors of the hand and fingers, the interosseus and thenar muscles; in another there was a weakening of the interosseous and thenar muscles on the right side, and on the left a diminution of the electric irritability of the thenar muscles. The latter were somewhat hypertrophied in the left hand. It seems that in file-cutters the muscles of the left thumb are chiefly, or sometimes solely affected. Overuse may have something to do with this. [D.R.]

4.—Nagelschmidt discusses the **relation between psoriasis and glycosuria.** Psoriasis is rare in diabetes, but it seems that psoriatic patients have a greater disposition to diabetes than healthy individuals. For purposes of investigation the author employed the test for alimentary glycosuria. Each one of 25 patients with psoriasis received 100 grams of glucose in a half-liter of water on an empty stomach. The urine was tested for sugar after varying intervals. In 8, alimentary glycosuria was produced by this method. Deducting 3 cases in which other affections that might have contributed to the production of alimentary glycosuria were present, there still remained 5 in which the disposition existed. A series of cases presenting other skin-affectings, as furunculosis, prurigo, pruritis, eczema, dermatitis herpetiformis (Duhring), etc., was examined in the same way, with negative results. [D.R.]

5.—Kutner has devised an apparatus for administering mercury in syphilis by inhalation. The results have been good. [D.R.]

Wiener klinische Wochenschrift.

December 21, 1899. [12. Jahrg., No. 51.]

1. The Etiology of Tuberculous Pneumothorax. DRASCHE.
2. Measuring Blood-pressure with Gartner's Tonometer. GEORGE KAPSAMMER.
3. A Case of Carcinoma of the Pancreas. C. HÖDLMOSER.
4. Rupture of the Symphysis. RUDOLF SAVOR.

1.—In a hospital experience extending over forty years, Drasche observed 198 cases of **tuberculous pneumothorax,** 158 occurring in men, and 40 in women. In 108, or 55%, the pneumothorax was right-sided; in 90, or 44%, left-sided. In three cases it was bilateral; in one of these it led to instantaneous death, in another, to death in 2 hours, and in 12 hours in the third. The perforation generally occurs in small cavities, large cavities rarely perforating, on account of an adhesive pleuritis which resists the breaking-down process. The air usually enters through a small opening, and fills the pleural cavity gradually. [D.R.]

2.—Gärtner has devised an **instrument for measuring blood-pressure.** The apparatus, or **tonometer,** measures the pressure developed by the return of pulsation after the blood has been pressed out of the finger. Kapsammer has experimented with the instrument, and has found that under ordinary conditions the blood-pressure varies within wide limits, on account of the influence of the mind. During anesthesia, blood-pressure generally sinks; pressure also falls after large hemorrhages, after the removal of pleuritic exudates, after the opening of the abdominal cavity at operation, etc. In one case of operation, traction upon the sciatic nerve caused a marked fall in the pressure; traction upon the second division of the fifth, and upon the brachial plexus, caused an increase in pressure, probably through reflex vasomotor stimulation. In man, the normal blood-pressure lies between 100 and 130 mm. The lowest pressure compatible with life, measured by Gärtner's tonometer, seems to be 60 mm. [D.R.]

3.—A **pancreatic carcinoma** in a man, aged 27 years. It is interesting to note that the gastric juice was devoid of hydrochloric acid. The lactic reaction was not positive. [D.R.]

4.—Savor finds that the attention to cases of **rupture of the symphysis** has been greatly increased of late years. He thinks this is due to the fact that the accident is more common than formerly owing to the forcible delivery with the forceps. In 1876 Ahlfeld could find but 100 cases re-

ported. Savor has had 64,149 obstetrical cases under his observation from January 1, 1878, to November 30, 1899, and has seen but 3 instances of symphysis rupture. All of these had contracted pelves, and 2 were rachitic. In 2 cases craniotomy was resorted to; in the other a living child was delivered. Two of the mothers recovered, the other died 30 hours post partum of sepsis and anemia. Savor recommends as a preventive measure for this trouble, in cases in which there is much distention of the lower pelvic outlet, a plaster-of-paris bandage, or fixation with parallel strips of adhesive plaster. [W.K.]

Centralblatt für innere Medicin.

February 24, 1900. [21. Jahrg., No 8.]

1. The Pathogenesis of Cyclic Albuminuria. RUDOLPH.

1.—The affection under discussion has been explained by Stirling as the result of the sudden shock of the kidneys from sustaining the pressure of the column of blood upon assuming the upright position in the morning on arising. Rudolph has repeatedly noticed that the urine of such cases remained free from albumin when they were lying upon their backs, but as soon as they arose albumin appeared. He does not think, however, that it is necessary to take into account the shock from sudden rising. He has found that even when the upright position is assumed very slowly, albumin appears in the urine in such cases. He thinks that the truth is that the kidneys are unable to stand the increase of pressure that occurs with the upright position. He does not think that cyclic albuminuria is necessarily closely related to gout, as he has not seen it with that disease. He thinks that it is not an obscure metabolic affection, nor a mild grade of paroxysmal hemoglobinuria. He has seen very slight albuminuria in a case in which there was at times paroxysmal hemoglobinuria, but in such instances the albuminuria is not cyclic but more or less permanent. There is also no evidence that cyclic albuminuria is due to a slight nephritis resulting from a previous attack of acute nephritis. Rudolph's belief is that it is a form of albuminuria from venous stagnation. The appearance of the urine corresponds with this, and the fact that the upright posture brings out the albuminuria indicates that it is physical. He thinks that it is the result of previous inflammation of the kidneys and lack of elasticity of the vessel-walls of the glomeruli. He considers that such patients are really ill, and should be watched carefully as if they were ill. But he does not believe that they should be kept in bed, as confinement is likely to do them more harm than the albuminuria, besides which resting in bed does not cure the disease. Iron is perhaps the best drug, but improvement of the general condition is the most satisfactory method of managing the disease. [D.L.E.]

March 3, 1900. [21. Jahrg., No. 9.]

1. Quantitative Estimation of Sugar with the Refractometer. J. A. GROBER.

1.—The author describes an instrument made by Zeiss which is introduced into the fluid contained in a beaker, and the reading directly taken. The amount of sugar in the solution is then calculated by means of a table which is given. [D.L.E.]

Revue de Médicine.

December 10, 1899. [Vol. xix, No. 12.]

1. The Tolerance for Bromids in Epileptics of Advanced Years. C. FÉRÉ.
2. A Study of the Alterations in the Role of the Lymphatic Glands in Cancer. M. SOUPAULT and M. LABBÉ.
3. The Functions of the Thyroid Gland. G. GAUTHIER.
4. Intermittent Hysterical Ptosis. J. ABADIE.
5. Direct Communications Between the Veins of the Liver and its Capsule in the Human Liver. C. SABOURIN.

1.—Féré notes that there is often a good deal of anxiety lest **bromism** be caused in **aged epileptics** who are particularly likely to have renal insufficiency, and, therefore, to have retention of the drug to a considerable degree. It is often taught that an advanced age is a contraindication to large doses of bromids. He presents a series of cases of epilepsy in the aged in which he used large doses of bromids without any evidence of bromism, and with in many of the cases happy effects upon the paroxysms. He gave as much as 22 grams of bromid per day. [D.L.E.]

2.—The authors present in this number a study of the **pathology of the lymphatic glands** in simple functional hypertrophy, in infectious diseases, and in cancer. The general appearance of the glands in simple hypertrophy is merely that of enlargement as compared with their normal size. They present an increase of the germinal centers microscopically, and the general appearance is merely that of an increased functionation. In infectious diseases macroscopically there is often surrounding inflammation. Microscopically, the germinal centers are usually much less striking than normally. The follicles are indistinct, and the germinal centers are invaded by large numbers of lymphocytes, while throughout the glands there are large numbers of polynuclear leukocytes. In cancer the appearance of the glands varies according to the stage. Macroscopically, they may be small and appear normal; they may be of varying size, and of exceedingly irregular outline, but histologic examination is necessary to determine their character. One sees the development of the usual cancerous nests and together with this usually a sclerosis which is evidently an attempt on the part of the gland to limit the cancerous growth. The fibrous transformation takes place as a result of the beginning growth of the cancer, and is not a precancerous change. The growth of cancer in the glands is not a transformation of the cells of the gland into cancer-cells because the cells of the secondary growth always have the character of those in the primary growth. Therefore, they consider that the growth of cancer takes place from multiplication of cells that are transported from the original growth. [D.L.E.]

3.—Gauthier's article in this number is essentially a critical review of the literature. He thinks that it is well established that **iodothyrin** is the essential substance in the thyroid gland, and that this acts as a drug, and not as an antitoxin. It acts by regulating the tissue-changes in the body, and its effects are similar to those of the iodids. This he considers quite thoroughly established, but the most important question is as to the nature and cause of the changes taking place in those subjects that show hypertrophy of the gland and either alteration or exaggeration of its action. Endemic goiter and sporadic goiter he considers due to lack of iodin owing to the insufficient functionation of the thyroid. The hypertrophy of the gland he considers to be an evidence of the insufficiency of its secretion. [D.L.E.]

4.—Two cases are reported. The first patient was a nervous woman who was subjected to a sudden emotional shock, and after this was subject to attacks in which the eyelids became closed tightly without tremor, and the patient took the attitude of natural sleep. The attacks could be brought on by pressure on the eyelids, and could be brought to an end by pressure at the point where the facial nerve immerges from the skull. No treatment seemed to be of any value. The second patient was a girl of 13 years, who had sudden attacks, apparently without cause, of dropping of the eyelids which occurred at varying intervals, chiefly in the evening. The eyes were normal. She was of hysterical characteristics. In both cases the attacks would come on after emotional causes, and the peculiarity to which Abadie specially directs attention was that they were intermittent, while **hysterical ptosis** is commonly constant. [D.L.E.]

5.—Sabourin presents drawings taken from sections of livers which he has examined, and which he believes show **communication between the veins of the capsule of the liver and those of the liver itself.** He believes that such a communication may readily take place during the development of the organ and the infolding of the capsule, and thinks that it has a physiologic purpose in relieving the congestion of the liver during the period of active digestion. [D.L.E.]

A Pathological Laboratory on the Congo.—The Baroness von Hirsch-Gerenth, who died recently, has bequeathed 50,000 francs for the establishment of a physiologic and pathologic laboratory on the Congo. Leopoldsville, the terminus of the Congo railway, has been chosen as the place where the laboratory is to be established.

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Cretinism.—Graham (*Pediatrics* March 15, 1900) writes that as in iodiopathic myxedema, cachexia strumipriva, infantilism and the like, so in cretinism thyroid therapy has wrought marvelous changes and demonstrated the value of experimental therapeutics. The capabilities of treatment are: *First*, removal of the myxedematous condition; *second*, quickening of physical development; *third*, awakening of intellect. It is common observation that the shorter the course this disease has run and the younger the patient toward whom treatment is directed, the more nearly perfect the final result. Therefore the plea of Koplik for early diagnosis and treatment is pertinent. Treatment must be continued throughout the entire life of the individual, otherwise relapses occur. It is sufficient in most cases to give a large weekly or biweekly dose after distressing symptoms are relieved. The dose for a child varies from one-half to one grain, at the beginning, gradually increasing to five or more, while keeping track of any untoward symptoms and decreasing the dose or discontinuing it for a short time, then resuming with less amount. Danger-signs are increased temperature, rapid pulse, insomnia, restlessness, digestive disturbances, dyspnea, muscular twitchings and tremor. Early signs of improvement are lessened stupidity, improvement of the myxedematous condition, mental and physical awakening and attempts at speech.

Gastric Cancer.—According to Thornton (*Progressive Medicine*, December, 1899) the following prescription may be employed in gastric cancer, to relieve pain, control vomiting, and prevent putrefaction:

℞.—Bismuth subnitrate ..... 4 drams.
Carbolic acid ..... 16 drops.
Chloroform water to make 3 ounces.

A tablespoonful before food.

Five Years' Experience in Private Practice with Diphtheritic Antitoxin Serum.—Wright (*Pediatrics*, March 15, 1900) states that during the last five years he has treated with antitoxin 268 cases of diphtheria. Of these 268 persons 209 recovered and 59 died, a mortality of 22%. That the percentage of recoveries was not larger he attributes to the fact that the larger part of the cases were seen in consultation only when they had been in progress several days and their condition was considered unfavorable. Of those to whom antitoxin was given upon the first day 12 died and 99 recovered, an approximate mortality of 10%; on the second day 9 died and 58 recovered—15% mortality; of those after the second day 37 died and 51 recovered, making a death-rate of these of over 72%, or a mortality of 11.8% of those to whom antitoxin was given within the first 48 hours of disease. Of 121 laryngeal cases, 68 were intubated, 43 of whom recovered. The disease was in the nose in 30 cases, and 17, or over 50%, of these proved fatal. Wright states that he is not influenced in dosage by the age or size of patient, but by the physical condition, extent and localization of the membrane, never using less than 1,500 units and seldom more than 3,000 units. There appears to be no danger from its use, and the only disadvantage is that it causes a localized painful spot in the vicinity of the place of inoculation. His conclusions are that antitoxin usually cures favorable cases and often unfavorable ones; it prolongs life, lessens the severity of the disease, tends to prevent stenosis and the need for intubation in laryngeal cases, and when intubation is necessary it lessens the mortality; it prevents complications and sequelae and materially shortens the course of the disease.

Rickets.—Thomson (*Clinical Treatment of Children*) recommends:

℞.—Phosphorus ..... 1 grain.
Absolute alcohol ..... 350 minims.
Spirit of peppermint ..... 10 minims.
Glycerin up to 2 ounces.

Six to twelve drops thrice daily, after meals.

The Treatment of Morphinomania.—Joffroy (*Gaz. Hebdom.*, December 10, 1899, and *British Medical Journal*, February 10, 1900) points out that in treating morphinomania it is not enough merely to prevent the patient from taking the drug, but it is necessary also to put him into a condition in which he can tolerate its withdrawal. These patients often take a much larger quantity of morphin than is necessary to satisfy their cravings, and the first step should be to ascertain what is the minimal dose which will prevent the physical symptoms of abstinence from the drug, particular attention being paid to the state of the heart and circulation, the alimentary tract and the urinary apparatus. An important object is to place the organs by which the drug is excreted in as perfect working order as possible, giving tea, coffee, and moderate doses of spartein to stimulate the functions of the kidney, and using hydrotherapeutic measures to increase the activity of the skin. The patient should, of course, be placed under the best hygienic conditions possible. When this preparatory treatment is complete he must then be absolutely isolated, so that it is impossible for him to obtain morphin. The gradual method of suppressing the drug should only be employed in patients who show a marked morphin cachexia. The abrupt method may be used when a medical man is at hand to administer a dose of the agent in case of serious collapse, and is suitable for cases that are not of long standing, or in which the patient is young and free from cardiac or other visceral lesions. In most cases an intermediate method, that of Erlenmeyer, is advisable—a rapid method, but not abrupt, combining the safety of the gradual method with the quickness of the other. The patient must first be put into a condition to sustain the process of demorphinization, and then each day a half of the daily dose may be cut off; when the dose has become very small the drug may be altogether discontinued. For severe cases, 8 to 10 days are usually sufficient; for slight cases, 6 to 8 days. The advantage of this plan is that, while allowing a sufficiently safe withdrawal of the morphin, affording a protection against collapse and sudden death, yet a long time is given for convalescence. In whatever way the deprivation is brought about, the patient may be greatly relieved by counteracting the excessive acidity of the gastric contents. This follows on the withdrawal of the morphin, which, being in great part excreted by the gastric mucous membranes, has inhibited the secretion of the gastric juice. This hyperacidity is not improbably the cause of the vomiting, diarrhea, insomnia, lumbar pains, etc. The desired object may be obtained by causing the patient to drink Vichy or other alkaline water. If the pulse should become irregular and very weak, morphin must be injected. But good feeding, with coffee and milk, should be sufficient in most cases to prevent collapse. Care must be taken in employing other hypnotics, such as chloral, bromids, sulfonal, and in using alcohol or cocain, lest another habit should be substituted for the morphinomania. To lower blood-tension and favor elimination, serum may be injected subcutaneously. Prognosis should be reserved, and prophylaxis is always more hopeful than cure.

Spasmodic Croup.—According to *The Practitioner* the following prescription, suggested by Holt, has been tried many times with the happiest results:

℞.—Chloral ..... 75 grains.
Potassium bromid ..... 45 grains.
Ammonium bromid ..... 30 grains.
Cinnamon water ..... 2 ounces.

A teaspoonful, and repeat in 20 minutes if not relieved. This is intended for a child about 7 years old. The chloral relieves the laryngeal spasm and the bromids allay the nervousness; so that the patient is soon asleep and wakes the next morning as well as usual.

Urethan in Epilepsy.—Jacoby (*Therapeutics of Infancy and Childhood*) writes: From Dr. Charles A. Dana I learned the use of urethan in epilepsy. I have seen it stop epileptic convulsions (fifty every day, severe and mild) within a few days never to return for more than half a year until the child died from causes not connected with the epilepsy. The doses amounted to from two to three grains (half a dram to two scruples) a day, sometimes refracted; sometimes a large dose was given at bedtime.

The Uses of Stomach-Tube.—Simpson (*Treatment*, February 22, 1900) writes that as a therapeutic measure the stomach-tube is used: 1. *For the mechanical emptying of the stomach after acute poisoning.* 2. *For gavage or forced feeding.* It may be necessary to employ the tube to introduce food into the stomach in cases of insanity, nervous vomiting, anorexia nervosa, persistent vomiting in children. In the insane and rebellious patient a mouth-gag is required, and a sufficient number of assistants to keep the patient under adequate restraint. The first two fingers of the left hand—protected with finger-guards—are introduced at the right angle of the mouth and the back of the tongue depressed. The stomach-tube, held in the right hand like a pen, 5 or 6 inches from the end, is guided along the left index-finger to one or other side of the epiglottis, and pushed backwards and downwards into the esophagus. A stomach-tube, somewhat more rigid than one ordinarily uses, is requisite, so that that the resistance in the pharynx may be overcome without the tube bending on itself. 3. *For the alimentation of the patient in dysphagia from paralysis.* The patient requires to be fed through the tube in late stages of bulbar disease and general paralysis, also in some cases of diphtheric paralysis. 4. *For gastric lavage.* The conditions in which lavage is indicated are: (*a*) Evidence of marked motor insufficiency (retention) irrespective of the size of the stomach; (*b*) chronic gastric catarrh; (*c*) acute fermentative dyspepsia; (*d*) Reichmann's disease, or the continuous form of hyperchlorhydria (the only satisfactory way of dealing with this disease is to wash out the stomach daily with alkaline water); (*e*) so-called acute dilation; (*f*) to arrest severe hemorrhage from the stomach; (*g*) in the vomiting of pregnancy; (*h*) in all forms of chronic vomiting of gastric origin in infants; (*i*) for the prevention of vomiting during and after the administration of anesthetics. 5. *To apply intragastric electrical treatment.* 6. *For intragastric douching.* This requires the use of a stomach-tube provided with a small terminal orifice, and nine to a dozen small lateral apertures. After passing the tube, the stomach should be slightly inflated to facilitate the contact of the topical application with the whole of the internal surface of the organ. The stomach should be thoroughly irrigated with plain warm water after douching with medicated solutions, and before, also, unless the stomach be already clean and empty. This local treatment is of great service in chronic gastric catarrh, attended by excessive secretion of mucus. Various topical applications have been recommended by different writers. Thus: A solution of nitrate of silver up to 10 grains to the ounce, followed by lavage with a 5% solution of common salt; sulfate of zinc ½ grain to the ounce, followed by irrigation with a solution of bicarbonate of soda 2 to 3%. Alkaline solutions prove very efficacious in detaching and liquefying the abundant tenacious mucus, and thereby facilitating its removal from the stomach. In atonic conditions with deficient secretion, the stomach may be douched with water containing a dram of common salt to the pint. Douching with a weak infusion of quassia has been recommended to combat anorexia and excite appetite. The torpid and asthenic stomach may be aroused and peristalsis provoked, by employing ice-cold water with the intragastric douche. 7. *For performing so-called internal massage of the stomach.* 8. *For the treatment of spasmodic stricture of the esophagus.*

Cholera Morbus.—

℞.—Carbolic acid..... 3 grains.
Glycerin ..... 2 drams.
Paregoric ..... 6 drams.
Cinnamon water..... 1 ounce.

A teaspoonful immediately after each paroxysm of vomiting.—*Monthly Cyclopedia of Practical Medicine.*

Hypodermic and Intravenous Injections of Iron Preparations.—Grocco (*Settimana Méd.*, February 3, 1900) concludes that hypodermic injections of iron preparations are generally efficient and well tolerated. That they are indicated when iron is not well borne by the stomach or when it does not produce the effects intended. That the soluble preparations of manganese, such as the double tartrate of manganese and potassium, may be employed hypodermically as substitutes for iron preparations. That intravenous injections of iron are not to be recommended, as they are dangerous and no more efficacious than hypodermic injections.

Naftalan.—Grünfeld (*The Therapist*, February 15, 1900) writes that the treatment of eczema, in its various forms and stages, has become a relatively easy problem by the introduction of naftalan, as its healing effect hardly ever disappoints the physician. Its effect appears quickly and surely in all cases of eczema, either acute, subacute, or chronic, if they are no longer but slightly moist and if the skin commences to scale. In cases of very moist eczema he recommends not to employ naftalan in its pure state, because, being an impenetrable ointment, it may easily lead to blocking of secretion. The strictest cleanliness, careful cleaning of the diseased parts, and removal of the remainder of the ointment, scales, crusts and secretion, applies to the fullest extent to the naftalen treatment. In 4 cases of herpes zoster the writer found naftalan very valuable.

In 3 cases of hyperidrosis of the feet with fissures, naftalan showed satisfactory results; it healed and deodorized at the same time. The painful erosions closed, even after a few days, in spite of the patients following their occupation, and secretion of sweating remained permanently reduced. In subacute and acute articular rheumatism the drug gave excellent results. In addition to the keratolytic effect on the superficial layers of the epidermis, naftalan acts as an astringent; it contracts the distended capillaries and increases their elasticity. In this manner it removes the congestion, reduces secretion, and hinders by its antiseptic properties decomposition of the secreta. By the slight irritation which it causes, it very favorably influences growth of epidermis elements; for this reason we notice rapid healing in eczema, burns, etc. It allays pain, deodorizes and stimulates healing.

Intertrigo.—Ullmann (*Centralbl. f. d. ges. Therapie*) recommends the following dusting-powder:

℞.—Tannoform.....
Powdered starch..... } of each 1 dram.
Finely powdered talcum.....

Spartein as a Cardiac Stimulant.—Thomas (*Rev. Med. de la Suisse Rom.*, December, 1899) concludes from experiments on rabbits that spartein slows the pulse and raises the blood-pressure. The writer agrees with Cushing and Mathews in attributing the slowing of the heart exclusively to the action of the drug on the cardiac muscle. He believes that the increase of blood-pressure is chiefly due to the same cause, but that a vasomotor influence cannot be entirely excluded.

The Gastric Symptoms of Phthisis.—Kidd (Allbutt's *System*) writes: Loss of appetite, cardialgia, and other symptoms of dyspepsia may be treated by alkaline and acid tonics; but for general use nothing can excel an alkaline mixture consisting of

℞.—Sodium bicarbonate..... 15 grains,
Tincture of nux vomica ..... 10 minims,
Compound infusion of gentian..... 1 ounce,

given before meals. If a sedative action be desired, hydrocyanic acid may be substituted for nux vomica. The good effects of this mixture are witnessed not only by increase of appetite and relief of the dyspeptic symptoms, but at the same time expectoration is facilitated, whereby the cough is indirectly relieved. In other cases, especially where flatulence is a prominent symptom, better results are obtained by acids, with or without strychnin, given after meals. In cases marked by irritative symptoms—such as vomiting or pronounced epigastric pain and anorexia—a mixture containing bismuth, hydrocyanic acid, tincture of belladonna, or, if necessary, a few minims of liquor morphinae, given before meals, is to be preferred. Bismuth in powder, or in an effervescing draught with hydrocyanic acid, may prove successful in particular cases. In all instances of dyspepsia the diet requires a careful survey.

Injections of Normal Solution in Tetany.—Gomez (*Riforma Medicia*, January 23, 1900) reports a case of tetany in a child of 7 years, in which the symptoms developed in the course of influenza. The chief manifestations were spastic contractions of the extremities, opisthotonos and exaggerated reflexes. Large injections of normal salt-solution were given daily for 4 or 5 days when improvement was noted, and ultimately a complete cure was effected.

Original Articles.

IE INACCURACIES OF HOME MODIFICATION OF COW'S MILK.

By CHARLES E. WOODRUFF, M.D., U. S. Army.

of Fort Riley, Kansas.

No doubt every one has been more or less impressed th the extreme difficulty of modifying milk accuely at home in accordance with modern formulae. 'get the exact proportions of proteids, fats and sugars, quires a bewildering mathematical calculation much yond the capacity of most of us, for though we could lve these problems in the quiet of the study, it is not ely that we could do so, offhand, in the sickroom. ence there seems to be a constant effort to simplify e process and evolve rules of thumb, which apparly so far are about as complex as the originals. aving recently been compelled to straighten matters t for several babies which were not doing well, the rch for the faults has almost given the impression at accuracy is entirely out of the question and even necessary. The interest we all have in this topic is e only excuse for this paper, though perhaps we ght, after all, reach some rules of thumb not too borate to keep in mind, yet infinitely more accurate an the old rule,—dilute cream and sweeten it.

In the first place, to be accurate we must know the act composition of the ingredients,—cream, skimmed lk and whole milk. Outside of the milk laboratory is is never known, for the supplies vary so much from ne to time and in different places that nothing would ffice short of an elaborate daily test in each case. ithout exception, all specialists recommend that we sider the whole milk as having a certain composin which is about the average for the year of the milk m any reputable dealer selling mixed milk from ny sources. Not only do these estimated averages fer much among themselves, but they may be so far m what an analysis shows to be exact, that the error y destroy all accuracy in our combinations. For stance, for ease of calculating, it is not infrequent, at we see cow's milk estimated to average 4% each of oteids, sugar and fat, a few making the sugar 4.3% d the proteids 3.8%. As far as the sugar is conned, the error is of no consequence whatever, because e dilution with water also equally divides the error, d there is a subsequent addition of sugar to raise the rcentage to somewhere between 6% and 7% for an ant between 1 and 11 months old. It makes but litt difference whether the sugar is a trifle less than 6% a trifle more than 7%, because the sugar is virtually gested already and it supplies nothing for the child's owth or nutrition, being merely a fuel supplying engy for heat and work, the surplus being stored up as eless fat. Since the leanness of babies getting too little gar, and the fatness of those getting too much as in se fed on condensed milk or the prepared infants' ds rich in sugar, are both very undesirable conditions, is necessary to come somewhere near the proper ounts of sugar, but extreme mathematical accuracy neither necessary nor possible.

In the case of the fats the error may be even greater an with the sugar. Though the best dealers guarant that their milk shall always contain 4% of fat or re, yet the smaller dealers may lapse from virtue, and indeed in the springtime the milk may naturally have but 3.5% of fat or even less. On the other hand, rich milk not infrequently contains 5 to 5.6% of fat. So that even with the mixed milk of cities from many widely separated farms, the most steadfast of all in composition, the error may be so great, that after the most painstaking mathematical accuracy, we may discover that the data are so inexact that the baby is getting $1\frac{1}{2}$% more or less fat than we desired. When we have to deal with the milk from a single cow, the variation in the fat from month to month may be so great, that we can safely say that accuracy is positively hopeless. For instance, different breeds of cows vary greatly. The Holstein may give as low as 2.8% of fat, and the Jersey may give over 6% on an average. The time of the year, the food and care given to the cattle, the month of lactation and manner of milking,—all exert such a profound influence, that the fat may be lower than 2.5% or as high as 8%.

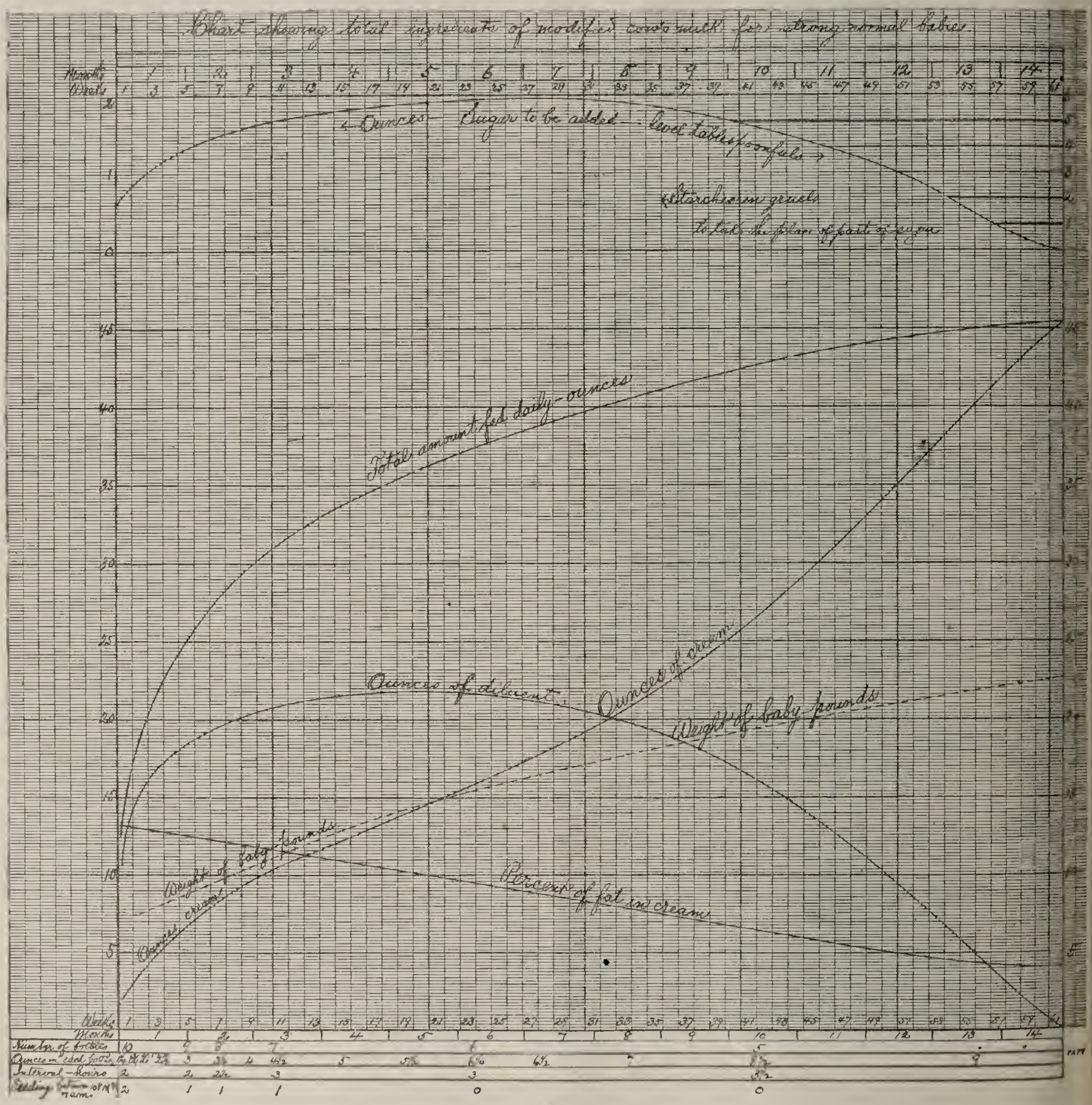
As the fat contains no nitrogen for the growth and nutrition of any tissues except those containing fat, but is to the infant exactly what it is to the adult, a highly concentrated fuel,—it really is not necessary to be exact, for a little more or less fuel is of no consequence. Then again all the fat is never digested, a certain unknown amount remaining to keep the feces soft. So that even after we have most accurately calculated what we think is the correct amount, it is a matter of experiment, for we may find that we have to diminish it to stop regurgitation of sour masses smelling like rancid butter, or we may have to increase it to soften the feces. Finally, after the first two months, all babies should have about 4% of fat in the food, and there is not the necessity for that accurate graduation in strength recommended for the nitrogenous ingredients.

In the case of the proteids it is of considerable importance not to have them in too high a proportion. On account of feeble digestion we begin with 0.5% on the third day and so slowly increase it that it is 14 months or more before the child is given the undiluted cow's milk. Here where accuracy is important, it is most fortunate that the variations in different milks are so trifling as to be negligible. Holt publishes figures compiled from the Walker-Gordon laboratory, for different breeds of cattle, the lowest being 3.99% and the highest 4.17. In the tables issued by the Department of Agriculture, the casein alone varies from 3.43 to 3.91%. It is then perfectly proper to consider all milks as containing 4% of proteids, for after dilution the error is too small to be detected. As the mother's milk averages throughout lactation about $1\frac{1}{2}$% of proteids except in the first two months when it may be a little less, the dilution of the proteids of cow's milk is our most important consideration. If this dilution is managed properly, we will be accurate in the place where the greatest accuracy is demanded.

The cream supplied by dairymen is still more variable, and without an analysis it is practically impossible to tell within quite a margin what the percentage of fat really is. In the larger cities the error is not very great, because the fat is usually between 10% and 16%, though rarely it is 20% or more and it may be as low as 8%. In the country districts the cream is more variable. In a recent case, the family could not understand why the milk did not agree. The cream used was rich and supposed to contain 20% of fat. The analysis showed 38% and the child was getting nearly twice as much fat as at first supposed. Inquiry at a neighboring creamery

elicited the information that though separator cream averaged 35% fat, it may contain as much as 45% or as little as 18%. Without an analysis then, accuracy is entirely out of the question, it is a pure guess—and it is not necessary to be exact in calculating from such inexact data.

In the second place, though any one woman may vary but little throughout lactation in the general composition of her milk, yet there are marked variations at times, according to her food, exercise, mental state, etc., and as the babies seem to thrive if they are healthy, it does not seem to make much difference if they do have some variation in their food. Again some women have milk of vastly different composition than others, the healthy variations being said to be from 3% to 5% of fat, 6% to 7% of sugar, and 1.00% to 2.25% of proteids, though the proteids may be as high as 4.5%, and the fat may be as low as 2% or as high as 7% in exceptional cases. In strong healthy babies all of these variation may be tolerated, though we know of course that the greater the variation the more apt it is to disagree. As such variations in mother's milk have been going on for untold thousands of years, it must be normal for babies to tolerate slight changes in food—a mere matter of selection by the weeding out of the unfit. As a matter of fact they tolerate many gross errors even when we



position of her milk, yet there are marked variations at times, according to her food, exercise, mental state, etc., and as the babies seem to thrive if they are healthy, it does not seem to make much difference if they do have some variation in their food. Again some women have milk of vastly different composition than others, the healthy variations being said to be from 3% to 5% of fat, 6% to 7% of sugar, and 1.00% to 2.25% of proteids, though the proteids may be as high as 4.5%, and the fat may be as low as 2% or as high as 7% in exceptional cases. In strong healthy babies all of these variations may be tolerated, though we know of course that the greater the variation the more apt it is to disagree. As such variations in mother's milk have been going on for untold thousands of years, it must be normal for babies to tolerate slight changes in food—a mere matter of selection by the weeding out of the unfit. As a matter of fact they tolerate many gross errors even when we think we are accurate. They often live in spite of bad feeding, so that extreme accuracy can not be as necessary as we have been taught.

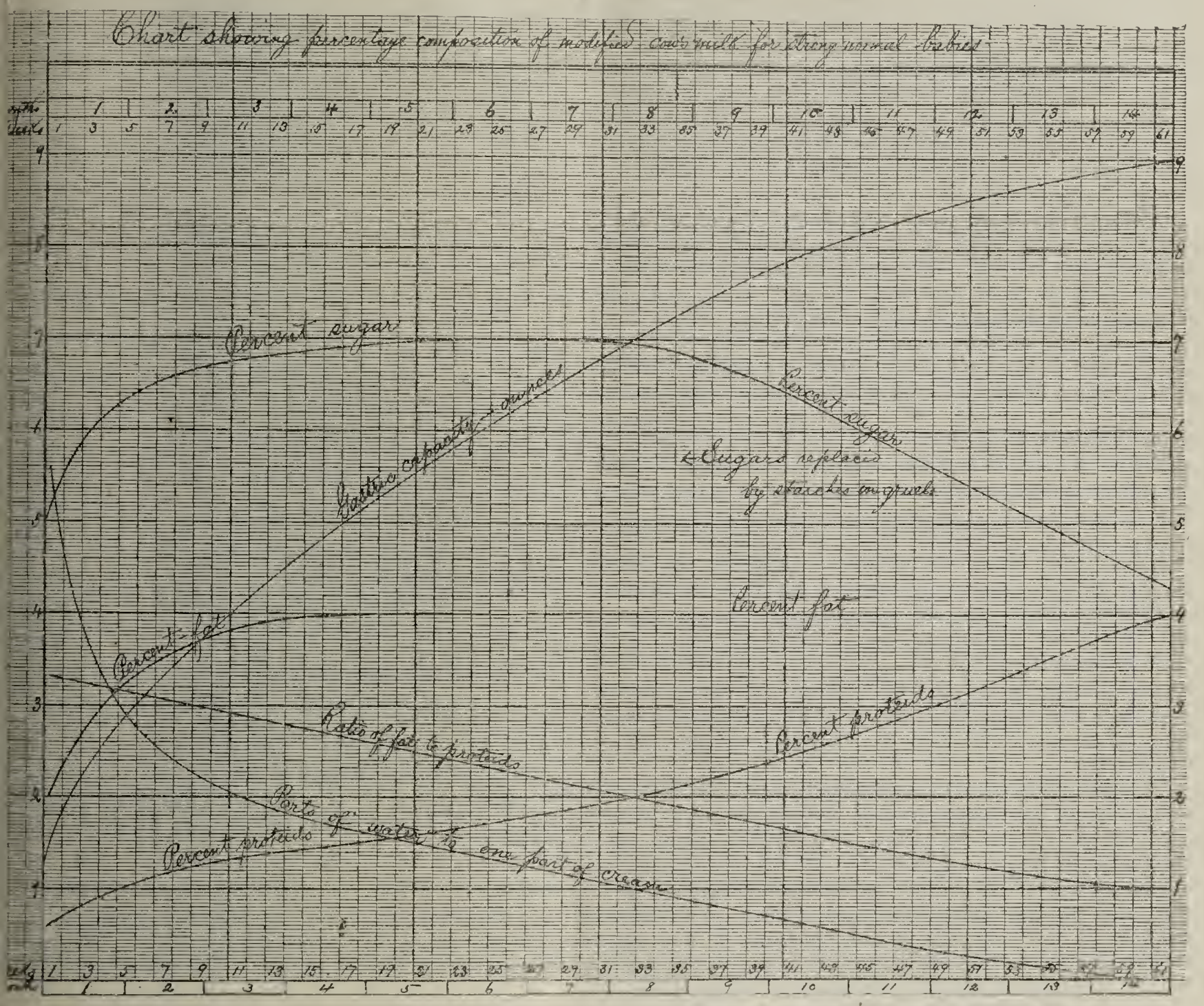
When the digestion is feeble or the child is sick, of course greater accuracy is essential, and as a practical measure instead of correcting errors many physicians withdraw the badly modified milk entirely until the gastric tone has been restored; and it is a matter of common experience that a feeble infant may require a change in wet-nurses as many as a dozen times before

e is found whose milk can be digested,—the rejected t-nurses all having healthy well-nourished infants d being successful with other infants besides. Here are trying to save a life which formerly always per- ed, for in savage life this is one of the greatest causes infant mortality, as the writer has personally seen ong our Indians.

In the third place, after all our directions are given not infrequently find that accuracy is ruined by the ccuracies of a woman's methods. Her mind does t go by rule nor is she bound down by pounds nor racy are entirely out of the question and approximations must be resorted to.

All the possible errors we have mentioned may amount to so much that our most painstaking mathematics may not give a result a bit better than the old rule—one part of cream to one, two or three parts of water and sweeten.

In the fourth place, infants vary so greatly that it is difficult to estimate beforehand what one will take. The stomach-capacity itself varies so much that some tables give nearly double the figures of others. The



hes. Her whole existence is one long guess. She l even take "a tiny peep" at a photographic plate ore putting it into the camera. In all her kitchen ipes, it is a lump of this or a heaping tablespoonful that or a pinch of something else. Mathematical uracy is not found except in Vassar and perhaps not re. Finger-lengths and arm-lengths mean more to than inches or yards. She wants to deal in table- onfuls and will have it that way, or she must have ule of so many cups of water to each cup of cream. may be given the exact amounts of milk, cream l sugar,—results of elaborate algebraic equations and n guess at it after all. "Near enough" is a house- d motto. We have to guess to keep up with her sses. In the lower walks of life conditions of accu- curve on the chart is the average of all tables at hand, and any given case may vary considerably from it. Then there is the personal equation of feebler babies not strictly normal, some of whom thrive on food which others reject. This personal equation may be so great, that we are told to watch the result of our recommendations and vary it as needed, making it weaker or stronger and varying ingredients to suit conditions. What use then is there for extreme accuracy when we have to change it in the end by a little one way or the other. A rule of thumb with which we could do this with fair accuracy without elaborate calculations is quite desirable.

In the fifth place, specialists are not at all agreed as to the exact proportions of proteids, fats and sugars to

use, and though they all recommend essentially the same things, yet the variations are great enough to show us that extreme exactness is not necessary. If we just miss getting what one man recommends we are quite likely to strike the figures of someone else. In trying to get the average of all the data at hand, the percentage curves on the chart were finally obtained, and though they were drawn merely as a matter of personal amusement, they have proved useful as showing at a glance what should be given at each month. He who has this work to do every day no doubt remembers the proportions perfectly, but others do not, and the curves might be useful to them. The most interesting part of this chart is the fact that the line showing the ratio of fat to proteids is a straight line; in other words, the average of all the advice available is to begin feeding babies on a diluted 13½% cream, and progressively weaken the richness of the cream until undiluted cow's milk is given at 14 months, sooner or later according to the vigor of the baby.

Starting from the average percentage curves, we calculated the percentage of fat there should be in the cream at each month. The gastric capacity and number of feedings gave the total amount to be used—a curve agreeing fairly well with most tables. From this curve and the dilution necessary it was easy to calculate the amount of cream and sugar. A tablespoonful of milk-sugar leveled off with a caseknife is very nearly one-third of an ounce. As a glance at the chart gives the ingredients necessary at any age, it was thought it might be of interest to those who have struggled over the puzzling mathematics so distasteful to many men. The curve of infant weights is copied from Griffiths and can be used to determine the proper proportions for children larger than the average,—offspring of large parents, though mere weight due to fat does not necessarily mean larger stomach nor stronger digestive powers; indeed fat babies may have feeble digestion and need dilute but sweet milk. It is to be noted that the curves refer to strong normal infants and not to those of feeble digestion who may require markedly less amounts of proteids; that is, a greater dilution of a richer cream.

The real difficulty is to get the proper strength of cream, for diluted cream is used throughout, the older the baby the weaker the cream. By diluting cream and adding sugar we get any formula desired, except when the percentage of fat is less than the percentage of proteids, and we may never have such a case. If we know the percent of fat in the cream purchased it is a very simple matter to calculate how much of it is to be added to milk (4% fat) to get any desired percentage between 4 and the full strength of the cream. Without this knowledge we will have to guess at the fatness of the cream, because skimmed cream though usually 12% to 16% may be anywhere from 8% to 24%, according to the time of standing, temperature, richness of the milk, and the amount of skimmed milk taken off with the cream. Separator cream, according to the efficiency of the machine, may have anywhere from 12% to 50% fat, though usually as sold it has 16% to 20%. Milk allowed to set in shallow pans and the thick upper skin of cream taken off may have 60% or more—almost butter.

Many specialists recommend that the cream be skimmed off at home and give rules for obtaining the usual percentages. Dr. H. D. Chapin[1] gives numerous experiments in this direction and shows how the process of "deep setting" in tall jars permits nine-tenths of the fat to rise as cream, so that it is possible to get this much skimmed off. Theoretically, if we could get all the fat in the cream and leave none in the skimmed milk, we should obtain the following strengths of cream by taking off the upper parts of a quart of 4% milk after standing in a cool place:

Percent of Fat in Cream.	Upper Ounces of a Quart.
4	32
4½	28
5	26
6	22
7	19
8	16
9	14½
10	13
11	12
12	11
13	10
14	9
15	8½
16	8
17	7½
18	7
19	6¾
20	6

Dr. Chapin shows that the bottled milk is virtually "deep set" when received and that any desired percentage can be obtained by dipping out the requisite number of upper ounces with an ounce dipper fastened to an appropriate wire handle. Practically we find an immense variation according to the richness of the milk, temperature, etc., so that the skimmed milk remaining in the bottle may contain as much as 2½% of fat, though usually it has less than 1%. For instance, the upper 6 ounces instead of giving 20% may yield only 12%, the upper 8 ounces instead of giving 16% may yield only 10%, and the upper 10 ounces instead of 13% may give but 8% or 9% of fat. It is to be noted as a fortunate circumstance that in the creams we use, the lower percentages, the variations become less and less and after the dilution with water the error may not be of any moment. The following table may be accepted as a fair average of the creams obtained from the upper ounces of a "deep set" 4% milk supposing that the skimmed milk left in the bottle has about 0.75% of fat.

Percent of Fat in Cream.	Upper Ounces of Milk.
4	32
4½	24
5	20
6	18
7	15
8	13
9	11
10	10
11	9
12	8½
13	8
14	7½

The only objection to setting the cream at home is the fact that the milk may be 48 hours old before it reaches the consumer, and that any further keeping gives more opportunity for bacterial growth.

It is very evident that the only object in view as far as accuracy is concerned, is to dilute the proteids, so that the prime object of any rule of thumb would be to determine the amount of the diluents. We have seen that the increase of fat in the cream must necessarily

[1] *New York Med. Rec.*, November 4, 1899.

inish the percentage of proteids, yet in the creams use the decrease is so small that we can neglect it consider all creams as having 4% of proteids. er the dilution, the error is proportionately lessened may be inappreciable. Then again, this error, ing though it may be, is on the safe side, because infant gets a trifle less proteid than we calculated—ch is far better than a trifle more, particularly as ny breast-fed infants in perfect condition never get e than 1.25% of proteid until they are weaned. A cial curve was therefore drawn showing the ratio of er to cream, or part of diluent to each part of cream, it is also easy to calculate by subtracting the percent roteid from 4. Thus if 1.5% of proteid is required, must have $2\frac{1}{2}$ parts of water to $1\frac{1}{2}$ parts of cream or $1\frac{2}{3}$ .. This may be as near to accuracy as the household hods will permit—a simple rule of so many parts vater to each part of cream, the physician of course ring himself that the cream used has the proper entage of fat. A curve of the total daily amount liluent is also drawn.

he *Archives of Pediatrics* (November, 1899) calls wed attention to the necessity for low proteids in k digestion and to the fact that condensed milk as ally diluted for the bottle baby may contain but third of the proteids of breast milk, and is there- easily digested when other milks fail, but that the m of cow's milk diluted to get this low percent of eids is just as easily digested as the condensed . The main point then with strong normal babies get low proteids also, for the common mistake is to e them too high for the baby's power of digestion nsufficient dilution of the cream. In such cases it simple matter to use a richer cream and dilute it e. For these reasons the chart-curve for the per- of proteids may be too high after the fifth month, though it is an average of the recommendations of ialists it may be necessary to have the proteids be- 2% throughout the first 10 or even 12 months, as he majority of breast-fed children.

mere glance at the sugar curve is all that is neces- to give us a close approximation of the daily ber of level tablespoonfuls of sugar to use through- the first 14 months, and will save the annoying ulations of finding to what degree the sugar of the m is diluted, subtracting this from the percentage ired and multiplying by the total number of es in the daily mixture. As before remarked, y affirm that it makes but little difference whether baby gets 6% or 7% of sugar, and to get between e limits is the only desire, accuracy being un- ssary.

om all this we see that if we desire accuracy we t call on the laboratory, and happy is he who can so easily throw this load from his shoulders. No t every one will agree that, taking everything into ideration, the weak or sickly infants, etc., it would est to have great accuracy in the compounding of nfant's food, even while aware that such extreme ac- cy is not essential in the vast majority of cases. hat it is not at all improbable that efforts will be e to cheapen the product so as to widen the sphere sefulness of the milk laboratory. Unfortunately he majority of the little patients, laboratory milk yond the reach of their parents, and for those out- of the cities it always will be impossible to secure It certainly is necessary then to do all we can to e some accuracy into the present hit or miss methods of the household. Though there always will be more or less opposition to any elaboration of methods, and the stupidity found in many households will always prevent the employment of any except the simplest rules, yet it is not to be denied that much can be accomplished and is accomplished by even the simplest directions. Perhaps the accompanying charts may suggest some simple rules to an ingenious mind.

To summarize, we might say that the average of the recommendations of specialists, is that:

1. Diluted cream be used, beginning with about $13\frac{1}{2}$% of fat and gradually reaching pure cow's milk in 14 months.

2. That the dilution of this cream is the important process to get the proteids low, and that in the beginning there should be $5\frac{1}{2}$ parts of diluent to 1 of cream, the proportion of water rapidly diminishing for two months and more gradually thereafter.

3. The ratio of the proteids desired to that in the cream (4) is the ratio of the ounces of cream to the total ounces. Thus if $1\frac{1}{2}$% of proteid is required we must have $1\frac{1}{2}$ parts of cream to 4 of the daily feeding, or 13 ounces of cream and 21 of water, making a total of 34.

4. Beginning with 3 level tablespoonfuls of milk-sugar a day, this is rapidly increased until the third month, when 6 are added, and beginning in the ninth month the sugar is gradually diminished until at 15 months none is added.

It is rather foreign to our topic to refer to the need of the sterilization of modified milk or at least its pasteurization, but it can do no harm to illustrate repeatedly the importance of this process, particularly as the ordinary methods of the household are far from bacteriologic cleanliness. It has been the writers' duty on several occasions to investigate the milk-supply of army posts and incidentally the usual milk-supply of cities was seen. In no other way than by a personal investigation can one realize how filthy the milk industry can be in the hands of careless or ignorant farmers. One writer announces that 200 pounds of cow dung are brought into New York City daily in the milk, and that it contains more bacteria than sewage. A visit to a creamery when the separators are cleaned out will astound one at the hair, manure, pus and blood found even in the cleanest milk. The pus alone may be very great, for many dairymen cannot be brought to throw away the milk from a slightly inflamed udder. It is milked into the bucket, pus, blood and all, and we know how common it must be for the cow to receive infected injuries of this exposed part. The keeping of milk cold is our salvation, for experience tells us that to keep it warm to allow the bacteria to multiply for even a few hours is a catastrophe. Even the milk from a single cow may be harmful if the servants are untrustworthy as many a sorrowing father may testify.

There is a marked difference of opinion as to the seriousness of the changes wrought in the digestibility of milk by heat of 212 degrees, but the general trend of opinion is to the effect that pasteurization is harmless. Even here the baby's personal equation may upset the best laid plans. Quite recently a baby in this vicinity did not seem to do as well as it ought, and its mother, a well read and most intelligent woman, thought that the pasteurization was the fault, so she stopped it saying that the baby would have to run the risk the same as we all do in a restaurant, where we drink raw milk in spite of the risk, and just as we do

in everything else in this world in spite of its risk, even darting before trolley cars and going to war. Her baby tolerated the raw milk perfectly and thrived amazingly. At the same time within a few doors a failing baby was not digesting the raw milk and pasteurization was begun. It was tolerated at once and the baby thrived as amazingly as the first.

G. Leslie Eastes[2] shows that 80% of milk samples examined contain pus, or muco-pus, or *streptococci !* and Rowland G. Freeman[3] shows that 99% of the bacteria of milk rise to the top with the cream. How necessary then is the sterilization of cream. Freeman advocates sterilizing the cream only, and mixing it with the comparatively germ-free skimmed milk to obviate the danger of spoiling the digestibility of the proteids by heat.

The accompanying charts being nothing but compilations possess nothing new, and they are only published in the hope that some one will solve the annoying problem of how to modify cow's milk simply and accurately at home for the average baby which cannot get laboratory milk.

If most breast-fed infants really get 1.5% of proteids, 4% of fat and 6 to 7% of sugar, then we will not be much in error for all babies over 8 weeks old, if we dilute 3 parts of a 10 or 11% cream with 5 parts of water and add 5 or 6 level tablespoonfuls of milk-sugar, the total amount being the stomach-capacity multiplied by the number of feedings, and this rule of thumb may be as near as we can come to accuracy in the average household.

A CASE OF POLIENCEPHALOMYELITIS IN AN ADULT.*

Presenting the Clinical Picture of Landry's Paralysis, and Terminating Fatally in 38 Hours After the Appearance of the First Definite Symptoms of Motor-Disturbance.

BY DEWITT H. SHERMAN, M.D.,

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AND

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Professor of Diseases of the Nervous System in the Philadelphia Polyclinic; Associate in the William Pepper Clinical Laboratory, University of Pennsylvania.

REPORT OF DR. SHERMAN.

THE patient, R. C. T., was a medical student, aged 21 and not married. His family history is good. His father is 58 years old and in good health. All four grandparents lived to be old, one dying at 80 of kidney trouble, another at 75 of apoplexy. There is no insanity or other nervous tendency in the family. He denied specific history or history of injury except a slight injury to the knee 3 months before, producing a synovitis with effusion. He had always been strong and well, and weighed about 150 pounds. Five years ago had diphtheria without complications, and it is stated that since this illness if the finger were drawn over his cheek a red mark would appear, soon to fade away. On one or two occasions had attacks of nausea and vomiting which lasted a few hours, the last of these attacks being 6 months ago. One week before being taken ill he received a dissecting wound which was cauterized immediately and healed promptly, never showing any local infection.

Mr. T called upon me on the evening of November 14, 1898, complaining of having suffered for a few days from general malaise and frontal headache. Two days before he had had a nosebleed, probably from blowing the nose. Had been somewhat constipated. Had at the time of his visit a normal pulse and normal temperature. I prescribed calomel, to be followed the next morning by a saturated solution of epsom salts, given in ounce-doses every 3 hours until bowels moved. The next morning, November 15, was called to see him at noon and found that vomiting had begun that morning upon taking the salts solution, and had continued at frequent intervals, of everything swallowed. Vomiting had been so severe that at the time of my visit he was suffering quite acutely with pain across the epigastrium. That morning he had had a small, partly formed, light-colored stool. His pulse was 64 and of normal tension, temperature 100.6°. His general appearance was fair, his tongue slightly coated. I prescribed a diet of milk and lime water in small amounts, and gave gastric sedatives of bismuth, cerium and small doses of calomel; also counterirritation of the epigastrium. On November 16, called in the forenoon and found he had been restless all night, slept very little, vomiting had continued, temperature was 100⅘, pulse 88 and of good tension. There was noticeable on the upper chest a subcutaneous flush suggestive of a menacing scarlet fever rash. Throat showed no spots. As he was not receiving proper care at his room I insisted he should be taken to the hospital. When he arrived there he complained of *decided soreness over his diaphragm* and, for the first time, of weakness in his legs. He had some headache and pain in the back. While he could walk it was with considerable difficulty.

At the hospital he was ordered milk and lime-water in small amounts, counterirritation to epigastrium, hypodermic of morphin sulfate .0075 to restrain stomach, calomel in small doses (.03 every hour for three doses), to be followed by 2 cc. effervescing solution of Seidlitz powder at frequent intervals until bowels moved, and icebag to head. That evening he was given another hypodermic of morphin .0075, and the same treatment was continued. His temperature was 102.2° and pulse 106.

He slept that night at intervals, but the nausea continued and he felt very uncomfortable. The next morning, November 17, at 4 o'clock in the morning, he was suddenly attacked with difficult respiration. At that time there was little movement of the diaphragm or lower intercostal muscles. At about 9 A.M. he was compelled to assist breathing by pulling with his arms on the head of the iron bedstead. Without this assistance he could not expand the chest. I saw him about 11.30 A.M. and found him in the above described condition. His intellect was clear, he could talk plainly between breaths. He had little or no headache, but complained of backache, which grew worse as the day advanced. His pupils were even, but slightly dilated and reacted to light and accommodation. No photophobia. His color was good, his expression was anxious. There was no facial paralysis. His pulse was 80, of good tension, and temperature 101.1°. Though his arms were the important factor in producing respiration, still the platysma muscles acted most conspicuously. Examination of the chest showed at both bases hyperresonance with distant and weak vesicular murmur, almost suggestive of slight pneumothorax. The vesicular murmur at the apices was also weak. He was breathing at that time 22 times a minute. His apex was situated in the sixth interspace, just outside the nipple line. There was a systolic murmur of the mitral leaflets. There was no glandular involvement. Spleen and liver were normal. Abdomen was not distended nor was there any sensitiveness upon palpation except over diaphragm. All reflexes from shoulder down were absent. Electrical reactions were intact. He was not able to move his legs, but could extend and relax his toes and contract somewhat his quadriceps extensor muscles There was no muscular rigidity. Sensation was intact, not even delayed. There appeared occasionally on the abdomen and chest, to last for a few moments and then disappear, various-sized hyperemic spots. He had perfect control over the rectum, but had not been able to urinate for nearly 24 hours and was catheterized. The analysis of this sample was as follows:

Color, amber, clear; odor, urinous.
Reaction slightly alkaline, specific gravity 1.026.
Urophein normal, indican increased.

[2] *British Medical Journal*, November 11.
[3] *Arch. of Pediatrics*, August, 1899.
* This paper was read October 1, 1899, before the Pathological Section of the Academy of Medicine of Buffalo, N. Y.

Jrea, 2.4%.
Earthy phosphates, chlorids and sulfates normal.
Bile pigment absent
Albumin very slight trace.
Sediment slightly increased.
Microscopically, principally earthy phosphates, a few kocytes and pavement cells.

The peculiarity of the course of the case at this time s the fact that the respiratory muscles were paralyzed fore the arms. His grip at this time, 6 hours after he d started his own artificial respiration, was still fair. 1P.M., considering the patient's condition most serious, ificial respiration was started by members of his class. The spots of cutaneous hyperemia, with the slight ation of the pupils now present, with the good color spite of the dyspnea, the alertness of the patient, intellect being perfectly clear, suggested a hysterical element not to be lost sight of in making the diagnosis. view of this, at 10 A.M. and 2 P.M., he was given sodium bromid 1.00 and monobromate of camphor .30, to a hot mustard footbath. As he was not now suffering from nausea, beef-juice and egg-nog were added his milk-diet. That afternoon, a consultation of all physicians of the Buffalo General Hospital was held. Many of them laid a great deal of stress upon the fact that the man was suffering from hysteria, and in order disprove this diagnosis, I interrupted artificial respiration for 30 seconds, long enough for the patient to become cyanosed to a marked extent. His color returned once when artificial respiration was resumed, and the patient begged that this experiment should not be repeated. In spite of this cyanosis upon stopping artificial respiration, the consulting staff, with one exception, still adhered more or less to the idea of hysteria. They all, with one exception, advised the use chloroform for diagnostic purposes to ascertain he would breathe when anesthetized. To me, did not seem justifiable to give an anesthetic in case that had followed the order of symptoms Landry's paralysis so closely except as far as the ns were concerned, they becoming paralyzed after muscles of respiration. His temperature at 2 P.M. s 100.5, with a pulse of 80. At 3 P.M., for about 5 nutes, he had fine muscular twitchings of the left side the face. At 5 P.M., 13 hours after dyspnea had commenced, deglutition became difficult, and at 6 P.M. he s unable to swallow. At this time he had lost all ver in his arms. At 8 P.M., temperature was 102.6°, h pulse 106.

Later, the opportunity to use chloroform for diagnostic purposes became necessary. Sylvester's method of forming artificial respiration was fast tiring out the ient, and an artificial respiratory apparatus was tried. th the mask it was not successful, and tracheotomy s advised. The patient was willing to have tracheotomy performed only if chloroform was given. The eration was performed at 8.30 P.M. by Dr. Eugene A. ith. Dr. De Lancey Rochester cared for the pulse, dministered the chloroform, and three students performed artificial respiration. As he was taking the loroform, he remarked to me perfectly intelligently, octor, be sure to give me enough." At the stage of gical anesthesia, the pulse was 90 and good, and artificial respiration was ordered stopped for 7 seconds. ere was a slight attempt at respiration by the suprahyoid and infrahyoid muscles, especially the former, the other muscles of respiration remaining inactive, n the platysma which had worked so energetically the morning. Artificial respiration was then started, to be stopped soon for 15 seconds. No further developments. A little later, a third trial was made for 30 seconds, and was started then only because the heart began to "wobble." This demonstrated satisfactorily that there was nothing hysterical in the case.

During the operation bleeding was quite free. As soon as tracheotomy had been performed, artificial respiration was started by his fellow students using the same apparatus.

He recovered well from the anesthetic; his intellect was clear; pupils were equal but rather large; color good; pulse about 100 and fair. He was given normal saline rectal injections and stimulated. At midnight his heart became irregular, and at 1.40 A.M. he died, 38 hours after admission to the hospital, when he could still walk, and 22 hours after his alarming symptoms developed.

I was very fortunate in being able to interest Dr.

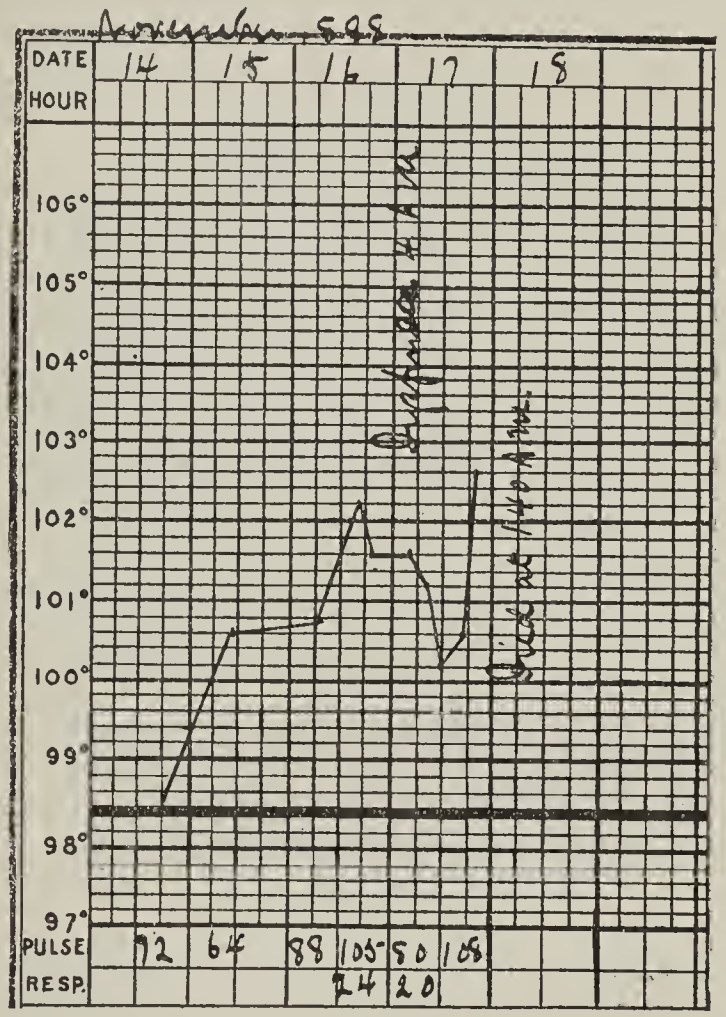


FIG 1. Chart showing respiration, pulse, and temperature.

William G. Spiller, of Philadelphia, in the study of the case, and to secure his cooperation to undertake the histological investigation of the specimens sent to him. His share of the case is reported below by him, at my request.

I wish to express my thanks and appreciation to Dr. Herbert U. Williams, professor of pathology and bacteriology in the University of Buffalo, for the large amount of work he has done. His postmortem notes and bacteriological report are given in full.

I am also greatly indebted to Dr. Charles Cary, one of the visiting staff of the Buffalo General Hospital, and professor of clinical medicine of the University of Buffalo, for his counsel and valuable assistance, he being the single one of the consultants to take a most emphatic stand in diagnosing Landry's paralysis at the consultation.

Autopsy held at the Buffalo General Hospital, November 18, 1897, about 20 hours after death.

The body was that of a large, finely-built young man. Rigor mortis was firm. There was the ordinary postmortem lividity.

Spinal Cord.—The dura mater in the upper cervical region had a somewhat unusually reddish appearance.

The substance of the spinal cord was remarkably firm; no lesion was evident to the unaided eye.

Brain.—The cerebrum, cerebellum, pons, and medulla were examined with the greatest care, but no lesion was discovered except that the gray matter of the cerebrum was rather red, and the pia mater over it was somewhat injected.

Thorax—Right lung, pleural cavity free, no fluid,

Left lung, pleural cavity, no fluid. Some adhesions posteriorly. Both lungs showed small, scattered, dark areas, adjacent to areas of emphysema about ¼ of an inch in diameter, ascribed to the artificial respiration, and especially to the use of Fell's apparatus (bellows for forced inspiration after tracheotomy). The larynx and trachea except for the tracheotomy, were normal. The pericardium was not remarkable. Lesions of the pulmonary and coronary arteries were absent. The valves of the heart were in good condition. The muscle was of the usual thickness and sound in appearance. The aorta was small (2½ inches in circumference). The blood in the heart and great vessels and in the organs in general was little or not at all coagulated. The thymus-gland was present and was unusually large. It was impossible, however, that it could have produced perceptible pressure on the trachea or bronchi.

Abdomen.—Peritoneum was not remarkable. Spleen 6 oz., not remarkable. Left kidney, dark, firm, capsule not adherent, normal in appearance, 5½ oz. Right kidney, like the left, 5¾ oz. The stomach, duodenum, and remainder of intestine, with the vermiform appendix, liver, and pancreas, were normal in appearance, and not remarkable.

Histological Examination—Tissues fixed in Müller-formol, stained hematoxylin, and eosin. Heart-muscle striations very distinct; nothing abnormal detected.

Lungs.—The dark and emphysematous spots proved to be areas of emphysema, with dilation of the surrounding capillaries. Rarely the veins near the areas contained thrombi of leukocytes.

The vesicles and bronchial tubes were sometimes filled with homogeneous material staining pink with eosin (coagulated serum from edema probably). Some vesicles contained red blood-cells and a few desquamated epithelial cells and leukocytes.

Thymus Gland.—The tissue seems normal, but the corpuscles of Hassall are numerous and often very large.

Spleen.—Normal.

Liver.—Normal, except that a single bile-duct was seen which was plugged with epithelial cells and leukocytes.

Kidney.—The glomeruli completely fill the capsule of Bowman in most cases; the epithelial cells of the convoluted tubes appear somewhat swollen; not remarkable otherwise.

Bacteriological Examination.—Cultures were made on agar from the wound in the finger a few hours after death. (The wound was trifling and would not have attracted attention under ordinary circumstances.)

The tubes were placed in the incubator. Several tubes were grown in anaerobic conditions according to Buchner's method. No growths resulted except a single colony of a yellow sarcina.

At the autopsy, agar tubes were planted from the heart-blood, liver, spleen, kidney, and from the subdural space in the upper dorsal region. The tubes were placed in the incubator, some in Buchner jars. Growths developed only from the liver and kidney, which presented the following characteristics:

The organism was a very short oval bacillus, usually appearing nearly like a micrococcus.

Motile but not actively, decolorized by Gram's method.

Grows in room-temperature, better in incubator.

Gelatin—stab, white, not liquefying.

Agar—pearly white, not as profuse as B. coli communis.

Glucose—agar = acid, no gas.

Lactose—agar = acid, no gas.

Potato—invisible growth, sometimes barely visible white growth.

Bouillon—clouded.

Dunham's solution, white sediment, no indol formed.

Milk—partially and very slowly coagulated.

One-half and one cubic centimeter of old bouillon culture injected into guineapigs have produced no effect after several weeks.

With typhoid blood no clumping or loss of motility.

The organism resembles B. coli communis except in failure to form gas, in the less luxuriant growth on agar, and in the character of the growth on potato. The failure to form indol in Dunhan's solution is less characteristic in my experience. It probably belongs to the so-called "colon-group" and it is very doubtful whether it had anything to do with causing the patient's death.

The influenza-bacillus of Pfeiffer and the meningococcus of Jaeger-Weichselbaum probably would not have developed under the conditions used, unless in the tubes made from the heart's blood where plenty of blood was smeared over the surface of the agar.

PATHOLOGICAL REPORT BY DR. SPILLER.*

[From the William Pepper Clinical Laboratory. Phoebe A. Hirst Foundation.]

The spinal cord and pieces of the brain hardened in Müller's fluid were given to me for microscopic examination.

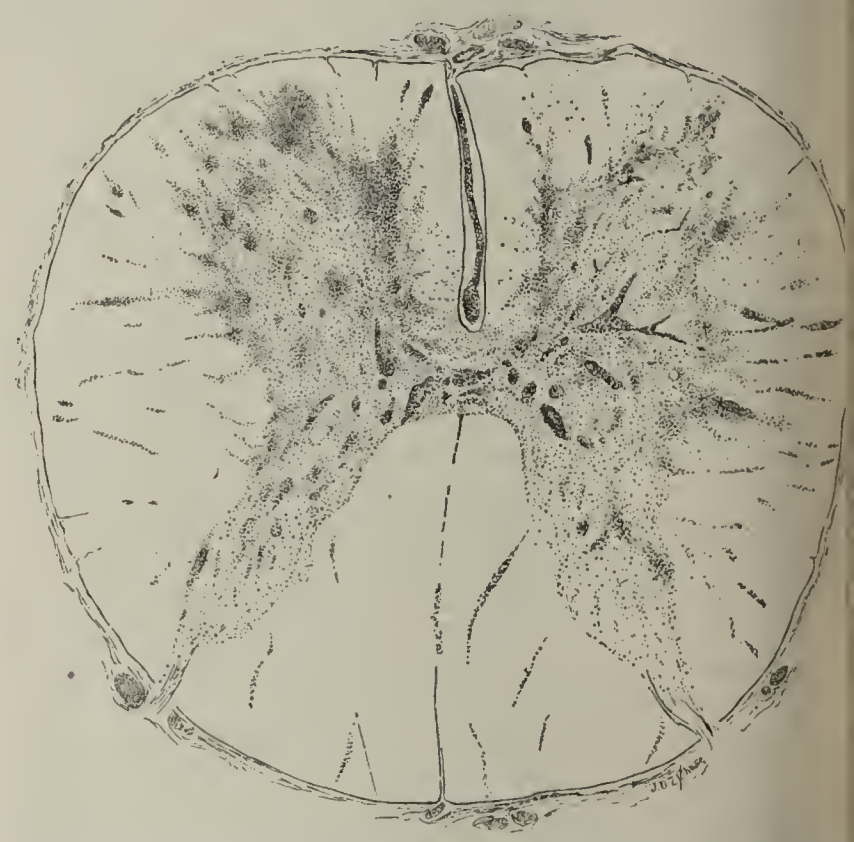


FIG. 2.—A section from the lumbar region of the cord, showing the distribution of the round-cell infiltration within the gray and white matter. The infiltration within the white matter is slight in comparison with that in the gray matter.

Lumbar Region.—Sections were studied from different parts of the lumbar region. The bloodvessels of the gray matter, meninges and spinal roots were much engorged with red blood-corpuscles, and those of the white matter presented a similar condition, but one of less intensity. Round-cell infiltration was very marked in the meninges, anterior horns and intermediate gray matter. The posterior horns were also invaded by the cells, but to a less degree than the anterior. Cells were found about the vessels of the white matter, but were confined to the perivascular region. In the anterior horns and intermediate gray matter the cells formed many groups independent of the vessels. Under an oil-immersion lens these cells were found to have usually round single nuclei of quite large size, but some of the nuclei were a little irregular in outline or elongated. Some recent small hemorrhages were found within the meninges, but none were seen within the spinal gray matter. Areas were found within the posterior roots in which the tissue had undergone a form of degeneration to be discussed further on. The nerve cells of the anterior horns were much diseased; some cells, however, could be detected, but they were very few in number, were shrivcled, and usually with every imperfect dendritic processes and without

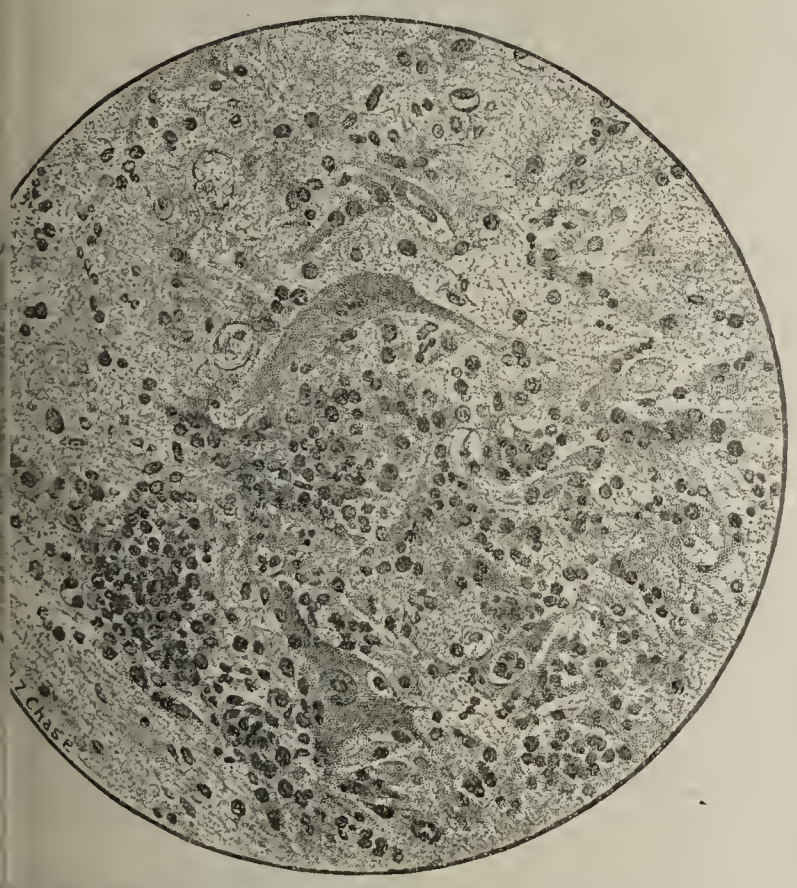
* Read before the Pathological Society of Philadelphia, October 26, 1899.

tinct nuclei. When the Weigert hematoxylin stain was ployed a nerve-cell could be recognized here and there in e anterior horn, much altered and having usually the form yellow granular tissue with little resemblance to a nerve-l, and distinguishable chiefly by the position it occupied



. 3.—The pia of the anterior fissure in the lumbar region. Intense round-cell infiltration is seen within the pia about the artery of the anterior fissure.

l the pericellular space about it. Sometimes the remains a nuclei could be seen in one of these granular masses. e nerve-fibers within the anterior horns did not stain as ensely with the hematoxylin as in normal cords, probably account of a beginning change in the myelin. No alter-on was seen in the lumbar cord by the Marchi method.



5.—The nucleus ambiguus. Distinct round-cell infiltration is seen within this nucleus of the vagus nerve.

anterior roots appeared to be perfectly normal, which very noteworthy on account of the changes in the motor al cells, and was doubtless due to the fact that death oc-ed soon after the disease began. Although the vessels of the anterior roots were much congested, as has already been mentioned, there was no distinct perivascular cellular infiltration about these vessels.

The upper sacral cord presented the same lesions as the lumbar.

Thoracic and Cervical Regions.—The condition here was very similar to that in the lumbar cord.

Medulla Oblongata.—Distinct, small and recent hemorrhages were found in the gray matter near the floor of the fourth ventricle, and to some extent elsewhere, and the exuded blood filled the perivascular spaces and extended into the surrounding tissue. Numerous red blood-corpuscles were also found along the floor of the fourth ventricle. Hemorrhages were not seen in the spinal cord, as has been stated. The walls of the bloodvessels throughout the medulla oblongata showed extensive cellular infiltration, and distinct cellular infiltration was seen in the nucleus ambiguus. The white matter, as in the spinal cord, was much less involved than the gray. The cells of the nucleus ambiguus were somewhat shriveled and many had very imperfect dendritic processes. The same was true of the cells of the twelfth nucleus. Cellular infiltration of the nuclei of the seventh nerves was not very distinct and the nerve-cells were more nearly normal.

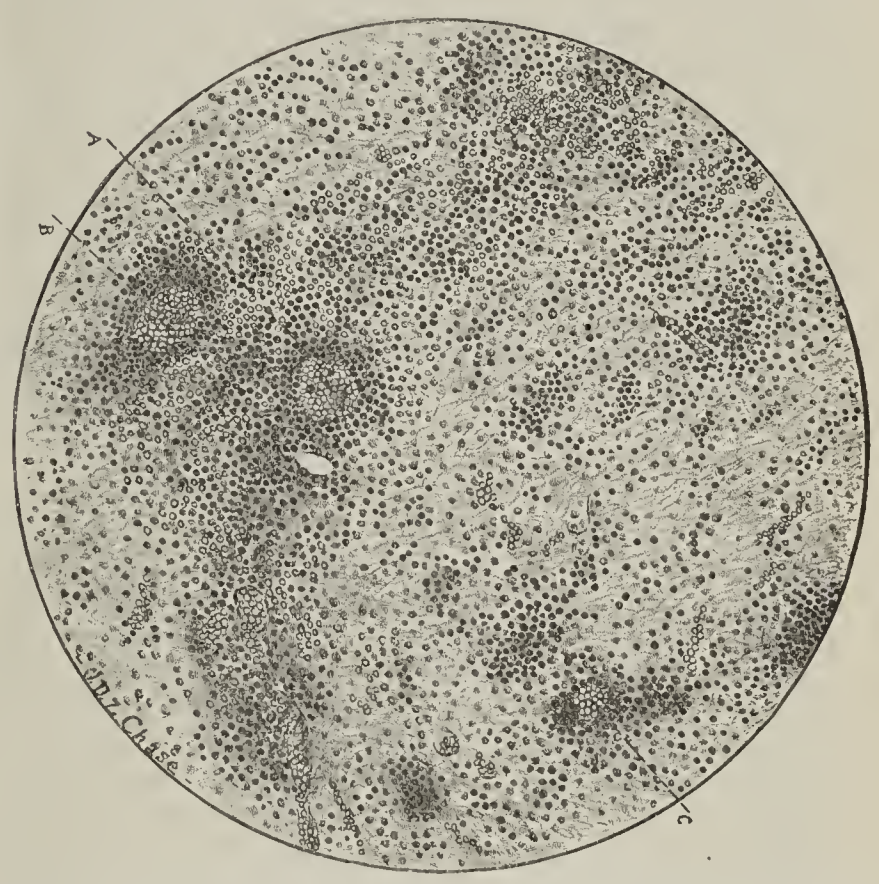


FIG. 4.—Portion of one of the anterior horns in the lumbar region. Diffuse round-cell infiltration and also perivascular round-cell infiltration are seen.

Pons.—The changes in the pons were much less evident. The scattered cellular infiltration of the gray matter was much less intense, but perivascular cellular infiltration was very distinct, although not as intense as in the medulla oblongata and spinal cord.

Cerebral Peduncle.—Cellular infiltration of the gray matter was found, but was much less intense than in the medulla oblongata and spinal cord. Perivascular cellular infiltration was especially noticeable about the vessels of the gray matter. Some cellular infiltration was found in the oculomotor nuclei, and the bloodvessels within these nuclei showed considerable perivascular cellular infiltration.

Vermis.—No very noticeable pathologic changes were found here, except that the bloodvessels were much distended.

Basal Ganglia.—Some perivascular cellular infiltration was seen here, but it was slight.

Cerebral Cortex.—The bloodvessels were much distended, but perivascular cellular infiltration was unimportant.

SUMMARY OF PATHOLOGICAL FINDINGS.

Intense cellular infiltration was found throughout the gray matter of the anterior horns of the spinal cord, and also in groups about the bloodvessels. The

cellular infiltration was much less in the posterior horns. Cellular infiltration was found in the pia, and in the form of perivascular foci within the white columns. The vessels everywhere were much distended with red blood-corpuscles. The motor nerve-cells of the spinal cord were greatly degenerated. The anterior spinal roots were normal. No hemorrhages were found within the spinal cord, but some recent ones were found within the spinal meninges. These changes extended throughout the spinal cord, medulla oblongata, pons and cerebral peduncle to the basal ganglia, but were not very evident in the cerebral cortex and subjacent white matter, although even here the vessels were much dilated. The process was essentially a poliencephalomyelitis, although the white matter was not intact.

An interesting condition was found in the portion of the posterior lumbar roots external to and near the periphery of the spinal cord. The axis cylinders here were moderately swollen and in some places were apparently without medullary sheaths, some of the medullary sheaths were somewhat swollen, and considerable amorphous tissue, either not staining at all with ammonium carmine, or else staining a deep pink, was found within these areas. These areas under a low power seemed to be quite sharply defined from the surrounding tissue of the posterior roots, although under higher power the dividing line was not quite so distinct. With the hematoxylin stain the myelin sheaths were seen to be more or less broken up. The appearance of the tissues in these parts suggested necrotic areas. I have seen these areas in the spinal roots in other cases, and am inclined to regard them as having no clinical significance, and as formed shortly before, or shortly following, death.

Somewhat similar changes have been described by Petrén.[1] He observed the "hydropic swelling" described by Minnich, and thinks it probably occurs shortly before death. The neuroglia is not proliferated and the vessels are normal. This alteration of the nerve-fibers causes no clinical signs. The medullary sheaths and axis cylinders are swollen and other changes occur. If it is a condition of postmortem origin it is dependent on some alteration of the nervous tissue occurring in life. Petrén described the "hydropic swelling" as observed in the spinal cord, but the areas in the posterior roots found by me in Dr. Sherman's case seem to resemble somewhat the findings of Minnich and Petrén, although they are not exactly the same. The "hydropic swelling" is seen with the carmine stain, but it is not detectable with the Weigert hematoxylin stain or the Marchi stain. It is important to recognize that there is a difference between this "hydropic swelling" and true degeneration with the formation of sclerotic tissue.

I have regarded the findings in Dr. Sherman's case as similar to those in the reported acute cases of anterior poliomyelitis, and in order to justify this opinion it is necessary to refer briefly to these cases. According to Siemerling the acute cases of anterior poliomyelitis of childhood with necropsy reported at the time he wrote his paper, in addition to his own, were those of Archambault and Damaschino, Drummond, Rissler, Preisz, Dauber, Goldscheider, Lippmann and v. Kahlden. To these I may add the cases of Redlich, Bülow-Hansen and Harbitz and Matthes.

The case of Archambault and Damaschino[2] seems to have been the first acute case (26 days) with necropsy on record. They found myelitis of the anterior horns.

Drummond found vascular dilation, not only in the anterior horns but also in the anterior columns and the anterior and middle portions of the posterior horns.[3]

In the very lengthy and valuable report of cases of acute anterior poliomyelitis with necropsy given by Rissler, mention is made of some perivascular cellular infiltration in the white matter in addition to that in the gray.[4]

Preisz concluded from the examination of a case of infantile palsy that the disease was an acute myelitis involving white as well as gray matter.[5]

In Dauber's[6] case the inflammation (hyperemia and cellular infiltration) involved the posterior horns as well as the anterior, and invaded the adjoining part of the lateral columns, but with the exception of the portions adjoining the gray matter, the white columns of the cord were not involved. A very marked cellular infiltration of the pia was observed. The gray matter of the lumbar, thoracic and cervical region, and the medulla oblongata, presented the signs of inflammation. The portions of the central nervous system above the medulla oblongata were not examined microscopically.

Goldscheider[7] found the vessels of the pia much congested with a moderate perivascular mononuclear cellular infiltration, in his case of acute poliomyelitis of twelve days' duration. While the vessels of the anterior horns were most diseased, those of the posterior horns, of the anterolateral columns, and of the posterior columns showed perivascular cellular infiltration. The findings in this case are exceedingly like those in Dr. Sherman's case, even the infiltrating cells are very similar. Goldscheider found mononuclear cells, round or slightly oval (rundlich oval), with large nucleus and faintly stained cell body, and he believed that they were chiefly proliferated fixed elements; cells of the adventitia, possibly lymphoid cells, and neuroglia cells. The leukocytes within the vessels were not especially numerous, neither were they in Dr. Sherman's case.

In Lippmann's[8] case, very briefly reported, the lesions followed the course of the bloodvessels, and the vessels of the white matter showed pathological change. The infectious material causing the poliomyelitis in this case was believed to have originated from furunculosis and to have been transmitted by the bloodvessels. This is interesting in connection with the infection in Dr. Sherman's case. I cannot regard the wound in Dr. Sherman's case, obtained at a necropsy, as too insignificant for consideration.

v. Kahlden, in accepting Charcot's view that acute anterior poliomyelitis of childhood is primarily a disease of the nerve-cells, depended chiefly on the study of relatively advanced cases. A case of five months' duration that he studied he was obliged to regard as peculiar. Siemerling, in criticising the paper, calls attention to the fact that the findings in this case were like those in the other acute cases, and if v. Kahlden's case is to be regarded as atypical, so must be all the acute cases of anterior poliomyelitis of childhood with necropsy.

In Siemerling's[9] first case of acute poliomyelitis the vessels of the white matter as well as of the gray, and those of the pia were distended and their walls contained many round cells. The findings in his second case were very similar to those in the first case. The process was acute myelitis with especial involvement

he anterior horns in both cases. He speaks of the uency of the involvement of the white matter in few acute cases of anterior poliomyelitis with ne-sy on record, and he concludes that acute anterior omyelitis of childhood is an acute myelitis with ial involvement of the anterior horns, and states this view has been held by Lyden, Schultze, Erb, , Eisenlohr and others. He refers to a number of er observations of anterior poliomyelitis, in which process was not limited to the anterior horns arcot and Joffroy, F. Schultze, Roth, Roger and aschino, Taylor, Eisenlohr, Albutt, Kawka, and rs.)

edlich's [10] case was regarded as one of anterior polio-litis, and yet it resembles even clinically to some nt, the case of Dr. Sherman. A child of 5 ths had some fever and was restless. On the th day of the disease the lower limbs became par-ed. When the child was examined on the fifth it was found to be somnolent, had paralysis of all extremities, loss of patellar reflexes, disturbed res-tion, difficult deglutition and impairment of voice. lich noted the resemblance of the case clinically to of acute ascending paralysis. The disease lasted lays.

ute inflammation was found throughout the spinal , especially marked in the anterior horns, but was also in the rest of the gray matter and in the white mns. A very considerable cellular infiltration was d in the anterior horns, and the ganglion cells were h altered. A slight meningitis was also present. ich was able to find the signs of inflammation in medulla oblongata, cerebral peduncles, basal gan- and centrum semiovale, while vascular injection was present in the cerebral gyri. Peripheral es also were diseased. The pathological findings nble very closely those observed by me in Dr. man's case.

Kahlden [11] is in doubt whether Redlich's case ld be considered one of poliomyelitis. Dauber's Siemerling's case also he regards as atypical. In-ement of the lateral and posterior columns, of the erior horns and posterior roots means that the nctive features of anterior poliomyelitis are absent, ding to v. Kahlden; and yet, he himself, peaking of Rissler's cases calls attention to act that the extent of the disease in vertical direc-is often greater than the clinical appearances d lead one to expect. We need not be surprised, fore, that the extent of the disease in a transverse tion should also be greater than the symptoms in-e. v. Kahlden's objections to the cases of Dau-Redlich, and Siemerling, seem to be based on the ological findings and not on the clinical features. much we know: The symptoms of anterior polio-itis may be produced by lesions of nerve-cells and d-cell infiltration, the latter not confined to the ior gray matter of the cord, and we need not be con-d with a theoretical pathology. Clinical experi- certainly tends to show that anterior poliomyeli- an infectious disease. If the process begins in the -cells, the cellular change is doubtless due to a n carried by the bloodvessels, and any toxic ance capable of destroying the nerve-cells would ably cause reactive changes in the vessels. The on of Redlich that the cellular and interstitial ges are due to the same cause seems to me correct. pting this view, we can hardly expect to find the vessels only of the gray matter diseased in the acute cases. The investigations of Kadyi show that the peripheral parts of the spinal gray matter and the portions of the white columns adjoining these, are nourished partly by the central arteries, partly by the arteries coming from the periphery of the cord. If, therefore, the central arterial system alone is diseased in anterior poliomyelitis, involvement of the white matter lying next to the gray should occasion no surprise. It would seem more probable, however, that the peripheral spinal system is also involved, though to a less extent. The extreme vascularity of the gray matter and the looseness of structure of this tissue are probably in part the cause of the symptoms.

The cases of anterior poliomyelitis with necropsy, reported by Bülow-Hansen and Harbitz,[12] present in the pathological findings a striking resemblance to the case of Dr. Sherman. Bülow-Hansen and Harbitz found congested vessels in the pia, spinal cord and medulla oblongata; perivascular exudation and round-cell infiltration within the spinal cord, and atrophy or distinct degenerative changes in the ganglion cells. In some parts the ganglion cells were destroyed, and the greatest alteration of these structures was found where the round-cell infiltration and exudation were most pronounced. The anterior spinal artery and the artery of the anterior fissure were especially involved. The inflammation involved the gray matter of the entire cord, although it was more intense in the cervical region. The posterior horns and the white matter were invaded. The inflammation was, therefore, not strictly confined to the gray matter, and extended also into the medulla oblongata.

Matthes[13] was able to study the spinal cord in his case by the method of Nissl. He found myelitis not strictly confined to the gray matter.

From the brief reports of the cases of acute anterior poliomyelitis of childhood with necropsy which I have given, I think it will be conceded that the process is an inflammation chiefly of the anterior horns, but not confined to these horns, and that cellular infiltration exists in the pia and about the vessels of the white columns; and furthermore, that I am justified in regarding the lesions in Dr. Sherman's case as very similar to those of acute anterior poliomyelitis. The use of the word "anterior" in this sense is somewhat misleading, for it conveys the idea that *only* the anterior horns are involved, and not the idea that these are *chiefly* involved.

The meningitis in Dr. Sherman's case is a finding that need cause no surprise. Such a combination is well known, and recently Schultze,[14] in a case of acute anterior poliomyelitis, obtained the Weichselbaum-Jaeger meningococcus by lumbar puncture. This combination of meningitis with poliomyelitis has been seen clinically and anatomically, as Schultze points out. His case seems to be the first in which a microorganism was found in acute anterior poliomyelitis.[15] My own belief is that different forms of bacteria are responsible for the poliomyelitis. I have seen poliomyelitis developing after various infectious diseases, and this occurrence has been noted by others.

Cases of acute anterior poliomyelitis in adults have been less frequently reported than cases of the disease in childhood, but I believe that some of the cases classed under Landry's paralysis may properly be considered as instances of acute poliomyelitis. Landry's paralysis is a disease based on *clinical* appearances, and the findings are not the same in every case. Case 3,

reported by Rissler (*l. c.*) as one of acute poliomyelitis, resembled Dr. Sherman's case. A woman of 21 years had fever, headache and pain in the back. Two days later the left lower limb became paralyzed without the existence of pain or paresthesia, and later in the same day the right lower limb became paretic. The arms became weak the following day. Breathing became very difficult, but the patient had no pains. Temperature was 38.2° C. Paralysis in all four limbs became very marked, and the thoracic muscles were also involved. Reflexes in the paralyzed muscles were lost. Sensation was perfectly preserved. Intelligence was not affected. The sphincters of bladder and rectum functionated normally. The pathological findings in this case were like those in the two acute cases of anterior poliomyelitis of childhood studied by Rissler.

Immermann[16] reported a case that clinically resembled both Landry's paralysis and acute anterior poliomyelitis. The small vessels of the anterior horns were distended, the nerve-cells were degenerated, and granular cells were found about the vessels. Immermann thinks the case proves that a form of acute anterior poliomyelitis exists, which corresponds clinically to Landry's paralysis.

In J. J. Thomas'[17] first case of Landry's paralysis, the findings resembled those of acute anterior poliomyelitis very closely.

The case reported by Greene, Wilson, and Rothrock[18] has much in common with Dr. Sherman's case. Theirs was one with the clinical appearance of Landry's paralysis, but the pathological process was "a parenchymatous ascending anterior poliomyelitis, of an intense and prolonged type, involving the whole length of the spinal cord, and extending to the medulla and pons." Peripheral nerve-lesions, found by them, were regarded as secondary.

In the case of acute anterior poliomyelitis, occurring in a man, 22 years of age, reported by Williamson,[19] the disease lasted about 5 weeks. Masses of round cells were found in the anterior horns. "The small arteries passing from the surface of the cord to the anterior horn were dilated, and their lymph-sheaths distended with round cells." The motor nerve-cells were much diseased.

A case of acute poliomyelitis, with the clinical appearance of ascending paralysis, in an adult 28 years old, is described by Jagic.[20] He quotes as proof that acute poliomyelitis may occur in adult life, the cases with necropsy reported by Gombault, Schultze, Friedländer, Immermann, Rissler, Williamson, Hlava—7 cases in all, and, of these, 4 cases only (Immermann, Rissler, Williamson, Hlava) afforded an opportunity for study of the early lesions. The case reported by Jagic was a recent one, and the fundamental and primary process was inflammation of the interstitial tissue (dilated vessels, round-cell infiltration, hemorrhages), not strictly limited to gray matter. He says that, in Hlava's case, the diagnosis of Landry's paralysis was made, and also in the cases of Landry's paralysis reported by Baumgarten, Hoffmann, Curschmann, and Eisenlohr, myelitic or poliomyelitic foci were found. It does not seem to me possible to separate the cases of acute poliomyelitis occurring in the adult from the cases in the adult presenting the clinical appearance of Landry's paralysis, but resulting from poliomyelitis.

A case of poliencephalomyelitis acuta described by Kaiser[21] seems to have been the first case of the kind with necropsy on record, in which the process was truly an acute poliencephalomyelitis. Kaiser fou engorged bloodvessels, small hemorrhages, leukocy infiltration, and degeneration of nerve-cells and ner fibers. The white matter in this case was not entire intact, for certain descending roots of cranial ner and the white matter adjoining the anterior horns the cervical region were involved. Ophthalmople was observed in this case, and the symptom-compl was different from that observed in Dr. Sherman's ca but I cannot help thinking that pathologically the t cases bore a close resemblance, and that in Kaiser's c the process began in a higher segment of the cent nervous system.

Oppenheim,[22] says that the findings in cases of acu poliencephalitis superior have often been negative unimportant, and that the nerve-cells of the ocu nuclei are easily disturbed functionally, but exhibi remarkable resistance to organic change. It is the fore striking that in Dr. Sherman's case, in which rou cell infiltration is very marked in and near the nuc of the ocular muscles no disturbance in the function these muscles was observed.

It seems to me that we not infrequently err in separ ing too sharply diseases that are related to one anoth Especially is this true of diseases whose pathology imperfectly known.

My conclusions are :

1. Landry's paralysis may be due to poliomyeli and a number of cases reported under the name Landry's paralysis are cases of poliomyelitis.

2. Poliomyelitis is an infectious disease, probab resulting from invasion by different forms of bacte and the inflammation is greatest in the anterior hor but occurs in the posterior horns, in the white mat and meninges.

3. The symptoms are motor in type because t disease is especially one of the anterior horns.

4. Meningitis is not uncommon in poliomyelitis.

5. Poliomyelitis in the adult is essentially the sa disease as poliomyelitis in the child.

6. Poliomyelitis is closely related pathologically the nonpurulent form of encephalitis, and to t poliencephalitis superior of Wernicke.

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THE PREVALENCE AND THE DIAGNOSIS OF LEUKEMIA.[1]

By GEORGE DOCK, M.D.,
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)uring the last 8 years 15 cases of chronic leukemia ve been treated in the medical clinic at the Univer- Hospital, a proportion of leukemic cases to all ers admitted to the hospital of 11.3 per 10,000. By nparing these figures with those of some other hos- ls it will be seen that they are unusually high. us, according to the statistics of von Limbeck, the portion in three Vienna hospitals was 3.46 (in 367,443 ients), in the Charité Hospital, Berlin, 2.24 (in ,887), in Prague, 4.3 per 10,000. Rostock and Stock- m furnish the only figures that approach ours, yet se are only 9.89 and 9.18, respectively, per 10,000. m conversations with men who have paid special ntion to blood-diseases in various German hospitals, number of cases seen in Ann Arbor is much greater oroportion to the service than any I could hear of in former country. It might be supposed there is e a selection of cases, owing to the fact that I have tten on the subject and that patients were sent to for that reason. This, however, is not the case. nost all of the patients were sent to the hospital for e other disease than leukemia, and the diagnosis made after admission, Within the same period I e seen 5 patients in private practice, usually referred a probable diagnosis by their physicians, besides mber of others recognized by former students or r medical friends, and have had many preparations lood from such cases sent to me by physicians. conclusion, therefore, seems fair that leukemia is a er common disease in this part of the world. Per- s it is not commoner than in many other parts of United States, since Cabot and Stengel report large bers of cases in Boston and Philadelphia, but col- ues from many other cities often express their sur- e at the number we see here. I should also add our cases have come in with remarkable regu- y, the increase that might be expected being ented, in my opinion, by the accurate recognition he disease by graduates of the last few years. An- r interesting fact is that in the time noted I have but one case belonging to the class of acute leu- ia, while A. Fränkel, in Berlin, saw 12 of the latter he same time that he saw 5 of chronic leukemia. not purpose giving an exhaustive analysis of the s, since the number after all is too small to be of e for that, and the histories do not vary essentially the generally recognized picture. Certain points nterest will, however, be emphasized. Of the 15 pital cases 8 were in men, 7 in women. Adding to e 5 cases seen in consultation, the respective figures 11 and 9. In most statistics the preponderance of is much greater, and my results may be due to the that many of the women were supposed to have ian tumors. Perhaps I am not wrong in thinking abdominal diagnosis is practised more frequently omen than men, and that an important feature of disease, though wrongly diagnosed, is discovered e frequently. Perhaps also it is thought that the ative treatment of abdominal tumors is not so ising in men as in women, and so the former, un- like the latter, are not sent to a hospital widely known for surgical treatment.

The youngest patient, on admission, was 27 years, the oldest 68, the average 41.6, agreeing with the general average of many writers.

Regarding the etiology of the disease, my studies have been negative. The patients give the usual histories of previous diseases, but these vary so much among each other as to be mutually destructive. Of 5 patients with an old history of chills and fever, 4 were over 40 years old, the other 36, and the supposed malaria dates back to a time when it was common in this part of the country. Syphilis was never admitted, and there was no evidence of it. In one case the patient was said to have had tuberculosis of the lungs in early life, but recovered. Attempts to demonstrate the protozoa described by Löwit in leukemic blood have so far been negative in my hands.

Like all relatively rare diseases, leukemia goes long unrecognized. The histories of the cases sent here illustrate many of the difficulties in diagnosis, and I purpose in this paper to discuss especially the diagnostic measures that should and can be carried out without any special study of blood and of blood-diseases, that is, enough to make a provisional diagnosis. For the exact recognition of the disease, its variety and probable course, an expert examination of the blood is of course necessary. In rare cases the diagnosis can only be made by the blood-examination. This is true of cases in which the lymphatic glands and spleen are not enlarged, a probable example of which I have recently seen. It is also true of other cases in which there is a temporary absence of excess of leukocytes in the blood, making the study of stained preparations necessary. But such cases are on the whole extremely rare, and out of my 15 hospital cases, with a single exception, the diagnosis could have been made without a refined blood-examination at the time of admission and at any time during the further course. In the case mentioned, which I hope to report in full later, with the exception of a few weeks out of a year and a half that the patient was under observation, the diagnosis could have been readily made at any time.

Of the 15 patients treated in the hospital, the diagnosis was suspected or made before the patient entered in only four. In one case the patient was examined in Montreal some months before his admission here, and the diagnosis made from the blood-examination. In another, a patient suspected the nature of her own case because her mother had died of it, as confirmed by autopsy. A number came with the written diagnosis, or with the verbal statement of the accompanying physician, of ovarian tumor. This is a very natural mistake when the spleen is dislocated in the pelvis, but in all of the present cases the spleen was not far from the normal position, except for the enlargement. This mistake is all the more unfortunate because such patients think—indeed are often told—they can be permanently cured by submitting to a simple and familiar operation. The revelation, whether abrupt or gradual, has often the effect of preventing further attempts at treatment. One patient was sent to the hospital by a surgeon with the diagnosis of tumor of the kidney; two more as probable cases of kidney tumor. In one case the attending physician brought a patient with the diagnosis of chronic nephritis, based on the edema and the presence of albumin and casts in the urine, and the probable diagnosis of tuberculosis of the

[1] ad before the Northern Tri-State Medical Association, Adrian, Mich., y 16, 1900.

lungs on account of the cachexia. Another patient having been treated for some months for tuberculosis, of which she had no special symptoms, finally discovered the enlarged spleen. In a consultation this was decided to be an ovarian tumor, and the patient was brought to the hospital for operation with the assurance of a speedy and complete recovery. Two patients were sent with the diagnosis of pleurisy, a not uncommon error in the case of splenic tumor, owing to pain in the side, the enlarged area of dulness on the left side, and the presence of occasional friction-sounds. Another patient, with nonleukemic splenic tumor, was sent to the hospital for operative treatment, on the supposition that the dulness was due to fluid in the pleura. Many patients had been seen by large numbers of physicians, but in none of them, not even those with the diagnosis of leukemia (except in the Montreal case), had the blood been examined, so that they throw an interesting light on the failure to make blood-examinations in practice. On the other hand, I recently saw a patient with enlarged spleen whose case had been diagnosed leukemia without any examination of the blood, the condition proving to be syphilitic. Besides failure to examine the blood, nonrecognition of the disease has been due to unfamiliarity with the symptoms of leukemia, and careless physical examination of the splenic tumor.

With reference to the symptoms, mistakes were made in many cases because the patients did not yet show more pallor and cachexia. Many seem to think there is something characteristic about the appearance of a leukemic patient from the beginning, and I have been told more than once in answer to my question whether the blood had been examined, or whether leukemia had been suspected, that it had not because the patient was not pale. On the other hand, I am sometimes told patients have leukemia because of a marked pallor. Yet pallor is not always especially noticeable in leukemia, and if fever is present, as it often is, there may be a redness of the lips and flushed cheeks when the blood shows a marked reduction of coloring matter. In my patients the red blood-corpuscles varied from 1,816,000 to 4,100,000 per cmm., with an average of 3,000,000. The hemoglobin varied from 40 to 75%, the average being 56. Even with hemoglobin of from 45 to 50%, the patients have sometimes shown no pallor of the face.

Thirteen of the hospital patients complained especially of shortness of breath, and although in some cases this was due to the large size of the tumor interfering with the respiration, yet in others it was not, but was the earliest symptom and should have suggested the possibility of something more than a mechanical dyspnea.

Ten had edema which in 7 could not be explained by cardiac or renal causes. In 3 of the 10 there was albumin with casts, which should have suggested an examination of the blood.

Seven gave a history of chills, and although in many cases these were supposed to be malarial, yet there was no good reason for thinking so, because the patients lived in nonmalarial localities, and quinin, which had been tried in most cases, was without effect.

Four of the patients had symptoms on the part of the eyes which, if the eye-grounds had been examined, would have revealed leukemic changes. One patient had repeated attacks of hives which should also have suggested some constitutional or blood disorder, and one had extensive subcutaneous hemorrhages, whic did not prevent her physicians from advising laparotom for removal of the supposed ovarian tumor.

In only 4 of the 15 cases were the lymph-glands e larged, and in only 2 of these was the enlargement di tinct. In 1 of the others one inguinal gland was mo erately swollen. In the fourth, a case of chronic lyr phocythemia, the cervical, axillary and inguinal glan were moderately enlarged, and there was at one time mass the size of a lemon in the abdomen. This w probably a mass of enlarged mesenteric glands. afterwards disappeared. My experience with chron mixed leukemia leads me to believe that lymphat enlargement is not as common and intense as mar seem to think. On the other hand, in 12 out of the cases there was distinct enlargement of the liver, and several it was excessive, the lower edge being an in or more below the margin of the ribs.

A tumor in the left side of the abdomen was know to exist in all but two cases before admission. In o of the two, although the tumor was not suspected, t spleen extended to the crest of the ilium. In the oth the thickened end of the spleen was easily felt belo the ribs. At the same time, in two of the cases, thoug the tumor was known to the patients, and in fact plain visible, yet both had been treated within a year by t same (homeopathic) physician for "rheumatism of t abdominal muscles." Failure to recognize the exact n ture of the splenic tumor seems very remarkable when consider that in every case of the series presented the was no real difficulty. I have seen, in a case of leukem not included in this series, a large globular spleen lyi in the pelvis, which might easily have been mistak for an ovarian tumor, but ordinarily a splenic tum can be recognized with ease, provided the physici understands abdominal palpation, and is familiar wi the characteristics of the enlarged spleen. The sple in my series varied very much in size, from one ju large enough to feel below the ribs to that almost fillir the whole abdomen. In several of my cases the tum reached to the right nipple line and to the pubes. A had the highly characteristic and almost invariab present sharp or obtuse edge on the right side. Th angular edge, so characteristic of the spleen on one si and the liver on the other, is usually so easy to fe that it should in the large majority of cases enable o to recognize the organ at once, and the confusion wi an ovarian tumor which, even if nodular, never presen a similar edge, should not often occur. Another chara teristic of the splenic tumor is in the large, smooth broadly curved anterior surface, firm to the touch, e tending from the inner edge towards the left. Anoth important guide is the finding of a notch or notches the edge. These usually are present in the leukem spleen, but not always. We sometimes see spleens various sizes without notches. One of my leuke cases presented no notch during life, and the splee weighing three pounds, now in the pathologic museu of the University of Michigan, shows none. In a no leukemic case, a spleen weighing three pounds seem to have no notch, but had a depression giving a terra like shape to the lower end during life. This was caus by a lobe, almost separated by a deep fissure runni from within outwards and downwards. At the beginni of the fissure was a notch 1 cm. deep, which was cover by the lobe mentioned. Another characteristic of t leukemic spleen in most cases is the extent of its d ness upwards, corresponding to the general shape

licated by the palpable part. This varies in different es, depending on the amount of dislocation of the een. Varying with the position and the total size, o, is the possibility of feeling the rounded, some- ies rather thin, lower end. A very important feature the leukemic spleen is the fact that although the nor may extend far to the left, and even project there, almost never extends backward to the left lumbar ace, so that a soft area can still be found there. Or owing to the enormous size of the spleen in some es, the left side and left lumbar space are full, the tient can nearly always give a clear history of the nor having been felt first in front. In these respects splenic tumor differs very notably from tumors of kidney, as I shall mention later. The mobility of tumor depends usually on its size, the smaller nors being freely movable with the diaphragm. A t unimportant sign of splenic tumor, and almost in- riably sooner or later present in leukemia, is a pain, ll or sharp, or pulling, drawing or resembling a tch, felt usually over the upper and outer part. In ny cases one can feel or hear friction in the same rt, these symptoms and signs being due to adhesions inflammation of the capsule.

The most important part of the diagnosis of splenic nor in some cases is its distinction from a tumor of kidney. The differentiation from ovarian tumors the large majority of cases can be made very quickly noting the shape of the tumor. The same feature l serve usually for distinguishing renal tumors, but ave observed there are difficulties in some cases that y bear mentioning. A renal tumor never presents harp edge, but if the edge of the supposed spleen is t easily felt, or in case the real tumor has a very egular outline, confusion may exist. In such cases can usually be found that the real tumor is more ntral than the splenic tumor. It will also be found t the colon passes in front of it, as can be proved if essary by distending the colon with air. An addi- nal point of value in many cases is the history that tumor in the case of the spleen was first felt in nt or at the side, in the case of the kidney, at the k. This was very well illustrated in a case of large nor of adrenal origin in the left kidney admitted to wards some years ago. The patient had been seen many physicians, who agreed in the diagnosis of enic tumor, and was brought to the hospital by the nily physician with that diagnosis. The tumor was ep in the abdomen, just to the left of the spinal umn. It did not feel like an ordinary splenic tumor, t, on the other hand, was not so globular as renal nors of similar size usually are. The tumor was first covered, however, by the patient's wife noticing a jection in his back more than a year before I saw n. There were other things in the history that might ve led to the thought of renal tumor, but the fact just ntioned should have been of cardinal importance, d if acted upon sooner, might have prolonged the tient's life. The physical conditions were in striking ntrast to those in the several cases of leukemia in ich the tumor was supposed to be renal.

The other important and decisive point in the diag- sis of leukemia is the examination of the blood. This indicated whenever an enlarged spleen is found, for this part of the country, when that organ reaches h a size that it can be easily felt below the ribs, it is more than half the cases leukemic. In many parts the country such a spleen would be more likely to be malarial, and the exclusion of malaria is always important. The examination that I now have in mind consists in the study of a fresh drop by low and moderate powers of the microscope. In the large proportion of cases of leukemia, as they first present themselves for examination, this will at once reveal a proportion of leukocytes not found in any other disease. I do not wish to be understood as saying the diagnosis of leukemia can be based on the absolute number of the leukocytes, or on their ratio to the reds. On the contrary, there may be on the one hand leukemia without increase of leukocytes; on the other hand, in some non-leukemic diseases, we may find a number of white cells exceeding that in some cases of leukemia. What I mean is that in most cases of leukemia the leukocytes are so excessively increased that that fact alone, still more when taken into consideration with other symptoms, will enable a correct diagnosis to be made. Thus, out of 14 of the 15 cases treated in hospital, the leukocytes were below 200,000 per cmm. in two cases only, viz., 163,000 and 168,000. In all the others they were above 200,000; four of them above 600,000; the highest 960,000 (to 1,816,000 red corpuscles). Although leukocytoses as high as the lowest of these might easily occur in the last hours of various fatal diseases, or in a few other conditions, yet these can almost always be distinguished without much difficulty from the ordinary case of leukemia as it is first seen.

Aside from the microscopic appearance, the blood may have no striking characteristics. I remember only two cases in which the blood, as it ran from the incision, had a whitish appearance, rather a whitish shimmer on the surface, the mass of the drop being red. The drop is often more opaque than in other diseases, and in drawing cover-glasses for staining, one can often notice in a case with high leukocyte count that the blood feels gritty.

The recognition of the increased number of leukocytes, along with such general symptoms as I have mentioned, and the determination of the enlarged spleen, suffice to make the provisional diagnosis of leukemia, but the exact diagnosis is essential for purposes of scientific study, or whenever cases are to be reported in literature, and for this special study of the blood is absolutely necessary.

The routine exact examination of the blood is also necessary if we are ever to recognize leukemia in its early stage. From the condition of the red blood-cells in my cases, one can realize that all the patients were far advanced by the time the condition was discovered. The number of leukocytes does not seem to me so certain a guide, for I think, and hope to point out in another place, the increase of these cells may come on suddenly even in chronic cases. The determination of the probable duration in the various cases is obviously difficult, but the data regarding the duration of the enlarged spleen are at all events useful. I find that of 14 patients who were able to fix with considerable accuracy the duration of their symptoms, the average at the time of admission was $8\frac{1}{3}$ months. Of those who could remember when the tumor was first discovered, 12 in all, the duration was $6\frac{1}{2}$ months on the average. There are certain contradictions in these results. For example, in one case when the tumor was first discovered, it already extended to the median line. In another it was known to the patient 14 months before he considered it important.

In general, leukemia is not recognized until both the

leukocytes and the red corpuscles—the latter a most important fact—are markedly altered from the normal. Increased care in the examination of patients and careful examination of blood in all cases would often anticipate the diagnosis by many months, and, we can hardly doubt, greatly increase the chances for finding a successful treatment.

I pass around, under demonstration microscopes, specimens showing various kinds of leukemic blood. One is from a typical case of mixed leukemia, characterized by a great variety of leukocytes. Of the 15 hospital cases 14 were of this kind. Another is from a case of chronic small-celled leukemia of the same variety as one I reported two years ago. I also show the blood from a patient already mentioned, with only 7,500 leukocytes per cm. The differential count of these shows 10% of myelocytes, a proportion larger than is found in any other disease than leukemia.

RESEARCH INTO THE CAUSE OF COLLAPSE OR DEATH FROM BLOWS UPON THE LOWER CHEST AND THE EPIGASTRIUM.

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of Cleveland, Ohio.

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Methods of Research.—The animals were all reduced to full surgical anesthesia by ether before the experiments were begun, and were killed before recovery from same. Respiratory tracings were obtained by means of a rubber tambour, attached to a canvas band, encircling three-fourths of the circumference of the animal's chest. This energized a writing style attached to an organ-key mechanism. Respiratory tracings were obtained very accurately. Blood-pressure was recorded by means of a mercury manometer. The drums were revolved by a mechanism so made as to be capable of a variety of movements, ranging from one revolution in 30 minutes to 18 revolutions per minute, so that any phase of any given tracing might be duly recorded. The following is a part of a rather extended research which enabled us to estimate the reliable reduction with comparatively few experiments.

Preliminary Remarks.—This research was suggested by a number of cases of collapse and even death following blows delivered upon the chest, more especially over the lower portion of the left anterior chest-wall and upon the so-called "pit of the stomach." In the history of these cases it is usually stated that such results instantly followed the application of the violence, and that if death did not immediately follow, recovery took place. The so-called "short rib" and "solar plexus" blows, well known in pugilistic encounters, are examples.

The following have been the principal theories advanced as to the manner of the production of the effect: That the blow produced mechanical stimulation of the solar plexus, thereby causing cardiac arrest; that the diaphragm was injured, causing respiratory arrest or spasm of this organ; that the heart itself was injured; and that the heart-failure was due to mechanical stimulation of the vagus.

I wish to acknowledge the valuable assistance of Dr. W. E. Lower in this research.

Protocols.—1. A shepherd dog, weighing 20 pounds, in go physical condition, was placed under full ether-anesthes and arrangements made for securing graphic records of t respiration and of the carotid blood-pressure. After contr tracings had been secured a severe blow was delivered witl somewhat heavy handle of a hammer upon the chest ov the point of appearance of the apex-beat. The heart w instantly arrested and the blood-pressure fell to the absci line, from which it did not again arise. The heart did n make a single observable effort toward resuming its fu tion. The respirations were temporarily completely arreste then there were several somewhat feeble respiratory effor becoming more shallow and appearing at longer interva until they entirely failed. The animal instantly died fro the effect of the single blow delivered in the manner abo described.

Autopsy.—The heart was found in diastole, all the chambe containing more or less blood. There was no observab lesion of the pericardium or of the heart muscle.

2. On a water-spaniel, weighing 18 pounds, in fair con tion, under surgical anesthesia, with arr ngements f graphic records, as in the preceding, a direct blow was deli ered upon the chest over the heart. The blood-pressu

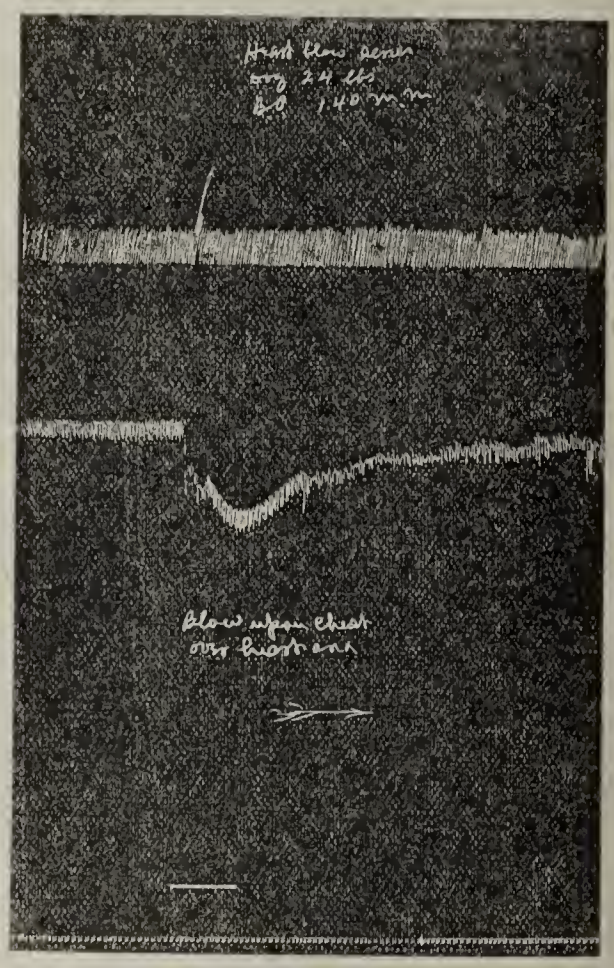


FIG. 1—Blow upon the chest over the heart. Note the abrupt fall in the bloo pressure (second tracing), and the irregular heart-action afterwards.

underwent an immediate staggering fall; the heart stroke were slow, full, but irregular; the blood pressure curve wa correspondingly irregular, but at the end of 65 seconds had gained the same height it occupied before the blow wa delivered. The respirations were momentarily arrested, an they became irregular, but their amplitude was almo doubled. This increased amplitude and increased paus with irregularity contined during the space of time in whic 8 respiratory excursions would have been made, on the bas of the same rate at which the respiratory actions were pe formed at the time of delivering the blow. The same expe iment was subsequently twice repeated, and in each cas with practically the same results. The left vagus was the severed, after which there was an increase in the respirator depth, and no effect observed upon the circulation. O severing the right vagus, respirations ceased for a time equ to that required for three normal respiratory excursion then the respirations were gradually increased in the amplitude, their rapidity remaining about the same. Th heart was arrested for three seconds; then, after a fe slow beats, it increased very considerably in the rapidity, an the excursions of the manometer were diminished in lengt On repeating the direct blow upon the chest quite as forc

as before, an interference with the respiration and cir-tion, similar to that noted previous to section of the , was observed. The blows were twice more delivered, t time producing like respiratory and circulatory phe-ena.

A water-spaniel, weiging 25 pounds, under ether-anes-ia, with arrangements for records as in the preceding , was subjected to the following experiments:

) After securing control-tracings, a blow from a light mer was directed upon the chest over the heart, causing eby a sudden drop in the blood-pressure, with temporary ation of cardiac action, followed by sweeping beats at it twice the interval observed before the experiment. blood-pressure curve during this time was irregular, in 36 seconds had risen to the level it occupied before experiment. The respirations were irregular during 8 nds.

) The same experiment was repeated with like results.

) Both vagi were severed, producing variations during performance of this operation similar to those described ie first experiment, so that after both had been severed heart beat more rapidly, the blood-pressure slightly , the cardiac strokes were shorter, the respirations er and a little slower.

) A blow was now delivered upon the chest over the t, as nearly like preceding as possible. There was prac-ly no effect on the respirations, but the blood-pressure d suddenly as before, the character of the beats was same, and the blood-pressure was regained in about the e time.

The same experiment was repeated with practically the e results.

On a shepherd dog weighing 20 pounds, under ether-thesia, with arrangements for records as in the preced-the following experiments were performed:

) A blow upon the chest directly over the heart pro-d a marked fall in the blood-pressure, with "vagal" s continuing for some time; then the "vagal" beats lenly gave way to small, shallow, and extremely rapid s. The respirations were temporarily irregular, but not tly disturbed.

) Both vagi severed, producing the phenomena described rotocol 1, and when both had been severed the blood-sure rose, while the respirations became deeper and er.

A blow delivered upon the chest over the heart, as in id not produce any alterations in respiration. There a sudden fall in the blood-pressure; during this time the t executed three slow "vagal" beats, then quickly re-ed the normal level of pressure.

) Injected $\frac{1}{100}$ grain of atropin into the jugular vein; the lapse of one minute, stimulated the peripheral end e severed vagus by applying the electrode of a DuBois-mond coil, whose secondary coil was overlapping the ary by one-half. This electrical stimulation, though e than sufficient to cause inhibition of the heart, did not t a single beat. This was done as a control to test the physiologic action upon the terminals of the vagus in eart, so that if, in a subsequent experiment, the heart was affected, it could not be due to a mechanical ulation of the vagus, either its branches or its terminals.

A blow as nearly similar as possible to those previously , was then directed upon the chest over the heart, pro-ng a sudden fa l in the blood-pressure with four beats of character to those described under (*c*), the blood-pres-regaining its previous level after executing a curve in spects similar to that in (*a*). The respirations were not ted

) The same experiment repeated with like results.

On a healthy mongrel dog weighing 18 pounds, under litions as nearly like the preceding as possible, like riments were performed with results essentially the ,—that is to say, after control experiments the vagi cut, and after testing the effects with severed vagi, oin was given as in the preceding; then the same exper-nt was repeated, obtaining practically the same results.

On a mongrel dog weighing 15 pounds, under condi-similar to the preceding, the following experiments performed:

A control blow over the right side of the chest was ered, causing thereby temporary irregularity in the respiratory action and a marked fall in blood-pressure, produced by a single intermission.

(*b*) Similar effects were produced by delivering blows with considerable force over various portions of the chest. However, the nearer the heart-area the more marked was the effect.

(*c*) With the vagi cut, similar blows produced like results upon the circulation, but no effect on respiration.

7. On a shepherd dog weighing 25 pounds, under conditions similar to the preceding, the following experiments were performed:

(*a*) A blow delivered with great force over the "pit of the stomach" produced a sudden drop in the blood-pressure, continuing during the time of a single beat. The respirations were but momentarily altered.

(*b*) A similar blow upon the abdomen over the umbilicus produced no effect

(*c*) A blow was delivered over the kidneys and the lower abdomen, but produced no effects.

(*d*) As a control, a blow was again delivered upon the chest over the heart, producing a more marked gradual fall, which was recovered in ten seconds.

8. On a 13-pound mongrel dog, under conditions like the preceding, the following experiments were performed:

(*a*) As a control, a blow was delivered over the heart with usual results.

(*b*) A severe blow was delivered over the "pit of the stomach," with results similar though less pronounced.

(*c*) The stomach was freely exposed by a median incision and a considerable quantity of air forced into it through the esophagus, then the esophagus was securely tied. The pylorus was also securely tied. A blow was then delivered directly upon the stomach, with its force directed a little upward, producing a fall in blood-pressure similar to, though less marked than in (*a*).

(*d*) The stomach blow was repeated after section of the vagi with similar results. Also after the injection of $\frac{1}{100}$ grain of atropin into the jugular vein with similar results.

9. On a yellow mongrel dog, weighing 15 pounds, under conditions similar to the preceding, the following experiments were performed:

(*a*) Placing the dog upon his right side, a severe blow was delivered upon the chest in the left axillary line, producing results similar to the blow directly over the heart, though less marked.

(*b*) Placing the dog upon the left side, a similar experiment was performed upon the right, with similar results, though less marked in degree. A blow directly over the heart caused but a momentary drop in the blood-pressure, but this drop was deeper than in the case in which the blow was delivered upon the side. It was found on repeating the blows, even with increasing severity, that the effect upon the blood-pressure was in each subsequent experiment lessened. At the autopsy it was found that the heart itself was partially ruptured and the pericardium contained a considerable amount of blood; three ribs had also been broken by the violence of the blows.

10. On a 16 pound yellow mongrel, after making a free exposure of the diaphragm by an abdominal incision and removing the stomach from its relation with this organ, direct pressure was exerted upward against the apex of the heart, producing thereby a very marked arrhythmia and a very marked blood-pressure curve, which, on the average, amounted to a fall. These phenomena continued so long as the mechanical interference through the diaphragm continued. It was found that even comparatively slight pressure upward upon the diaphragm against the apex of the heart produced great disturbance in the cardiac action. This disturbance was characterized by a very great irregularity in the force of the beat, in the length of the strokes, and in their rhythm, producing thereby a very irregular blood-pressure. Placing the end of a hammer over the diaphragm at the point where the apex-impulse could be made out, then delivering a blow upon the distal end of the hammer, producing a staggering fall in the blood-pressure, with a very marked irregularity of the heart-beats. Repeating this same maneuver on the right side of the diaphragm, away from contact with the heart, no cardiac effect was noted. Likewise repeating the same on the extreme left border of the diaphragm, directing its force downward towards the ribs and away from the heart, no cardiac disturbance was noted.

11. A young water-spaniel, weighing 16 pounds, was subjected to experiments similar to the preceding, producing results in all respects similar. In addition to these, the closed hand was placed against the abdominal side of the diaphragm, gradually pushing this organ upward; at first no effects were produced, but when this pressure was increased and the area of cardiac activity was further encroached upon, irregularities in action similar to the preceding were observed. The chest-wall was then cut away over the heart and a smart blow was delivered directly upon that organ, producing a fall in blood-pressure and an alteration in the cardiac action, similar to those heretofore described.

12. A savage bull-dog, weighing 40 pounds, was subjected to the following experiments: Artificial respirations were maintained, and the thorax over the heart was cut away so as to expose it. Blows were then delivered upon the heart itself, producing effects entirely similar to those noted in the preceding experiments. The pericardium was then incised and the heart-muscle itself subjected to similar treatment, producing similar results. Any interference with the heart, as an organ, produced a staggering fall in the blood-pressure, and, on the withdrawal of the mechanical stimulation or interference, the blood-pressure curve would rapidly rise again. This very soon exhausted the animal.

13. A shepherd dog in good condition, weighing 14½ pounds, was subjected to the same procedure as in the preceding case, with, in the main, the same results.

14. A mongrel dog, weighing 15 pounds, in good condition. After a control had been taken, an incision was made through the abdomen, and the viscera were withdrawn so as to expose the solar plexus A blow was delivered upon the plexus, the force of which was so direct as to interfere as little as possible with the large bloodvessels, No effect upon the heart was noted. The solar plexus was then grasped between the fingers and manipulated as rudely as possible, without producing any direct effect upon the heart. During this manipulation, however, there was a gradual decline in the blood-pressure *pari passu*, with the dilation of bloodvessels in the splanchnic area. Finally, as a control, a blow was delivered over the heart, producing the changes in cardiac action and blood-pressure described in previous experiments.

15 On a 16-pound bird-dog the same experiments were performed as in the preceding case, with practically the same results. No amount of manipulation or mechanical injury of the solar plexus or the splanchnic trunks produced any sudden change in the blood-pressure or in the cardiac action. It did produce a gradual decline in the blood-pressure, as in the preceding experiment. The control blow delivered directly upon the heart caused the usual results, though to a somewhat lighter degree.

Summary of Experimental Evidence.—No amount of injury inflicted upon the solar plexus, either directly or indirectly, was capable of causing any inhibitory action upon the heart, and in no way did such injury contribute to the immediate death or collapse referred to, but the effect this manipulation did have was to produce a vasodilation of the "splanchnic area," thereby causing a gradual decline in the blood-pressure.

In experiments in which the abdomen was opened and the diaphragm protected from indirect violence, blows upon the stomach alone produced but little effect upon the blood-pressure or the respiration.

In other experiments in which the diaphragm was not protected from indirect violence transmitted through the stomach or other viscera, blows delivered on the pit of the stomach, especially when the stomach was distended, produced sometimes a momentary staggering fall in the blood-pressure. In some cases the blood-pressure remained at a lower level and described a very irregular curve, then finally regained the height of the control.

Pressure suddenly applied, or blows directly upon the diaphragm within the cardiac zone, produced usually a very marked drop in the blood-pressure. In some cases but a single intermission of the heart-beat was produced, in others the blood-pressure suffered great fall, and slowly and with great irregularity action regained the lost pressure. Even carefully pr ing with the hand upward against the diaphragm, so to produce by such pressure an interference with freest movement of the apex, caused a very great card irregularity and an irregular blood-pressure.

Blows delivered upon the lower chest, especially o the cardiac area, produced various results. In one c the heart was instantly arrested from the effect o smart but not heavy blow from a small hammer o the cardiac area, and death at once ensued. Respirat action was as suddenly arrested. The most comm result was a very great drop in the blood-pressure- collapse. Then, after a variable time, the heart wo regain its normal action and the lost blood-press recovered.

The effects, as nearly as observations would per deductions, varied in different dogs, the blow be delivered with about the same force, with the sa instrument, and, as nearly as may be, at the same po of application. On the whole, it may be said that more nearly the blows were delivered over the cen of the area of the cardiac dulness the greater the eff

Blows delivered upon the naked heart *in situ* p duced like results, though more profound.

The evidence thus far offered tends to show that solar plexus may be disregarded as a factor, and th the cause of the striking phenomena is the mechanil effect of violence upon either the heart-muscle itself upon its nerve-mechanism. If the vagi contributed the collapse, it was by either a direct or a reflex in- bition—interpreting direct inhibition as that due to excitation of the trunk of the vagus or its card branches, and reflex as afferent impulses sent up to t center in the medulla from irritation of some branch the vagus—*e. g.*, the superior laryngeal. In the anim in which both vagi had been previously severed, wh the foregoing experiments, blows, etc., were repeat like results were produced. The collapse, then, in th cases could not be due to reflex inhibition, because t path by which the afferent impulses reach the he had been severed.

In the experiments, in which the atropin in sufficie dosage to paralyze the terminals of the vagi in the he was given, and this dosage was proved by applyin faradic current from a Du Bois-Reymond apparatus the vagi while the secondary coil was lapping t primary by half, upon repeating the foregoing expe- ments like results were obtained, though, as nearly could be estimated, the collapse was not so prolong as before.

Collapse or death may be caused wholly indepen- ently of the vagi, though the vagi probably slight contribute to the result.

Finally, collapse or death from violence applied up the lower chest or abdomen are due mainly to the l of rhythmic contractions from the mechanical irritati of such violence on the heart-muscle itself. There evidence tending to show that the vagal termin mechanism in and near the heart may contribute the result but in a minor degree.

The practical deductions are sufficiently obvious, a need not be repeated.

The second malaria expedition sent out by Liverpool School of Tropical Medicine will leave Liverp on March 21 for Nigeria.

CASE OF MEMBRANOUS NONDIPHTHERITIC CROUP WITH RECURRING LARYNGEAL STENOSIS.

BY HERMAN B. SHEFFIELD, M.D.,
of New York City.

[N a recent paper on diphtheria,[1] I emphasized the quency with which membranous croup is met with- the presence of diphtheria-bacilli or any other hognomonic signs of diphtheria. The following e strengthens my view:

. L., 2 years and 4 months old, raised on mother's milk, strong and well developed. When half a year old he l an attack of eczema which lasted several months. In tember and December, 1898, he had mild attacks of smodic croup which were relieved by simple remedies, ving behind, however, a croupy cough which resisted ordi- y internal medication. On November 16, 1899, the cough ame greatly exaggerated and I was called to attend to the the next morning. I found him in a very desperate dition. Examination of the throat revealed a large ex- tion of mucus which could easily be wiped away; the sils as well as the submaxillary glands were normal in . Loud harsh rales were heard all along the bronchi. temperature was 102.5°, pulse 168, and respiration 38. ispasmodics, expectorants, emetics and rubefacients were inistered with but temporary relief, and as the cyanosis dyspnea threatened early suffocation, I called upon Dr. isher, who advised intubation. This was done with the nediate subsidence of the symptoms. A culture was made he pieces of membrane coughed up during intubation. diphtheria-bacilli were found in the culture. As a meas- of precaution 1,500 units of antitoxin was injected. The perature was normal on the 20th and extubation was ad- ble. This was done, but 5 minutes later, owing to the rrence of the dyspnea and cyanosis, intubation was again ormed. The child was comfortable until the 26th, when ptoms of bronchopneumonia appeared. Although the perature was 102° the next day, we thought it proper to ibate in order to enable us to treat the complication more vely. This was done with immediate reintubation. A ure now taken proved again negative. The temperature normal on the 29th. Extubation was again attempted; tube had to be reintroduced, however, after 8 minutes. next extubation with intubation after 30 minutes was ormed on December 3, when another culture was taken. also proved negative. On the 8th the child coughed up tube and it has been kept out since. On the 9th the perature rose 2° and the dyspnea reappeared; the child ited, however, and the symptoms abated within a few s.

wo weeks after his recovery examination of the at revealed a subacute catarrhal rhinitis with nic follicular pharyngitis. The larynx could not xamined owing to the unmanageable resistance on part of the child.

UNEXPLAINABLE CONGESTION AND ENLARGEMENT OF THE LEFT ARM CURED BY AN EXPLORATORY OPERATION.—SPLENECTOMY.*

BY ORVILLE HORWITZ, B.S., M.D.,
of Philadelphia.

ASES are constantly met in the practice of the sur- that present complications which, when brought ne notice of the profession, may prove acceptable ossessing unusual interest. The knowledge to be ed from the recounting of such experiences is in- tive, and may serve to guide the physician as to method to be pursued in similar cases.

ne remarkable case about to be recounted is one of unusual interest. It presented all the symptoms of obstruction from pressure or partial occlusion of the subclavian or the axillary vein. An exploratory operation revealed nothing; nevertheless, the individual made a permanent recovery and has enjoyed perfect health ever since. The following is a statement of the case:

The family history is negative. The patient had had the usual diseases of childhood; was affected in early life with malaria, accompanied by hematuria; contracted syphilis at the age of 21 years, for which he was under treatment for some months; has had no symptoms of the disease since; is married, and his children are healthy. The present trouble began in June, 1897. It was attributed to a slight heat-stroke. Four nights after this event he was awakened with a sensation of tingling and numbness of the left arm, as though it were "asleep." After rubbing the limb the feeling passed away. These attacks were repeated every night or so, gradually grew more severe, and were always relieved by traction and friction.

This condition lasted about the space of a month, when, on a certain day while using the limb, he was seized with an attack of numbness. The entire left arm from the scapula to the fingers became cyanosed and enormously swollen, accompanied by sharp pain about the middle of the forearm. The attack lasted about one hour, when the hand and arm returned to their normal condition.

This was followed by a petechial eruption of the whole arm, which persisted for some time. The attacks became more frequent until they reached as high as 20 or 30 in a day, being produced apparently by any trivial movement of the arm. They seemingly occurred at night without arousing the individual, as was evidenced in the morning by the swollen and discolored condition of the arm and hand. Synchronously with the arm seizures there was a peculiar knotted and distended condition of the external jugular vein, which disappeared as the paroxysm passed off. For two weeks prior to presenting himself for treatment the swelling of the vein had become permanent and the lancinating pain had changed to one of a constant burning character, associated with a feeling of numbness. "The arm had a heavy, dead feeling." The patient stated that by elevating and extending the arm, making traction forward, upward, and outward, to a moderate degree, the phenomena quickly subsided. On examination of the left arm it was observed that the skin was smoother than that of the one on the opposite side; it showed no sign of any eruption; the hand and wrist were of a peculiar dusky hue, smooth, and somewhat glazed. Impression made by the finger produced a momentary whitening, which quickly disappeared, discoloration returning; there was slight pitting on pressure; below the elbow skin had a cool feeling, more marked as the examiner's hand passed toward the extremity. There was no evidence of muscular atrophy or loss of power; the whole arm was greatly swollen. On flexing the fingers complaint was made of stiffness in the tendons and a painful sensation was experienced, which extended to the clavicle. No evidence of tumor could be detected in the region of the clavicle or axilla; the external jugular vein was found to be enlarged, firm, and tortuous, the overlying tissues being tender to the touch.

The heart, lungs, and kidneys were normal. On attempting to remove his shirt an attack was suddenly produced. The arm became of a livid hue, of a dark reddish tinge, extending as far as the scapula, the swelling being greater of the arm and forearm than of the hand. The patient described the arm as being the site of a burning, tingling feeling; the external jugular vein was found to be very tense and knotted. The radial vein stood out full and prominent along its whole length. The pulse was normal. During the attack muscular action was unimpaired. On flexing the fingers severe pain was produced. The symptoms disappeared as suddenly as they came. Previous to his first visit to me the patient states that he has been treated with iodid of potash; various preparations of mercury, bromids, nitroglycerin, belladonna, strychnin, and thyroid extract, without any benefit. Several prominent physicians who had seen the case had made a diagnosis of "Raynaud's disease."

As it was presumed that some obstruction of the subcla-

[1] *N. Y. Med. Jour.*, December 30, 1899.
* Read before the Philadelphia County Medical Society, January 24, 1900.

vian or axillary vein existed, an exploratory operation was advised. A consultation was held with Dr. W. W. Keen and Dr. F. X. Dercum, who agreed that this would be the best course to pursue.

The patient was prepared in the usual manner and the subclavian artery and vein were both exposed. The superficial veins were found to be engorged and tortuous, and they bled freely when incised. The subclavian and internal jugular veins were found to be very much distended, but as no cause for the condition could be detected it was decided to explore the axilla. The axillary vein was in a similar condition to that of the subclavian. There was nothing abnormal nor anything to account for the symptoms from which the patient suffered. The wound was closed. The patient made a rapid convalescence. He began immediately to improve, and in the course of a few weeks all his symptoms had completely disappeared; he was able to resume his usual occupation and has not had any trouble since. A letter received from him a few days ago states he still enjoys perfect health.

A case similar to this was reported by Osler in the *Journal of Nervous and Mental Diseases*, 1888, vol. xv, in which a patient in almost precisely similar condition was admitted to the wards of the University Hospital, and was placed upon medical treatment without benefit, no operation having been attempted. In the report of this case Dr. Osler stated :

"The condition was one of faulty innervation of the vessels of the arm during exercise, and defect in the local, regulating mechanism controling the supply and outflow of the blood, the circulation of which is, as we know, enormously increased by contraction of the muscles."

Although splenectomy has been performed many times with success since the report of the first authentic case by Quittobaum, in 1826, it still remains one of great interest to the surgeon; not only on account of the danger from shock at the time of the operation, but from the liability to death from subsequent hemorrhage. It is only by reporting the results of operations that reliable statistics can be gathered. It is generally conceded that the causes for removal of the spleen should be limited to tumors, cysts, wounds, and movable spleen; especially is this operation necessary when the pedicle of the spleen becomes twisted and gangrene of the organ is threatened. In cases in which there is *leucocythemia*, *splenomegaly*, or *lardaceous spleen*, an operation should not be attempted. Removal of *hypertrophied spleen* is not usually successful; should the enlargement be due to *leukemia*, an operation should not be thought of. Splenectomy is almost always followed by death from hemorrhage if the individual be affected with leukemia. In the *Journal of the American Medical Association* for April, 1896, Douglas gives the following interesting statistics :

Simple hypertrophy of spleen	59	operations,	25 deaths.
Neoplasms	5	"	3 "
Hydatids	6	"	2 "
Wounds	43	"	11 "
Leukocythemia	36	"	31 "

Out of 117 cases collected by Vulpius there was a mortality of 50%; 32 of these cases were unsuitable for operation, leaving 85 cases in which the spleen should have been removed, giving a mortality of 33%. (*American Textbook of Surgery.*)

In an article which appeared in *The Medical News* of 1898, Dr. Frank Hartley gives the following statistics : "17 cases, malarial enlargement, spleen, mortality, 13.5%; 30 cases, idiopathic hypertrophy, spleen, mortality, 22.1%; 22 cases, wandering spleen, mortality, 8.7%; 9 cases, echinococcus cysts, with 2 deaths, mo tality, 22.2%; 4 cases axial rotation, mortality, 25%

"Sarcoma of the spleen : Six cases have been r ported, in three there was recovery from operation, bu subsequent death from recurrence. In one case deat occurred immediately after operation; in two cases i which the sarcoma was small the patients are still aliv To summarize : One patient lived two years after ope ation and one patient for one year (33.3%); thr patients died from recurrence (50%); one patie (16.66%) died immediately after the operation.

"Three cases of chronic congestion of spleen an amyloid kidney; three deaths. One case of syphilit spleen; one death. Six cases of ruptured health spleen; mortality, 50%."

The history of the case to which I wish to call you attention is briefly as follows:

Mrs. M. S., aged 35, married for 12 years, was never pre nant; gave no venereal history, and had the usual diseas of childhood. Her family history was negative. At her fir visit she stated that she had been more or less of an inval for the past 4 years; that she had lost strength and fles and that she suffered from constant pain and weight in th left side, and that she was unable to be on her feet for mo than an hour or two during the day. She was pale, anemi emaciated, and suffered somewhat from dyspepsia and co stipation. She had been examined by several physician who told her she was suffering from tumor of the kidne On examination the abdomen was found to be marked distended by a large abdominal growth; especially was th the case on the left side, the enlargement extending fro the border of the ribs to the crest of the ilium, reachin nearly to the median line. It was dull on percussion, bu not tender to the touch. An examination of the blood an urine gave negative results; the urine was obtained direct from the right and left kidney by catheterization of th ureter. The diagnosis was made of hypertrophy of th spleen, and as the patient was rapidly losing ground and su fering constant pain, an operation was advised, care bein taken to fully explain the danger attending the procedure.

An incision was made along the linea semilunaris, extend ing from the border of the ribs to the crest of the ilium On opening the abdominal cavity the spleen was found to b adherent to all the surrounding viscera, and as more roo was required, a second incision was made, from the midd of the first backward toward the lumbar muscles. Th organ was removed, not without difficulty, and, as is com mon in such cases, shock was not increased when the splee was removed from the body. The tumor was found to weig 9 pounds. Saline transfusion was continued during the en tire operation. She was somewhat shocked, but rallied com pletely 6 or 8 hours after the operation. The oozing fro the abdominal wound was free during the first 24 hours, th dressings requiring to be frequently changed. The patien died on the fourth day, apparently, of exhaustion; the tem perature never reached over 100° F.

Ovarian Tumor and Cesarean Section.—Fourne Barrington (*Australasian Medical Gazette*, January, 1900) repor the case of a woman, aged 36 years, a primipara, who cam to labor at term, but the presence of an ovarian tum wedged into Douglas' pouch prevented normal delivery. Th tumor could be palpated per rectum and was the size of cocoanut. Cesarean section was performed after labor ha been in progress some 48 hours, and a living child delivere The tumor could not be removed until the uterus wa emptied, because of its depth in the pelvis and firm adh sions. The tumor was of the right side, the left tube an ovary being normal. The uterus was not removed. Th patient suffered from toxic absorption from the uterus, an on the seventh day after the operation the uterus w cureted, thoroughly irrigated, and packed. This, followed b daily irrigation, Ballington thinks, saved the patient's lif The recovery was slow but complete. [M.B.T.]

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Medicine in the Lands which Have Recently ome under our Flag.—No doubt a few American hysicians have already investigated this question, for here are always some who are in search of opportunities advance their fortunes; and now that there is no nger any real frontier life in the West, these members our profession must look to the Klondike and the opics for adventure and fortune. However, it is robable that not only adventurers, but all reputable hysicians, will be glad to know that the quacks will ot find a free field in these lands. From the valuable ulletin on professional education which has recently een prepared by Taylor and Parsons of the University the State of New York, we learn that the require- ents with regard to the practice of medicine are in rocess of transition in Cuba, the Philippines and uerto Rico. The Assistant Secretary to the Military overnor in the Philippines states that Spanish law, as practice, still governs, and in general this requires a iploma from a reputable college, school or university, , in lieu thereof, an examination. In Puerto Rico, eneral Davis established, September 30, 1899, an xamining committee for license to practise medicine, idwifery, and professional nursing, and only those ith satisfactory credentials are admitted to the exami- ations. In Hawaii the Board of Health administers e law through a Board of Examiners of three licensed hysicians appointed by the Minister of the Interior. he applicant must pass a satisfactory examination efore the examining board, which certifies the result the Board of Health.

Medical education in these countries has naturally een in a chaotic condition as a result of the political isturbances. Hawaii and Puerto Rico have no medical hools. From *Minerva, Jahrbuch der gelehrten Welt*, which ves information with regard to all institutions of higher arning in the world, we learn that at Manila there a medical faculty of the University of Santo Tomás e Manila which had 404 matriculates in the school- ear of 1896–97. The College of Santo Tomás was pened for the instruction of the natives by the Domin- an Order in 1611 and the University was founded by royal decree in 1857. The number of subjects for udy mentioned is quite full, and the faculty includes 3 professors and 1 instructor. The medical depart- ent of the Havana University is better known in this ountry than that of Manila. It had 222 matriculates in 1895, though in 1899 the number had fallen to 98. This university was also founded by the Dominican Order, the charter being granted by the Pope in 1721; the corner-stone of a new building was laid in 1884. This university has quite an extensive curriculum and there are 8 professors in the faculty, including the scholarly Dr. Guitéras, formerly a professor in the University of Pennsylvania. As Manila and Havana each has a population of about 200,000 inhabitants, together with a very considerable field from which to draw students, it would seem that medical schools are needed and should receive good support in both of these cities. The opportunities for the study of tropical diseases are especially good in these cities and courses in those branches might well receive special attention; if properly given, they would attract students who are interested in these subjects from other parts of the world. We hope that the very creditable standards in medical registration and education which we found when these countries came under the American flag will be maintained, and that encouragement will be given toward the development of further facilities for scientific study in their medical schools.

Can the White Race Ever Colonize the Tropics?—Probably the answers to this question will vary considerably, depending somewhat on the politics of those who answer it, whether they are expansionists or anti-expansionists; for most men like to justify their own course to themselves and to others. Truxton Beale (*Forum*, July, 1899) believes that the evil effects of hot climates on the white race are being rapidly overcome by science; probably a colony of Americans at the Isthmus of Panama would not perish now, as did the Scotch colony in 1698; and 25 years hence farmers will probably be cultivating the tropics with less danger to their health than was met in the valley of the Wabash or the semi-tropical valleys of California 25 years ago. The Chinese, driven from their homes by overcrowding, have adapted themselves to life in all climates.

A great factor in the causation of disease in the tropics is lowered vitality from hard labor, and the mechanical inventions, such as rotary ploughs, seeders and harvesters, have greatly lightened the labors of the agriculturist. Then there have been inventions and

improvements in everything, from hats to drainage and the construction of houses. Beale mentions the manufacture of artificial ice and the successful plans at Marseilles by which the temperature of the arsenal is reduced by mechanical means so that men can work in comfort all the year around, even in that hot city. All these facts are interesting and they do show that some of the difficulties of life in hot climates may be overcome.

Without desiring to enter into any extended discussion for or against the colonization of the tropics by whites, we may point out several reasons why Beale's views of the question seem too sanguine. No mechanical contrivance for performing labor is likely to be devised that will operate without human guidance, and if such machinery is operated by steam, gas, or electricity, additional heat must be generated somewhere. It is as much the direct rays of the sun as the work that kills by sunstroke; this is evident from the large number of teamsters who are affected during any unusually hot days in summer in our large cities.

It is improbable that the very poor will ever be able to profit much by artificial ice or cooling apparatus, and even if they could afford it, this would necessitate someone to work in intense heat to manage the power needed to run such a plant.

The Chinese coolie can hardly be compared with the white working man; in the first place he is not a white man, and furthermore, centuries of life like pack-horses have given these men many of the characteristics of beasts. Then again, the heat and moisture of the tropics are most favorable to germ-life, and unless some means is discovered (which is very unlikely) that will destroy bacterial life without injuring other forms of life, the problem of combating disease in the tropics will always be a difficult one. No doubt conditions in the tropics will be improved so that the more prosperous classes can live with a fair degree of safety and comfort, but it seems very improbable that the working classes, which constitute the great masses of the population, will ever be made of anything but natives.

Indigenous tropical medicine, or the medicine of barbarism, by a strange fatality lingers long after people are supposably civilized. Right among us, indeed, it is rampant and powerful. What unbelievable medical superstitions, what nauseating physiologic customs, what scatologic therapeutics, what degrading hates and prejudices are spawning and crawling among our best civilizations! If this is so here and now, how surpassingly true of the tropical and oriental peoples, who are unemerged or but just rising out of the atrocities of savagery? There lies before us a letter from a medical missionary which only hints at the filth, brutality, and almost hopeless ignorance among which the writer works. There is no lack of "clinical material" there. In labor the babe is dragged forth with hooks, regardless of injury or death of the infant or its child-mother. What wasted life, what hosts of cripples, what sufferi could be saved by scientific medicine!

"The era for such a book has not even begun among t Chinese. Their most enlightened doctors—so called—nev wash a suppurating eye, consequently all children w recover from severe smallpox are either totally blind nearly so. Trachoma furnishes half or three-fourths of o eye-work, sometimes eight or ten cases in one family.

"Their treatment par excellence for suppurating knee-joi is to let it swell and burst; the hole is then pasted up with very strong plaster. A second, third, fourth or fifth openi is treated likewise. All ulcers and sores are submitted to t same treatment.

"They know nothing of surgery, but use needle-punctur for almost every affection. In fact, I have seen one catara patient for whom a native doctor had succeeded in depres ing both lenses into the vitreous chambers. The patie seemed fairly well pleased with the result, and I suppose quack of the middle ages would have considered the oper tion a brilliant success Thousands die annually of smallpo but they never inoculate except in the springtime. 'W plant beans in the spring, why plant cow beans (their wor for vaccine) at any other time?' is to their mind a conclusi argument

"You can well imagine our progress, against such ignoran and stupidity, is necessarily very slow and equally uninte esting to the advanced twentieth-century surgeon America"

Medical Missionaries.—Whether one is imperiali or expansionist, or little American, whether evangeli or atheist, all will agree, and most heartily, that nobl work is not being done in the world today than by t medical missionaries. We have known not a little these men and women, and we are constantly surprise at the proofs of the heroic purity and unselfishness their characters. It is almost as wonderful a thing the disregard of the profession for these their mo honorable, most unhonored fellows. It is strange, it shamefully strange,—our indifference to this work, an to its possibilities. Our State and National Societie by no action of which we can learn, have so much recognized the professional brotherhood and the pr fessional responsibility resting upon us. We woul like to know of the fact if any medical college has ev offered free tuition, or free postgraduate courses these our brethren who have devoted their lives carrying the gospel of scientific therapeutics to t peoples cursed with the horrors of the medicine barbarism.

The Gospel of Scientific Medicine must be carrie to the heathen! Is this gospel not as blessed as was ev that of any religion? Is it not upon us as incumber a duty to bring it to the benighted as ever rested upo religious disciple and prophet? Why, then, do w leave it to be done by a few lonely individuals, b uninstructed religious organizations, and by haphazard We prate of the glory of our civilization, we fight eac other with every weapon except fists to extend ou home science and to reach fame-giving discoveries, an yet we are morbidly reckless of a thousand millio people stuck in the stupidities and indescribable horro of medical barbarism. Congress has given Surgeo

eneral Wyman $300,000 to keep out the plague, and ecretary Gage has just asked for $200,000 more for the ıme purpose. How long will it take us to learn that ıis is a child's method, temporarily necessary, perhaps, ut only a selfish postponement of a disagreeable duty. /e are our brother's keeper, despite all the casuistry of l the casuists. If nothing else will teach us the lesson, ıe brother's infectious diseases must do so, much to ır suffering. The missionary spirit is not dead—surely ɔt in medicine—as is demonstrated every day by ıousands of physicians. But it needs organization ıd systematization; it needs the support of a unified ·ofession. A part of the funds and attention of every edical society, especially of such societies as our ıtional ones, should be devoted to the education and ıpport of medical missionaries. If our faith is real, if is not egotism and east wind, we should organize forts to bring the benefits of our gospel to the nations at never needed any other more than they need this ours.

Whisky, Conquest, and Cant.—The forelying issue our journal contains a few striking evidences of e evils behind "the blessings of civilization" ought by conquest to the poor heathen. The *Springld Republican* publishes a letter from Manila from ptain E. E. Hatch, of the Eighteenth Infantry, which rows a lurid light upon our methods of conquest.

"The great source of evil in Manila has come from the uor interests. The first followers of an army are the oons, with disreputable women a close second. To reess their pernicious influence taxes the efforts of those in thority. One shipload of liquor was in Manila harbor fore the city was taken by the Americans. The agent of e company was with the army, wearing a militia uniform der the gu'se of a "volunteer aid." The city taken, the 'olunteer aid" cast aside his uniform, located a depot, and oceeded to establish saloons. In a few weeks the principal eets were tranformed. The only brand of whisky and beer ndled by the firm received a great boom, and in a way got great start of competitors. It was not for long. In a few eks every brand of beer and whisky in America was presented, and the different agents vied for business and premacy. The saloons were directly responsible for more the friction, disturbances, and estrangements with the nates than all other causes combined."

One wonders to what extent whisky is responsible for e facts stated in the press dispatches of April 2, that e steamer from Manila to San Francisco landed 121 ilitary and navy prisoners and 11 insane, and that other transport had just left Manila with 175 military isoners and 25 insane on board. The military isons in California are reported full, and new ones ust be erected for the increasing number of criminals m our new tropical possessions.

Tropical Medicine in American Schools.—The ge tropical territory which has come more or less der the protection of our flag since the war with ain, suggests to the minds of many American physiıns the necessity for a more thorough knowledge of e tropical diseases. Whether the people of these lands remain permanently under our flag or not it seems highly probable that there will be a great increase in our intercourse with tropical countries in the near future, and that many American physicians are likely to take up their residences in such countries. However, there have been many reasons why more time should have been devoted to these subjects in the past, for a very considerable area of the United States in the South has at least a semitropical climate, and while the scourges of the tropics have not very seriously invaded our land, there is every prospect that should they once gain a hold they would cause great loss of life. At the present time only a few of our medical schools give any attention whatever to a study of these affections, and it would seem that to meet this need of more thorough knowledge of these diseases that adequate courses of study should be established, at least in a number of our leading medical schools. Such courses might very well be made optional. The experience of Harvard has shown that such a system of optional studies in medical courses is practical, and, of course, it would be hardly fair to expect those who intend to remain in northern climates to devote much time to diseases of this class. It seems to us that there is another very good reason why such courses should be established by American schools, and that is, from the standpoint of purely scientific medicine. The medical scientists of France, England, and especially Germany, have recently made active efforts in this direction, and if we hope to keep in the van of progress we cannot afford to ignore such work, even if undertaken without any practical utilitarian aim. As in so many other matters which concern medical progress, the Johns Hopkins University has led the way, though as yet the results of their commission to the Philippines have not been completely worked out. More money should be devoted to maintain men capable of carrying on scientific investigation and less to erecting showy buidings, if we are to expect any real progress in scientific medicine in America.

Rats as a Factor in Disease.—The United States quarantine officers, the State health-officers, and the local health-officers of Astoria, Ore., have issued an address to the citizens of the Pacific coast, in which they urge the necessity of poisoning all the rats about the homes of citizens, as a precautionary measure to prevent the bubonic plague getting a foothold in this country. The address states that it has been found that rats not only take this disease themselves, but are the most active agents of spreading it abroad. In the larger cities of Europe, as well as in Asia and China, a wholesale crusade against rats is being waged at present, not because of the presence of the plague, but to prevent its extension should cases occur. This course is particularly urged by physicians living in the plague-stricken countries, and is urged as beneficial in the ports of the Pacific having communication with them.

This information is beneficial not only to the localities directly interested in the bubonic plague, but to citizens everywhere, but it seems to us that other means than poisoning should be employed to dispose of the hated pests. This will be appreciated by all who have ever had experience in that line. A poisoned rat may crawl into the most ungetatable place in the house, die, and force an evacuation of the premises, or incur a heavy expense to get rid of the putrid remains.

An Essential Element of Sanitary Effort.—Sanitary work upon modern lines is essentially an outgrowth of the belief that every man is, to some extent at least, his brother's keeper. We may theorize as we please upon such an innate tendency of mankind to attend to the business of others; the fact remains that it is the natural tendency of such a vast majority of people that it neither can nor should be ignored. A civilized man who sees his neighbor unwittingly stepping into grave danger, *e. g.*, getting in the path of a runaway horse or standing under a ladder that is about to fall, will unhesitatingly seize the endangered individual by the shoulder and attempt to drag him to a place of safety. Sometimes the endangered one will fail to perceive the peril, and under the impression that he is being assaulted will resent the forcible grasp upon his person or clothing; but when the imminent hazard has been explained he will apologize for his resentment and give sincere thanks for the aid rendered.

Sanitary effort for the people of the whole community has the same ethical basis of help rendered to the unseeing and unthinking by those who are in a better position to discern and appreciate certain threatening dangers. It would almost seem inconceivable that theorists should object to such life-saving measures on the plea that personal liberty is invaded by the life-saving agents. It is preposterous to object to the application of the general principle because in one or two instances the life-saver makes a mistake and grasps or hustles a person not really in danger but who appeared to be.

Diphtheria and scarlet fever are two of the great scourges of child life; they are likewise two of the most readily controled contagions by the exercise of modern preventive methods; these methods savor to some of interference with personal liberty and freedom of action; therefore with eyes wilfully and tightly closed they thrash their arms about and strike blindly at those who in attempting to save life inadvertently jostle against them or interrupt their peaceful daily promenade upon the public highway.

For the sake of argument let it be supposed that the life-savers make a mistake in an individual instance. What evil results therefrom? Personal convenience is temporarily interfered with and perhaps a slight financial loss ensues. But suppose that the objector to sanitary measures is wrong (and this is the case 99 times out of a 100)? What evil results follow? Huma life is lost; contagion is spread; indirectly more mon is lost through interference with business than in th first instance.

Coming back to first principles, an essential eleme of sanitary effort is love for our fellowmen; we mu be willing to sacrifice personal convenience and intere for the welfare of the community; in the end all suc sacrifice redounds to the ultimate advantage of th individual through the general benefit to the race.

Experiments for the Prevention of Malaria.—D Patrick Manson, C.M.G., the medical adviser to th Colonial Office, to whom belongs the credit of havin originated the theory that malaria is spread by th bites of mosquitos, read a paper in London on Marc 31 at a meeting of the Royal Colonial Institute, i which, after general remarks about tropical diseases, h described certain experiments which his departmer proposed to make on the practicability of preventin malaria. The experiments authorized by the Colonia Office will be carried out by the London School o Tropical Medicine. In the first experiment a hut wi will be erected in the most malarial part of the Roma Campagna, and furnished with wire-gauze doors an window screens and every possible device to render i mosquito-proof. Two skilled observers and their tw servants will live in this hut from May until Octobe (the malarial season), and while they will be at libert to go where they like during the day, from one hou before sunset until one hour after sunrise they wil always be in the hut. By this experiment it is de signed to prove that by simple and inexpensive mean the human body can be protected from the malaria parasite, and if all four subjects of experiment escap malaria the thesis will have received some demonstra tion. The second experiment will be as follows: Mos quitos raised from the egg in a laboratory, which hav therefore had no opportunity of picking up malaria contagion, are to be fed in Rome on patients in whos blood the parasite of tertian malaria has been identi fied by the microscope. The mosquitos will then b transported to London, and liberated in a small hous in which are sleeping Englishmen who have never lef their country or been subjected to circumstances in which they could contract malaria in the orthodox manner. It is expected that the Englishmen will de velop malarial fever and that the parasite will be found in their blood. It will also be expected by the com munity in the neighborhood of the house where thi experiment is conducted, that every precaution shal be taken against the escape of the mosquitos. Dr Patrick Manson expressed great confidence of obtain ing both the positive and negative results aimed at by these procedures, in which case he said that the Colonia Office would go forward in devising methods for pro tecting the inhabitants of the British Colonies from

alaria. We feel certain that all care will be taken to uard against errors, but such biologic experiments freuently fail.

A Trained Nurse on the Hospital Ship "Maine." Ve have had the privilege of reading a sprightly and ntertaining letter from a trained nurse on the *Maine*) a friend in Philadelphia. The hospital ship was ring in the harbor at Durban on February 23 and the urse, who is a graduate of one of Philadelphia's large ospitals, gave some interesting glimpses into warfare nd life on board ship. About 200 patients were on oard, but most of them were recovering and almost eady for their discharge. The ship's staff at that time ere waiting eagerly for news from Ladysmith; as soon s that place was relieved they expected to be ordered) go to the besieged town on a special relief train to ring away the sick and wounded. War, in the sight f this young woman, was revealed in some of its hor)rs. "I tell you," she says, "this war is frightful; so ıany lives have been sacrificed, and I guess today ıany more are going the same way, for I believe there a terrific battle going on at this time." We seem) hear the sound of the fray in her few graphic nes. On the ship itself all was quiet and orderly. A ne x-ray apparatus was being used, and the surgeons ad been most successful in finding and extracting ıe bullets. Sir Wm. MacCormac and Mr. Treves have ıst visited the ship. They have both been doing great work at the front." Down in South Africa the ained nurses are called "sisters," and they are doing)mething to help solve the problem of how far women urses can be employed to mitigate the horrors of war. ertainly these young women on the *Maine* are having unique experience in their chosen profession, and hile they are successfully demonstrating their right to e there, they are also doing something in the way of dvancing the claims of international comity.

In the list of MEDICAL JOURNALS furnished gratis to ıe membership libraries of the Association of Medical ibrarians we regret that we omitted the name of our ıost excellent contemporary, the *St. Paul Medical Jourıl*, ably edited by Dr. Burnside Foster.

Blindness from Operation on the Sound Eye.—nother sad accident similar to that reported last year from ontreal, Canada, is said to have occurred at Chicago, the peration upon the normal eye instead of upon the injured ıe, thus leaving the patient blind. The report leaves one in oubt as to whether enucleation was performed, or some ther operation. The patient and surgeon, according to the legram, were from Marion, Ind. Considering the cost both) physician and patient, once in a century is quite often ıough for this terrible thing to occur.

The Consolidated report of the **Board of Charities of 'uerto Rico** for the week ended March 17, shows 73,594 ıdigent, 5,114 sick, 184 deaths in a population of 957,779. here are 6,997 men working for food and 538,979 rations ave been issued to starving poor.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending April 14, 1900:

Monday, April 9—College of Physicians, Section on General Medicine.
Tuesday, April 10—Pediatric Society.
Wednesday, April 11—County Medical Society.
Thursday, April 12—Pathological Society.

Dr. Chas. W. Burr has resigned from the Medico-Chirurgical College, the resignation to take effect at the end of the present course of lectures.

Clinical Professorships at University of Pennsylvania.—Two Professorships of Clinical Surgery have been created by the Trustees of the University of Pennsylvania. Individuals desiring to be considered candidates for these positions should send notification of such desire to Rev. Jesse Y. Burk, Secretary of the Board of Trustees, 400 Chestnut Street, Philadelphia, before April 28, 1900.

CHICAGO AND WESTERN STATES.

Changes in Rush Medical College.—It is said that Dr. Arthur R. Cushny, of the University of Michigan, has been tendered the Department of Pharmacology and Materia Medica in this college. Judge Henry V. Freeman will lecture on Medical Jurisprudence. Dr. E. P. Bradley, of the Polytechnic Institute of Peoria, will be assistant professor in physiology. It is the intention to erect a new building upon the lot adjoining Rush College, and it is highly probable that the structure will be modeled after the one at Johns Hopkins University. It was expected that the building would be completed so that work could be begun in it this fall, but owing to unsettled conditions this has been deemed impossible. The principal use to which the new structure will be put will be that of higher clinical work and lectures. The resignation of Dr. Norman Bridges as professor of medicine has been accepted and he has been appointed emeritus professor of medicine. Dr. John W. Dodson has been appointed to the professorship of children's diseases, and Dr. Daniel R. Brower has been appointed to the professorship of mental and nervous diseases.

MISCELLANY.

Our Losses in the Philippines.—The losses of our troops in the Philippines, compiled from official dispatches, since August 6, 1898, are as follows:

Killed	456
Died of wounds and accidents	276
Died of disease	1,056
Total deaths	1,788
Wounded	2,077
Grand total	3,865

Sickness in the Philippines.—A letter in the *New York Evening Post* dated Manila, March 6, says that the census of Manila, just completed by the Health Department, gives the city an unpleasantly high rank among the unhealthful cities of the world. It establishes a death-rate of something over 4% at a conservative estimate. Former estimates and censuses had all given Manila 300,000 population. This census was a careful count of natives and Chinese living in buildings and boats in the police districts of Manila, and it gave a total of 190,714, of whom 30,000 were Chinamen. There are to be added the inhabitants of several villages within the city limits, Americans and Europeans, and 1,400 priests in the monasteries. From reliable information the officials estimate this addition as between 50,000 and 60,000.

The deaths in Manila officially reported during the six months from July 1 to December 31, last year, were 6,203. Of these 2,941 were children. Some of the causes were beriberi 570, tuberculosis, 385, bronchitis 314, dysentery 229, fevers 287, while stomach troubles were many. Manila now has three diseases epidemic which would throw the average community into a panic—bubonic plague, beriberi, and smallpox. Beriberi results from a diet of fish and rice, so that whites do not fear it. Smallpox and leprosy the Philippines

always have, and the people look upon them as a matter of course, avoiding direct contact, but hardly giving a second thought to their presence in the neighborhood. Smallpox flourishes in some parts of Luzon constantly. Half of the natives in the country districts are pitted with it, and mothers try to get their children infected with it under the belief that it is less dangerous to the young. The towns along the northern coast and on the railroad between Manila and Dagupan are full of smallpox now. Gen. Bell's famous regiment, the Thirty-sixth, is suffering from an epidemic. Lieut. Toncray and Lieut. Wing, both of whom were Tennesseeans, the former holding a commission as Captain in the Tennessee Volunteers, and several soldiers have died, and there are other cases in the regiment. The easy-going natives and Spaniards paid so little attention to leprosy that the Philippines have never been noted for that disease, but there are more than 100 lepers in the Manila hospital.

Two months ago, the first case of bubonic plague was discovered in Manila. Since that time there have been 200 cases, according to the estimates of the health-officers, and at least 80% of them have resulted fatally. Yet there has been no panic, no families have fled from the city, nor has the usual routine of life in the city been disturbed. The repressive measures of the health-officers have been comparatively simple, but have proven remarkably effective, considering the conditions they have had to fight. Their aim has been to make the city clean and keep it clean. This is the last thing the masses of Filipinos and Chinamen propose to do unless driven to it.

"They don't understand, they consider it only a form of persecution," explained Surgeon-Major Ira C. Brown, when asked if the natives were disposed to cooperate in this work. The Filipinos are among the most scrupulous people in the world about personal cleanliness. Their knowledge of sanitation, however, was gained entirely from the Spaniards, and is defective. The lower classes of Chinese are worse, as the fact that two-thirds of the plague cases have been among them, although they number but a small minority of the population, testifies. White people have escaped altogether. Manila is practically without sewerage, and because of its low level the cost of a system on moderate lines would be almost prohibitive.

The plague is supposed to have begun in Cavite. It first appeared in Manila, in the walled city, only a stone's throw from the palace, where army headquarters are, and three persons were dead before the nature of their disease was suspected. Most of the later cases have been in the same section of the walled city or in the Chinese quarter, near the water-front. Immediately Surgeon-Major Edie, the health-officer, organized a force of inspectors to force rigid sanitary measures on everybody, and the plague work was put in charge of Major Brown. It was necessary to have men who could speak the language of the people, explain to them what the inspections meant, and direct them how to keep their premises clean, so Filipinos had to be enlisted. The race-question created complications immediately. Between Filipinos and Chinamen there exists an inveterate hatred. The Filipino inspectors delighted in the chance to square grudges against their traditional enemies. They proceeded to file warrants for maintaining nuisances at police headquarters, and most of them against Chinamen, who proved on investigation to be the most prominent and least offending of their race.

Help came from an unexpected quarter, for the rich Chinese merchants under the leadership of Palanka, the former Consul General offered to furnish 30 inspectors to work among their countrymen and keep the Chinese reasonably clean.

There are now 100 inspectors at work in Manila, 30 of them Chinamen and the others Filipinos. They are sent out in squads, usually 2 Filipinos and a Chinaman, with a soldier to boss them and see that they do their work and abstain from blackmailing. Major Brown and the officers of the Health Department look after the soldiers and the inspectors. Whenever a plague-victim is discovered, he is sent to the Chinese or the Filipino Hospital, if it is possible to move him. The house is thoroughly disinfected, a bonfire is made of everything movable, a yellow placard announcing "bubonic pest" appears on the door, while a sentry stands guard to keep people away. The house is kept closed 4 days and the inmates are isolated. When 2 or 3 cases develop in one street the street is barred against business. The dead Chinamen are buried in a grave 8 feet deep in the Chinese cemetery, and covered with lime. The bodies of Filipinos are burned when the relatives will consent. Cremation is desirable for all, but the Chinese superstition against burning their dead is so strong that any attempt to compel it would result in concealment of the cases and, possibly riots. The estimate of 200 deaths includes the probable number of cases which have been kept from the knowledge of the authorities. The officials have hoped that when the rainy season gets fairly under way, with a few 6-inch showers, it will wash up the town so thoroughly that plague will be impossible. Even at its worst, the surgeons who have had experience dealing with yellow fever in Cuba consider the bubonic plague easier to control than its South American rival. Already the number of cases weekly reported is decreasing.

Foreign News and Notes.

GREAT BRITAIN.

The Medical Staff of the Scottish Hospital, which with nurses, orderlies, porters, etc., comprises 64 persons, started on March 24, from Southampton in the steamship *Briton* for Capetown. The chief executive officer is Sir F. R. Andrew Clark, holding the rank of major in the Royal Army Medical Corps, and he is assisted by Mr. David Wallace, Dr. Francis D. Boyd, Mr. A. H. Watt, Dr. C. M. Cooper, Dr. G. L. Chiene, and Dr. James Miller.

The second medical expedition organized by the Liverpool School of Tropical Medicine sailed from Liverpool on March 21 for Nigeria. Like the expedition to Lagos, whose work we noted in these columns, the object is to study malaria in its home with a view to devise methods of prevention. The members of the expedition are Dr. H. E. Annett, demonstrator to the Liverpool School of Tropical Medicine, who accompanied Major Ronald Ross on the first expedition; Dr. J. E. Dutton, and Dr. Elliot, a Canadian physician from Toronto.

The Milroy Lectures of the Royal College of Physicians of London, which were delivered this year by Dr. F. J. Waldo, the medical officer of health for Southwark, were upon that interesting and somewhat mysterious disease epidemic diarrhea. Dr. Waldo treated his subject statistically and marshalled figures to prove facts which are very generally accepted—viz, that the disease is urban in incidence, occurs mainly in dry summers, and is particularly fatal to children under the age of five. He enunciated a theory, which is to some extent novel though we think we have heard something like it before, that the origin of epidemic urban summer diarrhea was certain bacilli present in horse-dung and widely distributed during dry weather.

The Medical Estimates.—During the recent debate in the House of Commons on a vote of £555,000 for the medical establishment of the army for one year from March 31, on all sides of the House the success of the Army Medical Departments in the war now proceeding was loudly acclaimed. The Under Secretary of State for War, Mr. George Wyndham, added his testimony to the general chorus of praise, for he said on behalf of the war office that "too high a tribute could not be paid to the fortitude, courage, and efficiency which had been displayed by the Royal Army Medical Corps." After this official pronouncement we ought to hear no more of scurvy treatment meted out by the war office to members of this corps. But just as the gratitude of the sick man to his medical adviser wanes with convalescence, so possibly the war office official in times of peace will slip back into his former indifference.

A Smallpox Hospital for Manchester.—Manchester is now a very large city—its population is over half a million—and the corporation feel that they ought to make more provision against a possible outbreak of smallpox. They therefore design to build a new hospital at a cost of £60,000 at Carrington Moss, a piece of waste land belonging to the city, and bought by the corporation to utilize night soil and refuse. Much of this waste land has been reclaimed and is

w fertile, and the site is in every way a good one. The rporation must expect opposition, for nobody likes to have smallpox hospital planted near his house. The risk of fection from passing ambulances is a real one, and the rial convection of disease is an uncomfortable possibility. is to be hoped for the sake of Manchester that such oppo-ion, though reasonable, will not prevail. For the smallpox spital is badly needed, and Carrington Moss is the best ace to put it.

The Executive Committee of the General Medal Council is the body upon which much of the Council's rk devolves, and it holds meeting at intervals between the ssions of the Council at which the course of work is re-ewed. Such a meeting was held recently at which the idwives' Bill came under consideration, and it was decided represent to the Privy Council that this measure, which is presented as having the approval of the governing body of e medical profession, is unsatisfactory, the wishes of the neral Medical Council that a clause requiring the licensed idwife to seek medical assistance in all cases of difficulty abnormality having been omitted. If such a clause is not serted the General Medical Council will do their best to tard the bill from becoming law, and will possibly succeed.

The Irish Medical Schools and Graduates Association.—The St. Patrick's festival dinner of this Association is held on March 17, at the Hotel Cecil, London, and was a rticularly well attended function. The intention of the neen to visit Ireland and the recognition, not only by Her ajesty, but by all the rest of the United Kingdom that reat Britain owes an immense debt to the gallantry of the ish contingent of the army, have led to an extraordinary crease of interest in Irish affairs. This fact probably counted for the large attendance and the enthusiasm the proceedings. During the dinner telegrams were spatched to Queen Victoria, thanking her for her recent der with regard to the wearing of the shamrock in the my on St. Patrick's Day, and expressing a hope that her sit to Ireland may be a pleasant one; and to Lord Roberts, e Irish Commander-in-Chief of the British army in South rica, wishing him good luck. This Association, which is ainly medical, is rapidly increasing in importance.

The Late Dr. Robert Cory.—Dr. Robert Cory, whose ath occurred in London on March 19, was well known as authority upon vaccination. He received his medical ucation at Cambridge University and St. Thomas's Hos-tal, at which institution he held the junior appointment, erward becoming physician-in-charge of the vaccination partment and lecturer on forensic medicine to the medi-l school. During Dr. Cory's experimental work upon ccination he inoculated himself with syphilis, thereby oving in a sadly conclusive manner that this risk, though nall and in the hands of careful practitioners, infinitesimal, l exist. Dr. Cory's accident was the theme of much anti-ccination tall-talk, it also, we have no doubt, hastened e action of the Local Government Board in making glycer-ated calf-lymph the legal medium of inoculation. Dr. ry was appointed some time ago Director of the Animal ccine Establishment of the Local Government Board, a st which is left vacant by his death. This was not unex-cted, as Dr. Cory had been in great suffering for many eks.

An attempt to cripple the hospital work of London has been made by a body of persons styled the Council the Metropolitan Radical Federation and claiming to eak for 40,000 working men. This body has addressed a emorial nominally to the Prince of Wales, but really to the itish public, in which they hint that the great hospitals of e metropolis do not confine their efforts to the relief of in and the curing of disease, but that it is a common prac-e among them to experiment upon the patients. The emorial goes on to protest against money that is given to a spital being used for the institution or support of a research oratory, following here in the footsteps of all the rabid tivivisectionists who hold that the sufferings of a guinea-g are of more consequence to the community than those the sick poor. The Council of the Metropolitan Radical deration do not speak for the poor of London, who, gener-y speaking, are aware of the benefits conferred upon them by the hospitals and are profoundly grateful for them. They speak for a body, which, whether it numbers forty only or the forty thousand claimed, is numerically of no consequence in a population of five millions, and it is disgraceful that they should be allowed with impunity to misrepresent so audaciously the charitable and educational work of the London medical profession. The memorial was sent to the Prince of Wales, as chairman of the Prince of Wales's Hospital Fund, but it was also sent to the public press in the hope of damaging the hospitals in the eyes of the subscribers. The Prince of Wales will certainly pay no attention to such mischievous rubbish, and the public will probably imitate his edifying neglect.

MISCELLANY.

The first hospital for the insane in China has been inaugurated at Canton, through the labors of Dr. J. G. Kerr. Two buildings with 12 rooms each designed to accommodate about 30 patients in each building have been erected. From a recent letter from Dr. Kerr we learn that about 50 patients have been received, altogether, and that 28 (12 of whom are women) are at present being treated. Dr. Kerr hopes that contributions may be sent him to continue the work and to increase the capacity of the refuge.

Malaria and Anopheles.—The *British Medical Journal* quoting the *Zanzibar Gazette*, states that Dr. Spurrier has found anopheles in certain of the notoriously unhealthy districts in that region. In the last district in which they have been found, Dunga, the larvæ of anopheles were present in puddles formed by the spilling of water at the small dip-holes made in the dry swamps on the Zanzibar side of the Dunga mountains. A complete map of Zanzibar and the neighborhood is now being made showing the mosquito-infected localities and the species of mosquito hitherto found in each. Dr. Spurrier has also found larvæ (apparently of anopheles, though this is not stated) in a disused stone water tank in the town, and in the hollows formed between the ridges of earth on which the sweet potato is cultivated. Dr. Spurrier points out that in a pool or tank containing reeds or grass the larvæ may be overlooked as they cling to the reeds; when the reeds are touched, however, the larvæ shoot into the middle and may be dipped up by a quick hand.

The Treatment of Tuberculous Infection by Muscle Plasma.—According to the *Lancet*, at a meeting of the Academy of Sciences, held on February 26, M. Héricourt and Professor Charles Richet made a communication as to the results of their researches into the mechanism of the action of the therapeutics of raw meat in cases of tuberculosis. Cooked meat does not produce the same effect because cooking coagulates certain albuminoid ferments. The important point, however, of the researches of these two observers is as concerns the active part of the meat. They separated the pulp from the muscle plasma and have discovered that the plasma alone is active. It is the principles which are soluble in water that constitute the active portion of the meat. The question is not one of feeding or of overfeeding, for the quantity of nitrogen contained in the plasma is very small, but it possesses immunizing qualities analogous to those of other animal products which are injected into the veins. M. Héricourt and Professor Richet propose to call this new method of treatment "zomotherapy."

Report of the Malarial Expedition to West Africa.—The Liverpool School of Tropical Medicine has published a complete report of the malarial expedition to Sierra Leone, in the form of a handsome quarto volume, illustrated with several excellent plates. The authors of the report are Major Ross, Dr. H. E. Annett, and Mr. E. E. Austen, and there are two supplementary reports by Major G. M. Giles, I.M.S., and Dr. R. Fielding-Ould respectively.

According to the *British Medical Journal*, after tracing the various steps by which our present knowledge of the connection between mosquitos and malaria has been reached, the report states the object of the expedition. The authors of the report have abandoned the term "mosquito" in favor of the popular English word "gnat"; and in place of malaria they have adopted the cumbrous appellations "hæmamœbiasis," or "gnat fever." They are of opinion that the latter

terms will serve to popularize more correct notions of the malady than are implied in the word "malaria"; but it is at least doubtful whether the introduction of the these terms will serve any useful purpose. Hæmamœbiasis can never come into general use, even among medical practitioners; and gnat fever, even if it were adopted, would only express an imperfect idea of the nature of the disease. Malaria is a classical word for a well-defined clinical condition, and it has as much right to survive as the terms "rheumatism," "cataract," and "hysteria," which are survivals of a no less erroneous pathology.

Freetown, the capital of Sierra Leone, was found to be an excellent field for observation. A careful search showed that the larvæ of *Anopheles* were contained in many pools which were permanent, and were not liable to scouring, for they cannot survive complete desiccation, and are readily washed away by heavy rain.

The opinion is expressed that, although mosquitos can feed on fruits, such as bananas, fertilization cannot take place without a meal of blood. Thus the general use of mosquito curtains not only protects the inhabitants from immediate attacks, but also helps to restrict the propagation of the insects. Another important observation is that the ova are not laid except in the presence of water.

The parasite of malaria as it exists in the blood can propagate by an asexual and a sexual generation. The youngest parasites, which exist in the blood-corpuscles, and are called amœbulæ, develop either into sporocytes or gamocytes, of which the former are destined for asexual propagation within the veterbrate hosts. They divide into spores, which escape into the plasma, enter fresh corpuscles, and in their turn become amœbulæ Of the gamocytes, some are male and some female; the male containing a number of microgametes, the female one macrogamete. So long as they remain in the vertebrate host they do not change, but when withdrawn into the stomach of the mosquito the male emits its microgametes, one of which enters a macrogamete and fertilizes it. The latter then becomes a zygote. The zygote passes through the walls of the stomach of the *Anopheles*, and attaches isself to its outer surface, where it grows largely in bulk, and divides into 8 or 12 meres. Each mere subsequently becomes a blastophore, bearing a large number of blasts on its surface. Ultimately the zygote ruptures, discharging its blasts into the body cavity of the insect, whence they find their way to the salivary gland, and are ultimately injected into the blood of a new vetebrate host along with the poison of the mosquito. In the blood they find their way into the red corpuscles, and develop into amœbulæ.

It is pointed out that the association of malaria with mosquitos of a particular kind explains many of the admitted facts with regard to its incidence. Thus the frequency of malaria in swampy localities, and its prevalence in the rainy season, the special risk of sleeping in malarious places, and many other circumstances affecting the incidence of the disease, are readily explained by the influence on the growth of the *Anopheles*.

With regard to the question whether malaria can be caught in any other way than by the agency of mosquitos, there is no evidence to show that it can, while all the probabilities are strongly against it. To suppose that the hæmamœba can be propagated and conveyed in any other way would imply that it may have another life-history entirely different from the one at present known, and this is so extremely improbable that it could not be entertained without some strong evidence in support of it.

For the prevention of malaria the report urges the systematic destruction of the larvæ of *Anopheles* wherever they are found, and scrupulous care by means of the mosquito-net and the punkah to avoid being bitten by the adult insect. The degree of success which may be looked for in the effort to destroy the *Anopheles* will depend very much upon the nature of the locality and the extent of the breeding grounds. In level, waterlogged localities, where the pools are numerous, and hidden by rank vegetation, efforts to destroy the larvæ will be attended with indifferent success; but on sloping ground, and especially in very dry localities, the prospects of success will be considerable. Tar is recommended as the best chemical destroyer of the larvæ.

The addendum by Dr. R. Fielding-Ould contains much valuable information concerning the incidence of malaria and the conditions of life generally in the West Coast of Africa. The natives in some quarters live in an almost inconceivable state of filth, and their dwellings must be a constant cause of ill-health to themselves and a menace to the Europeans in the neighborhood. The report forms a valuable addition to our knowledge of the subject, and affords evidence of a vast amount of accurate scientific observation carried out under peculiar difficulties, and it cannot fail to be productive of much good both by the suggestions it offers and by prompting other workers to continue investigations on the same lines.

Morbid Sleeplessness.—James Kelly (*Cleveland Journal of Medicine*, November, 1899) says that insomnia may be defined as a morbid condition of those cells concerned in the production of thought. He believes there is a distinct relation between morbid sleeplessness and insanity. Several theories have been advanced as to how normal sleep is produced, but the most important of these is the "vasomotor theory." Tarchanoff, by removing a portion of the skull of a young puppy, studied directly the changes which occur in the brain during sleep. He found normal sleep to be constantly associated with cerebral anemia. Every time the puppy fell asleep the brain became pale to a marked degree. He observed that puppies never sleep with the head lower than the rest of the body, but sleep best with it higher. This is explained on simple mechanical principles. De Manacëine noticed in the infant the scalp covering the fontanelle is depressed during sleep and elevated during wakefulness. By means of a special manometer devised by both Hammond and Weir Mitchell, the state of the brain as regards its blood contents can be accurately determined. Numerous experiments with this instrument showed that a lessening of the amount of blood in the brain occurred immediately before as well as during sleep. We de not know what causes this anemia, but several theories have been advanced. That which coincides with the most important ones is about as follows: During wakefulness "fatigue-products" are being constantly formed, which, on reaching a certain quantity, affect the vasomotor centers in such a way as to cause a constriction of the bloodvessels of the brain. This constriction, together with the fact that these "fatigue products" are easily oxidizable, result in a lessening of the cerebral tension, and also in the amount of blood and oxygen passing to the brain. This decrease in the brain oxygen necessarily results in an inhibition of some peculiar physiologic combustive process, upon which it is presumed consciousness and thought-manifestation depend. In the meantime, on account of a change in the vascular walls, or as the result of some cause as yet unknown, the capacity of the consciousness and thought-cells for receiving other forms of nutriment is increased. As the hours go by, these "fatigue-products," which not only combine readily with oxygen but which are more easily eliminated when in such combination, are being gradually excreted. Thus while more and more of these products are passing away, less and less oxygen is required to combine with those that yet remain, and consequently a gradually increasing amount of oxygen is flowing to the brain. The effect upon the vasomotor center is to cause a widening of the cerebral bloodvessels. An increased amount of blood and oxygen now acting upon thought and consciousness cells that have had nourishment and repose, there is inaugurated a series of peculiar chemic or combustive changes which cause and maintain wakefulness. There may be an inherent predisposition to morbidity of the cells concerned in consciousness and thought, resulting in a faulty metabolism and excessive sensitiveness; or the condition may be the result of certain toxins on these cells; or again it may be the result of violent emotions, mental depression, physical pain, etc. Morbid sleeplessness is far more common among the insane, but it is believed as a result of observation that the majority of the insane sleep well, a large minority sleep poorly, and about 5% sleep but little; sleeplessness being more common in the early stages of insanity. Kelly thinks there is no doubt that insomnia is in many cases the result of mental disease, but in other cases loss of sleep is the exciting cause. Hence, in the treatment of mental disorders especial attention should be directed to securing sleep to the patient, and this by means of hygienic measures—diet, baths, etc. Hypnotics with the possible exception of paraldehyd, should never be continued long. [M B T.]

Original Articles.

TOLOGY AND MICROCHEMIC REACTIONS OF SOME CELLS TO ANILIN DYES—IDENTITY OF THE PLASMA-CELL AND OSTEOBLAST—FIBROUS TISSUE A SECRETION OF THE PLASMA-CELLS—MAST-CELL ELABORATES MUCIN OF CONNECTIVE TISSUES.

By H. F. HARRIS, M.D.,

Associate Professor of Pathology, Jefferson Medical College.

[Illustrated by colored plate.]

[From the Laboratories of the Jefferson Medical College Hospital.]

T the present time all agree that there are within human body, in both health and in disease, many erent kinds of cells, most of which, thanks to modern rovements in optical instruments and in methods reparing the tissues for examination, may be clearly erentiated with comparative ease. Some of these possess such distinctive peculiarities that it is not necessary to stain them in order to determine r true natures, while others can only be differentiwith certainty by bringing to bear all our knowle of their morphologic and chemic peculiarities. necessity for differentiating the cells from each r is, of course, of most importance when pathologic es of the body exist, and therefore, everything coning those cells becomes of the greatest interest to ologists. Notwithstanding the fact that at the ent time every one admits that there are a large ber of different disease-producing causes, there ns to be but little disposition to accept as a working s the necessary corollary,—namely, that the effects luced in the tissues by each of these different moragencies must necessarily differ in each case, and these differences, however slight they may be, we t recognize before we can claim for pathology the ity of a science. It must be admitted that some s of improvement in this particular are apparent, much too often we still see in pathologic reports vague and almost meaningless statements that all round-cell infiltration" existed, or that an "inmatory exudate" was present. I do not wish to nderstood as believing that we have reached the ts of our knowledge in this matter, but I do think the time has arrived when we should banish from ology such empty phrases as those just quoted.

accurate as have been our observations concerning cells found in disease-processes in general, the pecucharacter of the cells which occur in the lesions of ical diseases have even been less studied, for the on, in a measure, that opportunity for their thorough stigation is seldom afforded. Therefore, from no of diseases are we to hope more from accurate y of cells than from those occurring in tropical tries.

no other way have we been so assisted in differating the various cells from each other as by the duction of the anilin dyes as staining reagents. is due on the one hand to the fact that certain ctures—previously observed—may be brought out hese reagents more clearly than by any other ns, and on the other, to the still more important that certain other component parts of some cells h cannot be demonstrated by the ordinary methods learly differentiated by these dyes. This is within itself quite sufficient to make the study of these methods of the utmost importance to histologists and pathologists, but interest in the matter does not rest here since the researches of Lilienfeld and Monti[1] show definitely that these reactions depend upon chemic peculiarities of the different cells—as might easily have been inferred. The first to investigate in an adequate manner the properties of these dyes in their relation to tissues was Ehrlich,[2] and the task could not have fallen into abler hands. He showed that anilin dyes may be divided into two groups which he called "basic" and "acid." It is not meant by this that the dyes are basic or acid in reaction, but this is merely a name used to distinguish the various dyes—the facts which led him to employ these names, being as follows: The anilin dyes are salts, *i. e.*, they are the result of combining acid and bases. Some of these dyes are produced by placing together a base or some body which plays the part of a base, which furnishes the coloring principle (an anilin), and some ordinary acid, such as hydrochloric, nitric, etc.—these dyes being called "basic." On the other hand, other dyes are formed by an acid or some substance playing the part of an acid, in which the coloring power resides (an anilin), and some ordinary base, such as sodium, potassium, etc.,—this dye being called "acid." Curiously enough the "basic" dyes stain one class of structures, while the "acid" dyes show a great partiality for others. Hence the terms acidophilic and basophilic are now commonly employed to designate structures which stain with "acid" and "basic" dyes respectively. Ehrlich also constructed a third group, placing in this some dyes which could not be admitted to either of the others known as "neutral" stains. This group is of no importance, as there are but one or two stains of which anything is known which belong to this class; however, Ehrlich holds that they are often produced when "acid" and "basic" dyes are mixed, and it is well known that from such combinations the happiest results in selective staining are often obtained.

Before considering the reactions which the anilin dyes produce with the constituents of cells, it may be as well to speak concerning the more important anatomic peculiarities of these bodies. Each true cell contains a nucleus and protoplasm—the former lying within and being entirely surrounded by the latter; in addition, some cells have a distinct membrane surrounding the protoplasm, but very frequently the protoplasm—which may be somewhat condensed at this point—is entirely uncovered. The nucleus, likewise, may be surrounded by a membrane or not, as the case may be. Within the nuclei of some cells there is often a still smaller body called the nucleolus. There are still other structures within cells which are certainly important, but in the present state of knowledge we are in ignorance of the exact relation, if any, which they bear to pathologic states. When examined in a fresh state under sufficiently high powers the protoplasm of the cells is seen to consist usually of a finely granular material, in which there may be coarser granules, and very frequently larger or smaller vacuoles; in addition, in some cells, foreign bodies which have been included may be seen. There are, however, some cells the protoplasm of which may be entirely hyalin and which may contain no granules—such, for example, as the hyalin cells of the blood.

In any one of these cells, when examined in the same way, there is found within its protoplasm at some

point a dark, rounded, oval, or irregular body, which is the nucleus, and within this, when it exists, a small, still darker body, which is the nucleolus. On close inspection the nuclei are also found to possess a granular structure—the granules being generally comparatively coarse, though in some instances exceedingly fine. These granules are spoken of as the chromatin, while the surrounding more transparent portions are called the achromatic structures. When the nuclear membrane exists it appears comparatively dark.

Now it is a curious fact that if a piece of tissue be stained in a solution of an "acid" stain, and afterward in another solution containing a "basic" one, or in a properly prepared mixture of the two, the nuclear membranes, the chromatin of the nuclei and the nucleoli will be found to have absorbed and to be colored by the "basic" dye (basophilic), while the "acid" stain imparts its peculiar tint to the granules of the protoplasm of the cells (acidophilic). Hence it follows that the "basic" dye is commonly spoken of as a nuclear stain—while the "acid" stain is called a protoplasmic one. The nuclei are not uniformly colored, only certain structures, known as chromatin, being stained; those parts that do not take the basic stain are called the achromatic structures. By staining a tissue with an acid and basic dye of different colors the different histologic structures of cells are brought out with great distinctness.

While the rule just given concerning the action of these dyes on cells is one which generally holds, there are many important exceptions—exceptions which are often of the utmost value to the microscopist in his efforts to distinguish cells from each other. For example, it has been found that the granules of the protoplasm of some cells are intensely basophilic and that others, when stained with a mixture of the two dyes, become colored more or less by both; in other cells there is little or no chromatin in their nuclei, and the achromatic substance being acidophilic the nuclei do not present their usual appearance. Before this subject is dismissed the further fact should be stated that practically none of these dyes are absolutely nuclear or protoplasmic, since, if a section is stained by one of them alone, it will be found to have been almost uniformly colored; but if we now add a stain of the opposite kind, those tissues for which it has an especial affinity at once take it up, and the former coloration disappears from those parts of the tissue. It is not even essential that a dye of an opposite kind be used, since, if the section is simply washed after staining in some solvent—which must not be so powerful that it will remove all of the stain—it is found that the dye is gradually washed from those structures for which it has but little affinity, but clings for a long time to those with which it enters into a firmer combination. This variety of staining is known as the "indirect" method, and is of the greatest importance, since by its intelligent use we can often secure exquisite stains of both nuclei and protoplasm in different tones of the same color, or by carrying the process of decolorization still further some of the finest staining effects known are secured in either nuclei or protoplasm alone.

In the brief and necessarily incomplete study of cells which follows, I merely indicate those methods which I have personally found most useful, and do not wish to be understood as claiming that equally good, and, in some instances, possibly better, results cannot be secured by other procedures. For purposes of comparison all of the tissues from which these studies we made were prepared as nearly as possible in the san way—it being, however, necessary in a few instances depart from the rule when the peculiarities of the ti sues were of such a kind that it was impossible to s cure the desired effect otherwise.

All of the tissues were fixed in Heidenhain's corr sive sublimate solution; this consists of a saturate solution of mercuric chlorid in a boiling aqueous sol tion of 0.5% sodium chlorid. In this solution, aft cooling, the tissues were placed for from one to tw hours, after being cut into slices that more than 0.5 cm in thickness. The tissues were then dehydrated, cleare in cedar oil and embedded in paraffin of a meltin point of 45° C., sections were cut, fixed to the slide b the combined water and albumen method of Oh macher[3], and finally stained. For the reason that man beautiful polychromatic effects are produced in tissu by its use, I[4] have usually employed in these studi my carbol-toluidin-blue mixture as the basic stai This consists of a 1% to 2% solution of toluidin-blu in a saturated solution of carbolic acid; the stain keep indefinitely. The tissues are stained in this from minutes to 24 hours. Before placing the sections in th stain they should always be washed in water and, afte removal, again washed in water for a few moments. A few drops of Unna's[5] glycerin ether mixture dilute 15 times with water is then placed on the section, an if this becomes greatly discolored it should be replace by some more of the same when this occurs; in thi mixture the section is differentiated, the time require being from 5 to 15 minutes, depending upon the lengt of time that the section has been allowed to stain. A cohol slightly acidulated with any acid may be als used for differentiating, but when it is employed grea care should be taken not to allow the mixture to ac too long, as it completely decolorizes the tissues if its ac tion is prolonged. After differentiation the section i washed in alcohol, cleared in cedar oil and mounted i balsam. This stain gives much the same effects whic are secured by the use of Unna's[6] alkaline methylene blue stain, but is preferred by me for the reason that i is neutral in reaction.

If it should be necessary to use an acid stain in addi tion the section is not placed in the glycerin-ether mix ture, but is simply well washed in water, then for moment in alcohol, and finally is placed in an alcoholi solution of eosin for from 30 seconds to 2 minutes, de pending upon the strength of the eosin solution an the length of time that the section has previously re mained in the toluidin-blue stain. As soon as the sec tion becomes of a well-marked pink color, but stil while the blue may also be seen, it is removed from th eosin solution, rinsed in alcohol, cleared in cedar oi and mounted in balsam.

For some purposes it is desirable to secure a delicat stain of the chromatin of nuclei, and by no othe means is it so easily and well obtained as by staining in a dilute solution of some good hematein stain. Non of the other hematein solutions appear better, and cer tainly none are so easily prepared as my[7] solution which is made as follows: One gram of hematoxylin i dissolved in 10 cc. of alcohol, which is added to 20 cc. of a saturated solution of alum in water; heat t boiling and add 0.5 gm. mercuric oxid. As soon as th solution becomes of a dark purple color remove th vessel in which it is contained from the flame and coo by placing it in cold water. The stain is immediatel

dy for use. It may be used in the concentrated
e, but it is better to add only enough of it to an
eous alum solution to give it a dark portwine color,
l to use this for staining; a delicate staining effect
ecured in a few minutes in the dilute solution. The
tion is then dehydrated, cleared, and mounted in the
tal way.

No one could feel more fully than I the incomplete-
s of the article on cells which follows, both as re-
ds the facts that by no means are all of the cells
ich are found in the human body considered,
l that even those which are mentioned are not so
roughly described as would be desirable. An effort
, however, been made to describe the principal pecu-
ities of the cells which are most commonly found
and around diseased tissues, with the hope that
may be of some service to beginners in micro-
opic work.

For the sake of uniformity the drawings which ac-
pany this article were, so far as possible, made from
ues stained in toluidin-blue alone.

Lymphoid Cells.

Fig. 12, colored plate.

Origin.—These cells in a large degree certainly origi-
e from the lymph-nodes of the body, but I think it
nly probable that they may also originate from the
othelial cells which line the lymph-spaces and
ph-ducts.

Morphologic and Tinctorial Properties.—As found in the
ues these cells are always rounded or nearly so and
y from 3.5 to 6 μ in diameter, with an average of
ut 4.5 μ, but when stained in dried preparations of
d their diameters are somewhat greater,—varying
about 4 to 7.5 μ. There is no cell-membrane, and
a very thin rim of protoplasm, around the nucleus.
protoplasm is present in such small amounts and
is so feebly that frequently a large part of the
leus appears entirely bare; with powerful basic
the protoplasm is found to be made up of extremely
granules, which stain slightly. The nuclei are
ost perfectly round, and their measurements are
ost those of the entire cells,—generally being from
to 0 5 μ less. When faintly stained with hematein
nuclei are found to possess a darkly staining nu-
r membrane,—attached to which on the inner side
rom 5 to 8, relatively large, chromophilic masses
omatin), and in the centers there are always found
ly stained nucleoli.

Occurrence.—The lymph-nodes of the body are almost
rely constituted of those cells and in the normal
es, lying in the lymph-spaces and lymph-channels
e are frequently encountered; of the total number
eukocytes in the blood they constitute about 18 to
, but are here called lymphocytes. In all inflam-
ory conditions of the tissues they are present in in-
sed numbers and in chronic nonsuppurative inflam-
on make up a large part of the cellular collection
ie parts. In some abnormal conditions of the blood,
lymphatic leukemia, they are present in greatly
eased numbers.

Function.—But little is known of the function of these
, further than that they undoubtedly become trans-
ed into plasma-cells, and in some cases they are the
stors of the hyalin cells, and through them, pos-
, of the polymorphonuclear leukocyte of the blood;
ing more can be said as to the offices they perform
ie economy.

Plasma-Cells (Including Osteoblasts). With Some Remarks on their Relation to the Formation of Fibrous Tissue.

Fig. 10, colored plate.

Before considering the peculiarities of these cells a brief explanation as to just what is meant by the term "plasma-cell" is absolutely necessary for the reason that much confusion still exists concerning them. In 1875 Waldeyer[8] described certain cells which occur in the normal connective tissues of both man and the lower animals, to which he gave the name of plasma-cells. At a later date Ehrlich[9] found in like tissues a cell which he supposed had not been before described, and which he thought differed from the plasma-cells of Waldeyer, but which we now know are identical with them; these cells Ehrlich called mast-cells. At a still later date Unna[10] found certain cells in the skin,—but always in pathologic states—which he supposed to be the plasma-cells of Waldeyer, but from which it was speedily apparent that they differ in several important particulars; notwithstanding this, these cells of Unna have continued since to be spoken of as plasma-cells; as a matter of fact Unna had discovered an entirely new cell. It is thus clear that two entirely distinct cells have received the same name, and in literature are generally referred to as being identical. In a more recent paper Waldeyer[11] concludes that the cell which he first described as a plasma-cell is the same as the one later called mast-cell by Ehrlich, and as considerable literature had sprung up concerning Unna's plasma-cell he generously abandoned the term to Unna. Then the matter stands thus: Waldeyer's plasma-cell and Ehrlich's mast-cell are identical, but the name by which it is now known is that bestowed by Ehrlich; as shown later in this paper these cells elaborate mucin, and the name mast-cell (food-cell) is therefore entirely inappropriate. Unna's plasma-cell is an entirely different cell, and has probably permanently assumed the name which was given it by mistake. The peculiarities of this cell will now be considered.

Origin.—Unna,[12] in his original paper advanced the view that this cell originates from the connective-tissue cells, giving in support of his opinion the fact that all stages of transition between the two cells may be seen, but this view has been recently strongly combated by v. Marschalko,[13] who has advanced what appears to me as overwhelming proof that they are specialized forms of lymphoid cells. Practically this view has been adopted by Paltauf,[14] Lubarsch,[15] and Darier,[16] and my observations have all led in the same direction. Space forbids a discussion here of this interesting point, and I am, therefore, under the necessity of referring any who may wish to pursue the matter further, to the articles just mentioned.

Morphologic and Tinctorial Characters.—Plasma-cells vary from 5.5 to 13 μ in diameter, with a general average of about 9 μ; they are sometimes much elongated, and under those conditions their length may be as much as 18 μ. The cell may be rounded, oval, or spindle-shaped, or, what is quite frequent, it may present a more or less squarish form. They usually contain one or two nuclei, though as many as four are sometimes observed. The nuclei measure from 4 to 5μ in diameter. A nucleolus is present in each nucleus. Attached to the inner border of the nuclear membrane—which is always stained quite darkly by the nuclear dye—there are from 5 to 8 somewhat large, irregular, deeply-stained masses of chromatin which have no apparent

connection with each other. No evidence of mitosis is ever seen.

In specimens stained in toluidin-blue and properly differentiated in glycerin-ether it is found that the protoplasm of the cell is stained an intense blue color, while the nucleus is practically decolorized, thus completely reversing the usual results which are obtained by staining with a basic dye; the stain is further remarkable in that the cell is colored most deeply around its periphery, the color becoming fainter the nearer the nucleus is approached. With a high power the protoplasm is seen to consist of very fine granules. This basic reaction of the protoplasm of these cells was considered by Unna[17] entirely characteristic, but this is very far from being the case since many cells possess this basophilic protoplasm. One cell in particular, which was found by Hadora[18] in the normal human spleen very much resembles the genuine plasma-cells. They, however, differ in that they are larger than the plasma-cells, that their nuclei are twisted and do not present the characteristic chromatin arrangement, and, in addition, their protoplasm does not stain so intensely with basic dyes. They appear to be some variety of large mononuclear leukocytes, the protoplasm of which has become basophilic. These cells are called "pseudoplasma-cells" by the German writers. I have found that the protoplasm of the plasma-cells is very rich in iron.

In this connection I desire to call attention to the fact, which no one has heretofore observed, that the cells which are called osteoblasts, tinctorially and morphologically greatly resemble plasma-cells, and, in addition, they likewise seem to originate from lymphoid cells.

Occurrence.—Plasma-cells certainly occur to a certain extent in the spleen, lymph-nodes and bone-marrow of some of the lower animals, such as the rabbit and the white rat, but although there are cells which greatly resemble them in similar structures in man, it does not appear that they are present in the adult human organism under perfectly normal conditions. Nevertheless, these cells are abundantly present, in one form or another, during the stages of development, and invariably occur in that multitude of different processes which we call inflammation. Although they begin to appear in tissues almost immediately following an injury of any kind, they do not become numerous until the condition becomes subacute or chronic, and the process of repair begins. It follows from this that they are very numerous in chronic tuberculosis and syphilitic lesions, in the walls of the intestines in amebic dysentery, and in the walls of old abscesses.

Function.—In very acute inflammations many of the lymphoid cells which find their way to the parts rapidly enlarge owing to an increase in their protoplasm, and, as this is colored only to the faintest degree by the stains employed in microscopic work, the hypertrophied cell is called a hyalin cell. These cells are actively phagocytic, and possibly render assistance to the diseased parts in even other ways. After, however, the process becomes subacute, and finally chronic, these cells are no longer produced, but it is observed that the lymphoid cells become transformed in considerable numbers into plasma-cells. Coincidently with this fibrous tissue begins to be formed, and it would therefore seem fair to suppose that these cells are particularly associated with repair. Especially v. Marschalko,[19] but also Krompecher,[20] lay great stress upon the fact that many of the plasma-cells ultimately undergo chan which result in the formation of connective-tissue ce and in this way they believe that connective tissue m be indirectly formed from these cells. This transfor ation of plasma-cells I believe I have also observed, b my interpretation is not entirely in accord with th of the writers just mentioned. In this connection wish again to refer to my observation that plasma-ce and osteoblasts appear to be identical—which seems have an important bearing on the formation of fibro tissue. We all know that there is deposited in bone a t sue which is chemically identical with fibrous tissue ar this appears to be the result of a secretion of the ost blasts—no one, so far as I am aware, being of t opinion that the osteoblasts become directly transform into this substance, as we are commonly taught, is t case when fibrous tissue is produced. We further kn that after the osteoblasts perform their function a pa of them remain in the newly-formed bone tissue, a undergoing some changes, become the bone-cel Viewed in this light does it not seem possible, and ev probable, that fibrous tissue is the result of a secreti of the plasma-cells, as we all admit is the case in bo and that the subsequent changes in these cells by whi they become connective-tissue cells is analogous to t alteration in the osteoblasts which transform them in bone cells? It is of course assumed, and the micr scopic appearances are in entire accord with this, th as the plasma-cell elongates and secretes a shell fibrous tissue around itself, it becomes gradually tran formed into a so-called fibroblast. This view is bor out by the fact that the character of the transformati and the ultimate product of the changes in the plasm cells and osteoblasts is practically identical — t bodies of the cells elongate and become branche and their protoplasm gradually grows acidophilic. E actly the same changes occur when cartilage is pr duced. Analogy would also lend its support to th idea, it being much more in keeping with our expe ences that cells accomplish their results by a process secretion than by direct transformation into the su stance produced. The presence of considerable qua tities of iron in both the osteoblasts and plasma-cel is also highly suggestive: it is well known that the pr toplasm of cells of secreting glands become very ri in iron shortly before beginning to perform their fun tions, and the demonstration of a like condition of t cells of the internal parts of the body under simil circumstances is very interesting, to say the lea The fact also that the cells called fibroblasts a much larger than either connective tissue cells plasma-cells undoubtedly indicates that there is a increase of substance, and as the outer part of t fibroblast differs from the inner the probabiliti that it is a shell of secretion seem to me highly pro able. As regards bone it can of course be urged that comparison between the formation of this substan and connective tissue is not entirely just, inasmuch there is in the former case a process of calcificatioh in a dition. It, however, may be assumed that the osteobla is not directly concerned in the deposition of lime-salt in support of which we may cite the fact that calcificatio frequently occurs in newly-formed connective tissue, i which case it would scarcely be assumed that any the cells concerned in the process are actively associate with the infiltration. Calcification, in fact, does n appear to be so much a biotic process as one which physical or chemicophysical. Lime-salts and organi

ter exhibit an extraordinary tendency to unite with
1 other, as proof of which Darwin's[21] observation
r be instanced—that organic material and calcious
3 have been so united on the Rocks of St. Paul, and
ome other localities, that the substance so produced
ven harder than glass. Before finally dismissing
matter it is but just to say that the idea that
ous tissue is a secretion is by no means new, but it
ears, heretofore, to have been only thought of in
nection with fibroblasts or giant cells. There are
ain cells, the protoplasm of which shows basophilic
nules, present in the blood in both health and disease,
these cells are not plasma-cells,—differing in that
r are smaller and that their nuclei are lobulated.
n conclusion the fact must be noted that by no
ns all of the plasma-cells which occur in an in-
ned area become the so-called fibroblasts, but
y of them in the course of time break down and
ppear.

Phagocytes.

8 and 9, colored plate; in No. 9 the cell is in the act of including a leukocyte.

etschnikoff first called attention to the fact that
ain cells possess the property of including foreign
es in their protoplasm, and all cells capable of this
alled phagocytes.

rigin.—There are many cells which possess the
er, among which are multinuclear leukocytes, the
e hyalin cells of the blood and tissue, and giant-
, and our views concerning the origin of the phago-
will therefore depend upon our opinions as to the
n of each of these cells. The large socalled hya-
cell, which is certainly the most important of all of
e in the tissues, is almost certainly derived from the
phoid cells.

orphologic and Tinctorial Properties.—The description
h follows refers entirely to that variety of cell just
tioned. They are rounded, oval, or oblong, and
e in diameter from 9 to 23 μ. There is no distinct
wall. The protoplasm is very finely granular and is
tly acidophilic, but stains faintly with basic dyes
n they are alone used. Within the protoplasm—
this is the most characteristic feature of these cells
her cells, bacteria, and many kinds of foreign
es are frequently found. The nuclei are rounded
blong, and vary in size from 4.5 to 5.5 μ. The
ear membrane is very distinct, and the chromatin
ules may resemble in size and arrangement those
in lymphoid cells, or they may be very fine and
ularly distributed. More than one nucleus may
resent. There are nucleoli within the nuclei.

currence.—They are present to a certain extent in
al tissues, but are greatly increased in number in
mmatory conditions, especially if they are of an
infective kind.

nction.—These cells are thought to act as destroyers
cteria, and there is reason to believe that they do
n this way to a certain extent, though there are
who are disposed to doubt this.

Epithelioid Cell.

Fig. 15, colored plate.

is cell is one which has long been observed in in-
d tissues. Some consider epithelioid cells and
blasts to be identical.

igin.—Epithelioid cells have been generally thought
iginate from the connective-tissue cells, but it may be reasonably doubted if the cell we have generally described as such is in reality an entity; it is not improbable that the term will gradually cease to be employed as we gain more exact knowledge of the peculiarities of the various cells.

Morphologic and Tinctorial Properties.—This cell as usually seen is oval or rounded in form and varies in diameter from 10 to 15μ. There is no cell wall. The protoplasm is granular, and decidedly acidophilic, but, like most other cells, becomes colored by powerful basic dyes when these are employed alone. Immediately around the nuclei the protoplasm often stains less intensely than elsewhere. Large vacuoles are frequently present in these cells. The nuclei are almost always round, but sometimes are oblong; they vary in diameter from 4.5 to 5.5μ. The nuclear membrane stains very faintly, and the chromophilic substance is usually irregularly distributed as very fine granules. It is seen that this cell greatly resembles those described as phagocytes, and it is possible and even probable that the two cells are really identical.

Occurrence.—They occur abundantly in inflamed tissues.

Function.—Nothing is known of their function, if they be in reality a separate and distinct cell.

Polymorphonuclear Leukocyte.

Fig. 11, colored plate.

History.—These cells were first described by Schultze.[22]

Origin.—At the present time the tendency of opinion seems to be that these cells are derived from the lymphocytes—the large hyalin cell being intermediate between the two—but we have no positive knowledge concerning the matter.

Morphologic and Tinctorial Properties.—The cell, as found in the tissues, is oval or rounded and has a diameter from 6 to 7μ. In the blood the diameters are somewhat greater. No one, as far as the writer knows, has therefore called attention to the fact that those cells which occur in the blood are always smaller when in the tissues. This is especially the case as regards the red cell, which, when lying loosely in the tissues rarely has a diameter over 4.5μ, though in bloodvessels it may be almost of the normal size; this seems due to the fact that these cells, after passing into the tissues, become rounded. The protoplasm of the polymorphonuclear leukocyte is granular, and takes acid stains intensely and basic ones faintly, but in a proper mixture of the two the protoplasm takes the color of both to a certain extent. This property of the protoplasm of these cells is quite distinctive, and it seems to me that Ehrlich was nearer the mark when he called these cells neutrophiles, than are those who now speak of them as finely granular oxyphiles. The nuclei are exceedingly irregular in form, being twisted on themselves, knotted, or, even more frequently, presenting the appearance of being divided into several distinct portions; this appearancc is, however, deceptive, since in properly prepared specimens, a thread film of nuclear substance may be usually seen connecting them. The names polynuclear or multinuclear leukocyte, which are frequently employed to designate these cells, are, therefore, obviously wrong. The nuclei present no membrane surrounding them; the chromophilic substance is finely granular and is present in greatest amount around the periphery of each separate part of the nucleus; as a result the nuclei are darkest around their edges.

Occurrence.—These cells constitute about 75% of the leukocytes of the blood. They are present here and there in the lymphatics of the normal tissues, but are only found in the tissues in great numbers in suppurative conditions.

Function.—These cells are phagocytic. By breaking up it is thought by some that they furnish a bactericidal substance which is present in the blood. Though it can scarcely be doubted that they are useful in other ways, we possess no further information as to their function.

MAST-CELLS. (MUCINOBLASTS.)

Figs. 5, 6, 7, colored plate.

History.—This has been considered in the article dealing with plasma-cells. There seems but little room to doubt, as I hope to show presently, that these cells elaborate mucin, and I therefore propose in the interest of clearness to hereafter distinguish them by the name of mucinoblast.

Origin.—All cells presenting certain peculiar microchemic reactions, hereafter to be described, are at the present time regarded as mast-cells, but as a result of my investigations I am strongly of the opinion that these cells are not identical, or at any rate, it is true, that cells presenting these peculiarities mag originate from several separate and distinct sources. The name "mastzellen" (food-cells) was given by Ehrlich [23] to certain cells presenting the characteristic just referred to, and by this name Ehrlich intended to convey his opinion that these cells originate from connective-tissue cells as a result of hypernutrition. They are present in great numbers in the subcutaneous and submucous tissues of the body—that is in connective tissues—but the writer has never seen any evidence which would lead him to the belief that they are phases in the life-history of connective-tissue cells. I have recently seen these cells in the chorion of a placenta which was in a condition of suppurative inflammation. It is further true that they appear not to be present in some situations where connective tissue is found, as, for example, neither in the central nervous system, nor in its coverings. The cell which Ehrlich described is one that is found embedded in the connective tissue, it is larger than either of the cells to which reference will be made presently, and presents no peculiarities by which the writer can arrive at even a conjecture as to its origin. Its lack of resemblance to other cells would lend support to the view that it is not derived from other cellular elements and that it is a cell *sui generis*, but there is no evidence to show that it ever multiplies by any of the methods of division which are at present known, which is certainly against this assumption.

In violent inflammatory conditions I have several times observed in the lymphatics hyalin cells, in the protoplasm of which were a fewer or greater number of granules presenting the typic reactions of mast-cells; under such circumstances all stages of evolution up to the completely developed mast-cell could be observed. As additional evidence that these cells may originate from hyalin cells is the fact that the chromatin arrangement of their nuclei is not infrequently that which is observed in hyalin cells. In some specimens of blood recently shown to me by Dr. J. C. Da Costa, Jr., cells were found the granules in the protoplasm of which presented the characteristic microchemic reactions of mast-cells, but they are smaller, and their nuclei are much larger than those which are found in the mast-cells of the tissue, and, in addition, are alm always lobulated. It seems probable that this cell derived from the hyalin cell of the blood. In additi to these varieties of mast-cells just described I wi especially to mention that I have seen the entire pro plasm of involuntary muscle fibers undergo alteratio as a result of which they present in every way the pec liarities which are exhibited by the protoplasm of ma cells; the change in this case seems undoubtedly of degenerative kind, as the alteration is generally prese under conditions in which the function of the fibers greatly interfered with. There would thus appear be at least four different kinds of the so-called ma cells:

The large mast-cell of Ehrlich.
The mast-cell of the lymphatics.
The mast-cell of the blood.
The muscle fiber mast-cell.

Morphologic and Tinctorial Character.—It is necessa to consider the peculiarity of these cells separately.

The Mast-cell of Ehrlich.—This cell is sometim rounded or oval, but more frequently it is decided oblong; in some instances the cell is evidently rupture and under these circumstances no definite form can made out. It varies in diameter from 3.5 to 14 μ, b when oblong may be as much as 22 μ in length. It not surrounded by a cell-wall. The cell substance clear and homogeneous, and embedded within it the are many granules which are rounded or oblong form, with diameters varying from 0.2 to 0.4 μ. The granules take basic stains intensely; in specimer stained with carbol-toluidin-blue and differentiate with glycerin-ether the granules become of a dark re color—in which they differ from the granules of plasm cells, which remain blue. This is one of the most distin tive features of these cells. This red reaction may be ol tained by thionin (Jadassohn) or by alkaline methylen blue (Unna). When stained by Unna's method there often observed a reddish haze around the cells, which only rarely seen after staining with toluidin-blue or th onin; this seems due to the alkaline reaction of the stai and hence should be regarded as an artifact. In orde to be able to express the difference between the basi reaction of plasma-cells and that which occurs in mas cells I would suggest that the latter be called a *modifie basic reaction.* It some time ago occurred to me that th peculiar reactions of the granules in the mast-cells ver closely resemble that which is given by mucin to th same stains, and, on investigation, it became apparen that the two reactions are absolutely identical. I fur ther tested the matter by staining the mast-cells i Mayer's mucicarmine and in his mucihematein, an again found that the reactions of the mucin and of th cell-granules are exactly the same. Identical result were obtained by staining the two substances i Ehrlich's acid dahlia, and by Bizzozero's gentian viole method. From these results it can scarcely be doubte that the granules of the so-called mast-cell are com posed of mucin, and that these cells elaborate the muci of the connective tissues. The mucin so produce must, in part, be free in the tissues, since the mast-cell are frequently seen in the act of breaking up. As migh be easily inferred these granules show not the faintes trace of iron. The nuclei of the mast-cells are almos always placed excentrically, and if more than on nucleus is ever present it is certainly very rare; afte staining in carbol-toluidin-blue their blue color contrast very finely with the surrounding red granules. The nucle

oval or rounded and have an almost uniform diameter 4 μ; when the cell itself is of a less diameter, it is ways the case that the nucleus comprises almost the tire cell—it being only covered by a very thin layer granules. The nucleus is covered by a distinct clear wall. The chromatin of the nuclei is disposed very thin threads, or small granules, as a rule, but es nuclear stains so badly that a satisfactory study out of the question. Occurring in great numbers in pertrophic angiomata of the skin are mast-cells, ich, although presenting many points of difference m this variety of mast-cell, are probably to be con- ered as belonging to the same group. These cells smaller and more often rounded in form than the l just described, but differ from it principally in that granules in the protoplasms are much finer and that nucleus is more toward the centers of the cells. ig. 7, colored plate.)

The Mast-cell of the Lymphatics.—This cell resem- s the one just described in all essential particulars t differs in that it is smaller, that it is generally re rounedd, that the nucleus is frequently near the ter of the cell, and that there are often but few nules in the protoplasm. The arrangement of the omatin in the nuclei often closely resembles that ich is seen in lymphoid cells and plasma-cells.

The Mast-cell of the Blood.—This cell differs only from cell just described in that its nucleus is lobulated.

The Muscle-fiber Mast-cell.—These have the form and meters of the muscle-fibers from which they are ned. The granules are quite small.

Occurrence.—They occur in the connective tissues of body, and are greatly increased in number when se tissues are subjected to long continued irritation, in tuberculosis or syphilis; but even when such cesses as these are present in the central nervous tem, or in the meninges, I have never been able to mast-cells. These cells are sometimes produced in siderable numbers in acute inflammatory condi- ns, such as in the lymphatic glands in bubonic gue. They are extraordinarily numerous in hyper- hic angiomas.

he blood mast-cells occur in leukemia.

he muscle-fiber mast-cells are seen in the walls of odvessels in tumors, and in the muscle-walls of the estine in tuberculosis.

unction.—These cells elaborate mucin. I have ob- ved in the vicinity of those which occur in the oes of bubonic plague that frequently the bacilli not stain well, and often are entirely absent for quite istance around the cell. In this instance it seems sible that the cell may elaborate some substance ich is bactericidal, or, it may be, that such a sub- nce is liberated when the cells burst—which not in- quently occurs.

GIANT CELL OF SARCOMA.

Fig. 3, colored plate.

Origin.—Nothing is definitely known as to the origin these cells except that they are in some way developed n the mesoblast.

Morphologic and Tinctorial Properties.—These cells are ally oval or irregular in form, and in their diameters y from 15 to 150 μ; in case they are elongated they y be as much as 230 μ in length. The cell has no inct cell-wall. The protoplasm is finely granular, taining oftentimes vacuoles, and is strongly baso- lic. The nuclei may be scattered through all parts of the cell, but for the most part they are aggregated in or near the centers of the cells; the nuclei vary in number from 2 or 3, to many hundreds in the largest cells. The nuclei are oblong, and often irregular in form; their membranes are thin and the chromophilic substance is generally finely granular, and irregularly distributed.

Occurrence.—In slowly growing sarcomas.

Function.—Of this nothing is known.

SPINDLE-CELLS FROM SARCOMA.

Fig. 17, colored plate.

Origin.—Like other sarcoma-cells these cells are thought to originate from the mesoblastic tissue.

Morphologic and Tinctorial Properties.—These cells are usually irregularly spindle-shaped, and in size vary within wide limits; some of them are not more than 2.5 μ wide and 5 to 6 μ in length, while other are so much as 6 to 8 μ in width and 25 to 30 μ or even more in length. They differ in different sarcomas; and even greatly in the same tumor. The cell is not covered by a membrane. Their protoplasm is highly granular and at the edges of the cell frequently present a fragmented appearance. The protoplasm is basophilic, and usually the larger the cell the more intense the reaction; in this particular these cells differ notably from fibroblasts, which they otherwise greatly resemble. Their protoplasm contains iron. The nuclei are remarkably irregular in form and correspond in a general way to the size of the cell in which they are contained. They have no distinct nuclear wall, though traces of this structure may be seen in some cells. The chromatin is irregularly arranged in different parts of the nuclei. The nuclei contain nucleoli.

Occurrence.—These cells occur in sarcomas.

GIANT-CELL OF TUBERCULOUS PROCESSES.

Fig. 4, colored plate.

Origin.—Opinion concerning the origin of these cells has by no means become unified, some believing that they are enlarged connective-tissue cells, others consider that they arise from polymorphonuclear leukocytes, and still others think that they represent occluded bloodvessels.

Morphologic and Tinctorial Properties.—These cells vary greatly in form, some begin round, but in the majority of instances they are oblong with irregular projections here and there from their surfaces; the cells vary in diameter from 15 to 100 μ, or even more in some cases. There is no cell-wall. The protoplasm is finely granular and of an acidophilic reaction. In these cells there are from 2 or 3 to as many as 40 or 50 nuclei; they vary from 4.5 to 5.5 μ in diameter. The nuclei, which are generally oblong, are frequently arranged parallel to each other around the periphery of the cell, with their long axis more or less at right angles to its surface. The nuclei are covered by a thin membrane, and within the nucleus particles of chromophilic substance of various sizes and arrangement are found.

Occurrence.—They occur in and around tubercles, provided the process has existed for some time; in very recent tubercles, or where the progress of the disease is very rapid they do not occur.

Function.—They are sometimes phagocytic. Hamilton[24] many years ago claimed that they become transformed into fibrous tissue in some cases, and the same view has recently been advanced by Hektoen.[25] Further than this we know nothing of their function.

FIBROBLAST.

Fig. 18, colored plate.

These cells were called fibroblasts by Ziegler, for the reason that they were thought to be directly concerned in the formation of fibrous tissue.

Origin.—I have already expressed the belief that these cells are derived from plasma-cells.

Morphologic and Tinctorial Properties.—The cell is exceedingly irregular in form, but is always more or less oblong. There is no cell wall. Its dimensions vary so much, and its surface is so intimately in contact with the surrounding newly formed fibrous tissue that it is scarcely possible to give even approximate measurements; however, the cell may be said to vary in length from 10 to 20 μ and in width from 2.5 to 5.5 μ. The protoplasm is granular and in the old cells, acidophilic; in the younger cells only the granules in the outer part of the cell are acidophilic;—those nearer the nucleus being basophilic. The nucleus is large and vesicular in form; it is oblong, and generally measures from 8 to 12 μ in length and from 2 to 5 μ in width. There is a distinct nuclear wall, and within the nucleus a nucleolus. The arrangement of the chromatin of the nucleus is very irregular, it being sometimes much like that which has been described as occurring in plasma-cells, while in other instances the particles are small and irregularly placed.

Occurrence.—In all tissues where scar-formation is occurring.

Function.—These cells possibly continue to secrete fibrous tissue for a time after their formation; later they become connective-tissue cells.

FIXED CONNECTIVE TISSUE-CELLS.

Fig. 13 and 14, colored plate.

History.—These cells were first called fixed connective-tissue cells by Cohnheim, since whose time the name has been almost universally adopted.

Origin.—I believe that the cells are derived from fibroblasts.

Morphologic and Tinctorial Properties.—These cells are so irregular in form that the measurements are of but little value. The cell may be from 2.5 to 10 μ in width, and including the long projections which pass off from almost every cell, the length may be as much as 25 to 30 μ, or even more. The cell has no distinct membrane. The protoplasm is granular, and while it may be quite deeply stained with basic dyes, when they are used alone, it has much more affinity for acid stain. The nuclei resemble in every way those found in the fibroblasts.

Occurrence.—In all of the connective tissues of the body.

Function.—These cells probably perform some function connected with maintaining the nutrition of connective tissue.

AMŒBA COLI.

Fig. 16, colored plate.

On account of their great resemblance to epithelioid cells and for the reason that they are sometimes found mixed with these cells in the human body, it is thought that a description of these peculiar bodies may not be without interest.

The amebas are rounded or oblong bodies as found dead in the tissues, and rarely, if ever, show the pseudopodia which are so characteristic of them when in a live state. They measure from 12 to 36 μ in diameter. T protoplasm is granular, and contains almost always o or more comparatively large vacuoles, and these ce being phagocytic, other cells and foreign bodies of vario kinds are also frequently embedded in their prot plasm. The protoplasm of the ameba differs mc strikingly from that of the epithelioid cell in that it strongly basophilic. The nuclei are rounded and co tain sometimes fine and other times large chromat granules.

The amebas are always found in the discharges and the intestinal walls in individuals suffering from chron tropical dysentery, and they are thought by many be the cause of the disease.

In concluding the subject it may be remarked th the protoplasm of nerve-cells contain large mass which greedily take basic stains, and that these dy also color cartilage, and mucin, whether intracellular not. While not universally the case, it seems th cells, the protoplasm of which is basophilic, generall show much greater activity than those that stain wit acid dyes.

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THE PARASITES OF ESTIVOAUTUMNAL (REMITTENT) MALARIAL FEVER.[1]

BY CHARLES F. CRAIG, M.D.,

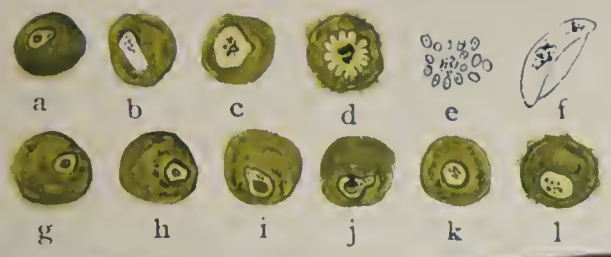
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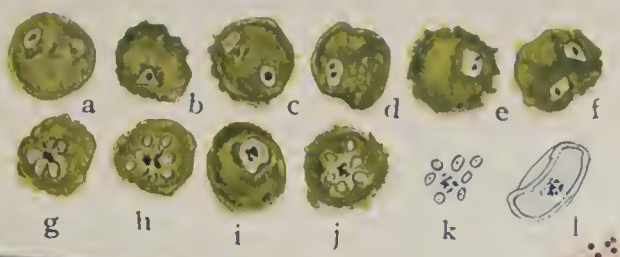
(See colored plate, Figs. 1 and 2.)

Acting Assistant Surgeon, U. S. Army, Pathologist and Bacteriologist, U. S. General Hospital, Presidio of San Francisco, Cal., Late Director of the Bacteriological Laboratories of the Sternberg U. S. General Hospital, Chickamauga Park, Ga., the Josiah Simpson General Hospital, Fort Monroe, Va., and the Camp Columbia Hospital, Havana, Cuba.

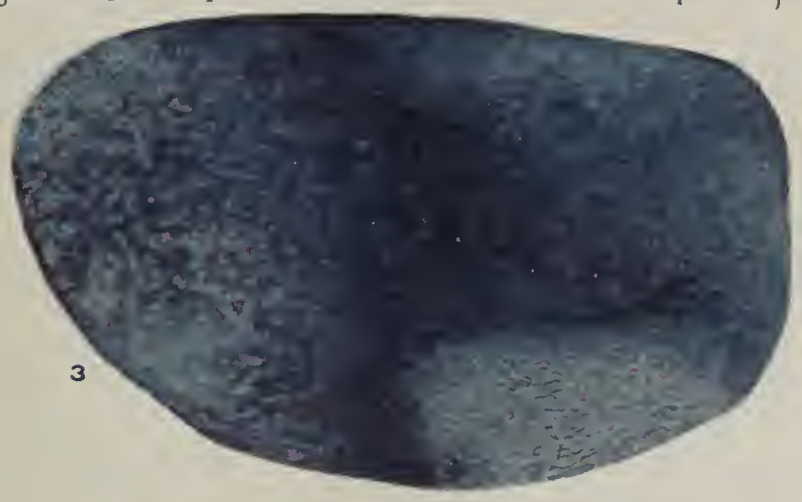
THE conclusions reached in this paper are the result of nearly fourteen months study of the malarial fevers as presented in Army practice in this country, in Cuba, and in troops returning from the Philippines. Before entering upon a description of the organisms concerned in the etiology of the estivoautumnal variety of malaria,

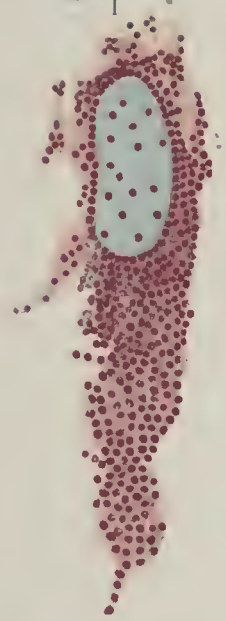
[1] Published by permission of the Surgeon-General of the U. S. Army.



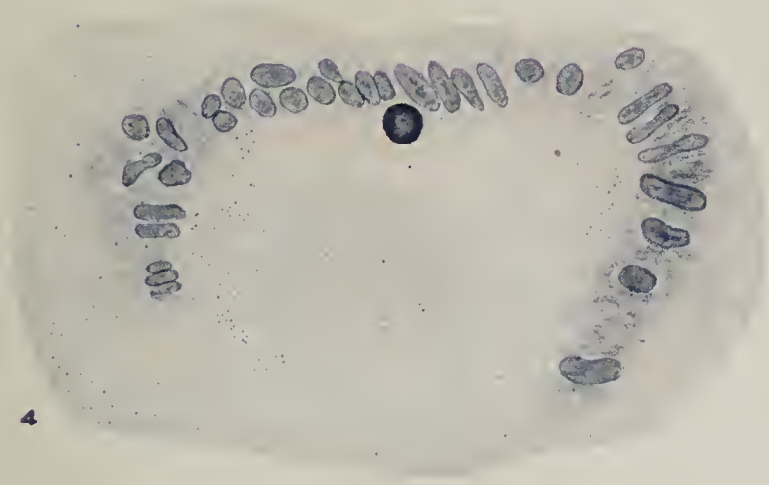


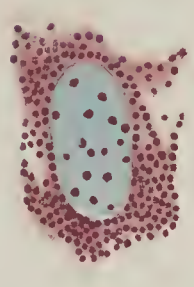


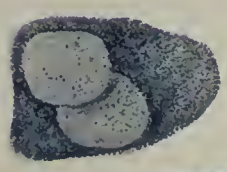


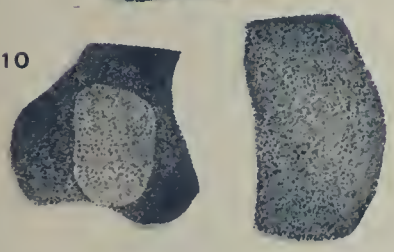


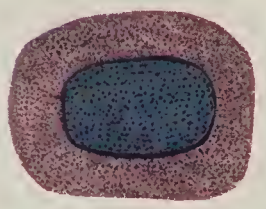




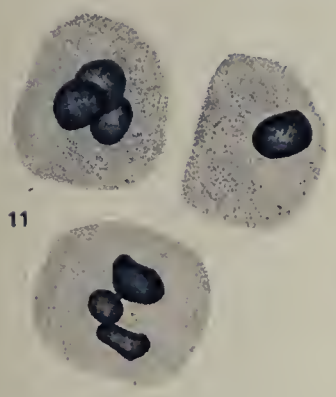


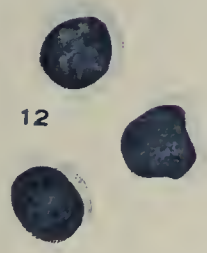


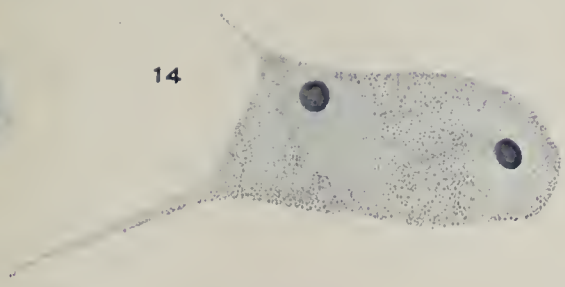


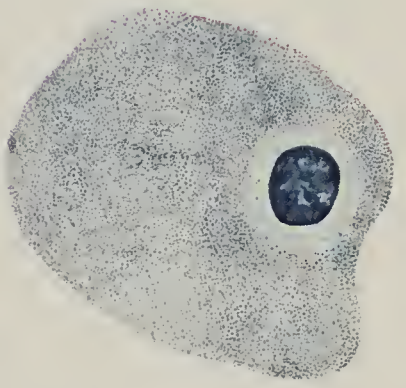


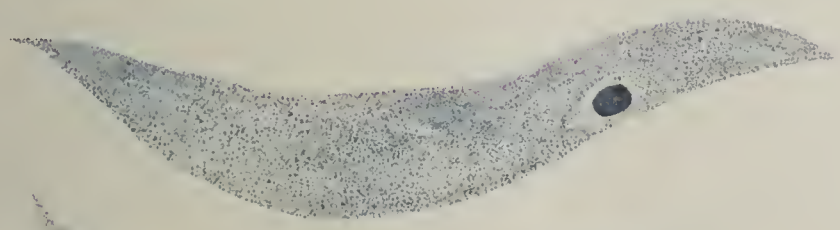


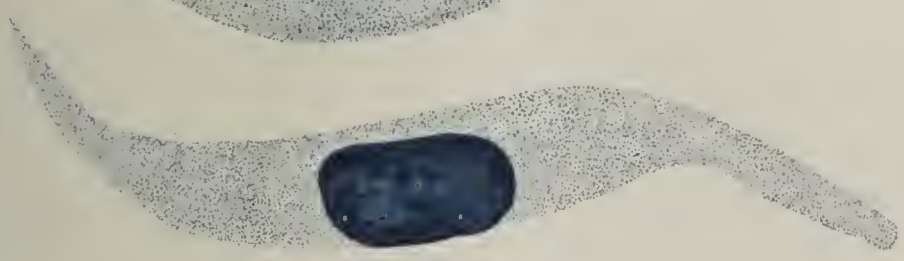


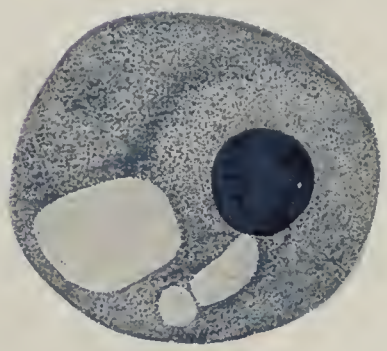












TO ILLUSTRATE DR. CRAIG'S PAPER.

2 Quotidian aestivoautumnal parasite. **l**, Crescent phase. **k**, Extracorpuscular segmenting body **b** and **d**, Intracorpuscular se menting bodies. **i**, Large pigmented body. **g** Presegmenting parasite. **d**, **e** and **f**, Pigmented forms. **c** Corpuscle containing one pigmented form and one hyalin disc. **a** and **h** Ring forms (note size and indistinct outline).

1 Malignant tertian aestivoautumnal parasite. **b**, **c** and **l**, Pigmented forms; **a**, **i** and **j**, Pigmented ring forms; **g** and **h** ring forms (note size and clear cut outline); **f**, crescent phase; **e**, Segmenting parasite; **d**, presegmenting body.

TO ILLUSTRATE DR. HARRIS' PAPER.

All of the cells were stained in carbol-toluidin blue and differentiated in glycerinether, except those from which Fig. 11 was drawn—the tissues being counterstained in eosin after the preliminary staining in carbol-toluidin blue in this case. In making the drawings a Zeiss 1-12 oil immersion objective was used, and a "b" eye-piece. With the exception of Fig. 3, which was only drawn three times the size which the object appeared in the field of the microscope, all the drawings were made four times the size which they appeared. In reproduction, these drawings, except Nos. 5, 6 and 7, have been reduced one half, so that each figure, with the exceptions noted, is twice the size which it appeared in the microscope; Nos. 5, 6 and 7 have only been reduced one-fourth.

Fig 3, Giant cell from a sarcoma. Fig. 4, Giant cell from a tubercle. Figs. 5, 6 and 7, Mast cells Figs. 8 and 9, Phagocytes. Fig. 10, The two lower cells are plasma cells, and the upper one an osteoblasts. Fig. 11, Polymorphonuclear leukocytes. Fig. 12, Lymphoid cells (lymphocytes . Figs. 13 and 14, Connective tissue cells. Fig. 15, An epithelioid cell. Fig. 16, An ameba. Fig. 17, Spindle cell from sarcoma. Fig. 18, A fibroblast.

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ief resume of the literature may be of interest. Golgi the first to observe that the small hyalin intracellu- ings and the crescent and ovoid pigmented organisms e associated with malarial fever of remittent character, long intermissions between the paroxysms. Later chifava and Celli described very minutely these sites, and at the same time Canalis published observations. That a distinct type of parasite ssociated with this form of malaria has been con- ed by every competent investigator, and Bignami, felice, Phlen, Mannaberg, Sternberg, Dock, Thayer, vetson and myself have confirmed much that ap- ed in the articles of Marchiafava, Celli and Canalis, there is yet much diversity of opinion as to the sification of the forms observed.

Marchiafava and Bignami, as the result of their ies, have separated the estivoautumnal parasites two varieties,one causing a paroxysm every 24 hours, other every 48 hours approximately, and which have termed the quotidian and malignant tertian nisms. The fever caused by the quotidian estivo- mnal parasite may be regular and resemble the amount of pigment within its protoplasm. The points of difference between the two organisms as given by these authors and tabulated by Thayer and Hewetson are as follows :

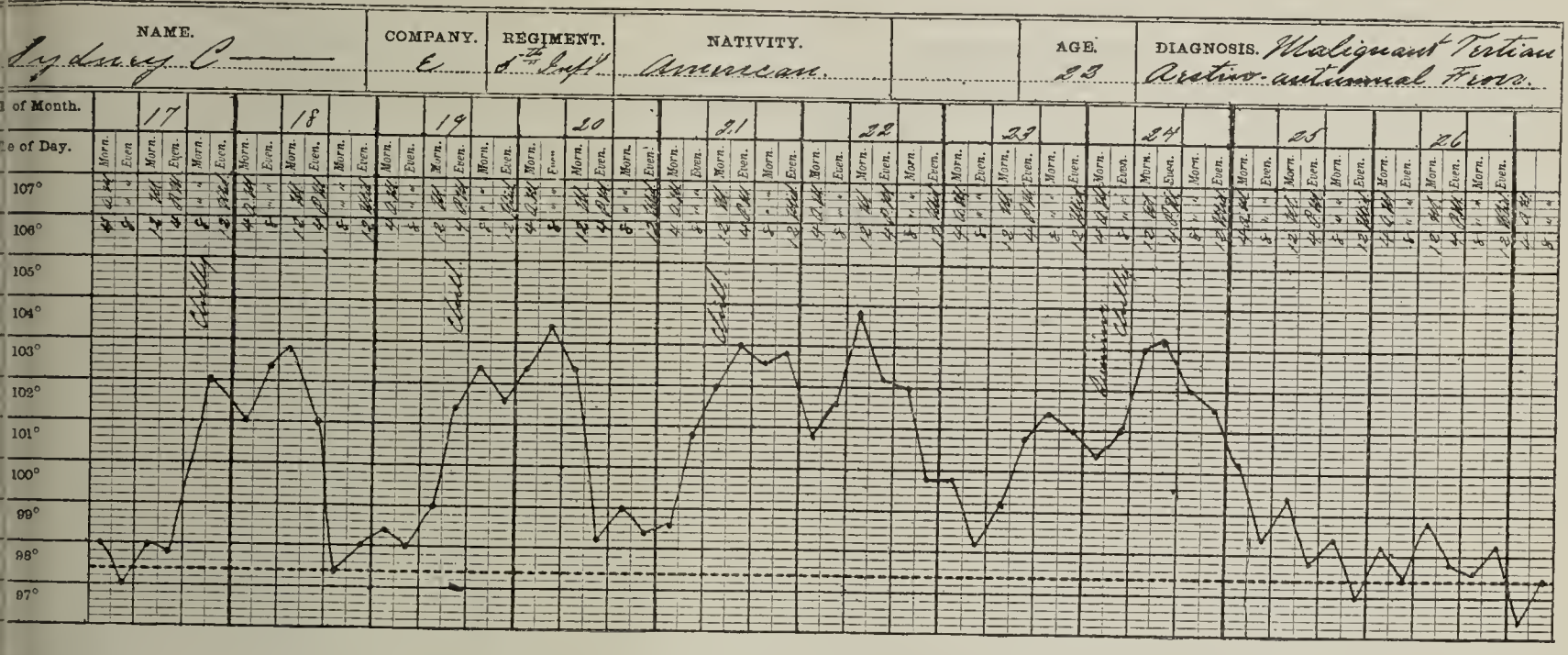
1. The length of the cycle of development, which in the quotidian parasite lasts about 24 hours, and often occurs without the development of pigment, while in the tertian it lasts 48 hours, and is always associated with pigmentation.

2. The size of the ameba; in the same relative stage of development the ameba of tertian fever is generally larger and of a more transparent appearance.

3. The movements, which in the tertian parasite are retained for a longer time by the larger pigmented forms than in the quotidian parasite; they are also more active in the tertian organism.

4. The length of the ameboid unpigmented stage, which in the tertian body may last more than 24 hours.

5. The time elapsing after the beginning of the new paroxysm before the appearance of the new generation of parasites, which in the tertian fever amounts to several hours longer than with the quotidian type.



of a typical severe malignant tertian estivoautumnal fever. The following peculiarities are to be noted: Sudden rise, period of nearly stationary temperature, pseudocrisis, second rise and finally the true crisis. In this case the temperature did not fall below normal, as is the general rule.

nary double-tertian paroxysms, but more often the perature-curve shows evidence of anticipation or dation, being irregular, and the symptoms vary h in their severity. A continuous or slightly remit- fever is not unusual. The quotidian parasite is ibed by them as a very small, ameboid hyalin, like, intracorpuscular body in the circulating blood, times containing a few pigment granules. Seg- ation generally occurs within the red corpuscles in the internal organs, especially the spleen.

Marchiafava and Bignami's malignant tertian para- produces a fever with paroxysms lasting from 24 to ours, but the temperature-curve shows sometimes almost continuous fever. According to them the le curve presents in the majority of instances the wing characteristics : A rapid and sudden rise, a nary stage, with slight remissions, a slight pseudo- s, a precritical rise, marked often by the highest perature, and at last a sharp crisis, during which the perature often falls far below normal. The malig- tertian parasite as described by them is much like quotidian, but is larger and presents a greater

Mannaberg distinguishes three varieties of estivoautumnal parasite : an unpigmented quotidian, a pigmented quotidian, and the malignant tertian. Grassi and Feletti also make the same division.

In 1893, Golgi published his researches upon the parasite of estivoautumnal fever, in which he vigorously combated the existence of more than one variety of the parasite and stated that the forms found in the circulating blood were chiefly accidental, the infection being present almost entirely within the internal organs. Gautier, Korolko, Zieman, and most American plasmodists accept only one variety of the estivoautumnal parasite.

From my own experience I am convinced that the quotidian and tertian estivoautumnal fevers do exist, can be easily recognized if quinin is withheld, and that each is caused by its own characteristic parasite.

Before describing the parasites concerned in the etiology of this form of malaria a few words regarding the course of the temperature-curves is in place. While we may have, and often do have, in patients who have been taking quinin, the most irregular and uncharacteristic

temperature-curve pictures, occurring with remittent malarial fever, still, in the tropics, and in uncomplicated cases in this country, the temperature-curve in the great majority of cases conforms to one or two types, *i. e.*, a quotidian or tertian paroxysm, with intermissions. In the quotidian estivoautumnal fever the temperature-curve resembles very closely that of an ordinary double tertian, there being a sharp daily rise followed by a remission, or generally, an intermission. This type of estivoautumnal fever embraces a large portion of those cases showing pernicious symptoms, and is much more rare than is the tertian type.

The tertian type of remittent malarial fever as observed by me, is marked by a very characteristic temperature-curve, is the most common form of the disease, and corresponds to Marchiafava and Bignami's malignant tertian fever. Many observers, especially Koch, consider all cases of estivoautumnal fever to belong to this type, and while this may be true of the cases studied by them, all cases of the disease can by no means be so classified. The temperature-curve exhibited by this form of the disease may be briefly analyzed as

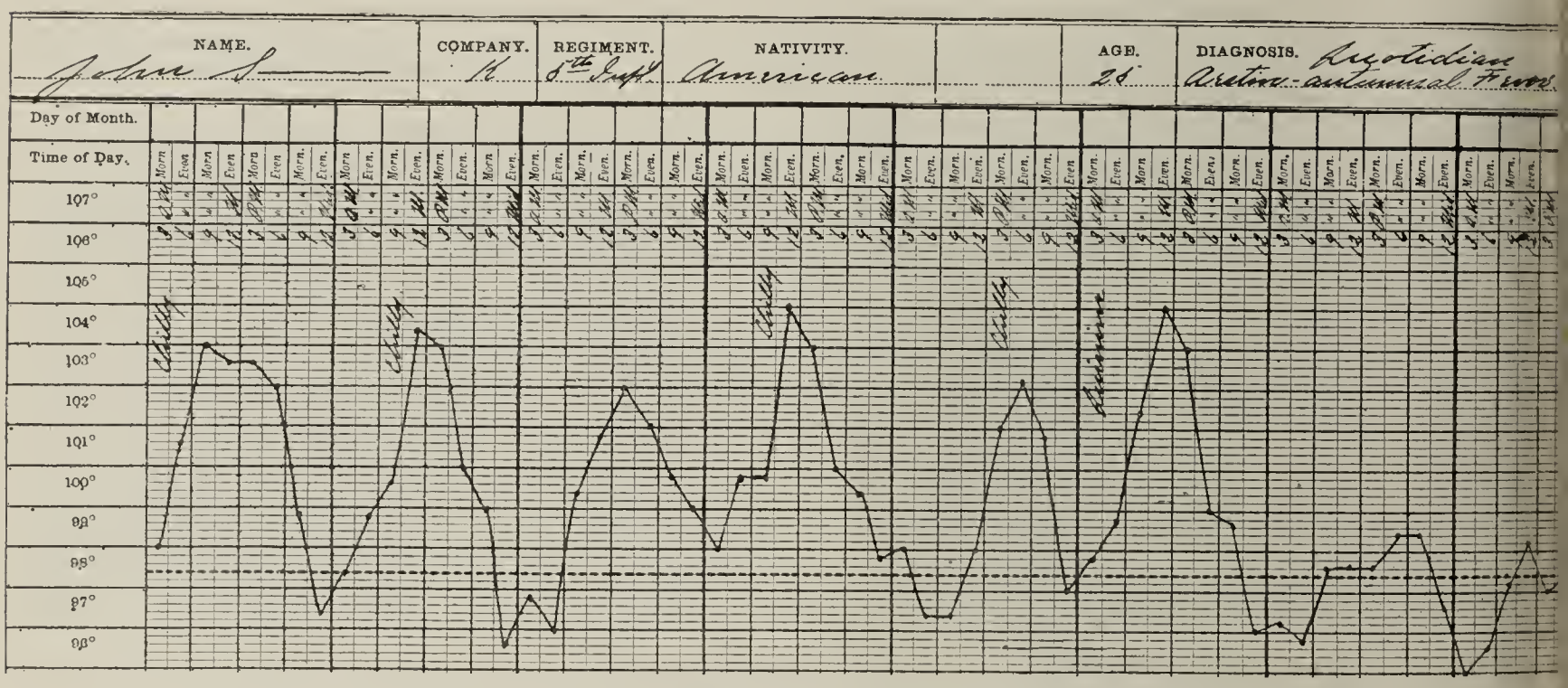


Chart of a typical quotidian estivoautumnal fever, resembling very closely that of an ordinary double tertian malarial fever.

follows: A rapid and sudden rise, a stage with slight remissions, a pseudocrisis, a precritical rise in which the temperature goes above the highest point previously reached, and lastly, the true crisis, in which the temperature falls rapidly below normal. The two charts illustrate the typical temperature-curve of these two varieties of estivoautumnal fever, and were taken from cases occurring at Havana, Cuba. We may have great irregularities and variations in both these forms, due to causes which influence the temperature in any febrile disease, but the majority of cases will be found to conform to these types. A great source of fallacy in our study of malaria lies in the difficulty of getting the cases before quinin has been administered; the administration of this drug interferes very markedly with the true course of the temperature-curve and is the chief reason why most observers in this country have been unable to demonstrate the existence of quotidian and tertian remittent malarial fever in studying the malarial fevers so common among our soldiers returning from Cuba. If quinin is stopped in such cases, however, the circulating blood, and in order to study the larger pigmented and segmenting forms it is necessary to obtain blood by puncturing the spleen. This is a dangerous and generally an unnecessary procedure, so far as diagnosis is concerned, for the forms found in the circulating blood are sufficient for such purposes, but for the scientific study of the parasites the procedure is necessary, and if due precautions are used, the danger is very slight.

In the description of estivoautumnal parasites I shall divide the subject as follows: 1. The quotidian estivoautumnal parasite, the hyalin body, the pigmented body, the segmenting body, the crescent phase. 2. The malignant tertian estivoautumnal parasite, the hyalin body, the pigmented body, the segmenting body, the crescent phase.

The Quotidian Estivoautumnal Parasite.—This form of the malarial parasite completes its development in 24 hours, as a rule. The parasite appears first as a very minute (.5 to 1μ in diameter) ring-shaped or round hyalin body, actively ameboid, within the red blood

puscle. The outline of the organism is very indis-t, and were it not for its active ameboid movement would be very easily overlooked. The ringform is ally perfectly circular when at rest, the center appear- of the same color as the corpuscle within which it ; the organism is not very refractive and its outline not sharply cut. When in motion it often appears ngular in shape, the movement consisting of a id wavy motion of its border and the shooting out minute protoplasmic prolongations which are re-ted almost as quickly as thrown out. The motion not sluggish, but very rapid. Sometimes the ring-n is lost, the organism becoming a pale hyalin disc. e movement is very erratic, and there are long periods repose during which the ring-form is retained. The nism is very small and never grows to occupy more n $\frac{1}{6}$ of the corpuscle. The corpuscle containing the asite is smaller than those surrounding it, presents a unken, wrinkled appearance, and is dark green in or. Often two or more parasites are seen within one puscle. There is no signet-ring appearance, so com-n in the malignant tertian parasite. It is in this n of estivoautumnal fever that the red corpuscles are st rapidly destroyed, and in pernicious cases almost ry corpuscle in a microscopic field will be seen to tain a parasite. While the ameboid movement is as constant as in the tertian parasite, it is more id and has to be watched for carefully.

The features to be noticed in the hyalin stage of the tidian estivoautumnal parasite are: Its minute size, er more than $\frac{1}{6}$ the size of the red corpuscle, its indis-t outline, the rapidity of its movements. This e is seen in the circulating blood best during or mediately after a paroxysm.

The Pigmented Stage.—Just prior to pigmentation the asite becomes a little larger, loses its ring-form, be-es more refractive and sharply defined, but not as ch so as is the malignant tertian parasite. In this asite I have never observed a pigmented ring, the being that before pigmentation the ring-form is lost. pigment appears as a single, or at most, two gran-, either in the center or at one side of the parasite, is always perfectly motionless. Sometimes the ment appears as a rather coarse, irregular block sit-d in the center of the parasite, and I have considered an appearance as denoting the approach of a seg-tation. The infected corpuscle is always shrunken, nish in color, and often crenated. Often, also, the moglobin seems to have retracted around the parasite. this stage it is never more than $\frac{1}{4}$ the size of the puscle. The chief points of interest at this stage : Loss of ring-form before pigmentation, lack of ion of pigment granules, changes in the infected puscle. Pigmented forms are by no means rare in circulating blood and are most numerous just before during a paroxysm. The pigment is dark red or k in color. Ameboid motion is lost.

The Segmenting Body.—This stage is rarely observed the circulating blood. I have only observed seg-nting bodies 3 times in over 100 cases of quotidian voautumnal fever, and only in the pernicious type. blood from the spleen, or in smears from that organ, en after death, segmenting forms are common. In parasite, which has become pigmented, little change oticed prior to segmentation, save that the pigment llected in a solid block at the center of the organ-, while its protoplasm has become very finely granu-in appearance. The pigment may be situated at one side, and the parasite is always round or oval in shape. As segmentation commences, faint radial stria-tions can be detected starting from the center, and soon the organism breaks up into from 6 to 8, minute, round, or oval segments. Marguerite forms are rare, irregular segmenting forms being the rule. A peculiarity of the process of segmentation in this form of the parasite is that it occurs generally inside of the red corpuscle, be-fore its entire destruction. In all the cases in which I observed segmenting forms in the circulating blood, seg-mentation had occurred within the corpuscles, and this is one of the most characteristic phenomena observed in the life-cycle of the quotidian estivoautumnal parasite. The segmenting bodies are most common just before or during a paroxysm.

The chief points of interest at this stage are: The granular appearance of the parasite, the occurrence of segmentation within the red corpuscles, and the small number of segments.

The Crescent Phase.—After the fever has persisted for a week or ten days, crescentic bodies containing pigment appear in the circulation. My observations upon the crescent phase of this parasite are incomplete, but there is one fact which I consider as definitely settled, that is, that the crescents are smaller and much more plump in appearance than are the crescents occurring in the ma-lignant tertian form of the fever. They also contain less pigment, are more refractive, and always present a double outline.

It is this form of the estivoautumnal parasite which is most often found in the pernicious forms of the dis-ease, but it is rare when compared to the form to be described next. The great majority of the cases of remittent malaria occurring in our soldiers in Cuba, and so far as I have observed in those returning from the Philippines, were caused by the malignant tertian form of parasite, but now and again, a pure case of quotidian fever would present itself, and the character-istic parasite could always be demonstrated when quinin had not been administered.

The Malignant Tertian Estivoautumnal Parasite.—This is the most common parasite associated with estivoau-tumnal fever and is the one which has been most studied and is best known. The reason for this is not hard to find. The majority of cases of estivoautumnal fever, especially in this country, are due to this parasite, and even in those cases in which the quotidian parasite has occurred, it has probably been in conjunction with the tertian, as those who read the varied description of the parasite of estivoautumnal fever will be forced to admit.

The Hyalin Stage.—Like the quotidian parasite, the first stage in the development of the tertian organism consists of a round hyalin ring or disc, but several im-portant differences are to be noted, *i.e.*, the ring is larger, being from one-third to one-quarter the size of the corpuscle; it is irregular, presenting an enlargement at some portion of its circumference, giving it the so-called signet-ring appearance; it is highly refractive, and is sharply cut, looking as though it had been punched out of the corpuscle; its protoplasm is clear and homogene-ous; its ameboid movements, slow and sluggish as compared with the quotidian parasite. The ring form is often lost, a clear hyalin disc resulting. The changes in outline are very marked and it is much easier recog-nized than is the quotidian parasite. Only very rarely does more than one organism invade a single corpuscle, which is common in the quotidian form. The infected

corpuscle is greenish in color and smaller, but is not so markedly affected as in the quotidian.

The Pigmented Stage.—In the course of 20 to 24 hours, during which time the hyalin body has been ameboid, a few fine pigment granules make their appearance within the ring, generally in the enlarged area at one portion of its circumference, thus giving the organism a still greater resemblance to a signet ring; the ameboid movement continues, and the pigment granules themselves are often seen to be in rapid vibratory motion. The pigment is reddish in color and is present in larger amount than in the quotidian parasite. The organism gradually loses its ring-form and becomes larger, sometimes occupying one-half of the corpuscle; at the same time it becomes more clearly defined, its protoplasm more refractive and faintly granular in appearance. The ameboid motion still continues, though very sluggishly and the pigment tends to collect in a solid block, which has a marked vibratory movement. The pigmented form is somewhat rare in the circulating blood, but blood from the spleen will show immense numbers of them. The chief points of interest are: Appearance of pigment in the ring form, sharply cut outline and granular protoplasm, motility of the pigment, granules, and larger size.

The Segmenting Stage.—In about 48 hours the parasite has grown to be one-half to two-thirds as large as the red corpuscle, the pigment has become motionless and collected in a block near the center and distinct radial striations are visible. The segments are larger than those of the quotidian organism, are more oval in shape, and number from 10 to 15 or more. The segmentation usually occurs outside of the corpuscle. I have observed segmenting bodies but once in the circulation. The parasite is very refractive, sharply outlined and the protoplasm is granular.

One of the most characteristic features of the malignant tertian parasite after the ring-form has been lost, is the peculiar refractive, finely granular appearance of its protoplasm, resembling very closely that of the crescents. The pigment is also in finer particles, but there are more of them.

The Crescent Phase.—In the course of a week or two crescents appear in the blood and are more slender, larger, and more refractive than those in quotidian fever. They are also more heavily pigmented.

Both parasites present ovoid and flagellate bodies, which develop from the crescents. My studies of these forms are as yet incomplete. The summary given may serve to make more clear the differences between the quotidian and malignant tertian estivoautumnal parasites.

In conclusion I would say, that from my observations of estivoautumnal malarial fever in this country and Cuba, comprising both microscopical and clinical study under exceptional conditions as regards opportunity and material, I am forced by the logic of facts to confirm Marchiafava and Bignami's conclusion regarding this type of malarial fevers. There undoubtedly exist two varieties, at least, of the malarial parasite giving rise to these fevers; one having a cycle of development of 24 hours, and giving rise, in uncomplicated cases, to a fever having quotidian paroxysms; the other, having a life-cycle of 48 hours, and giving rise to a fever with tertian paroxysms, in which the temperature-curve is peculiar and characteristic.

I desire to acknowledge my indebtedness to the Surgeon-General of the Army, for opportunities afforded for study of the subject, and Col. A. C. Girard, commanding officer of the U. S. General Hospital, Presidio of San Francisco, Cal., and Major Chas. Richard, late commanding officer of the Simpson U. S. General Hospital, Fort Monroe, Va., for their kindly help and interest in the scientific investigation of disease. To Major Kean, chief surgeon of the Department of Havana and Pinar del Rio, my thanks are due for courtesies received while on duty in his Department.

STAGE OF DEVELOPMENT.		QUOTIDIAN.	MALIGNANT TERTIA
The hyalin body.	Size	Minute ⅛ of corpuscle.	Larger ½ to ¾ of corpus
	Shape	Ring or perfectly round.	Signet-ring shape.
	Motion	Very active	Sluggish.
	Outline	Indistinct	Clear cut and refract
	Blood-corpuscle.	Very dark green wrinkled. Crenated.	Light green, less wr kled.
	Number	More than one parasite in a corpuscle, common.	Very seldom more t one parasite in a puscle.
The pigmented body	Size	¼ size of corpuscle	½ size of corpuscle.
	Shape	Round. Loses ring form before pigmentation.	Ring form becomes mented, afterwards paras te is round.
	Motion	Ameboid motion is lost.	Ameboid motion c tinues. Is sluggish.
	Outline	More sharply defined	Very sharply defin and refractive. protoplasm firm granular.
	Pigment	One or two coarse granules, perfectly motionless.	Several minute grai having a rapid vib tory motion.
	Number	May be more than one in a corpuscle	Never more than one a corpuscle.
	Corpuscle.	Very green in color, often crenated.	Lighter in color, seld crenated.
The segmenting body.	Place of segmentation.	Within the red-blood corpuscles, as a rule.	Outside the red blo corpuscles, as a rule
	Number of segments.	Six to eight	Ten to fifteen, or mor
The crescent phase.		Crescents small, plump, containing small amount of pigment. Always present double outline.	Crescents large, narro deeply pigmente Double outline l common.
Cycle of development.		Twenty-four hours.	Forty-eight hours.

THE SOLDIER IN THE TROPICS.

His Food, Alcohol, and Acclimatization,

BY CAPTAIN CHARLES E. WOODRUFF, M.D.,

Assistant Surgeon U. S. Army, Fort Riley, Kansas.

MOST of the soldier's work is now in the tropics and the hygiene of that climate is of vast importance to us. It is a matter of common knowledge, borrowed from the English and from our own midsummer experience, that one must go slowly, dress lightly, keep cool, and avoid excesses and bad water; so that any intelligent man is fairly prepared to endure the climate. In only one particular—dietetics—are there misconceptions leading to unhappy results. The soldier's food has been discussed from every point of view and the errors lead to such contradictory opinions that our ration is very widely misunderstood. Upon investigation we find that the mistakes are due to ignorance of well-defined laws. In condemning canned beef one officer is said to have reported that it was devoid of nutritive properties and worthless as food, because all the real essence of the beef was boiled out and converted into beef-extract, and

t nothing was left in the beef but the dry muscular r. Such a gross error is laughable to a physician ause the veriest medical tyro knows that the nutri-nt in the meat is the fiber and that boiling coagulates ain parts of the fiber, but that it is impossible to l out more than 2% of the albuminous nutrients. s officer had been influenced by the vicious adver-ments of beef-extract each teaspoonful of which is dly said to contain all the nutriment of one pound ean meat. Like the vast majority of men he believed se absurd advertisements and does not know the erence between the nutriment of the fiber and the nulating substances in the beef-extract. When he s boiled meat or canned meat and does not experience same stimulation as after eating broiled beefsteak, is somewhat confirmed in his opinion of the worth-ness of canned beef.

Physicians in their criticisms avoid such unscientific nders, but are apt to fall into errors just as absurd n a military view, and make recommendations that impracticable. For instance, we all know that the der a climate is, the more fat a man must eat, and warmer the climate the less fat. As the ration does contain enough fat for an Eskimo, and more than a age in the tropics usually eats, it was presumed, efore, that we were giving our soldiers too much fat. only answer we can give to such a criticism is to e the fact that in Manila the experiment was tried reducing the fats, and a curious result promptly fol-ed. It was discovered that the soldiers were buying the company funds large quantities of lard—at a rate indeed that it would not have taken many ks to have used up all the lard in the Philippine nds. The explanation was soon forthcoming. The liers complained that they did not have enough se to use in the frying-pans. So the issue of fat ts was resumed.

ome one may suggest taking away the frying-pans substituting other cooking utensils, for we all w what a devilish institution the frying-pan really That brings us to the first point in discussing the n—the primitive character of the cooking utensils. s is necessary and unavoidable. Transportation in field is always deficient, an invariable rule—an m—upon which all military science is founded. ry soldier knows it and prepares for it. Even if es and wagons were supplied in profusion, the unt of forage to be carried along would prohibit r use, and in addition large wagon-trains are not a nuisance, but may actually block the roads and ler a campaign. The trains are not infrequently ndoned. Hence the baggage is invariably reduced minimum and none but the lightest and simplest king arrangements are at all practicable. The frying-can no more be dispensed with than tentage. To these primitive means properly requires a regular se of training. A hotel chef would be just as much of place in the field as a soldier cook trying to make m-puffs in a fashionable cuisine. So many men e testified that wretched cooking among the volun-s caused vast sickness, that we must accept it as a One of the most wholesome and nutritious articles ood is the bean, and yet it is commonly so badly ed that it passes through the intestine unchanged. ve inspected latrines into which it looked as though e one had been throwing beans directly from the missary stores. At the beginning of this war we informed that the United States soldier had been cooking his own food for a century and must continue to do it, but almost immediately Congress was induced to pass a law authorizing the enlistment for each company of a special cook with rank and pay of a corporal. The army had been clamoring for this innovation for years, and it is probably the most beneficent change in the management of the ration, in the history of the army. So then, before condemning the ration as unsuitable, we should first find out whether it was the ration or the cooking which caused disease.

The naval ration is always different from that of the army for very evident reasons. The sailor not only carries his house and kitchen with him, with many months' food-supply nicely packed away in the ship's hold, but the kitchen itself is a most elaborate affair since no question of transportation is involved. In the ship's galley anything may be prepared from the dainty dishes for a dinner party to the huge piles of food for the blue-jacket. The army and naval rations can never be compared or put on the same footing, for the conditions are vastly different. Even the question of fuel is different; the sailor always has coal, the soldier may have to do without. Many a time at Manila or Cavite it was practically impossible to get sufficient wood for the kitchen fires.

The civilian is apt to forget, or to be ignorant of the fact, that the army-ration is the final result of a very gradual evolution. The most extreme conservatism is the very foundation of military systems. Every useful thing is retained until it is positively proved that something else is better. Experiments are never allowed in an army; the experimenting must be done long before the soldier is reached. Under no other plan could we be sure we could depend on a military force, and we have had numerous lessons teaching us that our liberty is solely dependent upon our military strength. Dewey would never have been sent to find the Spanish ships, if we had not been perfectly sure of what his guns could do, and what a disaster might have occurred if his ships had been equipped with experimental guns instead of well-tried ones. In the same way we know exactly what the ration will do, and we will never change it unless the proposed change is positively proved to be beneficial. The refusal of Congress to tamper with the ration is the part of sublime wisdom. What we need is discussion, and plenty of it, for by that means really useful innovations are frequently brought to light. Some of the brightest men of the army have had to deal with the ration, and it is unfair to them to suppose they have not been keenly alert to every suggestion. It not infrequently happens that we hear unjust criticisms of these men. Indeed, military officers themselves have sometimes lost patience and been unjust. It is said that before the civil war, a certain officer was extremely severe in his condemnation of the ration and talked so much about it that, when the war began and he went south with his native State, Jefferson Davis made him commissary-general. It was such a splendid chance to feed the Confederates better than the Yankees. After struggling for a long time to get up a new ration, he completely failed, and he was honest enough to confess his errors. He had to feed his soldiers on the regular ration when he could get it, and pronounced it the only practical food for the soldier.

Some years ago there was great activity in getting up an emergency-ration for soldiers who are detached from their supplies, something they could carry along and live on for several days. Many men entered into the

matter with enthusiasm, looking for some extract that they could put into the vest pocket and nibble on for a week and grow fat. Some six or eight boards of officers were convened to report on the subject and their reports were taken by another board and boiled down, and this report was buffeted back and forth for months, and see the result!—an emergency ration practically the same as the soldier had used for over a century, bacon, hard-tack and coffee, with a little ground-up peas or beans. Very numerous articles were taken up, investigated and laid aside as impracticable. Everything violated some well known law. Now let us see what those laws are, so that we may reply to useless suggestions. We need not reply to the men who, like the confederate officer, do nothing but shout that the ration is bad, and offer no suggestions. An American civilian in Manila only recently was very severe in condemning our ration as totally unfit for tropical use, but it was noticed that he was unable to suggest any improvement at all.

In the first place we should state that an effort is made to feed the soldier exactly as in civil life, that is, we want him to have fresh bread, fresh meat, fresh vegetables and fresh fruits, not every day but as is usual in any well-regulated household. In garrison it is possible to do this by selling the articles he does not want, and buying extras in the neighborhood. In the field we cannot give him what we want to, and we resort to makeshifts. If he is not far away, we send him fresh bread every day or two; if far off, he must build ovens for himself, and if on the move he must eat hard-tack. Whenever he can be given fresh meat it is done. Formerly it was the rule to drive along live cattle and kill them as needed. This system, so recently commended, is never followed if we can avoid it, for experience shows that the cattle, unless in a good grazing country, become thin and sickly, and are not only poor food, but occasionally the herd dies off from contagious disease which may also be communicated to the men. Campaigns have thus come to a sudden end through diseases contracted from the live stock. The advances made in cold storage in the last 15 years have made it possible for the first time to send fresh beef to the front. So long as the soldier is not far from the ship he can be supplied, but when he goes inland even this method is not practicable, and he must live on bacon or some other makeshift. Refrigerator beef of 40° temperature will not keep long after taken from the ship, but if it is solidly frozen and sewed in canvas it will keep many hours, and if protected from the sun it can be kept three days. Frozen beef is now sent 50 miles inland in the hot Philippines. Never before in the history of the war have men had fresh beef "on the firing line" as a rule. Australian beef and mutton used in Manila were excellent. In the field fresh vegetables and fruits may be totally out of the question, and reliance must be placed on the make-shifts.

It is in the selection of these articles for field use that we find the difficulty. They must be sure to keep in good condition and be easily transported. These two laws alone restrict us to an exceedingly limited bill of fare. Add to these the fact that the articles selected must be staple articles, procurable in large quantities at all commercial centers, and we see how few articles there are to buy. Bacon is about the only meat available, because corned beef or any other preparation becomes disgusting when used too often. Men can live on bacon a long time; and in war, the time of active operations when fresh meat cannot be procured, never extends over many weeks. Hard-tack is the only w in which to supply the flour. For vegetables we restricted to beans, peas, hominy and rice.

Canned vegetables are undesirable because of t weight of water carried along, and the dried vegetable preferred. An exception is the canned tomato, but a supplies so very little nutriment and is really a seaso ing or condiment, it is used in very small quantity. word must be said about the much maligned cann roast beef. For many years it has been used as a mal shift when fresh meat cannot be procured. It has be supplied to armies and ships in such great quantit that the trade in it is very important. The board officers, of which I was a member, investigated th article quite thoroughly in Chicago a few years ag visiting the stockyards and witnessing the process manufacture. Though we recognized it as a makeshi we rejected it as an emergency-ration, because it was i ferior to bacon for the following reasons: It is nothi more than boiled or steamed beef, and tastes like sou meat, and though it is quite palatable when mixed wi vegetables and made into a stew, it has to be eaten as is, because in an emergency vegetables are rarely, ever on hand. It quickly cloys on the appetite, whi bacon will not. In order to sterilize it, it has to be "pr cessed" or subjected to very high temperature, say 25(or more, by steam pressure. A lower temperature wi not kill the spores present and it will invariably spoil and when spoiled it is foul in the extreme. It has bee put up with vegetables, and some of these preparation are extremely palatable, but far too elaborate to l manufactured in large quantities. We tried to hav some cans "processed" at a lower temperature, so tha the muscle-fiber would be less hard and more digestibl but we found that it could not be done. The boilin undoubtedly removes so much of the stimulating ex tractives that we must expect canned meat to be far les satisfactory than fresh meat or even corned meat.

A most important point in regard to all canned foo is best illustrated by the reported evidence of an office who said he found maggots in a can of this beef. Thi is the story of the army contractor for centuries—h must be watched constantly. Before the organization o the Commissary Department it was customary to giv civilians a contract to feed the troops in campaign This foolish practice of depending upon an outsider fo the essentials, resulted in grave disaster, and one im portant campaign had to be abandoned because of th foulness of the food supplied by the contractor. Th Commissary Department was then organized to buy th foods in large quantities, inspect them, and issue them a required. This system worked so well that Abrahan Lincoln is said to have likened the Commissary Depart ment to a healthy stomach, he heard so little of it tha he scarcely knew there was one. Since the civil wa the great industry of canning foods has grown up, an we now have important foods, of value as rations, i such shape that they cannot be inspected. I have long been of the opinion that, unless the Commissary De partment can inspect such articles. it should establish its own factories. The only successful prepared emerg ency ration or makeshift ever used in warfare, and hundreds of things have been tried but failed, was the famous "Erbswurst" used by the Germans in the Franco-Prussian war. The government did not depend on contractors, but made the rations in its own factories as carefully as it made its powder. Our Ordnance De partment has shown that it is fully able to look after

y detail of the manufacture, inspection, and test- of every article it furnishes, and it has over 50 nance officers to do the work. What a contrast is Commissary Department, expected to buy and in- t and test immensely greater quantities of stuff, and it has only 22 officers to do the work. Until Con- s increases this department so that it can do its work nspection of all articles, then we must stick to a rigid that nothing is to be supplied unless it can be in- ted at any time before it is issued to the soldier. wouldn't dream of waiting until the soldier pulls the ger to find out whether the powder is good, nor uld we wait until the hungry soldier opens his can neat to find out whether the contractor has been est. No matter how much we may like canned t as an occasional substitute for fresh meat and on, we must at present condemn its use unless we entirely sure its manufacture can be efficiently in- ted and controlled. This same rule entirely bars a whole host of specially prepared and manufactured cles, specimens of which are now and then foisted on army in spite of its protests. This rule of course s not apply to special diet for the sick, for all such cles as somatose and malted milk are specially pre- pared in private factories.

eports show that canned meat in hot weather is apt e soft, and disgusting, and many could not eat it n its appearance alone. Then we have another rule o by, for we cannot supply articles which, though ly preserved, are not pleasing, or are much different n the usual food of the soldier. In the tropics the ned meat can only be a temporary makeshift, and a temporary one. This is just what has always n predicted of any preparation, and what this was intended for—temporary use until fresh meat d be secured. It has never been a steady ration everyday use, never intended as such and never be.

iscussions as to the exact amounts of each article should have in the ration are really futile, because man eats the exact ration. The food is cooked in , and each man takes what he thinks he will eat, throws away what he does not eat. Some eat more n the ration, and some far less, there being a vast erence in the personal equation. It is simply as- nding the amount of food a young recruit will eat, when there are many such in a company there are savings at all. The ration is not big enough by a t deal in such rare circumstances. It is surprising, ertheless, to see the wonderful improvement which s place in recruits under the ration in peace. They out and become rather handsome specimens phys- ly. We are more interested then in variety and lity than quantity of each special ingredient.

Ve not infrequently hear that a comparison of our on with that of European soldiers shows that ours he most liberally fed army in the world. Some rs ago I made a comparison of our ration with the ign rations published in the *Army and Navy Register* May 11, 1895.[1] After taking in all the circum- nces, the national dietaries, the money allowances, sky and wine allowances, increases in war, climate work, the conclusion was inevitable that our ration and is one of the least liberal rations among civ- d nations, if not *the least* liberal. It has been a mon thing to increase our ration in war, only to ce it again at the end of the war, compelling com- pany commanders to resort to all sorts of schemes to get money to buy badly needed variety.

Then there are suggestions made to approximate our tropical ration to what the natives eat. This can never be done. A big American, raised in a cool climate on good red roast beef, is a far different machine than the Fillipino with his tiny physique, or the Chinese coolie with his degraded intelligence, and must have far different fuel to keep him going. Even our horses die in six months in the Philippines if they are fed as the tiny but hardy native ponies weighing from 200 to 400 pounds, and any white man would die if he lived like a coolie. Where, indeed, is the white man who can eat rice three times a day? We can live in the tropics if we care for our stomachs and avoid the causes of disease, and the white man has lived there for a long time. It is nothing new in science, for we know from explorers that he can live anywhere on earth, from the north pole to the equator, if he is fed and clothed properly. It is a stretch of the imagination to say that he can remain in perfect condition in the tropics, as we will explain below.

Now with all the obstacles in the way, is it any wonder that we find great difficulty in selecting appropriate articles for the tropics? The Commissary Department cabled to Manila asking what we wanted, and all we had to do was to mention it and it would have been supplied at once. The only suggestion we could make was in the line of canned and dried fruits, the latter having already been supplied. We had meat in plenty, the fats had to be kept up as already explained, onions and potatoes spoiled so soon that they had to be constantly shipped and the soldier had all the beans and rice and hominy he could eat. The addition of oatmeal only increased the variety of such articles. A recent order permitting ham and fish in lieu of beef, vastly increases the efficiency of the ration.

There is one change which I have long advocated and which is perfectly practicable. As far as known we are the only civilized nation which makes a pretense of feeding the soldier everything he needs. Every other nation gives the soldier a something, called a ration, sometimes only bread, or bread and meat, and in addition gives him a small money allowance to buy the rest. England actually takes this money out of the soldier's pay. The ration will just keep body and soul together, in the few occasions in the field when, for a short period, the soldier cannot buy. We have never done this, because, unlike armies in thickly settled Europe, our army is usually situated on the frontier where it cannot buy anything. We supply everything we can, but the things most needed at home and almost essential in the tropics—fresh green vegetables and fresh fruits—cannot possibly be supplied in large quantities. They would rot before they could be distributed, and must be purchased in small lots and used at once. As long as our troops were at home, and had gardens for vegetables and an income from the canteen to buy fruits and other extras, it was all right. We have rested in a fool's paradise. Now that there are no gardens and no funds, we find that every soldier is using his own money to piece out his ration, just as every European soldier does. What a howl there was in Cuba, because the men could not get their pay, to buy food formerly supplied to them at home. I am firmly convinced that each company should receive a trifle per day for each man, with which to buy extras whenever he can. Many companies of volunteers did this with private funds, but the poor

[1] This has since been published in the *N. Y. Medical Journal*, May 20, 1899.

regular has no enthusiastic State Legislature or local aid-society at home to help him out. The beginning of this change was in the regulation giving to each surgeon 60 cents per day for each patient—one of the grandest improvements our hospitals have ever experienced. Formerly we had to sell the sick man's ration and buy him food—as the ration is worth less than 16 or 18 cents, it is evident how difficult it was to buy food for a convalescent without stealing money collected from some one else. The chief use of such funds would of course be for the purchase of green vegetables and fresh fruits. As a rule the company commanders can buy these articles in small lots, when it would be entirely out of the question for the commissary department to handle them. The new law giving to each regiment a commissary officer who has nothing else to do, would of course facilitate and systematize such small purchases. As almost every civilized nation in the world uses some such system there must be good in it, and it must be practicable for us also.

Such additional purchases are necessary to supply essentials now deficient, for it has been remarked time and time again, that the U. S. army-ration as issued, is not sufficient to keep a hard working man in perfect health. Not only are the fats deficient for hard work in the far north, but the fresh articles are deficient in the tropics, and greater variety is needed in all places. Indeed, the lack of fresh vegetables has been a recognized defect since the beginning of this century, and the commissary department was at one time authorized to hire land and raise vegetables for the soldiers on the frontier where purchases were impossible. The ideal we have always in mind, indeed it is almost a motto, is to give the soldier fresh meat, fresh bread, fresh vegetables, and fresh fruits, without compelling him to buy from private funds.

Green vegetables, by the way, are very scarce in Manila, as there is no market for them. The native does not use them; he has rice three times a day, fish occasionally, and sometimes a banana. Vegetables are not needed. So the purchase of green vegetables may be impracticable until gardens are started.

In regard to fresh fruits it may be said that their intemperate use is harmful and whole commands are temporarily disabled by eating too much. There is a strange objection in the navy to the pineapple, though we did not verify this at all. Its bad effects are probably due to either eating too much or to eating the central woody core—a practice common with sailors.

The use of alcohol by soldiers is an old evil, and its excessive use was at one time so common that old soldier and drunkard were almost synonymous words. Part of this drinking in former generations was a result of the habits of the times when every man was expected to get drunk occasionally like a gentleman. Nevertheless, much of it has been laid to the sameness and insufficiency of the ration. The enormous consumption of whisky during the Civil War was partly due to this natural craving of a depressed nervous system. It made no difference in the tropics to tell every one that alcohol was dangerous, and it must be confessed that we saw more drinking in the Philippines than we had seen for a long time,—not drunkenness, but a steady daily consumption. It seemed inevitable. It was a curious sight in Manila after its surrender to see the growth of English shop-signs along the streets, where nothing but Spanish had ever before been seen. Only a few days after the surrender the first one made its appearance—"All kinds of American drinks sold here." A few days afterw we were astonished to see a procession of a dozen F pinos garbed in linen dusters, each carrying a transp ency on which was painted: "Drink ———'s beer, beer that made Milwaukee famous." The represen tive of this company was on hand long before the att on the city, and was present at the ceremony of haul down the Spanish flag. He had a cargo of beer Hongkong which he brought over the instant the blo ade was raised. In three weeks he hadn't a d left. It is a curious illustration of the aggressive ent prise of the liquor business, that the first intimation had of the fact that we were to hold the Philippi came in the shape of a cablegram from this beer co pany to its representative, instructing him to go ahe and put up his cold storage plant—and this was l before the peace commissioners in Paris had reached subject. The English club which was struggling fin cially, was at once put on its feet by its profits from t bar. Men who had firmly resolved to abstain, h Scotch whisky on tap; it was everywhere. *Harpe Weekly* publishes a letter from its correspondent, M Bass, who very graphically recounts his experience wi the British residents, who warned him in solemn ton against alcohol,—in fact rather dilated upon its deac effect—then ended up by inviting him to the bar drink liquor and explained what was considered t best drink.

This almost universal drinking must mean a natu defensive craving—surely so many men cannot be foo to do what was so positively said to be wrong. Spanish army surgeon told me that their experience w to the effect that a certain amount of wine daily w essential in that climate. I did not believe him, course, and was inclined to ridicule their large requ sitions for wine, putting it down to the race-characte istics imported from the shores of the Mediterranea It did not take long to find out that he was correct, ar the reason is not difficult to find.

I have never yet seen any account of the terrib nervous exhaustion which results from long continue exposure to great heat and moisture. It is a veritab neurasthenia. There is no escape from the heat day night. One wakes up at night fairly drenched wit perspiration. It wears out nervous force very quickl and surely. Throughout all of Kipling's India stori the physician can find beautiful pictures of these patho logical conditions due to overwork in the moist hea In the "Phantom Rickshaw" is this passage: "Heath erleigh is the dearest doctor that ever was, and hi invariable prescription to all is: 'Lie low, go slow, an keep cool.' He says that more men are killed by over work than the importance of this world justifies." Thi is the same tune we hear in Manila from all sides— "never do today what you can put off until tomorrow." Everywhere we hear of some means taken to avoi exhaustion. It is the country of *mañana*. Now th symptoms of exhaustion are everywhere. I never hear so many complaints of persistent insomnia as I did in the Philippines. One young, vigorous staff-officer, wh seemed always cool, complained to me one day that on the previous afternoon at 5 o'clock he found that h could not remember anything he read. When he go to the end of a sentence he had forgotten the beginning He was completely disabled until the next morning A surgeon informed me that before he was half through his rounds, he daily discovered that he could no remember the patients' answers, and he always had to

down 30 to 60 minutes before the brain would again k properly. It was rumored that a general officer day at an early hour found himself in the same dition, he could act on no papers because he could remember what was to be acted on. It is needless emark that in warfare the lives of soldiers are rather arious if from sheer exhaustion their officers cannot their brains. It is a serious question, and I have astounded at the illogic actions taken in some ances. In such conditions of mental prostration the thing that ought not to be done, is apt to be red through sheer paralysis of reasoning faculties memory. Much absurd conduct has its origin in bral asthenia. In my limited circle one man broke n completely and another became insane—both ely due to overwork, and the heat. A very high entage of soldiers have gone insane. There were a large number in whom muscular force was ely reduced. Soldiers who appeared to be just as ng as at home, found themselves "done up" after innings at baseball. It showed itself in the eyes, in a number of cases there was inability to read ugh paresis of accommodation, indeed accommo- ve asthenopia is almost a tropical disease. A great y complained of their glasses. It is of no utility to particularize further, for it is the same as in hot her at home. Lombard (*Journal of Physiology*, ?) found that muscular power was markedly de- sed in summer by several days of high temperature, cially with great humidity. The result of all this, f course, weakened digestion, and lessened nutrition state needing the very highest nutrition to repair e. Men often go home to their meals so exhausted appetite is gone, and the first thing done is to call 'whisky and soda," before they get energy enough to the table. It is really keeping up on alcohol. hen there is a tendency to insanity it often hap- that the extra nervous exhaustion due to hot her, is the final determining cause of the mental kdown. This is beautifully shown in the table pub- d by Lombroso showing the month in which the se appeared in a large number of cases:

anuary	1476	July	2614
ebruary	1420	August	2261
arch	1829	September	1604
pril	2237	October	1637
ay	2642	November	1452
une	2701	December	1529

he same increase was noticed in our soldiers, but the t figures are not at hand.

his general exhaustion which is such a common as almost to merit the special term of tropical ex- tion, deserves the greatest attention. It reduces 's resistance to every disease, as his natural immun- gone. In one case I have in mind this was sadly rated. Not very robust to begin with, his labors he climate had reduced this man 40 pounds in nt, he was anemic, and his complexion was almost n color. When the rush of work was over, he nized his condition and asked for a few weeks leave cuperate in Japan. For some reason it was not ed. When he became infected with typhoid, he mbed at once. He might have been saved. To t his fate and remain in the midst of disease when new he would die if infected, was as brave as to in on duty in a shower of bullets knowing that to ruck was death. He died a martyr to duty, but he gets no credit, he isn't a hero. That kind of bravery does not count—only the active kind is military.

It is very evident that these conditions of exhaustion, calling for stimulation, are due to the same causes as in a large class of such cases at home; namely, an abnormally increased tissue-change and insufficient nutrition—wastes greater than repair. At home some men use up their capital of strong tissue by overwork, others are habitually underfed even though they be millionaires, but in every case the result is the same,—collapse. In the tropics we have a powerful cause of increased waste in the continued heat. When a chemist wishes chemical combination to go on more fiercely, he raises the temperature of the combining elements, and we do the same thing in therapeutics. We are informed that every case of sluggish metabolism and defective excretion of waste products is benefited by a course of hot baths at the hot springs in Arkansas. Excessive atmospheric heat does the same thing, and we can well see why it is that chemical changes should go on more fiercely in the tropics and that so much may be burned up that new arrivals may lose as much weight as 30 or 40 pounds in the first few weeks. The more work done, of course, the greater is this loss.

Not only is more heat produced, but there is greater difficulty in disposing of it. We can radiate but little of it because surrounding objects are nearly as warm as our bodies, and nothing can lose heat by radiation unless to cooler bodies. At home, evaporation of perspiration carries off immense quantities of heat, by that physical law that to change a pound of water to a vapor requires 540 times as much heat as to raise a pound of water one degree of temperature Centigrade. In the dry western parts of our country this evaporation carries off so much heat that overheating or sunstroke is unknown. In the tropics we cannot evaporate surface moisture because the atmosphere is already saturated. Perspiration collects on the skin and pours off but does not evaporate. The body-heat is retained and actual observations show that it is possible for the mouth-temperature of perfectly well men to be over 100°, as high as 101° or even 102° F., that is in men who have no complaints and no symptoms, who are believed to be free of disease and have remained well, the fever being accidentally discovered. No wonder then it is necessary for even idle men to take two or three cold baths a day to remove the surplus heat, and no wonder some men are never comfortable day or night except the hour following a cold bath.

Dr. Ripley ("Racial Geography of Europe") shows that nigrescence and blondness are results of natural selection acting untold thousands of years, the former aiding in heat radiation and the latter conserving the heat, just as in wild animals, black in tropics, white in arctics, though of course protective coloration is at work in the case of animals. He shows how blondness actually aids in raising the body temperature in Teutons going to the tropics.

Now if work is done, there is a still greater production of heat and increased wastes in proportion to the amount of work, so that men who are cool enough while they are idle are overcome by the heat as soon as they exercise actively in the heat of the day. Should disease appear and cause an increase of tissue-change, there is fever at once; indeed, fever is almost universal in every disease, and the cold bath to reduce body-temperature in disease is an utmost necessity.

Hence we have exhaustion, physical and mental, and

particularly the exhaustion of nervous tissue, the basis of neurasthenia, nervous prostration, and other numerous conditions known to physicians, in all of which there is apt to be an instinctive desire for a stimulant, tea, coffee, cocain, or alcohol. It is a temporary acquired craving precisely similar to that of many periodic or chronic drunkards or to the craving of certain degenerates among tramps, beggars, and criminals, who are in a condition of congenital nervous exhaustion unfitting them for work, and whose periodic orgies are proverbial. In every case the nervous system cries out for something to lift it out of its depression or inertia.

We should expect to find that the nearer the tropics we go the greater will be the consumption of alcohol.

According to the *New York Medical Journal* of June 17, 1899, Dr. Sikorsky of Kief has shown in the *Semaine Médicale*, that it is far from true, as generally believed, that alcohol in concentrated forms is consumed in greater quantities in colder climates where its harmful effects are supposed to be less owing to the more active life and greater oxidation of the natives. "According to official statistics, the north Russian drinks from 2.46 to 3.07 liters absolute alcohol per annum, while his brother in the south imbibes no less than 3.5 to 4.8 liters. Yet the deaths from alcoholism show a regular increase northward, being 15 to 22 to the million in the south, 40 in the center, and 70 to 110 in north Russia. Moreover, there is a marked increase of such deaths in specially cold years. Dr. Sikorsky concludes that cold greatly increases, even to threefold, the toxicity of alcohol, which, as is well known, so far from increasing body temperature, acts as a decided antithermic by paralyzing the peripheral vessels and diminishing organic metabolism." Dr. Sikorsky merely reduces to statistics what we have known for years, the danger of strong alcoholic drinks for persons who are to be exposed to cold, and we have correctly assumed that the danger was due to the power alcohol has to reduce body temperature by increasing the loss of heat and lessening its production. These facts apply equally to the tropics where alcohol assists normal men in keeping cool. The value of alcohol in high fevers also, is one of the most firmly established facts, in spite of the denial of many learned men, for it has a triple use, it increases loss by evaporation and radiation, it lessens heat-production, and, most valuable of all, it supplies a fuel or food to be burned up instead of the tissues. In the tropics, all these uses are of value in normal men, particularly the last, for we have shown how the climate increases combustion and increases the need of easily-oxidized food to preserve the tissues from destruction. It can also be positively denied that there is any increase of disease in the tropics among Europeans who refuse to reduce the amount of their alcoholic drinks, omitting of course all men who drink to excess.

Quite recently Prof. W. O. Atwater has by experiments reaffirmed the old knowledge that alcohol is a food, though of course in very small quantities, of not much more value indeed than a few bites of hard tack. All the alcohol above this amount is excreted by the lungs, skin, and kidneys. Its value lies in the fact that it is immediately available as a fuel, while in ordinary foods several hours must elapse.

A general order from the Headquarters of the Army of July 2, 1898, states that "The history of other armies has demonstrated that in a hot climate abstinence from the use of intoxicating drink is essential to continued health and efficiency." From my school bo I could have sworn to the correctness of this statem Personal experience in the treatment of cases in Ma makes me sure of the very opposite. I would cha the sentence to read: *Experience has demonstrated in a hot climate the moderate use of intoxicating drin essential to continued health aud efficiency.* Though Spanish surgeon was right, wine itself is not essen Whisky is just as good, for it is always so diluted i toddy that the percentage of alcohol is much less t even the lightest wines. There is something ab Scotch whisky which lends itself so well to such d tion that its use is widespread throughout the Ori American whiskies become nauseating, and beer see to be very harmful, productive of colic, diarrhea, l of appetite, headache and general distress. It is th a perfectly natural defensive, wholesome craving wh leads our soldiers to drink alcohol in the tropics—s thus falls one of our fondest theories. Men who the need of daily drink in their exhausted conditi will have no desire to drink when they come hor and it is extremely doubtful if we will have a where near the percentage of hard drinkers amon veterans as we had in the years following 1865. I ha said nothing about the hard drinking, the bar-ro drinking, for the fun of it, or for the intoxication; su practices are, I believe, proved to be far more serious the tropics than at home. The maximum amount allo able is probaly 3 or 4 ounces of Scotch whisky per d This is about the regulation amount issued in t German army in the field. The condition of exha tion in these young men by the way, is very simi to the condition of men who have passed their pri and are on the downward grade leading to the gra Here we have wastes greater than repair, and it is well-known fact that a small amount of alcohol da not only increases strength and usefulness, but tends prolong life.

Though I am not quite ready to recommend a da ration of wine or whisky such as all the Mediterrane nations use, it seems reasonable. At any rate t necessity for extreme liberality in feeding the soldier a perfectly legitimate conclusion to draw from the fac Let each company commander have a stipulated fu to buy fruits or wine as occasion demands. Eve foreign service finds it necessary to issue spirits in t field from time to time. Part of this is due to fatigu part to impossibility of getting supplies, and part the national habits, so that we, who cannot iss spirits, should give a wider latitude in increasing t food allowance when necessary in the field.

Alcohol is given in fevers by some physicians sole from its food-value and not as a cardiac stimula They give it early, often and throughout the disea the higher the fever the more the waste and the mo alcohol is necessary to replace the fuel squandered. T same reasoning applies to health, and I look upon alc hol in moderation as an extremely valuable food in t tropics to counteract the excessive oxidation which three weeks will make a man lose 40 pounds in weigh Though many men refuse to acknowledge any such do trine, they cannot escape the conclusion that the co ditions produced by tropical heat, make it necessary have a liberal diet to counteract the increased waste and the more work that is done the greater still must the amount of food. Our troops in the Philippines la fall had the lean and lanky appearance of well season soldiers, that is, appearance of men whose wastes ha

greater than their food, and this in spite of every ; that was done to feed them liberally. I have cularly watched regiments at parade and was pain- impressed by the large number of thin, yellow . They needed more food and less work—indeed lly seems as though they needed more food than me. One can well see then that it is not wise to ct eating, but to encourage it—of course restricting ats as the foods which produce the most heat, but the amounts usually consumed make but little ical difference.

ere is no doubt whatever that in the tropics those are liberally fed are, from their greater resisting rs, far less liable to disease in general, than the rfed and half-starved in whom natural immunity stroyed and bacteria find a natural culture-field. disease is this better shown than in beriberi, a ble curse to all the underfed tropical nations, and ry prevalent among the emaciated and starved ish soldiers in the Philippines. We know that lisease attacks the underfed only, and is probably o bacterial invasion in these nonresisting unfortu- . Japan acted on this hint and after she changed avy-ration from rice to a liberal ration of meat vegetables, the number of cases was reduced to enth their former number. The following news- article is instructive: "Last year that deadly dreaded Eastern plague, beriberi, struck a garrison 0 French infantry in Tonquin and killed 10 men cases. Dr. Laurent, however, succeeded in check- ie disease at its height simply by feeding the men A few weeks later a longer and more severe epi- in the Polo-Condere military prison was cured eding a fatty diet to the convicts. From the ent this diet was given to individuals in health not le fresh attack occurred, says the report. It was remaud who, in 1892, discovered that beriberi was deficient fatty food, occurring in hot climates as y does in temperate ones when food is not varied h. Thus does a big bugbear vanish before a little ific common-sense. Beriberi is no longer the ful thing it was. For ages it has slain as it would g the sluggish Orientals." If these facts are really they indicate merely that the French soldiers have underfed, and that the most concentrated fuel was sary to restore them to a proper condition. It is ie fat itself which enables them to resist the bac- but the liberal feeding. Beriberi is a microbic e in the nonresisting underfed people in the s, just as relapsing fever and typhus are in cooler s. Perhaps leprosy also may yet prove to be in me class. It takes very little change indeed to y our natural immunity, so little indeed that we appreciate it, though brought into daily contact infections contracted by persons in reduced health. bove case of the alleged cure of beriberi shows that our dread of eating fats in the tropics is er absurdity. We should eat less of them of e than we do further north, as they produce twice uch heat per gram than starches; but it is d to cut them down as we once believed necessary. s entirely probable that after we learn more about al diseases, we will find that the greater suscepti- of the natives to these infections is due in great o their feeble, underfed condition. Instead of ximating our diet to that of savages who can get what is best for them and who thus die in numbers, we should strive for greater liberality, just as in the far north the Eskimo's diet produces scurvy from which whole families die, and we dare not eat what he does, but a more liberal, regular and varied diet.

In the Santiago campaign there was a medical officer who insisted upon everyone being starved and who believed that to eat heartily was fatal. He preached his doctrine continually until everyone believed him, and they restrained their appetites even when they could eat, and many were hungry days at a time. It was noticed, nevertheless, that the doctor himself had not sufficient self-control to restrain his appetite, but ate large quantities of all kinds of stuff, at all hours, and whenever he was inclined. Out of a dozen men or more in his mess, he was the only one who escaped sickness; all the others collapsed. As a curious illustration of the persistence of false beliefs in spite of the evidence, these men who survived are convinced that they would have been worse off still, or even dead, if they had not starved themselves.

The most direct, positive and valuable testimony as to the great and essential need of nitrogenous nourishment in the tropics is that of Dr. P. R. Egan,[2] Assistant Surgeon United States Army, in which he shows the health of those in Porto Rico, who eat meat liberally, even pork chops, and the anemic wretchedness of the poor who do not eat meat. These men, pale, yellowish, with waxy skin, bloodless lips, and swollen, puffy features, are fed, as Dr. Egan shows, on the very diet the books on physiology tell us is proper for the tropics—rice, beans, maize, dried codfish, and fruits.

The doctrine of liberal eating in the tropics necessitates a word about another absurd bugaboo which the medical world has inherited from India—overeating and liver-disease. Before we knew that every abscess of the liver was a secondary infection from dysentery, ulcer in alimentary canal, or some other intestinal source, it was customary to ascribe the condition to overeating, because every healthy Englishman who went to India insisted upon satisfying the dictates of nature and eating more than a coolie did. For years we have had an educational pap ladled out to us about diseases due to overeating in hot weather. In summer we starved, grew thin and exhausted, and prayed for cold weather so that we could eat. The liver has been held up as a physiologic tyrant, and is a club in the hands of every quack in the land. The laity have so absorbed the superstition that a "sluggish liver" is a veritable fetish. No matter what is wrong, if we only give medicine to "act on the liver," our patients are soothed and comforted. We are told that in the tropics we must not eat much so that we will not put "too great a load on the liver," and if we drink bad water and have dysentery and then have an abscess of the liver, it is because the liver has been overloaded, and "struck." One layman has boldly stated that every soldier going to Cuba had a swelled congested liver, and got sick at once from that cause. Overeating may be possible anywhere, but it is a fruitful source of disease in only one class of men—the idle and sluggish. In the tropics it has no more to do with liver abscess than skating. The only case I saw was in the United States, in a man who was in no position to eat too much. Very much, if not all the disease in the tropics among our troops, is due to the unavoidable violation of sanitary laws.

Until recently we knew little or nothing about the

[2] *New York Medical Journal*, January 6, 1900.

uses of the liver except that it produced the bile, and as ignorance is always the father of fear and superstition, we held in great awe that which we did not understand. Many physicians even yet are bound down by their superstitions and see in the greatest diversity of cases the evidence of a "deranged liver," when they would not be able to say what a deranged liver is. The worst case of neurasthenia I have ever seen was firmly convinced that all his nervous symptoms were due to a "bad" liver, and he always found doctors to agree with him.

Indeed, all tropical diseases, once believed to be due to overeating, are caused by germs, because the germs there find the best conditions for their growth—heat, moisture and decaying material for food. It is the same in New York in summer, as seen in the following table of deaths from intestinal infections, most of the victims being infants less than a year old (Dr. Stephan Smith):

January	82	July	1100
February	75	August	762
March	96	September	462
April	108	October	190
May	104	November	89
June	467	December	82

While on the subject of exploded theories, a word ought to be said about another fetish, the "abdominal bandage," so faithfully supplied by the ladies of the Red Cross Societies. Before the discovery of the causes of dysentery, cholera, and hepatic abscess, it was customary to ascribe them to food or chilling. The chief element in bowel affections was chilling of the bowels or cooling off too quickly. So the logical outcome was a flannel band, to prevent a "chill" to the bowels. Now that we know that the live microorganisms are the causes, we still talk of the necessity of the band, as though a strip of wool is to prevent us swallowing impure water—a rather illogical filter and placed at the wrong end. Again, how is the wool to kill the bacteria after they enter the canal? Then look at the absurdity of woolen clothing to retain body-heat, when the whole sum and substance of one's existence in the tropics is to find ways of cooling off. Men lie naked in bed, and when exalted dream of icebergs, and dream of hades when depressed. Whenever I examined a patient his band was apt to be rolled up into a rope nearer his armpits than his abdomen. The skin under the flannel was always hot, moist, and macerated and covered with irritating eruptions of papules and pustules (heat-rash). Indeed, each man was carrying around and cultivating beautiful varieties of bacteria, which only waited a chance to kill him. Finally, though everybody suffered more or less from diarrheas, those who had no band did not suffer one bit more than the others. The abdominal bandage is a wretched survival of the medical absurdities of the days of indiscriminate bleeding. Thousands of laymen and hundreds of physicians still swear by it, and it has just been made a part of the soldier's equipment.

Another exploded theory is that of the ability of man to become acclimatized, that is, inured or adaped to a climate different from what is natural, enabling him to resist climatic diseases better and better, the longer he resides there. It is no more true than that a man by continuous residence in the arctics is less easily frozen to death or less easily starved to death the longer he lives there. No better authorities need be mentioned than the English physicians in the Indian service, who, after generations of experience, certainly know s thing of the subject. The following quotation i editorial in the *Journal of the American Me Association* for May 20, 1899: "The *Indian Me Record* does not believe in the acclimatization of white race in the tropics. It holds that the low death-rate in hot countries is not an evidence to contrary, but rather, that it shows that it is only elaborate precautions have been learned, that it e It is rather a proof of the inability of the white ra colonize, that is to labor and undergo constant expo in the tropics. It is absurd to say, it claims, that duced death-rate directly due to the avoidance of e possible exposure is an evidence that such exposure be endured." Indeed we may put the matter stro still, and confidently assert, that after some years' dence in the tropics a white man is less able to r disease than when he went there, and if he would pose himself to the causes of sickness, he would cumb more quickly than ever. Before he learned v caused his illnesses of course he was sick more c than after he became wiser. Eventually he is so w ened that if he does much physical labor he at collapses, if he expose himself to great heat he die sunstroke, and if he drinks infected water he prom goes to bed with one of the bowel infections. To personal knowledge the Englishman of longest dence in the Philippines is prostrated every few mo with a tropical disease.

England, for several generations, has been sen home from India a constant stream of "acclimat wrecks, to recuperate if possible, but if too far gone pass the remnant of existence as comfortably as sible. We are just beginning to do the same th and ethnologists will find in this a strong illustra of hereditary traits, for even if he wished to, we co not prevent ourselves wandering over the face of earth. We must constantly "move on," it is the r less Anglo-Saxon blood. This spirit should be m evident in America than in Europe, for we are scended from the most restless families of the m restless nations. It is part of the emigration which been going on to our certain knowledge for 20,000 y and perhaps 80,000. Peoples speaking the Aryan l guages, originated untold ages ago in the cold North Europe, between the 45th and 60th parallels of l tude, and have been spreading ever since. After forc their language on the more lowly organized natives Aryans have degenerated. Karl Penka believes t "the influence of climate has exterminated the Ar race in India, Persia, Greece, Italy, Spain, France Southern Germany, the Aryan speech alone being as the permanent evidence of early Aryan conque (The Origin of the Aryan, Isaac Taylor.)

Now let us see the reason for the inability of ma become acclimatized. "The fair race holds the Ba lands, the brown race the shores of the Mediterran and black race holds the tropics." "As a rule the races succeed only in the temperate zones, and dark races only in the tropical and subtropical lan "As a rule it is found that Northern races die ou transplanted to the South, and the Southern races come extinct in the North." "Intrusive conquest colonization has left little or no trace." Isaac Tay from whom these laws are quoted, states that the tinction of such colonies is due to four causes: steril infantile mortality, tendency of climate to enfeeble constitution so as to prevent recovery from ordin

eases, and liability to special diseases such as pul-nary affections in the negroes transplanted to cool ds, and yellow fever and malaria in whites trans-nted to the tropics. All this merely means that n transplanted to a different climate is less adjusted is environments and, in accordance with the laws of lution, is bound to become extinct.

lants or animals perfectly adjusted to their environ-t undergo no change, for the average specimens are fittest and survive, while those that vary from the rage perish. Some low marine animals in a perfect ironment are essentially the same as they were in earliest fossiliferous rocks. When there is a lack of stment there is a survival of those best adjusted—these are, of course, not the average but those that from the average. Now changes in the environ-t are thus succeeded by changes in the species of living things, but unless the changes are exceedingly , almost imperceptible, the living things cannot st themselves and perish. Origin of new species ires immense ages of time. Any rapid change ays means extinction if the change makes the species fitted for existence, and it is surprising how little change may be. A few firearms in our West caused disappearance of countless millions of bison. Man ows the laws of evolution just as every other living g, he is not adjusted to his environment and is ergoing evolutionary changes just as he always has, if his environment is rapidly changed he always shes.

he instrument for the extinction of men in unnat-l climates is degeneration in its modern sense, and brought about in the tropics by that nervous exhaus-we have explained. Now that we are in the tropics will be for a long time to come, it is necessary for o understand this fully, if we are to be enabled to d it off to any extent. In his great work on "De-eration in the Human Species," published over y years ago, Morel refers to the evil effects of the ate in causing degeneration of the families of the opeans colonizing in the tropics. The facts seem to e been overlooked, and there is not enough written he subject by any means.

hroughout all works on degeneration we find that almost sole factor at work is nervous exhaustion ch unfits the body for procreation, and the causes of exhaustion are legion—from overwork, vicious con-t, and the thousands of things which lower vitality. re seems to be little doubt that moist heat causes ous exhaustion by excessive oxidation as we have lained; this leads to mental and physical idleness all the deterioration resulting from nonuse of the y and mind; further destruction is wrought by the ssity of keeping indoors in the daytime, for if there y one thing every layman knows, it is the necessity exercise in the open air and in the sunshine if one retain his health. As it is deadly to exercise, the continued idleness is apt to make the men thin lank, or fat and flabby. The young men resist change for some years, but are apt to come to one e two conditions before middle age is passed. The nen always lose their color and become yellow in ar. All this means that there is produced a phys-unfitted for procreation by reason of lowered lity and nervous exhaustion, and this is the kind arents who produce the greatest number of degener-offspring in any climate. In the tropics these dren are still further unable to resist the adverse environment. Not only are they congenitally feeble or degenerate, but they have no chance to improve, as they must be housed all day, and never get exercise in the air and sunshine. They grow up in the same condition as the poor degenerate wretches in crowded tenements in cooler countries—children who never have seen a green field and rarely see the sunshine. "In India the children of Europeans fade away unless they are sent home before they are ten years old." (Taylor.) In Manila I saw no healthy white children at all, they were a sad sight—even the half and quarter breeds. I was credibly informed by ladies who had lived there a long time, that after a child is 4 years old and until it is 22 it has a real struggle for existence, and gives parents constant trouble. It is said to be "getting adjusted," but it is probable that by the age of 21 all the weaker ones are killed off—a survival of the fittest—the average length of life in the Philippines being less than 25 years as compared with nearly 40 in the United States. A pitiful story is told of an English boy of 7 or 8, raised in Manila and taken to England to his mother's home. The first time he saw his rosy little cousins with their bursting cheeks, he turned to his mother and exclaimed: "Why mamma, they have all painted their faces." The poor child had never seen a healthy complexion in his life. Women who have lived in English boarding-schools devoted to the education of children sent home from India, tell even more pitiful tales of the wan and yellow appearance of the wives and children as they arrive from the tropics. If the children are not sent home, but survive and marry, their offspring are worse off still. Taylor says that "there is in India no third generation of pure English blood."

The higher intellectual life is lost, is impossible in fact, and there is just as much scientific work accomplished there throughout the year as there is in a Baltimore university in August. The universities are miserable apologies for schools, and would not be tolerated outside the tropics. In the town hall or headquarters in Manila, we found laboratories for bacteriologic and chemical work, well stocked with expensive apparatus. We were told that in the previous year about $30,000 worth of modern apparatus was installed, and yet scarcely any of it had been used. The heat paralyzes the will, and though men live, they live somewhat like vegetables. Mental deterioration is inevitable under such conditions and helps to magnify the degeneration of offspring. The tropics have produced men of marked ability, even genius, but rarely if ever are they the sons of natives or colonists of long residence, and the two most prominent were sent out of the tropics entirely—Dumas from the West Indies to France, and Kipling from the East Indies to England.

From the foregoing we may conclude that colonization to be successful must be in a climate very similar to that in which the race has undergone its evolution. If there is even slight difference, extinction is the rule. Mixing with the natives and producing a new race of half-breeds is equally a failure, for the half-breeds die out, being suited to neither one environment nor the other. Ethnologists are revising all their former opinions about there being mixed races, and are beginning to believe that all the prominent races are pure-blooded and autochthonous or arose in climates similar to those in which we now find them. Mixing is permanent in closely related races only.

The following examples are taken from Taylor's "Origin of the Aryans," pp. 199 to 202:

"At the close of the last century the Griquas, who are half-breeds between the Dutch Boers and the Hottentots, were numerous at the Cape, but as early as 1825 they had practically reverted to the Hottentot type.

"Different races do not possess an equal faculty for acclimatization. In the West Indies and the Southern States of North America it is said that the half-breeds between the Anglo-Saxon and the negro races tend to become sterile, while the offspring of French or Spanish fathers and negro women are more fertile. Pösche affirms that his own observation, extending over many years, has led him to the conclusion that without an infusion of fresh blood no race of mulattoes has maintained itself to the third generation. In Jamaica both the whites and the mulattoes become sterile, while the negroes are prolific; and hence the type is lapsing into the pure negro. The European element is dying out, not only through sterility, but by the liability to tropical diseases, which are not so fatal to the natives of the tropical regions. The English race is doomed to disappear, leaving behind it nothing but a corrupt English jargon as an evidence of its former dominance.

"Negroes succeed in the West Indies and the Gulf States, but die out in Canada and New England. The English race succeeds in the Northern States and Australia, but fails in India and the tropics. The Dutch fail to naturalize themselves in Java and Sumatra; and in the third generation even the Malay half-breeds become sterile. The Dutch have left no descendants in Ceylon, but at the Cape they have large families, possessing great stature and physical power. The French succeed in Canada and the Mauritius. In the West Indies and New Orleans they can exist but they do not increase in numbers. In Algiers emigrants from the Northern departments of France failed to become acclimatized, while those from the Southern departments succeed. The Spaniards, a South European race, succeed in Mexico and Cuba, and together, with Maltese and Jews, thrive better in Algiers than any other emigrants from Europe.

"In Egypt no foreign race has ever naturalized itself. The Egyptian Fellah still exhibits the precise type seen upon the monuments. The Ptolemaic Greeks have left no trace, the Mamelukes were unable to propagate their race, the Albanians and Turks are mostly childless, and there is great mortality among the negroes.

"In India the Eurasians do not possess the vigor of their fathers, or the adaptation of their mothers to the Indian climate. Hindustan is Aryan in speech, but not in race. There are in India some 140 millions of people who speak Aryan languages, but the actual descendants of the Aryan invaders are very few. They are represented by certain Rajput families, and by the Brahmins of Benares and some other cities of the Ganges

At St. Petersburg the deaths exceed the births, and in North Russia the Slavonic-speaking population only maintains itself owing to the blood being mainly Finnic or Samoyed

"The Gothic blood has nearly died out in Spain, the Lombard in Italy, and the Vandal in Northern Africa. Southern Germany was originally Celtic or Ligurian. It was Teutonized in speech by German invaders; . . . but the type of the conquerors has now disappeared, and the prehistoric type has reasserted itself, except among the nobles, who are of the Teutonic type. Plainly the fair northern race has been unable to maintain ltself, and has left little more than its Teutonic speech as an evidence of conquest.

"On the other hand, feeble indigenous races are unable to maintain themselves in the presence of the higher civilization of an invading race which happens to be suited to the environment.

"In the United States the Red Indians are rapidly disappearing before the whites (except where kept alive as parasites or paupers), while in Mexico the Aztec race shows a continually increasing preponderance over the descendants of the Spanish conqueror. But the Tasmanians, Australians, Maoris, Fijians, and Sandwich Islanders have disappeared or are destined to disappear. The Arabs in Algeria are withdrawing to the Sahara, but the Berbers prosper and increase. The French conquest has resulted in one native race being supplanted by another, just as in the West Indies the European occupation has caused the Carib tribes to disappear before the more vigorous negro race which has been introduced."

My own observations show that the Spanish ... English mestizos or half-blood Malays in Manila ar... frail class, sure to disappear; Japanese mestizos ... more hardy; the Chinese are the most vigorous and se... to be better than the pure Malay; but this is decept... because they revert back eventually to the pure Ma... type, either through the death of the intruded type ... the birth of children inheriting the characters of ... native parents only.

In Hawaii the general trend of observation is to ... effect that the aborigines are dying out as unfitted ... survival in the new civilized environment, the h... breeds are even less hardy and short-lived; while i... entirely too soon to say anything of the whites b... there, as the infusion of new blood from the Uni... States is so constant that there are few illustrations ... native whites in the second or third generation. We ... confidently predict that without the infusion of n... vigorous blood from the United States the native wh... families will become extinct.

Mediterranean races furnish in our slums the larg... proportion of rickets and other disease due to degen... ation as much as due to bad food.

The fact to remember is that emigration from a colo... to a milder climate is fatal to every race which has ... quired a certain physique through untold ages of e... lution, the survival of the fittest and the weeding ... of the unfit. If the change is slight it may take hu... dreds of years for the extinction of the colonists, as ... some of the Aryan migrations; but the greater ... change, the quicker the destruction, as in India, wh... a pure third generation of native whites, without in... sion of fresh blood, is unknown. Ethnologists, ph... ologists and archeologists are pretty well agreed as ... the fact that existing races and even nations have und... gone evolution in climates similar to those in whi... they now live, and that in spite of being conquered, e... slaved, compelled to learn new languages and a n... civilization, aborigines may survive their lords a... masters, so that in some parts of Europe the nativ... are the direct pure-blooded descendants of the origin... inhabitants who have evolved from lower types throu... untold ages, just where we find them now. Coloniz... tion spreads speech, trade and civilization, but not rac... if they meet adverse climate.

In thus wandering about the world into good or b... environments, either to survive, as in the United Stat... or to perish, as in the tropics, the white man shows ... habit or instinct common to all plants and animals a... other men. As the rate of increase is in a geometric ... proportion, they all tend to spread to new fields in ... directions; those that happen to reach adverse su... roundings perish as the white man does in the tropic... perhaps after a few feeble and degenerating offspri... are reared. It is hardly time yet to curb man's i... stincts, and to prevent his flocking to the tropics ... impossible. If needed, a half million men could ... secured in six months to go to the tropics for a... required time, as it is the instinct to spread to new fiel... and increase the species. If these men were told th... their families could not survive to the third generati... they will probably reply, "We will risk it."

If there is one thing then that medical science ca... prove it is the deterioration of white men in a continu... moist heat. Physicians act on it every summer in a... vice to patients, and the way our lawgivers stampe... from Washington in summer shows us that they a... aware of it too. The Spanish nation is at present th...

ıst degenerate in Europe. It has the most degener- s among its noted men. I was much impressed by ; prominence and large number of stigmata of de- ıeration presented by many Spaniards. I made effort to study the few degenerates in the prison, but s refused permission. In a visit to the prison, the anish officer in charge, the adjutant, laughingly said ıt the shape of the head made no difference, and he ›k off his hat and showed his own head, which was the ıst distorted microcephalic head I had seen since I ited a home for imbeciles. I put him down as the ıst degenerate there. Two months afterwards he was ested for systematic embezzlement of funds. Latin rope is noted for its large number of degenerates. e degeneration and extinction of white families in hot moist parts of our own country are facts so well own that they are even made the themes of novelists. e best life-insurance companies are quite timid about epting risks on men living in such climates.

As a rule, northern people who go to Cuba, escape ease the first summer while they retain their strength d vitality; but the natives all advise such newcomers go away during the second summer, which is consid- d very fatal, for by that time the strong active man s become weak and nonresisting and not acclima- zed. As a result of English experience, Professor J. ue Notter, Netley Army Medical School, states that prolonged residence in a hot climate doubtless deteri- ıtes the system." Again he says that the mortality of ›hoid in the tropics is high because "there is in- ased activity in any acute fever due to the diminished isting power of the individual." Again, "all dis- ses, however trivial elsewhere, become serious in the pics," and "the energy of the Anglo-Saxon who has en long resident in the tropics suffers." Lord Roberts ticed the quicker onset of effects of age on the private dier, but attributed it to the effects of night duty.

We have long known that the adult natives of the est Indies, creoles, etc., did not contract yellow fever, d we believed them to have become immune through climatization; but even this is an error, for our yellow er commission many years ago proved that every e of these "acclimatized" natives had had yellow er in infancy, and were immune from that reason and t from acclimatization. There has been a woful ›rtality in New Orleans creole families, from yellow er, in spite of a hundred years of acclimatization. White residents in the tropics hold to the conviction nost universally that it is no place for whites, d though they insist upon going to a temperate ne for six months every three years, yet even that es not prevent the slow but inevitable deterior- ıon in health. Dr. Alfred Coleman[3] says that on a ssenger steamer, some of the passengers, debilitated er a long residence in the tropics, apparently gained weight, but it was found to be edema due to exhaus- ›n. Kipling, in speaking of his heroine in "William e Conqueror," says, "She stayed down three hot eathers, as her brother was in debt and could not ford the expense of her keep at even a cheap hill ıtion. Therefore her face was as white as bone." In The Tomb of his Ancestors," he says, "All India is ll of neglected graves that date from the beginning the eighteenth century—tombs of forgotten colonels corps long since disbanded; mates of East India- en who went on shooting expeditions and never came ck; factors, agents, writers, and ensigns of the Hon- orable the East India Company by the hundreds, and thousands, and tens of thousands. The English folk forget quickly."

My own experience as the surgeon of a transport shows me that men who cannot get well in the tropics and would die there, promptly recover as soon as they reach cooler weather. The trip home makes a wonderful change in the convalescents, who on arrival do not seem to have been sick at all. Before this was recognized, transports came home by way of Honolulu, sweltering three more weeks, and on my own transport one man died from this continued exhaustion. As soon as we left Honolulu the improvement was incredibly rapid. This mistake has been remedied, and all ships from Manila sail north and get into cool weather at once. It will eventually be an invariable rule to send home every sick man just as soon as he is able to travel, and our hospital ships will save many lives.

Wherever we turn we will find facts which annihilate all our former conceptions of acclimatization, in spite of the fact that in the tropical and subtropical regions of the world there are said to be ten millions of white men living and degenerating. There is even an outcry about South Africa and Australia, which we rather looked upon as permanent Anglo-Saxon homes. The *London United Service Gazette* says: "It is an undoubted fact that the Australasian of two generations is ever on the verge of decadence if new blood is not forthcoming from the mother country. The Anglo-Indian, too, born in that great dependency, though of pure British blood, is very inferior in that energy and virility which mark the Anglo-Saxon race as we know it at home. In South Africa, where at least a better climate is attainable, a stationary population, unfed from home, will certainly degenerate, as, by the natural law, the curse on man took effect under the burning sun of the Soudan."

Even New South Wales is facing depopulation from infant mortality and reduced birth-rate. It has proved unfit for whites, 37½% of all deaths are children less than 5. In New Zealand and Australia the birth-rate has fallen from 40.78 in 1880 to 25.74 in 1898.

Of the numerous articles which have been written on the subject of acclimatization, perhaps the very best is that by Prof. Wm. Z. Ripley in the *Popular Science Monthly*. Its great value consists not only in his high scientific attainments, being probably our most brilliant anthropologist, but from the fact that he wrote the article before 1896, or long before all such discussions could possibly be accused of having political bias. Dr. Semeleder, of Cordoba, Vera Cruz, says that white men cannot become acclimatized in the tropics at a less elevation than 3,000 feet, which is a moderate climate. There is a biological law that every 250 feet elevation is equivalent to an advance of 1° of latitude as far as the flora and fauna are concerned. We presume that he speaks from personal experience when he states that to live in the tropics we must make it like home, that is, keep out of the heat, but that work in the heat is impossible. He shows the necessity for a liberal diet and some alcohol, and not the native diet, and states that the tropics will always be unsanitary, and that the malarial mosquito cannot be exterminated. Dr. G. Archdall Reid[4] also shows that white men can never colonize in malarial countries of the tropics, the change in environment being too rapid, for

[3] *British Medical Journal*, July 8, 1899.

[4] The Present Evolution of Man.

the native immunity to malaria is a result of natural selection and the death of the susceptible during untold thousands of years in a gradually changing environment. Dr. Beyfuss[5] in a very temperate article doubts whether life in the tropics is possible for white men even if we exterminate malaria. Mr. Benjamin Kidd is the chief exponent among laymen of the truths of nonacclimatization, and seems to be the enemy of all the expansionists-at-any-price. He also shows how evolution in cold climates has produced a far different creature than in the tropics, from which places white men are forever barred physically, morally and politically as colonists.

After the declaration of war I was engaged in the physical examination of the volunteers of a Southern State, and was painfully impressed by the physical deterioration of the recruits, men who were wiry, able to live in swamps, and resist the heat, but who were nevertheless poor specimens of the physical man. The officers, accustomed to a more hygienic existence, were far better as a class than the soldiers. From there I went to Manila, and was astounded to see what big-bodied men there were in the Montana, Nebraska, Dakota, Minnesota, and Colorado regiments, compared to whom the Malays are pygmies. It reminds one quite forcibly of the astonishment of the Roman soldiers at the gigantic proportions of the northern tribes.

Our own negros in slavery times were like animals under domestication—fed, clothed, housed, doctored when sick, and kept in health, as a matter of dollars and cents, and there was no struggle for existence as in the natural state. Since emancipation a most intense struggle began in an environment to which they are unfitted physically and mentally. Statistics show that in the last 35 years, among them there has been a progressive and appalling increase in consumption, insanity and crime, showing that the detoriation has already begun. My own observation shows that there is quite a large number of congenital defectives among the young, due in great part to parental faults—improper food and clothing, unsanitary houses, and vicious habits. Our negro problem will settle itself in time, for like domesticated animals turned loose into an unsuitable environment, they will certainly perish, lasting longest in the hottest climates. Dr. J. L. M. Curry[6] gives details of the awful savagery already rife in our negro districts, almost as bad as in West Indies, where 60% to 73% of births are illegitimate. Mr. Booker T. Washington's wonderful successes at Tuskegee, Ala., in fitting the negro for civilized environment, will of course help to delay the ultimate extinction of the negro.

Spain long kept possession of Cuba simply because of the degeneration of the Cubans, who were unable to fight for freedom. Many of them allowed themselves to be herded like cattle—the reconcentrados. Imagine men in cold New England being reconcentrados in 1775! The intelligent upper class is probably smaller in Cuba than anywhere in Europe or the United States, and the degraded lower classes larger in numbers. Much of this is no doubt due to the character of the original settlers. The foulest reprobates from the slums of the cities were the only men Columbus could get to man his ships, and thereafter every ship carried out a hard set of men, adventurers, criminals, tramps and beggars, who were to find gold and get rich. Ever sin then, for 400 years, degenerates have been flocking this unhappy island from Latin Europe. Could su parents possibly have normal children? Can we gath grapes of thorns, or figs of thistles? Add to this t sure and certain further deterioration from the tropic climate, and we can well understand the degrad character of the mass of these people, "descendants the Congos and Guineas, mingled with the blood of u scrupulous Spaniards, and of traitors and adventurers

It is quite likely also that the remnant of the origin restless Aryan race which overcame the autochthono races of Spain, were the real conquerors of the ne world, but being in a state of great degeneration th were not only unfitted for government any longer, b have since then died out to a large extent. The ab rigines of Spain have survived in somewhat of the original appearance, the upper classes, in whom w would expect the largest share of Aryan blood, a probably the most degenerate as we would expect.

So there should be no mistake about the matter eith by expansionists nor absurd exaggeration of it by ant expansionists. We can be healthy in the tropics ju as thousands of people are healthy at home in summe but it requires great care and much money, and we ca do but little work, and will surely deteriorate, and hav degenerate children. Let no one go there expecting t settle and raise healthy families. As a rule they wil be disappointed. Many English residents candidl state that they live in Manila simply because they ar making "big money," and will be able in a few year to go home and live in ease and comfort. Few delib erately make it their home.

There is an enormous amount of nonsense now ap pearing in the press, chiefly editorials in the dail papers, asserting the white man's ability to becom acclimatized in the tropics. All this nonsense also fol lows from the illogical conclusion, that, having, fron the rapid advances of sanitary science, been able t detect and escape the avoidable causes of early death we are therefore physically able to resist the unavoid able causes of slow death. An ignorant Scotch colony settling in the Isthmus of Darien in 1698 is said t have been promptly annihilated by the climate. Wise Scotchmen now going to India, survive for many years. Therefore on account of the wisdom of the nineteenth century, malaria and yellow fever are not fatal t Scotchman as in the seventeenth century.

A recent writer states that "The human species took its rise in the tropics. The spells of longing for southern climes, so common to most of us, the pleasure we all derive from tropical landscapes, and the survival in us of many other such ancestral traits, show that we have not yet become entirely unadapted to them. In our wanderings in the temperate zone we have found the mine of modern science, and, with the vast accumulations we have made from it, we can now return to and rehabilitate the old home." What absurdity! There is not a particle of evidence that man took his origin in the tropics. Indeed, there is scientific evidence that man may have originated in cold climates and extremely slowly migrated to the tropics, taking thousands of years to do so. Civilization arose in hot climates where food was plenty, and there was some leisure. But away back in prehistoric times, long ages before even the first glimmerings of tropical civilization, man was undergoing a rapid evolution in cold climates where there was such an intense struggle for existence, that

[5] *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, February 24, 1899. See PHILADELPHIA MEDICAL JOURNAL, October 7, 1899.
[6] *Popular Science Monthly*, June, 1899.]

) feeble children could survive the rigors of climate)r the harsh foods, and none but the strongest, most)werful, and energetic men could protect their women id young. The struggle was so intense that it was ipossible to feed all the offspring, and most of the ildren were therefore killed as soon as they were)rn. Only the most powerful, resourceful and gritty" even could live, all the others perished—and is is where the Celtic, Anglo-Saxon, and Teutonic grit" comes from. Of course it was a very slow pro- ss, there was no time for refinements, and there were)ne of the other favorable conditions found in hot dry)untries, but when these huge northern men absorbed e civilization which the little, feeble southern tribes id originated, there was a sudden flaring up of knowl- lge until it culminated in the birth of modern ience. Strong, big, robust, "gritty," and active, the hite man is not capable of surviving except in a cold, acing climate.

Throughout the whole animal world, the intelligence closely related to the size of the brain, making due lowance for the increase of the nonthinking connec- ve tissue and nerve-fibers needed in big-bodied ani- als. The same rule applies to varieties of man. There e apparent exceptions in a few big-brained imbeciles id small-brained men of intelligence or even genius, it the exceptions can be satisfactorily explained when e examine the character of the tissue of these diseased, generate or abnormal brains and notice the state of velopment of the nerve-cells and their connections or ganization in the abnormal cases. It is foolish to me to conclusions as to normal men from the study the diseased only. From the study of the human ain, we have proved that neither the size, shape, nor eight of a given brain enables us to judge of the intel- gence, nor can we from a man's intelligence come to ly conclusion as to the size, weight, or shape of his ain; but we do know that 100 men of superior intel- gence have an average brain-weight superior to that 100 men of low intelligence. When we take grand erages, these high and low abnormal cases correct ch other. The following table of the average size of e brain in different races, then, shows that the colder e climate, the greater is the development of the brain accordance with the increase in the struggle for ex- tence and the survival of the most intelligent. In the opics men of low intelligence can get food and survive, it in cold countries it requires much higher intelli- nce to provide necessaries. We see then another fact hich rather indicates that the best and ruling nations ill always be those native to cold countries.

PACITY IN CUBIC INCHES OF THE BRAINS OF DIFFERENT RACES.

Lapps	102
Swedes	100
Anglo-Saxons	96
Finns	95
Anglo-Americans	94
Germans	92
Celts	88
Malays	86
Chinese	85
Tombs of Gizeh	84
Embalmed Semitic	82
Egyptians	80
Fellahs	79
Bengalese	78

Dr. Joseph Sims, *Popular Science Monthly.*

The same general trend of increase of brain-weight according to the intensity of the struggle for existence, is seen in the table by Barnard Davis,[8] though the observations were published so long ago, that later observations may correct these figures very decidedly.

Race.	Average Weight of Male Brain in Grams.
European (white)	1,340
Oceanic (brown)	1,293
American (red)	1,282
Asiatic (yellow)	1,278
African (black)	1,268
Australian (negrito)	1,190

The significance of these small differences in brain-weight is very great. Contrary to what is generally taught by anthropologists, it requires a high general intelligence to make a living in a savage existence, where each man must be soldier, hunter, and artisan. Civilization preserves the lowly organized, for a very stupid man might make a living as a street laborer or an organ-grinder, who would promptly perish if required to do all the complicated and intelligent acts of an independent savage hunter. Among savages there are fewer of the very stupid or very bright, they vary less from the average than in civilization, but their general averages are not much below the averages of the civilized races. Four ounces of brain-cells are very valuable, and they are just about the difference between a black savage and a white genius, and the education of our blacks is not likely to give them the extra three ounces to make them more fitted to their environment, to compete with whites.

From all that has been said we are safe in concluding that the white race, raised in cold countries, will always rule the earth. The tropics left to themselves always revert to savagery as in Haiti, or semibarbarism as in Central America. As we need and must have the productions of the tropics—tea, coffee, tobacco, hemp, etc., we must go there for them, for the native savage will never be able to develop the resources of his own country, nor govern it. Those countries must always be under the rule of men raised in cold climates. It is the white man's burden which will never grow less. There does not seem to be any reason to doubt that our present immense force in the Philippines could neither have been foreseen, nor prevented if it had been foreseen before war occurred. It is our share of the white man's burden, which must be taken up until our statesmen settle it. This means a large force there for a long time, and in calling attention to medical facts we have but one purpose, and that is, increasing with a lavish hand the soldier's comforts and delicacies. It cannot be too often repeated that at home the possession of a large company fund derived from canteen profits, is considered a necessity, and to be in the field subsisting on the ration without money to buy has always been a hardship; therefore in the tropics a company fund supplied by the commissary is a necessity, as in every civilized nation in the world.

The white man's burden is heavy enough, as it is even with the best of food—so let us not think for one instant of reducing the ration in the least item, but to increase it, if need be, to the point of extravagance. England with all her care, pays for her Eastern trade in the health of the families of her servants in India. Kipling talks of it in his stories, and it is already an old story with us. Some of our regiments which have

[8] *Journal of the Academy of Natural Sciences*, Philadelphia, 1869.

not left the country, are said to have already over 230 pension applications on file—who can guess the future record of the regiments from Manila?

Whether or not it is wise for us to keep our share of the white man's burden, does not concern us here in the least. That is a question to be decided after we have weighed all the advantages and disadvantages. If we keep it, a way will soon be found of making the natives govern themselves in local affairs, and native troops in place of our own will be the chief means of lightening our work. At present our white man's burden means the burden of the soldier of the regular army. Let us make it as light as possible.[9]

THE HOSPITALS OF PUERTO PRINCIPE, CUBA.

BY S. T. ARMSTRONG, M.D.,

Major and Surgeon U. S. V. Formerly Chief Surgeon, Department Puerto Principe.

THE hospitals of the city of Puerto Principe, a place of some 20,000 inhabitants and of almost 400 years settlement, are probably typical of those of other Cuban cities, as it has long been the most important inland city of the island. So the following facts are presented in regard to these institutions:

HOSPITAL DE CARIDAD DE SAN JUAN DE DIOS DE PUERTO PRINCIPE.

This institution was founded in the year 1728 by Gaspar Alonzo de Betencourt for the purpose of furnishing an asylum for sick males. When it was opened for the care of patients the administration was placed in charge of the religious order of San Juan de Dios, a nursing fraternity, under whose care it remained until by a royal order in 1839 the exclaustration of that community was decreed. The exclaustration enabled the Spanish Government to confiscate the property of the order, but an allotment of $1,710 from the revenue was allowed to the institution annually in lieu of the deprivation of its sources of income. Subsequent to that year the hospital was administered by the Council of Charities until, by a royal decree in 1875, the charity service of the Island of Cuba was organized and declared. In October, 1888, a council of patrons, or board of governors, was organized, which body has remained in charge.

Since its foundation the hospital has had legacies left it amounting to more than $34,000; this has been invested in mortgages which pay only $700 at present. So the institution is compelled to seek relief from the general government, and it is but fair that this should be afforded, as it is a continuation of the remedy granted by Spain for the confiscation of accumulated resources.

The hospital premises occupy an irregular polyhedron that includes about three acres; and it is situated in the southern portion of the city, a short distance from a small stream called the Hatibonico River.

The building fronts the northwest, facing a small square named for the hospital. The old church of the religious order occupies part of the north side of the premises, and two-story wards the east, south and west sides, an excellent arrangement that allows the buildings used by the patients to have the best expos Originally the south wards was a two-story cloi that it was necessary to wall in so as to afford n ward accommodation. The buildings are of bi and the walls are remarkably thick; in places they reinforced by massive buttresses that seem to be tended to resist enormous strain. There is consi able weight on the walls due to the fact that floors of the second story are paved with brick on a layer of sand six inches deep, and the roofs tiled. The rafters, doors, windows, etc., are cedar.

On entering the premises you pass into a cloister surrounds three sides of the patio or courtyard, wh contains a flower garden and the hospital cistern.

The lower wards on the west side are small ro floored with brick, lighted by small, iron-barred w dows that are closed by unglazed shutters, as is the tom in this country. In wet weather the shutters have to be closed, so that light and ventilation come through the door that opens on the corri The bricks are laid directly on the ground, as is native custom, and there is neither sub-soil drain nor ventilation. As the walls are laid without dar proof courses they are wet for several feet above level of the floor; the capillary attraction that occ



Front view of San Juan de Dios Hospital, showing the old church of the or

in walls in all houses in this city is remarkable—I ha noticed the fluids from a privy-sink stain a house-w for 40 feet above the surface of the soil. The con quence of this kind of floor and wall is that th wards are damp. The ceilings are the joists and boar that constitute the second-story floor. Originally th wards were intended for the safe-keeping of sick co victs.

The second-story wards are larger and the air-spa continues to the roof; they are lighted and ventilat by doors opening on the cloisters and windows whi open on the street. The floors are brick and the sh ters similar to those of the lower wards. As a rule t weather here permits the doors and windows to be op during the entire day for the greater part of the ye and as these apertures in the upper ward are spacio there is abundance of light and air. If the roo were closed the air-space would vary from 850 to 13 cubic feet per patient. It is fortunate that there is su ventilation, as in each large ward there is a small i closed corner that contains a close stool for the use patients; and in other wards vessels are allowed remain when they contain excrement.

The beds are either frames of the usual oblong shap or x-shaped, and have canvas attached to make a ma

[9] I have not given a general description of the army ration. That can be found in the *Journal of the American Medical Association* for 1892. A longer account of the military food, written for military readers, is found in the *Journal of the U. S. Cavalry Association*, 1893 and 1894.

ress; the canvas is changed when sufficiently soiled. Sometimes horse-hair or straw-filled ticks are used as mattresses, sometimes a quilt is laid on the canvas; sheets and pillows are supplied. The canvas should be made with lateral eyelets so that it could be removed easily for disinfection. The ticks are disinfected when necessary by washing; the straw is burned and the horse-hair is boiled. None of the beds is supplied with mosquito bars. Each bed has an average of from 70 to 80 feet of floor-space; there is no rule in reference to the amount of air and floor-space a bed shall have.

The wards are not susceptible of cleanliness from our standpoint. The porous brick in the floors absorb moisture, and doctors, attendants, patients, and visitors expectorate upon them; as no germicide is used in cleaning the floors they are likely to be the abiding-place for specific microorganisms.

morning; some time after ten o'clock there is breakfast of soup and rice and meat. In the afternoon there is a dinner of stewed meat, beans and potatoes. Special diet includes milk, beaten eggs, and chocolate. The average cost of the ration is 13 cents per day.

The hospital has the usual store-rooms and attendants' quarters. On the interior court is a room used as a dead house, an arrangement that might be remedied by selecting some less conspicuous site.

The kitchen opens on a courtyard to the east of the hospital proper, and it is an open, one-story structure that has the high, tiled, cooking-place used in Spanish countries. The equipment of utensils is small, but it will be remembered that the diet is not very varied. Adjoining the kitchen is a room intended for a bath-house but it is unprovided with appliances. Patients are required to have a sponge-bath when admitted.

There is no hospital laundry; washing is done as



View of courtyard in San Juan de Dios Hospital, showing cloisters.

The furniture used in the wards shows no attention to its proper cleaning; a matter that is due to insufficient help. The bedside tables are often littered with articles of diet, as is the case in badly administered hospitals in the United States.

The hospital has no operating-room or equipment for surgical work; operations are performed in the ward on a dirty wooden table that suggests the dark ages of surgical procedure.

There are no trained nurses, men being employed to do the ward duties, and the force is totally inadequate and from our standpoint incompetent. No plan of instruction in the elementary duties of nursing exists.

The diet of the patients is not varied or attractive. They have coffee and bread at half past six in the

required, and the funds of the hospital permit, by outside washwomen.

There is no sewer system; a privy beyond the kitchen court is used by the patients. Garbage is piled in a heap in the yard and carted away when a cartload accumulates.

There is no ambulance; the sick may come in a volante or cart, or walk.

Patients are admitted on the order of the mayor, or of the alcalde of a district who certifies to the poverty of the individual, or of the president of the board of governors. A patient is discharged on the order of the attending physician, on his own request, or by the superintendent for infraction of discipline. When a patient is admitted an entry is made in a register of

his name, parents' names, his age, birthplace, social condition, occupation, property in his possession, and disease. His clothing is taken from him and placed in a store-room and he is habited in a long loose gown that fastens about the waist; this ensures that no vermin or infected clothes are taken into the wards and is an excellent plan that is too little observed in hospitals in general.

There is no resident physician; and no history is taken or clinical record kept of the patient's disease.

There is an attending physician, who was appointed by the Governor-General in 1886, who makes daily visits, for which he receives $40 a month. From 1835 to 1889 the institution was under the superintendence of Fray Jose Olallo Valdes, the last priest of the Order

As this is the only hospital for males in the cit receives patients who have communicable diseases; th is no ward reserved for such patients, who are place the general wards. No precautions are taken w tuberculous patients.

The records of the hospital show the following fa

	Admitted.	Discharged.	Died.
1895	222	139	88
1896	203	106	92
1897	228	134	104
1898	296	132	109
1899	379	297	88

The large number of deaths is explained by the that it is a common custom among the poor, who unable to pay the expenses of a funeral, to send



View of ward of San Juan de Dios Hospital.

of San Juan de Dios; since that prelate's death it has been under the superintendence of an official called Chief of Service, who receives $50 a month; he receives neither board nor washing, and is expected to be on duty from 6 A.M. to 9 P.M. There is a clerk who is paid $17 a month. There is no apothecary; the prescriptions are sent to a drug store to be filled, though a stock of commonly used medicaments is kept on hand. There is a dresser who assists the attending physician, who is paid $15. There is one nurse, one orderly, one cook, and a doorkeeper who is also gardener, each of whom receives $10 a month, board and lodging. The force of attendants is obviously inadequate to care properly for the patients and building, but the finances will not permit other employes.

member of the family who is about to die to the ho pital, thus saving the expense of interment and buri services. The hospital has a small covered cart that used as a hearse, and a horse is hired when needed f this vehicle.

The board of governors has members who are ali to the need for betterment, but they have been unab to obtain an allotment of funds from the gener government.

HOSPITAL CIVIL DE NUESTRA SENORA DEL CARMEN I PUERTO PRINCIPE.

This is the woman's hospital and is the outgrowth an institution that was founded in the year 1730 by private lady who gave a building and maintained



Court and part of building of Carmen Hospital.

own expense a hospital for sick and destitute men. When the growth of the city demanded a ger establishment, several philanthropic gentlemen e, in 1808, a piece of ground in a ward called Carmen, he western part of the city, where the present build- was constructed. In its early years it was under supervision of a very worthy priest of the order of Francisco de Asis, Fray Jose de la Crux Espi, who ill remembered here by the name of Padre Valencia. building was completed in 1825 and has been used since that time. It received the property of the old woman's hospital, and at the present time its investments represent, on paper—as there is no certain value of property today and mortgage interest is usually long overdue—$89,963.59. From such income as it can collect and an allotment of funds from the revenues the institution is supported.

It is managed by a board of governors who were appointed by the Governor-General of the island.

The building is one story high, made of brick, and



View of ward in Carmen Hospital.

arranged in the form of two squares that touch at one angle, an arrangement that affords several courtyards and a plentiful supply of light and air. The wards are roomy, open to the roof, and numerous windows and doors give adequate ventilation. The wards are cleanly and in as good condition as can be expected from the construction of the buildings. Some rooms used as wards were formerly private rooms for which patients paid fifty cents a day.

There is neither operating-room nor equipment of instruments. The general arrangement of the offices of the hospital are the same as in San Juan Hospital.

The nursing is done by sisters and convalescent patients, none of whom is trained. The diet is similar to that of San Juan, except that there is a supper of chocolate or bread and milk.

Patients are admitted to this hospital by authority similar to that of San Juan, and somewhat similar data are recorded in the hospital register. Obstetrical cases may be admitted, but are attended, as is the case with all confinements in the city, by a midwife. Patients who have communicable diseases are admitted, but not isolated. This hospital has a bath-room with several baths.

The hospital is visited daily by its attending physician, who was appointed by the Governor-General and who is paid $40 a month. Each sister is paid $10 a month.

The work of this hospital in recent years has been:

	Admitted.	Discharged.	Died.
1895.....	66	22	31
1896.....	112	29	62
1897.....	96	43	68
1898.....	93	18	55
1899.....	131	46	47

In this hospital also the large number of deaths is due to the moribund poor seeking admission to secure burial.

HOSPITAL DE SAN LAZARO.

The construction of this leper hospital was co menced in 1814, the funds for its building be obtained through the efforts of the priest, Padre Val cia, mentioned in the account of the last hospital. is admirably situated on high ground something m than a mile from the boundary of the city. The in tution is built in the form of an open square, the ap ture facing the east, and in this opening is a chur The long, one-story wards are built of brick, and wide, covered corridor extends for their entire leng There are many rooms, suitable for two or three peop and each room opens on the corridor. There are cells, spacious, but having iron doors and small, hi placed, barred windows.

The light and ventilation are all that can be desir as the rooms are open during almost the entire year

The wards are wretchedly furnished; the illustratio will give an idea of the wooden platforms that are us as beds in the insane wards, and there are a few squ



Front view of San Lazaro Hospital.

frames that have hides stretched on them; the women cells have the X-frame canvas cots. There are mattresses, and the bedding is insufficient and dirt In general it may be said that this building impress one as receiving little attention.

The force of nurses is insufficient and incompeten There is a visiting physician whose duties must perfunctorily discharged. A superintendent, a cler and five attendants constitute the personnel.

Originally the institution was intended for the ca of lepers only; and there is a local law that requir all lepers to live in the hospital; but the only instan in which this law has been enforced recently is in th case of a United States citizen who has been a reside of Cuba for a number of years. There are but thr lepers in the hospital, and it is said that there are in the city and as many more in the neighborin country. With the small number of lepers to be care for, and the fact that there was no place where insan could be kept, it was decided a number of years ago

l indigent insane to this hospital. Technically these ents are there under observation, as the laws of the ıd require that all insane patients must be sent to asylum in Havana, where they are maintained at expense of the province from which they come. In ;r to avoid this latter item, and also the cost of sportation to Havana, the patients are kept in this itution for years. The photographs will give an



ızaro Hospital, Puerto Principe, Cuba. Patient outside of cells. The pile dirt in the background is from scrapings from the walls and floor made by ə man. The superintendent says he tears even the strongest strait-jacket.

of the care such patients receive; there is no ex- professional treatment.

ıe records of the hospital have been badly kept; ə accessible show the number of insane and lepers ed was, in:

	Admitted.	Discharged.	Died.
1897.....	26	12	16
1898.....	15	15	19
1899.....	27	12	2



f interior of a cell, showing patient and his bed. San Lazaro Hospital, Puerto Principe, Cuba.

ıe present population includes 3 lepers and 22 in- patients.

ıe institution has a garden plot of some 60 acres, a of which is worked by the insane patients.

om the facts here recorded it would seem desirable there should be a rearrangement of the methods ıed in the Cuban hospitals, so that their adminis- ɔn and equipment should be more in keeping with ə deemed best at the present day.

To accomplish these reforms it is advisable that there should be an official of the General Government, a superintendent of charities, whose duty it should be to inspect all hospitals in the island, who should indicate needed improvements and changes, and whose recommendations should be carried out by the boards of governors of the institutions.

Plans should be adopted for a systematic reservation of wards; in general this should include the substitution of glazed tile for brick floors; of subsoil and roof ventilation; of filled and varnished for ordinary or roughly painted wood; of walls kalsomined at regular intervals; and the minimum cubic and superficial area for each bed should be prescribed.

General rules and regulations should be prepared for the government of the hospitals, with special reference to regular cleaning, disinfection, and maintenance of aseptic conditions.

There should be an allotment of funds, proportional to the work done by the institution, to remodel the buildings and supply the necessary equipment of hospital furniture, bedding, instruments, etc.

Each community should be required to furnish a certain proportion of the funds necessary for the running expenses of the hospitals, so as to insure watchfulness that the administration is conducted for the best interests of all concerned.

BUBONIC PLAGUE.

By H. F. HARRIS, M.D.

With Clinical Notes.

By W. F. ARNOLD, M.D.,

Passed Assistant Surgeon, U. S. Navy.

[From the Laboratories of the Jefferson Medical College Hospital.]

BEFORE beginning the consideration of the subject with which this paper deals, I wish to say that but for the kindness of Dr. W. F. Arnold the present article would have been simply out of the question. During the recrudescence of plague in Hong Kong in the spring of 1896 Dr. Arnold, of the Navy Medical Corps, was detailed by the Navy Department to represent the United States Government in the infected districts, and it is entirely due to his fearless labors, carried on in this plague-stricken city, and to his generosity in turning over to me for investigation a part of the pathological material which he collected at that time, that I am now able to present this paper. Dr. Arnold has added to the debt of gratitude that I already owed him by consenting to give his views on the clinical aspect of the plague; those views have been incorporated in this paper, and it is scarcely necessary to add that they constitute the most important part of it.

Bubonic plague is a very ancient disease, there being evidence that it raged in Lybia during the third century before the Christian era, and that it was present in Egypt, Syria, and in the country just mentioned in the first century after the birth of Christ. From Africa it spread over Europe about the year 542 A. D., during the reign of Justinian. It prevailed in England in the seventh century, although it probably occurred here and there in the interim. After this time there is no authentic account of its having been present in Western Europe, until the year 1346, when the disease broke out in Southern Italy; during the two succeeding years it spread over

Europe, reaching England in 1348. Following this there were epidemics in England in 1361 and 1368, and frequent epidemics on the Continent. It has been estimated that 25,000,000 people died of this disease alone in Europe during this time—which was about a fourth of the entire population. Successive epidemics occurred in Europe in the fifteenth, sixteenth and seventeenth centuries. In 1572, 50,000 people died at Lyons; in 1576, 70,000 at Venice; in 1656, 300,000 people are said to have perished at Naples in five months, and in the great epidemic of London nearly 70,000 perished out of a total population of about 460,000, of whom two-thirds are believed to have fled from the city to escape the disease. All of these epidemics had their origin in Asia. About the end of the seventeenth century England, Holland, Spain, Italy, and

tains of Kurdistan, in the vicinity of which sev epidemics have occurred. There have been sev epidemics in India since 1815, and the disease is raging in some of the principal cities of that unfo nate country. Since 1868 the disease has freque prevailed in China, being endemic in Yunnan vince; epidemics have been in progress in som the largest seaports of that country since 1894. U the preceding year the last visitation from which Eu suffered was an outbreak of the disease in Russi 1878–79. During last year several cases occurred ir pan, the disease having been imported from either C or from Formosa. In August, 1899, a severe epid appeared in Oporto, Portugal. In October of the s year an epidemic broke out in Santos, Brazil—whic its first recorded appearance in the Western worl

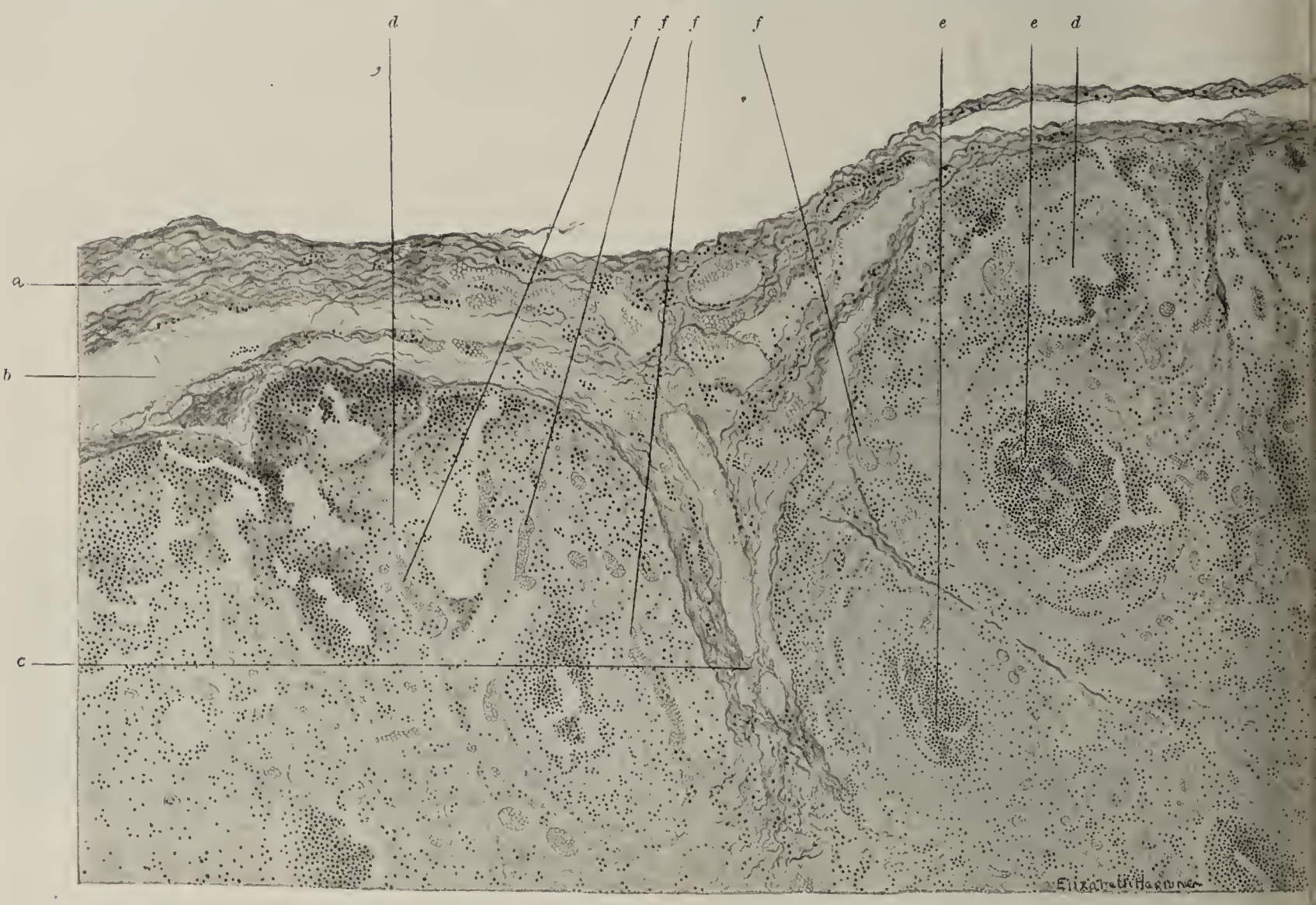


FIG. 1.—Section of the edge of a lymph-node, which is greatly altered as the result of the presence of the pest-bacilli. Specimen fixed in the so lution of Foá, embedded in paraffin and stained by the method of Van Gieson. Bausch and Lomb 1 inch eye-piece, and ⅔ inch objectiv *a*. Capsule of node; *b*. lymph-channel; *c*. trabeculum; *d d*. necrotic substance of node; *e e*. adenoid mass the center of which is still pa tially preserved; *ffff*. dilated bloodvessels filled with blood.

France—with an exception presently to be noted—finally became exempt, though in Eastern Germany, Poland, Russia, and Austria the disease continued to prevail. In 1720–21 France suffered for the last time in a great epidemic in the southern part of that country, the disease having been thought to have originated in Syria. In the nineteenth century the disease retreated still further eastward, occurring only in Southern Russia, Turkey and in the lower Danube countries, its more permanent seat being at this time in the Caucasus. In the year 1841 it ceased for the time being to exist in Europe, occurring last at Constantinople. In Syria and Egypt the malady died out in 1843–45. At this time it seemed that the disease had finally entirely died out; but such, unfortunately, was not the case, as it now became endemic, though in a mild form, in the moun-

ship from this port was quarantined in New York November on account of the fact that there were cases of the disease in the complement of the vessel. United States is not alone threatened on account of proximity to infected ports in South America, but plague has recently appeared in those highly salubri newly-acquired possessions of ours in the Pacific— Hawaiian and Philippine Islands. It is indeed h —impelled as we are by a "manifest destiny" an love that passeth all understanding for our brot Filipinos—that such should be the recompense for wholly unselfish and entirely "benevolent assim tion" of these unhappy islands and our righteous tempts at present to civilize properly the ancient own of the soil; but are we not told the Lord "chasten those whom he loveth," and surely after displaying

ich love for our fellow men, should not our country's me, like Ben Adhem's, lead all the rest?

The plague occurs either epidemically or endemicly. When it occurs as an epidemic the disease generally spreads rapidly over a district, attacks a large mber of persons, and in the course of three to six nths completely subsides. If, on the other hand, disease continues in the same locality after the tial outbreak, it is said to be endemic, and becomes, ually for quite a time, a permanent disease in the ticular area. No part of the globe appears to be irely exempt from its ravages, it having occurred h up in Russia, and it has extended downward into tropics. On the whole, however, it seems to flourish t in the warmer temperate regions. It occurs at the level, and even more frequently, in mountainous tricts. It, like all other mycotic diseases, is most apt occur in dark, damp, and ill-ventilated localities,—ice it has been frequently noticed that people in ements or on the ground floors of dwellings are ch more likely to suffer than those living upstairs. s also worthy of remark that those inhabitants of Chinese cities where epidemics are in progress, who in boats, suffer but little; this is probably due he fact that communication between the rats and er animals inhabiting them, and those of the land, not easy. The disease is checked by extremes eat or cold. Thus it occurs in cold countries in the ng or summer, and in warm ones in the fall and ter. In Mesopotamia it has been observed that an temperature of 86° F. checks the disease, and that of 113° F. entirely stops it. In localities where disease is endemic it has frequently been noticed one district will suffer year after year, and although e is free communication, another place in the near nity will be entirely exempt. A remarkable case his kind has been recorded where two villages were ated at the same height on a mountain, with the e exposure, and both in the usual unsanitary conon which is the rule in eastern countries, and algh they were only 500 yards apart and communion between them unrestricted, the disease occurred ne yearly, and the other was entirely unaffected.

concluding this part of the subject, attention ld be directed to the fact that this terrible malady be almost said to belong entirely to the East, h means that it flourishes where the inhabitants in miserable huts with no attention to cleanliness securing proper light and ventilation, and that pass their days in a half-starved condition. That are no unimportant factors in the production of the se is shown by the fact that Europeans who live e infected districts, and who even mix freely with people sick of the disease, rarely suffer, and it is a striking fact that when they do the mortality is h less than in the natives. As being somewhat st this, Dr. Arnold has called my attention to the that every case so far reported from Japan has fatal, although this is the cleanest of countries.

iology.—The cause of bubonic plague was dised by Kitasato and Yersin almost simultaneously long Kong in the year 1894, these investigators g been sent to this city by the Japanese and ch Governments respectively, for the purpose of ving the disease. The infectious agent, which is a bacillus, was found by both observers in great bers in the swollen glands and in the spleen of dead of the disease; they were also found in the various internal organs, but never in such great numbers; Kitasato found the bacilli in the blood of patients suffering with the disease in 25 out of 28 cases, but Yersin quite early made the statement that they only occur in the blood in the later stages of severe cases, in which he is undoubtedly correct. The bacilli have also been found in the feces of those sick of the disease. Of much interest is the discovery that in the bodies of rats and mice, which are often observed to die in great numbers before and during epidemics, the bacilli are present in great numbers, and it is beyond doubt that the spread of the disease is largely due to those and to the domestic animals, some of which are likewise susceptible. It has also been demonstrated that flies die from the disease, and that they contain the organism. The disease has been experimentally induced in animals by injecting into them dust from houses in which it had occurred. In the soil of infected districts, 4 to 5 centimeters below the surface, bacilli have been discovered which are morphologically identical with the pest-organism, but they were found not to be virulent. Susceptible animals fed with materials containing the bacilli invariably developed the disease—from which it seems fair to assume that the bacilli are capable of penetrating through normal mucous membranes. This is also borne out by the fact that the disease may always be conveyed to rats by placing bacilli on the mucous membranes of their noses.

The pest-bacilli are from 0.3 to 0.5 μ in width and from 1 to 4 μ in length. In some instances the thickness is somewhat greater and the length somewhat less, so that the bacilli appear very much like cocci. The bacilli are generally single, but sometimes occur in chains. They are nonmotile and do not form spores. The bacilli stain with the ordinary basic dyes, but exhibit a much greater affinity for the thionin group of colors; these being, in addition to this stain itself, methylene-blue, neutral red, and toluidin-blue. In tissues my best results have been secured by staining for 48 hours in carbol-toluidin-blue, and decolorizing in glycerin-ether, but fairly good stains may be secured by the same means in a much shorter time; good results were also secured by staining in Löffler's methylene-blue, carbol-thionin, and in carbol-neutral-red. When stained by these methods and when properly differentiated the bacilli greatly resemble diplococci, the poles being much more deeply stained than the intermediate portions; if the bacilli are counterstained by some acid stain, such as eosin, this intermediate portion—especially externally—is seen to be slightly acidophilic. It is completely decolorized by Gram's method. In old cultures and when growing under unfavorable conditions the bacilli do not present the typic peculiarities to which attention has just been drawn, but exhibit numerous involution forms. Hankin has proposed to take advantage of the fact in the diagnosis of plague, he having shown that in ordinary agar-agar to which is added 2.5 to 3.5% of common salt, the bacilli within 24 hours undergo these degenerative changes. When grown on this media the "bacillus is found to be swollen up, forming spheres, spindle-shaped or oval bodies, some of which resemble torulae, and which cannot be easily mistaken for any other known microbes."

The bacilli grow well on all the ordinary culture-media, even at ordinary temperatures. Although it grows best at about 37° C. it develops at temperatures several degrees higher, and will even grow slowly at 10° C. It

grows well either in the presence or absence of air. Abel states that the bacilli have the very unusual property of growing well in acid media, which probably accounts for the fact that they penetrate so readily through the epithelial tissues of the body. Heuss has shown that the epithelial cells of the skin exhibit an

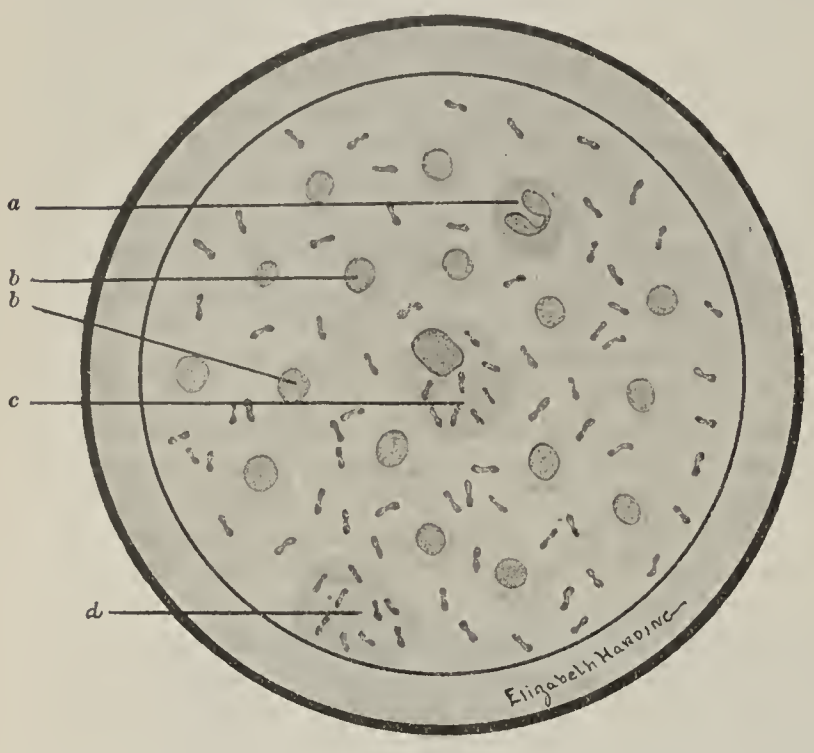


FIG. 2.—Highly magnified portion of a necrotic lymph-node showing pest-bacilli. Specimen fixed in solution of Foâ, embedded in paraffin and stained in carbol-toluidin blue 48 hours, and differentiated by glycerin-ether. Zeiss "*b*" eye-piece and $\frac{1}{12}$ inch homogeneous oil-immersion objective.
a. Polymorphonuclear leukocyte ; *b b*. lymphoid cells ; *c*. phagocyte containing pest-bacilli ; *d*. degenerating phagocyte containing bacilli, the nucleus of which has disappeared.

acid-reaction and this is probably of much assistance in keeping out bacteria of the ordinary kinds. Yersin recommended as the best culture material a 2% alkalinized pepton-solution to which is added a 2% gelatin. The most characteristic of all of the cultural peculiarities of this organism is that it produces a flaky precipitate in bouillon which sinks, leaving the fluid above perfectly clear. If the bacilli are grown in bouillon in a perfectly quiet place where the flasks containing them are not disturbed, Haffkine says that they develop first on the surface of the medium, and sinking as they grow, send down stalactite-like processes into the liquid that may be seen by the unaided eye if the flask is held between the observer and a strong light. This is thought to be quite characteristic of these bacteria. The media in which the bacilli are growing become strongly acid in a short time, which is probably the cause of the usual sterility of cultures more than 3 weeks old. It has been shown that the serum of those suffering with the disease has the power of causing the bacilli to agglutinate, but, unfortunately, the reaction can only be obtained after the disease has persisted about a week. The antitoxin of Yersin, presently to be referred to, also possesses this power. The bacilli, if obtained from those who are convalescing, is found not to be so virulent as when obtained from those who die. It is a curious and very significant fact that after cultivation for a time the bacilli often lose entirely, or in part, their virulence; under those circumstances they grow more rapidly than do the more virulent forms, and as a result of this peculiarity the two forms may be separated from each other. Their lost virulence may be restored by passing them through animals a few times. They do not die as a result of freezing.

The germ certainly dies in a short time when it is desiccated and exposed to the air, but the reports experimenters are at considerable variance as to t exact length of time required. According to the G man Commission who studied the matter in Bombay 1897, the bacilli never live longer than 8 days wh placed on linen, wool or earth and exposed to the acti of a damp atmosphere, in an ice-chest, which was a temperature of 22°C. When dried they always di in a few days. Rappaport, nevertheless, saw them li after drying on thread or paper in some instances 24 days. In ordinary water they die in 3 days, and sterilized bilge water in 5 days, and in sterilized wa 8 days at the farthest. When placed in direct su light they die in from 3 to 4 hours, or, if in a thin lay in much less time. The skins of two mice dead pest were dried and on one no living bacilli were fou after 4 days, and on the other after 6 days. Pieces the organs of individuals dead of the plague we found no longer to contain the infectious agent after days. Sputum from patients suffering from plag pneumonia was placed in a sterile test-tube, plugg with cotton and placed in an ice-chest and after days all of the bacilli were dead. In different kin of culture media the bacilli were invariably fou dead after being exposed to a temperature of 70° F. f 15 minutes. At a temperature of 80° C. they we killed in 5 minutes. When heated to a boiling temp ature they are instantly killed. Corrosive sublimate proportion of 1 : 1000 kills the bacilli in 2 minutes if a thin layer; 1% carbolic acid or lysol kills the ge in 2 minutes. Chlorid of lime is efficient, but shou be allowed to act for from 30 to 60 minutes on su material as feces. Sulphuric acid in 1 to 2000 sol tions kills the bacilli in 5 minutes.

From the foregoing it is seen that although the pe bacilli grow readily under all ordinary conditions, th

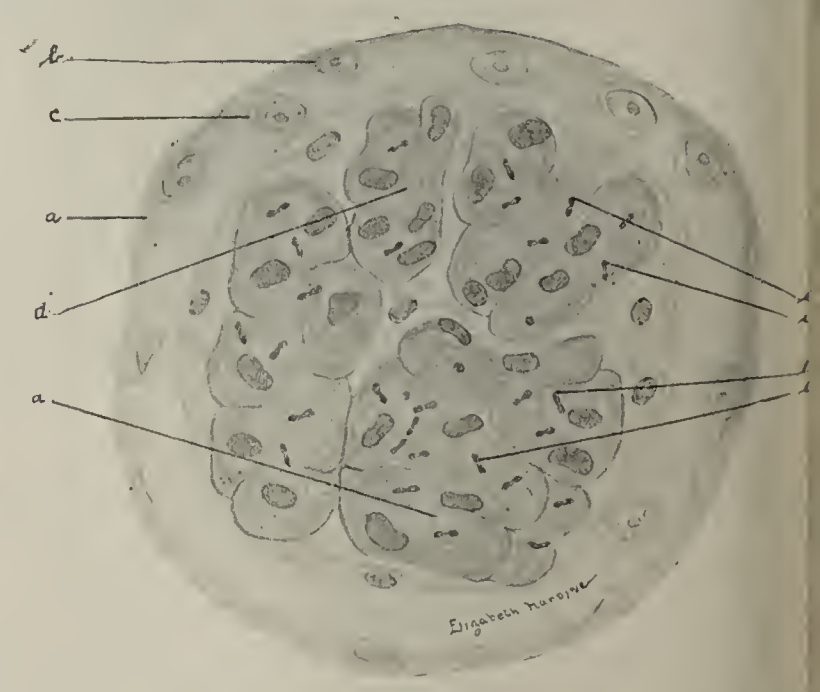


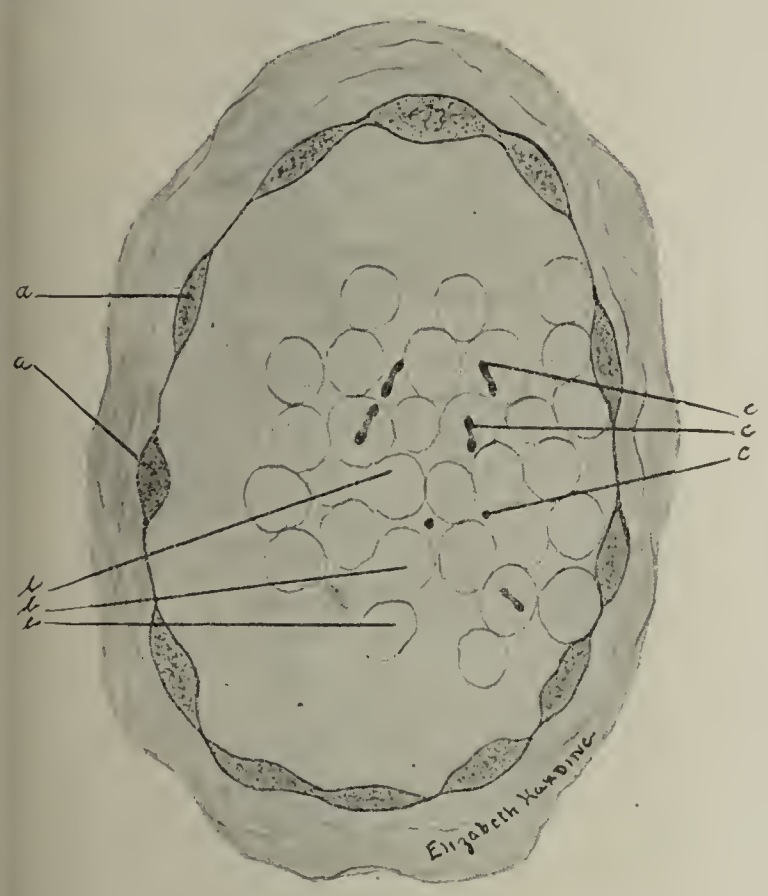
FIG. 3.—Section of kidney showing Malpighian body containing pest-bac Section fixed in Foâ solution, embedded in paraffin and stained in carb toluidin blue and differentiated by glycerin-ether. Zeiss "*b*" eye-piece a $\frac{1}{12}$ inch homogeneous oil immersion objective.
a a. Capsule of Bowman ; *b*. epithelial cells lining capsule, some of which have desquamated ; *d d*. capillaries in glomerule, in interior of which (e there are many pest-bacilli.

they exhibit an extraordinary power of penetrati iving organisms, and that practically all animals wi which man comes in contact are readily susceptible their attacks,—still they are killed with comparative ea

Concerning the very important matter as to hc these organisms gain ingress to the organism it see that this occurs commonly in one of three differe

ys,—by (1) cutaneous infection as the result of ght wounds, and probably in some cases from the es of insects; (2) by means of particles suspended in inspired air, and (3) by infected material being en into the alimentary canal or placed upon other cous surfaces. Of these the first is by far the most mmon, so that during an epidemic close attention all wounds of the skin would probably be of much ue as a prophylactic measure. For unknown reasons tain epidemics show a great preponderance of pneu- nic cases, in primary and horribly virulent form.

Morbid Anatomy and Histology.—The descriptions of gross lesions which follow have been culled from reports of the various commissions that have re- tly studied the plague, and from the writings of vate investigators; but the microscopic changes I e been able to work out personally—thanks to the dness of Dr. Arnold.



4.—Section of bloodvessel from stomach-wall showing pest-bacilli. Section xed in solution of Foà, embedded in paraffin and stained in carbol-toluidin lue, and differentiated by glycerin-ether. Zeiss "*h*" eye-piece and $\frac{1}{12}$ inch omogeneous oil-immersion objective.
n. Endothelial cells; *b b b*. Red blood-cells; *c c c*. Pest-bacilli.

here are three well-defined forms of plague, (1) bubonic, which may be mild or malignant; (2) the umonic form, which may be primary or secondary; (3) the septicemic variety.

. The first of these is by far the most frequent and portant and the description which follows applies to form alone; the malignant variety is alone con- red, as death is not caused by the mild form.

he bodies of those dead of pest show early post- tem lividity, and the postmortem rigidity comes emarkably quickly and is very firm. The tempera- of the body often increased after death,—going igh as 108° F. in some cases. The skin often shows chiae, and in a small percentage of cases carbuncles t. Instances have been recorded where the con- tivae have been first attacked, and violent inflam- ions of the cornea may follow. Dr. Arnold infected bits thus that died quicker than controls inoculated utaneously; he did not observe conjunctivitis, and cornea appeared to be but mildly inflamed. Un- nately, the pathologic changes were not traced.

On opening the body the serous membranes are found very dry, and there are not infrequently ecchymotic spots on their surfaces. The organs will be considered in the order in which important alterations occur in them.

The Lymph-nodes.—Any of the lymph-nodes may be primarily affected, but in about half of the cases those of the groin first show the disease; of the remaining half about 50% occur in the axilla. The more superficial nodes are, as a rule, first affected, but generally the disease quickly extends to the entire chain to which the gland that is first affected, belongs. The other lymph-nodes of the body in a short time become swollen more or less—especially those of the mouth, throat, intestines, and mesentery. On cutting down on the nodes that are primarily diseased the tissues surrounding them are found much swollen and may exhibit hemorrhagic foci. The nodes themselves are enlarged to many times their normal size. On section they are found to be quite firm if the process is recent, or not very violent; but they are very soft if the disease is severe, or well developed. In the very severe form the contents of the nodes may be found to be semifluid in consistence, and somewhat mucilaginous, or the material found within them may resemble lard. It is rarely possible to distinguish the cortical and medullary portions from each other. The cut surfaces present a greyish red color, which generally presents here and there darker areas of hemorrhage, or quite as often, the entire contents of the node are of a dark red color. The nodes in other parts of the body which swell present on section the usual appearance,—hemorrhages within their substance never occurring, unless the implication is in the nature of a relapse, which Dr. Arnold several times observed in patients eventually recovering.

On microscopic examination the tissue surrounding the glands shows evidence of swelling, the smaller bloodvessels—especially the veins—are all irregularly dilated and there is a considerable collection of lymphoid cells and red blood-cells in the lymph spaces and channels. All of the bloodvessels contain many pest-bacilli; these germs are not found in the tissues or lymphatics. None of the tissue shows evidence of change without the necrosis extends through the capsule.

The tissues composing capsules of the nodes are also much swollen and present in every instance the same alterations which are seen in the tissues surrounding, except that all of the lymph-spaces and lymph-channels contain multitudes of the bacilli. The same alterations are seen in the trabeculae which pass into the substance of the nodes; the finer ramifications of these trabeculae are lost in the substance of the nodes shortly after passing into them.

In those instances where the node has just been attacked or where the disease is of a mild character there is evident increase in the number of cells within them, the vessels are dilated and the lymphatic channels contain many bacilli. But when the disease is of a more virulent form or has existed longer it is even impossible on microscopic examination to determine the exact limits of the cortical and medullary portions, for the normal structures of the part melt away before the bacilli as does a snowbank under a summer's sun. Almost the entire gland-contents now consist of a finely granular material which is colored pink when stained by haematein and eosin, or by the method of Van Gieson; intermingled with this

granular material there are quite a number of cells and some cellular debris. If the section be stained by the toluidin-blue and glycerin-ether method, or by toluidin-blue followed by eosin, this granular material is found to consist of countless myriads of the pest-bacilli—they constituting in many instances more than one-half of the entire contents of the node. It is noteworthy that the bacilli here do not stain quite so deeply as do those which are in the capsule. The cells which have just been referred to as still occurring in the nodes, consist for the most part of lymphoid cells, but intermingled with them are quite a number of hyalin cells, many of which are actively phagocytic. In some of the phagocytic forms as many as 30 to 40 pest-bacilli were found; it was, however, evident that the bacilli were the victors in the strife, as in no instance did they stain differently from the free bacilli in the neighborhood, and the hyalin cells were observed in all stages of degeneration. The first degenerative change observed in the phagocyte is that the nuclei disappear, after which the cells quickly break up and likewise entirely disappear. Immediately following the hyalin cells, as regards the number present, are mast cells. They have the appearance of being developed from the hyalin cells, for cells are frequently seen the protoplasm of which is hyalin except that there may be only at some point within it a few granules which exhibit the mast-cell reaction; all stages of this change may be observed up to the completely developed mast-cell. The mast-cells, whether only forming or completely developed, never appear to be phagocytic, but it was observed that around many of the cells there is a zone in which no bacilli lie. Can it be that they elaborate an antitoxin? As shown in this issue of the PHILADELPHIA MEDICAL JOURNAL, the so-called mast-cells are really cells that elaborate mucin, and the mucilaginous consistency of the contents of the affected nodes is probably due to their activity. Whatever the function of the mast-cells, their presence is of much diagnostic importance, as I have never seen them present in any other lesions of lymph-nodes. There are also a few plasma-cells and a *few* polymorphonuclear leukocytes. I emphasize the fact that there are only a few of the latter cells present, for the reason that almost without exception writers speak of these glands as suppurating when their contents break through the overlying tissues and discharge externally, as sometimes occurs. From the changes in the nodes it is evident that their contents no more consist of pus, than is the centrally located cheesy material of tubercles composed of the same material, and it is obviously wrong to speak of the process as a suppurative one. If, however, any of the organisms of suppuration should reach the diseased area a true suppuration would ensue, hence this condition may really exist in some cases. Childe is the only writer who seems to have recognized this thoroughly; he says, "still there is no distinct appearance of pus and it seems to be a necrotic softening." In addition to the cells mentioned there are great numbers of red blood-cells lying scattered everywhere through the necrotic tissues; these cells are generally fairly well preserved. As has been before remarked there is some cellular detritus, but there is by no means so much as one would expect. It consists of nuclear remains and minute fragments of the protoplasm of degenerate cells. Although all parts of the node show the effects of the presence of the Bacillus pestis, the oval adenoid masses in the cortical portions of the nodes show less change than do the other tissues. Although the greater portion of the cells composin these masses usually show evidence of degeneration th form of the mass is generally well preserved, an toward their centers there is almost always a collectio of cells which are for the most part normal in appea ance; but between the normal cells degenerate ones a seen, and there are also many red cells in the sam situations. The genetic zones in these masses have di appeared entirely in all cases. In the medullary po tions of the nodes here and there small cellular masse are occasionally encountered, the cells of which for th most part are normal.

The bloodvessels in all parts of the nodes are dilate to the last degree, and their walls have suffered greatl —in many instances being entirely destroyed; thes changes are most apparent in the veins. Under thes circumstances the tissues of the walls of the vessel from without inward, swell, become granular, an finally entirely disintegrate. The endothelial cell lining the vessels also swell up and later fall off an undergo degenerative changes. These alterations ur doubtedly explain the hemorrhage which is so promi nent in all of the lesions of the disease.

Lymph-nodes from parts of the body at a distanc from the original focus of the disease only show to th unaided eye some swelling, and a somewhat darker colo than is normal. On microscopic examination the cell of which the nodes are composed are found to be appar ently somewhat increased, and the bloodvessels are di lated. In severer cases those vessels usually contai bacilli, but they are not found in the gland-substanc

The Lungs.—An important complication of the ordi nary bubonic form of the plague is pneumonia. In jus what percentage of cases it occurs there are no statis tics, but everyone who has studied the disease men tions that it is often observed, and it is said tha those affected invariably die. The disease shows itsel in the lungs as a bronchopneumonia, but more of th lung-substance is involved than is commonly the cas in the ordinary forms of the disease. I have no speci mens of this peculiar form of pneumonia, and unde the necessity, therefore, of merely saying that thos who have studied the lesions consider that the change are practically those that are observed in bronchopneu monia from other causes.

A fibrinous pleuritis is sometimes observed in con nection with the pneumonia.

Spleen.—The spleen is increased in size. On sectior it is found to be dark in color and quite soft. O microscopic examination its vessels are found greatl dilated, and there are numerous hemorrhagic areas i its substance. Many of the cells show degenerativ changes. The bacilli are always found—oftentimes i great numbers—within the organ.

The Kidneys.—The kidneys may be normal in siz or somewhat enlarged. On section it is found that th organs contain more blood than is usual, and that her and there—especially between the Malpighian pyra mids—areas of hemorrhage into the tissues are seen The capsule strips readily, and the cortical portion o the viscus is thickened and quite friable.

On microscopic examination the epithelial cells o the cortical lobule show a mild degree of granula change, and in some cases the cells have undergon extensive degenerative changes, and have lost thei nuclei. Within many of these tubules there is found a hyaline substance which stains with acid dyes, and in form and appearance perfectly resembles the hyalin

asses found in the tubules of the normal thyroid. reas of hemorrhage are occasionally seen in the inter-itial tissues, especially between the collecting tubules. here is in no case evidence of inflammation in these sues, but all of the bloodvessels are enormously lated. Further than that the vessels here show the neral dilation, there are no perceptible changes in the alpighian bodies. In all of the bloodvessels in the sec-ons examined, both in those of the Malpighian bodies d in those of the kidney-substance in general, many ague-bacilli were found.

The Liver.—The liver may be of the usual size, but is generally somewhat enlarged. On section it may esent a pale color, or what is more frequent, it is of a rker red color than normal.

On microscopic examination the liver-cells are found be swollen, very irregular in form, quite granular, d their outlines are often very indistinct; in many the cells the nuclei stain faintly, or not at all. The inute capillaries between the rows of cells are dilated d filled with much more blood than is normal; the ger vessels show the same alteration. The bacilli are undantly present in the blood of all these vessels.

The Intestine and Stomach.—Macroscopically, the mu-us membrane of these viscera show hemorrhagic foci, d the lymph-nodes are enlarged. There is an in-ase in the number of cells in the lymph-nodes in of the specimens examined. Further than this no ange was found.

Brain and Meninges.—The brain and meninges usu-y appear somewhat congested, and in rare instances rinous meningitis and meningoencephalitis have en found. I have had no opportunity to examine tions of this rare condition, nor have I been able to d a microscopic description of changes which occur.

2. A second form in which the disease manifests elf has already been referred to, the pnemonic form, t occurring as a complication of the bubonic variety. is form of the malady is evidently contracted by alation of the microbes of the disease and is rare. ere occur in the lungs, so far as I am able to learn, ctically the same changes as when infection comes m within the body, and there is probably no differ-e except that the patient's chances of recovery would somewhat better in the latter case.

3. The third form is the septicemic. The bacilli these cases probably gain entrance to the blood-rent as the result of a puncture of the skin, and, ltiplying rapidly, produce death in a few hours. stmortem, the lymph-nodes and spleen are found arged, and the meninges and brain congested. The illi are found in the blood in great numbers.

A mixed infection frequently occurs, the germs usu-y found being the streptococci, the diplococcus of eumonia, and the different varieties of staphylococci. ese germs, however, probably in most instances gain rance to the organism in the agonal period, or just or to it, and do not influence the final result.

It is a matter of some interest that the hemorrhages ich have been so frequently mentioned as occurring he various organs in this disease are not caused by the re presence of the bacilli, but that they are the effects a poison or poisons produced by the bacilli. The Ger-n Pest Commission reports that a woman suffering h the pest gave birth to a dead child, and although body was entirely free of the bacilli, the hemorrhages e very numerous in its organs. The leukocytosis, ich is quite constant in the plague, may be frequently made out by examination of sections of the tissues—the white cells being evidently increased in the blood that is present in the bloodvessels.

The following notes, concerning the clinical features of plague, are by Dr. Arnold:

A satisfactory sketch of a typical plague case would show a great deal of artistic filling in; and it would not conform often enough to what one actually would see to be of much value to him. I ascribe this to the tremendous potency of the plague-toxin; it has its primary action upon the walls of the capillary blood-vessels; and it can be readily seen that it is unreasonable to expect pathognomonic symptoms, or even definite ones, when practically all of the finer portions of the anatomic structure may receive injuries almost without limitation or order.

The etymology of its names conveys nearly as much as can any description. One may conclude that it was not merely its horrible fascinating power that induced Noah Webster to write a monograph upon it at a time when it had nearly ceased to vex the earth. *Plague*, conveying death with the suddenness and certainty of a blow; *black death*, having reference to ecchymoses that ensue upon trifling injuries; and a large proportion of the descriptive terms that come into use upon its reappearance amongst semicivilized nations, touch its most salient features. I think that ecchymosis following an injury, such as a very slight blow or a firm pinch, may fairly be considered the most prominent clinical sign of plague. I consider it an early symptom, but it does not long survive the subsidence of the initial rise in temperature. An inflamed lymph-node, hemorrhagic in its center, has been accepted as conclusive of the cause of death in perhaps the majority of the bodies dead of plague that I have seen examined upon suspicion.

With the microscope, cultures and inoculation of animals there need be no doubt after 48 hours, except in light cases well advanced and presenting suppurating buboes. Yersin (*Annales de l'Institut Pasteur*, Paris, 1899, p. 255) advises the removal for examination of an affected lymph-node; and he bases diagnoses upon frank morphological characters, decolorization with Gram's staining gelatin cultures and guineapig inoculations.

After a short period of incubation—1½ to 3 days—there may be a rigor followed by fever that is rarely excessive. There may be other evidences of elevated temperature, such as injected conjunctivæ, duskiness and flushing of the face, headache, vertigo, "clipped" speech (as in beginning alcoholic intoxication), occasional staggering gait, early delirium; but any or all of the foregoing may be absent. I never acquired any confidence in my ability to recognize plague by its *facies*. The pulse is full, possibly bounding; it has never conveyed to me any evidences of high vascular tone. Later, in all except light cases, it becomes either running or dicrotic. Death may be either through circulatory or respiratory failure. It often comes quickly after exertion, and is not infrequently immediately betokened by complete relaxation of the sphincters. The tongue is early coated with a more or less light whitish fur that soon changes to yellowish and may ultimately become almost black. The mouth tends to become dry, sordes form quickly, and there may arise buccal and pharyngeal ulcerations of considerable extent. Constipation is the rule. I thought that I observated colliquative diarrhea in two cases that recovered. Physical prostration is always marked.

When there are buboes, they are usually to be found within the first 12 hours. They increase in size with comparative rapidity, and although individual glands do not often reach the size of an ovoid 2 by 3 cm., much diversity is found from matting together, and many erroneous impressions are conveyed by the changes set up in the integuments. They are practically always painful, if not spontaneously, at least to mild pressure as of examination by palpation or from extending the affected limb. Occasionally they appear just before death in the internal cases.

Such cases as present no buboes have received infection either through the respiratory, genitourinary or digestive passages. I saw several cases that presented conclusive evidence to me of the last mode of inoculation. But I did not find a patient presenting unequivocal bloody sputum in life, nor a body that showed frank pneumonia at autopsy. There were, of course, hypostatic changes in the lungs, subpleural hemorrhages, points of secondary inflammation in lung-tissue, etc., but nothing that I should have called lobular pneumonia without authoritative sanction, and never an hepatized lobe. Perhaps it was due to the comparatively limited sources of infection that then (1896) prevailed at Hong Kong and to the dampness of that climate.

The temperature remains elevated—102° to 103.5°, or, rarely, higher—for about three days. Then it is reduced to within a degree or two of normal, soon to rise again with the irregularities characterizing septic processes of less sinister origin, and to continue throughout the usually protracted convalescence.

It must be remembered, however, that a bare 10% of all cases will reach this septicemic stage, as it is called. Pneumonic plague cases all are fatal, usually within the first four days, and without other symptoms than fever, cough, bloody expectoration, pain in the chest and the symptoms of the digestive—and circulatory—system noted above. Infection by way of the gastrointestinal tract is also practically hopeless as to prognosis.

Atypical manifestations, even of the bubonic variety, are usual at the extremes of life. Children usually show cervical buboes, while the aged furnish most of the so-called fulminant (*foudroyant*) cases. But, to qualify generalizations, many of these old patients afford no satisfactory means of establishing the nature of their illness, and frequently with them the diagnosis of plague is an anatomic one. The cures in the aged that I witnessed occurred in opium smokers; in one case it was by the sloughing out of a bubo in the groin *en masse*.

Except the microscope, none of the usual aids to clinical diagnosis afford us much assistance here. There is albumin in the urine and, frequently, indican; and hyaline casts are usually seen, with granular ones (that stain like they were of nuclear material) very common. The temperature-chart, should it begin early enough to be satisfactory, is not more than suggestive of this disease. Fever may be, as Yersin says (*loc. cit.*, p. 254), the one constant symptom; but his succeeding statement to the effect that only very marked symptoms may still but serve tentatively to establish a diagnosis is a clear cupful from his undefiled fountain.

Headache, embarrassed respiration and digestive disturbances, such as vomiting and constipation, are often met. Where are not these seen in beginning illnesses?

Obviously, the safety of those inexperienced with plague lies in certainty as to the cause of deaths about them, particularly when the patients were associated in any way closely.

I have had no experience with Yersin's *sérum a pesteux*, nor with Haffkine's prophylactic. I consic however, that each of these agents is beyond any co mendation of mine, and each incapable of doing w judicious use great harm. I should most assuredly av myself of the measures of protection that they affo if I were thrown again with plague cases; and if I w to be attacked with the disease, I should accept somewhat stiff (200 cc. in 48 hours) doses recently reco mended by Calmette and Salimbeni.

In the absence of the *sérum antipesteux*—and I belie that none has been prepared on this side of the Atlan as yet—should I be so unfortunate as to acquire a bu I should have it burned as nearly completely away its situation would admit of, using the Paquelin caute and general anesthesia. If I, still more unfortunate had plague without a bubo, I should neither make r entertain therapeutic suggestions.

I have not seen that emphasis put upon the necess for early diagnosis of plague that is so necessary success with the serum-treatment. Marked circulato weakness indicates the hopeless stage, according to personal communication to me from Dr. Yersin.

Prompt evacuation of abscesses, supporting treatme and careful attention to diet, cover the important poin in plague convalescence. While I think that t measures that are routine with surgical patients in good hospitals will serve to prevent such a patient fro spreading his complaint, still the importance of limiti its spread makes the fullest precaution imperative.

Diagnosis.—In the typic form of the plague the dia nosis is very easy, but in the mild glandular types, the septicemic form, and in the pneumonic for errors might be easily made. In all cases of dou resort should at once be made to a bacteriologic exa ination, which if properly carried out will almo without exception lead to a correct diagnosis. In t bubonic form the gland should be opened under ase tic precautions and some of the contents planted some of the ordinary culture-media, and cover-sl preparations should be at once made, stained, and su jected to microscopic examination. In most instanc certainly the latter procedure will at once determi the true character of the case, as, in addition to t morphologic characters of the bacilli, their very nu bers serves to distinguish them, for in no other disea are so many bacteria present.

In the septicemic form a small quantity of bloo should be examined in the same way, and if the b cilli are not found in the cover-slip preparations th will develop in the cultures. An examination of t sputa in plague pneumonia is at once sufficient place the diagnosis beyond all doubt, as this materi always contains the bacilli in great numbers—ofte times in pure culture.

Mortality.—There is no epidemic disease in whi the mortality is so high as in the plague, but like oth epidemic diseases this varies greatly at different tim and in different outbreaks of the disease. In son instances it has been so mild that the very fact that was plague was entirely overlooked, while in others, in the present epidemic in China, the mortality amo the Chinese has been so high as 98%. Statistics sho that in India at the present time the mortality about 75% among the natives. It is to be observ that the mortality is by no means so high in Eur peans in these same districts, for of the whites wh have the disease the percentage may be said never

over 60% and it is usually even much less. It uld be stated, however, that Dr. Arnold strongly ubts the accuracy of these statistics. The septice- c and pneumonic forms are the most fatal—patients ays dying of the former, and almost always the latter; practically all who recover suffer with the lder forms of the bubonic variety. If the necrotic terial in the buboes makes its way through the rlying tissues and skin, and evacuates itself, the ient's chances of recovery are generally admitted be improved, which fact, apparently, supplies aluable hint in the way of therapeutic measures. on the other hand, the material in the buboes be- nes diffused into the tissue, and is not evacuated, th from septicemia quickly follows. The mortality ms undoubtedly to be lessened by the use of rsin's antitoxin, he having lost only two cases out of who were injected; the number, it is true, is very all, but at a time when the average mortality was ut 90% in those uninoculated the results are cer- ly astonishing. Calmette and Salimbeni have re- tly also used this serum-treatment in Oporto, and ort that they lost only 14.78% out of 142 plague ients; the mortality among those who did not receive treatment was at the same time 63.72%. Yersin only cured 58% of all cases treated in a recent demic in Annam in which the cases that received no *m antipesteux* died without exception: he stamped the disease. As we fear we shall hear much of npings out in the near future, it behooves everyone cerned to give earnest heed to his methods that are ailed in *Ann. de l'Institut Pasteur*, Paris, 1899, p. 25. of the work of this most single-minded man of science f the greatest importance in connection with plague, ose Jenner we hope (and expect) him to prove.

Prophylaxis.—The matter of prevention, when viewed ll of its complicated relations, would require for its consideration much more space than it is possible ssign to it in this article, and, therefore, all that will attempted will be, as briefly as possible, to outline principal indications.

t should always be borne in mind that animals play ery important role in the transmission of the plague here being reason for the belief that rodents, espe- ly, transmit the disease from one locality to another re frequently than do men. It is therefore highly irable to as far as possible destroy these vermin in a ation where an outbreak of plague is threatened, even greater care should be exercised to prevent suffering with the disease from gaining entrance to lthy localities. Dead rats in infected districts uld be carefully cremated; squirrels and other less mon genera may spread it. All blood-sucking in- s constitute active menaces.

strict quarantine should be maintained against all cted places, and everything coming from such situ- ns should be carefully disinfected. This matter of rantine brings up the question as to the length of e suspects should be held. The precise limits of incubation-period of the plague are not known, it is the general opinion that this period lasts from hours to 5 days; nevertheless, instances have n recorded where the disease was apparently devel- d after an incubation period of as much as 11 s. Therefore, to be on the safe side, all persons who e been exposed to the contagion should be detained east 12 days. Those who are suffering with the ady should be at once isolated, and only persons whose attendance is absolutely necessary should be allowed to visit them. All of the discharges and secretions should be thoroughly disinfected. The air and sunlight should be freely admitted to the sick-room. The attendants should use every means to prevent infection, of which, as was shown somewhat over a year ago by the melancholy death of Dr. Müller in Vienna, there is much danger. By being frequently washed in antiseptic solutions, the hands, face and mouth should be kept as thoroughly cleansed as is possible.

In addition to these and other procedures that might be dictated by the ordinary rules of sanitary science, certain special precautions that appear of much value may be resorted to when individuals have been exposed to the contagion of plague. Under these circumstances the hypodermic injection of 5 cc. of antitoxic serum of Yersin should at once be made, and it would probably be wise to repeat the injection in a short time. The protective power of these injections, unfortunately, does not exceed 15 days, so that it is necessary to repeat them at intervals of about two weeks.

A few words as to the method of preparation of this antitoxic serum may not be without interest. The process is to administer intravenously, at first in very small numbers, progressively increasing quantities of living pest-bacilli, until the animal acquires a marked degree of immunity, and 0.1 cc. of serum from its blood becomes capable of protecting a mouse weighing 25 grams against a culture of the living organism. When this stage is reached the serum is drawn from the horse and is stored in hermetically sealed tubes for use.

Perhaps of even greater value as a protective is the prophylactic fluid of Haffkine. This consists of a solution of the metabolic toxic substances which are produced during the growth of the plague-bacilli. For this reason the fluid should not be given to one who has been exposed to the contagion, as, in case he should be at the time developing the plague, the addition of these toxins to those already present in the body might produce disastrous results. But as a prophylactic measure, when the individual has not been exposed to the disease, there can scarcely be a doubt of its efficiency. The method of preparation is as follows:

Haffkine prepares a bouillon for the cultivation of the bacilli as follows: A kilo of goat's flesh is chopped and heated at a pressure of three atmospheres for six hours in a week solution of hydrochloric acid. The liquid is then filtered, neutralized, diluted with water to three liters, and sterilized. Some of this is placed in a flask and fresh plague-material is added. If the plague-bacilli are present they will develop in from 8 to 14 days, and form the stalactite growth already referred to; it is then determined by the microscope if there be a pure culture. Flasks holding 3 liters of the bouillon are then inoculated if the culture be pure, and the bacilli are allowed to grow until there is again developed the peculiar stalactite growth; the vessel containing the growth is then shaken, until the colonies sink to the bottom, and the growth is allowed to re-form twice more, followed each time by shaking the vessel. When this has been done, which usually requires about 6 weeks, the bouillon is heated to 60°C. for three hours. The clear liquid is then decanted and placed in hermetically sealed tubes, and may be used at any time. One to two cc. of the liquid is injected beneath the skin. But little reaction follows its use. The fluid confers immunity for a longer period than the serum of Yersin, but does not prob-

ably protect longer than 30 or 40 days. As to the efficiency of these injections it may be mentioned that during the recent terrible epidemic of Hubli only 47 persons contracted the disease out of 8,313 who received the treatment; 3,387 of these were vaccinated twice, and of the number only 2 afterwards suffered with the malady, one of whom died.

In conclusion I wish to acknowledge my indebtedness for many of the facts contained in this article to the reports of the pest commissions of Germany, Austria and Japan, to recent articles by Lowson, Haffkine, Childe, Abel, Barker and Flint, and particularly to the writings of Yersin, Roux, Calmette and Salimbeni.

THE SHARE OF "THE WHITE MAN'S BURDEN" THAT HAS FALLEN TO THE MEDICAL DEPARTMENTS OF THE PUBLIC SERVICES IN PUERTO RICO.

BY JOHN VAN RENSSELAER HOFF, A.M., M.D.,

Chief Surgeon, Department of Puerto Rico. President of the Superior Board of Health, Puerto Rico, and of the Board of Charities, Puerto Rico.

ROBBED of all superfluities, the real reason why we are in the Antilles today is because our people had determined to abate a nuisance constantly threatening their health, lives, and prosperity. Of course there were other factors of certain value, strategic, mercantile, humanitarian and sentimental, but all of these only helped to emphasize the fact that Spain was maintaining a pesthole at our front door and we could no longer endure it. Puerto Rico's share in the offending was comparatively small, and so overshadowed by that of Cuba, as to be almost lost sight of, but, nevertheless, it will be seen that she stretched a threatening hand toward our shore.

What the possibilities were, and yet are, in this direction may be learned from a careful study of the morbidity and vital statistics of the island, imperfect and inaccurate as these are. The census of 1889 gives the population of Puerto Rico as 806,711, that of 1897 as 894,280, and that of 1899 as 957,779. During the period of ten years ended December 31, 1899, the annual deaths were approximately as follows:

1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
25,698	24,855	22,707	21,198	23,952	24,808	23,583	28,939	31,271	37,552

The average death-rate for this period is 29 a thous
The actual death-rate in 1890 was 30.2 a thousan
1899 was 39.2, and the least rate for the decenni
that of 1893, was 24.9.[1] It will be observed tha
marked rise in mortality occurred in 1897 and follow
years, which, however, is not traceable to any epide
as may be seen by reference to the detailed morta
reports for the municipalities, two of which are
quoted, but is probably due to previous inaccurate
ports and the disturbed condition of the country.
1899 the mortality was greatest, but in it must
reckoned 2,785 deaths directly due to the hurricane,
goes to its remote results.

The population of San Juan is 32,555. The cit
paved and partly sewered, and considerable care is give
sanitary observances. The death-rate in 1899 was
per thousand. The population of Arecibo is 37,
The city is neither paved nor sewered and the sanit
condition is about the average of towns in Puerto R
The death-rate in 1899 was 45.3 per thousand. In
Juan tuberculosis cuts far the larger figure, a fact
counted for by the crowded condition of the teneme
within the walls. In Arecibo "anemia" was the n
fatal. This disease is in reality ankylostomiasis, a
very recently demonstrated for the first time by F
Lieutenant B. K. Ashford, Medical Department, U
Army. Yellow fever occurred in both places annua
until 1897.

Typhoid fever was introduced by our troops i
Arecibo in 1898, when it was reported for the only ti
in the decade. In San Juan it is endemic. Smallp
which formerly was quite common in both cities, cau
but one death since 1897. This disease reached alar
ing proportions in both San Juan and Arecibo dur
the decade, but not in the same year. Deaths fr
diphtheria occurred almost annually in San Juan,
infrequently in Arecibo.

San Juan is almost the only municipality of importa
in which there has not been a considerable increase
mortality during the last ten years and is the only c
which has sewers,[2] waterworks, and carefully enfor
sanitary regulations. The overcrowding of its te

TABLE OF MORTALITY FROM SOME DISEASES PREVALENT IN SAN JUAN AND ARECIBO.

	1890.		1891.		1892.		1893.		1894.		1895.		1896.		1897.		1898.		1899.
	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.	Arecibo.	San Juan.
Anemia	11	147	8	119	15	107	17	103	14	109	16	89	17	149	22	190	17	344	17
Diphtheria	7	.....	4	1	15	.....	8	.....	4	.....	1	.....	3	.....	1	.....	.....	5	4
Dysentery	12	.....	4	.....	9	.....	2	.....	.....	.....	3	.....	6	.....	64	.....	12	.....	10
Smallpox	3	151	6	6	0	.....	0	.....	150	.....	80	4	1	9	.....	.....	.....	1	.....
Tuberculosis	165	.....	175	6	142	5	145	4	189	11	166	18	179	15	199	7	180	18	124
Typhoid fever	12	.....	10	.....	9	.....	11	.....	10	.....	11	.....	9	.....	15	.....	5	5	7
Yellow fever	85	.....	3	.....	41	7	55	2	78	.....	251	1	40	.....	1	.....	.....	.....	.....
Other causes	613	760	647	716	635	831	611	778	584	845	635	759	705	789	990	772	702	916	726
Total	908	1058	857	848	866	950	849	887	1029	965	1163	871	960	962	1272	969	916	1289	888

[1] This is believed to be understated, and some allowance for error mu
made in all statistics quoted. Stillbirths are included under both births
deaths.

[2] Some other cities have waterworks but no system of sewers.

ents prevents more satisfactory results. Mayaguez ows a slight decrease, but its death-rate is still excesve. The death-rate in some of the more important unicipalities was as follows:

DEATH-RATE PER 1,000.

	1890.	1899.
San Juan	33.2	27.2
Arecibo	35.5	45.3
Aguadilla	22.9	36.1
Mayaguez	46.6	44.6
Yauco	41.5	51.
Ponce	33.4	[3]42.4
Humacao	33.4	29.1
Juana Diaz	44.5	32.7
Caguas	34.1	40.9
Utuado	37.2	[3]80.5
Adjuntas	35.2	68.2
Ciales	27.3	62.1

From the foregoing it may be seen that the task imed by this part of our burden is the reduction of the th-rate from an average of 39 which now obtains to average of 22 which has obtained, or if possible less. rinsically there seems to be no reason why Puerto o should not be one of the most healthful of places. ture has lavishly endowed this fair isle to such an ent that it may be truly said, in all the world no re beautiful spot can be found. Location, climate, nery, soil, are all most inviting, and the island, surnded by wide expanses of the ocean, washed by host daily showers and swept by the constant tradeds, invites healthfulness and repels disease. These nderful natural advantages have enabled Puerto Rico maintain in comparative health its ever increasing ulation, now 200 to the square mile, in spite of anitary conditions which elsewhere would have n unendurable. It is enough to say that these ditions are Spanish. Perhaps it is because Hy was a heathen divinity that her name and any tice it might typify appear to be tabooed within the ndaries of His Most Christian Majesty's Colonies. tain it is that even the laws upon sanitation are defit, which is the more remarkable, because, whatever shortcomings, Spain is a good lawmaker.

anitation was not, however, wholly neglected. There a board of health made up of some of the highest ials, including the Captain-General. Exterior quarne was well provided for on paper. There was a lth-officer at each port, but no quarantine station, ept the Lazaretto, on Cabras Island, at the entrance he harbor of San Juan.

egulations governing interior quarantine seem to e been regarded as a local matter to be formulated he municipalities, under municipal boards of health, ch latter, however, have had but a nominal exist. Each district had at least one public physician the care of the sick poor, and attached to each t was a physician whose function seemed to be licolegal. Monthly reports of sanitary conditions epidemic diseases were made to the Secretary of e by the Alcalde, and reports of vital statistics by district courts.

s the early extinguishing of Spain's authority in rto Rico became more and more apparent the rements of law were less rigidly observed and demoration followed. Its effects are directly reflected in vital statistics of the years immediately preceding the change of jurisdiction and have continued since then. The medical departments of our public services were not slow in realizing the necessity for systematic organization to counteract conditions which in five years had almost doubled the death-rate. From the day of the invasion great care was taken to improve the sanitary surroundings of the troops and consequently of the people. Garrisons were scattered in various towns all over the island, which towns were constantly inspected, and required to be kept thoroughly policed. Medical officers made weekly reports of the health of the commands and the people, and very soon the department was thoroughly informed of the existing sanitary conditions and requirements.

With decreasing numbers and concentration of troops, in a word, a settling down to peace conditions, the plan of organizing a central board of health was carried out as follows:

GENERAL ORDERS No. 91.

HEADQUARTERS DEPARTMENT OF PORTO RICO.

San Juan, June 29, 1899.

A Superior Board of Health is hereby constituted for Porto Rico, the authority of which will extend throughout this Department, and to which all local Boards of Health will regularly report.

The Board will for the present be composed of six members as follows:

Major John Van R. Hoff, Surgeon U. S. Army, Chief Surgeon of the Department,
Surgeon Arthur H. Glennan, U. S. Marine-Hospital Service,
Surgeon F. W. F. Wieber, U. S. Navy,
Dr. George G. Groff,
Dr. Gabriel Ferrer,
Dr. Ricardo Hernandez.

The Chief Surgeon of the Department will act as President of the Board and Dr. George G. Groff is appointed Secretary and Treasurer.

The Office of the Board will be at these Headquarters, where its meetings will ordinarily be held, at such times as may be appointed. Four members will constitute a quorum.

The Board will meet as soon as practicable to prepare regulations covering the scope of its work, which will be submitted to the Department Commander.

By command of Brigadier-General Davis:

W. P. HALL,
Adjutant-General.

The function of the Superior Board of Health is set forth in the following order:

GENERAL ORDERS No. 102.

HEADQUARTERS DEPARTMENT OF PORTO RICO.

San Juan, July 18, 1889.

For the information of all concerned, the following orders are published relative to the duties of the Superior Board of Health constituted for the Island of Porto Rico by General Orders, No. 91, current series, these headquarters.

It shall be the duty of the Superior Board of Health:

I. To have general supervision of all the interests of the public health of the Island, and to especially study its vital statistics.

II. To make sanitary investigations and inquiries respecting the causes of disease, and especially of epidemic diseases, including those of domestic animals, the sources of mortality, and the effects of localities, employments, condition, habits, food, beverages, and medicine, on the health of the people.

III. To disseminate information upon these and similar subjects, among the people.

IV. To institute sanitary inspections of all public institutions or places throughout the Island.

V. To consider, and report to the Governor upon, the plans and specifications for all new water-supplies, drainage, sewer-

er 800 deaths in Utuado were due directly to the hurricane and sin he mortality has been unusually high. In Ponce about 500 were drowne

age plants, and public institutions of all kinds, or for alterations in such public works or institutions. Copies of such plans and specifications will be filed in the office of the Board.

VI. To suggest amendments to the sanitary laws of the Island, and to have power to enforce such regulations as will tend to limit the progress of epidemic diseases.

VII. To have power and authority to order nuisances, or the causes of any special diseases or mortality, to be abated and removed, and to enforce such interior quarantine regulations as said Board shall direct, in cities, municipalities, districts, or places where there are no local Boards of Health, or in case the sanitary laws or regulations should be inoperative, in places where Boards of Health, or Health Officers exist. Any person who shall fail to obey, or shall violate such order, shall upon conviction, be sentenced to pay a fine of not more than one hundred dollars, or be imprisoned for not more than 60 days, at the discretion of the Court.

VIII. To have general supervision of the Insular system of registration of births, marriages, and deaths, and of prevalent diseases, and to insure the faithful recording of the same; also to prepare the necessary methods, forms, and blanks for obtaining and preserving such statistics.

IX. To prepare regulations governing the admittance of persons to the practice of medicine and surgery, pharmacy, dentistry, midwifery, embalming, and undertaking, and to enforce such regulations as are adopted by the Government of the Island.

X. To inquire into and report upon violations of laws governing the purity and wholesomeness of foods, drinks, drugs, and medicines. To submit, through the Governor of the Island, regulations to control offensive and dangerous occupations, and to report upon, and make recommendations regarding any special sources of danger to life or person.

XI. To require all Health Officers and Health Boards thoughout the Island, to forward to the Superior Board copies of all their reports and publications, and such other sanitary information, as it may request. To require reports and information concerning such matters or particulars, in respect to which it may, in its opinion, need information for the proper discharge of its duties, from all public dispensaries, hospitals, asylums, infirmaries, prisons, penitentiaries, schools, and from the managers, principals and officers thereof, and from all other public institutions, their officers and managers and from the proprietors, managers, lessees, and occupants of all places of public resort throughout the Island.

XII. To from time to time engage suitable persons to render sanitary service or to make or supervise practical and scientific investigations and examinations requiring expert skill, and to prepare plans and reports relating thereto This regulation must not be considered as authorizing any expenditure beyond the sum specifically allotted to the Board for such purposes in the annual budget. When the cost of such investigations exceeds the allotment, special authority for the expenditure must be obtained from the Governor of the Island.

XIII. To make a written report to the Governor on or before June 30 of each year, covering the general sanitary conditions of Porto Rico, the work of the officers and agents of the Board; and a detailed statement by the Treasurer of all moneys received and disbursed during the year. To submit special reports from time to time as the occasion may demand.

XIV. To especially supervise subjects directly relating to public health, as follows:

1. Public water-supplies.
2. Markets, bakeries, groceries, and milk depots.
3. The purity and wholesomeness of all foods, drinks, liquors, drugs, and medicines.
4. Public institutions, schools, asylums, jails, hospitals, dispensaries, barracks, court-rooms, theaters, etc.
5. Tenement houses.
6. Vital statistics, marriages, births, deaths.
7. Licensing and registration of physicians and surgeons, dentists, pharmacists, midwives, undertakers, etc.
8. Plumbing, and registration of plumbers.
9. Sewering.
10. Street-cleaning.
11. Privies, water-closets, cesspools, etc.
12. Nuisances.
13. Slaughter-houses, stables, yards,
14. Contagious and infectious diseases.
15. Trades, factories, and industries offensive or injuri to the public health.
16. Undertaking and cemeteries.
17. Disinfection.
18. Licenses and permits.
19. Vaccination and the production of vaccine virus.
20. Diseases of domestic animals communicable to m
21. Interior quarantine,
22. Poisons, explosives, and special sources of danger life and person.
23. Sanitary supervision of travel and traffic.

XV. To institute prosecutions for violations of the p visions of this order in the nearest local court, or in the U Provisional Court, as the Governor may direct.

By command of Brigadier-General Davis.

W. P. HALL,
Adjutant-General

The Board has now been in active existence for o six months, during which period it has vigorou attacked the important problems thrust upon it. has formulated a code of sanitary regulations bas upon the codes of the more advanced States, and l taken advantage of the opportunity to recommend enactment into law, thus giving Puerto Rico *ab initio* sanitary code better than some of our States have be able to obtain in a hundred years.

It has prescribed a State examination, and licens all physicians, dentists, pharmacists, practicantes, mi wives, and nurses now practising here. By this plan has obtained control of the medical personnel of t island, through whose efforts its sanitary salvation m come. It has appointed sanitary inspectors in eve district, from whom regular reports of sanitary con tions are received. It has founded a laboratory for t examination of food-adulterations, etc. It has orga ized a vaccine station for the production of vacci virus to complete the work of general vaccination of t people, inaugurated by the Medical Department of t Army, and to continue the current work. It is colle ing and collating the vital and morbidity statistics. has published several bulletins on prevalent diseas and finally it is meeting the numberless cases that a presented from all sources for its consideration a recommendation.

The work of vaccinating the entire population of country, which was inaugurated here by the writer, a carried to a successful conclusion by the Medical Depa ment of the Army, has no parallel in history and w possible only under the peculiar conditions then obtai ing. All the virus used was made here and the work m be briefly recapitulated as follows:

Number of vaccinations	742,062
Number of revaccinations	116,955
Number of charged points produced	1,024,395
Number of cattle vaccinated	1,201
Total cost of vaccine production	$24,682.23
Total cost of vaccinating	18,422.44
Grand total	$43,105.67

Duration of work: four months.

The immediate result of the work was to crush o an epidemic of smallpox which was threatening fr all quarters of the island and which, in some plac had reached alarming proportions. Further results a shown by the fact that though cases are occasiona reported, yet scarcely a death has occurred during t last six months from a disease which formerly cut large figure in the mortality records.

s previously stated, the Superior Board of Health is ying on the work, searching out the "submerged" ,000 who escaped in the grand attack and vaccina- the infants before they reach the age of six ths. It is believed that smallpox as an epidemic is impossible in Puerto Rico.

War and pestilence had been successfully met by the lical Department and there remained for it only ine, the last and worst of the terrible trio. Famine e with the hurricane of August 8, 1899, and the lical officers, who constitute the Board of Charities to whom the relief work was assigned, have for five ths stood between 200,000 people, and death from vation. The details of this work would fill volumes. recapitulation may be summed up as follows :

eptember 16, 1899. }
anuary 22, 1900. }

Average number of people fed each day	182,915
Total amount of food issued to date.....	19,336,839 lbs.

bout 3,000 tons additional will be required to plete the work.

Total amount of money received by contribution[4]	$15,487.07
Total amount expended.....	9,766.12
Remaining	$ 5,720.95

ot alone the medical officers of the Board of Char-, under whose direction the work was done, but y officer of the army in Puerto Rico and a large ber of non-commissioned officers and private soldiers engaged in the work of relief, and when the full ory of the work is written the people of the United es will learn that our soldiers, trained in the hard ol of war, have gently, faithfully, honestly, and iently ministered to these helpless, starving people, sands of whom, without such help, would have l.

he Board of Charities has also the care of the de- dent classes and the immediate supervision of the ity schools, insane asylum and leper colony.

ll of the above described, it is to be understood, n addition to the regular work of the care of the ps, and the numerous duties that fall to Medical cers of the Public Services, in a word, is our share he "White Man's Burden" in Puerto Rico.

METHODS OF CONTROL OF LEPROSY IN THE HAWAIIAN ISLANDS, WITH A DESCRIPTION OF THE LEPER SETTLEMENT ON MOLOKAI.

By R. S. WOODSON, M.D., U. S. A.

THE Hawaiian Government should certainly be con- ulated on the successful isolation of a great majority epers of the Hawaiian group. The introduction of osy in Hawaii, in 1848, its rapid spread among a in population, and its enormous increase up to nt years are facts familiar to the profession.

While it cannot be said at the present time that the ase has been exterminated it is at least at a standstill. this result great credit is due the very energetic and efficient Board of Health of Honolulu, composed as it is of men well versed in lepnology. Their methods are as follows:

1. The apprehension of lepers and of suspects by the Board of Health and deputy inspectors.

2. Their detention in the receiving hospital near Honolulu for a variable length of time for accurate diagnosis.

3. Their isolation on the island of Molokai, which is practically a life sentence, or if the case is not proved to be leprosy their discharge with the injunction to report once a week to some member of the expert board.

4. The segregation of the children of lepers in their early childhood, who show no evidence of the disease, in an asylum near Honolulu under charge of sisters of charity where they are held until adult life under observation.

Every detail of the system is carried out with the utmost energy and careful supervision to the end that



FIG. 1.

the disease is thoroughly under control. Many difficulties were encountered, in the work of apprehension, finance, humanitarianism, rights of individuals, etc. At the present time a noted desperado, a leper, is ensconced in the inaccessible mountain fastnesses of Oahu, defying the world in the efforts to capture him. Numerous unsuccessful attempts have been made with frequent fatal results to deputies engaged in the work. It may be said, however, that such cases are as well isolated as can be desired.

All cases, both frank and suspect, are immediately sent to the receiving hospital, as mentioned above.

The board of experts, five in number, and composed of men wonderfully expert in the diagnosis of occult cases, proceed to examine these cases carefully. Those that present unmistakable evidences of leprosy are at once transported to the colony. The doubtful suspect cases are kept under observation for several months until they are passed upon. The Board, realizing the

addition, about $100,000 was collected in the United States, and used for urchase of food and clothing there for distribution here. Most of the however, was supplied by the Government. The total cost of the relief will be something over a million dollars, expended in food and transpor-, with practically no expenses for personnel.

fate that awaits those unfortunates as a result of their decision, have adopted the following rules:

1. To transport a case necessitates unanimity.
2. To hold them for further observation necessitates a majority.
3. A vote of less than majority permits the discharge of the suspect with the injunction, however, that he or she shall report once a week to some member of the Board for an indefinite period of time.



FIG. 2.

By these means the members of the Board not only perform their full duty to the State, but are guided by a proper sense of the rights of individuals.

It is further believed that no suspect has ever been transported in whom leprosy has not been proved to exist, or in whom it has not developed at a later period. Could any more efficient system be adopted than this? In addition to the above the families of lepers are held under constant surveillance. Their young children are isolated in the asylum above mentioned, where they receive careful education and training and are inspected regularly. If at adult age they show no sign of the affection they are discharged.

The diagnosis of cases is both clinical and microscopic. The Board of Health has a well appointed laboratory in Honolulu, until recently under charge of Dr. Alvarez, whose method of diagnosis, known as the Alvarez method, is as follows:

He scrapes the various leprous lesions, macerates the scrapings in glycerin, and precipitates in a centrifugal machine. Of course stained sections are prepared from leprous nodules and coverslip preparations made f secretions as well.

As yet the bacillus has not been isolated in Honol although much work has been done in that directio

Advantage was taken of my sojourn in Honolul visit the Island of Molokai upon which the leper se ment called Kaluapapa is situated.

It is not easy to obtain a permit to visit the colon Molokai. It was only granted upon my statement I was interested in the disease and had done some w upon the subject. It would seem that nature had for and set apart this bit of land for the special purpose which it is used.

The island is small, scarce ten miles wide, with a cipitous pali 2,500 feet high, ranging along its north So perpendicular is this precipice that a stone rolled its brow will in many places fall into the sea with striking its face. The colony is situated on a flat insular jutting out into the sea from the base of pali. In order to reach this peninsula it is neces to land on the opposite side of the island at a p called Kanaukakai, ride across and descend the along a narrow ledge cut out of its face. This is only exit from the settlement except by sea, which la seems to connive at isolation by its ceaseless bea against the shores of the peninsula, oftentimes re



FIG. 3.

ering landing impossible. The exit along the fac the pali is guarded at its most perilous point b gate.

Upon reaching the brow of the pali the penin with its settlement is seen vividly lying 2,500 beneath one's feet. In appearance it resembles a sn fishing village, with its white-washed cottages very cl and pretty, its churches, schools, and stores. The

t is accomplished in an hour and a half, quite a lous undertaking to one unaecustomed to mountain bing.

t the present time there are isolated on Molokai it 1200 eases, presenting every variety of the dis- from the gravest and most repulsive of mixed s to the mildest of anesthetie variety.

ut for one's previous knowledge of the settlement the repulsive appearanee of its inhabitants, there othing to suggest the misery of these unfortu- s. They seem perfeetly happy and eontented. The t majority live as separate families, oeeupying sep- e houses, surrounded by their own garden patches by domestic animals, with nothing to suggest isola- and confinement.

here are in the colony two prineipal schools ealled ectively the boys' and girls' sehool; the former under management of the Trappist monks, the latter er the Sisters of Charity.

'hile denominated boys' and girls' sehools, they in reality asylums for the unmarried male and ale element of all ages. They eontain eaeh about Here the utmost eare is taken of them, but as no systematie effort has been made toward radi- reatment.

rother Dutton, a Trappist monk, has control of the ' sehool, suceeeding Father Damien, who died of psy some years ago, to whose memory a monu- t has been erected on the island and whose grave, ked by a tomb, adjoins the Catholie ehureh. ier Damien is eonsidered by many to have been ligious fanatie, who, in a spirit of religious exal- on, made every effort to eontraet the disease; but tever may have been his ulterior motives, his x was heroic. I found no evidence of infeetion ng the lay brothers, or sisters of eharity, although e of them had been eontinuously and intimately ontact with these lepers for ten years. They, ever, systematieally observe every preeaution.

ne only medieal attendant on duty at Kaluapapa r. Oliver, an English physician, who has devoted life to the eare of these unfortunates. Of eourse, the enormous amount of work thrust upon him, s unable to pursue any seientific investigations as rds the treatment of leprosy, but simply attends eir adventitious affeetions.

found the Board of Health discussing the virtues he Venezuelan shrub, the Jatropha gossipifolia a view of testing its effieieney in leprosy.

ney had not heard of the treatment by Dyer and rs of leprosy by the injeetion of antivenene. were interested in my exposition of the sub- and expressed themselves as anxious to have it rimented upon a large seale in the leper settle- t.

ne profession of Honolulu believe in the eonta- s nature of leprosy, that it is eommunicable by ulation as is syphilis; but they do not believe it is contracted in sexual eongress, from the faet local lesions rarely affeet the genitalia. They do believe in heredity in the striet application of the ; that is that the ovum beeomes infeeted, but rather infants become infected after birth.

arriages are permitted among lepers in the eolony, non-infeeted wives and husbands are permitted to te themselves along with their afflieted. They e that it is better to legitimatize the evil than to unbridled license.

THE SANITARY CONDITION OF THE FAR EAST AS IT AFFECTS THE UNITED STATES.

By STUART ELDRIDGE, M.D.,

Acting-Assistant Surgeon M. H. S., Sanitary Inspector at Yokohama, Japan; Late Member Imperial Board of Health, at Tokyo, and Sanitary Adviser to the Japanese Government.

Great as has been our reeent progress in the knowledge of the eauses and methods of prevention of the infectious diseases, it is questionable whether, as regards the propagation of sueh from point to point, any advantage gained by our more exaet information is not almost neutralized by the present rapidity and frequeney of eommunieation by sea and land, and the great inerease in the number of people transported.

At the time when erossing the Atlantie involved a voyage of 12 to 14, and, as eoneerns the Pacifie, of from 20 to 30 days, and in the earlier era of the sailing ship, disease either manifested itself before arrival at a United States port, and so could be, as a rule, stopped at quarantine; or, in the case of sailing vessels, the infeetion often exhausted itself in a shipboard epidemic before the Ameriean destination was reaehed.

The Orient is the home and foeus of the most dangerous and infeetious epidemie maladies. Cholera, always present in India, has beeome almost, if not quite, aeclimated and endemie in China, is frequently epidemic there, and lingered in Japan, sometimes widely and fatally prevalent, from 1877 until 1896, having been introdueed from China in the former year, and, perhaps, on several subsequent oeeasions.

Smallpox is more or less epidemie in China and the Philippines every year, and, though with greatly diminishing frequency, is, oeeasionally, widely prevalent in Japan as well.

Dysentery of a peeuliarly infectious and malignant type, of whieh an average mortality of over 25% is an evidence, has been steadily inereasing in Japan, with each sueeeeding summer, for nearly 20 years, until now the whole eountry is infeeted by it to sueh an extent that the number of eases during the past few years has reaehed over 100,000. A speeial report on this disease, by myself, will be found in the Annual Report of the U. S. Marine Hospital Serviee for 1899.

Beriberi, too, a comparatively little understood disease, but undoubtedly infeetious and capable of beeoming violently epidemic and fatal, conditions on shipboard seeming somewhat specially to favor its development, has, during the past 25 years, spread from its, probably original, home in the Far East, until now it is oeeasionally met with, sometimes in serious outbreaks, almost all over the earth.

Leprosy also must be mentioned in this eonneetion, although, of course, its infeetion ean be more easily deteeted and guarded against than those of the maladies just named.

All the foregoing diseases, however dangerous and insidiously propagated they may be, must at present yield in importanee to the plague, when considered from the point of view of State Medieine.

After a eentury of praetieal quieseenee, during whieh it lingered only in remote Asian loealities, or, if it invaded better-known regions, the epidemies following were, however severe, of but eomparatively limited extent, this disease had for most of us beeome but of historical interest, to be read of as it oeeurred in Europe in former times, with pity for the ignoranee that eneouraged or failed to eheek sueh pestilences, and of self-congratulation that in these days we need

no longer fear them. Our happy confidence in the practical extinction of the plague has, however, of late been rudely destroyed. Plague is now actually present and epidemic to a greater or less degree in China, the Philippines, Formosa, Hawaii, and Malay Peninsula, India, Persia, Arabia, Egypt, Turkey, Eastern Russia, Portugal, East Africa, Madagascar, Mauritius, Reunion, Paraguay, and Brazil; has recently knocked at the doors of both England and the United States; and, within a month, was violently, if briefly, epidemic in Japan, where it has, fortunately, been at least temporarily arrested either by the very active measures employed by the Government or by an exceptionally cold winter, or by both, though grave fears are entertained that it may reappear in the coming spring.

In short, plague shows, at present, the strongest tendency to become pandemic.

While, undoubtedly, in the most civilized countries, the conditions favoring filth-bred diseases are no longer so general as once, when the sanitary state of the palace was little better than that of the hovel of today, and, consequently we have reason to hope that, with the knowledge and means at our disposal, we even control the pest, if only after a struggle, costly both in lives and money; there are, even in the best governed modern cities, slums which offer a most favorable environment for the germs of the disease. That it behooves the authorities responsible to at once inaugurate thorough sanitary reform in such localities, in anticipation of the possible introduction of plague, is a truism; but, as is always the case, no action is likely to be taken until the danger is at, or within, our doors.

However successful may be the attempt to exclude, control, or stamp out this malady in more enlightened regions, the old foci of the disease in Asia, where no intelligent effort for its control or suppression is to be looked for, will still remain, an ever-present danger, from which, at any time, may start the pandemic wave of pestilence.

First studied from the point of view of our recent advances in etiologic research, in Hongkong, in 1894, and, later, especially in India, our knowledge of its causation, the conditions determining its epidemic development, and its methods of propagation from man to man, or from the lower animals to man, is still sadly incomplete.

The protean nature of plague constitutes one of its most dangerous features considered with reference to its early recognition when met. So-called pestis minor, with its close resemblance to ordinary and, comparatively, innocuous lymphadenitis, but capable, under conditions as yet unknown, of assuming malignant epidemicity; mild or slowly developing cases of the graver form of the malady, which, after a few hours, or days, of relatively slight and nonspecific symptoms, suddenly develop with fatal violence; and the pneumonic type of pest, often closely simulatihg acute pneumonia; may all, especially in single cases, and in the absence of a well-marked epidemic, easily escape correct diagnosis and the enforcement of proper precautions; and so initiate a serious outbreak.

The material infection of plague, too, is, in all probability, under natural conditions, more persistent and resistant to disinfectants and changes of temperature than is shown by laboratory experiments, while it undoubtedly shares the property of certain other pathogenic microbes, *e. g.*, those of cholera; of, at times, adapting itself to unusual and ordinarily unfavorable climatic conditions; and all we know points to t ready transmission of the disease by infected beddi clothing, merchandise or soil, in which the infecti may remain active for a period as yet undetermine but, certainly not brief.

Such being some of the most imminent dangers fro the Far East, to which our country is exposed, an e posure that must become more perilous with the increa of travel that will, infallibly, follow upon our territori expansion in the Pacific, how are they to be guard against?

First and foremost as a protection is, of course, o seacoast quarantine; but this is, as yet, but imperfect and irregularly organized. It is one of the faulty resul of our federated system of government that matte deeply affecting the welfare of the people as a whol such as the administration of quarantine, are, at mar points, in the hands of local officials, often untraine inexperienced, and, perhaps, appointed from pure political considerations. At some places a doub system of quarantine is in operation, the class officials just mentioned cooperating with or, more ofte opposing and embarrassing the officers of the Marin Hospital Service, who are acting on behalf of the Unite States. In time of pressing danger, as, for example, the notorious instance of importation of cholera to Ne York by the steamship *Normania*, it may be, as it w then, indispensably necessary for the United State legally or illegally, to assume absolute control. Thi however, can be done only with difficulty and at th expense of severe, perhaps dangerous, friction with th State or city authorities.

Of primary importance then is the placing of th whole system of sea-coast quarantine in the hands the only body of trained and experienced sanitary e perts in the country, the officers of the Marine-Hospit Service, by effective legislation, ignoring all local orga izations and interests as well, when conflicting wit thorough precaution.

Protective measures employed abroad, so far as the consist in the mere issuing of bills of health to vessel which certify to the good health of the persons on boa and to the sanitary condition of the port of departur are common to all civilized countries. With the excep tion, however, of those issued at certain ports, on beha of the United States, bills of health, in these days ocean telegraphy and rapid communication, have lo much of their former value and have degenerated int a simple formality, being issued, as a rule, by the co suls of the country to which a ship is bound, witho special knowledge on their part of the sanitary state the place of issue, and upon the unsupported statemen of the captain or surgeon of the vessel that all is well o board. This applied, equally and generally, in the cas of ships destined for ports in the United States, prio to the passage of the Act of Congress approved Febr ary 15, 1893, granting additional quarantine powers an imposing additional duties upon the Marine-Hospit Service. This act provides for the detailing of medic officers of the government, to serve at the consulates i foreign ports, for the purpose of furnishing informatio inspecting vessels, and intelligently granting the nece sary bills of health.

Under this act, officers and acting officers of th Marine-Hospital Service, the latter selected from reside practitioners of special knowledge of the local conditio and diseases, and familiar with the language of th country, have been assigned to the consulates of th

ited States at most points of large emigration or ich are peculiarly dangerous sanitarily; and their vices have, again and again, proved of the highest ue.

My own experience, as one of the medical officers of second class above mentioned, during 6 years, and a point of special importance, has shown me the er futility of dependence upon the judgment or in- mation of nonmedical officials, however careful and scientious, or upon the statements of interested cers of ship, and the absolnte necessity of skilled l independent professional assistants to the consuls. Yokohama, the port at which I am on duty, is, in a se, and so far as America is concerned, the sanitary eway of the far East. At the distance of a journey a week or more, by steamer, from the China ports; point of final departure for all the lines trading be- en China and Japan and our Pacific coast, some 7 number, any infection embarked at Hongkong, or Amoy or Shanghai, the Chinese ports of call, is ost certain to manifest itself prior to the sailing of ship from Yokohama, and to be detected at the n-by-man inspection of all on board made just be- the departure of the vessel. Should infectious eases be found at this final examination the bill of lth is withheld pending thorough disinfection, and, ecessary, detention in quarantine; and, as a penalty, to $5,000, may, under the law, be imposed upon any p entering a United States port without these docu- nts; the vessel, be she American or of other nation- y, is practically under the control of the United tes Sanitary Inspector, and must submit to such sures as he thinks necessary. As there is now officer of the Marine-Hospital Service located at ngkong, and since the recent outbreak of plague hat city, one at Kobe also, it will be seen that, in part of the world at least, and with certain excep- ns hereafter mentioned, the system of extraterritorial tection is as perfect as can well be devised.

n addition to the duties above noted, officers of the rine-Hospital Service abroad are expected, under head of furnishing information, to keep the supervis- surgeon-general thoroughly posted upon all matters anitary interest relating to the countries in which y are stationed, and material of the greatest value is s supplied for the various publications of the service. When especially dangerous diseases are epidemic- prevalent at foreign ports, or in the neighbor- d of the same, the law of the United States oses upon all steerage passengers, whether way or ough, upon ships bound thither, disinfection of sons and effects, and a quarantine before embarka- of duration varying with the incubation-period of existing disease. To enable this to be effectively ied out, the steamship companies interested have n induced to erect, at several ports in Europe from ch steerage travel is greatest, regular establish- nts for the accomplishment of the isolation and dis- ction required, and these are under the supervision he United States medical officer on duty at the port. s yet no such complete appliances, although ur- tly required, have been supplied at any port in na or Japan, though one of the steamship lines sesses a disinfecting plant in Hongkong, erected er the pressure of the late Hawaiian Government, which has no buildings for isolation attached, and besides, not generally available. It is, however, ed that arrangements may soon be effected by which, at least in Yokohama, the needful equipment will be at the disposal of the medical officer in charge. Meanwhile the United States sanitary inspectors in the Orient are doing as best they can, by makeshift and temporary arrangements, to carry out the spirit if not the letter of the law, though under great difficulties and even in the face of actual opposition from local authorities.

Altogether, with the exception of the deficiency in equipment just mentioned, it is not easy to see where, under existing circumstances, it is possible to take greater or more effective precautions abroad save by a wider extension of the system of attaching medical officers to consulates, or, perhaps, by a modification permitting the consuls, at ports not of the first importance, to employ the services of local physicians, at a compensation paid by fees, and so varying with the amount of work performed.

In concluding these brief and imperfect notes upon an important subject, I would say that, so far as my personal experience goes, while, in the earlier days of the enforcement of the necessarily somewhat onerous requirements and restrictions of the United States laws, the shipping companies were somewhat obstructive and recalcitrant, they are beginning to recognize that the precautions required are a protection and advantage to themselves, and that, as a rule, they are ready to cooperate with and assist the Sanitary Inspector in their execution.

NOTES ON THE PHILIPPINES.[1]

By SAMUEL O. L. POTTER, M.D.,

Major and Brigade Surgeon, U. S. Volunteers; Attending Surgeon Department of the Pacific and Eighth Army Corps.

The People.

Several tribes inhabit these islands; in fact, several tribes occupy the one island of Luzon. The Tagalos are in the provinces of Manila, Laguna, and Cavite, and more or less in many other provinces of the island, which they aim at governing, desiring to subject all the other races to their control. These Tagalos or Tagals are a mixed race, of all shades of color, Malay blood predominating, but having also Spanish, Chinese and other bloods in their composition. They are intelligent, but very cunning and absolutely devoid of conscience, accomplished liars, and inveterate thieves. The nucleus of their army was composed of bands of outlaws, driven by their crimes from the centers of population and hiding in the mountains and swamps. The mass of the people are inordinately lazy and have no idea of sustained working power or its benefits. When they have earned a few dollars they quit work and go on "fiesta," sleeping, eating and gambling until their funds are exhausted. They are dominated by their political leaders principally, by their native priests secondarily. The former are mestizos, mixed people; there are many different kinds—Spanish mestizos, Chinese mestizos, etc. I know two families of American mestizos here, the fathers being pure Americans and the mothers Filipinos. The secret of the insurrection was a desire on the part of certain rich Chinese mestizos to rob the Church

[1] These notes are written off-hand in the midst of very arduous professional and official work, and are not intended for publication in this form, as the writer has no time in whioh to revise them or put them into good shape. The request therefor was only delivered to him on January 25, and therein it was stated that the paper should leave here by February 1, which allows too short a time for any polished writing.

and the Church corporations of their lands in return for financial aid given to the leaders of the Filipino army. They knew well that they could not exist alone as a nation, but thought that if they got independence for a year or two they might confiscate the Church property, divide it among themselves, and so acquire a clear title under a national administration of affairs, which title could not be set aside by any subsequent government which would acquire the islands.

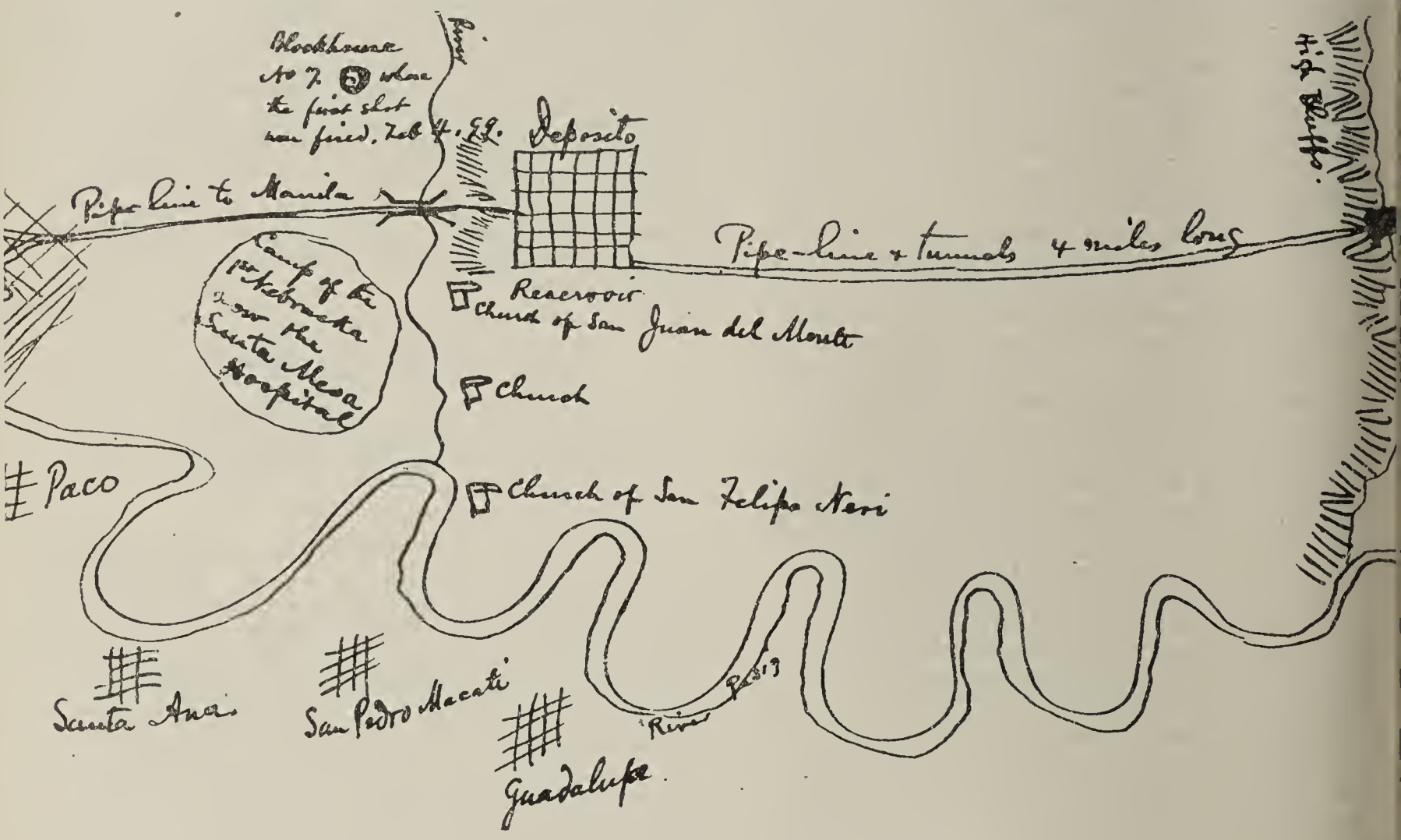
The other tribes do not like the Tagalos and have opposed them whenever they got a chance of protection in so doing. The Visayans in the Southern islands are bitter enemies of the Tagalos and were generally loyal to Spain. It may be safely asserted that the best of the natives were loyal to Spain, and such as were so we find to be most loyal to us now, and most to be depended on in every way. The Moros in the extreme south of the archipelago are independent Mahommedan tribes, which have never acknowledged any government except that of their own chiefs.

SANITARY CONDITION.

When we entered Manila in August, 1898, the city was one great backhouse. Every street drain was choked with filth indescribable. Excrement of human beings and animals filled all the vacant spaces. Within the houses were cesspools and cisterns, all filled with putrid water and other filth, and the general sanitary condition was simply abominable. The work of cleaning has been slowly but steadily put forward, until now the city is comparatively clean in all public places. There are, however, thousands of houses, the soil under which is saturated with filth, and this condition is being daily added to by the habits of the people. As with all Orientals the Filipinos are very clean in their persons, and excessively dirty in their surroundings. They have no idea of cleanliness about a house or a factory or a store. Unless forced to clean their premises they wou permit garbage, excrement and every kind of filth lie rotting in the sun around them, and it requi stringent methods to force them to clean up the vicini of their habitations.

WATER-SUPPLY.

Manila has a magnificent water-supply; and the fi mountain water is free to every inhabitant. This is o of the deeds of much-maligned Spain. After the ci had suffered severely from cholera, due to the drinki of the water of the dirty, filth-bearing Pasig, a Spani Governor-General gave a large sum of money in tru for the construction of water-works out of his own p vate resources. After accumulation at interest for ma years the work was carried out and has resulted in t best system of public water known. The gift deed pr vided that the water should always be free, and flowi



hydrants are seen all over the city every block or tw also far out in the distant suburbs. Rates are collecte only from those who have a pipe-supply laid on to the houses; anyone who chooses to go to the hydrants the streets can get all the water he wants free. Th middle classes generally employ Chinese water-carrie to bring water every day from the hydrants to the homes. This is done for a few coppers daily, and it one of the familiar sights to see the industrious Chi trotting along with his pole, on each end of which h carries a former coal-oil can filled with potable wate The water is taken from the San Mateo river, about miles east of Manila, where it is filtered through broa sand-drifts before entering the wells from which it pumped. The pumping-station is down by the ban of the river, and two powerful pumps force the wat along a line of piping and tunnels to the Deposito reservoir, situated on high ground just across the Sa Juan river, in the suburbs of Manila. This reservo

ut out of the solid rock in great tunnels which com- nicate with each other, all below ground, and occu- ng several acres of the hill known as the San Juan Monte.

HEALTH IN GENERAL.

'or a tropical country, this is very healthy. Many ions of the United States are much worse both as to nate and health. I have been here since August, 8, and I can assure you that the valleys of California much hotter and that Washington in summer is an rno compared with Manila. If people can take onable care of themselves and do not give way to esses in any form, drink, eating, or working, they live as healthily in Manila as in New Orleans or Louis or New York. American children seem to do here, so do ladies; and I ought to know, for I am attending surgeon who is the recipient of all the cate requests to call and see Mrs. ——, or Capt. —'s youngest child. In fact the army ladies, of whom e are some 359 here now, have given me less work any other class of my command. But there is ther side. It is all very nice as long as one is well, those who get sick don't easily recover here. Con- scence is very slow and very difficult. Then, too, e are none of the comforts which ladies from our try are accustomed to. In the best houses there is one water-closet for all the family, and that under nish and Filipino customs is used for the purpose of ping the chair pans from the bed-rooms. All the nish ladies and gentlemen use a chair, like our old- ioned commode, in their rooms, and one of the duties e boy (muchacho) is to empty it into what may have originally a very nice water-closet. Nursing dur- sickness is not to be had, as there are no nurses in country and the Red Cross nurses hate to attend en, but want to nurse only men as a rule. In fact, not a country for American ladies as yet, particu- those who are married and hence may be preg- here. The difficulties surrounding a confinement nsuperable and the risk very great to any of our en in that condition.

any of our older officers have undergone a process pid aging here, without any definite ailment to unt for their condition. They simply grow thinner by day, running down gradually in physical gh as emaciation goes on, until finally the General s pity and sends them home. I have not been able nd out whether or not these officers regained their th in a colder climate, but presume that they did in bsence of information to the contrary.

DEATH-RATE OF MANILA.

uring the six months from July 1 to December 31, , the deaths in Manila numbered 5,827 among na- and foreigners (excluding the U. S. army), and 376 ng Chinese, making a total of 6,203. Of these 2,941 children. The principal causes of death were:— chitis 314, tuberculosis 385, intestinal catarrh 166, ritis 119, gastroenteritis 134, enterocolitis 262, dys- y 229, meningitis 139, heart disease 287, fevers 287, ic affections 1,158, beriberi 570. These are re- d by native physicians largely, who in many cases nly called in after death, to view the body and e the certificate required by the Board of Health. makes a monthly average of 1,034 deaths, which e whole year would amount to 12,408. It is never ble to obtain any reliable figures regarding the total population of Manila, and alternative estimates thereof are the best which can be taken. If the popu- lation is 300,000, the death-rate is then 41 per 1,000 per annum. If the population is 400,000, the rate is 31 per 1,000 per annum; and if 500,000, the rate is 25 per 1,000 per annum. Half a million is an outside figure, probably a good deal over the real number, and yet, even allowing so many, the death-rate is high. For Hong Kong, last year, it was a fraction under 21, with all the plagues of China at is door to make its rate higher than it ought to be.

THE BUBONIC PLAGUE.

On December 29, 1899, the discovery was made that bubonic plague existed in Manila. Since that date, there have been 25 cases found in all, including sus- pected cases (to January 7 to 31, 1900). There have been 18 deaths, and 2 recoveries. The number verified by postmortem and bacteriologic investigation is 5. The disease so far is confined to two districts in the city. Any dead body found with glandular enlargement was listed as a suspected case by some of the inspectors; so that probably several of the cases were not cases of true plague. A rigid house-to-house inspection has been organized and is being carried out, aided greatly by the employment of a corps of Chinese assistants, who are supplied by one of the local influential Chinese firms, for the purpose of interpreting and at the same time explaining to the Chinese inhabitants the necessity for such inspection and the other methods adopted in order to fight the infection.

PROFESSIONAL PERSONNEL.

There is no opening here for American physicians. Several have tried it and have gone away without suc- cess. Those now here will probably follow their pre- decessors. As one of them said to me, when asking me to help him to get transportation to the United States on a Government vessel, "I found there was not even a bare living to be made, except by faking it among the American soldiers on venereal diseases." The reasons are many—and may be briefly recapitu- lated: 1. Foreign population small, and each nation having physicians of its own employed on yearly stipends by the big firms to attend their employes. 2. Plenty of Spanish and native doctors to answer all the demands of the native population. These men are well educated; most of them having had a postgradu- ate training, if not a complete medical education, at Barcelona, in Spain. All have passed through the Manila Medical School, which is connected with the University of Santo Tomas. 3. Fees are very low, the high- est for well-to-do people being only two pesos ($1 gold) per visit, and most visits are made for 50 cents (equal to 25 cents gold). There are two English physicians here, Dr. Donellan, an Irishman, who has been here 30 years, and Dr. Maye, formerly at Iloilo. They do all the upper-class work among the Spanish, Filipinos, English, and Scotch. There are still three Americans remaining of the number who have tried to locate in Manila. One of them has lived for several years in Central America, and speaks Spanish perfectly. He will probably re- main, if he wishes to; but his chief patronage will depart with the American soldier who has venereal dis- ease and doesn't want to report it to his army doctor for various reasons, chiefly military. The other two are newcomers and haven't yet got over the incubation period of expectation.

VENEREAL DISEASE.

This brings up the subject of venereal disease, which has some points of interest. When our army landed here our chief surgeon promulgated a circular warning the men against the terrible Asiatic syphilis supposed to be rampant in these islands. Experience has shown very little true syphilis, in fact, almost none; but plenty of chancroid, chancroidal bubo, and gonorrhea. In my brigade, during the volunteer occupation, we had during October, 1898, an average strength of 4,600 men, all stationed then in the city. Our weekly sick reports showed for the whole brigade only an average of 31 venereal cases, or $\frac{2}{3}$ of 1%, of which only one was supposed to be syphilitic. At this time the army was chiefly composed of volunteer troops, who had their own surgeons, and who were not inclined to avoid reporting such cases, as they were sure of personal attention from surgeons personally interested in them without being sent to hospital; hence it is fair to believe that the above represents nearly all the venereal disease existing in that brigade at that time. Subsequent experience shows but little comparatively of this class of disease compared with the proportion reported in other armies. Taking a few weekly reports at random in consolidated shape we find as follows:

WEEK ENDING	Strength of Commands Reported.	Cases of Venereal Disease.	Per Cent.
April 23, 1899	30,312	160	0.52
April 30, 1899	30,420	177	0.58
May 7, 1899	33,684	169	0.50
June 25, 1899	27,251	119	0.43
July 3, 1899	25,048	98	0.31
August 21, 1899	25,640	105	0.40
January 13, 1900	35,083	444	1.27

There is no reason for the suppression of cases of venereal disease by their not being reported to the surgeons, so far as the mass of the army is concerned. A few men, employed at headquarters, may do so in fear of being relieved from that duty and sent to their companies, after coming out from hospital.

MILITARY HOSPITALS.

We have the usual division field-hospitals in the field, also small regimental hospitals where practicable; but the serious cases are treated in the three Reserve Hospitals at Manila, and the convalescent hospital on Corregidor Island. The amount of work done therein is shown by the number of cases which were received at the First Reserve Hospital up to December 31, 1899, numbering 19,516. These hospitals are fitted with every requisite and most of the luxuries found in civil hospitals in the United States. The above figures do not include over 414 Filipino cases, wounded in action, and treated at that hospital, nor any of the dead of our army received there for identification and burial, numbering 391. Up to the same date, December 31, 1899, there were in this command:

	OFFICERS.	MEN.	TOTAL.
Killed or died of wounds	36	439	475
" " " other forms of violence	8	131	139
Died from disease	16	693	709
Total mortality	60	1263	1323
Discharged on certificate of disability	.....	587	587
Transferred sick to the United States	73	1828	1828
Wounded (non-fatally)	.....	.....	1767

The medical department of this army has no reas to blush for its record. Even at the first of the Am ican occupation, when the only place occupied was t sandy beach at Camp Dewey south of Manila, its wo was commended by Captain S. S. Long, Deputy Ass ant Adjutant General, of Hong Kong, a British Ar officer who was visiting the scenes of our operatio He wrote in the *Journal of the United Service Institut* in India as follows:

"*The Medical Department.*—Considering the hurried w the expedition was dispatched, this department seemed w equipped, and though at no time were they put to any gr strain, still the work they had to do was well and excellen performed. . . . The hospital appeared to be very w found in the way of medicine, drugs, instruments and pliances. . . . It speaks well for the skill of the depa ment that they were completely successful in a large numb of cases of abdominal wounds. . . . If the spirit of t troops was excellent, it was even surpassed by that of medical branch, who, in spite of a defective transport a many other difficulties, always had their hospitals as co plete and efficient as it was possible for human ingenuity make them" [Reprinted in the *Journal of the Military S vice Institution*, New York, July, 1899, pp. 134, 135.]

EFFECTS OF CAMPAIGNING.

The campaign which resulted in the occupation Malolos, Calumpit, San Fernando, Angeles, and Tarl was the most persistent one over a certain line, b was not the only one. Another was that in the Cavi province, another in the valley of the Rio Grande Pampanga, under General Lawton, again renewed him later on, besides numerous excursions into hosti districts, and the overrunning of the northern part the island later in the year. In the islands of Negr and Cebu many severe marches were performed in ho tile mountainous districts, and in the island of Pan there was a sharp campaign. All these necessitat great fatigue and hardship, which when prolonged we followed by a greatly increased sick-list. In the st tionary camps good drinking water was generally u attainable, the ground became riddled with sin which, when the rains came, were filled with water, ar the soldiers were often drenched with water and camp in quagmires for long periods of time. The result w dysentery, obstinate diarrheas, typhoid fever, rheum tism and malarial disease. Dhobic (washerman's) it was very prevalent in aggravated form, and caused su a severe dermatitis of the groin as to make marchi impossible; while boils and ulcers affected the lim from the irritation produced by soaking in mud ar water. To all this add the exposure to the midda sun for months of marching and fighting, the consta strain to the nervous system of being under night "potting" by insurgent fire, and the continued use hurriedly cooked and uncooked rations, and it is wonder that the command stood the test as well it did.

In the four regiments of my brigade, Second Brigad Second Division, on May 22, after the first campaig ending with the occupation of San Fernando, the were, out of an enlisted strength of 3,700, 1,003 sick wounded and 2,307 on the firing line; but of the latt the brigade commander estimated that not 100 cou march 5 miles under existing conditions. In one these regiments, upon a very careful medical examin tion of those not on sick report, 540 in number, on 96 were found in normal condition, 179 had a puls rate of 85 to 100, and that of 191 ranged from 100

with no rise of temperature, and no special com-
at from the men themselves, except that after
erate exertion they breathed very rapidly, and that
sudden noise upset their nervous balance.

Brief Notes on Diseases.

alaria is widespread in the country, especially where
water is bad, but is not so general or so malignant
night be expected. In certain limited localities,
ever, it is of very severe type. Diarrhea and dys-
ry are very obstinate, and if prolonged require that
ubjects thereof be sent to a cooler climate, where
eat majority improve at once. Rheumatism is not
mon, but when it does occur it is very severe and
nenable to treatment. Otitis media is one of the most
mon affections and very difficult to handle. Boils
other forms of suppurative disease are very preva-
and show a marked tendency to continue in any
some persons having had as many as 50 boils in
ession, though each was very carefully treated anti-
cally throughout its course. Tuberculosis proceeds
lly to a fatal issue. Heat-exhaustion is daily seen,
when severe causes such a general lowering of
ical force that recovery is long delayed. The gen-
climate of these islands is not pernicious for those
are able to avoid exposure, but when broken down
ardship or incidental disease complete recovery is
tful and convalescence is very slowly established.

AN MALARIA IN THE NORTH ATLANTIC SQUADRON OF THE UNITED STATES NAVY IN 1898.

By W. F. ARNOLD, M.D.,

Passed Assistant Surgeon, U. S. Navy.

HEN one observes that three gunboats—the *Man-*
the *Vixen*, and the *Scorpion*,—and the U. S. Marine
alion afforded more than one-third of the entire
ber of cases returned by the squadron for the period
ie Spanish-American war, he strongly desires the
st accounts of their respective opportunities for
tion. In this period, which is dealt with in an
ndix to the Report of the Surgeon-General of the
for 1898, the average complement was 11,599 men
fficers distributed amongst 48 vessels. The average
gth of the Marine Battalion was 588 men and officers,
he complements of the *Manning*, *Vixen*, and *Scorpion*
respectively, (about) 92, 77 and 101.

e battalion was on shore at Playa del Este, Guan-
no Bay, from about the middle of June, 1898,
the middle of August, 1898. It afforded but one
that in any respect resembled the severe malarial
that the other American troops in Cuba seem to
acquired so readily. This patient was a young
e, and previous malarial infection could not be
itely excluded. His peripheral circulation con-
d but very few organisms, and all that were observed
intracorpuscular. The clinical symptoms deter-
d the diagnosis of remittent fever, and he recovered
ly under full doses of quinin sulfate. The other 17
under consideration were of the tertian variety, usu-
nixed and giving daily morning paroxysms. I had
d 4 of these patients for tertian malarial fever at
ue Island, Pennsylvania, in 1897; and fully one-half
e others gave histories of former malarial attacks.
al of the cases developed so soon after landing, that
is some reason for considering they may have been infected elsewhere than in Cuba. I have observed a period of incubation of three weeks in a few tertian cases, and that interval has been, in my experience, almost the exact time required for the—unless arsenic be administered or quinin be used in *large* doses—nearly habitual relapse. One patient under my care had three relapses of a severe tertian, and the medical officer who relieved me aboard that vessel told me at least another one, all of which were at intervals of 21 days from his original infection. I may digress here, I trust, to the extent of calling attention to the fact that only Austin Flint, Sr.'s, and Loomis' textbooks on the practice of medicine emphasize the point under consideration. Whenever the other standard treatises mention it, it is in connection with so many other intervals that it is entirely valueless. In the cases observed in Cuba, relapses after the interval given were frequent, one patient furnishing three. All of them occurred in spite of moderate doses of quinin given with regularity in order to prevent them.

The battalion had 19 cases of malaria admitted to the sick-list and 164 days loss of service, one being omitted from lack of data.

It is important to note that quinin was not administered prophylactically to the enlisted men that were well. Some of the officers, of whom I was one, elected to take it regularly, and I was extremely anxious to have its administration made a matter of routine. If this had been done, it could not be asserted, as I think it may now with perfect truth, that unacclimatized white men may come into very intimate and fairly prolonged contact with the earth in certain parts of Cuba without acquiring malaria therefrom. For various reasons, it was fully two weeks before all of the tents had floors at Camp McCalla; and very few indeed of the men escaped tasks of excavating or bivouacs in or near marshes, which, however, were salt. There were very few showers while this camp was occupied, and I do not recall one worthy of the name that came at night. Mosquitos were almost unendurable at times at some of these low-lying outposts, but no identification of their species was thought of. I think that what follows will suggest the importance of some careful studies of the blood-sucking diptera that abound there.

Well-water was used, in spite of efforts to prevent it, on at least two occasions by bodies of men on detached duty. It produced no observed ill effects. Of course, this is negative evidence; but it is recognized, I think, that in certain localities in Cuba the water does not convey malarial poison. With the exception of the instances noted, distilled water was used, even by the battalion of Cubans that occupied the middle part of the camping ground for about 6 weeks. Many of them were suffering from severe malarial fever, and at least one of them died of it, as was established at autopsy by Surgeon John M. Edgar, U. S. Navy, medical officer in charge of the battalion. The dead man's commanding officer who was as intelligent as any field officer that I saw in the Cuban forces, seriously ascribed his death to having drunk hot water, and it is my impression that this conviction was held generally in his command. As a matter of fact, the water was often, perhaps usually, warm when it was served out at the water-boat because it was received into the casks quite warm from the condenser and it cooled but slowly in that climate. The matter is detailed to show how little liability there is amongst those who suffer from malaria the most to reach a correct conclusion with regard to it.

The absence of fresh water for bathing purposes and for laundry use was perhaps the greatest inconvenience that the battalion suffered. Everyone bathed, almost entirely at his own pleasure, at the sandy beaches that make Fisherman's Point, but they were slimy and rather odorous of decaying organic matter at an elective depth.

To recapitulate: About 600 marines entirely unacclimatized land, dig entrenchments under fire, sleep in their soiled clothing in the new earthworks and in tents without flooring for at least two weeks; maintain outposts in and near salt marshes beset with mosquitos and gnats, and acquire little or none of the malaria that nearly incapacitates an army corps within 40 miles of it.

Meantime, 187 sailors aboard two small gunboats (converted yachts) used water piped from the hills by the Spanish-American Iron Company into an open and bird-befouled tank at Daiquiri. They furnish 38 cases of the worst malaria observed in the naval forces in this locality, hence the proof seems conclusive that the infection was water-borne. Another vessel—the *Manning*—affords, so I think, a check upon this conclusion, which is not in line with the recent work upon life history of the malaria parasite. This vessel visited Daiquiri about the end of June upon two occasions and at the third visit remained there to guard that base in conjunction with a few United States soldiers that were encamped on shore. On these first two visits, at which time I was aboard her, she lay well offshore. Her medical officer was well acquainted with the supposed dangers of acquiring malaria through drinking water, and he has communicated to me personally his almost unalterable conviction that none of his men drank of the Iron Company's water-supply. He recalled distinctly that it was quite unpalatable after its long journey in an iron pipe much exposed to the mid-summer sun, and, as the men and officers of the *Manning* were not employed on shore and only visited the camp in the day-time out of motives of curiosity principally, I think his presumptive testimony has fair weight. The records of the ship are positive that no fresh water was taken aboard there, except for her boilers. Yet she received infection, as will be seen from the subjoined table, in almost exactly the same time after her visit close inshore as that which elapsed after the *Vixen* and the *Scorpion* visited the pier at Daiquiri. She never went alongside the pier, but she was mored head and stern only about 300 meters from shore from the 1st to the 15th of July, 1898. The *Vixen* was there very close inshore on June 21, 1898, at which time she went alongside the pier and took the water aboard, which she did again at a later date that is unluckily unobtainable for use here. The *Scorpion* was alongside it and filled her water-tanks on July 11, 1898, and her log shows that she remained there throughout that day. She used about 13,000 liters of it before August 11, when she received a supply of distilled water. The table will show, I believe, that the *Manning*, that cannot be said to have had such a continuously acting source of infection, suffered almost exactly the same as the *Scorpion*. An additional source of infection is offered by the *Vixen*, but I am not inclined to think it of much importance. She lay off General Garcia's camp to the westward of Santiago de Cuba about June 24, and brought a hundred or so of his men to Daiquiri on her return. Her gig was capsized in the surf off the camp, and its crew of six men were compelled to spend the night ashore with the Cubans without dry clothing at hand to be put on, as required by the health regulations for the squadron in Cuba. It was the coxswain of this bo that developed the most severe case of malarial fev but he was almost the last man attacked aboard t *Vixen*. It is interesting to note that his sympton carefully taken by an apothecary who had finished t second year's course of a Philadelphia medical colleg are almost exactly those given for the *fiebre de borras* the Cubans, of which I am sure he had never heard.

TABLE OF CASES.

Date.	Manning.	Scorpion.	Vixen.
	Exposed vi, 26 and vii, 1 to 15.	Exposed vii, 11.	Exposed vi, 2 and later.
July 8.	.....	.....	3
" 9.	.....	.....	1
" 10.	.....	.....	1
" 11.	.....	.....	2
" 12.	1	.....	.....
" 13.	3	.....	.....
" 14.	1	.....	.....
" 16.	2	.....	.....
" 17.	2	.....	.....
" 18.	2	.....	.....
" 20.	2	.....	.....
" 21.	2	1	.. ...
" 23.	.....	3	.....
" 24.	.....	5	.....
" 25.	.....	2	.....
" 26.	.....	.....	1
" 30.	.....	.....	2
August 3.	.....	.....	2
" 6.	.....	1	2
" 7.	.....	.....	4
" 8.	2	1	.....
" 9.	.....	.....	4
" 17.	.....	1	.....
" 19.	.....	1	.....
" 26.	.....	.....	1
	17	15	23

Many merchant steamers doing duty as transports la off Daiquiri for considerable intervals of time witho receiving malarial infection; and the only men report sick aboard them were those that had been ashor These were not popular patients in those days of drea of yellow fever, but I do not think that they wer numerous. The ship's surgeon of the *St. Louis*, whic lay off Daiquiri for days and acted as depot shi for the boats of the fleet while they were disembark ing the Fifth Army Corps, told me that none of th vessel's crew received infection either there or subs quently when she had almost all of the officers an many of the men of Admiral Cervera's squadron, larg numbers of whom were ill of malaria acquired in th trenches around Santiago. I think that the immunity c these large vessels in an anchorage in which three muc smaller vessels suffered infection is rationally explaine by the fact that their greater draughts kept them out c mosquito range, so to speak; for, if infection throug drinking water may be excluded, as I think that it may in the case of the *Manning*, it is clear that she cannc have received infection by any other agents than mos quitos. It will be remembered that she was only abou 300 meters from the shore from which a strong land brceze blows nearly all night in summer.

It must be admitted that the microscopic diagnosi in the majority of these cases was not what the bes clinical institutions would approve. The microscop was used in all cases in the Marine Battalion in whic

e was any doubt whatever, although the difficulties nected therewith were not by any means inconsid- le. The diagnosis was confirmed by its use also in of the cases that occurred on the *Vixen* by then sed Assistant Surgeon Thomas A. Berryhill, U. S. N., several from the *Scorpion* were similarly investi- d on board the U. S. Naval Ambulance Ship *Solace*.

HISTORY AND ETIOLOGY OF BUBONIC PLAGUE.*

By GEORGE M. STERNBERG, M.D., L.L.D.,

Surgeon-General, United States Army.

LTHOUGH bubonic plague has never prevailed within limits of the United States, its recent appearance in island possessions in the Pacific has aroused great rest in the disease and considerable apprehension as s epidemic extension in the future. It has effected dgment in Portugal and in Brazil during the past e, and at least one vessel has arrived at the port of York with cases of the disease on board from the mentioned country. The question is therefore a e practical one as to whether there is any real dan- eof the introduction and extension of this pestilen- malady of Eastern countries in our own territory. he history of bubonic plague extends back to a ote antiquity. Greek physicians of the second and d century before the Christian era have left a record pestilential malady characterized by the formation uboes, which prevailed in Libya, in Egypt and in a; and two Alexandrian physicians, Dioscorides and idonios, who were contemporaries of Christ, have n a description of the disease which leaves no doubt o its identity with the plague of more recent times. ay be well to explain at this point that the buboes acteristic of the disease are enlarged and inflamed ds in the groins, in the arm-pits and elsewhere, h in chronic cases may suppurate and discharge a lent pus by which the disease is propagated. We know that the germ of the disease is found not in these suppurating buboes but also in the blood n infected individual.

hree forms of the disease are recognized by modern ors, one a mild or abortive form, in which there is pain or fever and in which the buboes rarely sup- te. In this form the enlarged glands in the groin, pit and neck, usually disappear in about two s. In its usual form the disease is ushered in chilly sensations, fever, lassitude and pain in the and limbs. The buboes are quickly developed the general symptoms soon assume a grave charac- If the patient lives for a week or more the buboes lly suppurate and carbuncles and boils are often loped. In the third, or fulminant form of the dis- death may occur within a few hours from the out- f the attack and in advance of the development of characteristic buboes. These cases could scarcely ecognized were it not for the fact they occur during epidemic prevalence of the disease among persons have been exposed to infection.

om the first to the sixth centuries of the Christian ve have no authentic accounts of the prevalence of nic plague, but there is no reason to believe that ad entirely disappeared from those countries in h it had previously prevailed. During the sixth century, however, its ravages were greatly extended and it prevailed as a devastating epidemic in many parts of the Roman Empire, both of the East and of the West; indeed, in the time of Justinian it extended far beyond the limits of the Roman Empire. The origin of this extensive epidemic which raged for more than half a century appears to have been in lower Egypt in the year 542; thence it extended in one direction along the north coast of Africa, and in the other into Palestine and Syria. The following year it invaded Europe, which at the time was in a state of political disturbance and warfare, and during this and subsequent years it devastated many sections of the country, depopulating towns and leaving the country in some instances nothing more than a desert inhabited by wild beasts. The accounts given of this widespread epidemic indicate that other infectious maladies, which at the time had not been clearly recognized as specific diseases, were associated with the plague and contributed to the general mortality.

During the middle ages epidemics continued to occur, but the accounts of the nature of the prevailing "pest" are usually confused and unsatisfactory, and it was not until nearly the middle of the fourteenth century that the horrible epidemic known as the Black Death devastated Europe and caused the death of more than 25,000,000 of its inhabitants. There has been considerable difference of opinion among the best authorities as to whether the Black Death of the fourteenth century was identical with bubonic plague. It presented some features which seem to distinguish it from subsequent epidemics, and it had its origin from a different quarter of the globe. While bubonic plague has usually invaded Europe from Egypt, the Black Death is believed to have originated in Northern China. It is not known exactly when or where this epidemic had its origin, but it is known to have reached the Crimea in 1346 and Constantinople the following year. The same year it was conveyed by ships to several seaports of Italy both on the Mediterranean and the Adriatic, and also to Marseilles on the French coast; 1348 it extended to the interior of these countries and to Spain; also in England, Holland, and the Scandinavian pennisula. The following year it completed the invasion of Europe.

The disease first appeared in London in November, 1348, and it continued to prevail in various parts of England for a period of 8 or 9 years. In 1352 the epidemic prevailed in the town of Oxford to such an extent that this town lost two-thirds of its academic population. The plague again invaded England in 1361 and 1368. As a result of these devastating epidemics in England, as well as in other parts of Europe, large parts of the country remained for a time uncultivated, and owing to the lack of laborers there was a great increase in wages.

The following graphic account of the ravages of this pestilence is by a writer of the period:

"Wild places were sought for shelter; some went into ships and anchored themselves far off on the waters. But the angel that was pouring the vial had a foot on the sea as well as on the dry land. No place was so wild that the plague did not visit—none so secret that the quick-sighted pestilence did not discover—none could fly that it did not overtake. For a time all commerce was in coffins and shrouds, but even that ended. Shrift there was none; churches and chapels were open, but neither priests nor penitents entered —all went to the charnel-house. The sexton and the physician were cast into the same deep and wide grave; the testator, and his heirs and executors were hurled from the

ner lecture delivered at Georgetown University, March 22, 1900.

same cart to the same hole together. Fire became extinguished, as if its element had expired, and the seams of the sailorless ships yawned to the sun. Though doors were open and coffers watched, there was no theft; all offenses ceased, and no cry but the universal woe of the pestilence was heard among men."

That the "black death" of the fourteenth century was in fact the same disease which subsequently prevailed in Europe under the name of "the plague," and more recently known as "bubonic plague" can scarcely be doubted. But the epidemic was characterized by an unusually large number of cases of the pulmonary form of the disease, in which it seems probable that the lungs are the primary seat of infection, while in the bubonic form the bacillus effects a lodgment through some superficial wound or abrasion, or possibly through the bites of insects, and it first invades the lymphatics, producing inflammation of the nearest lymphatic glands. General invasion of the blood appears, from recent investigations, to be a secondary phenomenon which only occurs in very severe and usually fatal cases.

The pulmonic form of the disease, which was so prominent in the epidemic known as black death, is extremely fatal and is known to occur at the present day. Dr. Calmette, a French physician, who was sent by his government to study the recent outbreak in the city of Oporto, Portugal, reports that the pulmonary form of the disease was observed at that place as well as the usual or bubonic form; and that in pulmonary plague there are no buboes, but the cases are marked at the outset by a profound depression of the vital powers, by violent vomiting, cadaveric paleness, a rapidly failing pulse and death within a few hours.

In the fifteenth century plague was again rampant in various parts of Europe, and London suffered severely from the prevailing epidemic in 1400, 1406, 1428, 1472 and 1499. In southern Europe the disease prevailed extensively during the first quarter of the century, and in Germany it was especially severe in 1438–39. Italy, France, and Spain were again ravaged by the pestilence in 1448–50, apparently as a result of a fresh importation from Asia. In 1466 over 40,000 persons died from plague in the city of Paris. These frequent epidemics, and the greater care with which they were studied resulted, about the end of the century, in differentiating bubonic plague from typhus fever, with which it was no doubt frequently associated, and which was an important but unrecognized factor in the mortality statistics of the epidemics which occurred during this and previous centuries. Typhoid fever is another disease which no doubt contributed largely to the general mortality, but which was not recognized as a distinct and specific infectious malady until the first quarter of the present century. We now know that this disease is endemic in all parts of Europe and America, and that under certain circumstances it may prevail as a fatal epidemic. While modern methods of diagnosis have enabled us to recognize typhoid fever, typhus fever, relapsing fever, and bubonic plague as distinct diseases, it must be remembered that up to the end of the fifteenth century no such differentiation had been made, and the term "pest" was appled to any fatal malady which prevailed as an epidemic, and no doubt included in some instances smallpox, which, prior to the discovery of Jenner, contributed largely to the general mortality of the population of Europe.

Bubonic plague continued to prevail in Europe in the sixteenth century and we have authentic accou of a devastating pestilence in China during this c tury, which was probably due to this disease. T disease prevailed in London in 1563-64, and for a ti the mortality exceeded 1,000 per week; later, it p vailed in Edinburgh (1568–1574) and in other parts the British Islands. On the Continent the great mortality occurred at Moscow in 1570. Over 200,(people are said to have succumbed to the epidemic this city and its environs. The disease prevailed different parts of France during the century, and 1572 caused a mortality of 50,000 in the city of Lyo A little later than this (1575) Europe again suffe from a widespread epidemic, which appears to ha been started by the introduction of cases from Const tinople to seaports in Italy and by extension fr the same city through Austria and Germany. T city of Venice is said to have lost 70,000 of inhabitants during this epidemic, and in Germa the city of Breslau sufferred a most destructive e demic.

Bubonic plague still prevailed in various parts Europe at the end of the sixteenth century, and ea in the seventeenth century (1603) an epidemic occurr in London which caused the death of 38,000 of t inhabitants. It continued to prevail in this city a in various parts of England, and six years later caus a mortality of 11,785 in the city of London. At t same time it prevailed to some extent in Holland a in Germany. During the year 1603 a most disastro epidemic occurred in Egypt which is said to ha caused a mortality of at least a million. After an i terval of ten or fifteen years, during which there w a marked diminution in the number of cases and t extent of its distribution in European countries, again obtained wide prevalence during the year 16 and subsequenty, especially in Germany, Holland a England. The epidemic in the city of London in 16 caused a mortality of more than 35,000. In 1630 severe epidemic occurred in Milan, and in 1636 Lo don again suffered a mortality of over 10,000, while t disease continued to claim numerous victims in oth parts of England and on the Continent. Later in t century (1656) some of the Italian cities suffer devastating epidemics. The mortality in the city Naples was in the neighborhood of 300,000, in Gen 60,000, in Rome 14,000. The smaller mortality in t last-named city has been ascribed to the sanitary mea ures instituted by Cardinal Gastaldi. Up to his tim prayers, processionals, the firing of cannons, etc., ha been the chief reliance for the arrest of pestilence, wi what success is shown by the brief historical revie thus far presented. But this enlightened prelate ina gurated a method of combating the plague and oth infectious maladies which, with increasing knowledg and experience in the use of scientific preventive mea ures, has given us the mastery of these pestilential di eases, and has been the principal factor in the extin tion of bubonic plague from the civilized countries Europe.

But it was long after the time of Cardinal Gastal before sanitary science was established upon a scientif basis and had acquired the confidence of the educat classes. Indeed the golden age of preventive medici has but recently had its dawn, and sanitarians at th present day often encounter great difficulty in convin ing legislators and the public generally of the impor ance of the measures which have been proved to

uate, when properly carried out, for the prevention is and other infectious maladies.

e have now arrived, in our historical review, to the d of the "great plague of London." For some s this city had been almost, if not entirely free the scourge, but in the spring of 1665 it again ared and within a few months caused a mortality 8,596 in a population estimated at 460,000. This, ever, does not fairly represent the percentage of ality among those exposed, for a considerable pro- ion of the population fled from the city to escape tion.

pon the continent the disease prevailed extensively, cially in Austria, Hungary and Germany. The emic in Vienna, in 1679, caused a mortality of 76,- in 1681 the city of Prague lost 83,000 of its in- tants. But during the last quarter of this century disease disappeared from some of the principal tries of Europe. According to Hirsch it disap- ed from England in 1679, from France in 1668, Holland about the same time, from Germany in , and from Spain in 1681; in Italy it continued to ail to some extent until the end of the century.

the beginning of the eighteenth century the bu- ic plague prevailed in Constantinople and at various ts along the Danube; from here it extended in 1704 oland, and soon after to Silesia, Lithuania, Ger- y and the Scandinavian countries. The mortality ockholm was about 40,000. The disease also ex- ed westward from Constantinople, through Austria Bohemia.

1720 Marseilles suffered a severe epidemic, prob- as a result of the introduction of cases on a ship Leghorn. The mortality was estimated as being een 40,000 and 60,000. From Marseilles as a cen- spread through the province of Provence, but did nvade other parts of France. In 1743 a severe out- , undoubtedly due to importation, occurred on the d of Sicily. A destructive but brief epidemic, h is estimated to have caused a mortality of 300,- occurred during the years 1770 and 1771 in Mol- , Wallachia, Transylvania, Hungary and Poland. e same time the disease prevailed in Russia and 71 caused the death of about one-fourth of the lation of the city of Moscow.

would be tedious if I should attempt to give a full nt of all the minor epidemics during this and ding centuries, and I must now briefly review the ry of the disease during the nineteenth century, n happily has witnessed its complete extinction European countries. Early in the century (1802) nic plague appeared at Constantinople and in, nia. It had previously prevailed in the Caucasus, which province it extended into Russia. In 1808 13 it extended from Constantinople to Odessa, to na, and to various localities in Transylvania. It revailed about the same time in Bosnia and Dal- . In 1812 to 1814 it prevailed in Egypt and as was conveyed from there to European countries. st appearance in Italy was at the seaport Noja on stern coast of that country, in 1815. A limited mic occurred in Greece in 1828 as a result of im- tion from Egypt. During the same year it pre- l extensively in Moldavia, Wallachia and Bessar- In 1831 it again prevailed as an epidemic in antinople and in various parts of Roumelia, and it appeared in Dalmatia in 1840 and in Constanti- in 1841. Egypt, which for centuries has been the principal focus from which plague had been introduced into Europe, continued to suffer from the disease until 1845 when it disappeared from that country.

The last appearance of oriental plague in Europe, until its recent introduction into Portugal, was the outbreak on the banks of the Volga in 1878–79. The disease had previously prevailed in a mild form in the vicinity of Astrakhan and was probably introduced from that locality. An interesting fact in connection with this epidemic is that in Astrakhan the disease was so mild that no deaths occurred, and that the earlier cases on the right bank of the Volga were of the same mild form, but that the disease there increased rapidly in severity and soon became so malignant that scarcely any of those attacked recovered. This is to some extent the history of epidemics elswhere, and not only of plague, but of other infectious diseases, such as typhus fever, cholera, and yellow fever. In all of these diseases the outset of an epidemic may be characterized by cases so mild in character that they are not recognized, and during the progress of the epidemic many such cases may continue to occur. These cases are evidently especially dangerous as regards the propagation of the disease, for when they are not recognized no restrictions are placed upon the infected individuals, although they may be sowing the germs broadcast.

The termination of an epidemic in the presanitary period depended to a considerable extent upon the fact that those who suffered a mild attack acquired thereby an immunity; and that when the more susceptible individuals in a community had succumbed to the prevailing epidemic there was a necessary termination of the epidemic for want of material. This is illustrated in such cities as Havana and Rio Janeiro, where yellow fever is an endemic disease. The natives of these cities have an immunity which probably results from their having suffered a mild attack during childhood, and the epidemic prevalence of the disease depends upon the presence of "unacclimated" strangers.

Another factor which no doubt has an important bearing upon the termination of epidemics is a change in the virulence of the germ as a result of various natural agencies. Time will not permit me to discuss this subject in its scientific and practical aspects, but the general fact may be stated that all known disease-germs may vary greatly in their pathogenic virulence, and that in every infectious disease mild cases may occur, not only because of the slight susceptibility of the individual, but also because of the "attenuated" virulence of the specific germ. In the eighteenth century, the beginning of sanitary science, isolation of the sick, and seaboard quarantines came to the aid of these natural agencies and did much in the way of arresting the progress of this pestilential disease. At the present day these measures, together with disinfection by heat or chemical agents, are relied upon by sanitarians with great confidence as being entirely adequate for the exclusion of this disease, or for stamping it out if it should effect a lodgment, in localities where an enlightened public sentiment permits the thorough execution of these preventive measures. But when the disease prevails among an ignorant population which strenuously objects to the carrying out of these measures, the contest between the sanitary officer and the deadly germ is an unequal one, and the stamping out of an epidemic becomes a task of great magnitude, if not entirely hopeless.

This is illustrated by the experience of the English in their encounter with bubonic plague in their Indian empire. I shall not attempt to trace the history of plague in Asia, and indeed, reliable data for such an attempt are wanting; but we know that bubonic plague has frequently prevailed in various parts of Asia Minor, in India, and in China. According to Hirsch the first trustworthy information of the occurrence of plague in India dates from the year 1815, when it appeared in the low country of Hindostan, where it has prevailed to a greater or less extent up to the present day.

Tropical Africa has never suffered from the plague, and in general, it may be stated that a tropical climate is less favorable to its epidemic extension than a semi-tropical or temperate one. This is shown by the records relating to mortality from the disease in Alexandria, Egypt. During the epidemic period extending from 1834 to 1843 the mortality invariably fell off during the months of June, July, and August, and a recrudescense of the disease occurred in December and January, the acme of mortality being reached in March.

All authorities agree that filth, famine, and overcrowding of dwellings are potent factors in the propagation of the plague, and it is for this reason that it is to a large extent a disease of the poor, and that epidemics are especially liable to occur during times of distress from insufficient harvests or the ravages of war. The idea that the plague may originate *de novo* as a result of the causes mentioned as favorable to its propagation is not supported by satisfactory historical evidence, or by what is known of other specific infectious diseases. Whatever may have been the original home of the disease, or the circumstances to which it owes its birth, there is no reason to believe that during the period covered by our historical data it has occurred in any other way than by the introduction of an infected individual, or animal, or articles of clothing and merchandise from infected localities.

I must now refer briefly to the history of plague during the past decade. The disease seemed to be almost a thing of the past and no longer gave any uneasiness in the countries of Europe which had formerly suffered from its ravages, when in February 1894, it made its appearance in the city of Canton, China, and 3 months later in Hong Kong. The disease is known to have been epidemic in the province of Yunnan, which is about 900 miles distant from Canton, since the year 1873, but it attracted little attention until the lives of Europeans living in the city of Hong Kong were threatened by the outbreak of an epidemic among the Chinese residents of that place. Many thousands of deaths occurred in Canton during the 3 months which elapsed after its introduction to that city before it effected a lodgment in Hong Kong.

Fortunately this outbreak gave the opportunity for competent bacteriologists to make scientific investigations relating to the specific cause of this scourge of the human race and to the demonstration that it is due to a minute bacillus. The discovery was first made by the Japanese bacteriologist, Kitasato, who had received his training in the laboratory of the famous Professor Robert Koch, of Berlin. This discovery was made in the month of June, 1894, in one of the hospitals established by the English officials in Hong Kong. About the same time the discovery was made, independently, by the French bacteriologist, Yersin. From this time the study of plague has been established upon a scientific basis and very material additions have been made to our knowledge with reference to the prevention and treatment of the disease. We have learned that certain of the lower animals, including rats and mice, are very susceptible to infection, and that they play an important part in the propagation of the disease; and that the germs are found not only in the blood and pus from suppurating buboes, but also in the discharges from the bowels of infected individuals. This being the case, it can readily be seen how important a strict sanitary police is in arresting the spread of an epidemic. As in other filth diseases in which the germ is present in the excreta of the sick, insects, and especially flies and house-flies, probably play an important part in the spread of the disease.

Dr. James A. Lowson, who has written an excellent account of the epidemic in Hong Kong, says:

"Filth and overcrowding must be recorded as two of the most important factors. The district of Torpingshan supplied these factors in a marked degree at the beginning of the outbreak, the majority of the houses being in a most filthy condition, as owing to the uncleanly habits of the people the amount of what is generally termed rubbish accumulates in a Chinese house in a crowded city to an extent beyond the imagination of civilized people. When to a mixture of dust, old rags, ashes, broken crockery, moist surface soil, etc., is added fecal matter and the decomposed urine of animals and human beings, a terribly insanitary condition of affairs prevails."

The period of incubation in bubonic plague, *i. e.*, the time which elapses between exposure to infection and the development of the disease, is comparatively short—usually from three to six days.

From the report of Dr. Lowson of cases treated in the various hospitals of Hong Kong, under the control of English physicians, it appears that the mortality was much greater among natives of Hong Kong than among the foreign residents of that city. The mortality among Europeans (11 cases only) was 13.2%; among Japanese (10 cases) 60%; among Portuguese (18 cases) 66%; among Chinese (2,619 cases) 93.4%. To a considerable extent, no doubt, this difference in mortality was due to the unfavorable surroundings of the natives and the lack of proper nursing and medical attendance, many of them being brought to the hospital in a dying condition.

Dr. Lowson pays the following tribute to the trained female nurses who assisted in nursing in the plague hospitals:

"If ever this Colony had reason to congratulate itself it was when we were able to procure well-trained British nurses. I think the greatest compliment that I can pay these ladies is to say that had it not been for their presence there could have been no well-run epidemic hospital during last summer. Amateur nurses at the beginning of an epidemic, or indeed at any stage where there is a rush, are worse than useless, and multiply the worries of a medical officer *ad infinitum;* not only this but all outsiders took care to give our hospitals a wide berth. When in the hospital it was often a matter of difficulty for the medical officers employed to keep their meals in their stomachs. It would have been much harder if they had had to remain in constant attendance all the time as our Sisters had to. Smallpox is bad, but there is something specially awe-inspiring in plague which seems to appall the onlooker. Cholera and smallpox show external evidences which make a spectator aware of the existence of a severe disease, but to witness rows of plague patients dying off in a hospital has, I am sure, a much more depressing effect on bystanders than the two diseases I have mentioned."

Three attendants in the various hospitals contracted the disease and died, but that attendants in a we

icted hospital run but little danger of infection is
n by the following statement by Dr. Lowson :
to me a source of keen gratification that none of
ttendants in the Government hospitals were at-
d." In this respect bubonic plague resembles
ra, typhoid fever and yellow fever. In none of
diseases are the attendants upon the sick apt to
ict the disease when proper precautions are taken
gards cleanliness of the patient, and disinfection
reta.

e plague-bacillus is very easily destroyed by disin-
its. Dr. Lowson reports that a 1% solution of car-
acid kills the bacilli within an hour, and a 2%
ion almost immediately. Quicklime was almost
mpt in its action. Exposure to fresh air for 3 or
s usually destroyed the vitality of the bacillus, and
ure to direct sunlight destroyed it in 3 or 4 hours.
ito and Yersin both arrived at the conclusion that
sease may be contracted by inoculation, through
nd or abrasion; by way of the respiratory tract
the bacillus is present in dust carried by the in-
air; or by way of the stomach when food or
taken contains the bacillus. Experiments on
nd other animals show that they become infected
cultures of the plague-bacillus are deposited upon
ucous membrane of the nose.

Japanese physician, Aoyoma, who was associated
Kitasato, and who contracted the disease but re-
d, is of the opinion that in a great majority of the
and perhaps in all, infection occurs through an
al wound. He calls attention to the fact that
ians and nurses in attendance upon cases of the
e rarely become infected, and states that during
idemic of 1894 in Hong Kong only 3 Japanese
ne Chinese physician became infected while all of
rses escaped; also to the fact that of 300 English
rs who volunteered to clean and disinfect the
e pest-houses during the prevalence of the epi-
, only 10 contracted the disease. The greater
ty of the lower class of natives to contract the dis-
e ascribes not only to the insanitary surroundings
ich they live, but also to the fact that they seldom
shoes and stockings, and thus are very liable to
on through insignificant wounds, scratches, or
ons, both of the feet and hands. In this con-
n it is well to call attention to the fact that in
epidemics physicians have suffered severely,
at whatever immunity they enjoy is due to the
ance of sanitary precautions, the importance of
has become apparent as we have acquired a more
knowledge of the etiology of the disease. It is
at more than half the French physicians in Cairo
ed from plague during the Egyptian epidemic in
nd in the Russian epidemic, having its principal
n the town of Vettianka, in the year 1879, 3 phy-
and many of the nurses who cared for the sick
nbed to the plague.

appearance of plague in Bombay in 1896 is
y ascribed to importation from Hong Kong. The
ses occurred in the month of August, but it was
til December that the death-rate became alarm-
e mortality for the last week in this month being
In January the mortality was nearly 5,000,
February 4,600, although by this time the pop-
n of the city had been diminished by about one-
y the flight of its inhabitants. In March there
noteworthy reduction in the number of deaths, and
ntinued during April and May, and in August

the disease had almost disappeared, but early in 1898 there was a recrudescence of the epidemic, and in November of that year the total mortality had reached 26,423. The disease extended throughout the Bombay residency, following, as a rule, the lines of railway. In this way it reached Surat and Buroda on the northern line, Poona, Karad and Miraj on the southern, Calcutta and Nasik on the eastern, and Scholapur and Hyderabad upon the southeastern. The total mortality in the Presidency of Bombay up to the latest reports (November 11, 1899) has been 164,083. At the same date bubonic plague was prevalent to a greater or less extent in China, Egypt, Japan, Formosa, Madagascar, the Straits Settlements, Persia, Portugal, the Argentine Republic and Brazil. Quite recently cases have occurred at Honolulu in the Sandwich Islands, and at Manila in the Philippines. The disease has also been introduced into New Caledonia, and from there to Sidney, Australia. What the future history of this disease may be in countries where, owing to a dense and ignorant population, modern sanitary measures are difficult to enforce, no one can say. But, as stated at the outset of this address, sanitarians have little apprehension with reference to its extension in America and the more enlightened countries of Europe.

I have already referred to the fact that rats are susceptible to infection by the plague bacillus. During the epidemic prevalence of the disease these animals die in large numbers, and there is good reason to believe that they play an important part in the propagation of the malady. It has been suggested that infection may be carried from rats to man through the agency of fleas which swarm upon these rodents and desert them when they die. Plague-bacilli have been found in the intestinal contents of the flea, and it is said that when an infected rat is freed from these parasites it cannot communicate the disease by association with healthy rats. There is nothing improbable in the view that the flea may act as an intermediate host for the plague-bacillus and play an important role in the propagation of the disease under consideration. In this connection it may be well to recall the fact that the mosquito has been demonstrated to serve as an intermediate host for the malarial parasite and to play an important part in the communication of malarial diseases to man; also, that the tick is the intermediate host of the parasite which is the cause of an infectious disease of cattle known as Texas fever.

In a recent paper Professor Galli-Valerio, of the University of Lusonne, combats the idea that the flea, which is parasitic upon the rat, can be instrumental in conveying the infection of bubonic plague to man. In experiments made upon himself he was unable to obtain any evidence that this flea (Typhlopsylla musculi) will remain upon the body of a man, unless under compulsion, or that it will puncture the skin of a man. He admits, however, the possibility that plague might be transmitted from man to man by the well-known domestic flea (Pulex irritans).

During the past two or three years a number of prominent bacteriologists have been engaged in researches relating to the prevention and cure of bubonic plague by means of an antitoxic serum, obtained by the same method and in accordance with the same fundamental scientific principle as in the case of the antitoxic serum which is now so successfully employed in the treatment of diphtheria. The experiments thus far made have apparently been attended with a consid-

erable degree of success. Professor Calmette reports that the serum of Yersin prepared at the Pasteur Institute in Paris proved to be curative in a considerable proportion of the cases treated during the recent outbreak at Oporto, and that protective inoculation conferred a temporary immunity, which, however, did not last longer than twenty days. The mortality in cases not treated by Yersin's serum was 70%, in those treated with it 13%.

The inoculations made by Haffkine in Bombay appear to have been quite successful. In his first experiment 8,142 persons were inoculated. Of these 18 subsequently contracted the disease and 2 died. Among 4,926 persons inoculated a single time at Dharwan 45 were subsequently attacked and 15 died; while among 3,387 persons in whom a second inoculation was made, only 2 were attacked. Haffkine uses in his inoculations a sterilized culture of the plague-bacillus. The inoculation is followed by slight fever and enlargement of the nearest lymphatic glands. All symptoms disappear at the end of two or three days.

The figures just given are from the report of Mr. E. L. Cappel to the Plague Commission. In this report Mr. Cappel says:

"If this experiment had failed, the results, judged by the actual mortality among the noninoculated would have been appalling. All sanitary measures in the shape of disinfection, unroofing of houses, and segregation were applied concurrently with inoculation, as the Government is already aware; but the rate of mortality among those who held back from the inoculation rose at one time to a height which I believe has never been approached elsewhere—standing in the third week in September at the figure of 657 per 1000 per week."

Another form of treatment used in Bombay hospitals is the "Heilserum" also prepared under the patronage of the Government at the Parel Government House, by the assistants of Professor Lustig, whose name it bears. The serum has not been extensively employed in India because of its scarcity, and also on account of the prejudices of the natives. It has, however, been used in some 500 cases, with 60% recovery and 40% mortality, while the death-rate in untreated natives may run as high as 80%. Those who are engaged in making the serum maintain that much better results than those indicated in the above percentage can be obtained by increasing the number of healing units in the serum. In one of his articles Lustig states that he succeeded in curing completely 26 out of 30 cases of plague with his serum.

In the collection of medical portraits and engravings in the Library of the Surgeon-General's Office at Washington, is an elaborate print, representing in all its details the execution of Piazzi and Mora.

The engraving, which is from a copper-plate, is about 16 inches square. It was published in Rome by the authority of the Nuncio of the Roman College. The engraver was Horatio Colombo. There is no date, but it is probable that it was brought out close upon the event it commemorates.

The title on the top is (translated) "The sentence pronounced on those who had poisoned many persons in Milan in the year 1630." This is followed by the names of the Magnificos who sat in judgment, and the particulars of the punishment decreed. Each scene in the picture has its letter, which is referred to in an explanatory legend below. The entire disregard of the unities of time and place which characterized such productions is well displayed in this curious engraving. On the right is the shop of the barber Mora, and front of it the "Column of Infamy" is already erec A large platform car, drawn by two oxen, exhibits victims, executioners, and priests. A brazier of charcoal contains the pincers with which the flesh to be torn. The barber's right hand is on the blo and a chopper held over the wrist is about to be str down by a wooden mallet held aloft by the exe tioner. Further on is seen a large platform, on wh the two victims are having their limbs broken by iron bar, preparatory to their exposure on the wheel six hours. The wheels are also displayed, one of th already on a pole, with the men bound upon it.

Still further on are the fires consuming the bod and, last scene of all, on the extreme left is a fu little stream foaming under bridges, which is suppo to be a river, and into it a man is throwing the ashe the two malefactors.

In a paper by Dr. Robert Fletcher, Assistant brarian of the Library of the Surgeon-General's Off entitled "A Tragedy of the Great Plague of Milan 1630," the following account is given of the circu stances leading to the execution of these unfortun men:

"The original account of the proceedings which led to tragic end of Piazza and Mora is that of the Canon Ri monti. He was born in 1577, and was historiographe Milan. He published the first ten volumes of the Eccl astical History of Milan, in 1617, and by request of Decurions wrote an account of the plague which devasta the city in 1630. This latter is a quarto book of 410 pa written in Latin, and published at Milan in 1641. The ti page is a copper-plate engraving, curiously emblema There is a gigantic skeleton filling the entire page; his ha hold weapons, armor, and books of devotion; his bony protrude from under a carpet on which lies a man, the tim of the plague. In front of the skeleton is an altar w a crucifix, to which a woman, seated, with the usual na boy attending her, points with a sword.

"Early in the morning of the 21st of June, 1630, dur the prevalence of the plague in Milan, a woman of the lo classes saw from her window a man going down the st who was writing on a paper. He wiped his fingers on wall of a house, probably to get rid of ink-stains, but w the readiness of ignorance and fear, she was sure that he smearing deadly ointments to promote the spread of pestilence. A crowd of excited women invaded the Cour chamber, and the Senate was informed of the occurren Orders were immediately given to trace out and arrest guilty man.

"It must seem strange to us that the rulers of a great c even at that time, could have been so ignorant as to beli that such means could be productive of the pestilence that any man or men could desire to destroy their fel citizens, and risk their own life besides. But extraordin occurrences demanded extraordinary causes to account them. The plague was attributed to hail, to the poison of the fountains by the Jews—to deadly ointments placed that passers by would touch them. It beca dangerous for any one to touch walls or buildings. R monti relates that three French travelers admiring the fac of a building, one of them touched the marble, and was mediately set upon by the mob and dragged half dead to prison An old man, 80 years of age, about to sit down o bench in the church of San Antonio, wiped off the dust w his cloak. A woman cried out that he was anointing benches, and even there, in the house of God, the wors pers beat and kicked the life out of the unfortunate m Such was the spirit of the time.

"The earliest notice, perhaps, of this belief in 'anoint is to be found in the works of Guy de Chauliac, who physician to Pope Clement VI and was living in Avignon 1348, when the Black Death ravaged that city. He s 'It was believed that the Jews had poisoned the world which reason they were slain. In other places they dr away beggars after cutting off their ears . . . and

found that any one had powders or ointments, he was pelled to swallow them, to show that they were not nous.'

Ambroise Paré, in his *Livre de la peste*, throws further on the matter. In his Advice to Magistrates, during visitation of the pestilence, he concludes the chapter :

What shall I add? They must keep an eye on certain es, murderers, poisoners, worse than inhuman, who se and smear the walls and doors of rich houses with er from buboes and carbuncles, and other excretions of plague-stricken, so as to infect the houses and thus be led to break into them, pillage and strip them, and even ngle the poor sick people in their beds; which was done yons in the year 1565. God! what punishment such ws deserve; but this I leave to the discretion of the istrates who have charge of such duties'

The scrivener, with the ink-horn at his belt, was discov-, and proved to be a certain Guglielmo Piazzi, a com-ioner of health, a petty officer employed to report cases e disease. He stoutly denied all knowledge of the crime ged to him, and maintained his resolution through two ications of torture, although the second one was the stion extraordinary,' in which atrocious complications added to the ordinary proceeding. But in his cell, en down with the effects of the torments he had twice rienced, and dreading their renewal, which he knew ld come, the unhappy man yielded to the insidious sug-ons of those around him. He confessed his guilt, and ared that he obtained the death-dealing ointment from barber Giangiacomo Mora."

he following inscription was placed on the column ted in Milan, in 1630, to commemorate execution of a and Piazza:

Here, where this plot of ground extends, formerly stood shop of the barber Giangiacomo Mora, who had con-d with Guglielmo Piazzi, Commissary of the Public lth, and with others, while a frightful plague exercised avages, by means of deadly ointments spread on all , to hurl many citizens to a cruel death. For this, the te, having declared them both to be enemies of their try, decreed that, placed on an elevated car, their flesh ld be torn with red-hot pincers, their right hands be cut nd their bones be broken; that they should be extended he wheel, and at the end of six hours be put to death, burned. Then, and that there might remain no trace ese guilty men, their possessions should be sold at pub-le, their ashes thrown into the river, and to perpetuate memory of their deed the Senate wills that the house in h the crime was projected shall be razed to the ground, never be rebuilt, and that in its place a column shall rected which shall be called Infamous. Keep afar off , afar off, good citizens, lest this accursed ground should ite you with its infamy. August, 1630."

ESTINAL FEVER—CAUSES AND PREVENTION.

By G. W. RICHARDSON, M.D.,

ate Captain and Assistant Surgeon, First California U. S. Vol. Infantry.

A RETROSPECTIVE study of the conditions that operated causing the large sick reports in the Eighth Army ps, and rendered so many men unfit for duty, should incumbent upon every surgeon connected with the ps in service in the Philippine Islands. I shall eavor, in this article, to limit myself to a form of ase which, for the want of a better name, I have ned "Intestinal Fever." I have selected this subject use I believe this disease can in a great measure prevented by properly understanding its causes and use any information as to whether or not the cli-e of the Philippine Islands is injurious to American ps may be of service and interest. Fever or diar-a was the general term used by the men to express the reason of their reporting at sick-call. They would complain of the following symptoms: anorexia, weakness of the limbs, headache, backache, cramps in the stomach, diarrhea, and fever.

The anorexia was the prominent subjective symptom, with the associate weakness. Headache and backache were not severe, but were sufficient to be noted in almost every case; they were usually the first symptoms of which the patient complained. The diarrhea began early, 8 to 10 motions a day, lienteric in character, preceded by cramps in the stomach, which were temporarily relieved by the evacuation of the bowels. Fever was common, yet not complained of nor mentioned, until the use of a thermometer showed its presence; 102° F. was rarely reached. These symptoms would last from one to six weeks, with no regularity or order, the severity of the case bearing a definite relation to the former health of the individual.

So common was this condition that at least 75% of the troops were attacked in this way, at one time or another, and the number of days lost to the Government must have been enormous.

It is impossible to classify these symptoms to correspond with the nomenclature of diseases given in the "Manual for the Medical Department." In most cases it was called remittent malarial fever, or acute diarrhea; but neither of these terms were absolutely correct; for acute diarrhea of itself is seldom so severe, and remittent malarial fever is generally associated with constipation, a higher fever, and a more regular fever-chart. The greatest difficulty was in diagnosing it from typhoid fever; it was often impossible to do so, and at all times uncertain. For this reason all patients taken into the hospital were treated as typhoid fever, until proved otherwise. I have one case in mind to illustrate this point. While at the First Reserve Hospital, Manila, P. I., a man was brought into my wards in a semicomatose condition. Temperature 103° F., loose, watery movements, slight tympanitis, and some low-muttering delirium. He died on the fourth day, and at the post-mortem I found a general catarrhal condition of the intestines with no typhoid lesions whatever. I afterward found that he had been a heavy drinker of the native liquor called "aniso." I had diagnosed and signed the death-report as typhoid fever. If given a case with a regular fever, diarrhea, caphoid abdomen, no local abdominal tenderness, no delirium, bronchial symptoms or enlargement of the spleen—to call such a case "typhoid fever" was often with us a necessity. You will ask why was no blood-examination made? To this question I must answer, that to January, 1899, owing to the sickness and death of Dr. McVey, who had charge of the laboratory, no Widal serum had been prepared. I examined in September and October, 1898, the blood of 30 cases for the malarial plasmodium, and the examination was negative in but one case. The type of malaria, if it did exist, was of the estivoautumnal type. During my 15 months of service I saw but 5 or 6 cases of intermittent malarial fever. I was not with troops who had served in Cuba. It may be a surprise to some to hear this seeming reflection upon our own judgment, and it may look rather peculiar that such uncertain diagnosticians as ourselves should be in the Government service; but I am sure this quandary will be the natural result of all of us educated in American medical colleges, and I know of no better time than the present to express my desire that a chair for the treatment of tropical diseases

may be authorized in Washington in a few months where such surgeons may attend who are expected to do duty in the Philippines, that they may not be compelled, as most of us were, to gain their experience at the expense of the health of the men uder their care.

I might elaborate upon this difficulty of a certain diagnosis in these cases, citing as evidence the relative low death-rate of the typhoid fever, so called, in the hospitals; the inefficiency of quinin in the supposed malarial fevers, for it only seemed to increase the anorexia, and was by most surgeons discontinued. This was also the case in the use of guaiacol carbonate after the first two months, as it gave no results.

I was assigned to field duty on January 3, 1899, and having been on constant service in this line since, I could not complete the clinical study of these cases as I would have wished; but, on the other hand, being able to live, eat, and sleep, with the men in the regular routine of their army life, I am better able to speak of the conditions that caused their sickness, and to observe the cases in the early stages.

I was unable to find any predisposing cause, except it was the intestinal round-worm, Ascaris lumbricoides, and I have assumed this because a great many of my patients when placed upon santonin voided worms with a relief of their intestinal symptoms and among the many cases of heat-exhaustion that I treated 5% to 10% vomited these worms.

I shall classify the exciting causes of this condition in the order of their importance, as :

1. Excessive heat of the sun with inefficient head-protection;
2. Indigestible and improperly cooked food;
3. Unsuitable clothing;
4. Drinking of native liquors.

I am aware that the above-mentioned causes will be called by some "climatic influences," but I have thought best to enumerate them separately; for, in so doing, we can better show how to prevent the effects produced.

Concerning this important question of the effect of the heat upon the soldiers, it is necessary to admit a well proved fact that at even a lower temperature, the sun at 14° north latitude is capable of producing a greater influence on the system than the same or higher degree of temperature would produce at 40° north latitude. I am aware that owing to the lack of clinical evidence such as the postmortem table alone can show, that what I say will be, or, rather, may be, regarded in the light of an opinion, and not as a fact. Relying upon symptoms for our guide, we find tropical insolation readily divides itself into two classes: The first class in which on account of exposure to the direct rays of the sun, such as those of us who have been on the firing-line are well acquainted with, men are suddenly struck down. I have not personally seen a man die at once from direct exposure, but instead, they become unconscious and, possibly from the excitement of the battle, go into a wild maniacal delirium, complaining in their lucid moments of intense headache with violent cramps in the extremities. So common was this, that in February, during a skirmish near San Pedro Macarti, I had 50 cases brought to the field-hospital in this condition.

Recovery is rapid, the first symptom of relief being an attack of vomiting. The headache continues for a few days and the patient remaining weak and unfit for duty for a couple of weeks. If this man is soon again sent to the front he is seldom out two days before he comes down with fever and must be sent to the h pital.

The other class are those who, when compelled do even a light tour (?) of guard duty in the sun, come weak and faint, and if compelled to do duty after day, soon succumb and are on sick report 2 c weeks with diarrhea and fever.

As I said before, a difference of opinion must of cessity exist about these cases, but I can say from own experience, that 20% of all cases of fever in Ma can be traced to exposure to the sun. I say this cause I have worn both the felt hat and a pith hel and have ordered a change to the latter for those suf ing with head-symptoms with almost immediate re

I might, at the same time, state that it was a g surprise to all foreign military officers, with whor conversed on the question, that our men were abl do any any duty whatever, with their present headg for, as Kipling says:

> "But the worst o' your foes is the sun over'ead:
> You *must* wear your 'elmet for all that is said;
> If 'e finds you uncovered 'e'll knock you down dead
> An' you'll die like a fool of a soldier."

The prevention suggests itself: procure for our tro the best head-protection possible, taking advantag the experience of England and other nations.

If indigestion is a trial to the American physician home, to the surgeon in charge of a volunteer organ tion in the field it is a veritable cross.

"I can't eat the food, Doctor. If I do it gives severe heartburn and starts my diarrhea." If I h heard these words once I have heard them 1000 ti The man himself, emaciated, weak, discouraged homesick, with the many indefinite complaints that dyspeptic has at home, is not able to do duty. W can the doctor do? The man needs a change of d he can't be sent to the hospital, for it is full of n severe cases. We were, therefore, compelled to s the Regimental Convalescent Hospital while in Ma and supply these men with light diet, and it was l that the Red Cross societies were of such great h for the 15 cents per day, extra, that the Governm allowed would hardly furnish the needed amoun defray the rental of the necessary house, fuel, laundry.

When in the field the question became more seri and knowing this fact, you can understand why it that 75% of the South Dakota and Kansas Regim when they reached San Fernando, after two month army field-rations, were unable to do duty. We na ally ask ourselves, why is this? Is the food of a pr kind or is it not properly prepared? Think of ea canned beef and canned beans and bacon, coffee hard tack 60 days with the thermometer at 100° F., then you wonder that so many of them lived! F and diarrhea were again the symptoms. The solu of the food-question for the troops in the East is important and extensive to treat in the limits of article.

We have all noticed that under similar conditions sick report of a company was in direct proportion t efficiency of its cooks and the amount of its comp fund, and as an "army travels on its stomach" we readily understand the importance of a proper kn edge of this question. It is very easy to criticise, n easier than to remedy a defect; one half is to know a defect exists; and I am sure we are all agreed on

nt, that the army-ration at present is not suitable for tropics. First of all we should try to get all the d possible out of the food furnished. This I know not been done, because of the inability of the com- y commanders to procure a capable man for the ition of company cook. To rectify this, I would gest the appointment in each battalion or regiment, of man whose duty it should be to inspect the various hens and to instruct the cook in the preparation of d; and, whenever possible, a school for company ks should be held for the same purpose.

t was arranged by the commissary that tea should used in the place of coffee in the East, at least once ay, it being conceded that coffee in great quantity injurious; yet if you made the rounds of the ious company kitchens you would seldom find a cup tea that was fit to drink.

The same could be said of the cooking of rice. This, be digestible and relished, should be cooked so that h flake was separate. Instead you would find a ty pasty mush, usually scorched, that no one could cy and few could be persuaded to eat. My opinion arding pork and beans in the tropics is that they can used safely 3 times a week, but not 3 times a day. mon is good, but palling; and canned roast beef— l, it is hardly safe to mention it—that name among volunteer troops! I was able to buy in Manila a n of canned beef and mutton with vegetables, called "Maconochie's Army Ration." This, in the form a stew, came in cans, one of which was sufficient for ien. This would give a change to the field-ration, l, if prepared with rice, makes a hearty, acceptable al.

Hominy and oatmeal should be added to the regular on, and dried fish of some sort, not canned, should kept in commissary supplies.

The third cause of sickness I consider to be improper thing, particularly the blue flannel shirt now issued. is I consider entirely too heavy and irritating for the rage man, and would suggest one of a lighter weight, necessary made with cotton. My reason is that any r of duty in this heavy shirt produces such excessive spiration that it weakens; the men rapidly disrobing lace it with a light cotton or gauze undershirt. Such hange is invariably followed by a chill. A chill in tropics seems to mean more than it does in the tem- ate zone. You "catch cold" more easily, and if, any reason the bowels are weak, a catarrhal diarrhea leveloped, the bane of the surgeon's duty.

Another mooted, yet important question is the neces- of the abdominal bandage. Having in one com- y in La Carlota Negros, P. I., a considerable number of n reporting with diarrhea, I took pains to investigate w many men in that company wore the abdominal ndage furnished by the Red Cross Society of San Fran- co. I was surprised to find that only 25% of the n on sick report wore them, and that only 50% in the mpany thought it necessary to do so. This was in the e of all advice. I have studied this question con- erably, and am satisfied that the man who faithfully ars a good abdominal bandage, especially at night, ls 50% to his chances of escaping diarrhea.

Concerning the shape of the bandage, I do not con- er the woolen knit bandage practical, as it rolls up on abdomen, and is so uncomfortable that it is dis- ded. I prefer one made of a double thickness of nnel, fastened with tapes.

Regarding the drinking of native liquors I am again without statistics, and as yet have not had the bottle of "vino" analyzed that I brought back with me. While its use is not universal among the men, yet enough bought it on account of its cheapness, to make it necessary to fine any person found selling it to the soldiers. It is prepared by distillation from the stalks of the nipa palm, and seasoned with anise oil. Men who become habituated to its use soon lose desire for food, become emaciated, develop fever and diarrhea.

I am of the belief that the use of liquor in any form in the tropics is unnecessary, except it be the red wine issued by the Spanish government to their troops. It is also certain that any strong liquor taken as most Americans drink it is injurious. I refer to the custom of drinking undiluted with water. The English, and those who have lived some time in the East, are accustomed to dilute their whisky and brandy with soda water, and as a result the direct or local action is considerably modified; besides, they have not that indescriminate irregular method regarding time that we find in the convivial American. I am not positive regarding the ultimate effects of this custom, for the year I spent in the Philippines would hardly give me time to observe fully or decide positively, yet I saw sufficient to impress me with the evil results likely to follow, in that "loss of appetite" was becoming a very common complaint and is a signal of alarm, for in such cases it is about time to look for trouble in the form of fever or diarrhea.

One's vital powers in the East are constantly taxed to their extreme resistance by the enervating effects of the climate, and when, for any reason the supply of food or potent energy is interfered with either by deprivation, or inability to utilize the food taken, there must and will be a diminution of the resisting powers of the system to disease. Hence it is, that every precaution should be taken by those having the care of the troops in the Philippine Islands, to provide means of sustaining the strength to its highest point, and at the same time to prevent any drain upon that condition that we call good health.

AMEBIC DYSENTERY.[1]

BY I. B. DIAMOND, M.D.,
of Chicago, Ill.

THE following article deals, first, largely with the pathologic report and microscopic study of a case of amebic dysentery, with reference to primary changes found in the mucosa and muscularis mucosa; secondly, with the clinical report of 4 other cases, with some remarks on the diagnosis and treatment. The microscopical examination was done in the Pathologic Laboratory of Rush Medical College, Chicago.

CASE 1.—F. W., a negro, about 60 years of age, from whom a satisfactory history could not be obtained, was admitted to the Grady Hospital, Atlanta, Ga., October, 1896. He stated that his illness began with pain and looseness of the bowels 7 or 8 months prior to his admission. At that time he had from 5 to 10 actions daily; later the stools became bloody and contained much mucus. Since then he gradually became worse with loss of flesh and strength, incapacitating him from performing any work. Loss of appetite, and occasional attacks of nausea and vomiting. On admission he was considerably emaciated; temperature, 97° F.; pulse, 120 per minute; tongue slightly coated; the abdomen somewhat distended and tender on palpation. The

[1] Read before the Chicago Pathological Society, January 9, 1899.

feces consisted of considerable mucus and blood, and gave off a peculiarly offensive order. On microscopic examination, many active amebae, red blood-cells, pus-cells, and large epithelioid cells were found. He improved but little under treatment, gradually sank and died on October 22, 1896.

Necropsy, 12 hours after death. The body greatly emaciated; rigidity slight; abdomen somewhat distended. On opening the peritoneal cavity the omentum found rolled up around the large intestines; serous surface moist; appendix normal. The large intestines fully distended and their walls greatly thickened, the thickening being most marked near the splenic flexure, where the colon was bound down by very firm adhesions. On separating the adhesions a perforation was found in the colon near the splenic flexure. The opening was somewhat irregular and about one inch in diameter. On laying open the colon beyond this point towards the rectum, the mucous membrane was found considerably ulcerated. These ulcers were of various size and shape, usually round or oval, and not larger than two inches in diameter; others not more than two or three lines in diameter. The floor and edges of the ulcers were usually smooth. In others, the ulceration extended below the mucosa, with some undermining of the edges. The mucous membrane from the point of perforation towards the cecum was found extensively ulcerated, more in patches, irregular and with ragged edges and walls. The remaining mucosa was greatly congested, and apparently hemorrhagic at many points. In the ileum near the ileocecal valve many ulcers were found, resembling those described in the colon. The ileocecal opening was considerably contracted, due to an increased thickening of fibrous tissue around the orifice. The mesenteric glands were swollen. The spleen was normal in size and in appearance. The liver was somewhat enlarged and congested. On section, pale areas the size of a pin's head could be seen scattered throughout its substance. Both kidneys were larger than normal. The capsules somewhat adherent and substance pale. Bladder normal. The heart, lungs and other organs normal.

Pieces of the various tissues were fixed in the Heidenhain's corrosive sublimate salt-solution, hardened in alcohol and embedded in paraffin. Effort was first made to stain the amebas in the tissues as recommended by Harris,[2] namely, with toluidin-blue. By this stain the amebas are brought out prominently, and can be easily distinguished from other objects, especially the large, round, degenerated connective-tissue cells which resemble the amebas. It was found, however, that the toluidin-blue was quickly washed out by the alcohol, the amebas and nuclei of cells either remained colorless, or were stained by the diffuse stain, when counterstained. I then began to experiment with various staining solutions in combination with toluidin-blue, in the hope that a combination might be found which would resist the alcohol used in the subsequent washing. After thus experimenting, I found that by mixing toluidin-blue and carbol-fuchsin, a beautiful contrast-stain was produced. The amebas stained a purplish-blue color, the nuclei of cells either blue, purplish-blue, or red, and the rest of the tissues, light to purple-red. The sections should remain in the stain from 10 minutes to several hours. They are then washed in alcohol and cleared in xylol. The internal structures of the amebas are beautifully shown when the washing with the alcohol is a little prolonged. The vacuoles become quite distinct, and apparently surround small granules, reddish or pinkish in color. If the toluidin-blue is in excess, the tissues and the amebas are then stained more of a blue. This stain keeps well and does not deteriorate. It is made as follows: Toluidin-blue, saturated aqueous solution, one part; carbol-fuchsin (tubercle stain), one part; mix; filter. This combination acts quickly, bears washing, is delicate, and gives the effect of a double stain. somewhat similar result is obtained when the tiss are stained in carbolic acid toluidin-blue, and coun stained with eosin. Harris[3] in a recent article rec mends this stain for general histologic work. He st it acts quickly, stains deeply, and will bear any amo of washing with alcohol. He believes that the reacti if not acid, is certainly neutral. This leads me believe that the success I obtained in staining amebas in the tissues is due to the carbolic acid in staining solution, especially helping to differentiate d cately the internal structures of the amebas.

Morbid Histology: Intestines.—Characteristic lesions the intestine, such as those described by Councilm and Harris,[5] namely, "great swelling, infiltration a breaking down of the submucosa, with caving in of normal mucosa above," were markedly absent. T changes here observed were largely confined to mucosa and muscularis mucosa, any deeper ulcerat being apparently secondary. The earliest changes sh that the mucosa at the point which forms the beg ning of the ulcer has become transformed into a pe liar homogeneous granular mass, which gradua softens and breaks down at the surface. While t mucosa near the seat of the degeneration is seen in trated with small round cells, which may even exte through the muscularis into the submucosa. The blo vessels are dilated and filled with blood. Amebas occasionally seen near the surface of the mucosa, l usually they are deeper, and especially along the m gin of the muscularis. This layer also shows mark changes. The nuclei have disappeared and the fib at the seat of the ulceration are granular. Beyond t point it seems that the muscularis has undergon kind of hyalin transformation. Many amebas seen in this layer, lying between the fibers which swollen and separated from one another. In th sections the ulceration rarely extends any deeper th the submucosa. In the submucosa there is a decid increase of fibrous tissue. The walls of the blo vessels in this layer are greatly thickened, with thro bosis, and in some obliterating endarteritis. La swollen connective-tissue cells are not present. T enormous thickening of the gut at many points is d to newly-formed fibrous tissue in the submucosa a outer layers, as is shown in many of the sectio There are also present in many of these sections, besi the ulceration of the mucosa and muscularis spok of above, secondary ulceration in the submucosa, wh in some instances is quite extensive, reaching throu the inner muscular tunic to the serous coat. The sw ing is slight, but the small round-cell infiltration more pronounced, with a tendency to slightly und mine the mucosa. Many amebas are seen near t ulceration and among the small round-cells. The p ducts slowly break down, transforming the tissue int homogeneous hyalin or granular mass, which for the base of the ulcer, and in which a few cells a amebas are still present. Large numbers of amel are found in all the coats. In many of the sectio they are seen in the act of passing through the new formed fibrous tissue and various layers into the ou muscular layer and thickened serous coat, produci but little if any change, a fact noted by Harris. T

[2] Harris: Amebic Dysentery, *Am. Journal of the Med. Sciences*, April, 1898.

[3] Harris, PHILADELPHIA MEDICAL JOURNAL May 14, 1898.
[4] Councilman and Lafleur: Amebic Dysentery. *Johns Hopkins Hos Reports*, vol. ii.
[5] *Loc. cit.*

ency of this new tissue to the action or products
e amebas is well observed even in the submucosa
the ulceration is slow and there is not that soften-
nd breaking down of the tissue observed in the
sa. In many of the sections, for example, those
from the irregular, ulcerated and hemorrhagic
es of the transverse colon, the ulceration seems to
a more pronounced kind. The ulceration not
involves the mucosa and muscularis mucosa, but
ubmucosa may be attacked quite early. All the
layers may be necrotic, and shreds of the various
s hang or lie over the ulcer; part of the sub-
sa or inner muscular layer may form the base of
lcer. The bloodvessels which have been reached
e ulceration are broken down, or infiltrated with
round cells. Many amebae are seen in the walls
ll as in the lumina of the vessels.

tions of the Liver show a necrosis of the liver-cells
d the central veins, the latter are dilated and
with blood. Amebas are not present.

Mesenteric Glands show an increased number of
hocytes, the lymph sinuses are dilated and con-
many large, swollen, vacuolated cells which
uble the amebas. The reticulum of the glands is
what thickened, the bloodvessels dilated and con-
l.

tions of the Kidney show cloudy swelling of the
lining the convoluted tubules and those lining the
eruli; the connective tissue seems somewhat
ened.

e points of interest are of course the peculiar
cter of the lesions in the intestine. Councilman
that the amebas do not at first produce any
ges in the mucosa or muscularis, but pass through
layers, into the submucosa, and then produce the
y characteristic lesions which always accompany
presence, namely: Great swelling, infiltration, and
ing down of this layer with undermining of the
sa above, until it caves in, due to loss of substance
. Harris, on the other hand describes a form of
in the mucosa which softens and breaks down
surface, and that any deeper ulceration—in the
ucosa—is apparently secondary. In the sec-
he also found the submucosa rather increased by
ormed fibrous tissue below the ulceration. But he
further that he never found any amebas in these
s. That changes may first begin in the mucosa
nuscularis mucosae is well illustrated in this case.
nly are the amebas present in these layers, but the
ges produced by them can at the same time be
ately observed. Why the changes are confined in
instances in the mucosa and in others in the sub-
sa, can be explained probably by the resist-
of the tissues when in a healthy state.

E 2.—C. D. dentist, native of North Carolina, white,
24 years, resident of Houston, Tex. He was first seen
e on August 24, 1897. Family and previous personal
y good. Always in good health up to three months
when taken with pain over the region of transverse
and with loosenoss of the bowels. Treated by various
cians for diarrhea and dysentery, but with no benefit.
ually becoming worse; stools changing to bloody mu-
aving from 10 to 15 actions daily, lost flesh and became
tired when working. Has no appetite, and is restless
ht. On examination, tongue slightly coated, pulse 80,
erature 99° F.; abdomen somewhat tender on palpa-
Stools offensive, consisting of much mucus and blood;
scopically, pus-cells, red blood-cells, and many amebas
nt.

atment: He was placed upon a liquid diet and hydro-
gen-dioxid injections ordered. August 24, at 5 P.M., the first injection of hydrogen dioxid solution 25%, capacity 2 quarts, given. Had one action during the night, less blood and mucus present. August 25, one injection 9 A.M., and another at 6 P.M. No action during day or night. August 26, one injection only in the morning. Slept well during the previous night, no action during that day. August 27, one normal action that morning. Injections stopped. Improved rapidly, became stronger and gained in flesh. Stools normal Was advised to remain on a liquid diet for at least two months and abstain from all alcoholic drinks. The patient, however, failed to follow instructions, relapsing 6 weeks after. Hydrogen-dioxid injections again ordered, but had no effect on him. He was then given injectinee of potassium permanganate, from which he somewhat improved. When last seen a year ago, was apparently well.

Harris has had the same experience in some of his cases in which hydrogen dioxid failed the second time in relapsed cases.

The next patient contracted the disease near Houston, Tex. He became rapidly emaciated; was also treated by another physician without benefit, and who apparently did not recognize the nature of the disease.

Case 3.—C. A., married, aged 28, clerk, Russian and a resident of Houston, Tex. He was first seen by me on November 7, 1897. Family and previous history negative. Four weeks prior, while out in a small town on business, he was taken the second day following his arrival with mucous discharges from the bowels. His stools increased to 10, even 15 daily. He gradually became worse; consulted a physician without any benefit. He was compelled to return to Houston. When seen by me he was greatly emaciated, weak and confined to bed. Abdomen somewhat distended and tender on palpation. His pulse was 100 per minute and temperature 99⅗° F; tongue coated, no appetite, always nauseated, with pains in lower part of the abdomen, and tenesmus. The stools were offensive, consisting likewise largely of mucus, and of grayish blue color. Passed 10 to 15 daily, and about a pint at each stool. Microscopically many amebas, etc., were found.

Treatment: Liquid diet, and hydrogen-dioxid injections were ordered, with no improvement on the following day, when its use was stopped and potassium permanganate injections 15 gr. to quart of warm water given three times a day. He gradually improved; mucous discharges ceased after the third day of treatment, November 12. After that he improved rapidly.

The other two were mild cases, both contracting the disease at Atlanta, Ga. One was treated with hydrogen dioxid, and the other with potassium permanganate. They also were treated first by other physicians with like results, thereby showing how the usual remedies may even fail in mild cases.

Case 4.—M. W., female, 24, colored, single, was first seen by me on November 9, 1896. Family and previous history negative. Her illness commenced three weeks prior to that date, with looseness of the bowels, having from 4 to 5 actions daily; consulted physician, no improvement. Her stools changed to bloody mucus, with some tenesmus, and pain in the lumbar region. Her pulse and temperature were practically normal; tongue clean, appetite fairly good, no nausea, or vomiting. Stools were largely mucous, with streaks of blood, and offensive. Many amebas, etc, found on microscopic examination.

Treatment: Liquid diet, hydrogen-dioxid injections twice a day; improved rapidly, was apparently well on third day after treatment, and is now completely recovered.

Case 5.—W. H., negro, male, age 36, married, laborer, and was first seen by me on November 15, 1896. Family and personal history negative. He was in good health up to 10 days prior to said date, when his illness began. He had from 5 to 10 bloody mucous stools a day. Consulted physician, with no results. His appetite was good; tongue clean; pulse and temperature about normal; some tenesmus, stools consisting largely of mucus mixed with streaks of blood, and somewhat offensive. Microscopically many amebas, pus-cells, etc, were found.

Treatment: Liquid diet, solutions of potassium permanganate (15 gr. to quart of water) injections ordered twice daily. He improved rapidly and is completely recovered.

The foregoing cases illustrate the frequency with which this affection is still overlooked by many, especially in the South. As most of the cases originate in tropical and subtropical regions a proper and early diagnosis is of great importance. For when early seen such cases can in most instances recover, provided the proper treatment is instituted, and the liability for the disease to become chronic is thus greatly lessened. When we find that the usual remedies employed in treating the disease have but little effect, amebic dysentery should then always be suspected. It is best to make a microscopic examination of the stools for the amebas. As the amebas resemble the large degenerated epithelioid cells, especially when they are in a quiescent state they are liable to be overlooked. Therefore it is best to stain them in the fresh state as recommended by Harris, viz: with a $\frac{1}{2}$ of 1% aqueous solution of toluidin-blue, by passing the staining solution under the cover-glass gently through a pipet. By this method the amebas stand out prominently, and are beautifully



a. Amebas; *b*. epithelioid cells; *c*. pus-cells; *d*. red blood-corpuscles stained fresh with aqueous solution toluidin-blue. (Objective $\frac{1}{8}$ inch.)

differentiated from the other elements present. (See cut.) For examination, the stools should be received in a clean vessel and not mixed with any fluids, especially urine, which invariably kills the amebas. It is best to select that portion of the feces which consists largely of stringy mucus, intermingled with blood. In the severer cases the stools may consist entirely of mucus, jelly-like in consistency and of a peculiarly offensive odor. Such cases lose flesh rapidly, as in the case herein reported.

In mild cases the pulse and temperature are usually normal. The appetite is good and tenesmus slight. Pain in the lumbar region and over the transverse colon is sometimes a constant complaint.

Undoubtedly the best treatment for this disease is the rectal injections of solutions of hydrogen dioxid and potassium permanganate. Of the former a 25% solution can be used, and of the latter, 15 grains to the quart of warm water, to be injected two or three times a day, and gradually reduced according to results. Out of 25 cases, treated with hydrogen dioxid, by Harri were cured and 4 greatly benefited. Three of my comp atively acute cases completely recovered, 2 of which reported above, were treated with potassium perm ganate and the other with hydrogen dioxid. A g quality of this agent was not at the time at ha therefore the potassium permanganate was used, with good results. While marvelous results are so times obtained with hydrogen dioxid, a guarded pr nosis must be given, as relapses are frequent, especia in chronic cases. A patient should not be conside out of danger for at least two months after appar recovery, as Case No. 2 illustrates. During that per the patient should remain on a liquid diet.

A Tuberculosis Hospital for New York City.—March 29 Assembly man Henry's bill for the establishment, maintenance by the city of New York of a hospital for care of cases of pulmonary tuberculosis, passed the Assembly. It provides for an appropriation of $350 000, and pla the hospital under the jurisdiction of the Board of Hea

Teaching and Hospital Work in India.—From private letter to Dr. John B. Roberts by Dr. Anna M. Fuller ton, we make the following extract. Dr. Fullerton, forme of Philadelphia, is teaching and practising in the Nor India Medical School for Women in Ludiana, India.

"For this term I am coaching the senior class of the sch on medicine, surgery, gynecology, and obstetrics. I m my first class at 7.20 o'clock every morning, immediat after breakfast. On Wednesdays and Saturdays I give addition a clinical lecture in the hospital in the city (Ch lotte Hospital), containing chiefly surgical cases. I am expected to give one clinical lecture weekly at the C Hospital. We have quite a large new hospital in proces erection just outside of the city, to be called 'The Memo Hospital.' The wards are almost ready for occupancy, a we hope to get in in a few weeks. Meanwhile we hol dispensary in the verandah of our school building. have also two dispensaries in adjacent towns, Phillons Gill. So our students have a rich supply of clinical mate

"Our students are Europeans, Eurasians, and nati (chiefly the latter) from all parts of India. It is wonde to me to see how well-informed they are. They are m studious and intelligent and answer remarkably well quizzes. Several hours are spent by them daily in help in hospital and dispensary work, and it is this, I believe, t is the secret of their success. We have this term 45 stude The hospitals here would interest you. The cases the selves are interesting, for patients do not come to us slight ailments, but rather for advanced conditions of dise hence we do not have the large number of uninteres cases often found in our home dispensaries. Eye dise are very common, tumors, suppurative processes, defo ities, etc., also.

"Our hospital wards are most picturesque in their co ing. The natives believe that white attracts evil spirits, they, therefore, insist upon being arrayed in bright co and having the bed-clothing and curtains, etc., in the sa lively hues. They also wear all their cheap jewelry whil bed (I suppose to keep it safely); and the wan, pinched tures of a very sick patient set off by half a dozen earri on each side of her head, with nose-ring, necklaces, etc., blue, purple, and scarlet surroundings, certainly produ very weird effect.

"There is considerable difficulty attendant upon d good medical work because of the childishness of these p women. If the day for a religious festival comes aro no matter what operation a patient has had, she simply up in order to go to it, unless she is absolutely so ill that can take no interest in anything. The prejudices of people also hamper us a good deal, for we must be very c ful in prescribing food, medicine, etc., to remember th quirements of the various castes.

"From a human point of view, it will be a long time fore this wilderness will bloom as the rose."

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Our Special Number on Medicine in the Tropics s attracted extraordinary attention, and, combined h the overplus presented in the present number, e may gain from it a most complete picture of the edical and surgical work undertaken through the re- nt extension of our governmental influence. So far we know, for the American reader, lay or profes- nal, there has nowhere been gathered so complete d accurate a summary of the death-rates from the re fatal diseases in the Philippines as is given in extracts from the official reports herewith presented our readers. According to Surgeon-General Stern- g's figures the death-rate per 1,000 of strength was of—

Troops in the United States	17.45
Troops in the Philippines	18.60
Troops in Puerto Rico	39.38
Troops in Cuba	61.15

"In this connection special note may be made of the t that the death-rate from disease in our Volunteer my during the first year of the Civil War, May, 61, to April, 1862, inclusive, was 45.86 per 1000 of ength, and that when the deaths of the first 18 nths of that war are applied as a comparison we d 78.41 per 1000 for the period, which is equivalent an annual rate of 52.27."

Competitive Examinations for Nurses.—The bill providing an organization of the nursing service of e Army now before Congress can have little chance passing, prepared as it was without consultation th the Surgeon-General, regardless of our experience ined during the Spanish war, and without the advice a legal and legislative intellect. With the essential an which its authors had in mind every physician ust have the greatest sympathy. But such a pro- sed bill should be drawn with statesmanlike knowl- ge of the facts, with the cooperation of those most perienced in our recent wars, and with that of the presentatives of at least a majority of the training- hools of the country. When these conditions are met e clearest and most needed provision of the new bill ould relate to the method of entering the service. e think this should be by competitive examinations, exactly the same manner as the medical corps of the my and navy are recruited. Only by such a method n the evils of favoritism as to schools, and of national medical politics, be avoided. With the prerequisite the training-school diploma, and guarantees of a good moral character, the competitive examination will assure a corps of nurses which shall be an honor at once to the three professions concerned.

The Relation between Sunshine and the Prevalence of Influenza.—In view of the known bactericidal influence of sunlight it would not be surprising to learn that an inverse relation exists between the amount of sunshine and the prevalence of infectious diseases, providing, however, the temperature is not excessive. Some observations recorded by Ruhemann (*Berliner klinische Wochenschrift*, 1900, No. 9, p. 199) appear to indicate that influenza is more prevalent when the amount of sunshine is less, and it is not impossible that a similar rule would be found to apply to other infectious diseases also. In the eight years from 1883 to 1900 the number of hours of sunshine during the month of January, when influenza was exceedingly prevalent, was between 9.8 in 1900, and 62.3 in 1899—the mean being 36.4. A similar state of affairs was observed in Magdeburg, where from 1882 to 1900 the number of hours of sunshine varied during the same month between 19 in 1900 and 86.3 in 1883. Similar figures were obtained in observations made in other cities of Germany.

New forms of hospital-abuse are continually arising that should cause the discriminating almsgiver to ponder and to condition his giving with wise provisions. From more than one city comes the bitter complaint that the private rooms in hospitals are personally controled by the professors in charge, and are too remorselessly used for the increase of professional success and income by the professorial owners and controlers. There is, of course, a perfectly proper and justifiable partial use of the private rooms for private patients by the attendant physicians who give a large share of their time and labor to the treatment of deserving charity cases in the same hospital. But this is very different from a selfish and monopolistic exclusiveness and cunning perversion of the public institution to private uses. We have even heard of instances in which the visiting physicians own controling shares of stock in the hospital property. The palatial hospitals built and supported by "charity," and supposedly for the benefit of the poor of the community, may thus and for all practical purposes become the private property of the physicians or sur-

geons in charge. All the other thousands of physicians of the community are not permitted to send and to treat their private patients there. Hence the multiplication of medical colleges and of hospitals due to the desire of private practice; thus arise political jealousies and professional hatreds, and social injustices without end. A refinement and doubling of the evil is the plan of using the private rooms and all the other machinery of the hospital furnished by "charity" and State endowment as a free hotel for legislators and State officers and for gratuitous treatment of themselves and numerous friends. Senators, lawmakers, members of finance committees, bosses, and all politicians who control appropriations, are bribed by this free treatment, while the great professors, the great buildings, and the great practices multiply and astonish the world. Charity, it is evident, may become crime.

The Organization of Medical Colleges.—It does not require a very great amount of familiarity with the conditions of medical education in the United States to disclose some radical defects. It may be taken for granted that the well-meaning elements of the profession are practically unified in their desire to remedy such defects; agreement upon the exact necessities and exact remedies is, however, difficult. This is probably due to the personal equation which must enter into every one's view of a disputed question. Many of us think there are too many medical colleges; some think there are not enough; some believe that existing conditions could not be improved.

There ought to be agreed-upon standards for all medical colleges. The American Association has been organized for that purpose. Its work is arduous, for it constantly encounters difficulties in harmonizing the interest of scholarship and of commercialism. The purely independent schools have somewhat more radical and advanced ideas than those which depend for an income upon the number of students in attendance. It would seem, however, that all existing schools should agree that measures should be taken against the unnecessary further increase of the number of teaching institutions. Too often a teacher of ability, having severed his connection with an existing school, takes part in the organization of a rapid-fire but ill-equipped institution for purposes of personal revenge or advancement. He himself may bring to his own chair both sufficient scholarship and professional attainments; a few other chairs are reasonably well filled, and the balance of the chairs are filled haphazard, with any one ambitious enough to attempt the work in exchange for the barren title of "professor." Thus there exist not a few schools in various parts of the country, which maintain a sort of standing through the reputation of a few talented and self-seeking clinicians in the practical chairs, but whose fundamental branches have poor teachers and but trivial facilities for instruction.

Modern medical science cannot be properly taug without well-equipped laboratories for histology, path ogy, bacteriology, and chemistry; practical work each student is essential if anatomy and physiology a to be properly taught; electrotherapeutics must mastered in both laboratory and clinic if it is to be int ligently practised; individual instruction in physic diagnosis is an essential for the graduation of capal physicians. Yet some or all of these branches are slightly taught in some of the colleges that their grad ates practically enter professional life halt and blind.

Medical examining boards have a distinct power a well-defined duties in regard to these matters. Th can refuse to recognize the diplomas of colleges th give insufficient instruction. Every examining boa should have "an inspection that inspects" of eve school whose diploma they agree to recognize.

Quackery in the nursing profession has begu to make its appearance in the guise of quack schoo for nurses with short courses, without legitimate med cal control, and in which there is not even the claim practical instruction in clinical work. A circular li before us in which the glories and dignities of the reg lar profession of the thoroughly trained nurse are su *fortissimo et diminuendo*, the *rubato* ending being th this school aims to avoid the arduous years of stu by the shortcut of attendance upon a course of t weeks of evening didactic lectures. Then follows t "handsome diploma signed by the officers and beari the great seal of the corporation." There can be b one result of this:—The properly-trained nurse cheated out of her just clientele, and of her years sacrifice, study, and labor in the preparation for h work. As in the medical profession, so in the nursi profession, thoroughness and experience in the ha school of facts are the sole guarantees of proficienc This plan is a dangerous one to the sick as well as the two professions concerned. It is didacticism go mad. How can "the dressing of burns, sores, ar wounds," the "disinfection of contagious diseases," et be taught without the patient and without the disease How—as it is here promised—how can "the admini tration of enemas" be taught didactically?

The Differentiation of Typhoid Fever and Tube culosis.—While the differentiation between typho fever and tuberculosis is exceedingly easy in typic cases it may at times be exceedingly difficult. The dif culty is further enhanced by the fact that typhoid fev may develop in a tuberculous subject or tuberculosis a typhoid patient. Of all the differential signs of the two diseases any may be absent, so that the diagnos may be involved in doubt until the duration of the il ness clears up the situation. Suggestive informatic may be obtained from a careful inquiry into the hi tory and a thorough study of the symptoms. The d

lopment of the agglutinating and sedimenting serum-ıction may be accepted—with slight qualification—as idence of typhoid fever, present or past, but its failure appear is far less conclusive—in either a positive or negative way. Of the truth of this statement evi-nce is afforded by the report by Debrie (*Arch. de éd. et de Pharm. Milit.*, January, 1900; *Lancet*, Febru-y 24, 1900, p. 553) of a case of typhoid fever occur-ıg in a tuberculous subject in which the serum-ıction was wanting. The patient was an infantryman, ıo had previously had chorea and bronchitis, and on o occasions hemoptysis. Signs of disease of the ngs were also present and tubercle-bacilli were found the sputum. While under observation symptoms of phoid fever appeared, but a negative response to the rum-test was reported after two separate examinations. eath occurred after the lapse of 11 weeks, amid symp-ms of asphyxia, delirium and nervous excitement. On stmortem examination typical typhoid ulceration was und in the ileum, together with ulceration of the lon, but with regard to the nature of the latter a final cision was not reached as to whether it was tuber-lous or typhoid.

The Case of Crook vs. Crook and Horrocks.—ıis now celebrated case was recently brought to a rmination in a London court. The circumstances of e case were peculiar. Dr. Crook, the petitioner, brought it against his wife for divorce on the ground of ultery, and named a fellow-practitioner, Dr. Hor-cks, as corespondent. The only evidence adduced ıs a written confession, made by the wife to her hus-ınd and afterward denied by her. The corespondent ıder oath stoutly maintained his innocence. Mrs. ook, it seems, had consulted Dr. Horrocks pro-ssionally, and he, according to his own testimony, d imprudently seen her alone while making the quisite examinations. The jury committed the un-rdonable solecism of acquitting Dr. Horrocks, but clining to acquit Mrs. Crook. This leaves the unfor-nate corespondent in a most unenviable plight, for he declared innocent of breaking the seventh command-ent with a woman who is not acquitted of having oken it with him. In this unprecedented position he entitled to and will receive the sympathies of the pro-ssion.

The medicolegal interest in the case centers about e confession and its subsequent denial. Both Dr. ıd Mrs. Crook, it seems, were under the influence of "palmist," who foretold their destinies by reading e signs in the palms of their hands. This weak-indedness on the part of Mrs. Crook was evidently centuated when the palmist accused her flatly one ıy of having broken her marriage vows. Mrs. Crook oceeded to question her husband about the meaning the word "adultery," and then, when she had arned the meaning of the term, confessed to him that she had been guilty of this fault with Dr. Horrocks. The truth of this confession she afterwards denied, although she did not deny having made it, but claimed that it was a "delusion." This raises the very subtle question whether a virtuous woman will ever impeach her own honor under the influence of a morbid mental state. It has been claimed by good authorities that such a woman cannot be influenced to commit an immoral, or even immodest, act, even in profound hypnosis; whether, then, she could be misled to accuse herself falsely in any form of psychosis is quite a grave question. In the celebrated case of Lady Mordaunt, as we recall it, the respondent made a confession of guilt, but it was claimed that she was suffering at the time with a form of puerperal insanity. There seems to be nothing radically improbable in such a claim. Unfortunately in Mrs. Crook's case we have no very clear evidence as to what form of psychosis she was suffering from when she made this spurious confession. It is well known among lawyers that confessions of guilt are not always trustworthy; various motives may give origin to them, and various mental states may utterly invalidate them. In the case of a woman, however, a false self-accusation of unchastity is one of the very last aberrations to be looked for, and demands a most careful and searching psychologic analysis. In the case of Mrs. Crook the jury does not seem to have been satisfied that the respondent was suffering from a psychosis, although it acquitted Dr. Horrocks because, apparently, the English law will not accept incriminating testimony from one of the interested parties in a suit of this kind unless it is corroborated by another witness. Hence, Mrs. Crook's testimony as to her own guilt was conclusive, but not conclusive as to the guilt of Dr. Horrocks. This verdict, we fear, will seem to the outside world like a *reductio ad absurdum*.

The Notification of Tuberculosis.—With the additions that have been made to our knowledge of the etiology of tuberculosis since the discovery by Koch of the tubercle-bacillus it has been clearly demonstrated that the disease can be prevented. Without belittling the importance of the predisposition—the soil, it may be safely contended that the bacillus—the seed, is essential to the development of the disease. It is, therefore, obvious that if it were possible to apply the guiding principles that govern the prevention of all infectious diseases, namely, isolation and disinfection, tuberculosis would soon be suppressed. The principal danger resides in the discharges and if these were properly cared for dissemination could not take place. A good deal has been done in recent years in the spread of knowledge on this subject, both within and without the medical profession, and the work has already borne fruit. Efforts at suppression must, however, be futile so long as the foci of infection remain undiscovered, and it is to overcome this obstacle that notification of cases

of the disease becomes necessary, in order that the sick and their attendants and associates may be educated in the means of prevention. In many instances this duty can be performed by the attending physician, but the greatest danger, both in number and in intensity, arises from the impoverished and the vicious, who are often unable to take the necessary precautions, even were they informed; and here a public body, like the Board of Health, can undertake the task of education, of prevention, and of disinfection. It is for this reason particularly that notification of tuberculosis is desirable, as the obligations in the case can only be met by organized action, fortified by authority to carry necessary measures into effect.

Kussmaul's Autobiography.—Many causes combine to make autobiography the most delicate and doubtful form of literature. A man's estimate of himself and of his work is rarely of much value, particularly when deferred to old age. Amid other days and other ways than those in which one's chief energies were spent the perspective is likely to be lost. Then, few possess the gift of plain, straight narration, and fewer still the art to conceal what has been called "the conscious enjoyment of the flavor of one's own individuality"—usually such an oppressive thing in autobiographies. Of late years there have been one or two noteworthy works of this sort written by physicians. Among them Gordon Hake's "Memoirs of Eighty Years" takes perhaps the first place in literary value, but Billroth's *Letters*, Moleschott's "*Aus meinem Leben*," and Kölliker's autobiography, just issued, have more general professional interest. The last, the record of a life of remarkable energy, and of still more remarkable achievement, is likely to do incalculable injury, since by the example therein portrayed many a teacher and investigator will be stimulated to work on long after the time when he "nor wax nor honey can bring home!" An ideal autobiography has at last appeared in Kussmaul's *Jugenderinnerungen eines alten Arztes*. A colleague who sent the work, wrote on a slip inside: "The ideal physician," and he has been thus spoken of by several Americans who came under his influence in Strassburg. The name of Kussmaul is well known to every worker in clinical medicine, but this story of his early life will appeal to a wide circle of readers, as he deals not only with professional affairs, but with the stirring period of the revolution of 1848. In many ways it is the most fascinating of biographies of a physician, and not the least interesting feature is that he ends it just where many men would begin, viz., at the outset of an academic and professional career of great brilliancy. *The* picture of his early days is that of his father, a country doctor, and a strong, brave man. An extract is given from his father's Würzburg notebook, when a student in 1820, which illustrates the condition of medicine at Schönlein's clinic, perhaps the best of its day in Germany. The story of his student life is t in a charming way, interspersed with anecdotes a comments on customs new and old. The sketches his Heidelberg teachers, Naegele, Chelius, Tiedema Puchelt, Peufer, Henle, and others, drawn with kindly hand, are most entertaining. The picture the Vienna school in 1847, with Skoda, Hebra, a Rokitansky as the chief lights, is admirable. The tention of obstetrical colleagues may be directed to t sketch of Semmelweis, who was first assistant at t clinic, where he worked out his life-saving studies puerperal fever. Among the many accounts writte few years ago, when the memorial was erected to Se melweis, there was none in which the story of the gr discovery was so well told as in this work. Fr Vienna Kussmaul went to Prague to study with C polzer, of whom he gives a most laudatory account.

The young Berlin pathologist, Virchow, had beg to stir the waters, and his program, *Ueber die Stan punkte der wissenschaftlichen Medicin*, in No. 1 of h *Archiv* (1847), was as a trumpet call, but the Revol tion prevented a visit to Berlin, and the years 18 1849 found the author a surgeon with the Baden arn in the Schleswig-Holstein war. He tells a sad tale life in the fortress of Rastadt, as physician to politic and other prisoners, and he was very glad to get h discharge at the close of the year (1849). Then ca a happy period of three years in country practice the Black Forest, to be ended by a tragedy—sudd paraplegia, which followed unusual exposure in lo rides in the cold and snow. During the slow co valescence Kussmaul determined to give up gener practice, and prepare himself for an academic caree After two semesters in Würzburg with Virchow a Kölliker he settled in his much beloved Heidelber His health gradually improved, and, as he says, "d Krankheit hat mir statt Verderben Glück gebracht The results of good work brought him a call first Erlangen, then to Freiburg i. B., and when the Germa University of Strassburg was founded, and the mo distinguished men of the country were sought, Kus maul was selected for the chair of medicine.

Written in a charming style, free from all egotis and full of anecdotes and delightful bits of poetry, th work is, as we have said, an ideal autobiography an may be commended as an exceptional treat to all love of good literature.

Bacteria in Milk and Other Foods.—It has lon been known that nearly all foods, even when prepare with the greatest cleanliness, usually contain a larg number of bacteria; and it is equally well known tha these bacteria are usually perfectly harmless, and som scientists have gone so far as to assume that thes microorganisms are essential to digestion; howeve the experiments of Thierfelder in the physiologic lab oratory at Berlin showed very conclusively that this

the case. The question of the number of germs tained in milk-products is, nevertheless, a matter of ie interest, and Bloch (*Berl. klin. Woch.*, Jan. 22, 1900) recently carried out a series of experiments along line. One gram of the preparation to be tested weighed in a sterile dish and mixed with 100 cc. sterile water and one drop of such preparation was ed to 10 ccm. of bouillon or was diluted 3 times spread over a gelatin plate or over agar. After hours Bloch found that over 100,000 colonies of teria had developed on the sterile agar, while after hours the growth on the gelatin was so great that it impossible to count the colonies. In order to ermine whether other food-preparations contained many germs, Bloch carried out a similar series of estigations with flour and oatmeal, and he was ble to find that there was any considerable differe in the number of germs contained in these foodducts. Prausnitz (*Grundzüge der Hygiene*) estimates t butter contains from 10,000,000 to 20,000,000 of ms per gram. Bloch emphasizes the fact that the mfulness of foods does not depend upon the numof germs contained, but upon their kind, as only pathogenic germs are capable of working harm to bodies, and he suggests that the greatest care should taken to make certain that milk-products are ained from healthy cows.

There is still another lesson to be gained from these periments : The fact that the harmless germs grow freely on nearly all food-materials proves that they excellent culture-media, hence the greatest care uld be taken to prevent the contamination of all ds, and particularly such foods as milk, which is en without being sterilized by cooking. A great l has been done in this direction through the efforts Munn, of Denver, Wende of Buffalo, and other sanians, and this work should be continued until a eful supervision of the milk-supplies of all the cities our country is an assured fact.

A New Method of Performing Prostatectomy.—fore the Medical Society of London at a meeting on rch 12 (*British Medical Journal*, March 24, 1900), P. J. Freyer read an interesting paper on perineal statectomy performed in a novel manner. The t step in the operation, as described by him, was performance of external urethrotomy. The fins were then introduced into the bladder and rectum, d the lumen of the prostate located. Perineal secn being performed the finger which was introduced ough the wound of the external urethrotomy was oked over the enlarged lateral lobe of the gland, d this latter was pushed well into the wound in the hiorectal fossa. With the tumor pushed well into wound the capsule could be easily incised, and the tting forceps and scissors could be freely and intelliatly applied to the removal of the gland piecemeal, without the risks of a deep dissection. In the case upon which Mr. Freyer operated in this manner, the patient was a man of 59 years of age, who had suffered from increased frequency of micturition and pain, with occasional hematuria for some months, and all the symptoms were getting worse. The operation proved entirely successful in Mr. Freyer's hands, who is a well-known operator. Before his appointment as surgeon to St. Peter's Hospital for Stone and Urinary Diseases in London he had an enormous operating practice in India. He is a retired surgeon-lieutenant-colonel in the Indian Medical Service, and honorary secretary of the Irish Medical Schools and Graduates' Association.

Selected.

THIS SCEPTICAL GENERATION.

THE patent medicine advertisement is often one of the most interesting and amusing things in the newspaper; it is, beyond a doubt, the most revelatory item in it as to the characters and beliefs of the generations that we belong to, and it will be studied by future archeologists with absorbed attention. How shall we be able to establish ourselves in the eyes of posterity as a duly sceptical generation, with fortunes making all the time as the result of preposterous advertisements? Here is a fine example: the well-known picture of a hale and hearty man, apparently sixty-five years old, with the man's name and birthplace under it, accompanied by the statement that he was born in 1788, and is now, consequently, 112 years old, and also the statement that the old man says: "I attribute my extreme old age to ——" (the name of a patent medicine). Now we must infer that the old age itself is due to the medicine; that it was the wonderful —— itself which made him old. That is not altogether complimentary to the medicine. However, this little satire does not penetrate the brain of the man who wants a patent medicine. He is incapable of seeing the point of the joke. He doesn't figure on the question, either, whether the advertised medicine has been patented more than a year or two. He makes no doubt that the man has been taking it for at least a century. He goes and buys it, in order that he, too, may have extreme old age to attribute to it. But as for me, I would rather have the elixir of youth to take than the elixir of extreme old age.—*The Boston Transcript.*

Typhoid Fever Complicated with Chorea and Diabetes Insipidus.—Carl Orth (*St. Louis Courier of Medicine*, January, 1900) reports the case of a woman, 24 years of age, whose previous health had been good, and who had hereditary neuropathic tendencies. The fever ran about the usual course until the third week, when the patient complained of paresis of the lower left limb, which, however, disappeared in a few days. Then chorea set in, with involuntary and irrepressible movements of the left arm and contractions of the hand. This continnued several days, but finally disappeared. The patient then developed great thirst and commenced to pass large quantities of urine,—about 2 gallons every 24 hours. The urine was pale in color, specific gravity 1.004, neutral in reaction, free from albumin and sugar. The temperature remained about stationary. The patient received the ordinary treatment: hydrotherapy, milk diet and occasionally small doses of dilute muriatic acid. A good recovery followed. [M.B.T.]

Special Article.

MEDICAL AND SANITARY HISTORY OF THE TROOPS IN THE PHILIPPINES.

IN connection with Senate resolution No. 222, dated Mareh 24, 1900, asking for information on the subject of Insanity, etc., in the Army, especially in the East, official information from the Surgeon-General's Offiee gives the following as the sub-tanee of a eommunication from Surgeon-General George M. Sternberg to the Adjutant-General of the United States Army. It comprises the essential features of the medical and sanitary history of the troops in the Department of the Pacifie and the Eighth Army Corps. Appended to this report are extracts from a paper on the expedition to the Philippine Islands, May 27, 1898, to April 27, 1899, by Lieutenant-Colonel Henry Lippineott, U. S. A., Chief Surgeon in the Department of the Pacifie and the Eighth Army Corps, and also from a report bearing date January 30, 1900, by Lieutenant-Colonel A. A. Woodhull, U. S. A., Chief Surgeon of Department of the Pacifie and the Eighth Army Corps.

The first vessels carrying our troops to Manila, P. I., sailed from San Franciseo, Cal., May 25, 1898, and thereafter transports were despatched from time to time with reinforeements. The transportation of these troops aeross the Paeifie was effected in the most satisfaetory manner. Only 12 deaths oeeurred during the voyage in an aggregate of 22,462 officers and men. This is equivalent to an annual death-rate of only 5 per 1,000 of strength. With eaeh expedition sent from San Franciseo was a quantity of medieal supplies estimated as sufficient for the troops for six months and for the equipment of suitable hospitals in Manila. These supplies ineluded medicines, surgical instruments, dressings, hospital furniture, beds and bedding, and all miscellaneous articles required for the proper care and treatment of the sick. Large reserve supplies were sent on speeial vessels. As soon as the hospital corps men and hospital equipment were landed, two brigade hospitals were established for the troops with the intention of expanding them into division hospitals when the regiments were organized by divisions. The delay involved in concentrating near Manila a military force suffieient for a suceessful attack on the eity gave time for the Medieal Department to have its supplies available and its hospital eorps men effieient. The wounded in the engagement of August 13 were comfortably cared for in hospital by 7 P.M. of that day. After the oeeupation of the eity, regimental hospitals were established near the quarters of eaeh regiment while the equipment of each field hospital was utilized as the nucleus of what afterwards became a large general hospital.

During the subsequent insurreetion, lightly equipped field hospitals followed the troops to eare for the wounded and put them in proper condition for transportation by rail to Manila. Later when the advance reaehed San Fernando, a stationary hospital was established at that plaee to eare for men exhausted by the fatigues and exposures of the eampaign and for the wounded from the columns pursuing the enemy. Later still when the troops moved in eomparatively small commands after detaehed bodies of the insurgents, small field hospitals accompanied the expeditionary forees, from which the wounded were sent back to that station on the railway, whieh constituted a temporary base. Ambulanees sent from the United States proved to be too heavy for the soft muddy roads in the field of operations. Reeourse was therefore had to light native wagons, earromatas, and to litters carried by hired coolies.

All reports from the fighting line show that our medieal offieers and hospital corps men did their duty nobly and that no unnecessary suffering was incurred by the wounded. Not only were our own wounded cared for on the field and promptly transferred to Manilla for treatment, but several hundred wounded Filipinos were gathered up and transferred to the First Reserve Hospital. Reports from the Chief Surgeon of the Department of the Pacifie and the Eighth Army Corps show that from August 13, 1898, the day of the assault on Manila, to the end of the fiseal year, June 30, 1899, 19 officers and 330 men, a total of 349, were killed died from battle-wounds and that from August 13, 1898, December 31, 1899, 36 officers and 439 men, a total of 4 reeeived their death-wounds in battle, while 1,767 receiv wounds which were not fatal, a total of 2,242 battle casu ties during this period.

Now as to disease. Prior to the eapture of Manila o about 4% of the command was on the sick list, although t men were mueh exposed both in camp and in the treneh After the capitulation the troops were quartered in varic places in and near the eity. Spanish barracks, warehous publie buildings and private houses were utilized for th aeeommodation. A great deal of labor was expended cleaning up these buildings and their surroundings, as m of them were in an exceedingly insanitary conditi Medieal officers were earnest in their reeommendations the welfare of the men, and eommanding offieers act promptly so far as was in their power to carry the reco mendations into effeet; but it was diffieult and indeed i praetieable to control many of these eonditions. In most the loealities the ground was water-logged and draina impossible. Efforts were made to suppress the sale of nati made soft drinks and spirits of local manufaeture and prevent the troops from frequenting the houses of low cl natives. Speeial attention was given to the purifieation the drinking water, to the care of the sinks or elosets, to t preparation of food, the supervision of the laundry, and t installation of shower baths. Notwithstanding these effor siekness inereased up to the middle of Deeember, when t average daily siek comprised about 11% of the eomman more than a third of whieh was due to the indiseretion the men and to causes unconnected with their military s viee. Malarial diseases and intestinal affeetions were co mon; many of the latter were ascribed by medieal offic to errors of diet and exeesses in the use of native fruits which the men were unaeeustomed. Smallpox and oth diseases of a eontagious nature were eontraeted by conta with the natives, and it is claimed that an aggravated ski disease or iteh was eommunieated by underclothes return from native laundries. Homesiekness prevailed to a co siderable extent in some of the regiments, causing depr sion of spirits and aggravating trivial ailments whieh und other eonditions would not have found a plaee on the list siek. That many of the eases at this time were of a lig charaeter is evident from the fact that while the sick-ra was increasing during the last two months of the year t number of deaths from disease was actually deereasing. T total number of deaths from disease in the month of Octob was 47; in November 27, and in Deeember 20.

The trivial charaeter of many of the cases borne on t siek reports during the period of inaetivity in Manila elearly shown by the ehange which took plaee in these r ports when aetive operations were resumed. It was not by medieal officers who wrote eoncerning the condition the troops at this time that the call to arms on the outbre of hostilities on February 4, 1899, relieved the siek list most of those eases which were mainly dependent for the hospital status on depression of spirits or so-ealled hom siekness. The sick-rate fell at onee from 12% to 7% or 8

From the outbreak of hostilities on February 4, 1899, vigorous eampaign was earried on until the troops enter San Fernando early in May. Here the brigade-surgeons the second division reported their regiments as thorough exhausted by the hardships and exposures of the past thr months. The great strain on the museular and nervo energies attendant on the eonstant fighting neeessarily r sulted in a degree of lowered vitality. The troops had be exposed to violent rainstorms and oppressive heat with means of protection from either nor faeilities for lessen the diseomforts or dangers of the situation. At this tim diarrhea and dysentery were the prevailing diseases as e tered on the siek reports, but the disabling faetor in th division was the exhaustion whieh rendered those who we not on siek report unfit to eontinue the campaign without period of rest for reeuperation and whieh added to t gravity of an attack when diarrhea, dysentery, fever, other disease was developed. All the regiments of Sta volunteers were ordered home for muster out shortly aft this. They were replaeed by reeruits and volunteer re ments from the United States and these were sent out such numbers that in Deeember, 1899, there were in t

ilippine Islands nearly 40,000 fresh troops as compared h July of that year.

)uring the 18 months, July, 1898, to December, 1899, in-sive, 475 officers and men were killed or died of wounds eived in battle and 139 from other forms of violence, ile 709 officers and men died of disease, making a total rtality of 1323. During the same period 439 enlisted n were discharged for disability incurred in the line of ty. The mean strength for this period was 27,712. The th-rate from disease for the 18 months was, therefore, 6 for every thousand men present, which is equivalent to annual rate of 17.1 per 1000. This rate shows favorably en compared with the rates which prevailed in the Reg-ir Army during 1898.

	Death-rate per 1000 of Strength.
Troops in the United States	17.45
Troops in the Philippines	18.60
Troops in Puerto Rico	39.38
Troops in Cuba	61.15

In this connection special note may be made of the fact at the death-rate from disease in our Volunteer Army ring the first year of the Civil War, May, 1861, to April, 62, inclusive, was 45.86 per 1000 of strength, and that en the deaths of the first 18 months of that war are plied as a comparison we find 78.41 per 1000 for the riod, which is equivalent to an annual rate of 52.27.

War and pestilence have been much associated in the story of the world. Fortunately during the Civil War we re spared any disastrous visitation by cholera or yellow er, yet our indigenous diseases, typhoid and malarial ers and diarrheal diseases, gave us a death-rate more than ble that of the first 18 months of the exposure of our ops to the insanitary conditions prevailing in the Philip-ne Islands. The rate in these islands is high compared th army death-rates in the United States in time of peace, t war-rates may not be compared legitimately with peace-es. The best standard of comparison for an army in time of ace is its own best annual record. The nearer its rates for a ven year approach its best record the higher its standard health under the conditions which usually affect the ldier in garrison life. If we apply an analogous rule in ne of war our best annual record is the 17.1 deaths per 00 of the men who served in the Philippines during the 18 nths ending December 31, 1899. This record lowered so arkedly notwithstanding tropical exposures, is no doubt e to the greater care now taken of the troops than a third a century ago, our better knowledge of sanitary matters d of the causation of disease, and the liberality of the Gov-nment in providing for the soldiers food, clothing, shelter, d sanitary surroundings.

The prevailing diseases in the Philippines have been diar-ea and dysentery, malarial fevers, typhoid fever, and allpox. A few deaths occurred from pneumonia, but ng diseases are not common.

Intestinal affections were the most prevalent and gave the rgest absolute number of deaths, 202, in the 18 months, or 2 per 1000 of strength present, equivalent to an annual te of 4.6 per 1000, or about one-half of that suffered by our vil War volunteers operating within the boundaries of the nited States. From diarrhea and dysentery there died ring the first 18 months of the war following the attack on rt Sumter, 13.08 per 1000 of the troops mustered into rvice, equal to an annual rate of 8.72. The causes of these testinal diseases were the same in both campaigns, exhaus-n, chill, bad water, etc., but while in the Civil War a de-ivation of fresh vegetables and fruit developed a scorbutic int which was favorable to the prevalence of diarrhea, in e Philippines the indiscriminate and injudicious use of uit is recognized as the cause of many of the diarrheal tacks.

Malarial affections follow intestinal disorders in order of equency in the Philippines. At first much anxiety was xperienced concerning them. They were found, however, be neither so malignant nor so widespread as was antici-ated. The total number of deaths from malarial diseases uring the 18 months was 49.

Typhoid fever follows intestinal affections as a cause of eath in the Philippines The cases were few as compared ith those of diarrhea and dysentery, but the percentage of eath to cases was considerably greater. During the period f 18 months this fever caused the death of 167 men, or 6.0 per 1000, equal to an annual rate of 4.0 per 1000. In this one item, the mortality statistics of typhoid fever in the Philippines, we may see the great improvement that has taken place in military sanitation since the time of the Civil War. It is scarcely necessary to compare these rates with the analogous rates of a generation ago, for the latter are not only greater than the typhoid rates of the Philippines, but greater than the combined death-rate in those islands from typhoid fever, malarial fever, diarrhea and dysentery, smallpox, and all other diseases. During the first 18 months of the Civil War typhoid fever caused the deaths of 29.28 men in every 1,000 present, equivalent to an annual rate of 19.52. During the corresponding period in the Philippines the death-rate from all diseases was, as already stated, 25.6, or to 17.1 when expressed as an annual rate.

At the time of the occupation of Manila, smallpox prevailed as an epidemic in the city and the neighboring towns and villages, particularly among the native population. The troops were exposed to the infection within a day or two after their arrival. The period of incubation is two weeks, and on September 3 the first case was taken from the command and isolated in a smallpox ward established as a part of the First Reserve Hospital. Arrangements were made and promptly carried into effect for the protection of the troops by vaccination, but cases of the disease occurred until March 31, 1899, when all danger of its epidemic spread was declared by the Chief-Surgeon to be at an end. During this time 236 cases were reported, with 77 deaths. During the remaining nine months of the year 1899, 23 deaths were reported, making a total of 100 in the 18 months. The unusual length of time occupied in controling the disease was due to the difficulty of obtaining fresh vaccine. That which was sent from this country evidently suffered deterioration during the long voyage. Ultimately fresh virus was obtained by cultivation in the laboratory of the Board of Health of Manila. The protection afforded by vaccination was demonstrated by our recent experiences in the suppression of epidemic smallpox in Holguin, Cuba, and in Puerto Rico. As compared with our losses from this disease in the Philippines, it may be stated that the German army, in which vaccination is carefully conducted, lost 278 men by death from smallpox during the seven months of the Franco-Prussian war, while the French army, during the same period, had the appalling loss of 23,000 men from this disease. Our white troops during the Civil War reported 4,717 deaths from smallpox.

Typhoid fever and smallpox may be said to be independent of climatic conditions in the Philippines. Both of these fatal infectious diseases prevail at all times within the limits of the United States, and the mortality from typhoid fever in some of our home camps during the summer of 1898 was greatly in excess of that in the Philippines.

As to climatic diseases: The spread of diarrhea and dysentery is indirectly promoted and their danger aggravated by the alternate heat and rains of tropical climates and by the lowering of the vital powers consequent on heat-exhaustion, which is so frequently developed among soldiers during active operations in hot climates; but with care in the dietary and the avoidance of exhausting work in the heat of the day, and of exposure to chill, there appears to be little in the climatic conditions of the Philippines to favor the epidemic spread of these diseases. Bronchitic affections are not common, and rheumatism is not in excess. Malarial diseases, while prevalent and malignant in certain localities (as they are in certain parts of the United States) are not widespread. Those medical officers who have had a large experience of the climatic conditions are of the opinion that malaria may be avoided in the Philippines during a peaceful occupation by a judicious selection of the sites of military stations.

As to the prevalence of insanity among the troops in the Philippines:

During the 21 months, July, 1898, to March 31, 1900, the Eighth Army Corps had a mean strength of about 32,000 men. From this command during the period stated, 55 men were returned to the United States for transfer to the Government Asylum for the Insane. This is equivalent to 31.3 cases for 12 months, a number which will bear comparison with that of our army for any year of the past decade. Nine of these years were years of peace, the tenth includes the period of active campaigning during the Spanish-Ameri-

can war. The mean annual number transferred to the asylum from the regular army during this period was 33.1 from a mean strength of 29,106 men. The following tabulation shows the number of cases and the mean strength for each of the ten years:

UNITED STATES ARMY, REGULARS.

YEAR.	MEAN STRENGTH.	INSANITY.	SUICIDES.	
		Cases.	Cases.	Ratio per 1,000.
1889	27,206	34	21	.77
1890	26,684	33	16	.60
1891	26,460	37	22	.83
1892	26,861	48	22	.82
1893	27,659	35	22	.80
1894	27,674	24	18	.65
1895	27,326	21	19	.70
1896	27,183	22	12	.44
1897	27,374	21	10	.37
1898	46,635	56	22	.47
Mean=10 Years	29,106	33.1	18.4	.63

Lastly, as to suicides: The data most available at the present writing concerning suicide among the troops in the Philippines represent 7 officers and 22 enlisted men as having ended their lives in this way during the period April 11, 1899, to March 27, 1900. This is equivalent to 30.7 cases for 12 months. The mean strength present having been 47,800 men, the annual rate of cases, ,64 per 100 men, is found to agree with the mean annual rate of the regular army as given in the above tabulation.

Extracts from a Paper on the Expedition to the Philippine Islands, May 27, 1898, to April 27, 1899. By Lieut.-Col. Henry Lippincott, U.S.A., Chief Surgeon, Department of the Pacific and Eighth Army Corps.

On July 25, 1898, the transport *Newport*, carrying the Commanding General with his personal and department staff, dropped anchor off Cavite. On that ship, besides those noted, there were 548 enlisted artillerymen with their officers, also 15 civilians attached to headquarters. The *Newport's* arrival in the bay was the signal for early offensive operations, and despite the difficulty of landing troops and stores from this ship and others of our fleet, preparations for the attack on Manila went on rapidly from the date above given.

By July 31, all the vessels comprising the first, second, and third fleets had arrived in the bay, each conveying troops and supplies. The first fleet, General Anderson commanding, carrying 115 officers and 2,385 enlisted men, arrived at Manila, June 30, 1898. The second fleet, under the command of General Greene, carrying 158 officers and 3,404 enlisted men, arrived July 17. The third fleet, General MacArthur commanding, carrying 198 officers and 4,642 enlisted men and 19 civilians, arrived July 31. Grand total (including officers and men on the *Newport*) 10,431 enlisted men, 471 commissioned officers, and 34 civilians.

Only those who have been there can estimate the trials and hardships incident to disembarking soldiers and unloading vessels when the bay is rough and the winds high. Manila Bay is practically an open sea, and in the rainy season all service is attended with great risk. This was especially so just prior to the attack on the Spanish works, for the reason that all landings had to be made through the surf and with most indifferent devices in the way of boats. True, all this was to be expected, but American ingenuity and perseverance were equal to the occasion, and men and material landed in the face of seemingly insuperable obstacles. At this stage of affairs the medical department of the expedition was put to its utmost effort in order that there should be no mishap. Very soon after the Commanding General arrived in San Francisco, and while we were preparing for the voyage to the Philippine Islands, he, in effect, informed me that I would control my own department. This gave me great power, but it also brought great responsibility. Surgeon-General Sternberg had given us everything I asked for, so that we had in the ships plenty of supplies of all kinds. As stated above, a battle was impending and it might occur at any moment. About 9,000 of our men were to attack abou 13,000 Spaniards, the latter behind a line of works extendin from Fort San Antonio on the South, and embracing th new as well as old city of Manila to the water-front on th north. Naturally we expected that our wounded would b many, and this was our supreme moment. The Medica Department must not fail, and so with the untiring an valuable assistance of Surgeon George H. Penrose, w gathered from the transports, tents, beds, bedding, medica and hospital-stores, special foods, stimulants, field furnitur including camp stoves and a quantity of dressings, first-ai packages and litters, all this under conditions that were ap paling, simply because of the scarcity of transportation together with storms then prevailing. I shall never forge my anxiety as to the outcome, but may say that by midnigh on August 11 the Medical Department was ready and ha every essential, including land transportation, to do its wor creditably.

On the morning of August 13 the American troops le Camp Dewey, near Tambo, and began the march to the front and the rain, seldom absent, came down heavily. After while the storm ceased, and the atmosphere clearing, w were able to see some of the troops getting into position By this time the guns of the fleet opened on Fort San Antoni (known also as the Malate Fort) and on the Spanish trenche leading from the fort away along the different blockhouses the now famous "No. 14" being nearest the water on th South. General Merritt, with the department and persona staff and six companies of the Second Oregon infantry, were on vessels and accompanied the warships and were ready t land in Manilla the moment the city should surrender; an this happened in the course of the day. Next day steps were taken to remove the sick and wounded from Camp Dewey.

The large establishment known by the Spaniards as the Hospital Militair, but now as the First Reserve, was in spected, cleaned, repaired, and occupied by us. On August 17 all patients were removed from Camp Dewey to this hos pital, and our sick and wounded received every aid and com fort. This hospital was erected by the Spanish about 1 years ago, and was supposed by them to accommodate from 800 to 1000 patients. We never had that many at any time within its walls, but with the addition of well-apportioned tent wards we had more. The wards are well constructed and are very large and roomy, but the location is bad owing to the swampy surroundings. The sewer and closet arrangements, like everything of the kind in Manila, were unsanitary, but we had a surgeon in charge (Crosby) who worked unceasingly until the establishment took on many of the good features of the hospitals of America. It was to this large hospital that all the sick and wounded were brought, but we soon established the Second Reserve Hospital, first as a convalescent hospital and for the overflow from the First Reserve. Later, many serious cases were admitted to it, and it was handsomely governed by Captain Frank R. Keefer, of the army, now a surgeon of volunteers. I had great difficulty in getting this building owing to the objections of the agents. The building, a very large and well constructed one, had been built at the expense of a French lady for a young woman's seminary.

This is certainly a fine hospital, it is thoroughly equipped, and dates as such from September 23, 1898. At the time I selected this building every effort was made to prevent our taking it, but General Otis, always ready to assist me, gave the necessary orders and it was but a short time before it was ready for its present use.

The Corregidor Hospital was opened by Major William O. Owen, Surgeon U. S. Army, on November 25, 1898. It is situated on the island of the same name about 30 miles from Manila. The temperature of the island is generally 10° below that of Manila. It is free from malaria and there are plenty of shade trees there. The salt-water bathing is excellent, and it is a model spot for a large hospital. Major Owen very early began a simple but excellent system for water-supply which is of good quality. The hospital at Cavite was always regarded as a kind of post hospital, the buildings were not suitable, but the best we could obtain at the time. The Spanish established a kind of sanitarium near Los Bancos on the Laguna de Bay, a number of years ago. The buildings were more or less wrecked by the insurgents, but because of the mineral springs (hot and cold) will no doubt be utilized later on. It is said that the Spaniards

t many rheumatics as well as other chronic cases there, that many new and excellent devices were provided. diseases incident to the tropics are met with in Luzon. entery in its various forms is always there. Enteric r, too, long ago became fastened to the coast line, and osy is deeply rooted. The inordinate activity of the n tends to dermatic affections which are exceedingly mon and often severe. Pemphigus in Luzon is of fre-nt occurrence and sometimes is terribly serious—death infrequently resulting from it. It is not seldom that ht injuries result in long unhealed ulceration, and this fly from excessive perspiration with its attending ility. Smallpox is endemic among the Filipinos, although often malignant and fatal, never caused m to avoid or take steps to prevent the disease. h them the smallpox is like measles with the icans—persons with mild cases wandering about the s and towns when we entered Manila. Of course all was stopped when our army took control and the t energetic means adopted to prevent the spread of the ase. This was also done for our army—vaccinations and ccinations many times repeated, went on as systematic-as the drills at a well-regulated post. I need not go into iculars about this, but if you happen to meet my dis-uished friend, Major Neff, surgeon of the grand old Penn-ania Tenth, he can give you all the details desired. Our s was obtained at first from San Francisco, but very soon r the fall of Manila I had our purveyor send to Yoko-na and to Saigon for tubes and had these come as often equired. Later, Major Bourns of the Health Depart-nt, established an institute at Manila, where we obtained h of the virus used. The material from all of these ces was excellent, and the results, both in the army and ng the natives, were very satisfactory.

believe I can say that no army was ever as carefully ed after in the matter of vaccination as ours, and that department commander, General Otis, fully alive to the ssity, did everything in his power to make our work ible and effective.

nnected with the First Reserve Hospital there way very y established a well appointed laboratory with a thor-nly competent medical officer in charge. This was stant-Surgeon McVey, U. S. Army. He unfortunately racted typhoid fever while in the performance of his , and succumbed to that disease. The good work he gurated, however, was quickly taken up by another, and able lessons have already been learned in this department edical investigation. I might describe minutely many of liseases met by our surgeons in the Philippine Islands, this paper is already sufficiently long, and I wish to to the wounded and to other important matters before ng.

a rule the wounded men did well, not only after the g of Manila, but from February 4, 1899, when the in-ents began their attacks on our lines. Of course we had llent surgeons on the firing lines where superior first aid given by the medical officers and hospital corps under superintendence of Chief Surgeon Cardwell, of the Volun-, and by the ambulance company under Assistant Sur-. Keefer of the Army. Indeed, many of the primary sings proved to be sufficient and in numerous cases ired none other. These remarks in regard to first-aid refer to the campaign against the Spaniards; they ap-lso to the treatment of our wounded received in the list of engagements beginning with the attack by the rgents in the early part of February. The chief sur-s, Cardwell and Hoyt, seeing that the wounded were cared for before transportation, whether by ambulance, or water, to the First Reserve, the men arrived in as condition as could be expected. The seriously injured emarkably well and it is more than likely that the sur-of the American Army in the Philippine Islands will l out handsomely when the record is made up. To be we had Wm. D. Crosby, of the Regular Army, and naldo I. Fitzgerald, of the Volunteers, giants in surgical ce and art, and they in turn had assistants, Assistant eon Straub and others, who will long be remembered.

w a word about our medical storehouses. I believe I truly say that we had better establishments of this kind that they were better filled than any other army ever under similar or any conditions. This, I realize, is saying a good deal, but, notwithstanding the distance from our base, San Francisco, we had every comfort and every essential the most exacting could ask. Moreover, Surgeon-General Sternberg gave me the authority to use the cable for requisitions and he placed large amounts of money at our disposal and required me to see to it that the sick and wounded did not suffer for want of them. Our purveyor, Major Corbusier, of the Army, ever on the alert, kept his storehouses full by regular and far-seeing requisitions, and thus we were rarely required to use the cable. I would here add a line in regard to the Filipino prisoners. When wounded or sick, these people received the same treatment and attention that our own men did. Many of them did well notwithstanding their propensity to pull off dressings and finger their wounds. As a result of the handling, suppuration was common among them, while the reverse obtained with our men.

Extracts from a Report dated January 30, 1900. By Lieutenant-Colonel A. A. Woodhull, U. S. Army, Chief Surgeon, Department of the Pacific and Eighth Army Corps.

In reporting the operations of the Medical Department during the year ending June 30, 1899, I am dependent for more than three-fourths of that time upon the testimony of others and upon the records maintained by my predecessor, Lieutenant-Colonel Henry Lippincott, Deputy Surgeon-General, whom I relieved April 18 last, to whom belongs the credit as far as such pertains to the administrative and supervisory action of any one officer. The period of his duty covers the greater part of the active operations and includes the form of organization, which has not since been changed. The first troops reached Cavite the last of June, 1898. Conflict commenced with the Spaniards late in July, and continued until the capture of Manila, August 13. The next collision was with the insurrectionary natives on the night of February 4, 1899, since which time hostilities have been incessant. The year thus naturally divides itself into nearly two equal parts: One of preparation, of a fortnight's siege, and of long rest in Manila and within a circumscribed area about it; the other embracing a constant succession of fierce combats and severe marches under very oppressive conditions.

The engagements with the Spanish began on July 31 and closed August 13, 1898. During this period the casualties were:

	Killed.	Died of Wounds.	Not Fatally Wounded.	Aggregate.
Officers.....	...	1	11	12
Enlisted men.....	11	7	97	115
	11	8	108	127

The percentage of deaths among the wounded was 6 9; the percentage of those killed outright to the total casualties was 8.5; the percentage of deaths to all casualties was 14.96. The common opinion of the medical officers present attributed the favorable termination of most of the wounds to the use of first-aid packets and to the promptness with which aseptic treatment was applied, in conjunction with the character of the injury inflicted by the Mauser bullet. These results were attained notwithstanding the difficulty of transportation. Major Cardwell, division surgeon, reported that the men of the ambulance company were "well equipped with pouches, first-aid packets, and hand-litters; but no ambulances were at hand, and they could not have been used over the impassable roads if we had them. It would have required Australian or American horses or water buffalo to get the empty wagons through. The transportation of the wounded was accomplished by the native carromatas, two-wheeled carts drawn by diminutive ponies. It was fortunate that the extent of country to be covered did not exceed a section of about three by five miles and was so intersected with roads that ambulance stations could be established along the route in the rear, as dressings, no matter how skilfully applied, were wrenched loose by the fearful jolting and switching of those most abominable vehicles over the execrable roads. . . . . I seriously contemplated at one time dismissing the carts and having the wounded carried

by hand, but I found the road was so full of pitfalls, and boulders that litter-bearers were unable to keep their feet and would certainly have dropped their burdens."

Col. Lippincott has expressed his thankfulness that medical supplies had been furnished in excess of the standard allowance, but to be within the margin of safety he also bought some material for dressings.

All the wounded of those engagements were promptly and properly cared for, but the government supplies were available only with difficulty. As is common in any marine expeditions, it was not easy to secure their unloading, and that the field hospital and the ambulance company were fairly well equipped, was due to the personal exertion of Lieut.-Col. Lippincott, for as Major Cardwell further reports: "Having, after constant effort, succeeded the day before the battle in securing a casco for the transportation of supplies, this officer found it necessary to go personally into the hold of the transport *Newport* and assist in the breaking out of absolutely necessary supplies, which were towed to camp and brought to the hospital in carromatas, long after dark."

Although, fortunately medicines and dressings were sufficient, the retained papers show that there was at first a lack of certain equipment which led to great inconvenience. The camp hospital was also deficient in suitable diet, partly from the want of Hospital Fund and partly because liquid diet could not have been secured if money had been available. The Red Cross Society supplied clam broth and beef tea, but there was no substitute for milk, and milk itself was practically unattainable. Condensed milk was not acceptable. At Cavite about 4 gallons of goat's milk could be bought daily at a cost of $1.00 to $1.50 a gallon with the Red Cross funds, but the milk was of doubtful quality. At the time the allowance of 60 cents in lieu of the ration for the sick in hospital had not been authorized. Later, when this money could be drawn and when the very liberal range of subsistence stores was available for purchase, the situation was materially changed. In October the Department Commander authorized the expenditure of 30 cents, Mexican currency, from the Civil Fund in addition to the ration, for every man in regimental hospital or sick in quarters, classes excepted from the 60 cents commutation. This allowance, which is still granted, is expressly to provide liquid or other suitable diet for those in need of it, and in judicious hands it has proved extremely useful.

Camp Dewey, the site on the mainland occupied by the army during the siege, was a porous strip of land and loam about a mile long and a quarter of a mile wide, the ground water being about eighteen inches from the surface The drainage was poor, but the natural porosity of the soil allowed the rapid absorption of surface water. The shallow sinks for the reception of excreta and garbage that could not be burned required frequent renewal, as they rapidly filled with water. Drinking water was taken from shallow wells, the most of which contained organic matter in excess. A few new wells were dug by the men, and there was common official effort to have the water boiled The men generally used sheltered tents with a superstructure of bamboo procured by their own means, upon which they slept and over which they pitched the tent itself. The frequent and heavy rains kept the soil saturated, the marches were made through water-soaked rice fields, the roads were deep with mud and the troops were frequently wet through all their clothing by night as well as by day. The topographical and climatic conditions at Camp Dewey last year represent in epitome those extending throughout the camps in general this year during the rainy season.

Notwithstanding the exposure to the weather, the health of the troops remained fair while active operations were maintained, that of one brigade which may be taken as an example, averaging 4% for the two weeks of fighting.

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After a lull of preparation following the first encounters, aggressive operations were begun and carried on vigorously. These resulted in casualties in action and in an increase in the sick report from exhaustion through heat and fatigue, as well as from ordinary disease.

An expedition to Pasig under General Wheaton, March 13 to 21, reduced that and neighboring towns with comparatively few casualties in action but with much exhaustion among the newly arrived troops, from the unaccustomed heat. The expedition rejoined the main body which advanced on the 25th and occupied Malolos March 31; C umpit April 27, and San Fernando May 5. In general te this movement was parallel to and along the line of railroad which had been partly destroyed. The road was paired as our forces advanced and the wounded were s back over the track, as far as possible, a part of the time hand cars. Six ambulances were sent with the division were constantly engaged with the work of collection. temporary field-hospital was established under the name dressing station at Heycanyan, March 27. This was advan from point to point for the immediate care of the wound but they were not detained in it, and a temporary hosp was established at San Fernando, May 7. This was crea a field-hospital for the Second Division, May 25, and pla under Major Guy L. Edie, brigade-surgeon, U. V. S. (C tain, U. S. A.). Major Edie, transferred to the Board Health, Manila, was relieved August 12 by Lieut. P. Fauntelroy, who has efficiently conducted that hospital San Fernando and Angeles ever since. The casualties d ing this advance were between 80 and 90 killed and ab 500 wounded.

While these operations were in progress a column fr the First Division, consisting of seven battalions of infant four troops of cavalry and two platoons of artillery, un Major-General Lawton, left Manila April 20, and on May reached San Isidro, whence it was immediately withdra and distributed Opposition, as frequent skirmish fire encountered constantly, and 7 men were killed or m tally wounded, and 50 were less seriously wounded

The principal medical feature of this campaign, howe was the severe physical hardship, for during much of time the men had to build bridges and roads, and the bullock-trains had to be helped by hand, under intense h and atmospheric humidity. On one occasion, after 13 hou incessant work there was only three miles of progress. C sequently there were numerous cases of exhaustion sickness, on account of which about 530 men, or 15% of command, were taken into hospital.

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The malarial poisoning is widespread, although not so g eral or so malignant as we feared. But there are cert limited localities where it is very severe. One, for exam is Calamba, at the head of Laguna de Bay, which was h for military reasons, although the health of the garrison severely shaken. But a part of the same regiment at L Banos, only a few miles away, maintained excellent heal For some commands long infected the prophylactic use quinin was employed for entire regiments. It was also sho beyond peradventure that persous fresh from Cuban ma rial fever could not preserve a working degree of health h

Diarrhea and dysentery, after passing a certain stage, quire deportation, and frequently improve in a cooler l tude. Rheumatisms are very obstinate, although it is hop that the hot springs hospital at Los Banos when refitted, a similar resort on the island of Lyte, when reoccupied, afford places of relief. There is a marked tendency for su puration once established to continue, and inflammations the middle ear are in undue proportions and very obstin Tuberculosis proceeds regularly, rapidly and inevitably t fatal termination. The only salvation for an American wh the disease is recognized is an immediate return to the Uni States. As may be expected, prolonged exposure to the s has led to many cases of heat exhaustion, and when this severe there is such a general lowering of physical force t recovery for military service is so long delayed as to be pr tically negative.

The general climate of the occupied regions does not pear to be pernicious to those who can avoid exposure, when soldiers or others are once broken down by hards or by incidental disease complete restoration to strength the lower levels is always uncertain, and is generally rem when it does occur. With establishment of peace there every reason to hope that hill stations may be organized which invalids may be sent, and whither garrisons may succession be withdrawn. But these are not now availa

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The following summary shows the mortality in the partment: (1) During the fiscal year, and (2) during entire period of occupation from July 1, 1898, to Decem 31, 1899:

DURING THE FISCAL YEAR.

	Officers.	Men.
Killed in action or died of wounds	19	330
Other deaths by violence	4	52
Total deaths by violence	23	382
Died of disease	11	338
Aggregate mortality	34	720

DURING THE OCCUPATION FROM JULY 1, 1898, TO DECEMBER 31, 1899.

	Officers.	Men.
Killed in action or died of wounds	36	439
Other deaths by violence	8	131
Total deaths by violence	44	570
Died of disease	16	693
Aggregate mortality	60	1,263

The number of wounded without fatal result was 1767.
The proportion of deaths in action between officers and en was a trifle more than 1 of the former to 12 of the tter, and 1 officer died of disease to 43 of men. Of "other aths by violence," 79, or more than one-half, were from owning.
Among deaths from disease were pneumonia, 20; tuberlosis, 21; malarial disease, 49; bowel affections other than sentery, 53; smallpox, 100; dysentery, 149; typhoid fever, 7. Much the larger number of smallpox deaths and a disoportionately large amount of fatal typhoid fever occurred ring the early months of the occupation, when the comand was relatively small.

Compound Complicated Fracture of the Skull: rain Abscess.—Ira N. Brainerd (*The Physician and rgeon*, November, 1899) reports 2 cases of brain surgery. e first was that of a lad, 13 years of age, who was struck the forehead by a fragment of a dynamite cartridge, inting a wound just beneath the hair and to the left of the gitudinal sinus. He was rendered temporarily unconous, but was soon able to move about freely. The wound l not heal. He was examined by Brainerd about 6 months er the injury and a fractured skull found, with a sinus ding into the brain. It discharged thin pus, and the boy s becoming anemic and mentally dull. The skull was phined and the sinus found to pass into the brain fully inch, leading into the leg and arm area of the left side, ere a fragment of bone was found. The wound was ssed with iodoform gauze. He had several convulsions, re or less general, until the eighth day after the operan. Since then none have occurred. He made a good overy, and is now at school. In a second case, a youth, years old, about 5 weeks prior to the operation had had asles. Several weeks prior to that he had received a blow the head, but had continued at his work. The measles a severe course, and after the disappearance of the erupn there remained fever, headache, tenderness over the parietal bone, hypesthesia of the scalp, emaciation and bstration. The patient was unable to speak, but underod what was said to him. Paresis of right side of face, l transitory paresis of the right arm came on and there re convulsions. The fissure of Rolando and the armters were located by Thane's method. On opening the ull an abscess was found which was washed out, and a inage tube inserted. The patient made a complete rery. The blow and the measles were probably causative tors. [M.B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending April 21, 1900:

Tuesday, April 17—College of Physicians, Section on Ophthalmology.
Wednesday, April 18—County Medical Society.
Thursday, April 19—College of Physicians, Section on Gynecology.

Jefferson Medical College.—Dr. J. Chalmers DaCosta has been elected professor of the principles of surgery and of clinical surgery, and Dr. Francis X. Dercum, professor of nervous and mental diseases. Both formerly held clinical professorships.

College of Physicians of Philadelphia.—At a meeting, held April 4, DR. WILLIAM G. SPILLER presented, for DR. W. W. KEEN and himself, a paper on **Multiple neurofibromata of the ulnar nerve.** DR. S. WEIR MITCHELL read a paper, entitled **The manuscript letters of Jenner in possession of the College.** DR. LAWRENCE F. FLICK read a paper, entitled **The registration of tuberculosis,** to be published in this JOURNAL. DR. JOHN CHALMERS DA COSTA reported **a case of hip-joint amputation.** The honorary librarian announced that during the past month there had been added to the library 170 volumes, 655 pamphlets, and 3,888 journals.

Surgeons for the National Guard of Pennsylvania.—The following medical appointments in the National Guard are announced in an order issued from headquarters April 5: Surgeons, Major Ralph W. Montelius, Major William McCandless Johnston, Major William G. Fulton, Major Andrew S. Stayer, Major Waldo W. Hull, Major Walter S. Stewart, Major Morris Franklin Cawley, and Major C. C. Wiley; Assistant Surgeons, Captain Karl Emmerling, Captain William A. Weaver, First Lieutenants William A. Simpson, J. Mark Peters, Walter L. Deemer, James Lewes Srodes, Benedict Stewart Ralston, George I. MacLeod, Jr., Charles H. Miner, George F. Potteiger, George W. Farquhar, Randolph Fairies, F. E. Drumheller, F. A. Bronson, Robert G. H. Hayes, William Mair Angney, William E. Keller and George Blanchard.

Vital Statistics of Philadelphia for the week ended April 7, 1900:—

Total mortality 732

Diseases.	Cases.	Deaths.
Pneumonia 146, congestion of the lungs 12,		158
Pulmonary tuberculosis		66
Heart-disease 41, fatty degeneration of the heart 6, inflammation of the heart 2		49
Marasmus 16, inanition 16, debility 11		43
Influenza		42
Apoplexy 25, paralysis 8, softening of the brain 7		38
Nephritis 25, uremia 10		35
Diphtheria 22, membranous croup 7	87	29
Convulsions		25
Bronchitis		24
Senility		22
Measles		19
Gastritis		20
Carcinoma 13, sarcoma 2		15
Inflammation of the brain 8, congestion of the brain 4		12
Typhoid fever	89	11
Scarlet fever	73	7
Casualties 9, asthma 7, alcoholism 6, pertussis 6, rheumatism 5, cyanosis 4, peritonitis 4, pleuritis 4, pulmonary edema 4, cirrhosis of the liver 3, diabetes 3, parturition 2, drowned 2, dropsy 2, cardiac dropsy 2, dysentery 2, gangrene of the leg 2, cerebral apoplexy 2, hemoptysis 2, hematemesis 2, appendicitis 2, hepatitis 2, jaundice 2, pericarditis 2, intestinal obstruction 2, purpura hemorrhagica 2, arteriosclerosis 2, septicemia 2, abscess 3, aneurysm of the aorta 1, puerperal fever 1, hernia 1, laryngitis 1, tonsillitis 1, phlebitis 1, poisoning 1, surgical shock 1, suicide 1, tumor of the brain 1, ovarian tumor 1, gastric ulcer 1.		

Memorial to Dr. D. G. Brinton.—In memory of the late Professor Daniel Garrison Brinton, who has been termed the "Founder of American Anthropology," it is proposed to establish a Brinton chair of American Archeology and Ethnology at the University of Pennsylvania. Dr. Brinton presented his fine library to that institution, and the Chair of American Archeology and Linguistics was created there for his occupancy in 1886. An endowment of $50,000 is required for the proposed scheme.

Philadelphia County Medical Society.—The meeting held March 28 was devoted to a discussion of certain features of the **menopause.** DR. JOHN G. CLARK gave a lantern demonstration of the **Anatomical basis of the menopause;** DR. JAMES C. WILSON read a paper on the **Symptomatology and complications of the menopause;** DR. JOHN B. CHAPIN read a paper on the **Psychoses of the menopause;** DR. JAMES M. ANDERS discussed the **Cardiac manifestations of the menopause,** and DR. FRANCIS X. DERCUM, the **neuroses of the menopause.**

NEW YORK.

The Association of Military Surgeons of the United States will meet at the New York Academy of Medicine, May 31, June 1 and 2.

Slight Injury in a Severe Fall.—A man while engaged in whitewhashing, lost his balance, and fell four stories. When examined subsequently it was found that he had only sustained a fracture of one arm.

Addition to Quarantine Building.—Acting on an emergency message from the Governor, the Assembly passed the quarantine bill, appropriating $70,000 for a building for the detention of passengers at the quarantine building.

Rare Roses Distributed to Hospitals.—At the close of the exhibit of the American Rose Society the other evening, the wonderful collection of 15,000 roses was distributed among various hospitals and charitable institutions in the city.

Roosevelt Hospital.—Dr. Charles McBurney, who has resigned as Chief of the Surgical Service, will be succeeded by Dr. William T. Bull and Dr. Robert F. Weir, it having been decided when Dr. McBurney resigned to increase the surgical staff.

Senate Favors State Tuberculosis Hospital.—The Senate has passed Senator Davis' bill appropriating $150,000 for the establishment of a State Hospital in the Adirondacks for the treatment of cases of incipient pulmonary tuberculosis.

State Tuberculosis Hospital Assured.—The Davis-Hill bill for the establishment of a State Hospital in the Adirondacks for the care of cases of incipient pulmonary tuberculosis has had a hard time of it in the Legislature. The bill originally called for an appropriation of $150,000. It was finally passed after the Legislature had been aroused to action by an emergency message from Governor Roosevelt, but the bill was amended so as to reduce the appropriation to $50,000.

Sulphur Fumigation Starts a Disastrous Blaze.—The local Board of Health of Fort Plain, assisted by 6 students of the Clinton Liberal Institute and Military Academy, undertook to disinfect the building with sulphur after the occurrence of 4 mild cases of scarlet fever in the school. Some time after the process had been started two cadets discovered that the floor near one of the fumigating pans was afire, but owing to the dense fumes from the sulphur the fire had gained considerable headway before being discovered. The loss is estimated at about $100,000.

Pure Beer Bill Defeated.—An effort was made in the closing days of the session of the Legislature to rush through the pure beer bill by adopting a special rule permitting its immediate passage out of the regular order. This attempt precipitated a wrangle, in which Senators Elsworth, Armstrong, Elsberg, and others, protested, on the ground that the measure was fathered by a few Senators who desired its passage merely for political benefit. Senator Elsbe even went so far as to declare that the measure was really blow aimed at the brewing interests of the State, and e pressed the opinion that in so far as the bill sought to preve the use of rice in the manufacture of beer it was unco stitutional.

New Trustees for the Soldiers' Home at Bath. It will be remembered that while the investigation of t charges made against the former commandant of the hom Colonel Shepard, was going on, the Governor warned t trustees that if they dismissed the Colonel before heari the latter's testimony in rebuttal, he would remove the They paid no heed to this warning, but summarily remov the commandant. The Governor has kept his word, and h sent in nominations for a new board of trustees. It is sa that the members of the new board will be veterans, and th the nomination for commandant is Major Crane, of N York, a Grand Army veteran. It is hoped by this means prevent further discontent among the inmates.

A Physician Buncoed.—J. W. Meador, of Ol County, Kentucky, who says he is a physician and lectur reported to the police that he had been fleeced out of $4 by bunco men. He had come to this city to take passage Europe, his intention being to visit Palestine and obta material for his lectures. He had $485 with him, whi represented hard-earned savings of years. The game play on him was the old one of having him met by a friend person who induced him to play a game of cards, and the while so engaged, a bogus police officer rushed in and seiz both sharper and victim. The latter was let off with t promise that he would immediately leave the city. N having enough money left to continue his trip, he was forc to return home.

A New Home for St. Bartholomew's Clinic.—wealthy lady in the congregation of St. Bartholomev Church, New York City, has donated $250,000 for the er tion and endowment of a new home for the clinic, whi has been in operation for the past few years in an old buil ing adjoining the parish house. It has outgrown its prese quarters, having proved quite useful because of the uniq field which it occupies—*i. e.*, furnishing medical aid in t evening to those poor people who cannot afford to lea their work and attend during the day. As this clinic h been maintained in the past by an endowment from t Vanderbilts, it was naturally inferred, when the announceme of this large donation was made, that it came from one that family. This is denied, however, though in deference the expressed wish of the donor, her name is not made publ

A Generous Donation to St. John's Guild.—T old saying, "one good turn deserves another," has just be put into practice in a way most gratifying to St. Joh Guild. About one year ago the people of California sent here a carload of oranges to be disposed of for the benefit the Los Angeles Home for Indigent Children. The respon of the charitably inclined here was so generous that the s realized $2,000. Not to be outdone in such generosity, t Southern California Fruit Exchange recently sent on here carload of the finest oranges grown in California with i structions that the fruit was to be sold by the Fruit-Aucti Company, and the sum realized was to be donated to John's Guild to extend its good work on the Floating a Seaside Hospitals next summer. The railroad and expr companies agreed to handle the consignment free of char and so it happened that the fruit was transported free of c from the producer to the consumer, as the inscription the car said, "For Sweet Charity's Sake." The auctio room was crowded with eager bidders, and ex-Mayor Stro the President of the Guild, presided, while Edwin L. Goo sell acted as auctioneer. The first box of navel orang brought the handsome sum of $270, after it had once be sold for $105, and this $375 box of oranges was then sent the Five Points House of Industry. Many other bo brought $25, $50, and $100 each, so that on an average t 362 boxes comprising this carload brought $13 each. A gr majority of the purchasers sent their boxes to hospitals a homes. The total sum realized by this extraordinary s was $4,631.75, so that it was no wonder that Mr. Stro declared that this was the best day's work done for the Gu for over 20 years.

Superintendent of St. Luke's Hospital Retires.—he Rev. Dr. George S. Baker, after having served the hospi-l continuously for 23 years, for 22 years as its pastor and perintendent, asked the Board of Managers to relieve him f his onerous duties. The Board acquiesced, and showed eir appreciation of his long and faithful service by ap-ointing him the first pastor emeritus of the hospital at a lary of $2,000 a year. He will continue to be superintend-nt until May 1. The rumor that this action had been ken because of internal dissensions was specifically and mphatically denied by the Secretary of the Board. The aff of the hospital has been enlarged by the appointment f an interne to serve as resident pathologist.

Asylum Inmate Meets Violent Death.—A German lectrician, named Knoll, was committed to the insane avilion at Bellevue Hospital on March 30 to be examined y the insanity experts. He was declared insane, and com-itted to the Manhattan State Hospital on Ward's Island on pril 4. The following day a report was received at the oroner's Office to the effect that Knoll, while suffering from cute melancholia, had refused nourishment, and had suc-eeded in inflicting many bodily injuries upon himself. On eaching the Morgue it was found that the throat had been ut from ear to ear, and it was stated unofficially that the an had broken a window in his room, and with a jagged iece of glass had committed suicide by slashing his throat in his horrible manner. The Coroner ordered Dr. Donlin to ake an autopsy and a thorough investigation.

Christian Science Arraigned.—William A. Purring-on, a well-known lawyer, lectured in the Broadway Taber-acle to the class for the discussion of present-day problems n "The Sophistries and Dangers of Christian Science." A umber of Christian Scientists were among his hearers, and hey freely expressed their indignation at his fearless and oignant criticisms. He characterized this so-called faith as product "of ignorance, irreverence, vanity, vulgarity, in-onsequence, incoherence, and greed," and declared that its extbook was at once irritating and comical to all educated ersons not under the spell of the delusion. Mr. Purrington lescribed Christian Science as the presumptuous assertion hat in 1866 God revealed to a chronic invalid, drifting from ne physician and one school of medicine to another, as the ysterical do, truth that He had hidden from priests and cholars for ages. Mrs. Eddy follows the example of the liscoverer of Mormonism, by surrounding herself with a ody of 12 apostles, who constitute what is called the Board f Lectureship of the First Church of Christ, Scientist. The ecturer then proceeded to explain the secret of the success f this movement. He said: "The cause of the growth of Christian Science lies in the false pretense of the Eddyites o a peculiar divine power of healing all manner of human nfirmity. And in this pretense lurk the physical dangers hat concern individuals and the community at large regard-ess of religious beliefs or metaphysical notions. It is well-ettled law that the individual's right to believe does not mply a right to manifest bizarre beliefs in acts injurious to he physical and moral welfare of others." Mr. Purrington ad attempted, but in vain, to secure from one of the "apos-les" answers to such questions as this: "If material aids to the injured are harmful, what course would you or Mrs. Eddy adopt if your child is riding in a street car and a person with smallpox sits down beside it?"

Alleged Mismanagement of the Long Island State Hospital.—Senator John Raines secured the floor of the Senate on a question of privilege, and then proceeded to make a bitter attack on Dr. Truman J. Backus, late member of the Board of Managers of the Long Island State Hospital. It will be recalled that when the Governor suddenly changed his previously expressed intention to reappoint Dr. Backus on the Board of this hospital, it was openly charged that the Executive had been influenced to do this by Senator Raines, who owed Dr. Backus a grudge for having removed from the position of Superintendent of the Long Island State Hospital Dr, Sylvester, a son-in-law of Senator Raines. In his speech before the Legislature, Senator Raines declared that Dr. Backus had been about the only active manager on the Board—had been, in fact, "the management." His specific charges against Dr. Backus were as follows: (1) That he purposely delayed the carrying out of suggestions of reforms made by the Lunacy Commission, as shown by statements and official letters; (2) that he secured the appointment as General Superintendent of the hospital a man, whose unfitness he and others had since admitted, though he was still retained; (3) that he had charged to the expense account of the State items incurred purely for personal reasons, and from which the State received no benefit—*e. g.*, chartering a special train to take 70 pupils of the Packer Institute for a picnic; (4) that he let out contracts to personal friends, without advertising for bids, and without the authority of the Board of Managers, and contrary to law; (5) that he had used for his personal purposes certain stores of the State Hospital; (6) that he had sold property of his own to the State Hospital, pretending that the transaction was on behalf of a neighbor, whereas in reality this so-called neighbor was the lessee of his property. Dr. Backus has sent a letter to the Governor, denying the charges, and expressing his willingness to have an investigation. He also said, in an interview, that the investigation of Senator Raines should be by affidavit, and not by interview, and that if any of these charges were found to be true, that not only Dr. Backus, but every other member of the old Board of Managers, should be indicted.

New York Academy of Medicine.—At the meeting on April 5, DR FLOYD M. CRANDALL read a paper entitled **Prevention, management, and early diagnosis of scarlet fever.** In connection with preventing the spread of this disease, he advised that physicians attending such cases should provide a cotton gown, reaching from the neck to the feet, and that this garment should be kept in the sick room during the whole illness and be worn by the physician during each visit. This would greatly diminish the danger of carrying the contagium to others, would favorably impress the family with the watchfulness of the medical attendant, and would prevent the latter from being unjustly censured should the disease happen to develop mysteriously in another of his families about the same time. In rural districts, the closing of the schools during an epidemic of scarlet fever would probably have the effect of checking the disease; in large cities, on the contrary, such a step would, in all probability, have just the opposite effect of that intended. Anointing the skin helped materially to lessen the dissemination of the disease, but a bland oil or an ointment that was not likely to become rancid easily should be selected. Antiseptics or other irritants should be avoided, as they were harmful and often prolonged the period of desquamation. A 5% boric acid ointment was a grateful application if there was much itching. DR. ROBERT COLEMAN KEMP read a paper on the **Treatment of scarlatinal nephritis,** in which he called attention to the great value of oxygen inhalations and of enteroclysis with saline solution at a temperature of 110° or 120° F. in the treatment of scarlatinal nephritis. He said that the first sign of the presence of this complication was a sudden fall in the specific gravity of the urine. In the discussion DR. H. D. CHAPIN spoke of the dispensaries as the chief sources of such diseases as scarlet fever, and added that the badly ventilated wardrobes in the schools were nearly as great offenders to public health. DR. C. G. KERLEY said that in an epidemic that he had carefully studied in an institution for children, he had found two or three instances in which the period of incubation had been as long as 12 or 14 days, though it was ordinarily less than 6 days. DR. JOSEPH E WINTERS pointed out that nephritis was most likely to occur in mild epidemics, and in dispensary practice or among those who were likely to allow the sick children to get out of bed too soon. The first symptom of scarlatinal nephritis is a sudden rise of temperature. The indication for treatment was to diminish the blood in the Malpighian tufts, and this, in his opinion, could be best accomplished by the use of aconite, administered internally up to the physiological fact. This treatment would excite free perspiration and restore the urinary secretion. He thought enteroclysis or saline infusion was contraindicated in this particular form of nephritis, though undoubtedly very useful in certain other varieties of renal disease.

New York Academy of Medicine.—At the meeting of the Section on Medicine, March 20, the evening was spent in a discussion on the **treatment of rheumatism.** DR. HUGHES DAYTON opened the discussion by a brief paper describing the treatment now in vogue at the New York Hospital. He said that the physicians there relied chiefly on the

salicylate of sodium, given in doses of 10 or 15 grains every 3 hours until relief was obtained, continuing it at longer intervals. Occasionally, when the stomach was irritable, it was given by the rectum in doses of 30 grains dissolved in 2 ounces of water. More commonly, however, in such cases salol was substituted, being given in doses of 5 grains every 3 hours. They had found methyl salicylate exceedingly useful as a local application. For chronic cases in which there was much infiltration about the joints, the thermocautery had been found the most reliable measure. DR. L. A. S. BODINE then described the **treatment at the Mount Sinai Hospital.** Here, too, the sodium salicylate was used after a calomel and saline purge. Phenacetin, acetanilid, or antipyrin were ordinarily employed instead of morphin to relieve the pain, and trional, alone or combined with sodium bromid, was the favorite hypnotic. During the acute stage, rest in bed and a fluid diet were insisted upon, but after the temperature had reached the normal, the patient was allowed up, and his dietary comprised eggs, bread, potato, and fresh vegetables, but no meat. Methyl salicylate, tincture of iodin, and ice bags were used for the local treatment, except in the chronic cases, where the local hot-air bath was sometimes used. DR. JAMES J. WALSH discussed the **differential diagnosis of chronic rheumatism,** and in a suggestive paper called attention to the frequency with which all sorts of pains, due to peripheral nerve-irritation, were diagnosed as rheumatism. One of the most common of these was the confounding of flat or weak foot with rheumatism. A similar error was committed in connection with various occupation-neuroses. The fact that the pain was relieved by the remedies commonly employed in rheumatism was no argument in favor of their rheumatic nature, for these drugs were, for the most part, coaltar derivatives—drugs which soothe the pain in the peripheral nerves regardless of its nature. DR. THOMAS E. SATTERTHWAITE spoke of the **hot-air treatment of chronic rheumatism.** DR. WILLIAM J. MORTON described the **use of electricity in chronic rheumatism,** especially that form designated by him as the "electric wave-current." This is applied by dry, uncovered electrodes of block tin or military cloth, and may be applied in this way either locally or generally. Each application should last 15 to 30 minutes. DR. W. M. LESZYNSKY spoke of the value of the wet pack at night in stiffened rheumatic joints. DR. MORRIS MANGES praised the alkaline treatment, and spoke entusiastically of the benefit to be derived from immobilizing rheumatic joints in the acute stage by the application of splints.

NEW ENGLAND.

The Massachusetts Legislature has given the anti-vivisectionist petitioners leave to withdraw.

New Contagious Ward for Newton Hospital.—The sum of $50,000 is needed and will probably be granted this year for erecting new contagious wards for the Newton Hospital.

Johns Hopkins University.—Drs. F. S. Cullen and W. W. Russell have been elected associate professors of gynecology in the Johns Hopkins University. Dr. Cullen was recently tendered the professorship of gynecology in the Yale Medical School, but declined the offer, preferring to continue at the Hopkins the scientific research work which he has been conducting there.

New Out Patient Department for Massachusetts General Hospital.—The Massachusetts General Hospital has received a gift of $75,000 conditional upon an equal amount being raised in addition and has formally accepted the offer. This sum of $150,000 will be used to erect an adequate out-patient department, the present building, though relatively a new one, being much too small for the demands.

The Boston Society of Medical Sciences met March 20. Papers were presented as follows: **Histology of acute pneumonia,** DR. J. H. PRATT; **The solid stage of the intestine in a child,** DR. C. S. MINOT; **The lobule of the lung and the relation of the lymphatics to it,** illustrated with slides, by DR. W. T. COUNCILMAN, read by Dr. Mallory. DR. THOMAS DWIGHT demonstrated a specimen showing **Absence of the vena cava below the diaphragm.**

Municipal Hospital for the District of Columbia.—The bill for a municipal hospital is being strongly pushed by Senator McMillan, chairman of the Senate District Sub-Committee. There was a hearing of local physicians before this committee on March 27, all of whom approved of the measure, and the committee has approved the bill and will endeavor to have Congress pass it at an early day. The bill recommends an appropriation for purchasing a site for the hospital and for beginning its construction immediately.

New Hampshire Surgical Club.—The regular spring meeting was held at Nashua, March 22, Dr. George D. Towne, of Manchester, President.

DR. MAURICE H. RICHARDSON, of Boston, was present by invitation, and spoke on **Obscure tumors of the lower abdomen, suddenly appearing where none had previously been detected.** The other papers were as follows: "Post operative treatment," Dr. H. L. Stickney, of Newport; "Report of a case of post-pharyngeal abscess, requiring ligation of carotid," Dr. Frank E. Kittridge, of Nashua; "Tracheotomy and intubation in diphtheritic laryngitis," Dr. George A. Tolman, of Dover; "The nurse, the room, and the patient," Dr. Frank E. Blaisdell, of Goffstown.

CHICAGO AND WESTERN STATES.

Bequests of Albert G. Cone.—The institutions which will be benefited by the generosity of the late Mr. Cone are the Chicago Home for Incurables, which gets $50,000, the Chicago Homeopathic Hospital, $10,000, and the Presbyterian Hospital, $135,000.

A department for examination of the eyes of children in the public schools of Chicago has been added to the child-study system of the Board of Education, and hereafter parents of children with defective vision are to be warned of the danger their children are in. Members of the Child-Study Committee said that they intended to apply a rule passed two years ago, and which had never been made fully effective, requiring examination of eyes.

Chicago Society of Internal Medicine.—At a meeting held March 28, DR. G. W. MCCASKEY, of Fort Wayne, Ind., read a membership thesis on **Neurasthenia,** discussing some points in its pathology and treatment. The pathology of the affection is not definitely known. He discussed the histologic and histochemic changes of the ganglionic cells and the nature of them. He then spoke of the relation of neurasthenia to gastrointestinal disease, and passed on to a consideration of gynecologic changes in connection with neurasthenia. In referring to the treatment he spoke of rest, hydriatics, electricity, and emphasized appropriate treatment of all local diseased conditions, particularly of the stomach and intestines. DR. JOSEPH M. PATTON reported an interesting case of **paroxysmal tachycardia** and made some remarks upon the nature of this affection. He pointed out that the differences between paroxysmal and symptomatic tachycardia are essential, and mentioned a contrasting case. He then discussed the probable cause and treatment.

Medical Education in the West.—In previous issues we have mentioned important and radical changes in the faculty of Rush Medical College. It is the aim of President Harper to make the Medical Department of the Chicago University the finest and best equipped institution in the United States, and to this end he has secured the services of some of the most eminent and progressive teachers in America. He will continue to engage from time to time, as the conditions and circumstances shall demand, other men as teachers who have distinguished themselves by original work. Beginning with the Freshman class of 1901, a new scheme will be put into operation, namely a seven-year course. The first two years of the student will be spent in the literary department of the University, while the other five will be devoted exclusively to acquiring a medical education. It is not obligatory upon the student that he shall spend his first two years in the literary department of this University, as an equal amount of literary work done elsewhere will be accepted as preliminary to entering the medical department. It will be readily seen that on graduating the student will be placed upon a standard equal to, if not exceeding, that of the most famous foreign medical schools.

leveland Medical Society.—At a meeting held 'ch 9, Dr. C. A. Hamann presented a child, 11 years of who had come to him 2½ years previously suffering with **umor of the right superior maxillary.** He had oved the entire superior maxillary bone, part of the ar, and also the floor of the orbit, through an incision ig the median line of the lip, the nasal fold and the er margin of the orbit. No recurrence of the growth, ch had proved to be a **spindle-celled sarcoma,** had en place up to this time. The child, however, had re- tly presented herself aga'n with an enlargement of the side of the inferior maxilla which had raised some sus- on of recurrence. After waiting a few days an abscess found in the submaxillary region and was opened and ned. The swelling of the lower jaw was due to the en- ement of the lymphatic glands of the submaxillary on, some of which are peculiar in that they lie it on the periosteum both on the inner and outer ace of the bone. Dr. C. B. Parker read a paper n the **Cure of inguinal hernia by surgical means.** said that not every case of hernia should be operated In cases of reducible hernia when a truss holds the nia and it can be worn without discomfort, operation is necessary. In all other forms he advised operation.

W. E Lower read a paper on **The treatment of erated wounds.** This observation was based on 2,500 es. As all lacerated wounds are more or less infected y should be treated antiseptically, as it is practically im- sible to render them aseptic. The best antiseptic is cor- ve sublimate. It is effective and economical. Carbolic l, formalin and others of the new antiseptics have not od the test as well as bichlorid. Iodoform and dusting- vders are not used on first dressings as they are not anti- tic. About 50% of cases in which iodoform is used elop a dermatitis, and this with its disagreeable odor uld condemn it. Ointments and poultices like powders condemned. Dr. W. T. Howard asked the essayist if he l in this large series of cases met with one of emphysem- us gangrene. In the last five years he had met with 14 es in which the gas, bacillus had invaded the human body before or after death, but he had not been able to find a gle case of emphysematous gangrene in this city, ough he had seen some cases in Baltimore. Dr. M. Ingersoll reported a **Case of primary epithe- ma of the tonsil.** He said that primary epithelioma the tonsil is a rare condition, about 120 authentic cases ving been reported. The patient was a well-developed n, 42 years of age. His right tonsil had been increasing ize and paining him for 13 weeks. The tonsil was covered a fairly firm, irregular fungoid mass covered by muco- rulent secretion. The lymphatic glands at the angle of the on the right were involved. A piece of the tumor was moved and microscopic examination of it showed it to be ypical epithelioma. A radical operation was advised. The ient consulted several reputable men and then placed nself under the care of a so-called "cancer specialist" and d in his office about 2 months later. Dr. R. J. Wenner owed a specimen of **extensive fibrosis of the fallop- n tube and ovary** and reported the case from which the ecimen was removed. Dr. C. A. Hamann presented a ecimen of **syphilitic bone** consisting of the anterior wall the frontal sinus, the nasal bone, the nasal process of the perior maxillary, and part of the septum, which had sep- ated in one piece. It presented the typical worm-eaten pearance. From the history of long standing disease there d evidently been an empyema of the frontal sinus, as ll as necrosis of the bone.

Chicago Medical Society.—At a meeting held April Dr. Edward H. Ochsner reported a case and exhibited a tient upon whom he operated for **double cryptorchism** d who, 24 hours later, developed scarlet fever.. The pa- nt was a boy of 13, whose family and previous history re good. He was operated upon January 26, 1900. The y before operation he was perfectly well except for a very ght cough, which was attributed to a slight cold, as heart d lungs and pulse and temperature were normal. The dinary operation was done. Patient remained apparently rmal until 18 hours after operation, when his temperature se to 101° and the pulse to 102. Thirty hours after opera- n the temperature was 104°, pulse 120. The following morning, 48 hours after operation, patient was covered with a scarlet rash. At about this time Dr. William J. Class made a culture from the patient's blood and obtained an uncontaminated growth of the Class diplococcus scar- latinæ. Nine days after operation the temperature and pulse were normal, but typical scales began to develop and continued to exfoliate for several weeks. From these the diplococci were also cultivated by Dr. Class. Patient reovered. The author reports the case to lay stress on the importance of a bacteriologic examination in all cases of so-called septic rashes, many of which are undoubtedly exanthemata. Dr. Jacob Frank reported a case of **double pyosalpinx with tuboovarian abscess** complicated with such firm peritoneal and intestinal adhe- sions that resection of the bowel was necessary for the removal of the tubes. The anastomosis was effected by means of the Frank decalcified-bone coupler, of which a 1⅛- inch size was used, having determined the measurement by means of the Frank enterometer. The patient was shown and appeared in the best of health. Dr. Geo. E. Shambaugh presented a case of **unilateral chronic suppuration of the frontal, maxillary, and sphenoid sinuses** with no complications. Patient was 22 years of age and dated her trouble back 10 years, when, after an attack of typhoid fever she began to have a purulent discharge from the right side of the nose which has continued ever since. When first examined a mass of polyps completely filled the right side of the nose. These and a degenerated middle turbinated body were removed, when creamy pus was seen oozing from the middle meatus of the nose, showing that some of the accessory sinuses were affected. Two weeks later pus was observed to ooze from the normal openings in the sphenoid, the frontal and maxillary sinuses. A soft, silver canula, curved at the proper angle, was introduced into the maxillary and frontal sinuses through their normal openings and the pus washed out from each. The diagnosis was made by direct intranasal methods. A skiagraph of the case was exhibited, showing the position of a probe passed through the fronto-nasal duct into the frontal sinus. Dr. Carl Beck reported a case of **exclusion of the bowel for intractable fistula** re- maining from an operation for appendicitis. He had per- formed eight laparotomies on this case before he was able to cope with the injury. The first six operations in trying to close the bowel were futile. In the seventh operation he ex- cluded by enterotomy the larger portion of the ascending colon, cecum and adjoining portion of ileum by making an enterorrhaphy with the Murphy button. The button sloughed into the excluded portion of the bowel. A second attempt was made in the eighth laparotomy with the Frank coupler, which finally cured the case. Dr. Emanuel J. Senn reported a case of **partial osteoplastic rhinoplasty.** The patient was a male adult with a marked saddle nose. An incision was made two inches long in the median line, extending from the base of the nose to one inch above the tip. The skin was next dissected from the underlying mucous membrane, great care being taken not to open the nasal cavity. A raw surface was thus exposed two inches in length and one inch in breadth. A flap was next taken from the forehead to fill in this area. This was made obliquely to more readily mobilize in place and to cause as little interference with the circula- tion as possible. It included the skin, periosteum, and islets of the external table and not a layer of bone *en masse.* The flap was sutured in the denuded area previously prepared with silkworm-gut and horsehair sutures. The cosmetic result was perfect, the deformity being entiraly corrected. Five weeks after operation there was a firm bridge of bone to support the nose. The case illustrated the possibility of restor- ing such defects by means of the osteogenetic property of transplanted periosteum and attached particles of the ex- ternal table.

SOUTHERN STATES.

Case of Smallpox in Washington.—On March 27, a case of smallpox was reported to the health office and the patient sent to the pest-house. The man arrived here from New Orleans 5 days previously. On April 2, 3 men on a lumber schooner at the Potomac wharf were found to be suffering with smallpox and were sent to the pest-house.

Money to Fight Epidemic Disease.—Secretary Gage, of the treasury, has made a request of Congress for

$200,000 additional to the present fund to prevent the introduction and spread of epidemic diseases. On account of the increasing danger from plague, many additional medical officers have been stationed at the United States Consulates in Europe. Others have been placed at the fruit ports of Central and South America to prevent the introduction of yellow fever. Should yellow fever appear in the summer there is no further money available for combating it.

Government Hospital for the Insane Overcrowded.—There are at present over 2,000 patients in St. Elizabeth Asylum, and inadequate space for their proper accommodation. The need for more buildings has become more urgent recently, on account of the large number of insane yielded by the late war. The campaign in the Philippines has contributed about 60 soldiers and sailors, while the Spanish-American War altogether has yielded between 200 and 300 insane. These patients have not proved violent, and the chances for their ultimate recovery and discharge are considered good. Dr. A. B. Richardson, Superintendent of the Asylum, has suggested to the Secretary of the Interior that additions be provided for 1,000 patients, to be used exclusively for soldiers.

Medical Society of the District of Columbia.—At a meeting held March 28, DR. WALTER H. WELLS read a paper entitled, **Thyroid tumors invading the larynx; report of a case.** The case reported was that of a woman, aged 50, with a goitrous swelling of the left lobe of the thyroid. On the corresponding side in the interior of the larynx, there was a tumor located above the vocal cords, which upon microscopic examination proved to be thyroid gland. It was diagnosed adenosarcoma, but the clinical history was rather that of a benign growth. There was dysphagia and dyspnea, but no pain, no cachexia, and no metastasis. The tumor was removed from the larynx by the cold snare. Hemorrhage (the patient was a bleeder) seemed to be well controled by the local application of gelatin.

The bill "To amend the Medical Practice Act," in the State of Maryland was defeated in the last days of the legislative session. The course of this bill illustrates very well a point so frequently referred to in this journal, *i. e*, the lack of any semblance of union in the profession. The bill was prepared at the instance of the State Society, acting with the Homeopathic Society, and a committee of the society, or at least some members of this committee, worked hard to secure its passage, but not once did any delegation of medical men appear before the legislature, and in only a few instances did individual members of the society interest themselves in the matter. On the other hand the Christian Scientists and other opponents of the bill worked continuously. There were many obstacles in the way of this particular bill, but still it seems fair to conclude from its course that until the medical profession is prepared to make an earnest, organized effort to secure its rights, no satisfactory results can be expected.

Assistant Surgeons of Volunteers.—Official information from the Surgeon-General's Office in regard to contemplated legislation in behalf of the appointment of Contract Surgeons to the rank of Assistant Surgeons of Volunteers, ranking as Captains, and subject to honorable discharge from the service when they are no longer required, gives as a strong reason for the enactment of the purposed bill during the present session of Congress the need of rendering justice to the large number of contract surgeons who are now in the service, and upon whom, to a large extent, devolves the duty of caring for the sick of the armies in the United States, in Cuba, in Porto Rico, in Alaska, and in the Philippines.

In recommending the legislation the Surgeon-General will say that the Acting Assistant Surgeons now in the service have been carefully selected and have all been required to undergo an examination as to their physical and professional qualifications. They have all the responsibilities of commissioned medical officers, and it is the natural and proper ambition of every one of them who has rendered faithful service, to obtain a commission from the President of the United States. Owing to the very small number of volunteer surgeons (34) authorized at present, but a very few have any prospect of being commissioned under existing laws. So far as pay is concerned an acting assistant surgeon would be the loser when commissioned as an acting assistant surgeon of volunteers with the rank of first lieutenant, since he would receive but $133.33 a month instead of $150, which is the compensation now allowed contract surgeons. But the bill submitted proposes to promote those who have been in active service three years (one year as an acting assistant surgeon and two years as an assistant surgeon with the rank of first lieutenant) to the grade of captain if their service have been faithful and satisfactory. The bill further provides that any and all of these commissioned medical officers of volunteers may be discharged from the service whenever their services are no longer required: The text of the bill as follows:

A BILL

FOR THE APPOINTMENT OF ASSISTANT SURGEONS OF VOLUNTEERS.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. That "contract surgeons" who have rendered faithful and satisfactory service with the Army of the United States for a period of one year, and who have passed a satisfactory examination as to their physical and professional qualifications, shall be commissioned by the President as Assistant Surgeons of Volunteers with the rank of First Lieutenant, subject to honorable discharge from the service whenever their services are no longer required.

SEC. 2. That at the end of two years' service as First Lieutenant Assistants Surgeons of Volunteers, appointed in accordance with Section 1 of this Act, who have rendered faithful and satisfactory service, shall be commissioned by the President as Assistant Surgeons of Volunteers with the rank of Captain, subject to honorable discharge from the service whenever their services are no longer required.

MISCELLANY.

Obituary.—DR. GEORGE P. BARTLETT, Woburn, Mass., March 27, aged 49 years.—DR. JOHN MILTON WORTH, Ashboro, N. C., March 28, aged 89 years.—DR. PAUL A. STACKPOLE, Dover, N. H., March 28, aged 86 years.—DR. RUFUS W. DASHIELL, Princess Anne, Md., March 28, aged 49 years.—DR. FRANKLIN B. HAZEL, Philadelphia, March 28, aged 54 years.—DR. EDWIN M. SMITH, Philadelphia, March 30, aged 77 years.—DR. EDWARD MULHERON, Binghamton, N. Y., March 29, aged 53 years.—DR. JOHN COOPER, Brooklyn, N.Y., March 29, aged 85 years.—DR. WINSLOW W. SKINNER, formerly of New York, in Viarreggio, Italy, March 27, aged 4 years.—DR. CHARLES W. BUTLER, Jamaica, N. Y., March 25.—DR. A. J. FITZGERALD. New York, March 29.—DR. ALFRED E. JONES, Brooklyn, N. Y., March 30, aged 80 years.—DR. JOSEPH H. VONDY, Jersey City, N. J., April 2, aged 70 years.—DR. WILLIAM W. RODMAN, New Haven, Conn., March 30, aged 83 years.—DR. JAMES CUMMISKEY, Philadelphia, March 25, aged 64 years.—DR. FRANCIS G. WARREN, Biddeford, Me., April 2, aged 72 years.—DR. DANIEL J. BUCKLEY, Kingston, N. Y., March 27, aged 42 years.—DR. WILLIAM W. VIBBERT, New York, March 26, aged 27 years.—DR. WILLIAM CAMAC, Philadelphia, a distinguished member of the Academy of Sciences of Philadelphia, April 4, aged 71 years.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 31, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ILLINOIS:	Aurora	March 3–17	7	
"	Chicago	March 17–24	3	
INDIANA:	Evansville	March 17–24	6	
KANSAS:	Wichita	March 17–24	8	
KENTUCKY:	Covington	March 17–24	14	
LOUISIANA:	New Orleans	March 17–24	71	14
MAINE:	Portland	March 17–24	1	
MICHIGAN:	Detroit	March 17–24	2	1
MINNESOTA:	Albert Lea	March 20	2	
"	Anoke County	March 20	15	
"	Butterfield	March 20	1	
"	Freeborn Co.	March 20	15	
"	Lesueur Co.	March 20	1	
"	Minneapolis	March 20	42	
"	Northfield	March 20	7	
"	Rice Co.	March 20	1	
"	St. Paul	March 20	6	
"	Watonwan Co.	March 20	2	
NEBRASKA:	Omaha	March 17–24	1	
NEW YORK:	New York	March 17–24	2	
OHIO:	Cincinnati	March 17–23	1	1
"	Cleveland	March 17–24	10	

			Cases.	Deaths.
PENNSYLVANIA:	McKeesport	March 17–24	1	1
S. CAROLINA:	Greenville	March 17–24	2	
UTAH:	Salt Lake City	March 17–24	6	
VIRGINIA:	Millboro, Bath Co.	March 16	12	
"	Portsmouth	March 17–24	1	
WASHINGTON:	Spokane	March 17–24	2	
WISCONSIN:	West Salem	March 21	5	

Smallpox—Foreign.

AUSTRIA:	Prague	March 3–10	3	
BELGIUM:	Antwerp	March 3–10	3	1
BRAZIL:	Rio de Janeiro	Feb. 2–9	25	22
CANADA:	Province of Montreal	March 26	1	
CUBA:	Santiago	March 14	Reported	
EGYPT:	Cairo	Feb. 18–25		3
ENGLAND:	Birmingham	March 3–10	2	
"	London	Feb. 24–March 3	7	1
FRANCE:	Lyons	Feb. 24–March 3		1
GREECE:	Athens	March 3–10	7	6
INDIA:	Bombay	Feb. 13–20		228
"	Calcutta	Feb. 3–10		24
"	Kurrachee	Feb. 11–18	12	6
MEXICO:	Chihuahua	March 10–17		3
"	City of Mexico	Feb. 25–March 4	68	24
"	Vera Cruz	March 10–17		4
RUSSIA:	Moscow	Feb. 25–March 3	6	4
"	Odessa	March 3–10	7	1
"	St. Petersburg	Feb. 17–March 3	47	12
"	Warsaw	Feb. 17–24		3
SPAIN:	Corunna	March 3–10		1
"	Madrid	Feb. 24–March 3		7
STRAITS SETTLEMENTS:	Singapore	Feb. 3–10		1

Yellow Fever—Foreign.

BRAZIL:	Bahia	Feb. 17–March 3	2	1
"	Rio de Janeiro	Feb. 2–9		16
COLOMBIA:	Barranquilla	March 3–10	2	2
"	Panama	March 13–20	2	1
CUBA:	Havana	March 11–17		1
MEXICO:	Laguna	March 4	Several cases.	1

Cholera.

INDIA:	Bombay	Feb. 13–20		1
"	Calcutta	Feb. 3–10		40

Plague—Insular, U. S.

HAWAII:	Honolulu	March 22	1 death.	1 suspect.
PHILIPPINE ISLANDS:	Manila	Feb. 13	100	90

Plague—Foreign.

INDIA:	Bombay	Feb. 13–20		641
"	Calcutta	Feb. 3–10		106
"	Kurrachee	Feb. 11–18	4	1

Health-Reports. — The following cases of smallpox, Yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 7, 1900:

Smallpox—United States.

			Cases.	Deaths.
ALABAMA:	Mobile	March 24–31	1	
FLORIDA:	Jacksonville	March 24–31	2	
INDIANA:	Evansville	March 24–31	5	
KANSAS:	Wichita	March 24–31	8	
KENTUCKY:	Covington	March 24–31	12	1
"	Lexington	March 24–31	1	
LOUISIANA:	New Orleans	March 24–31	64	21
MASSACHUSETTS:	Boston	March 24–31	1	
MICHIGAN:	Detroit	March 24–31	4	
NEBRASKA:	Omaha	March 24–31	1	
NEW MEXICO:	Catskill	March 21	2	
" "	Folsom	March 21	5	
NEW YORK:	New York	March 24–31	1	
OHIO:	Cleveland	March 24–31	17	
UTAH:	Salt Lake City	March 24–31	1	
WASHINGTON:	Spokane	March 24–31	1	

Smallpox—Foreign.

ENGLAND:	Liverpool	March 10–17	1	
"	London	March 3–17	12	
FRANCE:	Lyons	March 3–10		2
"	Rheims	March 3–10		8
GIBRALTAR:		March 4–18	14	
INDIA:	Bombay	Feb. 20–27		263
"	"	Feb. 27–Mar. 6		269
"	Calcutta	Feb. 10–24		26
"	Kurrachee	Feb. 18–Mar. 4	32	15
JAPAN:	Yokohama	Feb. 24–Mar. 3	1	
KOREA:	Seoul	Jan. 20–27	2	1
SPAIN:	Madrid	March 3–17		22

Yellow Fever.

			Cases.	Deaths.
COLOMBIA:	Panama	March 7–14	7	
CUBA:	Havana	March 17–24	2	1

Cholera.

INDIA:	Bombay	Feb. 20–Mar. 6		19
"	Calcutta	Feb. 10–24		130

Plague—Insular, U. S.

HAWAII:	Honolulu	March 10–17	2	1

Plague—Foreign.

ARABIA:	Aden	Feb. 22–Mar. 10	22	13
INDIA:	Bombay	Feb. 22–Mar. 6		1468
"	Calcutta	Feb. 10–24		460
"	Kurrachee	Feb. 18–Mar. 4	92	73
JAPAN:	Formosa	Jan. 1–Feb. 28	97	78

Changes in the Medical Corps of the U. S. Army for the two weeks ending April 7, 1900:

OUTLIFFE, W. O., acting assistant surgeon, now at Lares, P. R., will report at Mayaguez, P. R., for duty.

DAVIS, Major JOHN G., surgeon, will proceed to the Philippine Islands on the transport "Meade," to sail about March 17. Upon arrival in Manilla he will report to the commanding general, department of the Pacific, for assignment to duty.

MANLEY, First Lieutenant CLARENCE J., assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Meade," to saill about March 17. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for assignment to duty.

DONOVAN, WILLIAM, acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Meade," to sail for the Philippine Islands, about March 17. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for assignment to duty.

LOWERY, JOHN M., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Meade," to sail for the Philippine Islands about March 17.

PORTER, GEORGE L., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Meade," to sail for the Philippine Islands, March 17. Upon arrival in Manila, he will report to the commanding general, department of the Pacific, for assignment to duty.

CABADA, EMILIO F., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Meade," to sail for the Philippine Islands about March 17. Upon arrival in Manila he will report to the commanding general, department of the Pacific for assignment to duty.

CARSON, SAMUEL K., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Meade," to sail for the Philippine Islands. Upon arrival in Manila he will report to the commanding general, department of the Pacific, for assignment to duty.

KNEEDLER, Captain WILLIAM L., assistant surgeon, now at San Francisco, Cal., will report to the commanding general, department of California, for transportation to Manila, P. I., and upon arrival there will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to temporary duty until the hospital ship "Missouri" returns to Manila.

DUVAL, First Lieutenant DOUGLAS F., assistant surgeon, now at San Francisco, Cal., will report to the commanding general, department of California, for transportation to Manila, P. I., and upon arrival there will report to the commanding general, department of the Pacific and Eighth Army Corps, for assignment to temporary duty until the hospital ship "Missouri" returns to Manila.

LAHNA, FRANK, hospital steward, will be sent from Madison Barracks to the Army and Navy hospital, Hot Springs, Ark., for admission for treatment.

LANGFELD, MILLARD, acting assistant surgeon, will proceed from Omaha, Neb., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

HODGKINS, CHESTER L., acting assistant surgeon, will proceed from San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

COMBE, Major FREDERICK J., surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

DAVIS, Major GEORGE P., corps surgeon, is relieved from duty as chief commissary, Second Division, Eighth Army Corps, and will report for duty in charge of the Manila subsistence depot.

TITUS, Major FRANK H., surgeon, will report to the commanding general, Third Brigade, Second Division, Eighth Army Corps, for duty as brigade surgeon.

MARROW, First Lieutenant CHARLES E., is ordered to report to the commanding officer, Third Infantry for duty.

STEER, First Lieutenant SAMUEL L., assistant surgeon, is relieved from duty with the Twenty-fifth Infantry, at Iba, Luzon, and will report at Jolo, Jolo, for duty, relieving Acting Assistant Surgeon James W. Madara.

MADARA, JAMES W., acting assistant surgeon, will report to the district commander for assignment to duty.

GEMMILL, HARRY C., acting assistant surgeon, will proceed from Logansport, Ind., to Fort Thomas, Ky., for duty.

BOYLE, JAMES H., hospital steward, now in Washington, D. C., will return to the Presidio, with permission to delay 20 days en route at Highland Falls, N. Y. Upon expiration of delay he will report to the commanding officer, West Point, N. Y., who will furnish the necessary transportation from that post to San Francisco, Cal.

LYON, EDWARD, JR., acting assistant surgeon, is granted leave for 1 month, to take effect when relieved from duty at Fort Schuyler by Acting Assistant Surgeon James H. McCall.

MCCALL, JAMES H., acting assistant surgeon, is relieved from further duty at St. Francis Barracks and will proceed to Fort Schuyler for duty, to relieve Acting Assistant Surgeon Edward Lyon, Jr.

HATFIELD, WM. F., hospital steward, telegraphic instructions of March 27, directing his transfer from Fort Yellowstone to Fort Clarke are confirmed.

ROSE, MARTIN, hospital steward, the commanding officer, District of Holguin, Cuba, will send to report to the U. S. Military Hospital, Fort Hamilton, for treatment and further disposition.

BEAL, HOWARD W., acting assistant surgeon, is assigned to temporary duty at the U. S. General Hospital, Presidio, awaiting transportation to the Philippine Islands.

TWIGG, ASHFORD, hospital steward, is relieved from duty at the U. S. General Hospital, Presidio, and will be sent to Alcatraz Island for duty.

MCLAUGHLIN, W. B., acting assistant surgeon, is granted leave for one month from April 1, with permission to visit the United States.

MAURA, FRANK B., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for duty.

DEWITT, Lieutenant-Colonel CALVIN, deputy surgeon general, is relieved from duty as chief surgeon of the division of Cuba, and will proceed to New York City and report by telegraph to the Adjutant General of the Army for further orders.

HARVARD, Major VALERY, surgeon, is relieved from further duty as chief surgeon, department of Santiago and Puerto Principe, and will proceed to Havana, Cuba, and report to the commanding general, division of Cuba, for duty as chief surgeon of that division.

EDGER, JR., First Lieutenant BENJAMIN J., assistant surgeon, is relieved from further duty at the U. S. Military Academy, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty.

JACKSON, THOMAS W., acting assistant surgeon, is relieved from further duty at Pinar del Rio Barracks, Cuba, and will proceed to New York City and report by telegraph to the Adjutant General of the Army for further orders.

VANE, PATRICK V., hospital steward, San Antonia, Tex., will be sent to San Francisco, Cal., and will report to the commanding general, department of California, who will furnish him transportation to Manila, P. I., for assignment to duty.

MATTHEWS, Major WILLARD S. H., surgeon, now on temporary duty at the Post Hospital. Presidio, is relieved from further duty in the division of the Philippines, and will proceed to St. Paul, Minn., for duty as attending surgeon and examiner of recruits in that city.

ARTHUR, Major WILLIAM H., surgeon, in addition to his present duties, is assigned to duty as medical superintendent of the Army transport service at San Francisco, Cal.

MCGUIRE, WILLIAM A., hospital steward, now at Fort Columbus, is relieved from duty in the department of Santiago and Puerto Principe, Cuba, and will report to the commanding officer, Fort Columbus, for assignment to duty.

Changes in the Medical Corps of the U. S. Navy, for the two weeks ending April 7, 1900:

KENNEDY, J. T., assistant surgeon, ordered to duty at the marine recruiting rendezvous, San Francisco, Cal.

PEARSON, J. F., pharmacist, appointed pharmacist from March 26.

ROSENBLEUTH, J. C., passed assistant surgeon, ordered to the "Wilmington" sailing from New York City, April 5, to join ship at Rio de Janeiro, Brazil.

COOK, F. C., passed assistant surgeon, detached from the "Wilmington" and ordered to proceed home by mail steamer.

URIE, F., surgeon, commissioned surgeon from October 5, 1899.

WHEELER, W. M., passed assistant surgeon, commissioned passed assistant surgeon from May 27, 1899.

CARPENTER, D. N., passed assistant surgeon, commissioned passed assistant surgeon from October 24, 1899.

PLEADWELL, F. L., passed assistant surgeon, commissioned passed assistant surgeon from October 25, 1899.

ARNOLD, W. F., passed assistant surgeon, detached from the Naval Hospital, Norfolk, Va., and granted leave for 3 months.

COSTIGAN, G. D., passed assistant surgeon, detached from the Naval Hospital, Chelsea, Mass., and ordered to the Boston Navy Yard immediately.

CARPENTER, D. N., assistant surgeon, detached from the Boston Navy Yard and ordered to the Naval Hospital, Chelsea, Mass., immediately.

Changes in the U. S. Marine-Hospital Service, for the 14 days ending April 7, 1900:

WASDIN, EUGENE, surgeon, to report at Washington, D. C., for special temporary duty. March 26.

WILLIAMS, L. L., surgeon, is granted leave of absence for 2 day (paragraph 179, Regulations, M.H.S.) from March 27.

BERRY, T. D., assistant surgeon, to proceed to New Orleans, La. and report to the medical officer in temporary charge for dut and assignment to quarters. March 26.

BERRY, THOMAS D., of Texas, assistant surgeon, commissioned as sistant surgeon. March 24.

VASDIN, EUGENE, surgeon, to proceed to Buffalo, N. Y., and assum command of the service. March 31.

STONER, J. B., passed assistant surgeon, relieved from duty a Buffalo, N. Y., and ordered to proceed to St. John, N. B., for dut as inspector of immigrants. March 31.

YOUNG, G. B., passed assistant surgeon, granted 2 days' extensio of leave of absence on account of sickness. March 31.

DECKER, C. E., assistant surgeon, granted 29 days' leave of absenc on account of sickness from March 2. March 31.

CLARK, TALIAFERRO, assistant surgeon, on being relieved from dut at Tortugas Quarantine, to proceed to New York, N. Y., (Sta pleton) and report to medical officer in command for duty an assignment to quarters. April 4.

MCMULLEN, JOHN, assistant surgeon, on being relieved from duty a Louisville, Ky., to proceed to Tortugas Quarantine and assum command of the service. April 2.

ANDERSON, J. F., assistant surgeon, relieved from duty at Barcelona Spain, and directed to proceed to Marseilles, France, for duty March 30.

GWYN, M. K., assistant surgeon, relieved from duty at Chicago, Ill. and directed to proceed to Louisville, Ky., and assume comman of the service. April 2.

CORPUT, G. M., assistant surgeon, upon being relieved from duty a Marseilles, France, to proceed to Washington, D. C.. March 3

VOGEL, C. W., assistant surgeon, relieved from duty at New Yor (Stapleton), and directed to report to Surgeon L. L. Williams Immigration Station, New York, for duty. April 4.

ALTREE, G. H., acting assistant surgeon, granted leave of absenc for 3 days. April 5.

BULLARD, JOHN T., acting assistant surgeon, granted leave of absenc for 60 days from April 3. April 3.

FOSTER, S. B., acting assistant surgeon, granted leave of absence fo one month from April 6. April 5.

WOODS, C. H., hospital steward, granted leave of absence for 15 day from April 6. March 29.

SCHLAAR, W. F., hospital steward, granted leave of absence for 2 days from April 2. April 5.

APPOINTMENT.

MCLAUGHLIN, ALLAN J., of New Jersey, commissioned as assistan surgeon. April 3.

American Climatological Association.—The follow ing is the preliminary program of the seventeenth annua meeting to be held in Washington, D. C., on May 1, 2, and 3

President's Address, Abraham Jacobi, New York; "The Moder Physician's Duty to his Tuberculous Patients," Frederick I. Knight Boston; "The Construction and Management of Small Cottag Sanatoriums for Consumptives," Arnold C. Klebs, Chicago; "A Report of Certain Cases of Tuberculosis which were Apparentl Due to the Nature of the Soil," Richard Cole Newton, Montclair N. J.; "The Educational and Legislative Control of Tuberculosis," Charles Denison, Denver; "Some Phases of the Tuberculosis Pro blem in Colorado," Sherman G. Bonney, Denver; "Some Persona Observations on the Effect of Intrapleural Injection of Nitroge Gas in Tuberculosis," H. P. Loomis, New York; "Bacterio-Thera peutics, with Especial Reference to Tuberculosis," E. R. Baldwin Saranac; "Subsequent History of Patients Apparently Cured b Antitubercle Serum," J. Edward Stubbert, Liberty; "Stomac Conditions in Early Tuberculosis," Boardman Reed, Philadelphia "The Phlebitis of Advanced Phthisis, with Report of Cases o Phthisis following Abscesses of the Hand," R. G. Curtin, Philade phia; "Diagnostic Value of Tuberculin in Tuberculosis," Jame M. Anders, Philadelphia; "Report of a Case of Spleno-myelogeni Leukemia with Tuberculosis, with remarks on Blood Examinatio in Tuberculosis," H. L. Elsner, Syracuse; "The Hydriatic Treat ment of Tuberculosis," J. H. Kellogg, Battle Creek, Mich.; "Petro leum Oil in the Treatment of Phthisis," W. D. Robinson, Philade phia; "The Inadequacy of the Physical Signs as Indicating th Gravity of a Pneumonia," Andrew H. Smith, New York; "Th Blood-Changes in High Altitudes," S. E. Solly, Colorado Springs "The Bath in Gout," Charles C. Ransom, New York; "A Case o Mural Endocarditis," Harold Williams, Boston; "Exercises Suit able for Children Suffering from Heart Disease," J. Madison Taylo Philadelphia; "Stamina: The Special Benefit of Fat of One Kin or Another as a Necessary Article of Diet in Fortifying the Syste Against Tubercle-Bacilli," A. N. Bell, Brooklyn.

An anonymous donation of 50,000 f. has been receive by the Entertainment Committee of the International Medi cal Congress. The amount will be employed to defray th expense of a grand "Kirmess," or country fair, to be hel in the garden of the Luxembourg during the meeting of th medical bodies.

Foreign News and Notes.

GREAT BRITAIN.

ir William Tennant Gairdner, whose resignation his position as Professor of the Practice of Medicine in sgow has been announced, leaves behind him an admire record for hard and intelligent work. He has always pired his pupils with real affection for him, and his name long been a synonym for all that is best and most disguished in Scotch medicine.

The Health of Dublin.—The death-rate in Dublin, ich had been 36.8 and 31.2 per 1000 on the two preceding eks, rose again to 35.2 during the fourth week in March. is is not so high as it has been, as readers of the JOURNAL ow, but it is very high, 15 per 1000 higher than London l 12 higher than Edinburgh. The causes of 5% of the ths in the city during the week were not certified, but re is no prevailing epidemic. The high death-rate is gely maintained by the death of children.

Filthy Food-Stuffs in London.—An improvement in system of detecting and condemning unwholesome food oted in the report just issued by the Port Sanitary Comtee. During the half-year ended December 31 the City pectors condemned, among imported meats, 1,195 quars and 1,573 pieces of frozen beef, 954 carcasses of frozen ib and mutton, and 2,492 tins of tongue. Green fruit also subjected to close inspection, for no fewer than 10,465 es of various kinds were condemned in the half-year. The er articles condemned included 2,625 tins of condensed k and 2,354 tins of fish.

Guy's Hospital was the scene of an unfortunate occurrence, one that is always happening in large hospitals, one which the public deeply resent and one which gives institution a bad name. A senior student saw an outient—an infant, and not recognizing the gravity of the e, prescribed for it and dismissed it without calling the ention of one of the medical officers to the matter. The ant died and at the Coroner's inquest the fact was elicited t it had received no proper medical attendance, for the vice of an unqualified lad is not what the hospital is suped to offer to the sick poor. Such accidents are most rettable.

The Indefatigable Queen of England, having ted her sick and wounded soldiers at Netley, has now ne the same at Woolwich. The Herbert hospital at Woolh is the other great service hospital and is becoming idly crowded with soldiers invalided home from South ica. It was erected in 1866 from designs by Sir Douglas lton and was named after Sidney Herbert, the then Secrey of State for War. Queen Victoria made the journey to olwich and back from Windsor Castle on the same day, l personally conversed with many of the patients. She eported to be in excellent health and spirits, which is of d omen for her journey to Ireland.

The Cardiac Complication of Rheumatism formed subject of an interesting debate at the last meeting of the elsea Clinical Society, a new and progressive medical iety having its headquarters in the now fashionable dist of Chelsea. Among the speakers were Dr. W. Ewart, ior physician of St. George's Hospital, who opened the cussion, Dr. D. B. Lees, Dr. Sansom, Dr. Pye Smith, Dr. rney Yeo, Dr. C. Gibbes, Dr. Caton, and Sir Richard uglas Powell, who closed the debate; but although the ceedings were, as we have said, interesting, they were to ir extent barren of result that no uniform methods of phylaxis were agreed upon. The most suggestive contrition to the debate came from Dr. Caton, a Liverpool ysician, who brought forward evidence that had been cumulating for years in his practice, that small blisters, e size of a florin or less, along the course of the first, ond, third, and fourth intercostal nerves exercised a benefial influence over commencing valvulitis. The treatment, considered, should be accompanied by the administration 8 to 10 grains, thrice daily, of potassium or sodium iodid aid the absorption of inflammatory products in the endocardium, and by complete rest in bed long after any arthritic conditions have ceased to give trouble; until, in fact, all signs and symptoms of endocarditis have disappeared. Dr. Caton advanced his views with great modesty, but he spoke from experience gained in treating 500 cases of acute rheumatism during the last 15 years, and impressed his audience very favorably. The possibility of producing by surface blistering a reflex vasomotory control of the blood-supply to the affected cardiac valves is, as Sir Richard Douglas Powell said, only an attractive hypothesis, but some of Dr. Caton's results appear so good that the method will certainly, now that it has been ventilated, obtain extensive trial.

The Midwives Bill.—This measure, after getting through its second reading in the House of Commons by the assistance of a series of flukes, has now passed the Standing Committee on Law almost without modification. The position, therefore, is a very advantageous one and it will probably become law substantially in the words of its original drafting—a most unusual piece of good fortune for its promoters. Throughout the lengthy agitation which has resulted in the present Midwives Bill, those working for the bill have acted without much talking, while those working against it have not so much talked as bellowed, but have never done anything at all. The real leaders of professional thought have been either favorable to the bill or strangely apathetic; the would-be leaders have been completely futile in their opposition. The position of the General Medical Council is a curious one. The General Medical Council was consulted by the Privy Council with regard to the bill and gave an approval to the measure, which certainly did not represent the feeling in the matter of the medical profession at large; but added that a clause should be inserted requiring the midwife to summon medical assistance in cases of unnatural labor or disease of mother or child. No such clause was inserted, although the House of Commons during the second reading of the bill was assured that the measure had the support of the General Medical Council representing the English medical profession. Before the Standing Committee on Law an attempt was made to get the provision recommended by the General Medical Council put in by amendment, but this was unsuccessful. It was argued against the amendment that by the existing provisions of the bill all the rules by which the licensed midwives of the future will be governed must have the approval of the General Medical Council, so that the General Medical Council, in framing these rules, can insist upon the summoning of the medical man by the midwife under all untoward circumstances. This is a fact, but it is also a fact that if the licensed midwife is made to understand that by the very Act of Parliament which called her into existence she is ordained to consult the medical man in the presence of difficulty, there will be much less chance of her encroaching upon the province of the general practitioner. The General Medical Council has cause to feel badly treated. On being asked for advice it blessed a measure which the profession in whose behalf it is supposed to speak thinks should have been cursed, and after all its advice was not taken.

The Late Dr. Robert Cory.—The late Dr. Robert Cory, whose recent death at his house in London is announced, was a martyr to science, for his comparatively early decease was probably due—at any rate indirectly—to his self-sacrificing scientific experiments. Born 55 years ago, he had a successful career as a student at Pembroke College, Cambridge, and afterward at St. Thomas' Hospital. At the hospital he commenced by specializing in gynecology, but some 20 years ago he was associated with the late Sir George Buchanan, Principal Medical Officer to the Local Government Board, in the founding of the Government Animal Vaccine Establishment, of which institution he was director until his death. He made such use of his opportunities that he became the best known authority upon vaccination in London, and in 1887 he was able to put on record the fact that in over 38,000 primary operations with human or with calf lymph only in one instance had he failed twice in an attempt at vaccination. Since 1887 the total of consecutive primary vaccinations performed at the government station under Dr. Cory is 110,728, and not a single case of insusceptibility has been found. In the interest of science he made certain experiments upon himself which many of his professional brethren considered unjustifiable, but which

have been of immense practical value. It was the teaching of the local Government Board that only when blood was mixed with the lymph could syphilis be spread by vaccination. Dr. Cory disbelieved the official view and deliberately inoculated himself with lymph, free from obvious contamination with blood, obtained from the vaccine vesicles of children undoubtedly suffering from syphilis. He proved the view of the local Government Board to be quite wrong, for he developed syphilis in a virulent form, and materially damaged his physical and mental health. The mental symptoms gradually subsided, but Dr. Corry was never afterward quite the man that he had been, while the authorities of St. Thomas' Hospital, to his poignant disappointment, considered themselves bound to pass over his claims to the post of obstetric physician to their institution. They could not have done otherwise under the circumstances, and they marked their desire to keep Dr. Cory upon their teaching staff by creating for him the appointment of lecturer upon vaccination and physician-in-charge of the vaccination department, but nevertheless Dr. Corry felt at the time that hard measure had been meted out to him. Shortly before his death he published his lectures upon vaccination, which made in book form an excellent treatise upon the theory and practice of vaccination.

CONTINENTAL EUROPE.

Medical Graduates in France.—At the end of the scholastic year of 1898-99, France graduated 1234 new doctors. Of this number Paris alone sent out 671; then followed Lyons with 186; Montpellier, 119; Bordeaux, 111; Nancy, 57; Toulon, 55; and Lille, 35.

The Revue Internationale de Thérapie Physique is the title of a new periodical, which is about to appear. It will be edited by Dr. Colombo, of Rome, and will be published fortnightly in French and Italian, alternately. The first number will be issued on March 31.

Sir William T. Gairdner, the well-known and much-honored Glasgow teacher, has informed his class that he will retire at the close of the present session. One of the oldest active teachers of medicine (he was born in 1824), Professor Gairdner has endeared himself to generations of students by his earnest and faithful work. His contributions to Reynold's System of Medicine, and more recently to Allbutt's, but, above all, his volume on Clinical Medicine, are storehouses of clinical information which no investigator can overlook. Sir William's many friends on this side of the water will wish him many years of happiness in his retirement.

The Paris Water-supply.—At a meeting of the Municipal Council of Paris, held on March 15, according to the *Lancet*, several resolutions were passed, with a view to increase and improve the quality of the supply of drinking water to Paris. It was resolved to acquire a tract of land for the purpose of supplying the aqueduct of Loing with an additional intake. It was also resolved that an inquiry should be undertaken as to the existence of springs and underground supplies of water, so as to complete the supply of the aqueduct of the Dhuys, and that a stationary analytical department should be organized at the head waters of the Arve and the Vanne, or, if this were not feasible, that a flying analytical department shold be formed.

University Appointments. — GREIFSWALD: Professor Strubing has been appointed ordinary professor and director of the medical polyclinic. ATHENS: Dr. Protopoulos has been elected professor of dermatology and syphilology. GENEVA: Professor H. Oltramare has been elected ordinary professor and director of the clinic for dermatology and venereal diseases. INNSBRUCK: Dr. H. Malfetti has been elected extraordinary professor of medicolegal chemistry. COPENHAGEN: Dr. H. C. J. Gram, professor of pharmacology, has been elected professor of medicine. ZURICH: Dr. Paul Ernst, first assistant in the Pathologic Institute in Heidelberg, has been elected professor of pathology to succeed Professor Ribbert, who has accepted a call to Marburg.

Cerebral Complications Due to Intestinal Infection.—According to the *Lancet*, Dr. T. Seitz, of Zürich, sums up 15 such cases, 5 of which are recent unpublished cases, permitting of interesting deductions, the cases having g through the most thorough bacteriologic investigations. doubt an invasion of the blood and lymphatics by intesti bacteria now and then take place, and obscure cerebral ease may result. In 7 out of the 15 cases bacteria of the testines could be definitely and decidedly proved to be originators of the cerebral disease. The only cause wonder is that the protective apparatus must work alm perfectly, given the enormous amount of intestinal bacte otherwise such cases would be far more frequent. In fa cases the postmortem examination fails to confirm the c ical diagnosis of meningitis or encephalitis apparently est lished beyond doubt, and only the most careful bacteriolo examination reveals the existence of some few staphy cocci, streptococci, or bacteria coli; the toxins of these b teria must therefore play a more important role than bacteria themselves. In some cases infantile convulsi and sudden death are certainly due to this mode of infecti

An Epidemic of Septicemia among Children Nurse.—According to the *Lancet* at the meeting of Hospital Medical Society, held on March 9, Dr. Lesage g an account of a most interesting form of septicemia wh he had observed as affecting children at nurse. It is v acute and its course so rapid that in a few hours the te perature runs up to 40° or 41° C. and death supervenes i very short space of time. There is intense dyspnea, althou auscultation reveals nothing wrong with the respiratory paratus. The patient is obviously very ill, presenting a pa anxious appearance, with great dryness of the tongue a lips. The child occasionally gives a half stifled cry, is v drowsy, and sometimes has slight diarrhea. Death rapi supervenes but no definite lesion is found postmorte Microscopic examination of the bronchi, however, shows presence of streptococci. Facts of special interest in cases noted by Dr. Lesage are the finding of pneumococci the bronchi and the epidemic nature of the malady. In hospital 16 cases occurred in five days and 15 of the patie died. The infection appears to be conveyed by nurses. T illness lasts from a few hours to two or three days, and clinical course is the same as that of the septicemia scribed by Hutinel. The epidemic died out for want of tients, and at its termination the wards were disinfected a everything settled down again. Dr. Lesage considers t these facts prove that a nurse-child is very easily effected the pneumococcus as well as by the streptococcus, and t extreme sensitiveness brings about a general septicemia fore the tissues of the organism have time to erect a defens barrier and so confine the infection to a local manifestati

MISCELLANY.

A Man Cannot Serve Two Masters.—We notice tl Mr. Langley, F.R.S., has been appointed deputy Professor Physiology at Cambridge till the end of the next acaden year. Sir Michael Foster, M.P., is presumably fully occup with his political duties; but London University in securi him for their Parliamentary representative, will have d Cambridge University a hasty turn, if they prevent him fr actively superintending the education of the Cambric physiologist. Not that Mr. Langley is other than a brilli physiologist and an excellent teacher, but Sir Michael Fos is an incomparable professor.

American Medical Students in German-Speaking Universities.—Most of the men who come over fo "vacation" do not immatriculate, therefore the list immatriculates, while it does not contain all Americans, c tains most of the men who are really studying. The follo ing are the numbers for last winter semester from *b* Americas:

Berlin	46	München	6
Freiburg	7	Strassburg	6
Giessen	1	Tübingen	2
Göttingen	1	Würzburg	3
Heidelberg	2	Zurich	1
Leipzig	7	Geneva	1
Marburg	2		

Total, 85

Austrian universities unknown, because foreigners can easily immatriculate there.

Society Report.

GERMAN BALNEOLOGICAL SOCIETY.

enty-first Annual Meeting, Held in Frankfort-on-Main, March 9–12.

[By our Special Correspondent.]

rivy Councillor Prof. Schmidt and Prof. Ehrlich, of the ckenberg Foundation in Frankfort, were made honorary nbers.

ROF. LIEBREICH, of Berlin, presided at the first session, after presenting the honorary membership to Profs. midt and Ehrlich, and greeting the representatives of the ious organizations present, spoke on the **Development hydrotherapy.** Formerly bathing and water cures e in great disrepute with both physicians and the public. hydrotherapy has, through its intrinsic worth in the ds of scientific investigators, risen until it has become a center of medical study. Brehmer, of Görbersdorf, ough vigorously attacked, worked out a treatment of sumption that has its adherents all over the world. The alation treatment that has done such wonders, was intro- ed by "bath" physicians. Bath-physician Seegen orig- ed the therapy of diabetes; Prof. Kisch, in Marienbad, nded the diet therapy, and Winternitz guided the "water e" art of the laity into scientific channels. Scientific licine is opposed to quack medicine; in Hufeland's time as Homeopathy; to-day it is "Naturheilkunde" (best nslated, perhaps, by Christian Science!) that threatens scientific physician. It is only a catch-word, and works y as such, for every physician is a "Naturarzt" (a Christian ntist, in the better sense). Hydrotherapy is as yet an inished study. We do not fully understand the effects he springs—which are not at all to be regarded as salts olved in water. The natural water is always somewhat erent from the artificial. Van Hoff's new doctrine of the es is receiving great attention from the bath physicians. he old officers were reelected; Prof. Liebreich, president, Dr. Thielenius, of Soden, vice-president.

ROF. KISCH, of Marienbad, discussed the **Influence of tain female diseases upon the heart** and their tment. The results of Prof. Kisch's studies are found in monograph on the subject. He thinks that iron, mud salt baths, and drink cures are effective; but others, *e. g*, F. SCHOTT, of Nauheim, thought that the effects were ely those of suggestion.

ROF. VON NOORDEN, of Frankfort, spoke on the **Dimi- tion of water in the treatment for adiposity.** believes that we ought to revise the present treatment of sity, that originated by von Oertel, wherein we seek to p water out of the body. The cause of the loss of weight his treatment is poverty of fluid, or a thickening of tissue blood. The loss of weight is frequently 9 pounds in 6 s. If now water be again freely given, the old weight rns. Diminution of water and of fat are not identical; wish the latter, but not the former. Von Noorden says t the theories of von Oertel and Schweninger are not ct. These men believe that with their obesity-cure the cess of oxidation is stronger and combustion of fat ater. Oertel believed in a necrosis of the fatty tissue. t this does not afford an indication for reducing the ply of water; this is indicated only by vitia cordis *with* sity, because it then strengthens the heart action. But the uction of the water-supply seems in many cases to reduce ability to consume a greater amount of food. It also uces perspiration. Finally, it has a suggestive effect (in loss of so much weight quickly) and spurs on the patient renewed measures.

DR. PARISER, of Homburg, spoke on the **Treatment of ronic nervous diarrhea.**

DR. FREY, of Baden-Baden, spoke of the **Therapeutic ect of the hot and the cold douche.** Hot air makes skin first pale and then red. With sensitive persons this ness remains for hours. Hot air on the arm will cause a at-production as high as 1 liter an hour. A difference in perature is not to be found, but it is rather to an increased tabolism. Cold air (room-temperature) has the effect of intense cold, because it takes away so much heat. The temperature sinks to 28–29° C. The skin is emptied of blood and shows "goose pimples." With these douches good results are obtained in neuralgia, cramp-like conditions of the abdomen, chronic gout and rheumatism, especially when combined with massage. Dr. Frey has constructed a patent hot and cold douche, which he showed.

PROF. SCHOTT, of Nauheim, spoke on **Heart diseases due to diabetes and their treatment.** These are nervous and weak conditions of the heart. But chronic carditis and valvitis also occur. Inasmuch as both heat and cold and sea baths were so badly borne by these diseases, hydrotherapy hardly comes into question. The carbonic-acid baths have proved, however, of much value. But it was muscle exercises and especially gymnastics that has accomplished the most—since they effect the diabetes as well as the heart trouble. Yet there is a danger here of overdoing, which can cause sudden death. Much attention should be paid to clothing and psychic conditions. In the discussion that followed it appeared that the connection of diabetes and vitia cordis was usually accidental and that treatment promised success for only the diabetes. Prof. Schott summed up by saying that the heart disease could be treated only after the diabetes had undergone a long and wise treatment.

DR. LENÉE, of Neuenahr, discussed **Diabetes.** There is no specific yet found—the many advertisements and the much quackery to the contrary notwithstanding. It is only by careful study and experimentation on metabolism (in which connection he discussed Blumenthal's work), in connection with a careful regulation of the diet, and with a drink cure that improvement can be obtained. Dr. Lenée had experimented on himself with the Neuenahr spring water, whereby he had obtained a diminution of the consumption of proteids together with increased urea and acidity in his urine.

DR. HUGHES, of Soden, spoke of the **Influence of mineral baths on osmotic pressure.** He believes that the hitherto unexplained influence of mineral baths is due to their increasing the diffusion of osmotic pressure. DR. ROTHSCHILD, of Soden, reported in this connection that the number of red corpuscles was increased by the use of the Soden baths. The salt baths (Sool) produce a slight thickening; the hot baths (Sprudel) an important thickening of the blood. This latter is due to the carbonic acid of the latter baths.

DR. ABÉE, of Nauheim, discussed the **calcification of the arteries and chronic myocarditis** in their relation to the so-called angina pectoris. These attacks are largely due to the displacement of the heart and the consequent stenosis of the coronary arteries. Dr. Abée has invented a "heart support" whereby the heart is restored to a correct position and the attack disappears. He has proved his theories by experiments on the cadaver. In the discussion that followed importance was attached to gymnastics and carbonic-acid baths.

DR. SCHUSTER, of Bad-Nauheim, had the topic **Digestive organs and the heart.** After showing the physiologic connection, he demonstrated that digestion causes a quickening of the pulse in cases of diabetes and hysteria—and often calls out threatening phenomena. In cases of indigestion, especially of abnormal gas formation, there appear attacks of asthma with little or no demonstrable effects on the heart,—sometimes a widening. Irregular heart action can appear in cases of indigestion even when the heart is healthy; but heart troubles are aggravated by diseases of the digestive tract and even by excessive eating and drinking. Nicotin, in cases of weakening of the heart with stomach troubles, acts as a sharp stimulant. The slowing of the heart in jaundice is due to the effect of the acids of the bile on the heart.

Medical Councillor DR. GROEBEL, of Nauheim, spoke on **balnotherapy of chronic kidney diseases.** The drink cures are proving of less value than the bath cures (carbonic acid, brine, warm) in chronic nephritis because the great quantities of fluid taken in the former case can cause an enlargement and weakening of the heart, but the baths strengthen the heart. Groebel has had long experience in the matter and claims to have seen good effects from baths in cases of chronic interstitial nephritis (Schrumpfniere) when no derangement of the circulation was already present. But bath cures are worse than useless in parenchy-

matous nephritis and also in interstitial nephritis when there is a high degree of heart weakness.

DR. HANS LEBER, of Bad-Homburg, reported on the **treatment of kidney diseases with carbonic acid brine baths.** For the last 2 years he has treated several cases of kidney disease—even with heart trouble. He finds a most careful individualization necessary in watching the blood-pressure and in regulating the amounts of salt, carbonic acid, and heat used. He had in all cases secured a decrease of the heart-dulness (Dämpfung) and a passing median wards of the heart stroke from 1 to 3½ cm., together with an improvement of the pulse as to strength, regularity and rapidity. He used also lukewarm to cool water hand baths in some cases; gymnastics in all. It is not true that gymnastics are to be forbidden in *all* cases of kidney inflammation or calcification of the arteries. Gymnastics spare and develop the heart force. Here also individual treatment is everything. Correct breathing methods must be had during the exercises. These gymnastics should never be given by a layman, but only under the direct supervision of the doctor.

DR. SCHERK, of Homburg, on on the working of **Enzymes and the drink cure.** The doctrine of the iones has led to a new knowledge of the influence of mineral water cures. The iones lacking in the system are furnished by the mineral water.

DR. LIEBREICH discussed the **Value of the use of pharmacodynamic agencies in the treatment of tuberculosis of the lungs.** He grants the tremendous value of popular hospitals and sanatoria, but does not wish to see medicines entirely displaced. He has tried the subcutaneous injection of potassium murocin in rabbits. This developed in the system oleum senapsis, and as a result the tubercle-bacilli were checked in their growth. Naturally, he had not yet tried experiments on man, but hoped nevertheless that the principle would be utilized.

DR. KOHLER, of Kreuznach, read a paper on **Sanatoria for consumptive children.** The danger of infection from scrofulous children is very great, therefore separate rooms and playyards must be provided, and great care must be exercised in selecting children for the vacation colony. The results of brine (salt) baths for cousumptive children in the Victoria Stift at Kreuznach have been excellent. The local tuberculoses (bones and glands) heal, and the appetite and the weight increases. Surgical treatment must accompany the baths. In 30 days the average increase in weight has been 2 kilos; in longer cures 8 kilos. The 30-day cure is too short; at least 6 weeks are needed. A contined residence with school privileges would be still better. Children with tuberculous ulcers should always be put into an institution; there is too much danger of infection if they are left at home. Public hospitals are therefore needed. The present statistics are deficient and physicians should unite in giving and demanding better reports on the treatment of children. In the discussion PROF. LIEBREICH spoke of the rare infection from the digestive tract in spite of the fact that 76% of our cattle is tuberculous and bacilli can be found in 20% ef the butter. Margarine also contains bacilli. Therefore Liebreich and Michaelis have made a butter out of fat and almond milk that is free from bacilli.

PROF. STINER, of Prague, reported on his examination of the springs at Homburg and Soden. In 1897 the city of Homburg sought to increase the amount of bathing water. Investigation showed that the pressure (or quantity) had been decreasing for 10 years. The reason was found to be in a drainage canal. When this was dammed all the springs flowed better. The waters are now stored in air-tight cisterns and thence flow directly into the baths under a pressure of 1 to 2 atmospheres, unchanged in their constituency. The baths when full are warmed from underneath by heating the floor, without either steam or warm water being admitted to them. In Soden this renewal is not yet completed but the community is spending much money to have the land around the springs free. The debate upon the subject of the relation of the ground water to the springs was warm, PROF. LEPSIUS asked if fresh water was not to be furnished then, where the baths were to obtain drinking water. Other places had fresh water springs without interfering with the energy of the mineral springs. Finally a committee of Steiner, Lepsius, and others was appointed to investigate the matter.

The Latest Literature.

British Medical Journal.

March 17, 1900. [No. 2046.]

1. Remarks on the Holmgren Wool Test: Is it Adequ for the Detection of Color Blindness? THOMAS BICKERTON.
2. The Practical Applications of Largin in Diseases of Eye. SIDNEY STEPHENSON.
3. Detachment of Corneal Epithelium (?). J. ACWOR MENZIES.
4. Surgery of the Stomach. A. W. MAYO ROBSON.
5. The Treatment of Rheumatism, with Special Referer to Prophylaxis and to Cardiac Complications. W EWART.
6. Some Cases of Belladonna Poisoning. GEORGE SCOTT.
7. Foreign Body in Male Urethra. ARTHUR HAWLEY.
8. Skin Eruption Consequent on Administration of Crot Oil. A. R. URQUHART.

1.—A case is detailed in which a man successfully pass the **Holmgren wool test,** but who presented undoubt abnormalities in his color-vision. He was the second offic on a steamer, and came near having a serious disast because he was unable to tell a white light from a green, a it was proved afterward by spectrum test that his colo sense was decidedly abnormal. Bickerton believes that the should be some quantitative test for color as well as the wo test. [D.L.E.]

2.—**Largin,** a silver salt, when applied to the eye ev in concentrated form, is painless. It acts well in blepha conjunctivitis, some cases of dacryocystitis, conjunctiv inflammations associated with the Koch-Weeks bacillus, a as a temporary remedy after operations for chronic trachom [G B.W.]

4.—See abstracts of the *Lancet*, this issue.

5.—Ewart divides **rheumatism** into (1) monarthritis the rheumatic or rheumatoid variety, (2) symmetrical rhe matoid arthritis, (3) non-symmetrical rheumatic polya thritis, (4) symmetrical rheumatism of the acute and su acute varieties. The latter he finds much more freque than is usually taught. He presents a classification of rhe matic and rheumatoid conditions, showing their transition varieties. Ewart has tried inhalations of carbonic acid in few cases, with variable results. As to the use of alkali he contends that they should always be given with salicylate Potassium salts are preferable to sodium and the citra should be given rather than the bicarbonate, because th latter forms so much gas in the stomach and overdisten this organ. The iodids are useful. Locally in acute mona thritis when drugs fail he treats by fixation, elevation, leeche inunctions, and graduated pressure, with general tonics. Th acute rheumatoid and symmetrical rheumatic attacks whic also show tendency to localization, are treated in anoth way. They are usually made worse by absolute rest, ar improve upon supporting treatment after the acute difficu ties have been overcome by ice applications or ice massag With acute rheumatic arthritis it is useless to attempt control an unyielding attack by increasing the doses salicylates. General tonics, iodids, and blisters constitut a better treatment. The diet should at first be light i rheumatism. Ewart finds that milk is far better digested a small dose of table-salt is added to each portion. H thinks that temporary vegetarian diet is also frequently in dicated. [D.L.E.]

7.—The **foreign body,** which was a bonnet pin, w removed from **the urethra** by a pair of curling tongs, aft failure with numerous forceps had been experienced. [G.B W

8.—The interest of the case was in a rash resemblin scarlet fever, followed by a pustular rash similar to th usually seen after the local application of croton oil. Th followed three days after the administration of 2 minims croton oil. [D.L E]

March 24, 1900. [No. 2047.]

1. Practical Observations on Cancer of the Breast. SI WILLIAM BANKS.

2. Vomiting Considered from Some of Its Surgical Aspects. WILLIAM H. BENNETT.
3. Surgery of the Stomach. A. W. MAYO ROBSON.
4. A New Method of Performing Perineal Prostatectomy. P. J. FREYER.
5. When is Cancer Cured? E. T. FISON.
6. Kernig's Symptom in Meningitis. JAMES BARR.
7. Gastric Ulcer in Pregnancy and Hysteria. J. W. McINTOSH.
8. A Case of Smallpox During Pregnancy; Premature Labor; Recovery. A. DEAN ROBERTS
9. Punctured Wound of the Scull with Escape of Brain Substance; Recovery. WILLIAM ODELL.
10. A Case of Hematemesis. G. E ARMSTRONG.
11. Lymphatic Varix of the Groin Containing Chyle. ROBERT CAMPBELL.

2.—Vomiting occurring in connection **with operations** s mainly of two kinds, that due to the anesthetic and that lue to the disease from which the patient is suffering. The ronchopneumonia which sometimes follows an operation is often said to be due to the ether, whereas in reality it is caused by the inspiration of putrid vomited material. Where there is reason to believe that the anesthetic will be ollowed by severe vomiting, washing out of the stomach will often prevent its taking place. Vomiting coming on immediately after the operation generally does not amount to much, but if the onset is deferred some 8 or 12 hours, the result is apt to be very serious. Feculent or stercoraceous vomiting occurs more commonly than is supposed in cases n which no mortal disease exists, and though a grave symom, it is not always fatal. In certain cases the vomiting is curative, inasmuch as it empties the bowel and stomach of accumulated contents which for the time being are not able o find their way downwards in the normal manner. Feculent vomiting with a persistent increase in abdominal distention demands operative interference, whereas if the distention does not increase the patient will probably get well without operation. [G.B W.]

4.—See editorial columns, this issue.

5.—Fison reports a case of **cancer of the breast** which after removal remained free from a return of the disease for 15 years. [G B.W.]

6.—Barr believes that Buchanan's recent observation of the occurrence of **Kernig's sign** in the upper extremities is not new. He states that he has pointed out this occurrence and the same symptoms in the lower extremities for the past ten years. [The cases described seem to be merely contraction of the flexors, and to call this Kernig's sign is a misconception of the sign described by the Russian author. Kernig particularly noted that his sign was an inability to extend the flexed leg when the patient was sitting, and that the sign was absent if he were in the horizontal position. [D.L.E.]

7.—McIntosh reports a case of **gastric ulcer** occurring in a primipara six months pregnant. The patient suffered from paroxysms of pain, vomiting, and hematemesis. Rest in bed, lavage, medication, abstinence from food for 36 hours, followed by a gradual restoration of diet, brought about a return to her normal condition. [W.K.]

8.—In Roberts' case smallpox produced premature labor; a male child was born which lived only a few hours. The mother ultimately recovered. [W.K.]

9.—A child, 16 months old, fell striking its left temple against a carpenter gouge, which instrument penetrated to the depth of two inches. The brain-substance escaped from the wound when the child coughed, but after occlusion of the wound with an antiseptic dressing the patient made a good recovery. [G.B W.]

10.—The case reported by Armstrong was a woman, 46 years of age, who for 6 or 7 months had been suffering from symptoms of **gastric ulcer.** As she had had several attacks of hematemesis, losing so much blood that her pulse could not be felt at her wrist, operation was decided upon. A deep excavated ulcer was found at the pyloric end of the stomach, laying bare two rather large vessels. The ulcer was excised and the operation completed as in a Heincke-Mikulicz pyloroplasty. The patient made a most satisfactory recovery. [G B.W.]

11.—This patient, a girl aged 9 years, had a swelling in the right groin, first noticed 12 months ago. At the operation a cyst-like dilation of a lymphatic vessel was found, which when pulled down out of the femoral canal presented three other similar but smaller dilations. The vessel was ligated above and below and the dilated portion excised, and the wound united by first intention. The fluid contained in the dilated vessels was found to be chyle. [G.B.W.]

Lancet.

March 17, 1900. [No. 3994.]

1. The Surgery of the Stomach. A. MAYO ROBSON.
2. Rabies. JOHN ROSE BRADFORD.
3. The Treatment of Rheumatism, with Special Reference to Prophylaxis and its Cardiac Complications. WILLIAM EWART.
4. Some Remarks on External Urethrotomy. REGINALD HARRISON.
5. The Medical Examination of Personal Injury Claims. ALBERT BENTHALL.
6. Unusual Ending of a Case of Empyema. JOHN CROPPER.
7. A Loose Foreign Body in a Hydrocele Sac. J. R. BENSON.
8. A Case of Traumatic Enophthalmos. PERCY FLEMING.
9. A Case of Meningitis following Enucleation of the Eyeball. F. B. JUDGE BALDWIN.

1.—In discussing **perforating gastric ulcer,** Robson recognizes 3 varieties: acute perforation usually follows symptoms of gastric ulcer and comes on with severe collapse, intense pain, and rapidly spreading peritonitis; in chronic perforation the symptoms are less defined, there may be pain, followed by sickness and faintness, perhaps by vomiting and slowly extending tenderness of the abdomen and distention, but all these symptoms are much less marked than they are in the acute variety. Besides the acute and chronic perforations there is a third variety, subacute perforation, in which the extravasation is limited by adhesions and a secondary abscess forms. In the subacute and chronic varieties the diagnosis may be extremely difficult, and at times almost impossible until the case develops farther. Concerning the treatment of perforation there cannot be two opinions, surgery, and surgery alone holds out practically the only hope of cure; the later results of operation for perforation show a steadily decreasing mortality. Early operation is of supreme importance. At the time of **operation** everything should be done to prevent and to combat shock; incision in the median line above the umbilicus is advised, then systematic examination is made to locate the ulcer; of the anterior wall, beginning near the cardia and lesser curvature, then examining the posterior wall. Excision of the ulcer, as a rule, is unnecessary and involves waste of time; cleansing of the peritoneal cavity must be carried out thoroughly and methodically; gross particles of food, pus, etc., should be wiped away, then if the affection is extensive and the peritoneal cavity has been generally soiled, irrigation is the best means of cleansing it; in case the amount of soiling is limited, wiping is the best means. The treatment of chronic perforation is the treatment of peritoneal abscess; the site of operation will depend upon the position of the abscess; simple drainage is, in most cases, sufficient. Gastric fistula may result from traumatic or pathologic causes. Surface fistulae may be readily closed by plastic procedures, if they do not close spontaneously under careful dressing and rest. **Perigastritis with adhesions** may lead to great functional disturbances by interfering with the motor activity of the stomach, producing dyspepsia and the so-called visceral neuroses and not infrequently dilation, vomiting, and severe pain with great loss of flesh may result. Robson states that adhesions about the stomach are found in about 5% of all necropsies, while about 40% of all cases of gastric ulcer are associated with adhesions. He has operated in 45 cases of stomach disorder in which adhesions alone or adhesions associated with some other disease, such as gallstones, lead to serious dyspepsia or other digestive derangement, and in which the removal of the adhesions was followed by great relief or cure of the symptoms. The adhesions are simply detached, or, in case of firm bands, they are divided between ligatures; where the omentum is available it is brought upward and left between the pylorus and gallbladder, so that if adhesions reform, they will be in the shape of a loose mesentery. **Hour-glass** contraction of the **stom-**

ach is believed to be much more common than is usually thought. Robson has operated on 6 cases within a year, and in one of these cases the stomach cavity was divided into 3 compartments. The chief cause of hour-glass stomach is cicatricial contraction of a chronic ulcer; it may also be due to perigastritis. In 2 of Robson's cases the diagnosis was made before operating. A sulcus was found between the halves of the stomach, on distention with carbonic-acid gas and on cleansing the stomach by lavage and leaving it clean. A second washing within a few minutes showed that the distal cavity had emptied itself into the proximal cavity, and the second washing brought away fluid as foul as if no lavage had occurred. If the constriction is marked and there is loss of flesh and other unfavorable symptoms despite careful medical treatment, it should give place to surgical treatment. If adhesions cause the constriction they must be divided, and if, after this the connection between the 2 cavities be sufficiently free, the abdomen may be closed. If the stricture be cicatricial, 3 courses are open, gastroplasty, gastrogastrostomy, and gastroenterostomy. Robson has performed gastroplasty in all his cases, using a large decalcified-bone bobbin as an aid in placing the sutures. In the treatment of dilation of the stomach due to stricture of the pylorus, it is believed that Loreta's method is destined to be replaced by the Heineke-Mickulicz method of pyloroplasty. In this affection Robson also advises the use of his decalcified-bone bobbin as an aid in placing the sutures. If carcinoma of the pylorus causes the dilation, pylorectomy may be indicated if the disease be limited and if there be no secondary infection, but if the disease be too extensive, gastroenterostomy will be the only treatment likely to afford relief. [M.B.T.]

2.—Bradford states that it is sometimes impossible even by the postmortem examination or by experimental inoculations to make a **diagnosis of rabies.** The symptoms in man are divided into those of the prodromal period, those of the period when the disease is fully established, and those of the third or paralytic period. In the first period the notable symptoms are general malaise, a tendency to melancholy, sleeplessness, and marked apprehensiveness, even when it is unknown to the patient that he is in danger of acquiring rabies. After 10 to 15 days the second period is shown by dyspnea of severe type, spasm of the muscles of deglutition, followed by general convulsions with peculiar jerky respirations somewhat resembling the bark of a dog. It is characteristic that any slight irritations such as noise, drafts, attempts to swallow, and the like, are followed by a convulsion. There may be furious excitement. There is fever. If death does not occur at this period it results afterward in the paralytic stage, which is indicated by rapidly increasing paralysis, which first involves the limbs, and then the trunk, and finally causes death from respiratory failure. In some cases the paralytic stage only is seen. In the dog the early symptoms are restlessness, and a general air of misery. The animal is likely to awake suddenly from sleep, apparently without realizing where it is. Then comes a period of excitement, with increasing restless, and finally furious attacks upon the nearest objects, with evidently marked hallucinations. There is the characteristic bark, which is a long-drawn stridulous one, ending in a howl. There is a usually genital excitement. The animal usually wanders away from its home. In its excitement it swallows foreign bodies of all kinds. Then comes the period of paralysis, which is likely to begin in the jaw muscles, and then involves the limbs, and ultimately the respiratory muscles. The characteristic symptoms are difficulty in swallowing, peculiar bark, restlessness, and finally the rapid and peculiar paralysis. In the rabbit the symptoms are chiefly paralytic, and it is rather characteristic that the paralysis begins in the hinder extremities and becomes very marked when the general health of the animal remains good and its appetite is excellent. Sometimes these animals show the furious type. There are numerous affections which may be mistaken for rabies, even by relatively careful persons, but a consideration of the main symptoms mentioned will obviate this. The postmortem examination is never very characteristic. The most important signs in dogs are ecchymoses and foreign bodies in the stomach with the absence of food, while in man the changes are not characteristic, and are chiefly the result of death by asphyxia. The experimental method of diagnosis consists in taking a portion of the central nervous system from the suspected case, placing it in pure glycerin for 2 or 3 days, then pounding it into an emulsion which is filtered through muslin, and a portion of it injected in the anterior portion of the eye of a rabbit or subdurally the latter being the better method. The symptoms usually appear within 12 to 19 days, though they may be delayed as long as 40 days. Bradford has in all investigated 259 cases of suspected rabies in the last 4 years, and he found that the diseases existed in 138, or 53% of these cases. [D.L.E.]

3.—See *British Medical Journal.*

4.—Harrison considers **external urethrotomy** applicable to cases of resilient and rapidly contractile strictures in the deep urethra which are not amenable to dilation; also in case the wound made by an internal urethrotomy be out of proportion to the natural drainage of the urethra; in case of stricture complicated with urinary fistula and sinuses; in cases of stricture with extravasation of urine; and in some rare cases of wounds connected with the treatment of stricture. He attaches importance to the following points in the operation: the use of a guide; the utility of internal urethrotomy as an immediate preliminary to the external operation; and the more efficient provision for urine and wound drainage. External urethrotomy performed without a guide is difficult, dangerous and incomplete and the chances of success are extremely remote. [M B.T.]

6.—A boy of 3 had been ill 19 days with symptoms of **empyema** and it was decided to open the chest. On entrance to the hospital his mother stated that a large quantity of pus had been passed by the bowel and the prominent symptoms had disappeared. However, operation was undertaken, one inch of the seventh rib being excised and a small amount of pus was evacuated; the patient grew gradually worse and died 2 days later. [M.B.T.]

7.—A boy of 14 came under observation with a **hydrocele** of the left scrotum which had been tapped on 3 occasions. Owing to the flaccidity of the tumor and the rapidity of its return after operation, it was concluded that there was some connection with the general peritoneal cavity and operation for complete removal of the sac was undertaken. A curved incision was made over the external abdominal ring, the cord and testicle were drawn out and the coverings of the sac were stripped off, the neck of the sac was ligated and treated like an ordinary hernial sac. An uninterrupted recovery followed the operation. On examination of the cyst it was found to contain an almond-shaped mass of hard fatty tissue which it was thought was probably a detached piece of an appendix epiploica. [M.B.T.]

9.—The man whose case is reported was **injured in the cornea** and had loss of aqueous humor, and prolapse of the iris. A few days later pus appeared in the corneal wound and anterior chamber. The eye was removed, with careful antiseptic precautions. There were no evidences of suppuration in the posterior chamber or along the nerve. By the afternoon of the next day the man showed high temperature, and soon developed signs of meningitis, and died two days after. The postmortem showed purulent meningitis. Martin notes the rarity of such an occurrence, and insists upon great caution in enucleating an eye in which there is evidence of suppuration. The operation should have been done earlier, but the patient would not consent. He believes that it would have been preferable to have allowed the eye to pass through a condition of panophthalmitis to phthisis bulbi, when the danger of removal would have been much less. [D.L.E]

March 24, 1900. [No. 3995.]

1. The Typhoid Bacillus and Typhoid Fever. P. HORTON-SMITH.
2. Surgery of the Stomach. A. MAYO ROBSON.
3. Practical Observations on Cancer of the Breast. WILLIAM M. BANKS.
4. The Causation of Cancer. JAMES SAWYER.
5. The Influence of the Temperature of Liquid Air on Bacteria. ALLAN MACFADYEN.
6. Phosphatic Diabetes. GUTHRIE RANKIN.
7. A Case of Irreducible Dislocation at the Elbow. R. HAMILTON RUSSELL.
8. A Case of Chronic Intestinal Obstruction; Necropsy. D. B. LEES.
9. A Case of Suppurative Appendicitis with Secondary Liver Abscesses. W. GIFFORD NASH.

1.—Horton-Smith discusses the **characteristics and entification of the typhoid bacillus.** In consider- g its agglutination by typhoid serum he notes that various cilli give a decidely different reaction. In his work he s tested bacilli from stools, urine, mesenteric glands, the leen, and other sources, and found that their clumping was ry different from the clumping of standard cultures. In ie case a typical bacillus from a fatal case of typhoid fever d not clump at all in a 1 : 20 dilution. This does not defi- tely indicate that there are different varieties of typhoid cilli. Horton-Smith has found that agar cultures of the cillus gave a much more regular agglutination than uillon-cultures, but his work has not as yet been suffi- ently extensive to allow him to state that agar-cultures are ways regular in this regard. As to the toxins he has, with unck, found that the toxin is seemingly in the bodies of the phoid bacilli themselves, as the filtrate of cultures was in- ocuous. Concerning the distribution of the bacillus he ports that the bone-marrow contained the bacillus in 4 of cases, the bacillus was in the bile in 9 of 10 cases in pure ilture. As to the kidney he found the typhoid-bacillus ly twice in 8 attempts, and considers it the exception to nd the bacilli here after death, though they probably are creted through the kidneys frequently during life. He und the bacillus only once in the lung in 5 cases. As to ie blood, he examined it in 12 cases postmortem, and in 2 btained the bacilli. One case in which the blood contained ie bacillus was an extremely rapid one in which the patient stated to have died from the severity of the disease and eart failure—evidently typhoid septicemia. Of 30 cases llected in which the blood was examined after death the acillus was found in 9 instances. Altogether there have een 117 attempts to find the bacillus in the blood during fe, and 110 of these failed. Recent work shows that it is ften easy to obtain the bacilli from the spots. As to the xcretions he notes that the feces are very infectious in the arly stages of the disease, and later become much less angerous. The urine is likely to have little infecting power the early stages, but later the bacilli are frequently found it. [D.L.E.]

2.—Robson believes that, in case of **gastric dilation** om atony when there is no malignant obstruction, either at ie pyloric orifice or in the duodenum, **gastroplication** ields very good results. He describes the various methods hich have been suggested, but believes that in the more se- ere cases a modification of Bennett's method will be most atisfactory. He has collected the records of 28 cases from terature, and finds that the mortality is 7.1%; he has oper- ted personally in one case, and the patient believes himself ured from his symptoms. In case of acute dilation, surgical perations seem to have been of little avail, nevertheless, if he symptoms are severe, Robson advises jejunostomy. **Gas- roenterostomy** is considered one of the most useful oper- tions, not only for overcoming obstruction, but also for giv- hysiologic rest to the stomach. It may be performed for imple or malignant stenosis of the pylorus, for chronic or cute dilation, or for intractable ulcer, gastralgia, or dyspep- ia. Robson believes that it matters little what special method s employed, though he personally prefers Wölfler's oper- tion. If the patient is too ill to bear general anesthesia, the peration may be done under cocain, supplemented by a hiff of chloroform. Tetany does not appear to have been enerally noticed in connection with dilation of the stomach, ut Robson has seen so many cases of this character that he egards it as a frequent concomitant of the disease. Reports f 3 cases are given. The stomach is seldom ruptured by lunt force applied to the abdominal wall, except when full. n case of rupture from any cause, no time should be lost in rresting the hemorrhage, closing the laceration and cleans- ng the peritoneum. Gunshot wounds of the stomach are ot infrequent, and perforation occasionally occurs from word or knife swallowing. Nearly all cases of spontaneous upture are due to ulcer or carcinoma. Robson believes that n every case in which **carcinoma of the stomach** is uspected the question of **surgical treatment** should be onsidered at a much earlier date than is now the custom. Carcinoma of the stomach is more favorable for radical treat- nent than carcinoma of the breast, of the tongue, or of many ther parts where its removal is undertaken with consider- ble success because undertaken early. With the improve- nent in the technic of radical operations Robson predicts that in the future we shall give our patients the chance of relief more frequently. He cites the favorable statistics of Kocher, Maydl, and Czerny. In 57 cases Kocher has re- duced the mortality of pylorectomy to 8.7%. In case of disease of the cardiac end of the stomach resection of the cardia may be indicated; if the disease has advanced so as to produce stenosis it will be beyond successful removal and gastrostomy should be performed. Robson prefers Frank's method with a few unimportant modifications. He thinks that if cases of incurable stricture of the esophagus or carcinoma of the cardiac end of the stomach were handed over to the surgeon at a sufficiently early date the mortality would not exceed 5 to 10%. In case of extensive disease not permitting gas- troenterostomy jejunostomy may be considered. Robson has performed this operation twice; at best it can prolong life but a short time and cannot be strongly advocated. He has collected 8 cases in which complete gastrectomy was done for malignant disease and 14 other cases in which at least three-quarters of the organ was removed. [M.B.T.]

3.—Banks mentions four common delusions about **carcinoma of the breast:** Women believe strongly in the influence of heredity and from this reason neglect to have suspicious growths examined; another serious error is the neglect of such growths because they are painless as is often the case during almost their entire course. Physicians some- times fail to diagnose the true state of affairs because there is no cachexia, but as this is not present in the early stages it is of no aid diagnostically. Another error is with regard to retraction of the nipple and skin adhesion. These are not present in case the disease is situated far from the center of the gland. In the differential diagnosis from chronic mastitis, chronic abscess, adenofibroma and simple cyst it should be remembered that in these conditions there is seldom glandular enlargement, there is rarely skin ad- hesion and if it is present it is not of the pig-skin type. To avoid the error of removing the breast needlessly Banks recommends always cutting into the tumor as soon as the patient is anesthetized; frequently he uses a small exploring trocar for diagnosis. He calls attention to acute mania fol- lowing operations on the breast and reports 4 fatal cases, also a case occurring after removal of carcinoma of the rec- tum. In all of the patients but one there was a history of mental derangement or a maniacal condition before the operation, and in 3 of the cases the wounds were septic. Chronic interstitial mastitis is a slow painless variety of in- flammation; throughout the breast are scattered hard masses from the size of a pea up to that of a large bean. The disease is essentially one of the climacteric period. Banks has been unable to detect connection between it and acute puerperal sepsis. In the treatment of this condition he advises pressure, gentle friction, and the local use of po- tassium iodid and mercury. He decries the use of new drugs "from the pill and capsule blast furnaces of America and Germany." Banks believes that the experienced surgeon is enabled to make a more certain diagnosis by incising a fresh piece of carcinoma than the microscopist can give. [M.B.T.]

4.—Sawyer believes that the increase of cancer has been coincident with increase in the consumption of meat, and that probably large meat-consumption may have some rela- tion to the causation of cancer. [D.L.E.]

5.—MacFadyen tested 10 organisms, the typhoid, the coli communis, diphtheria, cholera, proteus vulgaris, lactic acid bacillus, anthrax, Staphylococcus aureus, Bacillus phosphor- escens, and Photobacterium balticum, the cultures being exposed to a temperature of liquid air (—182° C. to —190° C.) for 20 hours, and then thawed and examined. The micro- organisms retained their characteristics, and those that were virulent before were quite as virulent after exposure. Also 50 liters of laboratory air were liquified by boiling the liquid air *in vacuo*, the temperature being reduced to about —210° C. The bulb containing it was sealed and afterward opened and washed with sterile broth. Plates from this broth yielded 44 organisms which had survived the exposure to a temperature of —210° C. [D.L.E.]

6.—Rankin reports the case of a physician who complained of **cyclic attacks of profound sleepiness,** with the oc- currence of a scum on the urine which proved to be phos- phates. These attacks were associated with depression and general poor health. After the occurrence of the phospha- turia the patient improved until the next attack appeared. He finally died in coma. His urine had contained some

albumin, but no sugar. At one time he drank large quantities of buttermilk, and during this time the phosphates disappeared, probably because the acids in the buttermilk neutralized the excess of phosphates. This suggests that buttermilk in large quantities, or very large amounts of acid in other form should be useful in dealing with neutral or alkaline phosphatic urine. The general appearance of the case, according to Rankin's impression, was that of diabetes in which the excess of phosphates took the place in the urine of sugar. [D.L.E.]

7.—A boy of 8 years fell while playing football, twisting his left arm under him and sustaining a **backward dislocation** of both bones of the **forearm.** All efforts at reduction, even under anesthesia, were without avail. A longitudinal **incision** was made over the extensor surface of the joint, the triceps and aponeurotic investment were divided, and it was found that the interior of the joint was occupied by a mass of the brachialis anticus muscle which was pinched tightly between the bone and coronoid process of the ulna. A portion of the displaced muscle was divided and the remainder was pushed away with a spatula, and the humerus was easily pulled into place; the triceps was then sutured and the wound was closed. The wound was kept in a plaster-of-paris bandage for about 3 weeks. Russell believes that the brachialis anticus has never entirely recovered; however, there is no perceptible weakness or defect in the limb. [M.B.T.]

8.—A boy, 2½ years old, was brought to the hospital because of constipation which had followed a bad attack of diarrhea; he suffered from very severe abdominal pain and distention, and a mass could be felt within the abdomen. Celiotomy was performed and some large glands and adherent coils of intestine were found. The adhesions were separated and a band of fibrous tissue was divided. After the operation the child was relieved of pain, but otherwise the condition remained unchanged and death followed. At the necropsy the tip of the **appendix** was found **adherent to** the right lobe of the **liver** and matted about were loops of small intestine, the colon, mesentery and enlarged glands. [M.B.T.]

9.—A boy of 15 years was admitted to the hospital with high temperature and abdominal pain, chiefly in the right iliac fossa. An incision was made in the region of the **appendix** and an abscess cavity behind the cecum was opened. On irrigating this cavity the remains of the sloughing appendix came away. After the operation the boy had rigors and sweating, and death followed 5 days after the operation, 21 days from the onset of symptoms. At the necropsy **numerous pus cavities** were found on section of the liver. [M.B.T.]

New York Medical Journal.

March 31, 1900. [Vol. lxxi, No. 13.]

1. Gunshot Wounds. A Report of Gunshot Cases in the Spanish-American War, and Deductions Therefrom. W. C. BORDEN.
2. Report of a Case of Tumor of the Cerebellum with Drainage of Fluid through the Nose. G. W. MCCASKEY.
3. Arthritis Deformans and the Benefits of Electrical Treatment. MARGARET A. CLEAVES.
4. Spontaneous Discharge of Cerebrospinal Fluid from the Nose. W. FREUDENTHAL.
5. Diabetes Mellitus, with Especial Reference to its Treatment with the Double Bromid of Gold and Arsenic. GEORGE D. BARNEY.
6. Is there a Rheumatic Periostitis? ARTHUR STERN.
7. Leukocytosis. J. B. BURCH.

1.—Borden treated 230 **gunshot injuries** during the Spanish-American war with only one death. Most of the patients were treated at the United States Army General Hospital at Key West. The condition of the wounds in general was remarkably good on arrival at the hospital; they had been dressed either with material from the "first aid packet" or at field hospitals, or on board ship. All perforating and penetrating wounds which had been simply covered with a dressing were practically aseptic; lacerated wounds treated in the same way were in excellent condition, though many were suppurating. All wounds of whatever character which had been subject to operative treatment other than simple application of dressing, were suppurating. Borde believes from this experience that it should be laid down a fixed rule of military surgery that operative interventic in the field should be limited to cases of absolute necessit when the life of the patient is at stake. The patients shou be transferred to general hospitals and operated on und the favorable conditions of modern methods. Of the wounc which came under his care, 169 were characteristic perfora ing or penetrating wounds produced by small caliber bullet there were 21 shell wounds, all of which were lacerated an infected. He reports a case in which the right elbow wa lacerated by a shell causing a compound comminuted fra ture; amputation was followed by recovery; the operatio was not performed until 9 days after the injury. In a secon case resection of the left femur was successfully performe for compound comminuted shell fracture. Operation i usually condemned in such cases, but the favorable result i attributed to constant care and careful antisepsis; shel wounds are lacerated and infected and require antisepti rather than aseptic treatment. Borden speaks highly of th use of the x-rays in the diagnosis of the location of all bullets shrapnel or fragments of shell. In 7 cases of injury fron shrapnel all but 3 suppurated. [M.B.T.]

2.—McCaskey reports an interesting case of **tumor o the cerebellum in a woman aged 22 years.** Abou two months before death the patient began to have a fre discharge of serous fluid from the right nostril, which ran a a steady stream, or dropped rapidly, and amounted to severa ounces per day. When this discharge began there had bee absolute deafness for about 3 months, but within one hou thereafter her hearing returned in the right ear and remained until death. The discharge was so profuse in its beginning that the patient was almost strangled, and after its occurrence a severe conjunctival injection which she had disappeared, and her headaches, which had been localized behind the left ear and in the left temple, were noticeably lessened. Some months before death the patient began to have convulsions and finally died in a convulsion. These convulsions were clonic and in the final one deep coma was present throughout. He calls attention to the fact that the systematic application of an ice-bag to the head was the only measure of treatment that was in any way palliative; it greatly reduced the pain and nervous irritability. The surface temperature of the head remained lowered for a day or more after the applications had been removed. The autopsy showed that the tumor apparently originated from the anterior margin of the left lobe of the cerebellum pressing strongly on the pons and medulla and causing considerable lateral displacement of these structures. The tumor was considerably firmer than normal brain-tissue and around it there had collected about one ounce of clear cerebrospinal fluid, which escaped when the tentorium was incised. The base of the skull against which the tumor pressed was eroded down to the cancellous structure. After hardening the brain in formalin solution it was found that the tumor was really not continuous with the cerebellum, but only in contact with it, a few loose shreds of connective tissue being its only attachment with the cerebellum. It lay imbedded in a cavity which it had formed by its own pressure and out of which it was readily shelled. Some of the pial vessels which send their branches down in the cortical substance of the cerebellum, passed directly over to the tumor and were freely distributed in its substance, which fact definitely showed its vascular relation to the cerebellum. Histologically the tumor proved to be a mixed angioma, associated in places with a preponderance of connective tissues of pial origin and possibly beginning sarcomatous degeneration which might ultimately have placed it in the group of angeiosarcomas. It is suggested that the tumor may have had its inception in an active congestion or localized leptomeningitis following upon an attack of influenza. At the autopsy there was discovered a circumscribed meningo-encephalitis in the orbital surface of the left frontal lobe. There was a greater intensity of optic neuritis on the side corresponding to the tumor. This has been a not uncommon experience in McCaskey's cases of basal brain-tumor, and he suggests that in the absence of definite localizing signs relating to one or the other hemisphere as the seat of the lesion as in the indifferent zones, it would seem as though this point ought to be of some diagnostic value. He does not believe an optic neuritis to be primarily, or even principally, due to simple

crease of intracranial pressure; he believes it to be quite much a chemical as a mechanical phenomenon. Another int of possible diagnostic interest suggested by this case as the fact that there existed vascular tumor with an crease in the tinnitus synchronously with each contraction the heart. [S.M.H.]

3.—Cleaves reports two cases of **arthritis deformans** curring, one in a woman aged 51, and the other in a woman ed 19 years, illustrating the beneficial effects of electrical eatment. [S.M H.]

4.—Freudenthal had under his care a woman aged 50 ars, who in October, 1898, following an attack in which she id very high fever, began to suffer from steady **dripping om her nose.** The year before the dripping began she mmenced to complain of pain in her forehead above the idge of the nose, a pain which was persistent night and y, and almost drove her out of her mind. When she came ider the author's care, 8 months later, she had a dripping watery fluid from her nose night and day, which was in-eased when her head was inclined forward and when she y on either side sometimes ran a continuous stream. On amination of the nares by Killian's method it was observed at while she was standing with her head bent slightly for-ard that the discharge collected between the middle turbin-ed and the septum and thence ran down to the vestibulum. here was nothing abnormal in the left nostril save that it as apparently saturated with moisture. The right tonsil as remarkably dry. The flow of fluid ceased temporarily ce and was immediately followed by symptoms of brain-essure. As soon as the flow began again these pressure-mptoms disappeared. Up to the time that this report was ade the patient was feeling quite well, and the fluid was ll dripping. She is bright and cheerful; her sense of smell lost. The symptoms of pressure upon the brain suggest a mor. The pressure-symptoms would undoubtedly be more arked if the **cerebrospinal fluid** did not escape and us diminish the intracranial pressure. The tumor is obably situated on the hypophysis cerebri. The presence an optic neuritis speaks for this location. That this dis-arge is nothing but cerebrospinal fluid is supported by the esence of a reducing substance in the fluid (0.05% sugar), d by the fact of the constancy of the flow. In the major-of these cases the left nostril is the one that discharges e fluid. Treatment is hopeless. [S.M.H.]

5.—Barney, in the majority of cases of **diabetes melli-tus,** which he has treated by the double bromids of gold d arsenic, has seen rapid and marked benefit follow. The antity of sugar is notably diminished, the thirst grows less perative, mental depression disappears and the body trition improves progressively. The drug should be ad-inistered after meals, beginning with 5 drops and increas-g the dose 1 drop each day thereafter until the limit of ysiologic tolerance is evident. He attaches several cases, monstrating the benefit of this cure. [S.M.H.]

6.—Sterne answers the question "Is there a **rheumatic eriostitis?**" affirmatively, basing his view upon a case ported by himself, as well as some cases observed in liter-re. [S.M.H.]

7.—Burch says that a fairly accurate average of the **nor-al relationship of the leukocytes** may be computed the following manner: There should be 2 polymorphonu-ear leukocytes to each microscopic field; 1 small lympho-te to every 5 fields; 1 large lymphocyte to 10 fields, and 1 sinophile to 20 fields. This estimate, to be of any practical lue, necessitates counting the number found in at least 25 lds, or better, 100, and averaging the total amount. This proximate method is suggested to relieve one from the tiguing process of counting by means of a Thoma-Zeiss paratus when sufficient time is lacking. He briefly relates veral cases of different kinds in which he has studied the ukocytes. [S.M.H.]

April 7, 1900. [Vol. lxxi, No. 14.]

Puerperal Septicemia: Especially its Bacteriology and Treatment by Serum. LOUIS A. HERING.
Chronic Carbon-monoxid Poisoning, with Report of an Illustrative Case. THOMAS J. YARROW.
Gunshot Wounds. A Report of Gunshot Cases in the Spanish-American War, and Deductions Therefrom. W. C. BORDEN.
Some Critical and Desultory Remarks on Recent Laryngological and Rhinological Literature. JONATHAN WRIGHT.
Creasote. Some Clinical Observations on its Use in Various Conditions. FREDERICK CLEVELAND TEST.
The Treatment of Gouty Deposits. E. L'H. MCGINNIS.
A Critical Study of the Justus Blood-Test for Syphilis. DAVID H. JONES.

1.—Hering discusses the bacteriology and serum treatment of **puerperal septicemia.** The infection in these cases is frequently a mixed one, and the failure in the action of the serum may be attributed to: (1) old serum; (2) strictly antistreptococcic serum can only be efficient against toxins produced by streptococci; it must be useless when we have a mixed infection to deal with; (3) delay in inaugurating treatment with the serum and administering it in insufficient quantities; (4) overstimulation of the patient. He details his method of general treatment in these cases. [W.K.]

2.—Yarrow details the various **tests for carbon monoxid.** He then reports the case of a man who had anorexia, nausea, frontal headache, rapid pulse, and symptoms of indigestion, with pains in the abdomen, and constipation. He was also very weak. There was an odor of illuminating gas in the house, and spectroscopic examination of the blood of the man showed absorption bands of carbon-monoxid hemoglobin. The same reaction was found in the blood of a sister of the patient, but not in other members of the family. This sister and the patient were in the habit of sleeping in poorly ventilated rooms. The patient's blood showed some reduction of the red cells, a moderate leukocytosis, and 8% of myelocytes. He was advised to remove to the suburbs, where he became entirely well. Yarrow recommends more frequent attempts to discover carbon-monoxid in obscure cases, and describes the method of Vogel for detecting its presence in air. This is done by diluting fresh normal blood with distilled water until the fluid has a faint, red tinge. A few cc. are placed in a flask and the flask is shaken in the suspected atmosphere. If carbon-monoxid is present the blood becomes a bright rose red. Spectroscopic examination will confirm the rough test. [D.L.E.]

3.—A number of cases are reported illustrating the **effects** of jacketed **bullets** on various parts of the body. The wounds of entrance and exit were generally small; wounds of arteries and nerves were infrequent; wounds of the joint capsule, even if aseptic, tended to produce impaired function; bullets often passed through important regions without injuring important organs; wounds of the body cavities were noticeable for the absence of grave symptoms and for rapidity of recovery. [M.B.T.]

4.—Wright, in discussing Cornet's experiments, decides that Cornet has shown that it is possible to infect guineapigs with tuberculous dust by means of a specially constructed apparatus, but that Cornet himself seems to be immune, and that his experiments furnish proof that the tubercle-bacillus is not a potential factor in the production of tuberculosis, though it is an indispensable one. He insists, also, that we must not regard the tonsils and adenoids as the exclusive portals of entry in the pharynx for the tubercle-bacillus. Lewin believes that he has found latent tuberculosis in 5% of cases in the pharyngeal tonsil. Wright states first that this merely indicates the percentage in the locality studied, and when we consider the great frequency of tuberculosis a latent tuberculosis in 5% of persons with adenoids does not seem to indicate any very special susceptibility in such structures. He also criticises Lewin for not having used animal inoculation to demonstrate the tuberculosis, and for depending largely upon the histological appearance, and the demonstration of the bacillus by staining. Wright does not deny that these tissues may be and are infected with tuberculosis, but he believes that there is as yet no satisfactory knowledge concerning the frequency of tuberculosis in this situation. He refers to his own results which were obtained from an examination of 54 faucial tonsils, 51 pharyngeal tonsils, and 15 lingual tonsils. Twelve of these cases were studied by animal inoculation. In none of the whole series of cases did he get any evidence of tuberculosis, either by inoculation or histological examination. It is possible that the relative frequency of tuberculosis in Europe may explain the difference between his results and those of Lewin. [D.L.E.]

5.—Test reports a series of instances of **intestinal indigestion,** and similar cases, which improved upon the use of creasote. One case was epilepsy, in which the seizure seemed to be brought on by gastrointestinal disturbance. He has also found it useful in whooping-cough, acting, he suggests, by direct antisepsis of the pulmonary mucus. He believes in giving the drug in small doses frequently repeated. [D.L.E.]

6.—McGinnis treated **gouty tophi** by wrapping absorbent cotton about the joints, saturating this with a solution of lithium iodid, and then applying the galvanic battery. Two cases have been treated with entire success. [D.L.E.]

7.—Jones has examined 53 cases, 35 of them syphilitic, 18 control cases. None of the control cases gave a reaction. Of the syphilitic cases, 17 were active syphilis not under treatment, 13 responded, and 4 were negative. The case of active **syphilis** under treatment did not respond, but 8 cases of chancre with adenitis gave 6 negative reactions and 2 positive. The 2 positive cases gave a reaction only after repeated tests; 7 cases of chancre without adenitis gave only 1 positive reaction. He believes that the test is not by any means pathognomonic, but that it is an aid in diagnosis. [D.L.E.]

Medical Record.

March 31, 1900. [Vol. 57, No. 13.]

1. Muscular Rheumatism. I. ADLER.
2. Observations on the Treatment of Cancer. A. R. ROBINSON.
3. The Cardinal Pathognomonic Sign of Fracture of the Lower End of the Radius (Colles'). MARTIN W. WARE.
4. Locomotor Ataxia. B. C. LOVELAND.

1.—Adler concludes his article in the following terms: "The so-called **muscular rheumatism** is, according to probability and analogy, an infection with germs, most probably streptococci, possibly staphylococci of attenuated virulence. A certain degree of disposition towards this class of affection is recognizable. This disposition is augmented by indolent and sedentary habits and improper nutrition, especially immoderate and rich eating and alcoholic beverages. Climatic influences may also aid the development of the condition. Anatomically it is an interstitial myositis, usually accompanied by inflammatory processes in the adjacent tissues, especially the nerves, giving rise to an interstitial neuritis. Cellular infiltration, connective tissue indurations and sometimes complete fibrosis of the muscles follow the process. These muscular changes persist and often give rise to more or less frequent relapses and to many functional disturbances. Medicinal treatment is indicated in the acute stage and mechanical treatment in the form of massage after this stage has passed." [S.M.H.]

2.—Robinson believes that there is no drug, animal extract, serum or toxin which given internally by any avenue of the body can be relied upon for the **cure of cancer** of any part of the system. He does not consider the knife the only reliable agent in the treatment of cancer; certain caustics, judicially chosen and properly applied, may attack depositions of the growth inaccessible to the knife and in these cases should be employed even if the knife is necessary to prepare the way for their use. In some cases, therefore, both the knife and caustic should be used and in some others, curettage followed by a caustic. The majority of cases of cutaneous cancer may be removed with the greatest certainty and with the least deformity by caustics, provided patients are seen before the lymphatic glands are invaded; the knife should be used when these glands are involved, as well as in some other cases of external cancer. [S.M.H.]

3.—Ware believes that undue prominence is given to silver-fork deformity as a sign of **Colles' fracture.** In an experience of 300 cases he has encountered it in less than 10% of the cases. He calls attention to the well-known anatomic fact that the styloid process of the radius is at a lower level than the styloid process of the ulna. In case of Colles' fracture this relation is not normal. The first maneuver in the diagnosis of supposed Colles' fracture should be leveling of the styloids. Displacement of the styloid process of the radius from its normal relation is regarded by Ware as the cardinal pathognomonic symptom of Colles' fracture. [M.B.T.]

4.—Loveland communicates a short article on **locomoto ataxia,** giving brief abstracts of one or two cases which be long to the so-called benign variety. [S.M.H.]

April 7, 1900. [Vol. 57, No. 14.]

1. Traumatic Hemorrhages into the Spinal Cord. PEARC BAILEY.
2. Some Remarks on the Treatment of Syphilis. CHARLE J. PROBEN.
3. Treatment of Rheumatism at the New York Hospita HUGHES DAYTON.
4. Summary of Cases of Carcinoma and Sarcoma Treated b the Writer's Method of Cataphoric Sterilization t January 15, 1900. G. BETTON MASSEY.

1.—Bailey divides the **injuries of the cord** into (1 pressure from displaced or broken structures; (2) pressur from extra or intradural hemorrhage, and (3) primary hem tomyelia. The form of injury to which he devotes speci attention is the last. The condition is relatively frequent, an it is of great importance to diagnose it properly, as surgic procedures in such cases are wholly useless, and yet, if nc properly diagnosed, they are likely to be operated upo Diagnosis is also important because the prognosis is favo able. Its frequency is not well determined as yet. Hemo rhage usually occurs into the gray matter, chiefly into th ventral and dorsal horns. Large hemorrhages may be su rounded by areas of softening, but very frequently the hem orrhage seems to be purely mechanical in its effects. Loca ized hemorrhages are most frequent between the fifth cervic and second dorsal vertebrae. The hemorrhages are usuall localized or focal, though there is another type in whic there are disseminated hemorrhages scattered throughou the whole spinal axis. Bailey has found no records ex cept his own of such a condition in adults as the resul of trauma, but he has recorded one case, and now record two others. The vertebral column was injured in two case but the bone injuries were at one point only, and the hemo rhages were widely disseminated, and apparently had no re lation to the fracture of the spine. Clinically primary hem tomyelia is indicated by paralysis almost immediatel following injury, chiefly affecting the muscles of the upp extremities, the legs becoming paralyzed probably as a resul of pressure from the hemorrhage. At first the paralysis i flaccid, the paraplegia complete, and the kneejerks lost; late the kneejerks return, the legs become spastic, and the patien recovers power of locomotion; the recovery of the arms i usually much less complete, or is lacking. There is also com monly disassociation of sensation, the temperature sensatio being especially effected. The recovery of the legs is often as tonishingly rapid. Oftentimes it is impossible to distinguis between small focal hemorrhages and large focal hemorrhage but small focal hemorrhages rarely cause death, and are diag nosed chiefly by the fact that symptoms arise rapidly an seem to be due to a central lesion of the cord in the cervica region. An instance of such a case is recorded. Baile attributes the condition called diplegia brachialis traumatic to hematomyelia and not to extradural hemorrhage, largel because extradural hemorrhage could not injure the root forming the brachial plexus without at the same time causin paralysis of other portions of the body. Small focal hemor rhages do not endanger life, while the larger ones do at times As to prognosis oftentimes the paralysis of the legs disap pears very largely and with astonishing rapidity. Anesthesia if it occurs, is usually transitory. Surgical treatment shoul not be undertaken, as it can do no good. Rest in bed is th first essential, even if the patient is able to walk. The use o iodids and electricity are chiefly important. Disseminate hemorrhages cannot be satisfactorily diagnosed. [D.L.E.]

2.—Proben recommends heroic specific treatment, ever in cases in which the diagnosis of **syphilis** is questionabl if there is active need for rapid improvement. The iodid are harmful in cases of optic neuritis and in the wasting o pulmonary tuberculosis. Extremely large doses at time cause rapid wasting in others. [D.L.E.]

3.—The treatment described is in acute **articular rheu matism.** Milk diet, sodium salicylate combined wit sodium bromid if the salicylate causes mental excitement i recommended. Methyl salicylate is used locally. In sub acute rheumatism give a liberal diet with alkalies or iodids and locally methyl salicylate and the hot-air bath. In chroni

umatism much the same treatment as for the subacute. muscular rheumatism, salol and phenacetin internally, ally, methyl salicylate and the cautery, or belladonna. L E.]

.—Massey reports that since 1893 he has applied this thod of treatment to 37 **cancerous** growths; 7 were rable cases; of these, 4 he considers cured, 1 probably ed, and 2 not cured. Of the inoperable cases, 30 in num-, 6 were cured, 2 probably cured, 2 probably not cured, 20 not cured. [As an example of the uncertainty of arent cure in carcinoma may be mentioned the case ently abstracted in this department, in which secondary wths did not appear for 9 years. We may be allowed to ress our profound conviction that it is at present danger- to consider anything but the knife of value in cases that still operable. D.L.E.]

Medical News.

March 31, 1900. [Vol. lxxvi, No. 13.]

Myocarditis in Infancy and Childhood. HENRY KOPLIK.
Uterine Fibroids Complicated by Pregnancy. WILLIS E. FORD.
Toxins from a Chemical and Pathogenic Standpoint. A. E. AUSTIN and I. H. CORIAT.
Alcohol as a General Stimulant and Heart Tonic; Its Use to the Animal Economy in Health and Disease. T. J. HILLIS.
The Treatment of Whooping Cough. HENRY COGGESHALL.
A Case of Pneumohydrothorax with Great Permanent Displacement of the Heart. CHARLES ROSS JACKSON.

.—Koplik calls attention to the great importance of care- **study of the heart during the course of infec- us disease,** in order to detect as early as possible the elopment of inflammatory changes in the heart-muscle. spite of the little notice that has been taken of this impor- t complication by clinicians in general, the studies of ious pathologists have proven that it is by no means un- mmon, and in fact a study of the literature only confirms universal presence of heart changes at autopsy. Myo- ditis must therefore be regarded as a complication that always threatening and sometimes fatal. He reports eral cases in which it was possible clinically to determine presence; thus, in a child of 6, suffering from strepto- cic sore throat, there was a sudden attack of faintness, lliness, and precordial distress. The pulse was irregular flickering, but responded well to stimuli. Similar attacks urred from time to time during the course of convales- ce, and are without question due to the toxin of the ease. He reports another case in which similar attacks e occurred for intervals of more three years in a child who early infancy had severe malaria. Similar attacks have been noticed in pneumonia and in one of the cases plik reports, the heart-muscle was found to be very flabby he autopsy. They are not infrequent in pertussis, and in s disease are probably due in part to the mechanical strain sed by the coughing. As in children a considerable ree of repair is possible in the heart-muscle, and perhaps ual regeneration, the prognosis is always more hopeful n in adults. The most serious cases are those due to an erent pericardium. The condition may be suspected if the course of an infectious disease there are attacks of itness, collapse, weakness of the heart, partial or complete appearance of the heart-sounds, and irregularity of the se. Treatment should be employed very carefully, the ect being not to overwhelm the heart with stimulants but her to foster such portions as still maintain their integrity.]

.—Ford details the history of six cases in which **uterine roids complicated pregnancy,** and thinks that, in a eral way, the rule may be established that where the er third of the uterus and the entire cervix are free from neoplasm, the physician may safely await the result of pregnancy, even if the fibroid is of considerable size. If eoplasm of any considerable size is found opposite the rnal os, especially if it is large enough to in any way ck the birth canal, then the question as to waiting until child is viable and doing a Cesarean section, or whether tal hysterectomy must be done early, is determined by the position of the fibroid, whether it is in the anterior or posterior wall of the uterus. An impacted fibroid requires an early hysterectomy unless it can be released, or unless the fibroid is high enough up so as not to involve the lower third of the uterus to any considerable extent. The dangerous position for the fibroid is in the anterior wall of the uterus, low down, because it would be difficult to do a Cesarean operation successfully at any time. A uterus sometimes ruptures because of a neoplasm of no very great size which involves the lower segment of the uterus and the cervix; and unless this accident is prevented by very early operation, it is probable that in most cases of rupture of the uterus sudden death occurs and the cause will be found to be a fibroid tumor. After a delivery at term, or a miscarriage at any time, if the uterus has a fibroid which becomes infected, a hysterectomy should be done at once. In every case of a fibroid uterus when pregnancy occurs the patient should be carefully watched, and especially if the neoplasm is in the lower half of the uterus. A subperitoneal fibroid, especially if it has a pedicle and is attached to the upper half of the uterus, is not likely to do harm unless sepsis follows delivery. Such a fibroid can be removed before delivery without necessarily producing a miscarriage. [W.K.]

3.—Austin and Coriat have undertaken a careful study of the **chemical and pathogenic properties of toxins** produced by various microorganisms. They discuss first the work that has been done on this subject by various investigators and give in considerable detail the methods employed by them for the extraction of the toxins. The first experiment was made with a liter of typhoid culture that was filtered, precipitated with lead acetate, and treated according to Brieger's method. The final production was then precipitated with gold and platinum chlorid. These crystals were then freed from the metal by dissolving them in water and passing a solution of sulphuretted hydrogen through the solution. A rabbit was injected with small doses and failed to react; .150 mgm. was then given, and within 10 minutes the respirations had become 460, in a quarter of an hour there was paresis of the hind legs, and slight convulsions. During the ensuing week the animal was sluggish and had slight diarrhea. It died on the eighth day, and at the autopsy, changes that possibly indicate the existence of a peritonitis were found. There was also hyperemia of the intestines and the kidneys. The second experiment was made with the same substance. Crystalline precipitates were obtained by various methods, but no injections were made. The next 4 experiments were each made with a liter of diphtheria-culture. In the third, .04 grams were injected into a kitten, followed by slight general reaction. Eight days later this kitten and a control were inoculated with pure cultures of the diphtheria bacillus, the control dying 3 days earlier than the other. In the first kitten a streptococcic infection was discovered. The second had congestion of the kidneys. In the fourth experiment a slight reaction was produced by a moderate dose, and the fifth, a kitten, was killed by two doses, one of .2 and the other of .4 grams. There was paralysis of the limbs and necroses in the liver, lungs, and spleen. In the sixth experiment there was merely a slight reaction following the inoculation with .1 grams. The authors regard these toxins as proteids resembling casein. They are not very stable, cannot be distilled, and exist, of course, in exceedingly minute quantities. The experiments apparently show that the comatose condition of typhoid fever and the paralysis of diphtheria are, as has been suspected, chiefly due to the action of the toxins. [We congratulate the authors upon having entered this difficult field of research concerning which so little definite knowledge is at present in our possession. J.S]

4.—Hillis continues his paper upon the **value of alcohol.** He regards it as the stimulant of greatest value in tiding a patient over a crisis in pneumonia, and as a quick and valuable tonic and food in the depressed states of typhoid fever, particularly when the stomach rejects all other forms of nourishment. In these conditions, he favors the administration of *old* whisky in tablespoonful doses, diluted with a little cracked ice or perhaps a small quantity of water every four or five minutes according to the ability of the patient to retain it. As much as 4 ounces may be given in the course of an hour and should then be followed by some of the more slowly acting foods, such as bouillon, at longer intervals. In chronic disease, alcohol may be of value by

promoting the production of fat and thus combating the cachexia. This is especially true of malted liquors. In health, on the other hand, when the body is sufficiently nourished, alcohol merely serves to exhaust the liver and kidneys in the effort to excrete it. No other heart-stimulants are of as much value as alcohol in the crises or states of collapse of severe infectious disease. In conclusion he believes that alcohol is sometimes of the greatest value; at others a serious poison. It should not be given if it irritates the stomach, should not be taken before severe exertion or after eating, and is not capable of stimulating the brain to increase formulation of thought. [J.S.]

5.—Coggeshall, having as a result of clinical observation, had reason to suspect that the paroxysms of **whooping-cough** are sometimes produced by irritation of the nasal mucous membrane, has attempted to check them by cocainization of this region. He has treated 4 cases in this manner and in all the paroxysms were stopped for periods of 24 hours to 2 days. In one case the disease was apparently aborted. [J S.]

6.—Ross Jackson reports a case of left **pneumohydrothorax** in a boy of 17, with characteristic physical signs and remarkable dislocation of the heart to the right side; the cardiac impulse being observed in the fifth interspace in the nipple line on the right side. The displacement was evidently due in part to a pleurisy, which had served to bind the heart in its abnormal position. [J.S.]

April 7, 1900. [Vol. lxxvi, No. 14.]

1. Cancer of the Breast. ROBERT ABBE.
2. Malignancy. ARTHUR L. FULLER.
3. Causes, Diagnosis, and Treatment of Cystitis. RAMON GUITÉRAS.
4. Hypnotism. F. X. DERCUM.
5. A Case of Spontaneous Rupture of the Uterus. BRADFORD WOODRIDGE.

1.—Abbe believes much progress toward the **cure of mammary cancer** has come from the recognition of the anatomic distribution of the lymphatics. Clinically it is observed that the segment of the mammary glands which is the seat of the disease determines which series of the lymphatic channels will be most involved. The axillary section receives by far the greater part of the infection. Examination of 100 section cases has demonstrated that the axillary glands are practically always involved, hence good surgery demands the entire dissection of the axillary lymphatics. He considers that there is great danger of infection of the wound by cutting infected glands and lymphatic channels, or by discharging into the healthy wound infected cells squeezed from the parts under the process of removal. He urges the radical treatment of these cases. His personal experience shows a total of 123 cases and not one death from operation. Even in cases in which complete eradication is impossible, he finds these two advantages over nonoperation: 1. The pressure of the cancerous masses in the axilla and neck, producing inevitably edema of the arm and extreme neuralgia, is not seen. 2. The cachexia, formerly so distressing a feature of persistent absorption, is now rarely seen even when recurrence ensues. [W.K.]

2.—Fuller discusses the **nature of malignancy,** which, according to him, is characterized by dissemination, either through the lymph or bloodvessels, and by a peculiar form of cachexia. The malignancy of tumors, that is the reason why certain forms are malignant and others are not, depends apparently upon the type of cell; the malignant tumors having cells that possess certain characteristics of those found in the embryo. He calls attention to the fact that the cachexia of carcinoma resembles that of Addison's disease, of myxedema, etc., that is a cachexia produced by the disturbance of functions of certain of the ductless glands, and it appears, therefore, that these glands have as one of their duties the neutralization af certain poisons produced by the cells of the body. It therefore seems reasonable to suppose that the cachexia of carcinoma is due to the altered secretion of the tumor-cells. Reasoning from analogy, Fuller believes that the thymus gland probably has for its function the destruction of the deleterious products of the metabolism of the embryonal cells, and that as these cells gradually decrease during the growth of the individual, the thymus also undergoes atrophy. As the cancer-cells are embryonal in type, suggests that injections of thymus extract might be of serv by neutralizing the products of their metabolism. [S.S.]

3.—Guitéras, in speaking of acute **cystitis,** says that it often confounded with posterior urethritis, prostatitis, sei nal vesiculitis and vesical irritability. In some cases t cystoscope is required to clear up the diagnosis. In t etiology of chronic cystitis, any condition which gives r to congestion plays a most important part as an etiolo factor. As a direct cause it may result from urethral ext sion or may be due to stricture, to prostatic hypertrophy, tumor, to stone, and very commonly to tuberculosis. In ea of these a proper consideration of the individual charact istics of each case will lead to the proper diagnosis, and t institution of the treatment suited to the case. Thus str tures must be dilated, stones removed, tumors excised, a any other exciting cause gotten rid of, before we can hope bring about a cure. The treatment of acute cystitis consi in the administration of hot sitz baths, hot rectal douches, alkaline or mild antiseptic diuretics, of antispasmodics, a finally, in the use of irrigations, probably the best of whi is potassium permanganate, beginning with dilutions 1 : 4,000 and gradually increasing the strength as the patie can bear it. [G.B W.]

4.—Dercum divides **hypnotism** into three stages: Catelepsy; (2) lethargy, and (3) somnambulism. Phys logically, the condition resembles sleep, a condition caus probably by the separation of the dendrites from the ner cells. The hypnotic sleep is first induced by fatigue; example—of the eye-muscles; second, by suggestion. Duri its continuance, communication with the outer world tak place through the ear alone. Other impressions are not p ceived, and therefore spoken suggestion produces a profou effect. Dercum reports the case of a young woman, with hysterical pain in the shoulder, who had been treated hypnotic suggestion. He calls attention to certain preca tions that should be observed by the hypnotizer. First, b fore awaking the patient he should suggest that he or s can be hypnotized only if he or she is personally willing it to be done. Witnesses of the same sex should always present. In regard to the value of hypnotism, he belie that it can be of service only in hysterical and neurasthe persons, and although it may cause certain functional sym toms to disappear, others frequently develop and take th place. [J.S.]

5.—Woodbridge reports a case of **spontaneous ru ture of the uterus during labor** resulting in dea about 30 hours after the onset of the trouble. The abdom was opened 2 hours after death, revealing a jagged, tra verse tear across the top of the uterus through which the l hand and shoulder of the child projected into the abdor nal cavity. The only known possible cause for the ruptu was a blow on the pregnant uterus, two years before, seve enough to have hastened labor. As a result there may ha been a weakening of the uterine muscle at the point of inju [W.K.]

Boston Medical and Surgical Journal.

March 29, 1900. [Vol. cxlii, No. 13.]

1. Typhoid Spine. R. W. LOVETT and CHAS. F. WHITTINGT
2. Idiopathic Pneumohemathorax, with Recovery Aft Aspiration. ELISHA S BOLAND.
3. The Open or Operative Treatment of Fresh Fracture Is it Ever Justifiable? Unselected Cases of Fractu Tabulated in Order to Show the Results Many Ye Following Treatment. CHARLES L. SCUDDER.
4. Bradycardia, with Intermittent Albuminuria. ANDR H. WHITRIDGE.

1.—**Typhoid spine** is a condition following ente fever, characterized by great pain and tenderness of p of the vertebral column, simulating rather closely Pot disease. This condition is considered by some authorit as a neurosis and by others as a spondylitis or a perispon litis. The case reported was at first regarded as a neuros and would have been thought such still if it had not be for the appearance of a rather marked kyphosis. T patient gave a rather unsatisfactory history of typhoid, b examination of his blood showed a marked Widal reacti He came under observation because of the spinal troub

hich in spite of treatment with plaster jackets and other pparatus dragged on for some six months. Besides the ain and tenderness, there were increased kneejerks, slight nkle clonus, two anesthetic patches on the outer side of ach thigh and impaired muscular power in the use of the gs. It was thought that there was probably some pressure n the cord, but also a large hysteric element; however, he final result was excellent, the patient making an almost bsolute recovery. [G.B.W.]

2.—Boland reports a case of **pneumohemothorax** occurring in a man 34 years of age, without any discoverable cause or its development. One night he awoke with a sharp pain a his chest, and next morning on being examined was found o have a pneumothorax. In the course of a day or so it was ound that a fluid was accumulating in the lower part of the ir-filled chest-cavity, which fluid on being withdrawn by an spirator was found to consist of pure blood, but darker than ormal in color. About 34 ounces were withdrawn at this irst aspiration, the line of flatness being reduced 2½ inches. At a second aspiration 39 ounces were withdrawn and from his time on the patient made a good recovery. [G B.W.]

3.—Scudder concludes his paper on the **operative reatment of fresh fractures** by the publishing of a umber of elaborate tables. [G.B W.]

4.—Whitridge reports the case of a man, 60 years of age, vho had rheumatism and who used tobacco and whisky to xcess. He had polyuria. Something over a year ago a ipoma was removed from the right side of the neck hrough an incision 5 inches in length. On one occasion, oticing a slight shortness of breathing, he counted his ulse; it was found to be 32. Physical examination revealed othing particularly abnormal excepting a soft systolic murmur transmitted towards the axilla. The pulse was trong. The urine on one occasion was examined and no lbumin found; on another occasion there was a great excess f albumin. In regard to the cause of this **bradycardia,** he author suggests the possibility of arteriosclerosis affecting the coronaries, and particularly of the inclusion of the ight pneumogastric nerve in the scar of the wound. [J S.]

April 5, 1900. [Vol. cxlii, No. 14.]

. On Distortion of the Spine; with the Report of Two Cases of Diplegia Brachialis Due to this Cause. J. W. COURTNEY.
2. The Conservative Operative Treatment of Fibroids; Report of Three Cases. W. L. BURRAGE.
3. Two Cases Illustrating Conservative Operations for Uterine Fibroids. R. A. KINGMAN.
4. A Peculiar Case of Adenocarcinoma of the Body of the Uterus. AGNES C. VIETOR.
5. A Case of Extrauterine Pregnancy, with Operation. FREDERICK W. JOHNSON.
6. Empyema of Frontal Sinus. JOHN D. PAIGE.

1.—Courtney, after a brief description of the symptoms indicating partial luxation, or **distortion of the spine,** hat is, "the condition produced by a force which if it had continued to act would have caused a true luxation," reports two cases. The first, a man of 65, after drinking a considerable quantity of whisky, fell backward down stairs, striking the back of his head and shoulders. He became unconscious and remained so for several hours. Upon recovery he found that movement of the left arm was considerably impaired, and of the right arm was partially impaired. Movement of the legs was normal. Upon examination, the following morbid phenomena were noted: The sixth cervical vertebra was tender; flexion and extension of the head caused pain in this region. There was loss of grasp on both sides and practical abolition of certain movements in the arm. Sensation was not affected. The temperature ranged between 98° and 99°. A diagnosis was made of distortion of the spine with symmetric injury to the motor roots of the seventh and eighth and first dorsal nerves. The patient was treated by rest with immobilization and recovered in the course of 21 days. The second patient, 39 years of age, while intoxicated fell from a car and struck the back of his head. When examined in the hospital it was observed that he lay upon his left side, with the head turned to the left and bent towards the left. There was tenderness along the cervical spine, most intense on either side of the spinous processes. Movement in the arms was normal excepting of those muscles supplied by the seventh and eighth cervical and the first dorsal nerves, that is, extensors of the elbows, flexors of the wrist, fingers, and small muscles of the hand. The changes were more pronounced on the right side. The kneejerks were lively. There was spurious ankle clonus on the right side. Sensation was not disturbed. The temperature was the same as in the former case. The patient subsequently developed slight atrophy in the affected muscles, and there was pain in the spine and in the arms. He was discharged at the end of 28 days nearly well, and three months later showed no abnormality. [J.S.]

2.—Burrage reports 3 **operations for fibroids.** 1. Abdominal myomectomy; removal of 11 subperitoneal nodules and right ovary, weighing together 1½ pounds. 2. Vaginal myomectomy; removal of fibroid nodule, 3 cm. (1¼ inches) by 1½ cm. (⅞ inch), of subperitoneal evolution from the front wall of the uterus by anterior colpotomy. 3. Morcellation of submucous nodule at fundus, and polyp with pedicle springing from fundus. [W.K.]

3.—Kingman reports 2 cases of **conservative operations for fibroids.** At the first the tumor was removed with morcellation forceps and the patient left the hospital well in less than 2 weeks. In the second case myomectomy was done by the abdominal route, the ovaries resected, leaving a small amount of healthy tissue with each. Recovery was rapid and without special incident. [W.K.]

4.—Vietor reports a case of **adenocarcinoma of the body of the uterus,** the first symptoms of which were noticed 9 years after the menopause. Four years after this, treatment with Shober's mammary tablets gave only temporary relief, hence a hysterectomy was performed with satisfactory recovery. [W.K.]

5.—Johnson reports a case of extrauterine pregnancy successfully operated on about two months after the rupture of the tube. [W.K.]

6.—The case reported by Paige was of **empyema** of both antrums of Highmore of the ethmoidal cells, bilateral, and of the left frontal sinus. An x-ray picture shows a probe passed into the frontal sinus. [G.B.W.]

Journal American Medical Association.

March 31, 1900. [Vol. xxxiv, No. 13.]

1. The Humane Side of Warfare. N. SENN.
2. Pathologic Study of 80 Tumors of the Mammary Gland, with Special Reference to the Occurrence of Malignancy. FRITZ CARLETON HYDE.
3. Observations in Laryngotomy; Tracheotomy; Intubations; based on Clinical and Experimental Evidence. GEORGE W. CRILE.
4. Interdependence of Physiology and Morphology; their Educational Importance. JAMES WEIR, JR.
5. Are We Degenerating? If So, Why? E. STUVER.
6. Notes on Fractures of Long Bones without Deformity. Subperiosteal Type of Fracture in the Young. JAMES PORTER FISKE.
7. Albuminuria: Its Prognostic Value in Chronic Nephritis. CHARLES ALLING TUTTLE.
8. Simple and Ethereal Sulfates, Simple and Rapid Method for their Separate Determination—30 Minutes. G. W. MCCASKEY.
9. A Study in Anesthesia. ROSALIE M. LADOVA.
10. Physiologic Consideration of Food Value of Alcohol. With Especial Reference to the Experiments of Prof. W. O. Atwater, contained in Bulletin No. 69 of the U. S. Department of Agriculture. FRANK WOODBURY, and SENECA EGBERT.
11. Shoulder-Humero-Scapula Articulation. Some Complications and Sequelæ Attending or Following Reducible or Irreducible Dislocations, with Brief Review of Various Modern Operative Measures now Employed for Their Treatment. THOMAS H. MANLEY.

1.—Senn reviews the measures which have been taken by civilized nations in recent years to **mitigate the horrors of war** and expresses the belief that the dreadful scenes which followed many of the great battles of the past will have no equal in the future. He praises the work of the Red Cross Association and various other benevolent

associations organized during the Spanish-American war, and relates in an interesting way some of his experiences while on duty before Santiago. The Spanish officers met in exchanging wounded prisoners were all most courteous and friendly, and Senn believes that the statements made that the Spaniards did not respect the Red Cross were without reliable foundation. He calls attention to the fact that the modern small caliber weapon sends its bullet 3 miles, a distance at which the small Red Cross flag used in the field cannot be distinguished. Many observations are cited which serve to show that the humane side of warfare was strictly observed on both sides during the Spanish-American war. [M.B.T.]

2.—Hyde presents the results of microscopic study of 80 **tumors of the breast** which he has examined in the pathologic laboratory of the University of Michigan. Ten of the tumors were medullary carcinoma, 21 were classed as carcinoma simplex, 5 colloid carcinoma, 10 scirrhus, 9 adenocarcinoma, 18 fibroma, 6 sarcoma. The characteristics of these growths are discussed in a thorough manner. Hyde believes that had all the cases which have heretofore been reported been diagnosed only after a microscopic examination, and the diagnosis rested on the present pathologic knowledge, the percentage of malignant tumors would doubtless be much higher. That the proportion is so small in this series is due to the fact that the cases are largely from surgeons who believe in early removal of all tumors. The clinical diagnosis of breast tumors is neither reliable nor important, and should not be taken as an operative guide. In a large proportion of cases it is not possible to distinguish the different forms. It seems justifiable to conclude from the microscopic examination of these 80 cases, that there is no strictly benign tumor of the breast, and that the only rational treatment is complete removal as soon as discovered. [M.B.T.]

3.—Crile reports some careful experiments made on animals to determine certain information with regards to the operations of **laryngotomy, tracheotomy and intubation.** The respiration and circulation were studied by tracings taken with a manometer and tambour. Surgeons have not infrequently encountered, in performing a laryngotomy, sudden collapse or even death at the moment the incision was made through the larynx, and the margins of this incision were kept apart for the introduction of the tube. This results from mechanical irritation of the dangerous area of the larynx. This area, as was shown experimentally, occupies the middle and upper portion of the larynx. It is well, if laryngotomy must be made, to bear in mind this "inhibition" area, and it would add to the safety of the operation if the incision were first made through the cricothyroid space, then a swab of cocain passed through this incision and applied to the laryngeal mucosa. This having been done, no amount of manipulation could cause any reflex phenomena. Likewise, in the introduction of the tube in the high laryngotomy, there would be almost certain interference with the inhibition area and the production of the usual symptoms. Even though artificial respirations may be supplied, it must be remembered that the heart may be inhibited as well. The trachea was submitted to dilation to different degrees, ranging from gentle dilation to a sufficient force to rupture that organ, and in not a single instance was there noted any marked change in either the respiration or the circulation. This shows the safety of operative procedures on the trachea, as compared with like operations on the larynx. Experiments with intubation to explain the causes of sudden death which sometimes occur seemed to show that the reflex inhibition is due to efferent impulses set up by mechanical irritation of the terminals of the superior laryngeal nerves. [M.B.T.]

4.—Weir believes that biology, morphology, physiology and psychology should be taught in all schools. Medical schools especially should establish chairs in these branches, for without a thorough knowledge of biology a physician's education is incomplete; especially is this true when there is ignorance of physiology and morphology. [M.B.T.]

5.—The massing of enormous populations in large cities, with the impure air and bad sanitary surroundings, and insufficient or excessive quantity or improper kinds of food, late hours and excesses of various kinds, together with the high pressure of methods of living and the struggle for wealth, have done much to lower the health and vital resistance of a large part of our population. The spread of venereal diseases, tuberculosis and carcinoma, together with the widespread use of stimulants and narcotics, has done much to taint and lower the vital resistance, so that it is doubtful whether much of the progress made in sanitary science and the stamping out of contagious and infectious diseases has not been counterbalanced by a lowered general vitality. The enormously increased percentage of the insane, as compared with the whole population, within the last 20 or 30 years, is very strong proof that mental stability at least is not increasing. By our methods of education the intellectual faculties have been cultivated at the expense of the moral nature, and the result is asymmetric development—a social pariah, a degenerate. Without some means are devised to correct these evils, Stuver believes that we shall follow Greece and Rome to degeneracy and extinction. [M.B.T.]

6.—The chief features which Fiske has found in a study of **subperiosteal fractures,** which have come under his care are: Trauma causing the injury is often slight or of moderate severity, it is usually from direct violence. Pain may be absent or slight, seldom severe. Deformity is absent; exceptionally there is slight sagging, as where both bones of the forearm are involved, never any overriding. The function usually has but slight impairment, seldom complete loss. Crepitus is always absent. In connection with the above, the examination will show a hinge-like motion at the site of the lesion, which is typical of these fractures. Union is characterized by the formation of slight callus, and solid union takes place in considerably less time than in complete fracture. In every contusion to the limbs, in the young, no matter how slight, systematic search should be made for this lesion. In rickets there is a greater liability to the occurrence of incomplete fracture, and especially during the stage of softening. Many cases of subperiosteal fracture are undoubtedly converted into simple fracture through improper manipulation or by too forcible examination. [M.B.T.]

7.—From a study of over 100 cases of **chronic nephritis,** Tuttle believes that Bright's disease may exist without the ordinary urinary manifestations, viz, albumin or casts. That albumin and casts may be found in the normal urine and hence do not necessarily indicate Bright's disease. That, given a case of chronic Bright's disease attended with **albuminuria,** the fact of its presence, its constancy or its amount has absolutely no prognostic significance. He quotes numerous authorities to support his views. [M B T]

8.—The clinical value of the estimation of the proportion of the **ethereal** to the **simple sulfates in the urine** is very great. It is an indication of the extent of intestinal putrefaction from the most common forms of intestinal organisms and the consequent associated formation of intestinal toxins. The importance of the estimation of the ethereal sulfates is based on the fact that they are the result of a combination of the simple sulfates of the urine with certain aromatic principles, the products of bacterial action in the intestinal tract. The principal compounds of this class of aromatic substances are phenol, indol, skatol, cresol, and pyrocatechin. Most of these substances are, so far as we know, the exclusive result of bacterial action, which may occur anywhere in the organism, as in an abscess cavity, but which as a matter of fact nearly always occurs in the intestinal canal. McCaskey discusses the various methods of their determination, most of which have been cumbersome and tedious. He describes a simple method which space does not permit us to give, but which seems worthy of a trial by those specially interested in urinalysis. [M.B.T.]

9.—Ladova gives in tabular form the results of careful study of 101 cases of anesthesia. Notes were taken as to the duration, pulse and respiration range, condition of the pupils, gastric irritation, how soon anesthetized, how soon out, and the amount of anesthetic. [M B.T]

10.—In discussing the **food-value of alcohol** the following definition of a food is accepted: "Any substance which, when taken into the living human body, is capable of —usually after being subjected to the action of the digestive organs—entering, through the absorbent vessels, into the circulation, and of supplying assimilative material and potential energy to the cellular elements of the tissues, and of promoting normal metabolism and the general bodily health. Woodbury and Egbert believe the deleterious effects

f alcohol on the circulatory and nervous systems have been roved and that they should not be omitted from a discussion f the food-value of alcohol. They point out several sources f error in Prof. Atwater's investigations and conclude that e has produced practically no evidence whatever to support ie claim that alcohol is a wholesome or useful food, nor to hange the generally accepted view that its physiologic ction on the human body is destructive and never con-ructive. [M.B.T.]

April 7, 1900. [Vol. xxxiv, No. 14]

1. Diagnostic Value of Deep Reflexes of Lower Extremities. D. S. FAIRCHILD.
2. Differentiation Between Bullous, Vesicular, and Pustular Eruptions of Early Life. CHARLES WARRENNE ALLEN.
3. Uniformity in Definition and Application of Terms Position and Presentation. FRANK A. STAHL.
4. Case of Rhizomelic Spondylosis. AUGUSTUS A. ESHNER.
5. Uric Acid and the Serious Results When Not Eliminated. M. S. MARCY.
6. Curious Facts You Find in General Surgery. LUCIEN LOFTON.
7. Pathologic Changes Occurring in the Unobstructed Nostril in Cases of Deviated Septum. E. LARUE VANSANT.
8. Dilation of Ophthalmic Vein; Cure. R. ORTEGA.
9. Some of the Aspects of Renal Inadequacy from a Neuropathic Standpoint. H. A. TOMLINSON.
10. Shoulder Humero-Scapular Articulation. Some Complications and Sequelas Attending or Following Reducible or Irreducible Dislocations, with Brief Review of Various Modern Operative Measures Now Employed for Their Treatment. THOMAS H. MANLEY.

1.—The real **diagnostic value** of the **deep reflexes** can only be determined by a consideration of the facts in the case and by a careful study of the reflex itself. There is no certain and absolute guide as to the intensity of a normal reflex. Fairchild has examined about 500 men who were applicants for service with a railroad company, and found a great variation in the extent of movement of the leg when the patellar tendon was struck. In about one in a hundred there was no response. In a somewhat larger proportion the reflex could be obtained on reinforcement. In about 4% the reflex was large and would appear to be exaggerated; but on comparing this increased reflex with the exaggerated one of spastic spinal paralysis the difference would at once be seen. Hence the experience derived from the observation of the reflexes in healthy persons will be an important factor in correcting certain misconceptions which may arise from examinations confined to individuals who are supposed or alleged to be suffering from some spinal cord lesions. A consideration of the reflexes alone will be misleading in determining the nature of a spinal cord disease, or in distinguishing absolutely between an organic or functional affection of the nervous system, but when taken in connection with the other symptoms will be of considerable value in reaching a conclusion. [M.B.T.]

2.—Allen discusses various forms of syphilides and pemphigus, dermatitis, herpetiformis, impetigo, ecthyma, hydroa, and generalized vaccinia, with special reference to the diagnosis of these conditions. [M.B.T.]

3.—Stahl discusses the definition and application of the obstretric terms—position and presentation. In the main he follows the nomenclature adopted at the meeting of the Ninth International Medical Congress held in Washington, D. C., in 1887, but he points out some inequalities. The matter is put in very clear and concise form in a resume concluding the article, which should be consulted by teachers or students interested in this subject. [M.B.T.]

4.—Eshner reports a case of **rhizomelic spondylitis** occurring in a man 24 years old. The patient was admitted to the hospital complaining of pain in the back and chest, and loss of power in the extremities, especially in the left arm. Eighteen months previously pain developed in the left side, extending to the back, then to the left shoulder, finally involving the entire body. The pain was increased on movement, and the back was tender to touch. After 6 months loss of power appeared in the legs, and gradually increased until at the time of admission the man was unable to walk without supporting himself with his hands upon his knees. Nine months previously power was lost in the left arm, and a month later in the right arm also. There were some hyperesthetic areas on either side of the spine in the middorsal and lumbar regions; the kneejerks were greatly increased and ankle-clonus could be elicited. The dorsal spine presented marked convexity. The fundamental lesion in the majority of cases is generally believed to consist in a proliferative and rarefying inflammatory process involving the vertebrae, the discs between, and the ligaments uniting them. Eshner believes, however, that the symptoms and the physical signs indicate disease not only of the vertebra and its appendages, but also of the spinal cord. The want of mobility both in the vertebral column and at the shoulder and hip joints suggests the existence of some chronic hyperplastic disease in these situations. Wasting may be attributed to the general impairment of nutrition, while the pains exhibit no localizing distribution. The irritability of the reflexes must be ascribed to involvement of the lateral columns of the cord, whether in inflammation or degeneration or secondarily to meningitis or to pressure it is difficult to state. [M.B.T.]

5.—Marcy discusses the origin and elimination of **uric acid** and the qualitative methods of its determination. He mentions the many serious results that follow taking into the system large quantities of urates which tend to form uric acid and advises the adoption of a vegetable, cereal, fruit, and milk diet; tea, coffee, cocoa, and meat extracts, which contain large quantities of urates should be avoided. [M.B.T.]

6.—Lofton reports the case of a negro whose head was chopped with an ax which severed the middle meningeal artery, injured the meninges greatly and gave rise to the loss of brain-matter. Several spicules of bone were removed, the artery was controled by "plugging," and a phenol-camphor dressing was applied without shaving the scalp or other special precautions. Uninterrupted recovery followed. In a second case Colles fracture of the radius had occurred 10 days previous to the time when the patient was first seen without the patient being conscious of the injury. The fracture was successfully reduced and treated. In a third case a cutaneous horn was removed from a man's face just in front of the right ear. In a fourth case a compound comminuted fracture of the lower part of the humerus involving the elbow-joint was successfully treated by operation, removing some fragments and wiring others in place. [M.B.T.]

7.—Deviation of the nasal septum, by throwing more work on the unobstructed nostril, is likely to give rise to hyperplasia and compensatory hypertrophy. Atrophy may result from inflammatory changes and it may be associated with sepsis of the nasal chamber and accessory sinuses. [M.B.T.]

8.—A woman of 32 had been suffering for some time with weakness of vision and intense pain over the whole side of the head and face. The condition became so bad as to cause loss of sleep and appetite. Abscess was suspected, but on incision only blood escaped. There was temporary relief, but the condition soon became worse than before. Enucleation was performed and on removal of the eye-ball **dilation of the ophthalmic vein** was found to have been the cause of the difficulty. The patient's condition has been much improved as a result of the operation. [M.B.T.]

Archives of Pediatrics.

December, 1899. [Vol. xvi, No. 12.]

1. Importance of Prolonged Rest in Bed After Acute Cardiac Inflammations in Children. L. EMMETT HOLT.
2. A Case of Heart Lesions. A. C. COTTON.
3. Peliosis Rheumatica in a Lymphatic Child. J. PARK WEST.
4. Case of Multiple Osteomyelitis in an Infant. T. M. ROTCH.
5. Scorbutic Membraneous Colitis. J. HENRY FRUITNIGHT.
6. Infantile Scurvy—Mild Type. FRANCIS HUBER.
7. The Use of Gruels as Diluents of Cow's Milk. HENRY DWIGHT CHAPIN.
8. Diphtheria and Serum Therapy, with Especial Reference to Experience in Cuba. JOAQUIN L. DUEÑAS.
9. Case of Hydrocele of the Cord Following an Operation for Strangulated Inguinal Hernia. BURR BURTON MOSHER.

10. Strangulation of the Fetus in Utero by the Umbilical Cord. JOSEPH W. IRWIN.

1.—Holt considers the prognosis in **acute cardiac inflammation** of a severe type to be much worse in childhood than in later life. There are three reasons for this: (1) The frequency with which both the endocardium and pericardium are involved; (2) the great tendency to acute dilation, and (3) the liability of these attacks to be complicated with pneumonia. The cardiac muscle, like voluntary muscles in young children, has not the resistance which it attains in later life, consequently it happens that under the strain of an acute inflammation dilation occurs very readily and progresses more rapidly than in adults. The danger of dilation is much increased in cases complicated by pericarditis. To obviate these dangers, cases of this character occurring in childhood should be treated by two or three months' absolute rest in bed in a recumbent position. He reports two cases illustrating the beneficial effect of this treatment and one demonstrating the destructive effect of neglecting this measure. This treatment is not commonly carried out and Holt believes that in few things are physicians more blameworthy than in allowing a child to get up as soon as the acute spmptoms have subsided, after they have suffered either from acute cardiac inflammations or from general infectious diseases of severe type in which the heart-muscle has been affected. [S.M.H.]

2.—Cotton had under his care a boy aged 11 years and 9 months. Up to the age of 4 months he was a strong and healthy baby. At this time he had **pneumonia, which was followed by diphtheria, mumps, measles, bronchitis, pertussis, varicella, typhoid and scarlet fevers.** He was ill continuously until $3\frac{1}{2}$ years old. He did not walk until 4 years of age. Since that time he had been well and strong and was considered to be a normal child. The only exception to this perfect health was the occurrence, when 9 years of age, of a severe and prolonged attack of epistaxis. Since that time he had had several similar attacks. Two months before coming under notice he gradually began to suffer from dyspnea on exertion, palpitation, loss of strength, and when first seen was emaciated and pale. His fingers were somewhat clubbed; he had edema of the face and feet, but no cyanosis, nor was there any history of his ever having been cyanosed. Physical examination showed venous pulsation of the neck; the apex beat in the fourth interspace a half-inch outside the mammillary line; a marked systolic thrill with greatest intensity in the second left interspace; the cardiac dulness, absolute, beginning above at the third rib, $1\frac{3}{4}$ inches to the right of the right sternal border, the left border corresponding to the apex. Auscultation showed a harsh systolic murmur heard all over the chest and loudest in the second left interspace; at this point the second sound was not distinguishable. The liver was palpable three fingers' breadth below the costal arch; the spleen was palpable and firm. The patient died somewhat suddenly in less than 3 months after admission to the hospital during the course of a **gangrenous stomatitis.** The clinical diagnosis in the case was **infective endocarditis and pulmonary stenosis.** The postmortem examination showed stenosis of the pulmonary conus; malformation of the pulmonary valve (two cusps); aneurysm of the right ventricular wall; acute mural endocarditis; perforate septum ventriculorum; fibrinous pleuritis; old healed and recent metastatic abscesses of both lungs; cloudy swelling of the liver and kidneys; chronic splenitis; acute perisplenitis; general anemia; anasarca; hydrothorax; hydropericardium, ascites, with panophthalmitis of the left eye. Bacteriologic examination showed the Streptococcus pyogenes aureus in the lungs and vegetations and adherent clots in and about the aneurysms of the heart-wall. [S.M.H.]

3.—West reports a case of **peliosis rheumatica** occurring in a little girl 2 years and 3 months old. Many of the skin lesions in this case resembled those in erythema nodosum, but the presence of other lesions bearing no resemblance to these and the lack of symmetry, the absence of pain and tenderness on pressure, the absence of rheumatic joints, the rapidity of the changes with the rapid course and the probability of sore throat enabled one to differentiate this condition from an erythemata. The lesions never become soft, remaining denser than the surrounding skin until they had entirely disappeared. The condition was associated with the status lymphaticus, which was considered to be a coinc dence. The enlargement of the nodes and the lymph-tissu remained the same some time after the disappearance of th purpuric affection and some of the nodes were known t have been present before the attack occurred. The three o four largest nodes at the angles of the jaw diminished full one-half in a week after the attack, indicating that their en largement had been due to an acute process in the throa Satisfactory cause for the condition could not be discovered [S.M H.]

4.—Rotch observed a female infant, 1 month old, who week previous to coming under notice had a red rash on th abdomen which spread down the left leg. Five days later th child cried, seemingly from pain on movement of the lege There had been some discharge of pus from the umbilicu since birth. The infant was well-nourished and of good color The lower third of the left thigh was swollen to twice the size of the right and the skin over it was red and shiny. The left leg was held stiffly and somewhat flexed, the knee being bent almost at a right angle. Over the anterior tibial group of muscles and over the calf there was a brawny feeling without fluctuation or localized tenderness. Later a swelling suddenly appeared over both malleoli and an incision let out some greenish pus. A small area of the bone was curetted. Some hours later a swelling appeared over each wrist which was drained by two incisions. No communication was found with the bare bone. The skin was found to pit on pressure, and was slightly reddened over the biceps. On the following day the child became jaundiced and fluctuation appeared in the region just described and the arm was freely opened from the coracoid process to the elbow. An opening was also made in the posterior border of the deltoid to liberate some pus formed along the long head of the biceps. The shoulder was irrigated and drained. Cultures were made from each of the abscesses and in one the staphylococcus was found in abundance. It was probably present also in the others, but was destroyed by overheating of the culture in the oven. The following morning the hand and arm were blue, cold, and swollen; no pulse was palpable and the tissues in the wound were almost black. The child died at the end of 9 days. The autopsy showed no abscesses which could not be traced to **multiple osteomyelitis.** There was an almost entire absence of pathologic changes in the viscera. Cultures from the heart's blood, kidneys, and liver showed no growth, but from the hip-joint and tibial muscle there was an abundant growth of pure Staphylococcus aureus and from the phlegmonous arm a faint growth of streptococci. Cultures were made on blood-serum. The case was one of rapid septic infection confined to the bone-marrow and bone of the shafts. [S.M.H.]

5.—Fruitnight reports a case of **scorbutus in a boy of 9 years.** His diet had for several years consisted almost entirely of ham, bacon, bread, and coffee. During treatment the boy developed severe pain in the left inguinal region from which he almost collapsed. His temperature rose to 102° F.; his pulse became feeble and flickering. A small enema of hot soapsuds and oil was administered. This was followed by a free evacuation with which there came a piece of pseudomembrane about 5 inches in length and 2 inches in width, mucoid in character, dark red in color and very friable. The abdominal pain ceased and the boy's condition improved immediately. Fruitnight has failed to find in the literature a case of **membranous colitis and scorbutus.** The patient had never had similar attacks of pain prior to the scorbutus, nor has he had any such attacks since, from which reasons the condition was thought to be dependent upon the scurvy. [S M.H]

6.—Huber reports several cases of **infantile scurvy of a mild type.** The case he has studied occurred in children brought up on condensed milk, artificial foods of various kinds, sterilized milk diluted with water or cereals. The patients almost without exception belonged to the better class and were all rachitic. The prominent symptoms were tenderness, restlessness and prolonged spells of screaming and crying. There were no digestive disturbances, no vomiting, no colicky pains. The infants never seemed to be satisfied with their nourishment. The duration of the symptoms varied from a week to several months. Hemorrhages never occurred, and in but one instance were slight swellings observed. Though the two symptoms, marked rigidity of the thighs and inability to move the lower extremities so char-

eristic of severe cases were absent, the legs were stiff and not move with the freedom observed in health. The id improvement in the condition of the children follow- the application of the therapeutic test confirmed him in belief that these were cases of mild infantile scurvy. I.M.]

5.—Ducñas relates his experience in the **treatment of phtheria with the diphtheria antitoxin**; the jority of his cases have been treated in Cuba; the number ases treated is 8. All of these cases, including pharyngeal l laryngeal cases, cases in which there occurred pure cul- e of the Klebs-Löffler bacillus, and cases in which it was ociated with other germs, have been successfully treated. M.H.]

).—Mosher treated an **irreducible hernia** in the left uinal region in a boy aged 4 years. An incision was de over the tumor and constriction relieved. Owing to bad condition of the intestines and surrounding tissues l an enlarged cord, a modified McBurney operation was ae. The patient made a good recovery in about four eks. Sixteen weeks later there appeared in the scar a drocele of the cord. An operation for the relief of this dition was undertaken and the patient made a satisfactory overy. [S.M.H.]

10.—A 7 months' pregnant woman under the care of Irwin, getting off a street car fell, and fetal movements ceased m that day. Examination of the abdomen failed to reveal al heart-sounds. At the end of 6 days there was no idence of life in the fetus. Labor was begun the following y and a dead child was born. The umbilical cord was apped around the neck 3 times. It was drawn so tight at it had made a deep impression on the neck. The child idently **died from strangulation.** [S.M.H.]

Deutsche medicinische Wochenschrift.

December 28, 1899. [25. Jahrg. No. 52.]

The Origin of Leukocytes by the Escape of Cells from the Bone Marrow. P. LENGEMANN

A Death from Ether-Anesthesia. J. SCHNEIDER.

Two Cases of Adhesive Perigastritis. H. WESTPHALEN and W. FINK.

A Contribution to the Question of School Physicians. R. LOHNSTEIN.

The Speech and Sensory Conditions of Idiots. KELLNER.

1.—Lengemann believes that the **giant cell nuclei** ich are observed in the lungs under certain circumstances, d which come from the bone-marrow, are carried from the ne-marrow as giant-cell nuclei and not as actual giant lls with protoplasm, since he has never seen them in the ngs surrounded by protoplasm, and has been able to see em in some of the larger arteries as mere nuclei without otoplasm. He thinks they are carried mechanically by e blood-current and not by their own power of movement, ace he has repeatedly in his experiments observed nu- eated red blood-corpuscles in the circulating blood at the me time, they have no inherent power of movement, and e has also seen large masses of the tissue of the bone mar- w in the lungs. As a proof of his belief that both leuko- tes and giant-cells are carried mechanically from the bone- arrow by the blood-current and not from their own inher- nt power of movement, he offers the following observation: fter the injection into the peritoneal cavity of rabbits of rticles of liver and other organs, well rubbed in salt-solu- on, he found changes in the bone-marrow which macros- opically consisted of change from pale red to deep red olor, and marked softening until the marrow was almost uid; microscopically instead of presenting a small number f spaces filled with blood and with a collection of leukocytes ithin the bone-marrow tissue, he found in his experiments reat numbers of blood-spaces without definite walls and ith leukocytes partly projecting into them, partly lying ee in the spaces, and the number of leukocytes had largely ecreased. Other work not yet published has convinced im that normally there is an interchange of fluid from the enous to the arterial capillaries in the bone-marrow through ese leukocytic collections, and in hyperemia there would be large increase in the force of the current through the spaces lled with leukocytes, and thus the leukocytes, the giant- ells, and the nucleated red blood-cells would be readily washed out, especially when the bone-marrow was so much softened as it was found in his experiments. Lengemann explains the apparent ingestion of leukocytes and red corpuscles by giant-cells as follows: He has often seen giant-cells in his experiments which apparently had almost fluid protoplasm. This seemed to flow out about smaller cells in some cases. If it then retracted to its normal shape the smaller cell would be enclosed within the protoplasm of the giant-cell. [D.L.E.]

2.—The patient was 58 years of age and was operated on for **senile gangrene** of the foot. Fifty gms. of ether had been used to produce the narcosis and 50 more to continue it. As the surgeon was about to tie the arteries the patient suddenly became cyanosed, pulse and respiration ceased simultaneously, and all efforts at resuscitation were fruitless. At the postmortem, a general arteriosclerosis with dilation and hypertrophy of the heart was found. Also there was congestion and emphysema of the lung, congestion of the brain with hydrocephalus internus, cirrhosis of the liver, and granular atrophy of the kidneys. Conditions such as these would be sufficient to cause sudden death on the slightest provocation, therefore it should scarcely be called an **ether death.** [G.B.W.]

3.—The first case reported was operated upon for pyloric stenosis, and **pyloroplasty** was done. The symptoms at first improved, but later grew worse, and pain was particularly marked after shaking the body, as in coughing or when moving quickly from one side to the other. There was a hernia in the epigastric region, and traction upon this caused pain in the region of the pylorus; there was also resistance in the region of the pylorus. These symptoms led to the diagnosis of adhesions about the pylorus, and upon operation the hernia was found adherent to the gastrocolic omentum; attraction was thus caused upon the pylorus. Gastroenterostomy produced entire cure. In the second case there was stenosis of the pylorus from ulcer and adhesions about the pylorus. The diagnosis also seemed probable because of pain which was much increased by rapid turning from side to side or by coughing, and because there was also reverse peristalsis; and the patient had decided pain either a short time before or shortly after defecation. This was considered the most important symptom. Operation confirmed the diagnosis, and gastroenterostomy was done, and caused almost entire cure. The authors divide the cases of perigastritis into those that cause no disturbances of the motor power of the stomach, those in which the perigastritis is the sole cause of the disturbance of the motor power, and those in which the perigastritis is complicated by organic stenosis of the pylorus. Experience has shown that mere breaking up of the adhesions is likely to be followed by a return of the symptoms. It is therefore not usually advisable, but is the only procedure which is warranted, if operation is undertaken when there is no disturbance of the motor power of the stomach. In those cases showing disturbance of the motor power it is necessary to do pylorectomy or gastroenterostomy. [D.L.E.]

5.—In all, 544 **idiots** were examined, of whom 312 were males and 232 females. The general results were that 53% showed defects in their various senses. Speech was absent in 14.5%. Apparently the females showed the absence of the power of speech in much larger percentage than the males, but this was due to the difference in the ages in the two sexes. The cause of dumbness of idiots is usually anomalies in the speech center rather than abnormalities in the organs of speech; 27.7% were deaf and dumb; 1.8% blind; color-sense was absent in 30%, and sense of taste in 17%; perverse taste sense was present in 8 cases. In one case the perversity of the taste-sense was particularly shocking, the most disgusting things being eaten. The sense of smell was absent in 13%. This sense was tested by dropping ammonia on paper flowers. The sensitiveness of the skin was reduced in 19%. [D.L.E.]

January 4, 1900. [26. Jahrg., No. 1.]

1. Introductory Remarks at the Beginning of the 26th Volume of the *Deutsche Medicinische Wochenschrift.*
2. Internal Medicine and Clinics for Internal Medicine in the Last 25 Years. E. VON LEYDEN.
3. Progress in Surgery During the Past 25 Years. V. CZERNY.
4. A Backward Glance Over Ophthalmology for 25 Years. H. SCHMIDT RIMPLER.

5. Gynecology and Obstetrics During the Last Quarter of a Century. HEINRICH FRITSCH.
6. A Glance Over the Progress of the Last Quarter of a Century in Anatomy and Embryology. KARL V. BARDELEBEN.
7. General Pathology and Pathologic Anatomy in the Last 25 Years. HUGO RIBBERT.
8. A Review of the Development of Hygiene and Sanitary Science in the Last 25 Years. C. FLÜGGE.
9. The Last 25 Years in Military Science. SCHJERNING.

The articles in this number are all historical, and not suitable to be abstracted.

Wiener klinische Wochenschrift.

December 28, 1899. [12. Jahrg., No. 52]

1. The Influence of Mechanic Irritation of the Liver on the Heart. M. HEITLER.
2. The Dietetic Treatment of Diabetes Mellitus. R. KOLISCH.
3. New Investigations on the Utilization of Casein. W. KNOEPFELMACHER.
4. The Relations of the Anterior Quadrigeminal Bodies to Ocular Movements. ST. BERNHEIMER.
5. Remarks on the Foregoing. J. PRUS.

1.—In cases of **arythmia** Heitler has observed oscillations in the volume of the heart corresponding with those of the pulse. With a small pulse the cardiac dulness was large; with a large pulse it was small. Associated with changes in the cardiac volume were also changes in the hepatic and splenic dulness. As the cardiac area increased, the hepatic and splenic dulness increased, and *vice versa*. These observations were made on a young man of 21 who had overstrained his heart. The heart was very susceptible to mechanical irritation. If, while the pulse was small, the precordium was percussed or shaken, the pulse became stronger and fuller. Percussion of the thorax at some distance from the cardiac area had no influence. If the liver was percussed the pulse also became stronger and fuller. It could be demonstrated that the reflex started from the liver and not from the overlying tissues. It has for some time been known that there are certain relations between the liver and the heart, in the sense that the former exerts an influence upon the latter. In the present case percussion or succussion of the splenic region had no influence upon the pulse. [D.R.]

2.—A valuable article upon the **dietetic treatment of diabetes.** The author's dietetic principles are based upon the belief that in diabetes there is an **excessive sugar production,** and that the albuminous elements of the diet have a stimulating effect upon this production. He believes that the strict meat and fat diet is harmful and predisposes to coma, and maintains that the only proper diet, at least in grave cases, is a purely vegetable one. The advantages of such a diet are: 1. That it supplies the calories necessary to life in the lowest ratio, and in that way exerts the least irritation upon the system. Such a diet, poor in calories, suffices for diabetics, even in grave cases. Less calories seem to be required on a vegetable diet than on an an animal diet. 2. The vegetable diet consists of substances which exert only a slight nutritive stimulus. 3. It is possible with a vegetable diet to add more carbohydrates than when a meat diet is employed. Other advantages of such a diet are the presence of salts of organic acids and an alkaline reaction. A **milk diet** is also useful in diabetes, although there are writers who deny this. The case is cited of a man of 56 years, who for 10 years had had diabetes, and in whom it was impossible, with a strictly animal diet, to reduce the sugar below 1%. Despite this, the patient had gained in weight, was stout, and had a good complexion. As soon as the excessive meat diet was suspended the sugar disappeared from the urine. [D.R.]

3.—The author shows that a part of the phosphorus of casein is eliminated unused in the feces. [D.R.]

4.—Bernheimer takes issue with Prus (see PHILADELPHIA MEDICAL JOURNAL, March 10, 1900), holding that the anterior quadrigeminal bodies are neither a reflex center for ocular movements nor a pathway for neurons going to the cortex. The connecting neurons from the oculomo nuclei to the cortex of the angular gyrus, cross *in toto*. decussation occurs in the median line, but beneath the le of the aqueduct of Sylvius. [D.R.]

5.—Prus, in reply, states that he has found a center associated eye movements in the **posterior quadrige inal bodies.** Whether the anterior bodies contain mo centers or only motor nerve-fibers, he is unable to decide, is convinced that motor elements are contained in the [D.R.]

Berliner klinische Wochenschrift.

January 15, 1900. [27. Jahrg., No. 3.]

1. The Development of Ophthalmology in the Nineteer Century. J. HIRSCHBERG.
2. Pneumatic Therapy from 1875 to 1900. JULIUS LAZAR
3. A Case of Pityriasis Rubra. GASTON GRAUL.
4. Syphilitic Papule of the Conjunctiva. HUGO WOLFF.
5. Simultaneous Gunshot Injury to the Thorax and Abmen. FRITZ KÖNIG.

3.—Graul reports four cases of **pityriasis rubra** (Hebr According to Hebra, the disease is characterized by lesio of an intense, dark-red color, without marked infiltrati without the formation of nodules, crusts or vesicles, and wi slight itching, the patches being as a general rule wid scattered. It is now known, however, that there may abundant scaling, with secretion and crust-formation; ev ulcers may form, and the superficial lymph-glands may affected. The prognosis is not absolutely fatal. In one the author's cases the patient was under observation for fo years; in the second case there was improvement; in t third, a practical cure resulted from the application of different ointments; and in the fourth patient the disease w arrested. Iodothyrin tablets were used in two cases wi apparent benefit. In two cases the nails were decided involved by the disease. [D.R.]

4.—Wolff reports a severe case of **syphilis** in a girl 16. A rounded **papule** appeared on the outer surface **the conjunctiva** of the left eye during the fourth mon following the primary lesion. The papule developed to t size of a small pea, but rapidly disappeared with the use mercury internally, without any local treatment. Wo gives brief abstracts of 6 similar cases which he finds r ported in literature. [M.B.T.]

Centralblatt für Chirurgie.

December 23, 1899. [26. Jahrg., No. 51.]

1. The Radical Operation for Inguinal Hernia in Infants. KAREWSKI.
2. Changes in the Mucous Membrane of the Intestine and the Kidney after Implantation of the Ureter in th Intestine. J. KALABIN.

1.—Karewski considers complicated operation unnece sary for the radical cure of hernia in infants; he prefe simply to dissect the sac and ligate it at the external abdom nal ring without carrying out the steps of any operation s complicated as Bassini's. Nineteen operations are reporte with only one death, occurring in a child which was almo moribund at the time of the operation. Recurrence has no followed in any of the other cases. [M.B.T.]

2.—Kalabin performed **implantation of the urete in the rectum** 4 times experimentally on dogs. In 2 case death resulted from peritonitis, and in 1 case, from uremi The fourth dog was killed one year after the operatio During the period following the operation there had bee no unusual symptoms, the mucous membrane of the urete and intestine were found absolutely normal, but somewh extensive changes were found in the kidney; there was di fuse overgrowth of connective tissue between the medullar and cortical layers, and also in the cortical layer, togethe with the other changes which usually result in cirrhosis the kidney. [M.B.T.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Recovery after Gastrectomy for Carcinoma.—arvie (*Annals of Surgery*, March, 1900), adds another successful case of gastrectomy to the 4 previously reported by hlatter of Zurich, Brigham of San Francisco, MacDonald San Francisco, and Richardson of Boston. The patient is a woman, aged 46 years, whose illness had extended over period of a year and a half. On admission she complained pain and continuous vomiting. A well-defined tumor uld be felt in the epigastrium. Although little hope of lief from an operative standpoint presented itself, gastrecmy was performed at the request of the patient and her sband. For four days nutrition was maintained by emas; on the fifth day a little water given by the mouth allay the great thirst; on the ninth day she breakfasted soft-boiled egg, toast and tea. In less than 6 weeks she ft the hospital apparently perfectly restored, after taking dinner consisting of roast beef, mashed potatoes, ice-cream, ilk, and coffee. On admission to the hospital her weight as 79 pounds; three months later it was 100 pounds. On turning to her home she immediately assumed the responsibility of her household work.

Effects of Intracerebral and Subcutaneous Administration of Tetanic Antitoxin in Tetanus as bserved in 9 Cases.—Abbe (*Annals of Surgery*, March, 00) states that most writers regard the mortality of tetanus nder the best forms of treatment as about 80%. His own perience up to the last two years has been limited to 6 ses, extending over 25 years; of these only one recovered. ring the last two summers he had subjected 9 cases to the rum-treatment. He believes that the common observation at a long period of incubation is an absolute criterion of e probable severity is an error. In the 9 cases only 2 ould be regarded as in any sense of a milder type, 1 comencing on the tenth, and 1 on the nineteenth day after iry. The other 7 were of a grave type. Of the 7 grave cases were so severe that they were deemed worthy of being bjected to the test of trephining. Of these 5, 3 recovered d 2 died. The cases which recovered had their onset on e seventh, ninth, and nineteenth day of incubation; the ses which died, on the the eighth and sixteenth day of inbation. There were 5 of the 9 cases in which one could rceive an apparent effect of the serum treatment. The thor concludes that antitetanic serum is a valuable adjunct the treatment of tetanus, and that the cerebral injection an advance over the subcutaneous method worthy of exnded trial and further study. Johnson (*Ibid.*) also reports favorable result from intracerebral injection of antitetanic rum in a severe case of tetanus in a man, aged 31 years. ne incubation period was 6 days. On the fourth day of the sease, after trephining on each side of the median line, 5 m. of serum were injected slowly into each cerebral hemihere. Subcutaneous injections of serum, and bromids, loral and morphin were also used. Recovery was comete in about one month.

Guaiacol in Epididymitis.—Christian (*Therapeutic Gate*, March 15, 1900) states that he has used guaiacol locally in acute cases of walking epididymitis with most gratifying sults. In all but 6 great relief from pain followed during e course of the first 24 hours after application. In many e relief occurred in a few hours. All were able to keep their feet during the whole of the attack with fairly little comfort. The application of the drug was followed in all ses by a smarting and tingling sensation in the skin lasting about an hour. Dermatitis did not occur in any case.

The method pursued in carrying out this line of treatment is as follows: The testicle was first gently massaged with a nall amount of a 20% guaiacol ointment made up with nolin. Some of this ointment was then spread upon lint d applied over the affected testicle; the whole of the rotum was enveloped in a layer of absorbent cotton, and er this was applied a snugly fitting laced suspensory ndage. In many cases where this bandage could not be ocured, the dressing was kept in place by means of a 1½-inch gauze bandage. This dressing was reapplied every other day. At the end of about 6 days, when the inflammation and pain had entirely subsided and the testicle could be easily handled, the following ointment was substituted as a dressing in place of the guaiacol:

℞.—Ointment of mercury,
Ointment of belladonna,
Ichthyol,
Lanolin,
} of each.....2 drams.

Under the use of this ointment the testicle was found in most cases to return to its normal condition in from 2 to 3 weeks; much less time was needed in many instances.

Nirvanin.—Bolognesi (*Bull. Gén. Therapeutique Méd.*, December, 1899) states that this variety of orthoform occurs in the form of a white powder, odorless, and of a slightly bitter taste. It is soluble in water and slightly so in ether. It has been employed successfully as a local anesthetic in great variety of minor operations. A 10% solution produces anesthesia at the point of injection within five minutes. The toxic dose is said to be about 165 grains, but according to Braquehayl not more than $\frac{3}{4}$ of a grain should be used in operative work. It should be used in stronger solution and in larger doses than cocain, since its anesthetic action and toxicity are less marked.

The Treatment of Pneumonia.—Broadbent (*Practitioner*, January, 1900) writes that pneumonia, being a disease of short duration, with for the most part an assured critical termination in a few days, we can afford to watch and wait. The temperature is not a source of danger. Nothing is to be gained, therefore, by violent efforts to reduce it, either by the external application of cold, or by antipyretic drugs. Cold and tepid sponging will be a comfort to the patient, and may soothe and facilitate sleep; beyond this it is not necessary to go. Antipyretics, such as phenacetin, antipyrin, etc., given continuously, are not only useless but injurious. A single dose at the outset has, in the experience of competent observers, seemed to cut short an attack, and an occasional dose early in the disease may relieve headache and procure sleep and is therefore permissible. Stimulants are rarely necessary, but often useful. The rule should be to reserve them until they are indicated by a frequent, small, short, and weak or faltering pulse, a dry tongue, restlessness, or delirium. If the patient sleeps after a little brandy or champagne, or if the pulse becomes less frequent and larger, it has done good. In some exceptional cases a considerable amount of brandy may be required, perhaps 10 to 12 ounces in the 24 hours, and sometimes brandy given in champagne seems to have a better effect than either alone. When sleeplessness is persistent and distressing there need be no hesitation in giving morphin hypodermically, beginning with a small dose. Morphin is all the more useful when there is delirium. In many cases no regular medication is required, but to comfort patient and friends citrate or acetate of ammonium, and citrate of potassium may be given. They allay thirst and influence the cough. Ammonium carbonate may be added when indicated by a flagging pulse. Strychnin is often valuable when the cardiovascular system is manifesting an asthenic tendency. It is best given hypodermically, in doses of $\frac{1}{60}$ of a grain, at intervals of from 12 to 4 or 3 hours, and it is important to note that it may be required early. Digitalis may be extremely useful on occasion, especially as digitalin, with strychnin, hypodermically; but given at all periods, and in large doses, it is of very doubtful value. Inhalations of oxygen may be of service when there is marked cyanosis, but the benefit is usually fugitive. The local application of ice is said to be grateful to the patient in some cases. All that is valuable in the use of poultices may be retained without the disadvantages attending their too assidious employment by the application of one for 3 hours twice in the 24 hours. In one complication venesection may be of the greatest service. This is when early in the attack the invasion of the lung is so rapid that the right ventricle is unable to cope with the sudden resistance in the pulmonary circulation. This condition is indicated by marked cyanosis, orthopnea, a small short pulse with a violently beating heart, staring eyes, and an agonized expression. Under such circumstances the relief by bleeding is most striking, and when 16 to 20 ounces has been withdrawn all the distressing symptoms will have disappeared. The same results are not to be

expected later when asthenia has become a prominent feature in the symptoms. In severe and protracted delirium the remedial measures are nourishment and stimulants, with strychnin and digitalin hypodermically.

Strophanthus.—Pisani (*Gazetta degli ospedali e della Cliniche*, No. 109, 1899) holds that this drug increases the blood-pressure solely by its stimulant action on the heart, and that it has no action on the vasomotor system. Along with the increased pressure there is a reduction in the pulse-rate from 5 to 20 beats per minute. The drug is especially indicated in myocarditis when sufficient fiber remains to respond to the stimulation.

Typhoid Fever in the Young.—Jacobi (*Pediatrics*, December 15, 1899) says the food should be liquid, and this rule should be insisted upon until apyrexia has lasted ten days. The patient should be encouraged to drink water freely; the admixture of from 8 to 12 drops of dilute hydrochloric acid to a tumblerful of water, or sweetened water, is a pleasant and disinfectant drink. The lips and tongue should be kept clean. Fissures may be painted once or twice daily with a 1 or 2% solution of silver nitrate. A purgative dose of calomel in the very beginning will act beneficially, not so after the second half of the first week, when diarrhea and hemorrhages may be caused by it. Constipation requires warm water enemata daily; diarrhea, frequent irrigation with water from 95 to 100° F. When the discharges are offensive, thymol or potassium permanganate may be added in a proportion of 1 to 3000 or 4000. Internally, bismuth, salol, naphthalin are indicated. Collapse requires strong stimulants, by mouth and subcutaneously; diluted alcohol, camphor in sweet almond oil 1 to 4, and benzoate of sodium and caffein, soluble in 2 parts of water, answer best for that purpose. Insomnia and great excitement may require chloral. When the heart is feeble croton chloral should be selected instead. When these symptoms are accompanied with heat in the head, cold applications to the head, ice water, ice bags are soothing. The head should be kept as high as comfort permits. Sopor should be treated with cold effusions, while the body is submerged in water of 90 or 95°. Cold water and warm water are our safest antipyretics. Cold bathing is frequently contraindicated; it is not borne when the heart is feeble from whatsoever cause; for instance, long duration of the disease, complications with pneumonia, peritonitis, or hemorrhages, previous bad health, or in the adult, excesses. When after the cold bath the feet remain cold and the pulse small, the bath was contraindicated and did harm. The dangers of cold bathing are not encountered in warm bathing. This is not the place to prove for the thousandth time that a bath of 95° or 90° F., when of sufficient or even when of short duration, will reduce temperature of 104° or 106°. It is simply a fact. Such a bath may easily be given every 3 or 5 hours; even apparently mild cases should have 2 or 3 daily, from the beginning to the end of the illness. These baths reduce the temperature, the frictions stimulate the circulation, the general condition is improved, the so-called typhoid state relieved, and relapses become less frequent. The combination of frequent and protracted bathing with proper medication will always remain appropriate; though our resources should, as we expect, be increased by serotherapy. Of the antipyretic drugs antipyrin is perhaps the safest. The cardiac stimulants—digitalis, strophanthus, spartein, camphor, alcohol—which improve the general and cutaneous circulation, and thereby the radiation of heat over the skin, are mighty weapons in the hands of the intelligent medical adviser.

Wine of Creasote and Calcium Phosphate.—According to the *Journal des Praticiens*, February 24, 1900, the following combination is useful in phthisis and other chronic pulmonary affections:

R.—Beechwood creasote	160 grains.
Alcohol (90%)	3 ounces.
Monocalcic phosphate	5 drams.
Distilled water	5 drams.
Sirup	3½ ounces.
Malaga wine to make 2 pints.	

Each tablespoonful contains about 2½ grains of creasote and 5 grains of monocalcic phosphate.

Sirup of Iron and Arsenic.—The following combination of iron and arsenic is recommended in the *Journal des Praticiens* (February 24, 1900):

R.—Sodium arsenate	5⅓ grains.
Iron sulfate	4⅔ grains.
Citric acid	12½ grains.
Distilled water	20 drams.
Sirup	2 pints.

Each teaspoonful represents about $\frac{1}{64}$ of a grain of iron arsenate.

The Treatment of Pneumococcus Empyema.—O. Vierordt (*Boston Medical and Surgical Journal*, March 15, 1900, quoted from *Deut. Arch. f. klin. Med.*, 1899, Bd. lxiv) speaks of the impression more or less prevalent in the profession that empyema from infection with the pneumococcus runs a more benign course than that due to other microorganisms, and compares it with his own experience, which was almost exclusively confined to children. In 1897 he met with 16 cases of the disease, of which 5 were surely due to the pneumococcus. Three of these persons died from extraordinarily severe complications. The following year he also treated 16 cases, with 2 deaths. Ten were due to the pneumococcus and one died. In other cases, a report of which is incorporated in the paper, an empyema so small as to be difficult of diagnosis reduced the patient to a critical condition, which improved after the evacuation of at times a few cubic centimeters of pus. These observations, he says, show conclusively the extreme variations in the malignity of the affection, which is little, if at all, dependent on the amount of pus. They further show how much risk one may run, in spite of their undoubtedly frequently benign character, and irrespective of the amount of the exudate, in delaying operation. At least so far as children are concerned, and probably also for older persons, there is no difference, from the standpoint of treatment, between the metapneumonic and other forms of empyema. A prompt and complete evacuation is necessary.

Lemonade for Diabetics.—According to the *Medical Review*, February 1900, the following mixture is useful for assuaging the thirst of diabetics:

R.—Citric acid	15 grains.
Glycerin	1½ drams.
Cognac	1½ drams.
Distilled water	16 ounces.

Brand Treatment in Typhoid Fever.—Rudisch (*Mount Sinai Hospital Report*, 1899) says: The Brand treatment reduced the mortality a little over 2%. This reduction occurred in the cases which had been sick two weeks or longer, outside the hospital. Since the introduction of the Brand treatment there has been an increase in the number of cases of pneumonia and phlebitis, and a decrease of those of furunculosis and nephritis. Relapses have increased 2.5%. The death-rate in the relapses before and since the introduction of the Brand treatment is practically the same. It has not reduced the number of complicated cases as a whole, but has decreased the number of deaths from toxemia in the causation of the mortality of typhoid fever.

Operative Intervention in Tuberculous Pneumothorax.—Drasche (*Wiener klin. Woch.*, Nos. 45, 46, 51, 1900) holds that cases of tuberculous pneumothorax should not be treated expectantly as is usually done, even in hospitals, but that operative interference should be instituted early with the hope of promoting healing in the ruptured lung. Of 198 cases, 158 were treated expectantly and of this number 5.5% were discharged living, while of 30 subjected to operation, 13.5% were discharged living. After six weeks only 13.2% of the former were alive, while of the latter 37.9% were alive. He believes that operation is always indicated in the presence of severe and increasing dyspnea, increased thoracic tension and cardiac embarrassment. He advises puncture of the chest with a medium sized trocar, repeating the operation or establishing permanent drainage if the symptoms recur. Pyopneumothorax is not regarded as a contraindication. Prompt interference is often followed by improvement and prolongation of life.

Original Articles.

SELECTIONS FROM THE LANE LECTURES.

By T. CLIFFORD ALLBUTT, M.D., F.R.S.,

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Lecture III.—Senile Arterial Plethora.

'HE subject on which I wish to address you to-day
t certain increase of arterial blood-pressure which
urs as a more or less temporary alteration in many
sons, especially in elderly persons, and is attended by
mptoms of a somewhat characteristic kind. I say some-
t characteristic, because I do not pretend that they
very definite or uniform; yet if the observer take all
features together, the signs and the symptoms, ob-
ive and subjective, he will find little difficulty, I
k, in recognizing the kind of disease I would indi-
; and, if it be not too far advanced, in mitigating
emoving it. My short description, or text, is as fol-
s: arterial plethora is a malady chiefly found in
sons of advanced years; its chief objective symptom
rise in the arterial blood-pressure; the disturbance
he patient is chiefly nervous, and is manifested by
h symptoms as vertigo, panting, depression of
its, irritability and caprice of temper, sleeplessness,
even by graver seizures which may simulate the
hter degrees of epilepsy, of syncope or of apoplexy.
depression is always deepest of a morning, les-
a little during the day, and is least of an even-
The insomnia by night often alternates with
argy or somnolence during the day. Panting is
in some patients, though in this case Bright's dis-
must be suspected. The disease is curable by
lical treatment, at any rate in its earlier stages,
ugh it does not seem of itself to tend to disappear;
eed these patients often die of an apoplexy.

ymptoms.—The character of senile plethora may
be set forth in the narration of a few cases. I
begin with that one which first led me to recog-
the malady.

'wenty-one years ago I was consulted by Mrs. A.,
of the earliest friends of my childhood, then about
ears of age. Childless herself, but of a bright and
tic temperament, she loved to gather young people
ut her in her hospitable home. Anything morbid,
ancholic or apprehensive was wholly alien from her
racter; and her health had been uniformly excel-
. I was surprised, therefore when, after many
rs of separation in the world, she consulted me, to
r that she was the prey of melancholies and black
ids of the spirits which seemed wholly inconsistent
h her temperament.

lder I expected to see her, but she had not changed in
respect only; she was sallow, and somewhat fallen
lesh, the expression of her face also, once so blithe
alert, was dull, anxious and despondent. She told
she had been ill for three or four years—ill with
mptoms obscure in so far as any particular parts or
ans were concerned, but otherwise besetting and
erable enough; she was sluggish, sleepless, nervous,
tched on awaking of a morning, at times almost
idal.

n feeling her pulse I perceived it to be hard—very
d, sustained and slow. Impressed at that time by
teaching of a physician, sometime the friend of
y of us—the late Dr. Mahomed—I not only noted this pulse, but was prepared also to find some changes in the urine, such as the appearance of albumin or of proteids alleged to be antecedent to serous albuminuria. The urine, however, much to my surprise, seemed to be, both then and afterwards, perfectly normal. The heart was rather enlarged, the apex-beat heaving, and the aortic second sound was exaggerated beyond the due allowance made for its greater distinctness in women, and in quality like a top on a piece of thin parchment stretched upon one end of a tube.

Such a case was then quite new to me, but the line of treatment seemed obvious—namely, to use means to diminish arterial blood-pressure.

To be brief, I dieted her, gave her mercurial and other laxatives and potassium iodid, and sent her to Carlsbad in the summer. She recovered her health and spirits, and the pulse lost, for the most part, its abnormal characters; the heart, moreover, seemed to return to normal dimensions. The symptoms recurred, however, from time to time; at first with some insistence, afterwards with less tenacity; so, by observing the rules of diet, medicine and mineral waters, she became her own physician, and kept her health until she died in old age of some accidental disease which did not come under my observation.

When in this case the blood-pressure had been reduced, I was better able to estimate the probable effects of the stress on the arterial coats; so far as I could judge the arterial coats had undergone less strain than might have been anticipated. The artery, emptied under the finger, was naturally at her age somewhat unduly perceptible, but there was no visible elongation; nor was there any marked evidence of dilation of the aorta. Mapping of the heart's area in elderly ladies is no easy task. There was, I believe, some history of gout in Mrs. A.'s family, but none in herself.

It is convenient to speak next of a lady, Mrs. B., who for the last four or five years of her life was under my care. She died two or three years ago, at about 84 years of age; and, save for that earliness of fatigue one sees even in old persons who inherit longevity, there was in her little evidence of general cardiovascular degeneration. When I first saw her, however, she had been suffering for some time from "dyspepsia," insomnia, and nervous perturbations. Both on her own side of the house and on her husband's side she had lived continually in the society of persons of great intellectual distinction; her own mental endowments were considerable, and in temperament she was a person of unusual calmness and decision. Yet on my first visit to her I could not but recognize some of the classical symptoms of hysteria; and especially those storms of flatulence—the phases of violent and incessant eructation of inoffensive air—so characteristic of some kinds of "hysteria." No longer mistress of herself, no longer under the control of a shrewd and kindly humor, she was petulant, depressed, apprehensive, restless and sleepless. For the sleeplessness some mild sedatives had been taken, chiefly "chloralamid," but not in habitual or immoderate doses.

Her pulse at once revealed the presence of high arterial blood-pressure; the heart's action was labored but not very slow, and the aortic valve-sound very thudding.

I was much gratified to find how easily in a patient of such advanced years the blood-pressure was reduced by dietetic and medicinal means, and how little permanent harm seemed to have resulted from a condi-

tion which presumably had persisted for some time; her "nervous" distress had resisted long courses of the usual "nervine tonics and restoratives"—perhaps for a couple of years previously. I had some fear at first, indeed, lest the relief of the symptoms and the fall of blood-pressure should prove but a mere coincidence.

The doubt, however, was not of long continuance. I saw Mrs. B. on many subsequent occasions and was able to keep her in excellent health by watching the blood-pressure. The old symptoms would at first recur from time to time (say every four to six months); and as coincidently the pulse hardened, I administered salines, potassium iodid, and an occasional mercurial pill; measures which always nipped the evil in the bud, so that, with the exception of these brief recurrent threatenings which recurred with less and less tenacity and at lengthening intervals, her health kept continuously good. Mrs. B. said to me more than once that, instead of failing, her health had become better than it had been for years. Sir W. Gull once said well, "there is no tonic for old persons like sulfate of magnesia." In this patient's urine there was never any trace of albumin; a little sugar appeared occasionally in the first and in one or two of the later attacks; to this, however, I did not find it necessary to attach much importance. About five years from the date of my first visit Mrs. B. died rather suddenly, after an interval of twelve months' freedom from any sensations of ill-health. No necropsy was made.

The third case, that of Mrs. C., was a very instructive one. It is remarkable that these cases seem to occur at least as commonly in women as in men who eat and drink more; in them it may arise from constipation and want of exercise. Mrs. C. also was advanced in years—some 68 years of age, I believe—and was said, truly enough, to be suffering from heart disease. I found her likewise in a highly nervous condition. Orthopnea and considerable edema of the feet and ankles were present; but the liver was not enlarged, the urine was not albuminous nor otherwise abnormal, nor were the lungs edematous.

Expecting, at first sight, in spite of the sallow pallor of her face, to find a "mitral pulse," I was amazed when I put my finger on the tightest radial artery I think I ever felt. Although there was certainly some venous embarrassment the arterial pressure was incalculably higher. The heart's apex was obviously displaced both outwards and downwards, the left ventricle was hypertrophied and dilated. A broad, heaving, slow action of the organ indicated the heavy stress under which it was working. It seemed clear that, in spite of its labor, the left ventricle never emptied itself; the residual blood was very large; and the venous arrest was a secondary result.

On my first visit there was a systolic murmur at the apex, but it was transient, and the case was marked almost throughout—as my medical colleague, Mr. Wallis, of Cambridge, had likewise found—by an absence of murmur or other evidences of valvular disorder. For an indefinite time this heart had been striving against increasing arterial pressure, and at the time of our consultation the sturdy left ventricle had begun to give way.

I repeat that I felt in this case perhaps the very hardest and most sustained pulse I ever came across; and, as a consequence no doubt of this arterial pressure, the patient had been suffering for a year or two from attacks of a very unusual kind which for lack of a better name I may call larval apoplexies. These attac had been rarely witnessed by her medical attenda never indeed at their height; they lasted but 15 or minutes, if so much, and on his arrival had alwa passed through their worst phase. It was very diffici to obtain any definite description of them from h friends, intelligent as they were. The attacks seeme however, to be of two kinds; in one kind she had confusion of mind, but suffered acutely from panti and constriction of the chest even to "choking;" the other and more alarming attacks she was seiz with a sense of fulness and oppression, of a laborii circulation and of beating in the arteries of the ne and head; she then became "unconscious," and uncc scious she was said to remain for some seconds or fo few minutes. Her husband had died of angina pe toris (after suffering for more than 18 years from th disease in an exemplary form); and although t widow had no pain, no syncope, and no sense of diss lution, yet her family and her medical man suppose not without reason, that angina pectoris after son fashion was present in her case also. I could obta no valuable record of the pulse during an attack. T me the description seemed rather to indicate an ap plexia sine haemorrhagia—a high pressure within th cranial cavity, if some such state be possible. Th attacks of unconsciousness were the very reverse syncopic, and were very different from the dyspn which took their place at a later date when the le ventricle began to fail. I could not ascertain wheth the respiration was definitely tidal, I suspect it was; was described as "labored." The subsequent even were as follows: We agreed to try to reduce the bloo pressure at once by all possible means; we gave h blue pill (the urine, I repeat, was persistently norm in all respects), and potassium iodid from time to tim systematically; we gave also frequent and rather sha laxative salines, and we supplanted all beef-tea, mea essences and the like by milk. Nitroglycerin also w administered; frequently at first, afterwards mo rarely. We abstained from bleeding her from the arn for reasons not wholly scientific.

The immediate results were very satisfactory; th attacks in both kinds diminished in number an severity until they ceased; and the patient recovere so great a measure of comfort and amelioration that did not see her again for many months. All or nearl all symptoms of arrest on the venous side cleared u and did not return until the closing period of her lif In this case there was no history of gout, family c personal; nor any personal sign of it.

However, Mr. Wallis did not find it easy to keep th blood-pressure low on the arterial side. Instead yielding at once and over and over again to appropriat remedies, it gave way very slowly, was never wholly r duced, and tended on any relaxation of active measure to return. Indeed it was difficult to reduce the bloo pressure without undue reduction of the bodily strengt also, although the patient and her friends welcome the relief obtained by these reducing means and b gentle but frequent purgation. Under such circum stances I saw Mrs. C. from time to time, and helpe to steer the middle course; after a while, howeve dilation of the left ventricle became more and mo evident, blood-pressure began to fall ominously enoug without reducing agents, the aid of digitalis had to b sought, and death occurred with the usual signs asystole.

'he fourth case which I have before me is that of s D. She died, at the age of 83, of acute bronchitis. many years before her death her arteries were thick- d and elongated, and her heart was enlarged. Five rs before death she was crippled by senile gangrene one or two of the toes. The urine, watched contin- ly, was nearly always normal, and contained the due portion of solid matters. A little sugar would appear asionally. Her bodily health, however, was good ugh, at any rate so far as concerns our present inquiry. ring the last few years Miss D. had been liable to acks which, to speak strictly, were melancholia, ugh her friends were not called upon to realize the sence of definite mental disease. Fits of fretful and evish depression not unaccompanied by delusions k possession of her from time to time—delusions of verty or of sinfulness—and vague apprehensions and gnified worries. At such times she was sleepless also. ese attacks of low spirits were always attended by a e in arterial pressure, and yielded slowly to mercu- ls, certain mineral waters at home and abroad, and er deobstruents. In this case, as in that which fol- vs, there was a distinct personal history of gout in form of one or two mild attacks of podagra. I lude this case of ordinary senile arterial degenera- n to show that the symptoms of senile plethora may graft themselves upon those of senile arterial decay. der such circumstances cerebral hemorrhage is very ely to occur.

The four cases which I have read are cases in which e symptoms I would describe were well marked; reover, three of them occurred in the persons of near ends whom I had the opportunity of watching and helping to treat throughout, and in patients who re, so far as I could judge, quite free from any sign of ight's disease. In the course of consulting practice have seen, more or less incidentally, a very large mber of cases which I referred to the same class, but refrain from citing cases which I saw but rarely, per- ps but once only, and of the issues of which I can ve no account.

Yet from these I will cite one more case, Mrs. E., ich occurred in a lady whom I saw with Mr. Hartley, Bishops Stortford. This lady, some 65 years of age, ffered from incessant dyspnea and insomnia. The mptoms referred to in the previous cases were less ident. Her spirits seemed bright, she did not com- ain of vertigo. Stairs, the easy stairs of a large use, were distressing to her, and even as she sat iietly in her chair the expiration was panting and pid; it somewhat strongly resembled "hysterical yspnea," but her temperament was anything but ysterical. The pulse was very hard and sustained, t the coats of the radial artery seemed to be con- ricted rather than under "tension." The heart's con- ition corresponded with the arterial. Under dietetic d therapeutic means for reduction of arterial pressure e recovered and is still kept well by vigilant provision f this kind.

One of my medical friends, on reading my address to e Hunterian Society, sent me the following notes: Mrs. R., aged 89, of small stature, thin, active, viva- ious. Her memory that of old age. Naturally as weet an old woman as could be wished; but occasion- lly has outbreaks of peevishness and sullenness, with omnolence in the daytime. At such times is apt to be eized with violent attacks of passion so that her maid afraid she will have a fit. At such times the radial pulse is full, firm, and incompressible. These attacks last two or three days and give way to blue pill and saline laxatives. Alcohol makes her worse. To her friends I have been wont to call the attacks 'senile hysteria.'"

Two cases of the disease in men, however, I would briefly refer to, as in them we succeeded time after time in averting or mitigating cerebral hemorrhage. Both of these men were men of letters, of sedentary habits, the symptoms were of the order described, and in both cerebral hemorrhage was the cause of death. But in both slight hemorrhages occurred, two and three respectively, before the fatal attacks, and we flattered ourselves that by persistent reduction of blood-pressure we had averted death for some few years in each. Otherwise I have recorded cases in women rather than in men because women are more docile and stay better under observation. Men are apt to throw physic to the dogs and medical experience with it.

Before passing on to the next section I will call attention to a series of experiments carried out by one of our graduates, Dr. Maurice Craig, published in a thesis for his M.D. degree. Dr. Craig appraised the arterial pressure in a considerable number of insane patients, and arrived, at the remarkable conclusion that in mania pressure falls, in melancholia it rises. I cannot now enter into the details of this research, but in the case of melancholia I may observe how remarkably my own observations seem to be supported. I should add that all cases of albuminuria or atheroma were rejected by Dr. Craig; indeed, most of his patients were under middle age, and many of them recovered.

Pathogeny.—I have brought forward a part of the clinical evidence I possess in support of my opinion that in the middle and later stages of life men and women, sedentary persons more especially, are liable to a rise of the mean arterial blood-pressure to an abnormal and even to a very high degree, with or without the grosser signs of arterial degeneration. These degrees of pressure cannot be measured accurately except by the new instruments of L. Hill, or of G. Oliver; the testimony of rise and fall has been for the most part that of the unassisted senses. I have taken many sphygmograms in these cases, but they are of no great value; and I am satisfied to ask you to accept my clinical estimate of the state of the pulse for what it may be worth; and also my assurance that the rise in these cases was unaccompanied by any clinical evidence—so far as we have learned to recognize it—of disease of the kidneys or of any other organ, unless the enlargement of the left ventricle of the heart is regarded as a disease. Moreover, the disease may be but temporary; health may be restored and maintained if the cardio-arterial stress has not exceeded the limits of elasticity and resulted in incurable strain.

After a time, however—a time which must vary much with the severity of the stress and the resistance of the arteries in the individual case—the strain begins to tell seriously upon the integrity of the vessels and of the heart itself; irreparable harm may be done if the pressure is not reduced in a comparatively early stage of its appearance. Yet, as the case of Mrs. A. testifies, the arterial system may be submitted to a not inconsiderable stress for a long time without suffering permanent injury. Hypertrophy of the left ventricle may be established for a while, and I think the aorta may even dilate into the episternal notch, and yet, if the proper means are taken to reduce the blood-pressure,

the patient may recover health and live a fair span of life thereafter.

From my illustrative cases it appears that the symptoms of arterial hyperpiesis are often of a functional nervous character, such as melancholic or hysteriform states; and a peculiar sense of fretfulness and restless apprehension seems characteristic of the malady. The so-called "senile hysteria," when it appears in persons not previously neurotic, is often the result of this rise of blood-pressure. Whether these perturbations be prominent or not may depend upon temperament; in my experience the hysterical manifestations are commoner in women; fatigue, inertness, mental depression and peevish indecision rather in men.

That the blood in senile plethora is at fault, primarily or secondarily, is probable; and it may be altered in some way which brings about either peripheral arteriolar contraction, or increase of density—that is of friction as it flows; beyond this I feel unable to proceed. "Renal inadequacy" may be alleged as the primary evil; such alleged inadequacy, however, save in cases of chronic renal disease, which is not beyond our means of detection, has always appeared to me in the light of a convenient fiction; in any case the state of the kidneys was consistent with normal urine; and, in some of my patients, with subsequent good health. Periodic polyuria, probably due to the high arterial pressure, was present more or less at times in my cases; but it never became so persistent and troublesome as in the earlier stages of chronic Bright's disease. I admit that quantitative computations of the solid contents of the urine were not continuously and systematically made in all or even in most of my cases; but to all ordinary tests, applied from time to time, the excretion was normal; in two or three of them estimations of the urea were made without discovery of abnormal proportions.

The satisfactory results of deobstruent treatment tempt me, as I have said, to regard the high pressure as due either to arteriolar contraction, or to increase of friction in the presence of some abnormal state of the blood, such as excessive density; we must not forget that the capacity of the arterial system may be diminished by direct nervous agencies; such, for example, as in Waller's method (*Arch. f. Anat. u. Phys.*, 1888) of exciting the spinal cord, which is followed by strong contraction of the periphery of the circulation on its arterial side, and a rise of 5 mm. Hg. in the blood-pressure within the left auricle—the left ventricle being unable to empty itself completely. Still, such an agency as this cannot explain a persistent rise; in my lecture on Cardiac Physics I pointed out that such a rise is quickly compensated by depressor mechanism. The same qualification is to be made in respect of the progressive diminution of peripheral vascular area which probably takes place in old persons; in them not only may the blood be redistributed, but probably the mass of the blood is diminished also. To this important matter I shall return presently. Still more carefully must we avoid such off-hand assurances as that in "the great majority of cases of high arterial pressure in later life the kidneys tend to become granular." This seems to be a kind of out-patient diagnosis—rough and ready. It is hard to say what is meant by a tendency to become granular—the kidneys are or are not in a state of disease, however incipient, which is not only attended by symptoms, such as low specific gravity of urine and more or less irregular albuminuria, and by exacerbations from time to time, but is also progressive, h ever slow the rate may be. The somewhat hard, ro kidneys of old people which contain excess of fibr tissues are not kidneys of Bright's disease—not, t is, toxic in origin; they present no more than the placement fibrosis to be found almost in all area the aged. I have most carefully selected cases in wh there was no renal disease, incipient or establish cases which were watched for years without the pearance of renal disease, and some of which ended recovery. In respect to the vertigo, it has been held believe, that high arterial pressure is a common con quence of irritation of the ear; this opinion I do hold; I have not found such high pressure constant even usual in cases which for the moment I may call the current name of "Menière's disease." In 3 cases n under my care, cases in patients of 53, 55, and 60 ye of age respectively, I have taken careful note of t pulse, both during vertiginous attacks and in the int vals. During the attacks the pulse may slow a lit and the pressure rise, but this is a momentary a secondary phase; there is no persistent rise. On t other hand, in persons whose arteries are atheromato vertiginous symptoms may be troublesome, and it m be difficult or impossible to distinguish between verti due directly to this cause, whatever its precise mec anism, and that due directly to the senile plethora.

Vertigo—although, as Dr. Savill has particularly i sisted, it is a common symptom of senile plethora— not a severe or persistent symptom of the mere hype piesis, not even if this advance to such a degree to cause or seem to cause, tidal or "Cheyne-Stokes breathing. I remember attending a patient in Brad ford, with Mr. Teale, in whom extraordinarily hig blood-pressure, in a man, of about 50 years of ag engaged in vast business undertakings, was attende with maniacal wilfulness, delirium, stuporose state and tidal breathing; I have never seen Cheyne-Stoke breathing so well marked as during the worst thre days of this alarming illness; but on free mercurial an saline purgation and some local bloodletting (we ough to have bled from the arm), the patient made an exce lent recovery and was very active and well when heard of him some years later. Whether, as Professo Horsley and Mr. Leonard Hill have suggested in lik case, high pressure of the intracranial contents i especially felt by the respiratory center, I must leav to others to decide; this case and that of Mrs. E. sug gest it. The panting which I have noticed in cases o senile plethora without Bright's disease has more of a "nervous" than of a uremic character.

In some of my cases—as for instance in the strongly marked case of Mrs. C., although the pulse was very slow the relative duration of systole seemed not to be lengthened. Even to clamp large arteries in living animals does not relatively prolong the act of systole; but, as Roy demonstrated, the ventricle ejects less blood; the residual blood is more. Thus dilation, at first physiologic, as stress leads to strain and permanent set, becomes pathologic in degree; as in Mrs. C., it may go so far as to head back the mitral supply or even to raise venous pressure. Now, other things being equal, the velocity of the blood must be diminished proportionately to the resistance; and, as nutrition thus suffers, secondary morbid reactions will appear. I need scarcely say that I speak of the velocity of the blood itself; the velocity of the pulse-wave will be increased as the arterial walls are stiffened, an increase which may

e ascertained by measuring the carotid-radial interval, h the methods recently described by modern physiol-gists. In the lecture on Cardiac Physics I said that ie chief work of the heart, under normal circum-ances, is engaged in overcoming peripheral resistance; iat, if friction could be taken as nil, the velocity of the lood of 0.5 meters being, say, per second, but $\frac{1}{200}$ of the hole heart-work would be required. As Dr. Chapman f Hereford has remarked, this is "a precious margin," nd it seems uncertain, if the heart be hypertrophied to ieet an increase of peripheral resistance, how far in the um of the increase this margin will be fully preserved; et, if not preserved, herein would lie one of the condi-ions of ultimate failure; another being the tensile and hearing strains to which the substance of the heart and irger vessels is subjected. If ventricular systole be rolonged, and the work of the heart encroach on its est, failure of the organ is but a matter of time.

Hence, although I have learned from such cases as I iave related to-night that, if sound, the cardiovascular pparatus is capable of withstanding any possible tem-orary increase of blood-pressure, and will withstand persistent increase of stress, and even of peripheral riction, for a duration of time to be measured by ears; and that cardiovascular degeneration, depends, or the most part for its initiation at any rate, on ther causes, yet, as the cases of Mrs. C. and Miss D. iave indicated, excessive distention and friction of ong standing in old persons may induce a permanent norbid set of the apparatus, or of parts of it (chiefly of he left ventricle), which may prove irreparable. Yet, ven in Mrs. C.'s case, extraordinary as the strain had been, the arteries were not very atheromatous. Had Mrs. C. called upon me with a normal blood-pressure o consult me concerning some malady relatively indif-erent, I should hardly have regarded her arteries as ged beyond her years. That her aorta, however, was ilated and degenerated is likely enough.

[To be continued.]

A CASE OF DEATH FROM PSYCHIC INSULT, WITH REMARKS UPON DELIRIUM NERVOSUM DUPUY-TREN AND OPERATION-PSYCHOSES.

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THE results of psychic insults have long been known to surgeons under the name of delirium nervosum, and of late much has been written about them under the name of operation-psychoses. They belong in the field of psychiatry, hence my communication will not take into consideration the interesting theme of revision of the title which is so greatly needed. The case which I have to report was brought into prominence through a legal process in which I was called as a witness. The history of the case is remarkable because death followed a very slight injury. The whole affair was brought before the courts because of a very large sum of accident insurance, 240,000 marks, which was demanded because of the alleged connection between the accident and the death. Witnesses were summoned, an investigation was held and a legal judgment demanded, and in the course of the legal process many different opinions were expressed and contended. I was called as a consulting surgeon in the case of which I append a detailed history:

A manufacturing merchant named B., 51 years of age, had in his employ about 55 workmen, and had (according to the statements of the prosecution) an income of 6,000 marks; he was accustomed to travel on an average 1 or 2 months during the year and had never been ill nor injured (according to his own statement and the evidence in the insurance papers). Dr. B., who had known him 7 years, states that his physical condition had not changed during this time and he gave him a good certificate of health. Mr B. was not a drinking man, but lived a sober and industrious life. At one time he had nearly fallen from the door of a moving railway coach which was not carefu ly fastened. It was mentioned as a peculiarity (statement of the insurance agents) that he was very much interested in the matter of insurances and he had had the people engaged in business with him insured against accident. He himself had been insured for 25 years for 30,000 marks in a life-insurance company and during the past 15 years he had been insured in various companies at 140,000 marks against death or disability with 45 marks daily indemnity in case of injury. Two years previously his brother was injured in a railroad accident, and the company, in which B was also insured, had contested their liability by a legal process. This led B. to make a change in his accident insurance (statement of the defense). He notified this company with whom he was insured for 80,000 marks for death or permanent disability and 15 marks daily for temporary disability, that he wished to place his insurance elsewhere at the expiration of his present policy, and he entered into negotiations with other companies. His proposals were accepted by the new company, and after dissolving the old contracts B. was to have been insured for 180,000 marks for death or disability, and 30 marks daily for temporary disability. This was not a decided raise from his previous amount. At the time of the accident, before the expiration of the old insurance, however, B was insured for 240 000 marks with 60 marks daily for te nporary disability.

On the morning of January 15, 1897, B. was in his office with an apprentice and bookkeeper, his nephew. He stood by the window while the other two worked at a double desk, a few paces away; suddenly he turned from the window and said, "I have cut my finger and my pen has fallen into it!" His nephew stepped toward him and took pains to wash out the wound, which was stained with ink, repeatedly. B. then went to consult his family physician, Dr. H., but did not find him at home. Thereupon he sought Dr. Sch., whom he found at about 12 o'clock. He said to him: "I have hurt myself, doctor, and I am much worried about it; my brother in law died as the result of an accident." He related, in a very excited manner, how that he was sharpening a lead pencil on the ball of his left thumb and had cut himself; his pen, which was beh nd his right ear, had fallen into the wound; he was much worried for fear of blood-poisoning, his ink was so poisonous. He had heard of a physician who had pricked himself with a knife and had been found dead in bed on the next day. He complained of pain in his left arm and asked whether he should notify his insurance company. The physician found, on the ball of the left thumb, four small vertical scratches and somewhat farther up toward the wrist a fifth, though all extended only to the true skin and could scarcely have bled; they had a length of about 1 cm. and the lower one was stained with ink. B. would not be reassured and said: "Doctor, if you consider it necessary take off my arm immediately." After a thorough cleansing and the application of an iodoform dressing, B. went back to his factory. In the fact ry yard he met one of his foremen, to whom he told the story of his injury as just given. After this a bargain was to be closed with a farmer, in which B. did not take a part as was his custom; something quite str king. After complet ing his correspondence he went home with his nephew, who lived with him. On the way he complained of pain in his arm, but said his wife should know nothing of it; she was apt to be so much worried about such matters, but his accident-insurance notification should be made out. He did not return to Dr. Sch.; he waited until Dr. H., his family physician, had returned from his calls and went to consult him. The physician found the small injuries about as described by Dr. Sch; however, his description did not exactly correspond to that of his colleague. He scraped away the ink, which his predecessor had not been able entirely to

remove by vigorous rubbing with a knife and disinfected with mercuric chlorid; he then applied a fresh iodoform dressing.

B. acted very much as before; he felt that the poison was working its way toward the axilla; if Dr. H. considered it necessary his arm should be amputated. Dr. H. thought that there were symptoms of blood-poisoning because after completion of the dressing, as B. had gone to the next room to a bed, he fell in a fainting fit with profuse perspiration, and because he thought that he felt enlarged glands in the axillary space and venous pulsation in the forearm. According to his opinion, however, the blood-poisoning was too slight to justify amputation.

On the morning of the 16th Dr. H. and with him Dr. B. visited the patient, who had passed a bad night. He was in an excitable condition and also demanded amputation from Dr. B. He said, "It is better to live without an arm than to be buried with it." His mind wandered and he held long conversations with himself in which the words your Majesty; your Royal Highness; and 500,000 Jews among 50,000,000 Germans; a good daughter; were frequently repeated (B. was a Jew). He appeared to be holding a discussion on the Anti-Semitic question. Then he wanted to play skat with the Emporor and Dr. B. as a third. He had auditory hallucinations and called out "come in, come in," although there was nothing to be heard; he then admonished his daughter to lead a virtuous life, etc.; he detailed the arrangements for his burial, at which Chopin's death march was to be played and which he intoned to himself; at the same time he complained of headache, held his hand on his head and rolled about uneasily, and he threw the bedclothes off.

Requests that he might try to lie quietly were without effect; a small dose of morphin was also without result. An iced compress to the head was efficacious in so far that he no longer threw the covers off During this time his pulse was about 70, soft and regular, his temperature was not taken, possibly there was a slight rise. The physicians went out and a nurse from one of the hospitals took their place. After the doctors left, B. conducted himself about as previously, he crouched back in the corner and his face and mouth twitched. When quieted by the nurse he began to tell her about his most intimate personal affairs; he spoke about his high insurance and his family, his manufacturing interests and many affairs, in such a way that the nurse was astonished at his openness. When requested to try and get some rest he lay on his side and appeared to sleep, but very soon the nervousness, twitching of his face and cowering began anew. The yellowish white color of the man's face did not change and his pulse remained quiet. That evening at about 4 o'clock I was called by telegraph for an operation. I found the entire house in a state of the greatest excitement, the patient himself was free from delirium but was overwhelmed with the idea that he was going to die and that his arm must be amputated.

He had the greatest anxiety about the pain which would be caused by examination of the wound, but was so far reassured that the bandage was removed without special complaints. The character of the wounds on the ball of the left thumb had been changed by the scraping with the knife to a surface about the size of a mark piece; they were without irritation and covered with a light iodoform dressing. There was no appearance of infection or glandular enlargement; the statement about the painful places in the arm were so contradictory that an ascending neuritis could be ruled out. Physical examination showed a healthy condition of the internal organs; the urine could not be examined, but it was stated that at previous examinations by his physician it had been normal. On sitting up for examination the patient was found to be very weak, though he did not leave the bed; the twitching of the mouth and face were striking. From me he also demanded amputation. Since I could see no danger to life and could exclude infection I sought to reassure Mr. B., and this succeeded apparently after a long effort; but as he conversed later on about the results of the consultation he said: "Oh yes, the physicians believe that I am all right, if they only knew how deathly sick I am." When he was told that we were of the opinion that he had strained himself nervously, he said to his daughter: "Do you see, my child, a man must work until he lies down to die." We left the patient, returning again in an hour to see him; his condition was unchanged, his pulse was 72, soft and full.

About 7 o'clock I went to the railroad station, but scarcel reached there when I was recalled by a messenger with th statement that B. was in a serious condition. I hastene back with Dr. H. and we found Mr. B. in a desperate cond tion. Since there was nothing further to be done I hastene back to the railroad station in order not to lose my trai Then Dr. B. appeared at the death-bed and found the patien in a moribund condition; the heart's beat was scarcel audible. Dr. H. is said to have observed, however, that th heart continued to beat one-half to one and one-half minute after the cessation of respiration; he couldn't maintain thi when giving his evidence about a year after the accident No one had expected such a sudden end; the nurse, wh left him about 5 o'clock, said that she would have as soo thought of dying herself as to see Mr. B. die.

At the necropsy nothing of particular importance wa found; there was no arteriosclerosis; there was concentri hypertrophy of the left ventricle (thickness of the walls 2 cm.); some edema of the lungs; some old adhesions of the pleura; more clear fluid than usual in the lateral ventricles of the brain (estimated at about 10 cm.); the kidneys were healthy; the urine contained in the bladder was free from albumin. The results of the necropsy ruled out blood-poisoning, and there was no real cause of death to be found. The examination for poisons and ptomains were carried out by a prominent authority, on the tissue removed from the cadaver; the contents of the stomach, etc., showed no result. An examination of the knife and the pen and ink together with bacteriologic tests were also without result.

To recapitulate briefly: In a state of psychic and general health and without any previous delusion the patient had received a very insignificant injury; he believed that he had got blood-poisoning from the ink, felt pain which ascended the arm and which he believed to be due to the action of the poison, and he begged for amputation from all his physicians. Then followed a fainting fit and a bad night. On the next morning there was active delirium and great mental agitation with various delusions, grimaces and twitchings of the face, followed by great weakness. There was no fever, a quiet pulse, and the depression was not so great nor the mental condition so bad but that the patient could be aroused from it. When spoken to he gave intelligent answers for the most part and showed concern with regard to the condition of his family in case of death. He was quieted after being reassured and laid down for a short nap. Twenty hours after the injury and the affection which began with it, there was an incomplete crisis with profuse sweating; the previous symptoms remained until death, however, thirty-two hours after the injury. Death was very sudden and entirely unexpected.

At the time of the consultation and the analysis of the case, I expressed my opinion that we had to do with a traumatic neurosis which might develop into an acute psychosis. Today, when the history of the case has been thoroughly worked out from a consideration of a mass of evidence, I adhere to my original opinion that the acute psychosis resulted immediately from the trauma.

What physician will not be reminded by the present case of various operation-psychoses which occur as the result of psychic insults? As a general rule neuropathic individuals are affected, however persons of entirely normal psychic condition may be affected. The interest in Dupuytren's delirium nervosum has not been lessened; on the contrary. A special interest has been shown in operation-psychoses during the past few years since LeDentu[1] published his article. We have to distinguish between this delirium and the general psychoses. Two cases which I have observed in the Elberfeld Hospital lately, offer examples of the former

dition which are characteristic and give us the exact ture of mania acutissima of the psychiatricians.

ASE 1.—A neurasthenic manufacturer, who had been pre-usly healthy and in condition for work and who did not alcohol, crushed his finger in a stamping machine. The t treatment caused eczema, which lasted for a long time, l it was 6 weeks before the necessary correction of the ger was undertaken. About 2 hours after this injury there urred tonic contractions and cramps of the entire body, ecting specially the flexors of the arm. The patient's en- body was reddened, he was out of consciousness, groaned l complained. The attack lasted 6 hours, but did not end h sleep. Sleep the next night was poor and the excite-nt lasted in a lessened degree, without disturbance of con-ousness, for several days. Then followed a complete overy and the patient has remained in health for over a r.

ASE 2.—A butcher, who was not accustomed to using ohol and was in perfect health, injured his finger with a aver. Operation for repair of the injury was undertaken der anesthesia 5 days later. An hour after the completion the operation the patient began to strike against the bed-ts, etc., avoiding, however, his injured hand. He felt hing and lost consciousness entirely. About every 2 nutes such an attack came on and in the meantime he nained quiet. The pupils were moderately large and re-ed to light. After this condition had lasted 2 hours sleep l entire quiet followed, and on the next day the patient s entirely well

Here we have 2 perfect examples of Dupuytren's de-um nervosum. Rose[2] has denied the existence of s affection and has classed it with delirium tremens. is remarkable that an observer of his experience had t seen this form of disease. However, Billroth,[3] also d that he had not seen this affection, which he would signate with the name delirium nervosum trauma-um.

Not the severity of the trauma, but the psychic shock duces the effect upon the brain and causes delirium rvosum. Examples of this are furnished by my case d also that of Le Dentu[4] in which the delirium oc-rred during the application of a dressing for frac-ed clavicle in a man who did not use alcohol. Also hé[5] mentions two cases of acute mania; the one urring after the introduction of a speculum, and the ner after catheterization of a man. It is a well-own fact, which, perhaps, does not need farther phasis, that mania acutissima of the psychiatricians the same etiology and symptom-complex as deli-m nervosum. I cite the characteristic case of v. afft-Ebing,[6] whose patient, a school-boy, fell in a state tonic convulsion after being punished by his cher. The boy then received 2 cuffs on the ear, ich he did not feel and had no influence on con-ousness. Then there developed a condition of mania h convulsions, from which recovery eventually fol-ved. As is the case with mania acutissima, the de-ium also affects neuropathic individuals who show porary predisposition; delirium from intoxication d from septic affections naturally do not belong in s class. In how far hysterical and epileptic factors ve an influence must be determined in each indi-lual case. The differential diagnosis may be difficult many cases. If we put on the same level delirium rvosum and acute transitory mania then the oper-on-psychoses should be classed among the acute lusions of the psychiatric system. There may then present the most varied clinical pictures of neuro-ychoses which I need not enumerate, they are well-own to surgeons. Hereditary predisposition and a te of temporary excitability are of great significance in their etiology. Like acute delusions, operation-psychoses may also follow immediately after psychic insults. Marlier[7] reports a case in which insanity followed in a half-idiotic young man immediately after the extraction of a molar tooth.

Our Mr. B.'s case may thus be called with right an acute delusion for psychic insult. The difficulty lies, however, in the explanation of the sudden death. The psychiatricians recognize no case of death following mania transitoria and acute delusion; on the contrary, the textbooks and handbooks of surgery, as well as all special treatises, from Dupuytren's *Leçons orales*, to Marlier,[8] state that death does occur occasionally though very rarely after delirium nervosum and operation-psychoses. Can this be then, *ein Märchen aus alten Zeiten?* One may almost say so. In so far as the literature was accessible to me I have investigated this question. Dupuytren has certainly mixed several forms of delirium, as is shown by Rose,[9] so that it is impossible to make definite statements from his writings, but also later authors in so far as the orginals were accessible to me do not bear close examination in this respect. Le Dentu observed 2 deaths among 68 cases, one after resection of the lower jaw, one after a radical operation for hernia. The details of these cases were not accessible to me, in the reference which I consulted. Marlier[10] saw two deaths among twenty cases, one after an accidental wound-infection, the other after operation for echinococcus of the liver. Rohé,[11] who has collected statistics about the conditions found in the insane hospitals of the United States and British America, mentions 4 deaths among 25 cases. In his short relation no cause of death is mentioned, so that these may be reckoned among such cases only conditionally. Also in a handbook which has lately appeared by Sachs and Freund,[12] the authors state that they have never seen a fatal result after traumatic psychoses.

Thus it would seem that my case, Mr. B., was the first of its kind which has been reported. What was the cause of death? The necropsy gives us but little information. The increased amount of fluid contained in the lateral ventricle of the brain was probably only a predisposing cause for certain irritability of the brain. The marked concentric hypertrophy of the left ventricle of the heart, the slight edema of the lung suggest death from heart-failure occurring in a weak, poorly nourished, and excitable man. The observation that the heart beat some time after cessation of respiration I believe to be a mistake since this was noted by only one of the physicians present at the time of death, who couldn't state it when the evidence was given later on. As to the condition of the heart-muscle, it is only mentioned that it did not show fatty degeneration and was of good consistency. Nothing is stated as regards the color of the musculature, and a microscopic examination was not made. Thus it appears to me possible that death resulted from insufficiency of the heart.

I must, in conclusion, say a few words concerning three other theories which were presented by the defence. Two witnesses were of the opinion that Mr. B. committed suicide with curare. This opinion is supported by the important negative results of the necropsy in the main point and the fact that respiration continued longer than the heart's action. In curare-poisoning the death occurs after paralysis of the voluntary muscles, thus after cessation of respiration and while the heart beats for some time. It is well known that up to this time no case of fatal

curare-poisoning has been reported, either in medicolegal or general medical literature, so that we may accept this opinion only very conditionally. I pass over these generally recognized facts. I have mentioned already the uncertainty with regard to the statements of the physicians concerning the pulse and respiration at the time of death, but, allowing that this observation is correct, it must also be shown that this difference in the cessation of the vital functions is not seldom in case of ordinary death; that it may not be that in one case there is a continuance of the heart-beat after cessation of respiration while the reverse is true in other cases. With the same right one might say (as was remarked by a third witness) that the fact that the heart was first to cease functioning and the respiration continued was dependent on poison by a member of the digitalis group. The theory of curare-poisoning was elaborated in a logical manner by the defence. It was said that the entire course of the illness was simulated, that Mr. B. after first consulting a physician, when he saw the little attention his physician gave to his condition, deepened his wound and stained it with more ink; that he had intentionally brought about the first injury and that it did not happen by accident while he was sharpening his pencil. They said further that no one is accustomed to sharpen his pencil upon the ball of the thumb, and that the poison was finally taken unobserved, after we had left him to go to the railroad station, so that nothing could be determined when we had returned and saw him on his death-bed. The defence tried to show that Mr. B. had first tried to get his arm amputated in order to suffer the least possible personal injury and get a large sum for disability, and that he had later determined to poison himself with curare when he saw that his physician would not amputate his arm. Mr. B. was thus made a hero of a criminal novel, or, as a third witness expressed it, a specially constructed apparatus for a snare and delusion to insurance companies. But why should a man differ so remarkably from his fellows, and where did he get the strength of mind to carry out so dreadful and difficult a deception, in which three physicians were entirely misled? None of the physicians who were present had the slightest thought of any attempt at malingering.

The opinion was then brought forward and contended that the case was one of tetanus, in which there was a preliminary stage of excitability and delirium resulting from rise of temperature; trismus had been overlooked and death occurred during the first severe tetanic convulsion, which had brought the action of the diaphragm to a complete standstill. But in tetanus there are no preliminary stages. The old aura tetanica was suggested by false observations. Delirium and tetanus may be excluded; there was no fever, there was no locking of the jaw, death did not follow in the characteristic convulsion with opisthotonos and with the appearance of suffocation. However at the end of his memorial this third witness declares that if tetanus could certainly be excluded, then the death was dependent on a very severe form of acute hysterical psychosis, occurring in a man predisposed to such a result from fright and excitability from an injury which he believed to be severe.

With this witness I agree, although I prefer to not accept the term hysterical, which I do not believe we are justified in employing from the history of the case.

The court has not yet rendered a decision. I trust that I shall be able to report its sentence at a later date. However, the case offers so much that is interesting that I feel there is justification for its publication.

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THE CONTROL OF HEMORRHAGE IN PENETRATING WOUNDS OF THE CHEST.[1]

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WHEN any instrument penetrates the thorax, the hemorrhage is generally free, and sometimes alarming. It may take place from three sources: from the lung, from an intercostal vessel, and from the internal mammary artery, or from any combination of these. The position of the wound alone will probably tell whether the intercostal or internal mammary vessels have been severed, for very soon after these vessels have been divided they retract, and the characteristic spurt of an artery is lost. The internal mammary artery is given off from the first portion of the subclavian, and runs down the chest in front of the pleura, and behind the costal cartilage and internal intercostal muscles, about half an inch to the outer side of the border of the sternum. At the third or fourth rib the triangularis sterni muscle intervenes between it and the pleura. If, therefore, the wound extends within half an inch of the border of the sternum, the internal mammary vessels will most probably be injured. The hemorrhage may be controled by a tampon or by ligation. To tampon, the center of a square piece of gauze is pushed through the wound, and well filled with strips of gauze. The whole mass is then drawn forcibly outward and secured, so that firm pressure is made against the inner wall of the thorax and the two corresponding ribs. Occasionally an extension of the wound parallel with the ribs will permit of a ligation of the vessels, but if they have been completely divided, their retraction will generally defeat this, and the wound must be enlarged in a direction parallel with the sternum, and a costal cartilage resected. This will give ready access to the artery. If the wound of the chest is below the third interspace, the hemorrhage may be controled with a strip of gauze firmly packed against the triangularis sterni muscle. The anastomosis of the internal mammary with the deep epigastric artery is so free that both ends of the vessel must be secured, or hemorrhage from the distal portion will take place.

The intercostal vessels, posterior to the angle of the ribs, lie between the external intercostal muscle and a thin prolongation of fascia which takes the place of the internal intercostal muscle in this situation. At the angle of the ribs, where the internal intercostal muscle begins, the artery lies between the two muscles, and

[1] Clinical lecture delivered at the Pennsylvania Hospital, February 7, 1900.

vides into two branches, the larger running in the oove on the lower border of the rib above, and the naller branch along the upper border of the rib low. The smaller branch is too insignificant to give onounced hemorrhage. If the missile has penetrated sterior to the angle of the ribs, the intercostal artery as almost certainly been cut, and a slight enlargement the wound will readily bring the ends into view for gation. In doing this a little care must be used to oid further wounding of the pleura. If, however, e wound is anterior to the angle of the ribs, the tery in this situation is well protected by the groove the rib, and will seldom be injured, unless the rib self shows marks of violence. I have made a number stabs between the ribs on a cadaver, and I found at the artery was in no case cut unless the rib also owed marks of violence. Therefore, if the lower order of the rib shows injury, the artery has very obably been cut, and an enlargement of the wound ill readily enable you to ligate it.

The postion of the wound then tells you whether the ternal mammary or an intercostal vessel has been vered, and you will deal with it accordingly, and en close the wound and apply a sterile dressing. ould, however, the signs of bleeding still persist, d the physical signs of the chest show that the eura is filling up with blood, then the source of e hemorrhage must be the lung.

Hemorrhage from the lung is sometimes characterized very dark, almost black, blood. This is due to a ounding of the branches of the pulmonary artery, e darkest blood in the body, and the escape of the ood before it has a chance to be acted upon by the r. If, however, the blood has collected in the pleura d been agitated with air on account of a pneumo- orax (*i. e.*, air which has entered the pleura), it ill be considerably lighter in color. For the same ason the blood on the dressings is usually of normal ue. Hemoptysis (*i. e.*, the spitting or coughing up blood) may or may not be present when the lung is ounded. Of the nine or ten cases I have seen, it as been absent certainly half the time. When present e blood is bright in color, as it has had a chance to be ell aerated on its passage through the bronchi.

How then shall we deal with profuse hemorrhage om the lung? Some textbooks advise the immediate osure of the external wound by suture or a plug of auze, others the insertion of a drainage-tube with ee drainage, and a few give both procedures, but do ot state why one should be used in preference to e other.

From a mechanical point of view the thorax may be garded as the framework of a pair of bellows, and the ngs as an elastic bag within this framework, and the ly communication this elastic bag has with the outer r is through an air pipe or trachea. When the frame- ork enlarges its capacity by muscular effort, the pres- re of the atmosphere forces a stream of air into the ngs, so as to distend them and fill the space caused y the expansion of the framework. Expiration, during uiet breathing, requires no muscular effort, the expul- on of air being acccomplished by the elasticity of e parts. The most powerful force in this is the asticity of the lungs, which are on the stretch even ter a forced expiration. When the framework is per- rated, on expansion of the chest air will enter through is hole as well as in the trachea, and the amount air that will enter the pleura will be proportionate to the size of the hole; and also the more air that enters through this perforation, the less will be the expansion of the lung. If the perforation is equal to the capacity of the trachea, the lung will entirely collapse, because it is easier for the atmosphere to enter through the perforation than it is to enter the trachea and overcome the resistance of an elastic lung.

When plugging or immediate suture of the external wound is resorted to, strapping of the chest is also recommended, with the application of cold, and the administration of drugs, like ergot, sulphuric acid, etc. The object of closing the wound is to dam up the blood in the pleural cavity, and so, by its mechanical pressure on the lung, stop the hemorrhage. That many cases have recovered under this line of procedure is well known, but does the hemorrhage cease on account of this intrapleural pressure? Surely not until the amount of blood lost to the patient is very large. In the first place, the pressure in a lung on forced inspiration is equivalent to a column of mercury about 30 mm. high, and at expiration its pressure is a negative one of from 6 to 10 mm. of mercury; in other words, the tendency of the elastic tissue of the lung to still further contract is equivalent to from 6 mm. to 10 mm. of mercury. By strapping the chest we endeavor to prevent the respiratory muscles from acting and keep the lung in a position of expiration, one in which the intrapleural pressure is negative instead of positive. To be sure the capacity of the chest is diminished, but it will still be large enough to hold a quart or two of blood before any considerable pressure will be exerted on the lung. Secondly, when blood is poured into the pleura and air is excluded, there is little or no tendency for it to clot, and it frequently remains fluid for days or even weeks. Therefore the chances of the cut vessels closing by clot are materially decreased. Thirdly, as the mechanical pressure from the effused blood increases and forces the lung back against its root, it must materially affect the circulation of blood through the lung, and so engorge the right side of the heart and raise the blood-pressure. Therefore, as the mechanical pressure increases the blood-pressure rises also, and, the severed vessels remaining patulous, the gain from the outside pressure is in a measure overcome by the increased pressure within the vessels. I say in a measure, for the loss of blood will of course tend to decrease the blood-pressure. By the application of ice to the chest, only a slight effect can be exerted on the lung, and the exhibition of drugs I believe to be useless, and of ergot to be positively harmful. Ergot stimulates the muscular fibers of an artery to contract, and so diminishes the caliber of the tube, but at the same time it makes the artery more rigid, and prevents its walls from collapsing, and therefore lessens its chances of closing by clot. Now when such a case recovers, it does so with a pleura filled with blood. If the blood remains fluid it may be easily aspirated and no harm result. But if clotting takes place, a rather formidable operation would be required to remove the clots, and if they are allowed to remain, organization will take place, the pleural cavity will be obliterated and the lung tightly glued to the chest-wall; a condition which certainly impairs the usefulness of that organ and renders it more vulnerable to disease.

In a case in which a bronchus has been opened in addition to a severing of the vessels of the lung, and in which the external wound has been sealed, the hemorrhage will be much more rapidly controled, owing to

the mechanical pressure of the pneumothorax on the lung, and the blood will readily clot in the presence of air; an ideal condition for the rapid control of hemorrhage. But the patient is subjected to the risk of having this mass of blood-clot infected through the opened bronchus, and changing a hemothorax into a pyothorax. This risk, while it is not an immediate threat to life, is a serious one, and should not be incurred with the hope that infection will not take place. Also, by closing the external wound, the chances of a general emphysema taking place are much increased, a complication which is annoying and may be serious.

When a drainage-tube is inserted into the pleural cavity and free drainage established, the pleura is rapidly filled with air, and the muscles of respiration are prevented from acting on the lung, allowing the lung to contract by its own elastic tissue as well as by the pressure exerted by the pneumothorax, and at the same time the presence of air favors clotting in the severed vessels. In my limited experience this simple procedure has been quite sufficient to control very alarming hemorrhage. In addition the drainage has cleared the pleura of blood, and if any infecting material has been carried in, it has reduced its dangers to a minimum. It has been objected that the drainage-tube is itself a menace to the sterility of the wound, but if the surgeon has taken proper precautions to protect it, the dangers of infection from this source must surely be slight. However, if it does occur, it will be limited to the immediate neighborhood of the wound and cannot be a complication of much seriousness. Another objection, and one of more weight, is the danger to the patient from a large and rapidly formed pneumothorax. Many experiments have been made on dogs to find out what these dangers are, and they have shown that when a healthy pleura (one without adhesions) is freely opened, symptoms of heart-failure are rapid, labored breathing is always present and very alarming, and in several instances was sufficient to cause the death of the dog. If the animal did not die, the dangerous symptoms slowly disappeared. If the wound was promptly closed, the symptoms disappeared much more rapidly. The gravity of these symptoms was directly dependent upon the size of the opening made in the chest, and the rapidity with which a complete pneumothorax was formed. Death was undoubtedly due to the sudden engorgement of the right side of the heart, and the dog lost his life because he was strong and full-blooded, and the sudden rise in blood-pressure was sufficient to overcome the heart. Would these objections seriously apply in a man who has lost much blood? I think not, but if dangerous symptoms do appear, withdraw the drainage-tube and temporarily close the wound with gauze. In a short time these dangerous symptoms will disappear, and you can then insert a smaller tube, and allow the pneumothorax to form more slowly. The admission of air to the pleura is perfectly under your control, and you can stop it, increase it, or diminish it at will. Further, when the hemorrhage has been very great and the blood-pressure reduced to its lowest ebb, the free opening of the pleura is a quick and ready means of raising the pressure and tiding the case over until sterile salt-solution can be injected into a vein.

If drainage and the admission of air to the pleural sac does not control the hemorrhage, and the patient's condition continues to grow worse, and the shock more profound, then, as a last resort, the wound in the lung must be ligated, packed, or sutured. This will require the resection of one or more ribs, as a lung cannot be packed unless grasped and held. Remember this will be your patient's last chance, so procced to it boldly and quickly, no matter how precarious his condition may seem, for on your speed and judgment his life hangs.

The patient, X., was brought to the hospital with three stab-wounds of the chest, all on the left side, and two of them penetrating to the lung. The upper one was situated in the posterior axillary line, in the eighth interspace, on a level with the nipple. The thrust was apparently directly inward, as the finger carried in revealed wounded lung-tissue at the same level. The lower wound, from which a piece of omentum was protruding, was located in the ninth interspace and midaxillary line, 2 inches to the right and 6 inches below the upper wound. The man was much shocked; temperature, 96° F.; pulse soft and very rapid; countenance pale and surface moist. Air was rushing in and out of the wounds with each respiration, but the external bleeding was slight The protruding omentum showed that the diaphragm had been cut. The abdomen was distended, tense, and dull, especially in the flanks. This led me to believe that the spleen or some large bloodvessel had been injured in the abdomen. The patient was etherized and the abdomen opened in the median line above the umbilicus. A large quantity of liquid and clotted blood immediately escaped. A small portion of bleeding omentum was ligated and excised, and the abdominal cavity searched for a wound. Nothing was found except a large rent in the left segment of the diaphragm, through which the blood was pouring from the thoracic into the abdominal cavity. At this point the patient's condition became very alarming, and three quarts of salt-solution was transfused into the median cephalic vein, while the abdominal incision was being closed An attempt was made to insert gauze packing into the wounded lung. This was followed by free hemorrhage through the gauze pack, and at the same time expectoration of frothy blood. The pack was hastily withdrawn, and a large fenestrated rubber drainage-tube was then inserted at the upper and brought out at the lower wound where it was secured. Air was now freely entering the pleural cavity with each inspiration, and at the same time a large quantity of blood was escaping through the tube. A large aseptic dressing was applied and the patient put to bed. His condition, though very serious, was slightly better than on admission. Eight hours after operation his condition was much better; temperature 100° F.; pulse rapid but of good volume. The primary dressing was saturated with blood and some oozing persisted. Some dyspnea was experienced, but no further hemoptysis occurred. Despite the fact that a large amount of blood had saturated the dressings the indication that our treatment was controling the hemorrhage was seen in the patient's condition. His temperature in a few hours had risen from 2.5° below normal to 1.5° above normal, and his pulse, while rapid, was steadily increasing in volume. If his condition had not improved in a short time, or had grown steadily worse, I would have been compelled to re-etherize him, resect one or more ribs, and ligate, suture, or pack the bleeding area in the lung, at the same time again resorting to the intravenous injection of salt-solution. The drainage-tube was removed on the third day, the hemorrhagic oozing having almost ceased. His convalescence was uneventful, with the exception of a mild purulent pleurisy which developed ten days after operation, accompanied with a rise in temperature and free discharge from the chest wounds.

I have thus far dealt particularly with stab and lacerated wounds of the chest, because my experience in this hospital has been confined almost entirely to this class of injuries. During the late war with Spain I saw three gunshot wounds of the chest made with the high-velocity Mauser bullet. In these cases the bullet had passed completely through the thorax, showing a wound of entrance and of exit. None showed indications of injury to an intercostal or internal mammary vessel, and physical examination revealed the bleeding from

the lung to be slight. All were treated by the immediate closure of the wounds with antiseptic dressings, and their recoveries were speedy, complete, and uneventful. Had, however, the bullet caused any considerable hemorrhage from the lung, the indication to open the chest and drain the wound, to me at least, would have been imperative.

My conclusions are, then, that when the wound of the lung is giving only slight hemorrhage, close the external wound with gauze and watch for the physical signs of bleeding. When the hemorrhage is more marked, open the chest, insert a small drainage-tube, and regulate the admission of air according to the difficulty of respiration in the patient. When the hemorrhage is large and its symptoms alarming, open the chest and insert a large drainage-tube, so as to form a rapid and complete pneumothorax, and at the same time, when necessary, inject salt-solution into a vein. When this does not control the hemorrhage, resect one or more ribs, and deal radically with the bleeding. In severe hemorrhage from a lung, the first object of treatment should be to get pressure on that lung. By opening the chest, air will do this as well as blood in the pleura; it will do it instantly instead of waiting until a sufficient amount of blood has been poured out; it will save to the patient the amount of blood necessary to exert this mechanical pressure; it will permit the vessels to close by clots; and the remote benefits are that it eliminates the dangers of a pyothorax or of universal adhesions of the pleura. The danger from engorgement of the right side of the heart must be slight where the patient has lost much blood. Because it is a great danger in a full-blooded dog is no reason why it should be so in an exsanguined man, for the conditions are different and the cases not parallel. It is only fair for me to tell you that these views are my own, and are not endorsed by the majority of surgeons, but I give them to you because they are the result of my experience, and because they seem to me logical and correct.

A CASE OF MALARIAL FEVER. SOME STAINS FOR THE SPOROZOA OF MALARIA.

By ALBERT WOLDERT, M.D.,
of Philadelphia.

The following case of *estivoautumnal fever* with *tertian* paroxysms originated in Philadelphia. From several points of view the clinical history is interesting, particularly as it shows the resistance of this type of organism towards the action of quinin, and also its marked tendency to relapse.

The patient was a boy, 12 years of age, a native of this city and who came to the outpatient department of the Howard Hospital for treatment on November 29, 1899. The father, mother, a brother 2 years of age, and three sisters, respectively 13, 6, and 4 years, have been healthy, none of them having been ill for many years, except the sister 4 years of age, who had an attack of typhoid fever in the spring of 1899. This attack of fever lasted for six weeks. The patient's residence is located in that section of the city near the marshes of League Island. The patient had always lived in Philadelphia, and had never been out of the city limits. The residence is situated not far from the open country intervening between the last few blocks of houses and the open country towards the south. This open country consists of truck farms through which run numerous streams of fresh water, and in many places small puddles of stagnant water may be found. The country is subject to overflows and is a typical spot for the propagation of *mosquitos*. The patient stated that within a square of his home a puddle of stagnant water had remained throughout the summer, and further away another puddle of water could be found. These collections of water were on the southeastern side of the house and from which the prevailing winds had blown.

Personal History.—The patient had measles when 3 years of age, and for years had suffered from indigestion. Six years previously he had suffered from daily chills, which only lasted for a period of 3 days. The patient never drank any water than that from the hydrant. Mosquitos were said to have been very plentiful at his home during the past summer. They were especially noticeable toward the night-hours. Whether the *Anopheles* abound in this region I shall endeavor to determine during the coming summer.

Present Illness—Began 7 weeks previously with nausea, vomiting, thirst, loss of appetite, dyspnea, constipation, and pains in the dorsal region of the chest. The urine was variable in color. He had in the early onset of the disease been treated by another physician who had diagnosed the heart-trouble with which he was also suffering. A liquid medicine had been prescribed and 4 days later began to take white pills which contained quinin. These pills he took 3 times a day for 9 days, when all medicines were discontinued.

On November 20, or about 20 days after he had ceased taking the pills, he had the first *shaking* chill, which came on about 2 P.M., and was followed by fever. On the following day he felt better. On the second day he had another shaking chill which was also followed by fever. After the first chill on November 20, they recurred at regular intervals, *every two days* (tertian paroxysms), coming on at 2 P.M., and always followed by fever and vomiting.

Patient's Condition on November 29—The lad had a blanched appearance, the appetite was gone, the tongue clean and moist, bowels constipated. On examining the chest a loud mitral murmur could be heard which was transmitted towards the axillary region.

The heart-dulness measured 7.5 cm. from above downward, and 12 cm. from right to left. The left ventricle was probably hypertrophied.

The splenic dulness measured 6 cm. from above downward and 8 cm. from right to left. Its lower border could be slightly felt by pressing upward under the ribs. The organ was somewhat tender. The spleen therefore was but very slightly enlarged. It remained in this condition throughout the attack and never became perceptibly larger. On December 7 it appeared to be normal in size.

The liver-dulness above began in the sixth interspace and extended downward to free border of ribs, in the latter area being quite painful on deep pressure and more so than over the splenic area. The liver was therefore normal in size.

On December 4, the urine was examined. It showed dark amber color; acid reaction; specific gravity 1.020; no albumin; no glucose; no indican; no casts; no blood; there were uric acid and urate crystals present.

Examination of the Blood.—On November 29, at 1 P.M., and a few moments before a chill, the fresh blood was examined and there were found crescent-shaped malarial parasites, all of which contained pigment in fine granules The specimen was afterwards stained with eosin and methylene-blue and showed a few nonpigmented intracorpuscular parasites, and also extracorpuscular crescents which contained pigment.

The patient was given calomel in fractional doses and on the following day quinin (3 grains) with dilute hydrochloric acid (4 minims) was given every four hours. The fever lasted from November 29 to December 7, during which time he constantly took quinin. On December 11, 72 grains of quinin in acid solution had been taken. The blood was again collected from the lobe of ear and stained with thionin, with a triple stain, and with eosin and methylene-blue. In all the specimens crescent parasites persisted.

Temperature and Pulse.—On December 1, at 5 P.M., the temperature was 103, pulse 106; December 2, temperature at 2 P.M., $98\frac{3}{5}$, pulse 84; December 3, temperature at 4 P.M., 100, pulse 88 (no chill today). December 4, temperature, 2 P.M., $98\frac{2}{5}$, pulse 84; December 5, temperature at 4 P.M., $98\frac{3}{5}$, pulse 76; December 7, temperature at 12.30 P.M., $98\frac{3}{5}$, pulse 76. After December 7 the temperature and pulse remained normal.

Treatment.—On November 29 fractional doses (grain $\frac{1}{6}$) of calomel were given every hour until eight had been taken.

This was again repeated two days later on account of the constipation which existed Quinin (3 grains) with dilute hydrochloric acid (4 minims) was prescribed on November 29, but the patient took only two doses, and never regularly until December 3, when it was taken every 4 hours.

On December 11 a capsule containing the following was given every 4 hours: quinin, 1 grain; mass carbonate of iron, 2 grains; strychnin sulfate, grain.

The patient's recovery was rapid. On Saturday, December 30, he began to suffer with diarrhea and four days later with nausea and vomiting. Late in the afternoon his hands became quite cold, but he did not shake. Considerable abdominal pain was present. On January 5 a careful examination of the blood was made and proved negative, and it was believed this seeming exacerbation was due to an excess of improper food during Christmas week. Several unnecessary doses of quinin had been given before the blood-examination was made.

SOME STAINS FOR THE SPOROZOA OF MALARIAL FEVER.

Perhaps one of the easiest methods of staining the malarial parasites, and one which may be used in localities without laboratory facilities, is that recently advocated by Futcher and Lazear.[1] The method is as follows: The fixation-fluid consists of a 0.25% solution of formalin in 95% alcohol, which must always be prepared freshly. As advised by Futcher, it may also be quickly prepared by adding 4 or 5 drops of a 10% aqueous solution of formalin to 10 cc. of 95% alcohol, just before using. The staining-fluid is as follows:

Saturated solution of thionin (Cogit's) in 50% alcohol..... 20 cc.
2% aqueous solution of carbolic acid.....100 cc.

Thionin phenate is probably the product formed and is the staining agent. The supernatant liquid only should be employed. The staining-fluid should be kept for some time before it is used. The blood should be collected in the usual manner on a coverslip and after drying thoroughly in the air is placed in the fixation-fluid for one minute, washed carefully in water (never under a hydrant of running water), dry thoroughly with edge of a blotting paper or in the air, and stain for 15 seconds; wash in water, dry thoroughly and mount in Canada balsam. By this method the entire process may be completed within *two minutes*. The red cells are practically unstained and have a faint greenish cast, the malarial parasites and nuclei of the leukocytes are stained a reddish-violet; the pigment remains very dark.

As the contrast between the red cells and stained parasites is not great it requires some time to find the malarial organism. This stain is highly recommended for the ring-shaped bodies.

In attempting to make the Prince blood-stain,[2] several months ago, I produced a stain for the malarial parasites which gave a high contrast.

By this method the specimen must be fixed by heating at 115 C. (239 Fahr.) for fifteen or twenty minutes and stained.

The formula for making the stain is as follows:

Solution No. 1.
Toluidin-blue .....15 grains.
Distilled water .....4 drams.
Solution No. 2.
Acid fuchsin.....15 grains.
Distilled water ....½ dram.
Solution No. 3.
2% aqueous solution of eosin.

To solution No. 1 add 20 drops of solution No. 2 and afterwards 20 drops of solution No. 3. When these are mixed together a reddish stain is produced in the bottom of which a heavy precipitate occurs. It is essential that the solutions be mixed in the bottle from which the stain is to be subsequently used, as the precipitate seems to be of advantage in the "ripening" process.

After fixing by heat the specimen is stained for five minutes in the cold, washed in water, dried, and mounted in Canada balsam. By this method the malarial parasites are stained blue, the red cells a faint pink, and the nuclei of the leukocytes blue. The pigment granules of the malarial organism remain a very dark color. The parasites by this method are easily found.[3]

[1] *Bulletin Johns Hopkins Hospital*, April, 1899.
[2] PHILADELPHIA MEDICAL JOURNAL, December 24, 1898.

A PECULIAR MANIFESTATION OF UREMIA.

BY FREDERICK KRAUSS, M.D.,
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THE difficulty presented by the differential diagnosis in cases of coma and convulsions is illustrated in the following instance, which occurred a short time ago.

I was called in the emergency to a neighboring house to see a woman who was suddenly taken ill. Upon my arrival I was further informed that the woman had had what was supposed to be an epileptic convulsion, which had lasted for some time, and that now the patient was asleep.

I was further told that the patient was a stranger, boarding at this house, and that she had previously always enjoyed good health. She had just returned from a vacation in the country, locality unknown, where several days previously she had eaten ice-cream, which had made her sick. Later in the evening she had fallen or had struck her head very hard in some manner, after which she again vomited. After her return to the city (which had occurred two days previous to my seeing her), the mistress of the house noticed that her boarder was confused in regard to dates and events, and was apparently somewhat dazed.

She was not known to drink any intoxicating liquors and had previously always had good health and good character.

This mental confusion became gradually worse, but was not seriously regarded because the patient ate heartily at meals.

The patient had not consulted a physician for years. At one o'clock of the day of her death she ate a hearty meal and was, apparently, feeling better. She was discovered a few hours later in her room in a convulsion, which was thought to be an epileptic convulsion. Upon the return of the convulsions later on, I was hurriedly summoned.

The patient was a very well-nourished woman, about 42 years old, with a fair complexion and dark hair. She was lying prone upon her back, across the bed with her feet dangling upon the floor, and was completely unconscious. I removed her false teeth which were lying loose in her mouth. The head was drawn to the left, by a state of slight tonic spasm of the left sternocleidomastoid, and there was present a conjugate deviation of both eyes to the left. The left pupil was 4 mm. in diameter, while the right one only measured about 2.5 mm. Both pupils, however, responded to light. There was a small subcuticular hemorrhage upon the upper lid of the right eye.

[3] A more extended account of these stains was presented by the author to the Philadelphia Pathological Society, January 11, 1900.

The left hand was somewhat spasmodically contracted by e flexor corpi ulnaris, the half open hand being toxically awn toward the ulnar side. The rest of the body was com-etely relaxed.

The breathing was stertorous, with large mucous rales in the onchi. Respirations were at the rate of 19 per minute. ne pulse was exceedingly weak, barely perceptible, and out 160 beats per minute. The heart-sounds could hardly differentiated, appearing almost as one sound. There was edema of the lower extremities.

She was sweating freely, the beads of perspiration being ominent. There was no perceptible urinous odor. The wels had moved involuntarily, the feces having no par-ularly disagreeable odor. The coma was absolute. De-utition was impossible, and attempts to force the same oduced a convulsion. In a few minutes she developed an-her convulsion—the first one of the two attacks that I itnessed, each lasting about 30 seconds.

The convulsions began by severe twitching of the left side the face and neck, both pupils dilating and contracting nchronously and simultaneously with the facial contrac-n. The pupils appeared to remain unequal even during is extreme and peculiar hippus, during which the pupils ried from full dilation to a 2 mm. contraction.

The convulsion extended to the left arm and hand and ot, leaving the right side of the body relaxed, resembling ralysis.

Suspecting uremia in spite of the character of the nvulsion, I catheterized the patient immediately and amined the urine very carefully by the heat and tric-acid method, as well as by the cold or Heller's st. The urine voided was about 16 fluidounces, pale mber in color, having no sediment. The test showed t the faintest trace of albumin. No ophthalmoscopic amination was made because the moving of the tient seemed to excite instant convulsions.

The differential diagnosis was extremly difficult. remia seemed to be excluded by (1) the history of revious continuous good health, except the vomiting used by ice-cream apparently, a few days previously; 2) the convulsions were atypical—being unilateral ith paralysis of the opposite side—accompanied by rongly marked conjugate deviation; (3) the urine creted being fair in amount, of good color and specific avity 1.018, and showed no trace of albumin by the ost delicate tests (I was unable to find tube-casts); 4) the patient was sweating freely; (5) there was a istory of a traumatism of unknown amount, followed y gradually increasing daze of the intellect and slight elirium.

The convulsion and coma resembled that seen after vere and increasing subdural hemorrhage, but this tter was unlikely, as the traumatism had occurred veral days previously.

Under the circumstances I could not make a positive iagnosis, the patient dying within 40 minutes from the me I first saw her. The case was brought to the coro-er's notice. The autopsy was made by the coroner's hysician, Dr. Wadsworth, who found the following nditions:

"The kidneys were extremely soft and showed chronic phritis with recent congestion. The lungs slightly edema-us, such a condition of brain (slight edema and conges-on) as is frequently found in uremia. No inflammatory nditions, no fracture of the skull and no gross lesion of ic brain-substance. . . . The contractions I found bilateral."

From this report it is very evident that the only pos-ble lesions that could have caused the convulsions, co-a, and death in this patient were those of the kidneys. he history of traumatism and the subcuticular hem-rrhage in the eyelid were misleading and had no sig-ificance. This case shows that uremia may occur in persons in whom there may appear to be a fair secretion of urine, containing no albumin, and that conjugate deviation with hemiplegia, and convulsions of the opposite side, may occur simultaneously without a consequent lesion of the brain being visible upon postmortem examination.

REPORT OF A CASE OF ABDOMINAL PREGNANCY.

By CHARLES DEWEY CENTER, M.D.,
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Attending Gynecologist, Blessing Hospital.

CASES of true abdominal pregnancy are so rare that their existence is disputed by some eminent authors, notably by the late Lawson Tait. While I cannot prove incontestably that they do exist, the following report of a case, made before the Adams County, Ill., Medical Society, may perhaps, have some weight in establishing the possibility and probability of their occurrence.

C. F., American, aged 37 years, was admitted to my service at Blessing Hospital, December 10, 1899. She gave the following history:

Her last regular menstrual flow was about January 20, 1899. As she had always been regular in her catamenias she suspected pregnancy after passing the February period. In March she had a slight hemorrhage from the vagina. There was no further indication of menstruation until some time in May or June, when there was another vaginal discharge of blood. About this time she felt what she considered fetal movements. She had had 11 previous pregnancies, 4 of them being miscarriages, and 6 going to full term, but all still-births, or dying shortly after birth. She has one living child. She is of bad character, and a victim of both the morphin and alcohol habits. Her intercurrent troubles from January, 1899, to December, 1899, have been alternate constipation and diarrhea, great desire to urinate. at times incontinence of urine, and again a partial inability to empty the bladder, with considerable abdominal pain, especially in the latter months. She also had hemorrhoids.

In October, expecting to be delivered soon, she consulted, and was examined by a doctor who told her she was pregnant, but that she showed no signs of being near confinement. Later in the month she consulted another, who told her about the same thing. At this time she had what she considered ineffective labor-pains. The latter part of this month, or early in November, fetal motion ceased.

The examination on her admittance to the hospital showed great emaciation, yellow complexion, flabby breasts with a little secretion in them, an abdomen full of ascites, and in the median line below the umbilicus a resilient mass about 3 inches long by 1½ inches wide, which looked like a ventral hernia, and which gave an impulse on coughing; there was also a rounded mass with hard projections lying chiefly to the right side of the abdominal cavity. This was about the size of a pregnant uterus at term. However, it was impossible to determine from the exterior whether this was a pregnant uterus, a fibroid uterus, a sarcomatous uterus, or something else. Vaginal investigation revealed a short, firm cervix with a closed and rigid os. The mass which had been felt from above was somewhat movable, filled the right vaginal vault completely, the left partially, and was of doughy feel. By the rectum could be felt the same doughy mass, and higher up a hard rounded body.

With the concurrence of my colleague, Dr. Christie, on December 16 a sound was passed into the uterus. This revealed nothing more than the depth of about four inches, with a direction upward, forward, and to the right. The cervix was then dilated and the finger introduced. The uterus was empty, normal to the feel, and if connected to the abdominal tumor was but superficially so.

Laparotomy was advised, and after several days the patient consented. Operation was done December 22, 1899, my assistants being Drs. Gill and Nickerson, of the Blessing Hospital staff, and Dr. Baker, of the staff of St. Mary's Hospital. The incision was made in the median line, and on opening the abdomen an amount of ascitic fluid, estimated at a

quart, escaped. The resilient mass before mentioned was found to be a cyst covered only by skin, fascia, and peritoneum. This cyst was filled with clear serous fluid. Its posterior wall was the anterior wall of the large tumor within the abdomen. This large mass, in color as it presented itself, was a dirty, reddish gray, of no definable tissue-formation It was aspirated, and the needle gave a greenish, watery fluid. Gauze was packed about the tumor, and an incision made through the wall. About a pint or a pint and a half of the greenish fluid escaped, giving a decided amniotic odor. Below the incision was the breech of a fetus. This was delivered and found to be a fully developed female, badly macerated. The placenta was at the posterior and inferior parts of the cavity. The sac was then enucleated. It was found adherent to the parietal peritoneum, to loops of the small intestine, to the right broad ligament, to the right ureter, to the fundus of the uterus, to the mesenteric attachments over the aorta, to the extremity of the left fallopian tube, and to the sigmoid flexure. Anteriorly and superiorly the fetal sac was so edematous and lifeless that it was very friable. Lower down the adhesions were very firm, especially those to the fundus of the uterus and to the mesentery. The fundus was considerably torn in freeing the sac and hemorrhage was quite profuse. There was no opening, nor sign of opening, between the sac and the fundus The right fallopian tube was free, with no indication of previous rupture. The left fallopian tube was adherent to the wall of the fetal sac for about one inch at its fimbriated extremity, but the fimbrae could be distinguished and were not incorporated in the wall of the sac, but were adherent to it externally. There was no opening between the tube and sac. There was no distinguishable mark of rupture along this tube.

The abdomen was dressed with a Mikulicz gauze drain, and the incision closed except at the lower angle. The entire operation took about 70 minutes, and the patient's condition was apparently as good on leaving the table as at the beginning of the operation. Her recovery was wholly uneventful.

The fetus weighed 8½ pounds, the placenta and sac 1¾ pounds.

As said in the beginning, this case does not prove absolutely the occurrence of abdominal pregnancy, but it makes the possibility look more plausible. This patient, in the 11 full months of her pregnancy, had not the slightest personal indication of a ruptured tubal, ovarian, or tuboövarian pregnancy. She supposed herself normal until the increasing pain, and the inception of motion, which did not feel like the motion of former pregnancies, called her attention to her abdomen. The vaginal hemorrhages had not caused her suspicion. Why this was so cannot be explained. Possibly at these times she or a companion had attempted to produce an abortion, and while she does not confess this, the fact that the first one came about the time she decided she was pregnant, and the second about the time she felt motion, makes it look probable. On the other hand, while this may have been the reason for no suspicion on her part, it is quite possible that these hemorrhages were the usual concomitants of an ectopic pregnancy. This looks more likely, since she said that at the time of the second one she had some pains similar to labor-pains, and expelled a substance nearly the size of the palm of her hand, "which looked like afterbirth."

I will not take up the possibility of an intrauterine pregnancy existing up to this time, although Müller, of Bern, reports a coexisting case of intrauterine and extrauterine gestation. He and his associates decided this case to be one of true abdominal pregnancy, since the tubes and ovaries were intact, and, while in contact with the sac, were not adherent to it.

Tait maintained that all abdominal pregnancies were tubal, *ab initio*. His dictum was, that no tubal pregnancy went longer than 14 weeks unruptured. If the rupture was directly into the peritoneal cavity t symptoms were those of shock and hemorrhage, wi death of the embryo. If the rupture was between t folds of the broad ligament, he considered it possib for full-term gestation to occur either within the bro ligament or abdominally, if secondary rupture allow the escape of the embryo into the peritoneal cavity.

The case reported by Schlectendahl, in 1887, exceedingly hard to reconcile from Tait's standpoin His case disclosed an extrauterine pregnancy, the s being about the size of a man's fist, the containe embryo 15 cm. in length, the sac-location being ju below the spleen, and its blood-supply derived fro adhesions to the intestines. The postmortem in th case showed tubes, ovaries, and broad ligaments com pletely intact.

Again, Lusk believed that in a tuboabdominal preg nancy there will always be found communicatio between the tube and the fetal sac. This commun cation positively did not exist in my case.

Another point in favor of this being a case of re abdominal pregnancy was the location of the placent at the lowest part of the Douglas culdesac, the poin an ovum would naturally find if free in the abdomina cavity.

I will admit that in this case the tubes, ovaries an broad ligaments were not subjected to macroscopi scrutiny as closely as they would have been at a post mortem examination, or as they would have been i removed at the time of the operation. There wa neither necessity nor indication for their removal When the sac had been enucleated, and, so far as th generative organs were concerned, it was a compara tively easy procedure, except in the case of the fundu uteri, the tubes and ovaries were in easy reach an sight, and at no point could be found any indication o a ruptured tubal, ovarian, or tuboövarian pregnancy.

Blastomycetic Dermatitis and Epithelioma.—W. E. Coates (*Medicine*, February, 1900) reports a case clinically and histologically resembling epithelioma, in a man 37 years old. He had been practically well for the past 10 years, except an attack of rheumatism which came on about 3 months before he applied for treatment for the lip. In this attack his joints were not much swollen, but he was confined to his bed for some 3 months, and during convalescence the growths appeared on the eyelid and lip. He applied for relief from the small growth, involving the middle third of the lower lip, at the junction of the mucous and dermal surfaces. The growth had been removed from the outer margin of right lower eyelid one week previously, at a different hospital. The growth on the lip was diagnosed as epithelioma and removed, the wound healing promptly. Eighteen months later the patient again came under observation. The patient was a constant smoker up to time of first operation, but discontinued it after that because the pipe-stem caused pain to the scar. He stated that after having the growth removed from the lip about 8 small nodules made their appearance on the lower extremities, mostly on the thighs. The largest was about ⅜ of an inch in diameter. They were hard and shot like, blood-red in color, contained no pus, and at the end of 4 or 5 weeks became scaly and could be brushed off. The glands back of the angle of the jaw on the side became enlarged about 2 weeks before the original growths appeared. The enlargement disappeared after a month. A microscopic examination of the growth removed from the lip showed it to be an epithelioma. A few giant cells were observed and led to the suspicion of tuberculosis. A further examination revealed the presence of numerous blastomycetes. Many additional slides of the growth were prepared and the blastomycetes could be plainly demonstrated. [M.B.T.]

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Progress in Public Hygiene and State Medicine in he United States is made clear, and its amount measured, by the altogether admirable monograph upon the ubject recently published by Samuel W. Abbott, the ble secretary of the State Board of Health of Massachuetts. Charts vividly illustrate the conditions set forth:

1. The per capita expenditure by State Boards of Health for Sanitation in 1898.
2. The percentage of population supplied with public vater in 1860, and in 1897–8.
3. The percentage supplied with public sewers in 896–7.
4. The number of inhabitants to each physician.
5. The registration of physicians.

Besides these subjects there are epitomes of our progress and present conditions in reference to all the principal hygienic problems of the day, those of schools, ndustrial, railway, and rural hygiene, burial of the lead, inquest systems, etc., etc. The volume should be n the hands of every physician.

The antiquated Coroner System should be abolished, and there is no better adviser in this matter than Dr. Samuel W. Abbott, whose words we quote:

The method of procedure employed in most of the United States for the investigation of the cause of death in cases occurring from violent, sudden, or suspicious causes, is the coroner system, a method which had its origin in England at least 7 or 8 centuries ago, but is unknown either in Scotland or on the continent of Europe. For the efficient operation of this system several officials are usually employed, a coroner, a coroner's physician, a jury of 6 men or more, and an officer who is employed to summon the jury. The coroner usually makes a view or a superficial examination of the body; and if in his opinion the cause of death was of a violent or criminal character, he causes a jury to be summoned, and if a more thorough investigation is required, in order to reveal the cause of death, he directs a medical man to make an autopsy.

Following the example of some of the principal continental countries, some of the States have introduced a new and more direct method for the investigation of this class of deaths, namely, the medical-examiner system, the principal features of which are the following: The abolition of the jury and the substitution in place of the coroner (an official supposed to combine the incongruous functions of law and medicine) of a medical examiner to determine the cause of death, and the reference of all legal questions to a district judge. In those States where this plan has been adopted its operation has been perfectly satisfactory and there is no desire to return to the musty traditions of the past.

The abolition of the jury was shown to be both rational and economical, since every case in which criminal violence is shown must necessarily be revised in the courts before another jury, whenever the actual culprit can be found, and this waste of the public funds in paying 6 or more men who are usually absolutely unqualified to consider expert medical questions, constitutes a public farce. Cases of the grossest neglect, incompetence and fraud had become of such common occurrence under the old method that a change was deemed imperative. In a city of about 300,000 inhabitants there were 47 coroners in commission, where 2 medical men with 1 associate now conduct the same work in a population 60% greater, and in a far more satisfactory manner.

The medical system here referred to has been adopted either as a whole, or in part, in the States of Massachusetts, Rhode Island, and Connecticut.

"The Map of Life," by Lecky, is a noteworthy book and one that should be in the hands of every intelligent young man. There have been numberless volumes written with a similar purpose—that of giving good advice and the results of experience to the forming character, but none have been so free from extremism and exaggeration, none so permeated by wisdom and a large common sense. On almost every page one learns how to compromise as to methods without in any way compromising as to ideals—a lesson which all of us sadly need to be taught. Physicians will find in the book, almost for the first time, a hearty lay-recognition of the ideals for which they are struggling, primarily an appreciation of the physical and physiologic bases of the conduct of individual life, and secondarily of the fundamental conditions of professional progress. It is refreshing to find a lay writer so well aware of the value to society of vivisection and experiment, and of the terrible evils of ill-judged, sentimental, and selfish charity. The hygienic or sanitary requisites of social well-being are convincingly urged, and a subdued and sage altruism is emphasized as the only condition of happiness, and of true success. One realizes that although happiness will never be secured if pursued too directly, yet intellectuality and benevolence are not incompatible, and that the happiness and success they yield are far more genuine than come by other means.

Contagion Should Not be Concealed.—There now seems to be no reasonable doubt that cases of bubonic plague have been discovered in San Francisco. Thus a new contagion has been added to those hitherto known to exist upon this continent, and new and exceptionally difficult problems of isolation are presented to the health-authorities who may have to deal with it. In this, as in every contagion, the definitely established facts as to the particular disease must govern the application of preventive measures. These measures must

necessarily be more severely restrictive in nature and more radical in application than our people have been accustomed to with other diseases. The part of the medical profession in the premises is to perform faithfully the plain public duty that will confront them in any community where the plague may appear. Public welfare is paramount to all considerations of personal interest. Doubtful cases must be at once brought to the attention of the public-health authorities, upon whom the responsibility of dealing with all phases of the problem will rest. Unless this is done from the very beginning, trouble may be expected. The secrecy which ignorance, prejudice or bigotry may attempt to draw around the conditions of individual cases is a distinct threat to the well-being of the whole people and should not be tolerated, whether among a class of unassimilated foreigners or in the higher walks of our own civilization. Health-boards and health-officers in all parts of the country should with wise forethought inform themselves upon the various aspects of the new contagion and the most approved methods to be followed in applying preventive measures. In whatever community the pest makes its appearance, the medical profession must, as ever in its past history, be found bearing its full share of the onerous duty of protecting the public welfare. Whole-hearted cooperation with the public-health authorities in all proposed measures must be the keynote of this performance of duty. There should be no quibbling over unimportant details, no fussing over unessential points of theoretic difference, no obstructive tactics, and above all no concealment from local, State and national authorities of the true facts connected with every outbreak.

A Responsibility of Physicians and Journals for an Advertising Abuse.—From all parts of the United States we have been receiving indignant letters from physicians, with pamphlets and circulars enclosed, illustrating an abuse of medical literature which it behooves the profession to reform. These pamphlets and circulars are made up of articles, or selections from articles purporting to be written by regular physicians, and published in regular medical periodicals. Often they are apparently genuine reprints of medical journal papers. The abuse consists in the fact that these reprints and pamphlets, thus really or seemingly vouched for by the profession and its periodicals, are sent through the mails or left at the houses of lay people, addressed (from the city directory lists) to the "lady of the house," or to other members of the family. Reputable manufacturers, of course, are too moral or too shrewd to do this, but from the evidence before us, many pseudoreputables are at least permitting it to be done, relying upon the excuse that this literature is meant for distribution to and "for the use of medical men only." Here is the utility and function of the copyright law. Both journals and authors should hereafter be most wary in giving rights to re print, and when they find that their published writing have been stolen to exploit them for lay use, publi exposure or the law should be called in to stop th thieves in their nefarious work. There is at least on large firm thus attempting to ride the two horses, an whose advertisements appear in many medical journals that merits a showing up of this double-dealing. T induce the laity to oust the physician and buy th remedy direct, by means of stolen praises of the physi cian himself, is rampant scoundrelism.

The Death of Birch-Hirschfeld.—Pathology ha suffered a serious loss in the death of Felix von Birch-Hirschfeld, Geheimer Medicinalrath, Professor of Gen eral Pathology and Pathological Anatomy at the Uni versity of Leipsic, and Director of the Pathological Institute. It has been granted to but few men to have been placed in positions that enable them to acquire such comprehensive views of the subject of medicine as was the lot of Birch-Hirschfeld. He was born in May, 1842, in Schleswig-Holstein. He received his degree of Doctor of Medicine at the University of Leipsic in 1867, at the age of 25 years, and shortly afterward he became assistant to Wagner, who was then conducting both the Pathological Institute and Polyclinic for Internal Medicine. Thus from the very beginning he was obliged to devote himself not only to the subject that attracted him most strongly, pathology, but also to the general practice of medicine, and the observation of disease upon the living. The necessity of earning a living subsequently obliged him to become assistant to an asylum for the insane, and then to engage actively in general practice in Dresden. In the latter city he continued his pathologic studies as prosector of the City Hospital. In addition, his multifarious talents made him lecturer on artistic anatomy in the Art School at Leipsic, and director of the insane department of the hospital. In spite of all these various occupations, he found time to contribute numerous and valuable articles to the literature of pathology; particularly upon infectious diseases and the infectious granulomata, the latter a favorite subject that occupied his attention until his death. In 1885 his abilities were finally given adequate recognition, and he was called to fill the position vacated by Cohnheim. His rival for the position was Carl Weigert, and some bitterness was raised on account of the selection, which subsequently, however, was found to be wise. Perhaps the most valuable contribution to medical literature that Birch-Hirschfeld has made, is his textbook of General and Special Pathology, which has passed through repeated editions, and is distinguished by the philosophical consideration with which each division is treated, and thoroughness of discussion, indeed each section may be regarded almost as a special monograph upon the subject it treats. On account of the constant

reference to clinical experience it is perhaps the most valuable work on pathology to the clinician that has ever been written. Birch-Hirschfeld was apparently eminently distinguished by his personal character. His friends unite in praising his faithfulness, his sincerity, his generosity, his lack of envy, and his sense of duty. He was a man of much wit, a ready speaker, and profoundly interested in many subjects entirely apart from medicine. It is hardly likely that another pathologist will arise who will combine the clinical knowledge with profound acquaintance with all departments of pathology that was characteristic of Birch-Hirschfeld. For although even one hundred years ago there were more subjects in medicine than one man could master in a lifetime, specialism is now becoming so characteristic that the man of too general learning is likely to be regarded with suspicion and neglect.

Misdirected Humane Efforts.—Some of the good people of Washington as well as of Buffalo have lately made frenzied efforts to save dogs from the fate which the respective authorities have decreed, owing to the existence of rabies in those localities. Mammoth petitions against indiscriminate killing of dogs as well as the alleged unjustifiable confinement of these animals have been presented, and all kinds of statements concerning the matter and advice as to what to do have been made. A reverend doctor offered to pay two dollars for every dog released, while the Humane Society describes the scenes at the pounds as heart-rending, saying that it is all owing to a mad-dog scare.

It would be an injustice to these good people to believe that they are insincere in their demand; they are certainly in error regarding their statements of cruelty to animals and the nonexistence of rabies in these localities. Dogs are caught, sent to the pound in as comfortable an ambulance as patients are removed to hospitals, and those on whom the death-sentence has been pronounced are asphyxiated according to the most humane methods. That rabies does exist in the respective places is proved abundantly by the deaths. In Buffalo four deaths occurred from this dreadful disease since last summer. The first was an 8-years-old child, who had been bitten several months previous to the outbreak of the symptoms, and as the wound had healed quickly the incident had been forgotten until again tragically brought to mind. The sufferings undergone by this little patient are described by Health Commissioner Wende as the saddest of any that it has been his misfortune to witness during his experience as a physician. Another was an adult who had been bitten by the same dog in trying to protect the child. The third was a young man of 19 years, of herculean stature, who was bitten by a dog he was trying to eject from a public hall; the fourth was a lady, a member of the Humane Society and among the most vigorous in her denunciations of the alleged mad-dog scare and the injustice to the brutes. This lady had a favorite pet dog which she used to bathe daily and then take him on her lap to comb his fur. He snapped at her, biting her in the breast, and she lived long enough to become the most enthusiastic convert, and to advocate the vigorous and indiscriminate extirpation of the canine species of animals.

When an epidemic of rabies reaches the stage in which it becomes a menace to the public, as well to the owners of dogs, it would be criminal on the part of the authorities to do otherwise than adopt the most drastic measures, notwithstanding the misguided efforts of a few humane enthusiasts, who apparently place more value upon brute feelings than upon human lives.

The Clinical Study of the Blood, particularly of the human blood, is a subject upon which much work has been done, but concerning which very little really is known, particularly of the alterations that occur in diseased states. Among the recent additions to our knowledge on this subject is a description by Achard and Clerc[1] of a ferment that splits the fats and is called liposin. This was discovered in 1896 by Hanriot, but had never been made the subject of a careful clinical investigation. The method for determining the amount of liposin in the blood is quite ingenious. Ten cc. of a 1% solution of monobutyrin is mixed with 1 cc. of blood-serum, the mixture carefully neutralized, and allowed to remain in the incubator for 20 minutes. It is then again neutralized with a decinormal solution of carbonate of soda, and the amount required read in twentieths of a cubic centimeter. It appears that under these conditions, the acid produced is equal to 16 or 20 of these units. The authors have made a number of careful observations upon various diseased serums which they divide into hyperlipose, ortholipose, and hypolipose. From these studies it appears that an excess of this ferment is exceedingly common in diabetes;—7 of the 9 cases having this disease, the eighth had alimentary glycosuria, and the ninth subacute rheumatism and obesity. Naturally ortholiposic serums occur in a great variety of acute and chronic cases, usually in those in which the prognosis is good. Among the hypoliposic serums, it appears that there are two groups, one in which diminution is slight, and one in which it is extreme; the former comprising those who suffer with various serious diseases, the latter practically only those who are moribund or in whom the prognosis is obviously fatal. In the former group it was noted in a case of typhoid fever that the liposic power reappeared coincidently with progress towards recovery. While it may not appear that this study will aid us very greatly in clinical medicine, it certainly must have a profound physiologic significance, and Achard and Clerc suggest that perhaps we shall discover some day that the in-

[1] *Arch. de Med. exper. et d'Anat. path.*, xii, January, 1900.

crease or diminution of liposin bears a distinct relation to obesity or emaciation. Curiously enough, it appears to depend in some way upon the activity of the thyroid gland, for in two patients to whom thyroid extract was given the liposic power of the blood diminished.

Smallpox.—Largely through the beneficent influence of vaccination and revaccination many physicians pass through a long and active experience without seeing a case of smallpox, and generally all that the graduate of the present generation knows he has learned from his books and didactic lectures. A praiseworthy departure in this connection has been made in the city of Philadelphia, where through the courtesy and public spirit of the Bureau of Health, and with the cordial cooperation of the physician-in-chief, the wards of the Municipal Hospital have been thrown open to advanced medical students under proper restrictions. In view of the facts, therefore, it is not surprising that physicians may overlook their first case of smallpox and not be infallible in their diagnosis of subsequent ones. The difficulty of the situation is further increased by the fact that most of the smallpox seen recently has been of an extremely mild type, and confusion with other exanthemata has been easily possible, particularly with chickenpox. The great danger from error resides in the circumstance that a mild case may constitute the origin of a virulent epidemic among those unprotected by vaccination or antecedent smallpox. This subject has already been ably discussed in this JOURNAL (November 18, 1899) by Dr. Wm. M. Welch, whose paper on "The Present Mild Type of Smallpox" has been reprinted by the Illinois State Board of Health and, together with an open letter to this board from Dr. James Nevins Hyde, dealing with the "Symptoms and Diagnosis of the Epidemic of Modified Smallpox Prevalent in Some Parts of the United States," has been widely distributed. We are informed that these two communications have "done more to dispel the chickenpox illusion in Illinois than any other one thing." It is a good rule if in doubt with regard to the nature of any contagious disease to consider it the most serious of any of those it may be. With a view to the conservation of the welfare and the interests of the many as against those of the individual, it were a lesser evil to mistake a case of chickenpox for one of smallpox than the reverse.

Undesirable Immigration.—According to the recent statements of Commissioner Powderly, of the Immigration Bureau, this country is having a steady increase of its slum population by reason of the large influx of pauperized people. Mr. Powderly estimates that the total number of immigrants for the year 1900 will exceed 500,000, a large proportion of whom may be classed as undesirable. The character of our immigrants has of late been steadily changing for the worse. Formerly the majority of immigrants were from the more intelligent and sturdy races, but recently there has been a large increase of those from poorer peoples. The significance of this change is apparent in the fact that the average illiteracy of the races in the west of Europe is 3.6%, while that of the races from which we are now largely drawing is said to be 42.4%. The worst feature is that these present immigrants tend to drift into the city slums; they do not make a good farming population, but, seeking the large towns and cities, they increase the congestion already existing, and thus breed poverty and disease. The German and Scandinavian immigrants of a generation ago sought the great West, and settled down largely as tillers and owners of the soil; they have consequently become a permanent and valuable addition to our population. The country welcomes and assimilates them. Not so with some others who never have, and probably never will, become reconstructed American citizens. They remain, as they always were at home, the lowest strata of the social fabric.

It is easy to see that this pauper immigration tends to complicate some of our gravest social problems. From the medical standpoint the problem is grave enough. This sort of immigration means increased pauperism, increased degeneracy, increased crime and disease. No principle of political economy can justify this nation in throwing its doors wide open to the influx of a slum population.

Mistaken Civic Pride.—In the April issue of *The Forum*, Congressman Barrows writes entertainingly upon some things we might learn from abroad, making mention in his introduction of the prevalent American idea which was voiced by the governor of a State in the query: "Do you think those fellows over there can teach us anything?"

It is possible to be thoroughly American without being blind to our own shortcomings, or wilfully ignoring those material conditions in which older countries and communities surpass us. This is especially true as regards matters of municipal housekeeping and housecleaning, subjects of vital import to the medical sanitarian, because upon them the success or failure of sanitary advances largely depends. Theoretically, most medical men recognize the relationship of polluted water-supplies to typhoid-fever prevalence; practically they are apt to shirk the responsibility of attacking bad conditions that exist in a particular community. This, partly through lack of real appreciation of the whole problem, partly through the feeling that it is their business only to treat cases as they arise without inquiring into the cause, and even more largely because of a false sense of civic pride which permits mankind to see the faults of other communities, but blinds them to bad conditions existing in their own vicinity.

In a discussion regarding typhoid fever in a certain

ity a professor of practice of medicine called attention o the number of deaths reported during that year, and aid, "this is, as you see, a small number for a city of his size." Yet a very simple computation, and comparison with the statistics of other large cities of the world, showed that he was presenting figures five times n excess of the proportionate death-loss from that ause in London, and fifteen times as great as in Berlin luring the same year. The fact was that he had such horough confidence in the superiority of conditions in is American home that he became indignant when he statistical figures were quoted to him by a young olleague.

Americans have no right to imagine that the laws of ature are modified for their particular benefit; American sewage is just as undesirable a constituent of drinking-water as would be European sewage; the bacillary ngredients of excreta are as virulent breeders of disase here as in Paris or London or Berlin; the same neasures that have freed the drinking-waters of those ities from the bulk of their disease-breeding elements an be made efficacious in America; the same reduction in typhoid-fever prevalence and mortality will ccur here as there when these measures have been nade properly effective.

It does no good to ignore statistics because we conceive that some of our institutions are superior to those broad; the lessons of experience should be just as aluable to us as to Frenchmen or Germans or Englishnen; pride in the commercial growth or educational acilities of our native city should not lead us to coninue to sacrifice her children to the Moloch of a sewge-laden water-supply.

Dental Surgeons in the Army.—It seems strange, when one thinks of it, that the appointment of dental urgeons in the United States Army should have been eft to the present time. Both the dental and the medial professions will cordially endorse the movement tarted by the introduction of a bill into the Senate, uthorizing the Surgeon-General to employ not to exeed one contract dental surgeon for every one thousand nen. The bill provides that three of the number shall onstitute an examining board, also supervising the ractical work of others.

Fracture into the Elbow-Joint; Treatment by Acute Flexion.—Dudley Carleton (*Yale Medical Journal*, March 1900) discusses fracture into the elbow-joint and treatment by acute flexion, or what is usually termed the Jones position. He has treated some 35 cases by this method with good results in all cases. Carleton strongly favors the acute flexion method when the patient is a child. He is of the opinion that the strong crowding together of the fragments in this position prevents a great outpouring of callus and consequent ankylosis. The coronoid process is forced into its fossa, filling it and thereby preventing the callus from obliterating it. This permits of full flexion on recovery. In children, passive motion is commenced at from the seventh to the tenth day, and generally at the end of 4 weeks the child has almost complete extension and flexion. [M.B.T.]

Correspondence.

PAROTITIS AND CROUPOUS PNEUMONIA.

By C. J. ALDRICH, M.D.,
of Cleveland, O.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In a current issue of March 14, of the JOURNAL, I observe the statement of Dr. James Ely Talley, under the caption of "Parotitis Complicating Croupous Pneumonia," that he and Dr. L. Claxton Gittings investigated all the literature in English in the past ten years, and succeeded in finding only four recorded cases of this rare complication of pneumonia. I desire to call his attention to a case which I reported in the *Medical News*, November 5, 1899, and also one by Hamilton, reported in the *University Medical Magazine*, Vol. viii.

In connection with this I desire to make a criticism of a poor way of naming their articles which many writers are guilty of, and to plead guilty of the offense in the article to which I call Dr. Talley's attention.

This article was entitled "Two Interesting and Unusual Complications of Pneumonia." Had each case been reported separately and titled respectively "Parotitis Complicating Pneumonia," and "Ascending Neuritis of the Phrenic Nerve with Extension to the Brachial Plexus," I am certain that the bibliographer would not have missed recording either of them. Authors who report cases that are worth living in medical literature should give them such plain, unmistakable titles that no one searching the literature of that subject can fail to find their records in the many indexes which the industrious compilers of today are making.

SORE THROAT IN HOSPITALS.

By ARTHUR V. MEIGS, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In the issue of your journal for March 24, Dr. William Phipps Munn criticises my communication upon the subject of "The Placarding of Houses for Contagious Disease," which appeared two weeks previously. The subject is one in regard to which there is room for much honest difference of opinion. I shall not, therefore, attempt to answer his arguments, nor should I answer at all but that the statements he makes in regard to the Pennsylvania Hospital, with which institution I have had the honor to be connected for many years, might be misunderstood. When I said that "attacks of sore throat are common, especially among the servants," I meant that sore throat is common in the hospital during the winter season just as it is in all other parts of our city. If Dr. Munn had practised medicine in Philadelphia, he would know that one of the most common complaints during the winter months is sore throat with whitish spots upon the tonsils. This disease is generally called follicular tonsillitis. The number of nurses and employes of the Pennsylvania Hospital is over one hundred. These people are, of course, liable to the ordinary complaints which prevail in the city, but we have among them less, if anything, than an average share of disease, and when Dr. Munn suggests that the Pennsylvania Hospital is in "need of a practical sanitarian to supervise its internal administration," he is very much in error. Within the last five or six years, the hospital has been added to and reconstructed upon the most approved

modern sanitary principles of building. Its internal administration is excellent, and its sanitary condition is as nearly perfect as possible.

POSSIBLE SOURCE OF ERROR IN THE FERROCYANIC TEST.

BY CLIFFORD MITCHELL, M.D.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN my Manual of Urinary Analysis attention is called to the fact that when a medicine-dropper with rubber nipple is used for delivering acetic acid in the ferrocyanic test for albumin in urine a precipitate may be obtained closely resembling precipitated albumin when the latter is absent. Verification of this statement may easily be made as follows: Make up 2 or 3 fluidounces of a 50% solution of acetic acid and drop into it several fragments of a rubber nipple. Let stand over night. The next day fill a percentage-tube to the mark 10 cc. with distilled water, add 2 cc. of the acetic acid poured off from the rubber fragments and 3 cc. of a ferrocyanid solution of the usual strength (1 to 10). Let stand 10 minutes, then place in a centrifuge, and sediment 3 minutes at a speed of 1,500 revolutions per minute, when a considerable bulk-percentage of sediment may be obtained. If now a fresh solution of 50% acetic acid is made up, and a medicine-dropper is used several weeks for delivery of it, after a time the acetic acid will contain sufficient substance to give bulk-percentages of from 2 to 3 with samples of normal urine. When there really is albumin in the urine, the percentages obtained will be too high by several percent owing to the admixture of the precipitate from the rubber with the albumin. It follows that in all cases in which the ferrocyanic test is used, either qualitatively or quantitatively, the acetic acid should not have been previously in contact with rubber. The acetic acid dissolves any zinc oxid present in the rubber, forming an acetate of zinc, which in turn is precipitated by the ferrocyanid. The precipitate differs from albumin in being sedimented with greater difficulty in the centrifugal machine.

DOUBLE PAROTIDITIS COMPLICATING LOBAR PNEUMONIA.

BY WARREN COLEMAN, M.D.,
of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN the PHILADELPHIA MEDICAL JOURNAL of March 24, 1900, Dr. J. E. Talley calls attention to the rarity of parotiditis as complication of acute lobar pneumonia. In connection with Dr. J. C. Gittings he has watched medical literature in English for 10 years for reports of cases. During this period 4 cases have been recorded and "about the same number mentioned." Two of these cases were reported by Carslaw (*Glasgow Med. Jour.*, July, 1895), and one each by Osler (*Univ. Med. Magazine*, January, 1894), and Hawthorne (*Glasgow Med. Jour.*, July, 1895).

To these 4 cases Dr. Talley adds a fifth. A sixth case was encountered at Bellevue Hospital during the past summer.

S. D., male, aged 30 years; steam-fitter by occupation; admitted to hospital July 24, 1899.

The patient had been drinking hard for about 2 weeks. On the night of the 21st he became intoxicated and slept out of doors. The next morning he felt a sharp, lancinating pain in his right side. The following day the pain increased in intensity, and the patient came to the hospital. On admission, the general condition was good, the face flushed and the respiration shallow and frequent. The lower lobe of the right lung showed early signs of pneumonia and later became consolidated. Heart negative; pulse regular, rapid, dicrotic.

Blood: Leukocytes 12,000, increasing to 18,000 on August 7, falling to 12,500 on the 15th, and to 10,937 on the 22d, the date of the last examination.

The Diplococcus lanceolatus was found in the sputum. The temperature reached its maximum of 104° F. on July 26.

On August 5, when the resolution of the lung was nearly complete, the right parotid gland became swollen, tender, and red. The swelling increased during the 6th, began to subside on the 7th, and on the 12th the gland had regained normal size and appearance without suppurating. The left parotid became involved on the 7th, progressionally enlarged until the 12th when resolution set in and proceeded without suppuration. Opportunity did not present itself to make a bacteriologic examination of the glands. The patient was discharged from the hospital cured on October 2.

In conclusion I wish to thank Dr. Glasgow Armstrong, house physician, for his careful examination and notes of the patient.

MEDICAL MNEMONICS.

BY D. T. SMITH, M.D.,
of Louisville, Ky.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

WITH the endless multitude of facts the physician has now to learn, it behooves to facilitate acquisition in every possible way. After the adoption of a proper system, and a proper selection of tasks, mnemonic aids probably offer the readiest and most efficient help available.

For a number of years I have been in the habit of injecting a lecture into the course on legal medicine in the University of Louisville, embracing certain mnemonic aids that have occurred to me and that I have found helpful, the chief of which are here offered in the hope that they may prove helpful to others.

Bony Structures.—The first batch of these, which are principally anatomic, relates to the bony structures of the body, especially of such as enter into the formation of the cavities. These must be considered with special reference to their usefulness in facilitating movement, and their effectiveness in resisting violence. Thus the bones of the head are juxtaposed in such a way as to offer the greatest resistance in the direction from which violence is most likely to come, while the spinal vertebrae are articulated in such a way as to secure rigidity or mobility, just as one or the other is needed, and the processes are so arranged as to give the appropriate leverage in each region. But as this has often been elaborated it needs here but a bare reference.

Animal tubes.—But in the search for a general plan of structure for animal tubes, we may find a feature in which there is more of novelty. If we watch the worm as it crawls or creeps on the ground, we find that it performs this function by first fixing its posterior parts and then contracting a system of muscular fibers that encircle its body, which causes the body to lengthen. Next, fastening the foreparts in turn to some support, it relaxes the circular fibers and contracts the longitudinal fibers, and thus draws up the hind feet or segments, which are in turn attached, until the fore parts are again pushed forward by the contraction of the circular fibers. Now how may we remember which set of these muscular fibers is external? If we examine the inferior surface of the basilar process of the occipital bone in man

nd the higher animals, we will find striae made on it by the ttachment of certain longitudinal muscular fibers of the harynx, and these fibers must therefore in the living have een external.

Now the plan of structure indicated here and exemplified n the worm, viz.: an external set of longitudinal muscular ibers and an internal set of circular fibers, is the rule that pplies to every animal tube in which muscular fibers can e made out, from the aorta to the angle worm. And ndeed, when they are not found in such structures they may easonably be assumed to exist potentially either in an in-cipient or rudimentary form. The pharynx, the larynx, the intestines, gallduct, ureters, urethra, vagina, veins, thoracic duct and other lymphatics, the capillaries and arteries all observe this structural plan. The heart, uterus and stomach observe the same general plan with a somewhat modified manifestation, while the abdominal cavity shows traces of it in the internal position of the transversalis, the rectus, the quadratus lumborum, etc., representing the external longitudinal fibers collected into bundles. This, however, may be fanciful, and is certainly remote. Now, is it unreasonable that peristalsis wherever it occurs in the tubal structures of animals should be considered as a function homologus with the act of progression in worms?

The Nervous System.—There are few more difficult tasks for students in anatomy than learning and remembering the location of the motor centers in the brain and the origin of the cranial nerves. How does it happen, wonders the student, that of the motor centers placed along the fissure of Silvius, that for the feet is highest and that for the face is lowest? If we imagine the human chin extended or thrust upward until the lower jaw is in line with the spinal column, the fissure of Sylvius will then be nearly in line with the spinal cord as it would be in fishes, if such a fissure were developed in them.

In this position, the part of the motor centers now highest, would be the nearest to the posterior extremities, and those now lowest, would be nearest to the mouth. Therefore, fancying the head to be put into such a position by the protrusion of the chin, we can easily remember how to read off the location of the different motor centers. Beginning at the point which would then be the inferior extremity of the fissure, but which is now the highest part, we would find the lower extremities placed under control of the angular gyrus or the part nearest to them, the middle parts of the body under control of the intermediate portions, while the face muscles would be found under control of the motor centers nearest to them, or at what is now the lowest part of the fissure.

The location of the center for seeing, which is in the occipital lobe, we may recall by means of the old adage "He has an eye in the back of his head."

By similar associated ideas, we may find distinct assistance in remembering the origins of the nerves. No one has any difficulty in recalling that the olfactory nerve arises from the olfactory lobe; and not much more difficult is it to recall that the second or optic nerve arises from the optic thalamus, the mind easily taking in with that ganglion the corpora quadrigesima and corpora gersiculata. The third, or motor oculi, readily suggests legs as the most natural instrumentality of locomotion, and therefore the legs of the brain or crura cerebri. If we wish to trace a deeper origin, we anticipate the watery association of the fourth and remember this deeper origin of the third beneath the floor of the aqueduct of Sylvius, the word aqueduct itself suggesting motion.

The fourth or trochlear, often called patheticus is associated with the idea of tears; this readily calls up the idea of a valve—valve of Vieussens. Tracing it to a deeper origin we follow it along the aqueduct of Sylvius (water-bearing function) till it joins the third nerve. The rest of the nerves down to the origin of the accessory portion of the spinal accessory, may be described as arising from the floor of the fourth ventricle. However, the crude conception of six blocks forming a pyramid (corpora pyramidalia) may help us to fix the origin of the sixth more particularly, while the idea of a round week for the seventh (fasciculi teretes) may aid in the recall of its origin.

Place of Decussation.—If I had to go some distance to a point on the opposite side of the street from where I start, I would cross over at once and walk on that side as being less apt to overlook the point to which I was going. So the axones of the spinal cord and medulla take the first opportunity of crossing; the motor fibers in the medulla, and the sensory fibers in whatever part of the spinal cord they first reach.

If I would recall the constituent parts or sources of the several plexuses of the spinal nerves, the numbers 4, 5, repeated, will be quite helpful. Thus the cervical plexus is formed by the first four cervical, the brachial by the four remaining cervical and the first thoracic. The lumbar plexus is formed by the upper four lumbar, the sacral plexus by the fourth and fifth lumbar and the three upper sacral—4, 5; 4, 5.

The innervation of the iris may be remembered by considering whether it would be of greater advantage to have the pupil contracted quickly and dilated slowly or the opposite. If we concluded that guarding against the glare of the sun and the protection of the retina against other intense or sudden lights calculated to injure it, should make necessary quicker action than accommodation to defective light which could not prove injurious, we would expect to find the circular fibers of the iris to be placed under control of the quick-acting spinal nerves, and the radiating or dilating fibers placed under the control of the slower-acting sympathetic system.

Length of Certain Organs.—A considerable number of important organs of the body may be placed in classes of two lengths, which are accurate enough for practical purposes. Thus the esophagus and the duodenum may be put at 9 or 10 inches, while the trachea, the rectum, the fallopian tube, the spleen, and the pancreas may be put at half that length. The anterior wall of the vagina and the virgin uterus measured together may also be included in the latter list.

The character of epithelium in any situation is readily suggested by considering its function. If it cover a part liable to abrasion, as in the esophagus, we would expect to find it of the pavement variety; if its office was merely to protect by supplying mucus, as in the intestines, we would expect to find columnar, and columnar or cylindrical ciliated if in addition to supplying mucus its office was to sweep along minute particles, as in the bronchi or fallopian tubes.

Left Leaves, Right Remains—In the alliterative words "Left leaves, right remains," the direction of departure of a considerable number of organs can be remembered with increased facility. Beginning with defects of development, it is well known that deviations of the septum of the nose, hernias, varicoceles, and the like, are found on the left side more frequently than on the right. The esophagus at first immediately behind the trachea, lower down leaves the median line and passes outward to enter the left end of the stomach.

Entering the stomach the food turns to the left and takes first the long route of the greater curvature. The duodenum leaves to the left. The colon begins on the right side and after ascending leaves to go over to the left. The thoracic duct passes left from the middle of the spinal column to empty into the innominate vein at the junction of the left jugular and the left subclavian. The aorta after arching passes down to the left of the median line, thus making the left renal artery the shorter and the right the longer. The part of the pancreas on the right side of the spine remains and forms the head, while the left leaves and stretches out to become the tail.

One more. When it becomes necessary to employ the forceps in the position usually assumed by American women in labor the left arm is the one that leaves the hand of the accoucheur to be held by the assistant, its blade being applied to the left side of the parturient canal.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending April 28, 1900:

Tuesday, April 24—Neurological Society.

Wednesday, April 25—County Medical Society. Discussion on Medical Education.

Thursday, April 26—Pathological Society. Professor Theobald Smith, of Harvard University, will deliver an address entitled: The relations of comparative pathology to biology and medicine. Members of the profession are invited to attend.

Friday, April 27—Conversazione of the College of Physicians.

The Associated Health Authorities and Sanitarians of Pennsylvania will meet in seventh annual session at Mechanicsburg, May 23, 24, and 25.

College of Physicians of Philadelphia—Section on General Medicine.—At a meeting held April 9, DR. F. A. PACKARD presented some **intestinal casts and fatty bodies** voided with the stools. DR. WILLIAM G. SPILLER exhibited a patient suffering with **progressive bulbar paralysis** and another suffering with **progressive muscular atrophy of the spinal type.** He also reported a case of **compression of the upper part of the cervical cord** with some unusual symptoms. DR. C. W. BURR reported a **case of Pott's disease presenting unusual and varying sensory symptoms.** DR. M. H. FUSSELL reported a case of **myxedema** that had not been improved by the administration of thyroid extract.

Pathological Society of Philadelphia.—At a meeting held April 12, DRS. S. SOLIS-COHEN and THOMAS S. KIRKBRIDE, JR., presented a **sarcoma of the mediastinum and bronchial glands and of the right lung with metastasis to the liver.** The liver was enormous in size, weighing over 15 pounds. Death had occurred from spontaneous rupture of the liver with consequent fatal hemorrhage. DR. H. F. HARRIS made some remarks upon the **pathological alterations in bubonic plague,** and exhibited some microscopic preparations of the diseased tissues. (See the JOURNAL, April 7, page 787.) DR. F. P. HENRY presented a **liver with two echinococcus cysts.** DR. JOSEPH WALSH made a report of a **pathogenic sarcina.** DRS. JAMES M. ANDERS and JOSEPH MCFARLAND exhibited a number of specimens of **carcinoma of the stomach.** DR. S. SOLIS-COHEN exhibited a **hypertrophied heart with mitral and aortic disease.**

Philadelphia County Medical Society.—At a meeting held April 11, DR. A. A. ESHNER presented for Dr. David Riesman a case of **elephantiasis of the right leg.** The remainder of the meeting was devoted to a **discussion of thoracic empyema.** DR. HERMANN B. ALLYN read a paper on the **Symptomatology and diagnosis of empyema,** and reported a number of cases to illustrate the difficulty sometimes experienced in differentiating between fluid in the pleural cavity and pneumonia. DR. JOSEPH MCFARLAND read a paper on the **Etiology and pathology of empyema,** in which he discussed the various microorganisms operative in the etiology of empyema, their method of inducing the condition, the various varieties of pleural effusion, and the effects upon the adjacent viscera of fluid within the pleural sac. DR. EDWARD MARTIN read a paper on the **Surgical treatment of empyema,** in which he discussed the different approved methods of curing the condition, and gave the indications for, and the method of, executing each. In the discussion, DR. SOLIS-COHEN spoke of the diagnosis of empyema, and DR. LEON BRINKMANN, of some phases of the surgical treatment.

By the will of the late George W. Miles the following bequests are made to charitable institutions:

Hospital of the Protestant Episcopal Church	$8,000
St. Joseph's Hospital	8,000
Pennsylvania Hospital	5,000
Presbyterian Hospital	8,000
Indigent Widows and Single Women	3,000
Franklin Reformatory Home for Inebriates	2,500
Bedford Street Mission	2,500
Lincoln Institute	5,090
Northern Home for Friendless Children	7,500
Old Men's Home	6,000
Union Temporary Home for Children	5,000
Penn Asylum for Indigent Widows and Single Women	5,000
Hahnemann College and Hospital	5,000
Orphans' Home and Asylum for the Aged and Infirm of the Lutheran Church	5,000
Philadelphia Protestant Episcopal City Mission for the use of the Home for Consumptives	5,000
Children's Hospital of Philadelphia	5,000
Methodist Episcopal Home for Aged and Infirm Members	5,000
Methodist Episcopal Orphanage	5,000
Methodist Episcopal Hospital	5,000
Germantown Dispensary and Hospital	5,000
Home Missionary Society, Philadelphia	5,000
Maternity Hospital	6,000

Philadelphia Pediatric Society.—The meeting held April 10 was devoted to a discussion on **Heart-disease in children.** DR. ALFRED HAND, JR., read a paper on the **Pathology of congenital heart-disease.** Using Osler's classification, he enumerated briefly the results of (1) faults of development; (2) fetal endocarditis; (3) the combination of both. He said that according to Peacock, hearts with two or three cavities result from defects occurring before the sixth week; septal defects and misplaced vessels arise between the sixth and twelfth weeks, and anomalies of the valves and persistence of fetal openings occur after the twelfth week. The causes of endocarditis in the fetus are: infectious fevers in the mother, especially rheumatism; syphilis; and it may occur without illness on the part of the mother; microorganisms may penetrate the placenta, or toxins may pass from the mother to the fetus and cause the inflammation; favoring the latter view is the form of the endocarditis, which is always the sclerotic or chronic and not the warty. Reasons for the inflammation affecting the right heart oftener than the left are that congenital anomalies are more common on the right, there is more work to be done, and oxygen is present in greater amount in the blood. With the exception of the first reason, the others apply to postnatal endocarditis which is more common on the left than on the right.

DR. J. DUTTON STEELE treated of the **Pathology of acquired heart-disease,** mentioning first the characteristics of the heart in childhood as compared with those of the organ in adults, the former being the rapidity of nutrition, the prompt response to stimulants and the ease with which dilation and hypertrophy occur. Stress was laid on the importance of the myocardium, which usually shares in inflammation of either lining membrane, the extent to which the muscle is affected determining the outcome. Rheumatism is more prone to affect the heart in children than in adults, the joint-affection in the former being slight; age is a powerful predisposing factor, four times as many cases occurring between 5 and 10 years as before 5. Myocar-

tis may occur in the newborn as the result of puerperal fection, three cases having been reported between the urth and the sixteenth days.

DR. F. A. PACKARD gave as reasons for there being no ecial group of **symptoms of heart-disease in children** the absence of degeneration of the myocardium by bacco, alcohol, overwork, etc., the greater plasticity of the uscle, and the fact that the child is more of a free-will agent an an adult and can and does remain quiet in cardiac disrbances, while adults often continue at work. Under 4 ars of age, wasting, anemia and cough are often seen in nnection with heart-disease, while over 4 the symptoms failing compensation are like those in adults. In an analy- of 56 cases, dyspnea was observed only in older children er 8 years, the youngest child with edema was 6 years, lpitation was seen in a child of 3 years, and no child der 6 years complained of pain. Acute endocarditis ves no characteristic symptoms. DR. J. P. C. GRIFFITH, discussing the **Diagnosis of heart-disease in ildren,** stated that, as compared with acquired lesions, anosis and thrill, when present, are usually more marked congenital lesions, the murmurs are loud and out of prortion to the changes in the heart; the location of the mururs in many cases makes the differential diagnosis easy. ildren often have severe anemias which are associated th functional murmurs, the exclusion of organic heart-disese being sometimes difficult. Shortness of breath as a mptom may be overlooked unless the questioning is very reful; anemia is often present; edema is not necessarily esent in failing compensation and when present does not ways mean a cardiac lesion; faintness is not uncommon, t cough, hemoptysis and epistaxis are rare. With refernce to the examination of the heart, stress was laid on the t that accentuation of the pulmonic second sound and a ge right heart are the rule in children as compared with ults. DR. A. V. MEIGS, speaking of the **Prognosis of art-disease in children,** gave it as more hopeful than adults, because of the greater elasticity of the heart and e opportunity for repair during growth; cases were mened showing valvular lesions in childhood which had dispeared by the time adult life was reached. The prognosis graver in cases with much enlargement of the heart, but idness of the murmurs has no influence. If the disease confined to the heart alone, the prognosis is better than en widespread lesions exist. DR. H. A. HARE said that the **reatment of heart-disease in children** could not be finitely outlined, the symptoms which must be treated beig, as has been said, not characteristic. The most important ment is rest, especially at puberty, when the heart so often ids to give way; the use of roborants and remedies which mulate body-growth, such as the hypophosphites, was conlered unwise, the heart not being able to keep pace with e body; food should be given in small amounts, frequently, d should be nutritious and easily digestible; of drugs, eratives like arsenic, mercury and iodid of iron are the st important, codliver oil being avoided, because of its mulus to growth; large doses of digitalis should be given ly in emergencies, to save life, and its use in chronic cases, pecially in children, should have frequent intermissions ing to its cumulative action and the dose should be a frac- n of a minim; another drug often abused is strychnin, ich is given in much larger doses now than formerly, but es its grip in a week, and if pushed has then an irritant her than a stimulant action.

NEW YORK.

Dr. W. T. Jones Not Indicted for Murder.—The and Jury in session at Newburg failed to find an indictent against Dr. William T. Jones, of Pinebush, who has en in jail three months on the charge of killing his aged lored coachman.

The New York Pathological Society.—The Middleton Goldsmith Lecture of the New York Pathological Society s delivered at the New York Academy of Medicine on the ening of April 13. The lecturer was Professor Simon exner, of the University of Pennsylvania, and his topic s, "The Pathology and Etiology of Dysentery." The paper ll be published in a future number of the PHILADELPHIA EDICAL JOURNAL.

State Board of Charities Election.—At the recent annual meeting William Rhinelander Stewart was unanimously elected president for the eighth consecutive term, and Dr. Enoch Vine Stoddard, of Rochester, vice-president for the sixth consecutive term.

A Dog Seeks Hospital Care.—A homeless dog with a broken leg hobbled after the ambulance into Bellevue Hospital. What led him to do this no one knows. One of the house-staff took pity on the animal, and put up the fracture in splints, and then one of the attachés of the hospital took the dog home with him.

Legacy to a Nurse.—The late James D. Sarven, of Tarrytown, has bequeathed to Harriet L. Burgess, a nurse in the Tarrytown Hospital, 200 shares of Northern Pacific first preferred railroad stock as a token of his appreciation of her constant attendance while he was under treatment for his eyes at the hospital, and for her helpfulness in keeping his books.

Music for the Sick.—It is announced that charitable women are engaged in forming a society, to be known as the St. Cecilia Guild, which will provide good music for asylums and hospitals. This will give an opportunity not only to afford pleasure and entertainment to the sick and unfortunate, but will give an opportunity, perhaps, to test the extravagant claims of a few enthusiastic specialists regarding the power of music to soothe the nervous, and help nature to effect a cure in certain functional nervous disorders.

Dispute Over the Harlem Hospital Site.—The movement towards securing for the Harlem Hospital a better building than the miserable one it now occupies seems likely to be "held up" because of political interference. The Harlem Board of Commerce and others interested in the welfare of the hospital have more than once expressed their preference for the site at Lenox Avenue and One-Hundred-and-Thirty-fifth Street for the new edifice, but it is charged now that the political powers are at their old tricks, and have approved another place simply because certain of their number are interested in the latter site.

The New York State Medical Association Chartered.—Governornor Roosevelt signed the bill, chartering the New York State Medical Association, and conferring upon it the same rights and privileges that have been hitherto enjoyed by other similar organizations. This is a step in the right direction, and is well calculated to unify the profession of the State. The bill is entitled "An Act to charter The New York State Medical Association for the purpose of the cultivation and advancement of the science of medicine, the promotion of public health, and the establishment of a death benefit fund for the dependents of its members."

Alleged Death from Hydrophobia.—Thomas Condon, an employe of the Park Department, was bitten in the right cheek by a strange St. Bernard dog on the evening of March 6. He went at once to St. Vincent's Hospital and placed himself under surgical care, and in a few days was discharged as cured. He returned to his work and felt well until April 10, when he became ill. He was then taken to the Pasteur Institute, but the physicians there pronounced the case already beyond their skill. He died three days later. As the dog was shot immediately after he had bitten this man, there was no positive proof that the case was one of true rabies.

New Surgeons for Roosevelt Hospital.—The resignation and retirement of Dr. Charles McBurney and the appointment, as his successors, of Dr. Robert F. Weir and Dr. William T. Bull, have been followed by the resignation of both of these gentlemen from the New York Hospital, the former after 28 years' continuous service, and the latter after a service of 17 years. Dr. Weir was already a consulting surgeon of the Roosevelt Hospital. The change is considered to be especially advantageous to the College of Physicians and Surgeons, as the students will no longer find it necessary to journey nearly to the other end of the city when they desire to attend the surgical clinics. The new order of things went into effect on April 16. Dr. McBurney had been chief surgeon at the hospital for 12 years.

A Diet of Wood Shavings.—According to the daily papers, the Eastern District Hospital, Brooklyn, has had a somewhat curious case in the person of an 11-years-old boy. According to the history, the boy had been complaining for several months of a heavy sensation in his stomach, and during the past four weeks he had been so much worse that he could not sit down without great pain. The boy confessed that he had been in the habit for many months of whittling wood, and then chewing and swallowing the shavings. At the operation, a mass of wood-pulp weighing one pound and a half was found in the bowel.

Diphtheria Discovered by a Fire.—A good example of the way in which the ignorant people succeed in circumventing the efforts of the health-authorities to control disease was well shown in a recent fire. Among the inmates of a burning tenement were several children sick with diphtheria. The existence of these cases would not have been known had the fire not occurred, and it is more than probable that they had no medical attendance. It is in just these densely populated districts, where the ignorant congregate, that the health-authorities are feared and shunned, yet it is just here that there is the greatest danger of an epidemic gaining a foothold. But avarice and greed are probably as much responsible for these attempts to conceal cases of contagious disease as is ignorance, many of these people being small shopkeepers who dread the interference with their business that will result from calling in a physician or notifying the Board of Health.

A Physician Succumbs to Cerebral Abscess Following Otitis.—Dr. Frank D. Kimball, house surgeon of the City Hospital on Blackwell's Island, a young and very popular physician, had an attack of the grip about two months, which seemed to seriously break down his health. Two weeks ago he began to hear strange noises like the smashing of dishes. This was followed by distressing earache, and he sought the advice of Dr. Francis J. Quinlan, of the staff of special consultants. Dr. Quinlan perforated the drum in each ear, and evacuated abscesses, but as he did not improve, Dr. Gorham Bacon and Dr. Fred Whiting, both physicians of large experience in this particular field, were called in consultation. Dr. Kimball was removed to the Eye and Ear Infirmary, and was subjected to a double mastoid operation. This disclosed an extensive suppurative meningitis. At the completion of the operation, the patient did not exhibit much shock, but later he became first delirious, and then comatose, and remained in the latter state until his death.

Hospital Saturday and Sunday Collection.—The Treasurer of the Hospital Saturday and Sunday Association reports that the collection just made amounts to more than $74,000, or nearly $4,000 above last year. The Woman's Auxiliary collected over $9,000 of this amount, or about $2,000 more than in any previous year. As the sum of $13,077.16 was designated by the donors as for special hospitals, and the sum of $3,084 05 has been reserved for future expenses, a total of $58,000 was available for distribution among the various hospitals on a basis of the free work done. The largest sum, $5,800, went to the Montefiore Home for Chronic Invalids; the next largest, $5,161.67. to St. Luke's Hospital, while Mt. Sinai Hospital received $4,915, and the Roosevelt Hospital, the German Hospital, and the Hospital for Ruptured and Crippled between $3,000 and $4 000 each. The Nursery and Child's Hospital and St. Mary's Free Hospital for Children each got between $2,000 and $3 000, while ten others were awarded between $1,000 and $2,000. The balance of the sum collected was distributed in lots ranging from $250 to $950 to 19 other institutions.

NEW ENGLAND.

The new Ann Vose Home for Nurses at the Boston City Hospital was inspected by the medical profession last Saturday. It is one of the best buildings for the purpose in the country.

Boston Society for Medical Improvement.—At the last meeting DR. JAMES E. STONE read a paper on the **Proper seating of school children,** in which he said that strong children can get along fairly well even with improperly fitting seats and desks. When the long school hour and the home conditions existing in cities are considered i is important that children should be properly seated a school. Modern adjustable furniture makes it possible t regulate easily the height of desk and chair and the horizon tal distance between the desk and chair. While the best au thorities agree that the edge of the desk should overhang th front of the seat there are certain objections made to a fixe adjustment of this sort, particularly with reference to getting i and out of the chair. The desk top of the furniture approve by the reader allows a movable adjustment of the desk sur face forward and back as well in slope. Owing to the sligh expense it is not widely used. Vertical penmanship doe much to prevent improper attitudes, for it is well known tha the typical lateral curvature is that of the position assume in the slanting writing.

The proper chair back has been the great problem. Sup port for the lumbar and lower dorsal spine is essential, i order to maintain the normal anterior lumbar curve, but th shoulders should not be pushed forward. The backs of type writer seats are constructed on hygienic principles and ar comfortable. No position, however good in itself, can b long maintained without fatigue. In order to allow an auto matic movement forward and back of the seat, a change i the normal curves of the spine, and a change from an up right to a reclining position while at the same time givin proper support to the back, Professor Miller has devised chair on new lines.

Professor Edward A. Miller showed a **school chair.** I has a support similar to that in ordinary school chairs with fixed adjustment for height. In front is a long link connect ing the front of the seat with the bottom of the support. I is not quite vertical, the bottom being a little behind the top Behind there is a much shorter link connecting the back o the seat with the top of the support. This link diverges con siderably at the top from the anterior link. Thus the sea may be moved forward and back about three inches, the pos terior edge of the seat dropping somewhat when pushe backward. The seat back is supported on a metal casting By means of a bevel gear the back may be drawn forward o pushed back through about nine inches. The back itself i fastened to the casting so that it has a swivel motion, th longer arm being uppermost. The chair is similar to tha described in the *Journal of the Boston Society of Medica Sciences*, December, 1897, and to that mentioned in the *Trans actions of the American Orthopedic Association*, 1899, p. 182, bu it has been much simplified.

DR. E. W. HARTWELL described the previous attempt made in Boston to solve the **school-seating problem.**

The Suffolk District Medical Society—Surgical Section.—At a meeting held April 4, DR. CHARLES ALLEN PORTER read a paper on **actinomycosis,** i which he reviewed 11 cases of the disease which ha appeared at the Massachusetts General Hospital during the last year. One of these cases was a primary lung disease with general actinomycotic pyemia, in which diagnosis was only made out at the autopsy, and 10 cases o the maxillary form of the disease. Six of these cases were discovered by the writer, and all appeared for treatment first in the surgical out-patient department. The fact that these 6 cases occurred within three months, and 4 within a week, was evidence that the affection cannot be a rare one, and that in many cases it was overlooked. The paper was limited to the maxillary form of the disease, and its conclusions were as follows: The infection seems to enter most frequently near a carious tooth or is carried in by a foreign body through the mucous membrane of the mouth or pharynx. The process is essentially subacute or chronic and the disease tends to advance by a sinus towards the skin. Infection is rarely pure, but is usually mixed with ordinary pyogenic organisms or mouth-bacteria. It is rarely painful and the accompanying pain when it occurs is due to a mixed infection. Clinically and under the microscope the disease is characterized by the formation of an unusual amount of dense connective tissue which ends more or less abruptly at the periphery and infiltrates the adjacent muscle or fat. The bone itself is rarely involved in human actinomycosis, though it may be thickened from periostitis. In all the cases examined the inner wall of the cavity showed a clearly cut line of demarcation between the connective-tissue wall and the lining flabby soft

anulation tissue. Glandular enlargement is conspicuous its absence, and when present seems to be due to the ixed infection. Metastasis seems to occur through the ood-current and not by way of the lymphatics. In serious ses the disease progresses down the neck, into the antrum, through the base of the skull. A sinus probably led at ne time from the original site to the superficial abscess. rismus though often present is no more characteristic this disease than of other inflammatory affections. It rarely possible, in the writer's opinion, to make a inical diagnosis of actinomycosis. Recurrent abscesses, ithout necrosis, chronic, painless, subcutaneous abesses about the jaw evidently not connected with tubercar glands, would lead to a suspicion of the disease if these ictuating areas were surrounded by especially firm and ard connective tissue, and sinuses could be felt under the in; if there was little edema and swelling a probable diagsis could be made. Examination of the discharge is of eat assistance, but the mere presence of the so-called sulphur granules" is not by any means conclusive, and no se should be considered as one of actinomycosis without mpetent microscopic examination. Small round masses fibrin or tubercular debris sometimes simulate a colony, do masses of mouth-bacteria, the resemblance continuing en under the microscope. In examining for actinomycosis, uze sponges which absorb the discharge should not be ed. All bleeding, when possible, should be stopped before ening the abscess-wall. Unless badly contaminated, actinoycotic pus appears usually as a clear, perhaps bloodged, slightly lymphy seropus. Fluid should be examined once, for these granules are found with great difficulty nen the blood has clotted. With reference to treatment o facts speak strongly for the self-limitation of the disease a majority of cases: 1. Few cases enter the hospital with lvanced signs of the disease, and it seems certain that many cover after a simple incision of the abscess or its natural pture. 2. The infrequency of the granules in the walls of e abscess seems to show that the surrounding connective sue probably proves an effective barrier to the spread of e disease.

Treatment.—Simple opening, cureting, and drainage have oved sufficient in many cases, though recurrences may be equent. When possible, excision of the inner half of the all or the whole wall seems best in those cases where it is ssible. E-pecial care should be given to following up any us or pocket. The wound may then be cauterized, preferly with strong tincture of iodin; carbolic acid or zinc are ten used. Drainage should be external. Internally K. I. has doubtedly proved beneficial in many cases. A more carel examination of "ordinary" alveolar abscesses, and of me cold abscesses in the submaxillary region, will prove, in e writer's opinion, that the disease is more common than s been thought.

DR. J. C. MUNRO, of the Boston City Hospital, also reported number of cases of actinomycosis which had appeared in s service.

DR. F. B. LUND reported a case of suturing of nerve and ndon. The wound was made by window glass, and the eration involved suture of the ulnar nerve, which was mpletely severed; partial suture of the median nerve; ture of all the sublinus and profundus flexor tendons; and ture of the flexor carpi ulnaris. The tendons were united th mattress sutures of silk and the nerves with fine catgut. imary union resulted; partial sensation in distribution the ulnar returned within 10 days. The hand was immolized, with fingers semiflexed and kept in that condition 3 eeks, when passive motion was begun and continued for e month. This was followed by electricity and massage. mplete voluntary flexion was possible in 10 weeks; paralis and atrophy of the interossei was present at 3 months; t now, 6 months after the accident, the atrophy has disapared and all the hand is as good as the other in grasp, mon and sensation.

CHICAGO AND WESTERN STATES.

The Michael Reese Hospital, of Chicago, according the will of the late Mr. Rosenberg, will receive $10,000.

Association of Military Surgeons of Illinois met pril 11, at the Great Northern Hotel for the first time since 1897. The meeting was called for the purpose of hearing reports from the various surgeons who were connected with the volunteer and regular service during the Spanish-American war and to arrange for their compilation and publication by the Surgeon-General, Dr. Nicholas Senn.

Maternity Hospital.—At a recent meeting of the Presbyterian Ladies' Aid Society, of Chicago, plans were discussed for the erection of a maternity hospital. Mr. Cyrus H. McCormick has promised to give $40,000 for the construction of a building, provided the society will raise an equal amount. Not less than $100,000 will be required for the completion of the structure. It will be built just east of the Presbyterian Hospital, and will cover 50 by 150 feet of ground, and will be 6 or 7 stories in height.

Examinations for Certificates to Practise.—An unusually large number of medical graduates met at the Great Northern Hotel, April 11, to take the examination for certificates of practice under the direction of the State Board of Health. Seventy men and five women presented themselves for examination. Scores of applicants who have not taken the four years' course in medical colleges as required by the Illinois laws, have been turned away. Thirty-four colleges in the United States of good reputation do not come up to the four-years requirements of the board.

Chicago Medical Society and Chicago Medical Insurance Examiners' Association.—At a joint meeting held April 11, DR. WILLIAM E. CASSELBERRY read a paper on **Diseases of the throat and nose in relation to life-expectancy.** He called attention to salient subjective symptoms and to signs under direct vision by which an astute examiner may distinguish between important and unimportant affections. Simple rhinitis, hypertrophic rhinitis, and atrophic rhinitis, when uncomplicated, have little or no influence upon life-expectancy, unless the case is of extraordinary severity or occurring in one of otherwise debilitated constitution. But these unimportant catarrhal affections are likely to be confounded with more serious nasal diseases which are prone to shorten the duration of life and which the medical examiner should seek to discover. Prominent among these he mentioned chronic suppuration of the antrum of Highmore, or of the frontal and ethmoid sinuses. The significance of nasal polypus with reference to life-insurance varies with the individual case. If single or small and with little disposition to recurrence after removal, it may add but a trifling risk, but when multiple or large and persistently recurrent a conservative custom would be to exact a thorough removal of the polyps as a condition preliminary to acceptance. Polyps are a frequent accompaniment and probably at different times both a cause and an effect of sinous empyema. Another symptom of nasal disease of which the examiner should take cognizance is fetor. Diseases of the larynx bear a close analysis with repard to life-expectancy, for this organ, the sole portal to the respiratory system, is a favorite site for obstructive conditions and for such progressively fatal affections as tuberculosis and cancer. Impairment of voice is an important symptom as to life-expectancy.

DR. GEO. W. WEBSTER read a paper on **The early recognition of pulmonary tuberculosis.** He dwelt upon, first, the clinical history, including the family history, personal history, occupation, habits, previous illnesses; then the general symptomatology, and next the physical examination. The importance of method in this, together with a knowledge of what constitutes the primary lesion of the disease, where it is prone to develop earliest, and then the physical signs in their order. He spoke of the value of systematic, methodical examination of the entire lung; the value of examination of other symptoms, such as the circulatory system. Then the examination of the sputum. He discussed at length other methods that are assumed to have some diagnostic value, such as the serum test, the iodid of potassium test, the x-ray and the tuberculin tests; and, lastly, what is needed is well-drilled men who perfectly understand the ordinary methods rather than the use of new methods.

The Western Ophthalmologic and Oto-Laryngologic Association held its fifth annual meeting on the 5th, 6th and 7th of April, at St. Louis. The president, DR. W.

SCHEPPEGRELL, of New Orleans, opened the meeting with a paper on the **Rise of Specialism,** in which he disproved the oft-repeated charge that specialisms in medicine are modern innovations. He cited historical data, dating several centuries before Christ, in which distinct references were made to specialists of the eyes, stomach, and the head. The essayist commended specialists in medicine, as they promote more detailed study and thereby lead to higher medical attainments.

DR. J. W. BULLARD, of Pawnee City, Neb., read a paper on **Two classes of eye cases that give me a great deal of trouble.** Chief among them were those in which irritation and dryness of the conjunctiva persisted, in spite of every attempt at refraction which had been made.

DR. EDWIN PYNCHON, of Chicago, read a paper on **Slight irregularities of the nasal septum,** in which he advocated the removal or correction of slight irregularities of the septum when there were disturbances of the nasal functions on account of their presence. If later and larger development justified their removal, the author thought their early removal was justified on the grounds of "A stitch in time saves nine."

DR. C. R. HOLMES, of Cincinnati, read a paper on **Foreign bodies of the orbit, with report of cases.** About seventy cases were compiled from the literature by the author and three additional ones reported by him. The most interesting and unique case was one reported by the author. It consisted of a knife blade about 1½ inches long which had been in the orbit for 32 years without causing much inconvenience. It was imbedded in a fibrous capsule and was but slightly rusted.

DR. B. E. FREYER, of Kansas City, reported **A case of railway trauma of the eye,** and spoke of its legal aspect.

DR. M. A. GOLDSTEIN, of St. Louis, presented cases (*a*) **Primary tuberculosis of the ear**; (*b*) **Primary tuberculosis of the larynx.** (*a*) The case had been operated on some years previously and had a recurrence some months ago, at which time Dr. Goldstein did the Schwartz operation. Bad symptoms developed a few weeks ago and he did the radical operation, since which time the patient is doing well. (*b*) The second case was one of probable primary tuberculosis of the larnyx, which came under the observation of the author about one year ago. At that time he was in a very serious condition; death seemed but a matter of a few weeks or months. The patient was greatly emaciated and in response to the treatment administered had gained a fair degree of health, being able to attend to business. The diagnosis in the case is somewhat doubtful, but the author having excluded lues and malignant growth, has made the diagnosis of primary laryngeal tuberculosis. Tubercle-bacilli are absent and the tissue has not been examined microscopically.

DR. WM. L. BALLENGER, of Chicago, read a paper on **The physiologic tests of the organ of hearing as aids in differential diagnosis of lesions of the ear.** The author advocated the physiologic tests of the ear, including the range of hearing, as tested with the tuning fork, Galton whistle, the Webber experiment, the Rinne experiment, the Schwaback and Bing tests, as important alds in the differential diagnosis of the lesions of the ear. They are of special importance in determining the location of the lesion. He suggested that in a general way the deeper the structure involved the more pronounced the disturbance of hearing and less probability of a cure. The tests were therefore recommended more for the purpose of aiding the surgeon in giving a correct diagnosis than for the purpose of aiding him in the treatment, which is often unsuccessful. Six cases were cited, illustrating lesions of different kinds in the middle ear and labyrinth in which the tests were used for the purpose of differentiating them. He recommended that the tests be made in all cases of ear disease in which there was marked deafness and tinnitus, both before and after inflation of the tympanum. If this point is neglected the diagnosis may not be properly made. While the physiologic tests are not absolute guides to a correct diagnosis, they are, together with all the other means of diagnosis, the most correct at the command of the aural surgeon and therefore should be invariably used.

DR O. J. STEIN, Chicago, read a paper on **Symmetrical osteoma of the nose,** and reported a case. The author reported a very rare case of symmetrical or double osteom of the nose, occluding the nasal chambers and extending t either side for a considerable distance, whereby the patien was given the typical frog-face appearance. Osteoma upo one side is rather common. This case was presented o account of its unique type, and was reported with a numbe of other cases collected from the literature. No attempt wa made to correct the deformity, as the patient is wel advanced with tuberculosis, several other members of th family having died with the same disease.

DR. JNO. J. KYLE, Indianapolis. read a paper on **The sympathetic inflammation and sympathetic irritation of the eye.** The author made an interesting review of the subject presented, in which he advocated the usua classical treatment.

DR. ADOLPH ALT, St. Louis, read a paper on **Studies concerning the anatomy of the eye-lids, especially their glands** (with lantern slides). The purpose of the author was to report the result of an extensive examination made of the tissues of the eye-lids, in which he had found mucous glands located in positions where they were not usually found. He also stated that in all his examinations with one exception, the torsal cartilages of the eye-lids were not true cartilaginous tissue.

Dr. H. W. LOEB, of St. Louis, read a paper, **Presentation of specimen of 107 polypi removed at one sitting.** This case was unique, not so much on account of the great number of polypi removed from the nose as from the fact that they were removed at a single sitting. They were uniformly pedunculated and varied greatly in size. They were removed with an electrocautery snare devised by the author.

DR. J. O. STILLSON, of Indianapolis, read a paper on **Removal of the middle turbinate for the cure of some forms of inveterate eye diseases.** The authour read a very interesting paper upon this subject, in which he reported his observations as to the relationship of nasal and eye diseases and the results he had obtained in allaying eye symptoms by the treatment of nasal conditions, more especially the removal of the turbinate.

DR. GOLDSTEIN, as Chairman of the Local Committee of Arrangements, arranged for a museum of pathologic and anatomic specimens, which, while not large, was extremely interesting and marks a new departure in this society.

The officers elected for the ensuing year were as follows: President, Dr. M. A. Goldstein, of St. Louis; first vice-president, Dr. Würdeman, of St. Paul; second vice-president, Dr. C. R. Holmes, of Cincinnati; third vice-president, Dr. Fayette C. Ewing, St. Louis; treasurer, Dr. W. L. Dayton, of Lincoln, Neb.; secretary, Dr. Wm. L. Ballenger, of Chicago. Dr. C. R. Holmes was made chairman of the local Committee of Arrangements for the meeting to be held in Cincinnati next year. Dr. Loeb, of St. Louis, chairman of the Membership Committee.

SOUTHERN STATES.

Filtration of City Water, Washington, D. C.—A plan was submitted to the Senate, April 2, through the Chief of Engineers, for the filtration of the water-supply of the city. Gen. Wilson concurs in the recommendation, which is for the establishment of the American system at a cost for the entire work of $1,957,400. The American system is preferred by the army engineers to what is known as the English system of slow sand-filtration. Stress is laid upon the necessity of appropriating money to begin the work at once.

Statue of Hahnemann to be erected in Washington, D. C.—Congress has passed a bill permitting the erection of a statue to Hahnemann in the most central and beautiful part of Washington. A large sum of money was appropriated for the pedestal and the ground has been broken for its erection. The site selected is at Scott Circle. An equestrian statue of General Winfield Scott stands in the center, a handsome statue of Daniel Webster stands across the street on one side and Hahnemann's statue is to hold a place across the street on the opposite side of Scott's statue. The bill passed quickly through Congress without meeting any opposition. The chairman of the Senate District Committee as well as many other prominent and influential Senators and Representatives are homeopathists.

"A bill for the regulation of scientific experiments upon human beings in the District of Columbia," is the title of Senate bill number 3424. The Commissioners of the District of Columbia wrote to the Medical Society requesting their opinion of this bill. The following is the reply adopted by the society:

DEAR SIR:—In compliance with your request of the 24th ultimo, the Medical Society of the District of Columbia has examined Senate Bill No. 3424, entitled . . . So far as the Medical Society is informed, no acts such as this bill purports to regulate have ever been done, or are likely ever to be done, in this District, for experimental purposes. The bill if enacted will give rise to frequent, unnecessary and harmful litigation, and the Medical Society is, therefore, of the opinion that the passage of this bill is uncalled for, and that if passed it will be detrimental to the best interests of the community.

Respectfully,

President, Medical Society, D. C.

Medical Association of the District of Columbia. At the annual meeting, held April 3d, the following officers were chosen for the ensuing year: President, Dr. S. S. Adams; Vice-presidents, Dr. H. B. Beale and Dr. J. W. Chappelle; Secretary, Dr. M. G. Motter; treasurer, Dr. Frank Leech; Councilors, Drs. Holden, Acker, Carr, H. L. E. Johnson, J. O. Leech, Mayfield, McLain, Ober, and T. R. Stone; Visitors, Drs. Woodward, Cook and Glazebrook. At the meeting held April 4, Dr. M. G. MOTTER read a paper on **Historical notes on tuberculosis.** Dr. Motter presented some very interesting notes, tracing the history of the disease from its earliest mention to the discovery of the bacillus by Koch. The paper was interspersed with many entertaining quotations from the early writers on the disease, and showed a very exhaustive study of the subject. DR. LAMB exhibited specimens of a **retroperitoneal myxoma** and intestinal obstruction by a band occurring in the same patient—a woman, aged 45. The fibromyxoma was a large tumor pressing on the right ureter and causing hydronephrosis. There were some small fibrous tumors on the same side pressing on the veins and causing edema of the lower extremity. The band causing intestinal obstruction extended from the great omentum to the right iliac spine.

MISCELLANY.

Health-Reports. — The following cases of smallpox, yellow fever, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 14, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ALABAMA:	Huntsville	April 4	19	
"	Mobile	April 1–7	11	
COLORADO:	Arapahoe	March 28	4	
"	El Paso Co.	March 28	1	
"	Las Animas Co.	March 28	1	
"	Rio Grande Co.	March 28	1	1
"	Weld Co.	March 28	3	
DISTRICT OF COLUMBIA:	Washington	April 1–7	6	
ILLINOIS:	Aurora	March 18–31	14	
"	Chicago	April 1–7	2	
INDIANA:	Evansville	April 1–7	3	3
KENTUCKY:	Covington	April 1–7	12	
"	Lexington	April 1–7	2	
LOUISIANA:	New Orleans	April 1–7	50	23
MICHIGAN:	Detroit	April 1–7	2	
"	Grand Rapids	April 1–7	1	
MINNESOTA:	Albert Lea	March 20–28	2	
"	Anoka	March 20–28	4	
"	Anoka Co.	March 20–28	1	
"	Butterfield	March 20–28	2	
"	Duluth	March 20–28	1	
"	Freeborn Co.	March 20–28	1	
"	Kandigohi	March 20–28	5	
"	Minneapolis	March 18–31	18	
"	Rice Co.	March 18–31	2	
"	Watonwan Co.	March 20–28	5	
MISSOURI:	St. Louis	March 10–31	20	
OHIO:	Cincinnati	March 23–30	3	
	Cleveland	April 1–7	24	
PENNSYLVANIA:	McKeesport	April 3–10	2	
PHILIPPINE ISLANDS:	Manila	Feb. 17–24	5	
SOUTH CAROLINA:	Greenville	April 1–7	2	
VIRGINIA:	Roanoke	March 20–31	7	
WASHINGTON:	Spokane	April 1–7	1	
"	Tacoma	March 24–31	1	

SMALLPOX—FOREIGN.

			Cases.	Deaths.
ARGENTINA:	Buenos Ayres	Jan. 1–31	2	2
AUSTRIA:	Prague	March 10–17	3	
BELGIUM:	Antwerp	March 10–17	3	1
BRAZIL:	Rio de Janeiro	Feb. 9–23		27
EGYPT:	Cairo	Feb. 25–March 1		13
ENGLAND:	London	March 3–17	12	
FRANCE:	Lyons	March 10–17		1
"	Nice	Feb. 22–March 15	9	4
"	Paris	March 17–24		2
GIBRALTAR:		March 18–25	11	1
GREECE:	Athens	March 10–24	19	9
INDIA:	Bombay	Feb. 20–March 6		537
MEXICO:	Chihuahua	March 17–31		7
"	Vera Cruz	March 24–31		9
RUSSIA:	Odessa	March 10–24	15	5
"	St. Petersburg	March 3–10	31	12
"	Warsaw	March 3–10		3
SPAIN:	Corunna	March 3–10		1
"	Valencia	March 18–24	1	1
STRAITS SETTLEMENTS:	Singapore	Feb. 17–24		3
SWITZERLAND:	Fifteen Towns	Feb. 10–March 10		2
TURKEY:	Constantinople	March 19–26		1

YELLOW FEVER—FOREIGN.

BRAZIL:	Rio de Janeiro	Feb. 9–23		32
COLOMBIA:	Panama	March 20–27	3	1
CUBA:	Havana	March 24–31		1
MEXICO:	Vera Cruz	March 24–31		2

PLAGUE—INSULAR, U. S.

HAWAII:	Honolulu	March 25		2
PHILIPPINE ISLANDS:	Manila	Feb. 10–24	19	15

American Laryngological Association.—The following is the program of the Twenty-second Annual Congress, to be held in Washington, D. C., May 1, 2 and 3, 1900.

President's Address, Samuel Johnston, Baltimore, Md.; "Laryngeal Irritation a Cause of Asthmatic Paroxysm," W. L. Glasgow; "Fractures of the Nose," T. A. DeBlois; "Atrophic Rhinitis," J. E. Logan; "A Case of Ozena of probably Sphenoidal Origin," J. W. Farlow; "Recurring Membranous Faucitis due to the Bacillus of Friedlander, with Report of a Case," Emil Mayer; "On the Employment of the Upright Position in Ether Operations Upon the Nose, Throat, and other Portions of the Head, with Exhibition of a Chair to Facilitate Such Operations," T. R. French. Discussion: "The Early Diagnosis of Laryngeal Cancer and the Treatment;" "Methods of Diagnosis and General Principles of Treatment," J. N. Mackenzie; "Methods of Treatment and the Statistical Results," D. B. Delavan; "The Surgical Procedures," J. Solis-Cohen; "Severe Hemorrhage after Operations on the Throat and Nose, Report of Five Cases," Arthur Ames Bliss; "Secondary Hemorrhage after the Use of Suprarenal Extract," F. E. Hopkins; "(*a*) Bullous Middle-turbinates, (*b*) Two Cases of Benign Growths of the Larynx," J. P. Clark; "Fibroma of the Larynx," A. B. Thrasher; "Singular Exhibitions of Partial Paralysis of the Vocal Cords, due to Overuse of the Telephone," C. C. Rice; "A Case of Pin in the Larynx for Two Years, Removal by Endolaryngeal Methods," A. W. de Roaldes; "A Peculiar Case of Migratory Foreign Body, with X-ray Illustration," D. B. Kyle; "Tracheal Injections in the Treatment of Pulmonary Tuberculosis," T. M. Murray; "Correction of the Deviations of the Nasal Septum," John O. Roe; "Angioma Cysticum of the Nose, Histological Analysis and Physiologico-Chemical Research of its Contents," H. L. Wagner; "The Surgery of the Turbinal Bodies with a New Method of Operating," J. E. Boylan; "Dermoid Cysts of the Nose," H. S. Birkett.

President, Samuel Johnston, Baltimore; first vice-president, Thomas Amory DeBlois, Boston; second vice-president, M. R. Brown, Chicago; secretary and treasurer, Henry L. Swain, 232 York street, New Haven, Conn.; librarian, J. H. Bryan, Washington, D. C.; council, W. H. Daly, Pittsburg; Charles H. Knight, New York; Thomas R. French, Brooklyn; William E. Casselberry, Chicago.

American Gynecological Society.—The following is the program of the Twenty-fifth Annual Meeting to be held in Washington, D. C., May 1, 2, and 3, 1900:

Address of Welcome; "The Technic of Operations for Intraligamentous Tumors," W. H. Wathen, Louisville, Ky.; "Fecal Fistulæ," I. S. Stone, Washington; "A Study of the Remote Results of Conservative Operations on the Ovaries and Tubes," W. L. Burrage, Boston; "Internal Secretion of the Ovary," A. W. Johnstone, Cincinnati; "The Technics, Indications, and Ultimate Results of Suturing the Round Ligaments to the Vaginal Wall for Retroversions and Flexions of the Uterus," Hiram N. Vineberg, New York; "A Comparison of Vaginal and Vaginal and Abdominal Operations," G. Richelot, Paris, France; "Demonstrations of Casts Illustrating the Anatomy of Pregnancy and Labor, also Models Used in Gynecologic Teaching," J. Clarence Webster, Chicago; "Combined Ne-

phrectomy and Ureterectomy," E. E. Montgomery, Philadelphia; "The Anastomosis of the Ureters with the Intestines—An Historical and Experimental Research," Reuben Peterson, Chicago; "A Critical Survey of Ureteral Implantation," J. W. Bovée, Washington; "Migrated Ovarian Tumors," George M. Edebohls, New York; "The Best Method of Extirpating Fibroid Uteri," Howard A. Kelly, Baltimore; "An Appreciation of Kelly's Method of Removing Fibroids of the Uterus," A. Lapthorn Smith, Montreal; "Bronchial Disease not Invariably a Contraindication for Ether-Anesthesia in Abdominal Surgery," Thaddeus A. Reamy, Cincinnati; "The Treatment of Full-Term Ectopic Gestation—Should not the Child Receive More Consideration?" Edwin B. Cragin, New York; President's Address; "The Relationship between Dysmenorrhea and Appendicitis," Archibald McLaren, St. Paul, Minn.; "Clinical Data Relating to (*a*) Urinary Toxemia; (*b*) the Operative Treatment of Uterine Displacements; (*c*) Ectopic Gestation; (*d*) Certain Complications of Uterine Fibroids," Egbert H. Grandin, New York; "(*a*) Demonstrating the Utility of a Certain Chart for the Determination of Pelvic Asymmetry from a Very Simple Method of External Pelvimetry; (*b*) the Advantages of Employing a Certain Background in the Photography of Pathologic Specimens," Philander A. Harris, Paterson, N. J.; "A Contribution to the Management of Face Presentations, with Report of 2 Cases," Malcolm McLean, New York; "The Pernicious Nausea of Pregnancy, with a Report of Cases and Autopsy," E. P. Davis, Philadelphia; "Personal Reminiscences Associated with the Progress of Gynecology," T. Addis Emmet, New York; "The Status of Gynecology in 1876 and in 1900," Alexander J. C. Skene, Brooklyn, N. Y.; "Reminiscences of the Foundation and Early Years of the Society," James R. Chadwick, Boston; "The Personal Factor in the Work of the American Gynecological Society," E. Van De Warker, Syracuse, N. Y.; "Some Kaleidoscope Pictures in Rhyme," Thaddeus A. Reamy, Cincinnati; "In Memoriam—Charles Pajot," Samuel Pozzi, Paris.

Officers for 1900: President, George J. Englemann, Boston; vice-presidents, Edward L. Duer, Philadelphia; Seth C. Gordon, Portland; secretary, J. Riddle Goffe, New York; treasurer, J. Montgomery Baldy, Philadelphia; other members of the Council, Albert F. A. King, Washington; Joseph Taber Johnson, Washington; James R. Chadwick, Boston; Edward P. Davis, Philadelphia.

Changes in the Medical Corps of the U. S. Army

for the week ending April 14, 1900:

CARR, Major LAWRENCE C., surgeon, now on duty at Santiago, Cuba, will report to the commanding officer, department of Santiago and Puerto Principe, for assignment to duty as chief surgeon of that department.

EICHER, CHARLES G., acting assistant surgeon, now at Jefferson Barracks, is relieved from further duty in the department of Puerto Rico, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty.

MILLER, ALBERT L., acting assistant surgeon, now at Jefferson Barracks, is relieved from further duty in the department of Puerto Rico, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty.

MCGUIRE, WM. A., hospital steward, now at Fort Columbus, is transferred to Fort Wood to relieve Hospital Steward Benjamin Vitou.

VITOU, BENJAMIN, hospital steward, now at Fort Wood, will be sent to the U. S. Army General Hospital, Washington Barracks, for duty at that hospital.

BEALL, HOWARD W., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to temporary duty with the troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

BELT, P. HORATIO, acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to temporary duty with the troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

MORELL, HARRY, acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to temporary duty with the troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

SPRINGWATER, SAMUEL A., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to temporary duty with the troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

BELL, LEONARD P., acting assistant surgeon, now at the U. S. General Hospital, Presidio, is assigned to temporary duty with the troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

BAKER, FRANK C., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

WARD, JOSIAH M., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

STONEY, RANDELL C., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

COLLIE, JOSEPH A., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Grant," to sail for the Philippine Islands about April 1.

KEAN, Major JEFFERSON W., surgeon, upon being relieved as chief surgeon, department of the province of Havana and Pinar del Rio, will report to the commanding general, division of Cub for assignment to duty.

CHIDESTER, WALTER C., acting assistant surgeon, will report to t commanding officer of the detachment of Thirty-fourth Infantr U. S. Volunteers, stationed at Penananda, province of Neu Ecija, Luzon, for duty.

AGRAMONTE, ARISTIDES, acting assistant surgeon, is relieved fro duty at Military Hospital No. 1, Havana, Cuba, and will repo to the chief surgeon, department of Havana, for duty.

SHIELS, Major GEORGE F., surgeon, is relieved from duty in t department of the Pacific and will proceed to San Francisco, Ca where he will report by letter to the Adjutant-General of t Army for instructions.

COX, First Lieutenant WALTER, assistant surgeon, will report to t commanding officer, Twenty-second Infantry, for duty, relie ing First Lieutenant Henry E. Wetherill, assistant surgeon.

WETHERILL, First Lieutenant HENRY E., assistant surgeon, relieved from duty with the Twenty-second Infantry, and wi report to the commanding officer, hospital No. 3, for duty.

HIMES, BOWER E., acting assistant surgeon, will report for temp rary duty with troops on the U. S. transport "Grant," to sa for the Philippine Islands about April 1.

MARION, GEORGE L., acting assistant surgeon, will report for temp rary duty with troops on the U. S. transport "Grant," to sa for the Philippine Islands about April 1.

ROCKHILL, EDWARD P., acting assistant surgeon, is assigned to ten porary duty with troops on the U. S. transport "Grant," to sa for the Philippine Islands about April 1.

DUVAL, First Lieutenant DOUGLAS F., assistant surgeon, will pr ceed to the Philippine Islands on the U. S. transport "Grant, to sail about April 1.

NORRIS, JOHN L., acting assistant surgeon, is assigned to temporar duty with troops on the U. S. transport "Grant," to sail f the Philippine Island about April 1.

STROMBERGER, HENRY H., acting assistant surgeon, is assigned t temporary duty with troops on the U. S. transport "Grant, to sail for the Philippine Islands about April 1.

BROWNLEE, CHARLES Y., acting assistant surgeon, is relieved fro duty at the U. S. General Hospital, Presidio, and will proce to Benecia Barracks for duty.

TAYLOR, HUGH L., acting assistant surgeon, being relieved fro duty at Benicia Barracks will proceed to his home, Waco, Texa for annulment of contract.

MERRICK, JOHN N., acting assistant surgeon, is assigned to tempo rary duty with troops on the U. S. transport "Grant," to sa for the Philippine Islands about April 1.

HODGKINS, CHESTER L., acting assistant surgeon, is assigned to ten porary duty with troops on the U. S. transport "Grant," to sa for the Philippine Islands about April 1.

BROWN, HARRY T., hospital steward, and 40 men of the hospit corps, now en route to San Francisco, Cal., from New York N. Y., will proceed to the Philippine Islands on the U. S. tran port "Grant," to sail about April 1.

CALVERT, First Lieutenant WILLIAM J., assistant surgeon, will pr ceed via U. S. Army transport to Kobe, Japan, under instru tions from the board of health, this city, to confer with D Kitisato, the eminent specialist in the subject of bubonic plagu who is understood to be a resident of Kobe. Upon completio of his duties Assistant Surgeon Calvert will return to his prop station.

KIRKPATRICK, First Lieutenant THOMAS J., assistant surgeon, U. S A., is detailed as counsel for prisoners before the general court martial in session at Washington Barracks, D. C., and will pr ceed to that post.

The following named medical officers will report to the commandi ing officer, U. S. Army transport "Sheridan," for duty wit the sick to be sent on that vessel on her return voyage to th United States: Major WILLIAM D. CROSBY, U. S. Volunteers who, upon arrival at San Francisco, Cal., will take advantag of the leave for 3 months, on surgeon's certificate, granted hi in par. 4, S. O. 353, Dec. 24, from these headquarters; MAXWEL SIMPSON, acting assistant surgeon, who, upon arrival at Sa Francisco, will report to the commanding general departmen of California, for orders to return to this department on th "Sheridan," or such transport as shall next leave that port fo Manila, reporting at these headquarters upon arrival; STEPHE M. LONG, acting assistant surgeon, who, upon arrival at Sa Francisco, will report to the commanding general, departmen of California, for annulment of contract as previously directe in par. 3, S. O. 27, January 27, from these headquarters; JOH S. FOGG, acting assistant surgeon, who, upon arrival at San Fran cisco, will report to the commanding general, department o California, for annulment of contract.

DUCKER, Major ORLANDO, brigade surgeon, is relieved from duty i connection with Las Animas Hospital, Havana, Cuba.

SHIELDS, Major GEORGE F., surgeon, now at San Francisco, Cal. will report to the commanding general, department of Cali fornia, for duty.

SHIELDS, Major GEORGE F., surgeon, is, at his own request, honor ably discharged from the Volunteer Army, to take effec June 10.

CABELL, HENRY O., hospital steward, now on furlough at Brides burg, Pa., from the U. S. Army General Hospital, Washingto Barracks, is transferred to Fort McHenry to relieve Hospita Steward Clinton F. Henderson.

HENDERSON, CLINTON F., hospital steward, is relieved from duty a Fort McHenry, will be sent to Seattle, Wash., and will repor

to the commanding general, department of Alaska, for assignment to duty in that department.

CHER, CHARLES G., acting assistant surgeon, is granted leave for 15 days.

OODHULL, Lieutenant-Colonel ALFRED A., deputy surgeon-general, will proceed from Somerville, N. J., to Washington, D. C., and report to the Surgeon-General of the Army on business pertaining to the medical department.

Changes in the Medical Corps of the U. S. Navy, the week ending April 14, 1900:

COTT, F. W., passed assistant surgeon, ordered to duty at the naval recruiting rendezvous, Philadelphia, Pa.

Examination for Assistant Surgeoncies in the . S. Marine-Hospital Service.—The following circu· has been issued by the Supervising Surgeon-General of e U. S. Marine-Hospital Service:

A Board of officers will be convened at the Service Building, 378 ashington Street, New York City, Wednesday, May 23, 1900, for e purpose of examining candidates for admission to the grade of sistant Surgeon in the U. S. Marine-Hospital Service.

Candidates must be between 21 and 30 years of age, graduates of a putable medical college, and must furnish testimonials from sponsible persons as to character.

The following is the usual order of the examination: (1) Physi. (2) Written. (3) Oral. (4) Clinical.

In addition to the physical examination candidates are required certify that they believe themselves free from any ailment which uld disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short tobiography of the candidate. The remainder of the written exise consists in examination on the various branches of medicine, rgery, and hygiene.

The oral examination includes subjects of preliminary education, story, literature, and natural sciences.

The clinical examination is conducted at a hospital, and when acticable candidates are required to perform surgical operations a cadaver.

Successful candidates will be numbered according to their attainnts on examination, and will be commissioned in the same order vacancies occur.

Upon appointment the young officers are, as a rule, first assigned duty at one of the large marine-hospitals, as at Boston, New rk, New Orleans, Chicago, or San Francisco.

After 5 years' service, Assistant Surgeons are entitled to examations for promotion to the grade of Passed Assistant Surgeon.

Promotion to the grade of Surgeon is made according to seniority, d after due examination, as vacancies occur in that grade. Astant Surgeons receive $1,600; Passed Assistant Surgeons $2,000, d Surgeons $2,500 a year. When quarters are not provided comtation at the rate of $30, $40, or $50 a month, according to grade, allowed.

All grades above that of Assistant Surgeon receive longevity pay, percentum in addition to the regular salary for every 5 years' vice up to 40 percentum after 20 years' service.

The tenure of office is permanent. Officers traveling under ors are allowed actual expenses. For further information, or for vitation to appear before the board of examiners, address, Supering Surgeon-General, U. S. Marine-Hospital Service, Washin, D. C.

Changes in the U. S. Marine-Hospital Service, the 7 days ending April 12, 1900:

HITE, J. H., surgeon, detailed as Inspector of Quarantine Stations. April 10.

BB, J. O., passed assistant surgeon, detailed as delegate to attend the meeting of the American Climatological Association at Washington, D. C., May 1–3, 1900. April 11.

CKER, C. E., assistant surgeon, bureau letter of March 31, 1900, granting Assistant Surgeon Decker leave of absence for 29 days on account of sickness, amended so that the said leave shall be for 23 days only. April 6.

MULLEN, JOHN, assistant surgeon, to proceed to the South Atlantic Quarantine Station (en route to Tortugas) and report to the medical officer in command for temporary duty. April 11.

RRIE, D. H., assistant surgeon, granted leave of absence for 10 days from May 4. April 12.

LAUGHLIN, A. J., assistant surgeon, to report to medical officer in commany of the service at New York, N. Y., for duty and assignment to quarters. April 6.

NG, J. D., assistant surgeon, to report to medical officer in command of the service at Boston, Mass., for duty and assignment to quarters. April 12.

OVER, M. W., assistant surgeon, to report to the medical officer in command of the service at Baltimore, Md., for duty and assignment to quarters. April 12.

RLE, B. H., assistant surgeon, to report to the medical officer in command of the service at Chicago, Ill., for duty and assignment to quarters. April 12.

OYD, B. J., assistant surgeon, to report to the medical officer in command of the service at Mobile, Ala., for duty and assignment to quarters. April 11.

HUNTER, S. B., acting assistant surgeon, granted leave of absence for 2 days. April 6.

HANRATH, F. R., hospital steward, upon being relieved from duty at St. Louis, Mo., to proceed to New York, N. Y., and report to the medical officer in command for duty and assignment to quarters. April 11.

RICHARDSON, S. W., hospital steward, relieved from duty at Cleveland, Ohio, and directed to proceed to St. Louis, Mo., and report to the medical officer in command for duty and assignment to quarters. April 11.

APPOINTMENTS.

JOHN D. LONG, Pennsylvania; MERVIN W. GLOVER, of the District of Columbia; BAYLIS H. EARLE, of South Carolina, and BOLIVAR J. LLOYD, of Texas. Commissioned as Assistant Surgeons April 9, 1900.

The Association of Military Surgeons of the United States.—The following is the preliminary program of the Ninth Annual Meeting:

"Continued Experience in Early Operation for Appendicitis," Major A. C. Girard, Surgeon U. S. Army; "Transportation of Wounded on Shipboard, with Especial Reference to the Invention of Lieut.-Com. Mahan, U. S. N.," Medical Inspector C. U. Gravatt, U. S. Navy; "The Hygiene of Camps of Instruction," Major Julian LaPierre, Surgeon (retired) N. G. Conn.; "The Military Cordon as a Means of Preventing Extension of Contagious Diseases," P. A. Surgeon C. S. Wertenbaker, U. S. M. H. S.; "Investigations into the Value of Nuclein in the Treatment of Chronic or Recurrent Malaria," Major A. C. Girard, Surgeon U. S. Army; "Hygiene of the Navy Ration," Surgeon H. G. Beyer, U. S. N.; "A Study of Visual Perception, with Special Reference to Training the Eyesight of Soldiers," Brig. Gen. J. Francis Calef, Surgeon-General N. G. Conn.; "A Method of Transportation of Wounded on Ships of War," Medical Director John C. Wise, U. S. N.; "Examination of Recruits for the Military and Naval Service," Surgeon H. G. Beyer, U. S. N.

Foreign News and Notes.

GREAT BRITAIN.

Dr. Symes Thompson has chosen as his subject for the Gresham Lectures this year the apposite theme of "Military Ambulance." The lectures will be delivered on April 24, 25, 26, and 27, at the Gresham College, E. C.

The Medical Graduates College or Polyclinic, an institution attempting to give post-graduate instruction in London on a large scale, has had its first annual meeting, when an unfortunate excess of expenditure over income was revealed. This institution will require the solid backing of the general practitioner if it is to be a success, and unfortunately it is just this backing which it will not obtain unless some of the sweets of office are offered to the class who are expected to pay the bill. The executive consists mainly of consultants who presumably can lecture to the graduates. It should consist mainly of practitioners who could decide the personality of their lectures and the subject of the lectures.

The Increase of Cancer in England.—According to the 61st annual report of the Registrar-General, which deals with 1898, and was issued during the last week of March, 1900, there were during the year reported upon 25,196 deaths in England from cancer, corresponding to a rate of 802 per million persons living of both sexes and at all ages. Among males the cancer death-rate was 653 per million and among females 951 per million. The figures are decidedly alarming, as in each sex they show malignant disease to have become more fatal. The male rate is 19.6% and the female rate 10% higher than the corresponding mean rates for the preceding decennium.

Medical Women in London are becoming a factor to be reckoned with. There are 85 in practice, and the London School of Medicine for Women numbers about 200 students. These figures may not seem very large considering that the movement to admit women to medical studies is now nearly 20 years old in London, but it must be remembered that the medical woman was not at all warmly received in the English metropolis, and even now receives scant recognition from English medical corporations. It is believed, however, that both the Royal College of Surgeons of England and the Royal College of Physicians of London will soon give women their desires.

The British Association.—According to the draft program of the meeting of the British Association to be opened at Bradford, September 5, under the presidency of Sir William Turner, F.R.S., President of the General Medical Council, the chairmen of the various sections will be as follows: Mathematical and physical sciences, Dr. J. Larmer, F.R.S.; chemistry, Professor W. H. Perkins, F.R.S.; geology, Professor W. G. Sollas, F.R.S.; zoology and physiology, Dr. R. H. Traquir, F.R.S.; geology, Sir George S. Robertson; economic science and statistics, Major J. P. Craigie (of the Board of Agriculture); mechanical science, Sir Alex. R. Binnie; anthropology, Professor John Rhys; botany, Professor Sydney H. Vines, F.R.S.; astronomy, Dr. A. A. Common, F.R.S. President and Professor Vines are the only medical men in the list. Professor Gotch, F.R.S., who will deliver evening discourses on animal electricity, is professor of physiology at Oxford, but has no medical degree. Medical men generally bulk more largely at the proceedings of the British Association.

The Late Sir Douglas Maclagan.—The death is announced at the advanced age of eighty-eight of Sir Douglas Maclagan, emeritus professor of medical jurisprudence and public health in Edinburgh University. Sir Douglas Maclagan was the eldest son of the late Dr. David Maclagan, physician to the forces and to the Queen in Scotland, and was therefore an elder brother of the Archbishop of York. He was educated at Edinburgh University and from 1862 to 1896 occupied the double professorial chair, which he filled in an honorary capacity until the day of his death. Both he and his father enjoyed a distinction which has been held by no one else; each was president both of the Royal College of Surgeons and the Royal College of Physicians of Edinburgh. Early in his career Sir Douglas Maclagan was elected a Fellow of the Royal Society of Edinburgh, and in 1886 he was knighted. He was a man of wide medical learning and great general culture, and although his age latterly precluded him from taking an active part in professional affairs or public life, his loss will be felt by all Scotch medical men.

The duration of the war in South Africa is beginning to have an important medical side. On all hands it is now agreed that unless some sudden collapse takes place of the Boers' resistance—and no signs of this are present—the war will be prolonged for many months, perhaps until next year. The troops are notoriously without the proper proportion of medical men, but hitherto disaster has been avoided because the climate has been so good that the number of sick exclusive of the wounded has been nearly negligible. This remark does not refer to the garrisons of the beleaguered towns, of course. Such a fortunate condition of things will not prevail in an army under canvas during cold weather, and it is being anxiously inquired if the Government is likely to make any move toward sending out to Africa more civilian medical men or toward admitting quickly more men to the Royal Army Medical Corps. Roughly speaking, the English army in South Africa numbers 175,000, and provision in the way of medical men and hospitals has been made for 75,000 only, so that it is clear that catastrophe is not a far-fetched possibility.

An Ingenious Rogue.—Mr. Sidney Quennell, the Secretary of the Central Hospital Council for London has warned the public against a person who, he says, "is now, and has been for some years past, in the habit of writing, generally from Paris or Brussels, to hospitals, scholastic agencies, and others, among his *aliases* being the names of H. Lavall, Charles W. Hills, James W. Thompson, Charles Samuel Hewitt, and George Hope. Writing to the treasurer or secretary of hospitals, he states that he is about to make his will, and intends to bequeath a certain amount to 'your noble institution;' he asks for particulars of the work done, and adds that if the institution is in immediate need of assistance he will be glad to be of help. But he invariably adds a postscript to the effect that he desires to consult a reliable London solicitor or stock and share broker regarding an investment that he wishes to make, and he asks that a card may be sent to him to serve as an introduction to a trustworthy firm, so that he may receive their best advice and attention."

Mr. Quennell's warning is really addressed more to London solicitors and members of the London Stock Exchange than to the public, for it is upon these gentlemen that H Lavall, etc., has designs. It is almost needless to say tha none of the 'noble institutions' have ever received an money from H. Lavall, but we should not like to be certair that no stock-broker has been victimized by him. A clien living abroad and introduced to a stock broker by the treasurer of a big London hospital, would almost certainly have some credit extended to him. The London correspondent who tells us the story asks if the dodge has yet been tried upon those responsible for the finances of the big American hospitals.

The Treatment of Juvenile Offenders.—In a paper read recently before the Royal Statistical Society, according to the *British Medical Journal*, Miss Rosa M. Barrett, the writer of the Howard Medal Essay, expressed the opinion that the criminal statistics of various countries show that there is no general decrease of crime among the population between the ages of 16 and 21 years. Though there is for the most part a decrease of juvenile prisoners, an actual decrease of juvenile crime is recorded only in New York, Massachusetts, Ireland, Canada, and some of our Colonies where preventive work has been most active. In England prisoners under 16 years of age are decreasing, but still constitute 14.3% of the total of prisoners; those from 16 to 21 are increasing and form 19.4%. These figures are a disquieting commentary upon the lasting moral efficacy of the spread of Board School education. France, indeed, shows an increase both in adult and juvenile crime, and in Belgium special measures have been adopted for keeping under State care juvenile offenders until they reach the age of 21. The question of the best treatment of juvenile offenders is one that bristles with difficulties. The old adage that "prevention is better than cure" especially applies. The timely special training of weak-minded children who when neglected are apt as they grow up to pass into the criminal ranks may help in its solution.

The late Dr. Edward Dalzel Dickson, who died at the end of March last, at the age of 82, resided in Constantinople for sixty years, and during the last forty-four was physician to the British Embassy. He was one of that large group of members of the British medical profession who, in sojourning abroad, plan in effective manner the part of political agent, his thorough knowledge of the oriental temperament enabling him to give the embassy important information, while it also secured for the Turks a sympathetic and well-informed witness in times of international arrangement. Dr. Dickson was the elder son of Dr. John Dickson, surgeon to Lord Nelson at the battle of Copenhagen, who, receiving a semi-political appointment in Tripoli, married Elizabeth Dalzel, the daughter of Elizabeth Dalzel, the Governor of Cape Coast Castle. The Governor and his daughter were both urgent that England should espouse the cause of the Christian slaves in Barbary, *i. e.*, Tunis, Algiers, and Tripoli. Edward Dalzel Dickson was born in Tripoli just before the power of the Dey of Algiers was utterly destroyed by Lord Exmouth's fleet, the expedition against the tyrant having been undertaken in more or less direct response to the representation of the Dalzels. Dr. Dickson received his medical education at the University of Malta, and immediately after graduation was able to obtain political employment in Erzeroum, where he was also physician to the British Consulate. In 1856, when he was about forty years of age, he was appointed physician to the British Embassy at Constantinople, a post which he held until his death. He was British delegate to the Central Board of Health in Constantinople, and in 1866 was a member of the International Conference held at Constantinople to inquire into the means of preventing the spread of Asiatic cholera; when his voice was heard against quarantine and on the side of the more enlightened methods that now prevail. In 1876 he was one of the Commissioners appointed to inquire into the circumstances of the death of the ex-Sultan of Turkey, Abdul Aziz, who died five days after his deposition as a result of self-inflicted injuries, but who, before proper inquiry had been reported upon the matter, was widely believed to have committed suicide. This was the only occasion when Dr. Dickson's name was at all prominently before the public, but during his long career those who came in contact with him professionally, politically, or privately, knew him as an able, brave, sincere man, wise, tolerant, and humane. Such

zens bring honor to their country, and the English med- profession has furnished many of the type.

CONTINENTAL EUROPE.

A meeting of Socialist doctors was recently held at Maison du Peuple, Brussels. They decided to form a iety for the propagation of socialism among medical n, and also, among other things, to study questions re- ng to school hygiene.

Education of Backward Children in Italy.—An itute for the education of backward and defective children recently been opened at Florence. The president of the naging committee is Duke Leone Strozzi, and Dr. E. digliano is the Director.

Bacteriology in Russia.—State bacteriological insti- es are being established in various parts of Russia. ong those recently founded are one at Vladivostock in tern Asia, and one in Merv in Central Asia. The latter f special importance in view of the fact that the Steppes Central Asia are believed to be the source of many epi- nic diseases.

The Serum Treatment of Tetanus in the French Army.—By a recent order of the French Army Medical vice medical officers are directed to use injections of anti- nus serum in large and repeated doses in all cases of nounced tetanus. This order is based on the fact that erience has shown that such injections have a favorable ct in many cases.

German Public Health Association.—The annual eting of the German Public Health Association will be d this year at Treves from September 12 to 15. Among subjects proposed for discussion are: The Measures to be en for the Prevention of the Plague; Small Dwellings in lvns, their Condition and Betterment; Causes and Pre- tion of the High Mortality among Sucklings; and the giene of Cycling.

French Congress for the Advancement of Sci- ce.—The meeting of the French Congress for the Ad- ncement of Science will be held this year in Paris, from gust 2 to 9, under the presidency of General Sébert, mem- of the Académie des Sciences. The President of the tion of Medical Science is Dr Kelsch, Director of the litary Medical School of Val de Grâce; that of the Section Hygiene and State Medicine is Dr. Henrot, Director of the dical School of Rheims. There is a Subsection of Medical ectricity, of which Professor D'Arsonval is President.

Proposed Taxation of Medical Practitioners in Turkey.—According to the *British Medical Journal* quoting the *Moniteur Oriental* the Turkish Government has hit upon an genious device for checking unqualified practice and at the ne time levying a tax on the legitimate practitioner. It proposed to make the use of prescription books bearing a vernment stamp compulsory on all medical practitioners. is estimated that this would yield to the Treasury a revenue 300,000 or 400,000 piastres a year, while quacks would be dered in their depredations by the fact that in each pre- iption book the name of the doctor using it and the num- of his diploma must be inscribed. The proposal has en referred to the Directing Committee of Military Schools. milar plans have been suggested more than once before, d have been rejected, and it is thought unlikely that the esent proposal will be more successful.

The Legal Rights of a Woman in Child-Bed.—s a pregnant woman the right to refuse operative aid offered with a view of saving the life of her child? Ac- rding to the *Lancet* such is the problem which has a lively erest for the whole medical profession and which formed e subject of Professor Pinard's first clinical lecture. His swer is in the negative, for the woman is not competent discuss the nature of the proposed intervention. To ve the right of debating the matter to her is to sanction e legality of abortion, for it would be a fallacy to allow that woman is culpable for having brought about the death of a fetus only a few months old, but that she is innocent if she practise feticide at term. Neither has the husband the right to demand the death of the child in order to save the life of the mother. As regards this M. Pinard remarked that the famous *jus vitæ et necis*, on which rests the argument that the father has the power of life or death over his child, arises from a wrong interpretation of Roman law. The Roman jurist gave the father the power of life and death over his children and also over his wife, but this only in case of some fault; now it is obvious that a fetus cannot be capable of a fault. The practitioner in attendance has no right, either moral or legal, to practise embryotomy upon a living child. The right of this last to its life is a right so incontestable (*imprescriptible*) and sacred that no human power has the right to take it away. The need for sacrificing the life of the child to preserve that of the mother is a mere fable, for the operator never finds himself in such a dilemma. As an absolutely decisive argument it may be remembered that symphysiotomy which preserves the life of both mother and child gives a maternal mortality of 12%, while craniotomy which kills the child gives a maternal mortality of 11.5%.

MISCELLANY.

The "Revista Medico-Hidrologica Española," the first number of which appeared in Madrid on March 10, according to the *British Medical Journal*, is a monthly periodical devoted, as its title-page imports, "to fostering modern medical studies, particularly those having relation to the hydrological specialty and to defending the professional interests of the body of medical directors of baths and minero-medical waters." The editor and proprietor is Dr. Rosendo Castells Ballespi.

Obituary.—PROFESSOR LORENZO BRUNO, Senator of the Kingdom of Italy and formerly Physician to King Victor Emmanuel, Director of the Surgical Clinic of the University of Turin, and Dean of the Royal Academy of Medicine of that city, aged 80 years.—DR. ADOLFO MURILLO, Dean of the Medical Faculty of Santiago de Chile and President of the Scientific Society of Chile.—DR. TITO AMBRONI, of Milan, described as "patriot, veteran and explorer," aged 90 years.—DR. ANTON TSCHURTSCHENTHALER VON HELMHEIM, professor of pathology and pharmacology in the University of Innsbruck, aged 83 years.—DR. GOMBAULT, of Paris, for many years a collaborator of Charcot's, aged 59 years.—DR. J. C. DE SANDE SACCADURA BOTTE, professor of pharmacology and Dean of the Medical Faculty of the University of Coimbra.—DR. DECÈS, professor of clinical surgery in the Medical School of Rheims.—DR. EUGEN BOECKEL, formerly professor in the French Medical Faculty of Strasburg.—DR. HILSMANN, of Neheim, who is believed to be the senior medical man in Germany. He was 93 years of age.—PROF. OTTO LEICHTENSTERN, of Cologne, whose name is known in connection with researches on ankylostomiasis and who published a number of papers in association with Ziemssen, Gerhardt, and Nothnagel.—PROF. SYLO SAXTORPH, of Copenhagen, who first introduced the Listerian treatment into surgical practice in Denmark, aged 77 years.—DR. BEAUREGARD, professor in the Superior School of Pharmacy of Paris.—DR. CAVALIERE ALESSANDRO BARBERA, the trusted medical adviser of Garibaldi, whom he accompanied through all the campaigns for the independence of Italy, aged 75 years.—DR. SALAMON HAJEK, formerly librarian to the Vienna Medical Society, aged 51 years.—DR. JOSEF GRUBER, emeritus professor of diseases of the ear in the University of Vienna, April 1, aged 73 years.—DR. VON MOSENGEIL, professor of surgery in the University of Bonn, and author of numerous contributions to professional literature, chiefly on inflammation and sepsis, aged 60 years.—DR. LEROY, professor of internal and experimental pathology in the Medical Faculty of Lille.—DR. B. BASCHKIROFF, of St. Petersburg, director of the Caucasian Mineral Watering Places, aged 58 years.—DR. ST. GEORGE MIVART, former lecturer on zoology at St. Mary's Hospital Medical School, and professor of biology at the University of Luvain, long recognized as the leading scientist within the Roman Catholic Church in England, and more recently excommunicated from the Church for promulgating views contrary to the accepted doctrines, in London, April 2, aged 73 years.

The Latest Literature.

British Medical Journal.

March 31, 1900. [No. 2048.]

1. Will-Making in Aphasic Paralysis. JAMES EDMUNDS.
2. Some Cirrhoses of the Liver. W. B. CHEADLE.
3. Anthrax of the Thigh Treated by Operation; Recovery. THOMAS SINCLAIR.
4. The Condition of the Blood in Two Cases of Pernicious Anemia. ALFRED C. COLES.
5. Plenomyelogenous Leukemia; with Disappearance of the Spleen Tumor and of the Myelocytes from the Blood. THOMAS MCCRAE.
6. Piece of Amber in a Bronchus for Ten Weeks. J. FRANK CROMBIE.
7. Amputation Without Anesthesia. JASPER CARGILL.
8. Spurious Hermaphroditism. J. CHALMERS BROWN.
9. Scarlet Fever Followed by Pleurisy in a Phthisical Patient. L. D. PARSONS.

1.—Edmunds records a case of **partial right-sided hemiplegia with motor aphasia.** It was impossible for the patient either to speak or write. A will was made by means of printed cards. Death occurred 22 days after the execution of the will, and the will was proved in probate court, the president of the court approving of the methods used for making the will. Edmunds insists that this is not a mere dodge, that the patient's intelligence was entirely good, and that there was merely impossibility of carrying out the form of writing or speaking, while the patient was wholly capable of framing a proper will. [D.L.E]

2.—Cheadle gives an interesting discussion of **cirrhosis of the liver.** Concerning the existence of early enlargement in atrophic cirrhosis, he notes that there have been instances recorded of this, but that when enlargement occurs he thinks it is merely engorgement, and not fibrous enlargement followed by contraction. Ascites occurred in 17 of 23 fatal cases of atrophic cirrhosis. This symptom usually means that the end will come within a few months. Jaundice is often spoken of as uncommon in atrophic cirrhosis, but in 53 fatal cases pronounced jaundice was seen in 8, and of these 8 cases 4 had large livers and 4 had atrophic livers. In 18 microscopic examinations the liver was found to have a coarse multilocular cirrhosis in 17, and in only 1 was the cirrhosis diffuse. There was extensive perihepatitis in 15 of 53 cases; 4 of these were syphilitic. The kidneys were by no means constantly affected; it is probable that the cirrhosis, the perihepatitis, and Bright's disease are due to the same cause. Hyperplasia of the bile-ducts may be met with in forms of cirrhosis not corresponding to the clinical type described by Hanot. Cheadle has seen hyperplasia recently in a case in which there was coarse fibrosis. Jaundice is by no means a constant symptom in hypertrophic cirrhosis. In 17 fatal cases it was marked in only 4, and entirely absent in 8, and in 27 cases which improved it was absent in 19. Ascites is by no means uncommon. It was present in 16 of 26 fatal cases. Enlargement of the spleen is present in the hypertrophic only. Pain, fever, delirium, and other marked nervous symptoms are usually said to be seen only in biliary cirrhosis, but they may be observed in atrophic cirrhosis, in the alcoholic hypertrophic form, and particularly in the syphilitic form. Cheadle has not, after 16 years, been able to find a case which completely corresponded with Hanot's description. Concerning syphilitic cirrhosis he finds that the changes may be so extremely slight as to be scarcely distinctive at postmortem. A marked feature is the perihepatitis and local peritonitis. A history of syphilis may be entirely absent. The liver is likely to be mistaken for an alcoholic liver. Clinically perihepatitis gives presumptive evidence in favor of syphilis. [D.L.E.]

3.—The patient was infected with **anthrax** probably from a splinter of wood contaminated with bone manure. The treatment consisted in excising the whole mass of disease and some enlarged lymphatic glands which were in the groin. The wounds healed nicely and the patient made an excellent recovery. Bacteriologic examination showed the presence of the anthrax bacillus in the diseased area, but failed to reveal them in the lymphatic glands. [G B.W.]

4.—A series of **blood-counts** in 2 cases of **pernicious anemia** is reported. It is noteworthy that in the first case between October 11 and November 13, the red blood-cells increased nearly 2,500,000, and in the second case the corpuscles fell so low as 660,000, and the hemoglobin to 14%, but after 2 months the red cells were 4,500,000, and the hemoglobin 50%. Arsenic was the most valuable drug in both cases. There was usually an absolute diminution in the number of white corpuscles, a valuable point in distinction from malignant disease. The color-index was high when the red cells were low. When improvement occurred the red corpuscles increased more rapidly than the hemoglobin, and the color-index became that of chlorosis. [D.L.E.]

5.—McCrae describes the case of a man of 28, who was first seen by Lichty in June, 1898. The **spleen** was then much **enlarged,** he had 584,000 white corpuscles, with 23% of myelocytes. In September of the same year, when seen at Baltimore, he had no myelocytes, no nucleated red cells, and the spleen was scarcely palpable. The white corpuscles were reduced to 9,250. The spleen afterward enlarged again, and the myelocytes reappeared in large numbers, again decreasing under treatment with arsenic, and the spleen retreated under the ribs. The man died after passing from observation, probably from **cerebral hemorrhage.** McCrae has found no similar report in the literature. [D.L.E.]

6.—The **foreign body** was **coughed up** without effort, after having caused a constant bronchitis for ten weeks. Its size in inches was $1\frac{1}{8}$ long, $\frac{1}{2}$ broad, and $\frac{5}{16}$ thick. [D.L.E.]

7.—In this case of **amputation without anesthesia** the patient said that the sewing up of the wound was the most painful part of the operation. [G B.W.]

8.—In this case of **spurious hermaphroditism** the patient was a domestic servant who had absence of breasts, of fat over the trochanters, and probably of uterus and appendages, though perhaps there was one prolapsed ovary. The latter, however, was felt in the labium majus, and might have been a testicle. The general appearance, voice, etc., were those of a woman, as was the pelvis, and there was a female urethra, a vagina, and hymen. [D.L.E]

9.—The patient was a nurse, 27 years old, who had some obscure signs of **phthisis.** She acquired **scarlet fever.** After recovery from this it was thought from physical examination that she had a cavity, but the signs of the latter disappeared. There would seem to be no definite relation between the scarlet fever and the tuberculosis and the disappearance of the latter, but Parsons wonders whether scarlet fever has any effect in arresting tuberculosis. [D.L.E.]

Lancet.

March 31, 1900. [No. 3996.]

1. Some Cirrhoses of the Liver. W. B. CHEADLE.
2. The Typhoid Bacillus and Typhoid Fever. P. HORTON-SMITH.
3. The Treatment of Rheumatism, its Prophylaxis and Cardiac Complications. SIR RICHARD DOUGLAS POWELL.
4. On the Treatment of the Rheumatic Diseases of the Heart in the Early Periods of their Manifestation. A Retrospect and an Estimate. A. ERNEST SANSOM.
5. On the Abortive Treatment of Suppuration of the Eyeball. SIMEON SNELL.
6. A Case of Lymphatic Leukemia. M. H. SPENCER.
7. Note on the Superficial and Deep Reflexes. JOHN M. MACCORMAC.
8. Extraordinary Case of the Loss of Both Eyes, one after the other, from Similar Accidents. ALBERT BENTHALL.
9. Death from Carbon-Dioxid Poisoning in a Brewery. W. SCOTT THOMSON.
10. Suprapubic Cystotomy Painlessly Performed after the Hypodermic Infection of Eucain. T. VINCENT JACKSON.
11. Two Interesting Cases of Hernia. G. R. TURNER.
12. A Case of Suppurative Otitis; Mastoid Disease; Cerebral Abscess; Necropsy. HENRY BLAKE.

1.—See *British Medical Journal,* this issue.

2.—Horton Smith, in discussing **relapses,** states that it seems fairly well established that these occur in many instances at any rate, because immunizing properties have been poorly acquired, some bacilli remain virulent, and the

absorption of toxins from the alimentary canal renders the person less resistant and reinfection occurs. Looking at it from this point one would state emphatically that it is wise to keep the patient off solid food until the temperature has been normal for some time. It is not improbable that gastro-enteric intoxication has a good deal to do with the primary infection as well as with relapse. Concerning the complications of typhoid fever seen at St. Bartholomew's Hospital in the past 30 years, he notes that there was but one undoubted instance of meningitis. Ulceration of the larynx occurred in 25%. It was probably due to infection from other organisms than the typhoid bacillus. Lobar pneumonia was present in 5%. There is no satisfactory evidence as yet that the typhoid bacillus ever causes pneumonia. Only 4 cases of endocarditis have been seen. When it occurs it is usually malignant and due to secondary infection, though it may be due to the typhoid bacillus. Arteritis sometimes occurs and may be directly typhoidal. A case is recorded in which violent nephritis with dysuria ushered in the attack. On the thirteenth day the urine was found to contain a pure culture of typhoid-bacilli, and the man then ran a course of typhoid fever. Concerning typhoid bacilluria and cystitis Horton-Smith states that he found the bacilli in 17 of 45 cases, though when looked at more fairly, and excluding the selected cases, the number of cases would be 11 out of 39, about 28%. The urine appears turbid in these cases, and has a curious shimmer. When such a condition is seen in the male in typhoid fever, it usually indicates a typhoid bacilluria. The condition commonly occurs after the third week. It may be of extremely varied duration. Albumin is absent as a rule. Pus is quite frequently present. Horton Smith does not believe that it can be attributed to filtration of the bacteria from the blood, or to local suppuration. He believes that a stray bacillus gets into the urine and multiplies there, and presents evidence for this view. Bacilluria seems to be much more common in a number of conditions than is usually suspected. Cystitis is likely to result when there is any damage to the bladder-walls. As to suppuration he finds that typhoid-bacillus is frequently found in pure culture in abscesses, and in bone, but in suppurations elsewhere it does not seem to occur frequently. We are not justified in saying that the danger of infection from a patient is past for a long time, however, as bacilli have been found in pus as long as 14½ years after an attack of typhoid fever. [D.L.E.]

3.—Powell repeats his previous advice that patients should be kept at absolute rest wrapped in wool, the bowels kept open, salicylate of soda administered, and if the urine indicates it alkalies should be used. He especially insists upon absolute rest, particularly when there is a very slight elevation of temperature. He believes that the most dangerous lesions, **mitral stenosis** and **aortic regurgitation,** rarely occur in primary rheumatic attacks, but are the result of secondary, slow, deforming valvulitis. He has found that the occurrence of hyperpyrexia has been much less frequent in the past 21 years, in which the salicylates have been used, than they were before this treatment came into use. Pericarditis is not common, he believes, but is frequently simulated by friction or a rough sound. He has seen bad results from the salicylates, but thinks that a safe dose is 15 grains repeated until the patient is under the influence. He sees no absolute indication for rendering the urine alkaline in rheumatic fever; he thinks that the alkalies act rather by improving the activity of the tissues than by altering the reaction of the blood. Opium is very important in reducing the work of the heart. Blisters are probably valuable. [D.L.E.]

4.—Sansom believes that modern treatment has done much good in reducing the evil effects of **rheumatism.** He gives sodium salicylate with carbonate or aromatic spirit of ammonia. He does not find the salicylates and ammonia incompatible. He keeps up treatment for from 3 to 6 weeks. He notes the extreme variety of symptoms of rheumatic pericarditis. They may be so trivial as to pass unnoticed, or there may be horrible distress. The pains and dyspnea that occur in the more distressing cases are probably the result of involvement of the supericardial nerves. He usually does not suspend the use of the salicylates in these cases, and advises the use of an ice-bag over the precordium, sometimes associated with leeching. Sansom insists that there is a swollen heart in rheumatism which is not due to pericarditis, but to congestion and infiltration of the whole heart-muscle; this may rapidly disappear. He does not think that it is a myocarditis. He treats this in practically the same way as pericarditis. He insists that digitalis is not valuable, and sometimes dangerous; diffusible stimulants, such as ammonia, should be used. The galvanic current over the vagi is useful. Concerning the appearance of valvular disease in rheumatism, Sansom notes that one should be very cautious in stating absolutely that the murmur is organic. He has often seen apparently organic murmurs disappear quickly and entirely, with improvement of the general condition. [D.L.E.]

6.—The case was that of a man of 38 who had general depression of health with enlargement of the spleen, dyspnea and cough, with marked anemia, and hemorrhages into the conjunctiva and retina. Examination of the blood showed excess in the number of leukocytes, differential counts showed 63% of lymphocytes, and large numbers of nucleated red cells. The blood report is decidedly unsatisfactory, but it was considered a case of lymphatic leukemia, and the interest in the occurrence of nucleated red cells in large numbers is noted. The lymphatic glands enlarged considerably toward the latter part of life, and there were some symptoms of scurvy. [D.L.E.]

7.—MacCormac thinks the **crossed kneejerk a true reflex.** In general paralysis of the insane, in the first stage, sensibility to pain and the cutaneous reflexes, except the plantar, are decreased, while the deep reflexes are exaggerated. In the second stage the reflexes are increased, in the third stage they decrease. In an attack of epilepsy the superficial reflexes decrease, but the tendon reflex increases. In epileptic insanity, pain-sensibility and superficial reflexes are lessened. After some attacks the tendon-reflexes increase, while cutaneous reflexes weaken, except the plantar, which increases. In hypochondriasis all the reflexes increase. In hysteria, pain-sensation and cutaneous reflexes decrease. Pain-sensation and tendon-reflexes are exaggerated in alcoholic paralysis, while the cutaneous reflexes, except the plantar, are weakened. The reflexes are exaggerated in secondary dementia and normal in acute mania. In melancholia, pain-sensation and cutaneous reflexes are normal, and tendon-reflexes are exaggerated. [D.L.E.]

9.—The man descended into a vat which had been drawn off a short time before. He was found dead in the vat, and the circumstances pointed to carbonic-acid poisoning. The author recommends greater care in breweries to avoid carbonic-acid poisoning. [D.L.E.]

11.—Turner reports a case of **femoral hernia** the size of a pigeon's egg occurring in the groin of a boy, aged 6. As it was increasing in size radical operation was performed. A flap of the pectineus muscles was turned down as has been suggested by Cheyne. Uninterrupted recovery followed. In a second case operation was performed on a man of 43, who had had a left femoral hernia for about 12 months; there was a similar swelling in the right groin, and operation was performed on the right side 3 weeks later. The contents of the sac was omentum in both cases. [M.B.T.]

12.—A boy of 17 was admitted to the hospital with pain and discharge from the left ear of about 3 weeks' duration. A small polyp was growing from the posterior wall of the meatus. Boric lotion was used for 3 weeks, and chromic acid was applied to the polypus. The temperature was very irregular, but the general condition seemed to improve; later on vomiting and severe paroxysmal headaches occurred. The mastoid was trephined and a few drops of pus escaped. The temperature remained irregular, and at a later operation the mastoid opening was enlarged and detritus was cleared out. The symptoms subsided, but in a short time recurred with paralysis of the right facial nerve. A tendency to ptosis and dilation of the left pupil were present. **Trephining** was performed over the temperosphenoidal lobe. An exploring needle was inserted and about an ounce of pus escaped. The patient died on the following afternoon. At the necropsy an **abscess** was found in the left temperosphenoidal lobe an inch and three-quarters in diameter. [M.B.T.]

New York Medical Journal.

April 14, 1900. [Vol. lxxi, No. 15.]

1. Primary Diffuse Small-celled Sarcoma of the Parietal Pericardium. J. C. Williams. With Clinical Report. A. L. Miller.

2. Remarks on Perineorrhaphy, Chiefly in Reference to the Mechanics of Deep Sutures. J. MILTON MABBOTT.
3. Gunshot Wounds. A Report of Gunshot Cases in the Spanish-American War, and Deductions Therefrom. W. C. BORDEN.
4. A Consideration of the Neuromuscular Elements in Hip-joint Disease, with Especial Reference to the Question of the Abolition of Protective Treatment. NEWTON M. SHAFFER.
5. Books are Injurious to the Eyes. F. G. MURPHY.
6. Ankylostomiasis in Puerto Rico. BAILEY K. ASHFORD.
7. A Few Experiments in Transfusion of Complete Blood. A. DAVIS HARD.

1.—The case was that of a boy of 13. He was anemic, had dulness over almost the entire left lung, the respiratory sound was almost entirely absent, and the pulse weak and irregular, with the force of the cardiac impulse increased. He had subsequently left pleural effusion and fever. There was a peculiar splashing sound which could be heard several feet from him, and was synchronous with the heart-beat. The chest-wall bulged. The postmortem showed the heart to be almost completely encased in an enormous thickening of the **pericardium,** the latter being internally of dull appearance and showing a few nodules, while outside of this there was a neoplasm which weighed about 6 pounds and formed a casing about the greater portion of the heart, the mass measuring in thickness 1 cm. to 6½ cm., and in its entire diameter 48 cm. vertically, 44 cm. transversely. Microscopically it proved to be a **round-cell sarcoma.** Since the nearby glands and the epicardium were also uninvolved, it seemed probable that the growth had originated in the lymphatic layer of the pericardium. [D.L.E]

2.—Mabbott discusses the mechanics of the **deep sutures** applied in the operation of **perineorrhaphy,** and strongly insists upon this point: Make the sutures include enough tissues on both sides of the wound to enable them to exert their greatest traction in the right direction and hold the wound surfaces together in their natural relations. A sufficient number of sutures should be inserted to secure perfect coaptation of the surfaces. Emmett was not far wrong in saying that "an operation on the perineum should be done with the same nicety as an operation on the face." We cannot expect primary union if we fail to secure primary coaptation. Surfaces separated by air, blood-clots, or lochia can hardly grow together, and cicatricial distortion can not be expected to shape up into a proper perineum. [W.K.]

3.—In closing his paper on **gunshot wounds,** Borden mentions the following among other conclusions: From a study of 202 cases it appears that much has been gained by the use of the modern surgical methods and the new bullet. Many of the patients if wounded by the old bullet would have been killed outright, and others if treated by the old methods would have had to suffer amputation, protracted suppuration, septicemia, pyemia, hospital gangrene, and would often, if eventually recovering, have had to undergo long protracted illness, while many would never have recovered at all. Perforating and penetrating wounds made by the combined bullet are usually aseptic, and if no important nerve or vessel is injured it produces slight shock and injury to the tissues; the bone is usually comminuted, and there may be considerable destruction of soft parts with permanent impairment of function. Lodged bullets seldom do harm, and often shrapnel bullets do not cause inflammatory trouble unless searched for and removed on the field or at the field hospital. The proportion of killed to wounded in battle has not increased by the use of the small-caliber bullet. Aseptic and antiseptic methods have been the greatest features in reducing complications and mortality. Excellent results are obtained by the use of the first-aid packet and by packing lacerated wounds with iodoform gauze and leaving them until they can be cared for with aseptic precautions. All bullets should be removed if possible, but removal should be deferred until aseptic conditions are available. The x-ray is of great value in locating bullets and determining the condition of fractures. Surgical asepsis is practically impossible on the field or at field hospitals, and intervention should be restricted to operations imperatively demanded to save life or decrease danger of death. The transportation of the wounded to permanent base hospitals should be in every way facilitated. [M.B.T.]

6.—Ashford reports 20 cases of severe **anemia** seen in Puerto Rico. In all but one of the patients examined he was able to find the ankylostoma and he insists that **ankylostomiasis** is undoubtedly a widespread affection in Puerto Rico, as these cases were not chosen with any special probability of finding parasites in them, and were instances of a severe anemia which is strikingly common in Puerto Rico. The general impression gained was that this disease is the most descriptive and general disease in Puerto Rico, and that it is found extremely frequently among the poor and badly fed. Most cases present a similar appearance. It is intensified by the bad food and bad hygiene so common in the island, and blood foods do no good unless the ankylostoma is removed. The condition is often called malaria and is often associated with fever, but malarial organisms are rarely found, and probably only a few of the cases of anemia are due to malaria. The life of the people is described as disgusting in its lack of cleanliness, hence the widespread opportunity for infection. The disease is usually shown by disturbances of the gastrointestinal tract, and the general symptoms resulting from severe anemia. The circulatory system usually shows the severe effects of profound anemia. The urine is free from albumin. The red blood-cells are commonly extremely reduced, the hemoglobin very low. The leukocytes are not increased in number unless there are complications, but there is an enormous percentage of eosinophiles in some cases; they were found as high as 40% in one case, and 31% in another case. Normoblasts and megaloblasts are common, and the red cells are often deformed. Ashford directs attention to the great importance of protecting natives and the United States troops from this dangerous parasite. [D.L.E.]

7.—Hard reports his experiments in **introducing into the circulation of animals complete blood** taken from other animals. He also introduced into his own circulation and that of his assistant, at intervals, blood taken from the goat and the mule. In the animals the temperature was always raised, and in his own person and that of his assistant he reports that he found an increase of the red and the white blood-cells, and hemoglobin, general exaltation of the body functions, and a very dark color of the urine, with absence of albumin. The bowels were constipated. The appetite was excessive. [D.L.E.]

Medical Record.

April 14, 1900. [Vol. 57, No. 15.]

1. Diffuse Septic Peritonitis, with Special Reference to a New Method of Treatment, namely, the Elevated Head and Trunk Posture, to Facilitate Drainage into the Pelvis. With a Report of Nine Consecutive Cases of Recovery. GEORGE R. FOWLER.
2. Observations and Suggestions Concerning Hypodermoclysis. ROBERT COLEMAN KEMP.
3. Nitrous Oxid and Ether-Anesthesia. H. W. CARTER.
4. Chronic Vertebral Rheumatism (Rheumatic Spondylitis) and Its Pseudoneuralgic Form. H. FORESTIER.
5. Treatment of Superficial Wounds Without Sutures. JOHN F. W. WHITBECK.

1.—Fowler reports 9 consecutive cases of **diffuse septic peritonitis** treated by **elevated posture** of the **head and trunk** and drainage. All of the patients recovered, the convalescence was rapid and the condition seemed more comfortable than usual during the first few hours following operation. For comparison Fowler has selected an equal number of cases of diffuse septic peritonitis subject to the same measures of treatment except the elevated head and trunk posture. Of these 9 patients 4 recovered and 5 died. He considers this posture in every way preferable to Clark's position, which is exactly the reverse. The anatomic explanation of this is that the pelvic peritoneum absorbs less readily than the peritoneum for the region of the diaphragm. [M.B.T.]

2.—Kemp recommends the iliolumbar region for **hypodermoclysis.** It does not interfere with the dorsal position nor movements of the limbs, neck, thorax, or abdominal respiration. He describes the method of preparing the solution, needle, apparatus, and patient. The repeated injection of small quantities seems to give better results than a few large injections. Absorption can be hastened by the addi-

tion of entroclysis and by gentle peripheral massage. If shock is severe the method is somewhat slow and more active measures are required. He describes an attachment which will screw into the average aspirating or hypodermic needle and which has a piece arranged to fit snugly into the tube of a fountain syringe. [M.B.T.]

3.—Carter considers the administration of **ether after** preliminary narcosis with **nitrous oxid** a great improvement over the ordinary method. The advantages are economy, safety, saving of time to the operator and elimination of the disagreeable features of ether-inhalation. The patients recovered more promptly, nausea and vomiting are of shorter duration, and such disturbances are reduced to the minimum. The quantity of ether required is often less than half that which is used when the open cone is employed. [M.B T.]

4.—The paper includes a description of 5 cases of **chronic spondylitis,** which Forestier describes as a pseudoneuralgic form of chronic vertebral rheumatism characterized by temporary rigidity of the vertebral column without ankylosis. This gives the patient a peculiar gait which is due to muscular contraction. He usually stands slightly bent forward, and walks with the feet apart. The predominant symptoms are pseudoneuralgic nerve-root symptoms simulating tabes, pachymeningitis, or Potts' disease. There is a coincident arthritis of some peripheral joint. The spine is not deformed, there are no sensory or trophic changes, and no muscular atrophy, and there is no real ankylosis, the immobility being due merely to pain on movement. There is usually tenderness on pressure over the spine, but no tenderness in the loins. There is often pain when pressure is made upon the head or shoulders. One distinctive feature as contrasted with the form with ankylosis is that the affection under discussion is curable. [D L.E]

5.—Whitbeck recommends bringing ordinary superficial wounds together **without the use of sutures.** After the wound is rendered aseptic and the skin is cleaned, it is secured by cotton and collodion alone, or with the help of narrow strips of isinglass-plaster, moistened with bichlorid-solution. [M.B.T.]

Medical News.

April 14, 1900. [Vol. lxxvi, No. 15.]

1. Two Cases of Recurrent Tubal Pregnancy. Philander A. Harris.
2. Recent Advances in the Treatment of Insomnia. Reynold Webb Wilcox.
3. Purulent Meningitis: Report of 6 Cases. L. Napoleon Boston.
4. The Legislation Needed in Regard to Apparent Death. Henry J. Garrigues.
5. Ligation of the First Portion of the Right Subclavian for Aneurysm of the Third Portion. A. E. Halstead.

1.—Harris describes two cases upon whom he operated for **ruptured tubal pregnancy.** The recurrence in the first case occurred in about 2 years after the first attack. Unfortunately no written record was kept of the side on which the first gestation took place, but probably the recurrence was in the stump of the right tube which Harris believes to have been the side on which the first pregnancy was found. The second case was Mrs. F., aged 32 years, 13 years married, one child 11 years old, no miscarriages. Agonizing, colicky pains, flowing of blood, and other symptoms of ectopic gestation occurring, she was operated upon by suprapubic section; a small fetus and many clots were found. The bleeding points were tied with catgut, the abdominal cavity made clean and a gauze-drain placed through the Douglas culdesac into the vagina. The patient made a good recovery and was discharged from the hospital 22 days after operation. She menstruated regularly for 6 months until the recurrence of ectopic gestation. She was again operated upon in less than 8 months from the time of the first abdominal section. She recovered in 20 days from time of operation. In this case the first pregnancy was in the right tube and the second in the left tube. [W.K.]

2.—Wilcox accepts the theory of **dendritic retraction to explain sleep.** He believes that the ideal hypnotic will have a double action; that is, it will depress the higher and also the lower cerebral centers. The former can be produced by the alcoholic radicals, the latter by chlorin. Therefore, an ideal hypnotic would contain both these elements. Such has apparently been produced in chloretone which has for its formula $C\,Cl_3\,(C\,H_3)_2\,COH$. This is formed by the careful addition of caustic potash to a mixture of equal parts of chloroform and acetone. It is an analgesic, a local anesthetic, and particularly a hypnotic. It is very safe, large doses only producing prolonged sleep. It never fails to produce sleep and can easily be taken, either in tablets, capsules, or as a powder. It apparently has a selective action upon the central nervous system, and is disintegrated somewhere in the body because it has not been recognized either in the breath or urine. [Of course the dendritic theory of sleep, attractive as it is, is not yet established. Therefore, it is somewhat dangerous to use it as a basis for therapeutics. J.S.]

3.—Boston reports 6 cases of **purulent meningitis.** The first had maniacal delirium resembling acute alcoholism, and at the autopsy there was purulent exudate in the pia mater arachnoid, from which the meningococcus was obtained. The second case, a man of 38, had had an injury two weeks before death. The pneumococcus and the Staphylococcus pyogenes albus were found in the pus that accompanied the course of the bloodvessels. The third case, a woman, who died a few hours after admission, had streptococcic infection of the pelvic organs, and of the mesenteric veins, and streptococcic infection, probably secondary, in the meninges. The fourth case, an old woman with marked leukocytosis and Kernig's sign and herpes labialis, had a triple infection of the membranes of the brain. The meningococcus, the pneumococcus, and the colon bacillus were found. The fifth case, a young woman, epileptic and insane, had streptococcic meningitis, secondary to abscess of the ankle. The last case, an old woman, in which the pia mater was thickened and turbid, and there was slightly turbid fluid in the ventricles. In six cultures made, only one was positive and that contained the colon bacillus. [J.S.]

4.—Garrigues calls attention to the **absence of precaution against burial alive** in New York City and throughout America. Death is a gradual process, and it is difficult to say when the whole organism has succumbed. He records a number of interesting cases, more or less authentic, that he has collected from the literature. He gives a synopsis of the signs of death, such as the arrest of circulation, of respiration, rigor mortis, and particularly putrefaction, which is apparently the only positive sign. Among the minor signs is the parchment appearance of the skin; the fact that fluorescin does not cause the sclerotics to become green when injected into a dead person, and curious buzzing sound made by the finger of a living person when thrust into the ear of the observer. This continues, however, for several hours after death. All persons who have recovered after an attempt has been made to bury them alive report that hearing and consciousness remain unimpaired. Garrigues calls attention to the indecent haste with which people are prepared for burial, and particularly the danger of exposing them to cold, or placing them in an ice-box before they have been pronounced dead by a physician. He therefore believes that it should be the law that no person should be considered dead or treated as such until some legally authorized official shall have viewed the remains and pronounced them certainly dead. This could be probably done by any legally qualified physician, or under certain circumstances by a layman who has been especially trained. [J S]

5.—Halstead reports an interesting case of **aneurysm of the right subclavian artery,** in which there was an anomalous condition of the artery, and that it arose from the aorta by a separate trunk from the carotid. The aneurysm involved the whole of the third portion and part of the second. It was because of the anomalous relation of the artery that, during an attempt to pass a ligature around this vessel, either the subclavian artery or vein (the context does not make clear which) was torn, and the consequent bleeding made the operation much more difficult, so that the inner two inches of the clavicle and a piece of the sternum had to be resected. Three ligatures of formaldehyd catgut were passed around the artery and the wound closed without drainage. The wound healed by primary union, and seven days after the operation there still was no radial pulse and no return of pulsation in the aneurysm. This is believed to be the second case on record of successful ligation of the first portion of the subclavian artery. [G.B.W.]

Boston Medical and Surgical Journal.

April 12, 1900. [Vol. cxlii, No. 15.]

1. Folie à Deux. ARTHUR C. JELLY.
2. The Use of the Angiotribe. J. RIDDLE GOFFE.
3. The Problem of Boston's Insane. PHILLIP COOMBS KNAPP.
4. The Work of the Trustees of the Boston Insane Hospital, and Their Plans for Its Future Development. HENRY C. BALDWIN.

1.—Jelly contributes some interesting cases which apparently show that **under certain circumstances insanity is contagious,** or at least can be suggested by one insane person to another who is predisposed to mental impairment. He divides these cases into two groups:—first, when an insane patient infects a person previously sane with the same type of insanity; second, when an insane patient infects another insane patient with the same type of insanity. He records the following cases:—two sisters were brought to the hospital with a history that the elder had become melancholy and that her sister, who had lived with her and who had had family troubles, had become irritable and unsociable. Subsequently both became demented. In another instance two sisters became melancholy, and their mother had also had melancholia at the climacteric period. Of course, in these instances the insanity might have developed in both cases independently. In another instance, an old husband had accepted as true the hallucinations of his much younger wife. He was subsequently convinced by reasoning that these hallucinations had no basis in fact, and he endeavored to dissuade his wife from believing in them. Jelly collects 5 somewhat similar instances from the records of the Registration Department of Boston from 1870 to 1899. He regards the condition as based more upon emotional than upon intellectual derangements. Usually the second individual is less severely affected than the first, and can, generally, be cured by separation. [J.S.]

2.—Goffe discusses the use of the **angiotribe.** The credit of the invention belongs to Doyen, of Paris; afterwards the instrument was modified by Thummin, of Berlin, and Tuffier, of Paris. The following advantages are claimed for this method: (1) The superiority of this method of controling the bloodvessels over the former method of applying forceps becomes apparent at once. By the former method forceps had to be left in place as they were applied, one after the other, in the progress of the operation. They filled the vagina more or less and impeded the progress of the work. In the use of the angiotribe, on the contrary, more and more room is gained with each application. (2) The handles of the forceps protruding from the vagina were a great source of annoyance and discomfort to the patient. Moreover, the forceps had to be removed at the end of 36 or 48 hours. This was a great annoyance to the patient, and in a certain proportion of cases hemorrhage occurred from the tissue adhering to the forceps and being torn away as they were withdrawn. After the use of the angiotribe none of these disturbances arise; convalescence is smooth and comfortable. Indeed, his experience is that there is very much less pain after using the angiotribe than by either the old forceps application or in the use of ligatures. (3) It is superior to ligatures in two respects—it is more easily and quickly applied, and it is attended by less discharge during convalescence, whether the ligature used is catgut or silk. [W.K.]

3.—Knapp discusses the very illogical method pursued by the city of Boston of treating its cases of insanity from the time of 1833 to 1897, in fact up to 1893 no new building had been erected for the insane in the course of 54 years. The chief disadvantage of this policy was that the majority of the cases were transferred to State hospitals at some distance from the city, where they were inaccessible to their relatives. This was a hardship to the latter and in many instances injurious to the patients themselves. He believes that the present accommodations, adequate for only 500, should be considerably increased and that all the **insane should be cared for by the city** itself. This would probably result in economy. [J.S.]

4.—Baldwin also discusses the difficulties met by the trustees of the new insane department. Formerly the officials were appointed for political reasons and not on account of their scientific ability. At present a large and much more rational policy is being pursued. Facilities are to be provided as required for 1,500 patients. [J.S.]

Journal American Medical Association.

April 14, 1900. [Vol. xxxiv, No. 15.]

1. Report of Successful Case of Excision of Cecum, with End-to-End Anastomosis. FREDERICK HOLME WIGGIN.
2. Remarks on Serumtherapy. EDWARD K. DUNHAM.
3. Tuberculins and their Use. A. E. DE SCHWEINITZ.
4. Use of Antipneumococcus Serum. ALEXANDER LAMBERT.
5. Use of Diphtheria-Antitoxin in Treatment and Prevention of Diphtheria. WILLIAM H. PARK.
6. Remarks on Bacterial Therapy of Yellow Fever. CHARLES B. FITZPATRICK.
7. Antirabic Serum in Therapy. ROBERT J. WILSON.
8. Antistreptococcus Serum. HOWARD LILIENTHAL.
9. Mixed Toxins of Erysipelas and Bacillus Prodigiosus in Treatment of Sarcoma. WILLIAM B. COLEY.
10. Dosage in Chloroform-Anesthesia. A. S. V. MANSFELDE.
11. Use of Atropin Sulfate as a Means of Diagnosis in Certain Persistent Headaches. OTTO LANDMAN.
12. Some of the Aspects of Renal Inadequacy from a Neuropathic Standpoint. H. A. TOMLINSON.
13. Shoulder-Humero-Scapula Articulation. THOMAS H. MANLEY.

1.—A woman of 54, who had had recurring attacks of appendicitis for 10 years, was taken with an attack of unusual severity, accompanied with severe abdominal symptoms. A tumor was felt in the right inguinal region which seemed to be attached to the uterus and broad ligament. On opening the abdomen the tumor was found to be the cecum and appendix. Dense adhesions were separated and the **cecum was excised.** The cut edge of the ileum was united to the descending colon by means of stitches passed from within the bowel through all the coats, and then through the bowel of the opposite side from without in, the knots being tied on the inside of the bowel, and thus bringing together broad surfaces of the peritoneum. Very little blood was lost at the operation. The abdominal cavity was washed out and filled with saline solution and the abdomen was closed. Microscopic examination showed no evidence of malignant growth but showed a chronic inflammatory process. [M.B.T.]

2.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 708.

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10.—Mansfelde discusses the administration of chloroform and describes Geppert's apparatus, which he considers one of the great inventions of the century. Geppert's method contains the elements of the ideal one of the future. [M.B.T.]

11.—In case of persistent headache Landman advises the instillation of a solution of atropin into the eyes for diagnostic purposes. If the headache disappears, it is probably caused by eye-strains and can be remedied by properly adjusted glasses. Atropin should be carefully used in older persons, and if increased ocular tension is present it is contraindicated. [M.B.T.]

12.—After 5 years' study of the clinical aspects of **renal inadequacy,** supplemented by the urinanalysis and post-mortem verification of the deductions made, Tomlinson concludes that renal inadequacy as a temporary condition, not necessarily dependent on histologic changes in the kidney structure, is quite common, especially during adult life and after. There is definite clinical evidence that in some people renal inadequacy is congenital and dependent on limited potentiality—usually nervous—in the individual affected. The amount of the total solids in the urine, or the presence or absence of albumin or casts, furnishes no direct evidence of impending urinemia, but the relative proportion of the solid constituents to each other does furnish such evidence. When the quantity of urine is decreased below 1000 c.c., urea below 2%, chlorids below 10%, while the phosphoric acid is increased above .2%, the sulfates above 1.5%, urinemia is present or impending. [M.B.T.]

Annals of Surgery.

January, 1900. [Vol. xxxi, No. 1.]

. The Employment of Local Anesthesia in the Radical Cure of Certain Cases of Hernia, with a Note Upon the Nervous Anatomy of the Inguinal Region. HARVEY CUSHING.
. Interscapulo-Thoracic Amputation. RUSSELL S. FOWLER.
. Note on Mortality after Operation for Large Incarcerated Hernias. HENRY ORLANDO MARCY.
. The Surgical Aspects of the Modern Small-Bore Projectile. AUGUST SCHACHNER.
. Mammoth Ovarian Tumors. JAMES B. BULLITT.
. On Vesico-Urethro-Vaginal Fistula. J. SHELTON HORSLEY.

1.—Out of 233 **herniotomies** which have been performed n the Johns Hopkins Hospital from December, 1897, to)ecember, 1899, 49 were performed under **local anesthe-ia.** In the majority of these cases the administration of a eneral anesthesia seemed inadvisable or positively contra-ndicated; in the remainder the local anesthesia was used at he patient's request. Almost all cases of hernia, except in oung children, could be operated upon in this way. Some ain is necessarily inflicted and to spare the patient there is temptation to slight certain steps of the operation; it also onsumes more time. With preliminary administration of norphin and occasional inhalations of chloroform during he operation the objections are less valid, but general anes-hesia will continue to be that of choice. Advanced age, hronic bronchitis, emphysema, pulmonary tuberculosis, ardiovascular changes, chronic nephritis, and above all, hock and vomiting in strangulation have been the features letermining the selection in the cases reported. One atient was 84 years of age and operative intervention for arge uncontrolable hernia had been several times refused. Jocainization of the intestine has never been necessary, hough any attempts to draw down the bowel cause pain imilar to peristaltic cramp. Cushing gives brief abstracts of 0 cases which have been operated upon by this method, 14 f the patients were over 60 years of age. Local anesthesia s especially adapted for operation in case of strangulation, ecause of the dangers of inhalation-pneumonia from the udden vomiting which usually accompanies these cases; he radical cure may be completed at the same time or at later date. If the intestine is not viable it is safest o open the bowel and establish an intestinal fistula. econdary anastomosis may be necessary at an early late, if the fistula is high in the jejunum. In order to oper. te uccessfully, main trunks of nerves must be cocainized, and n accurate knowledge of the course of the nerves is most ssential. There is considerable variation in the situation nd anastomosis of the nerves of this region. A diagrammatic ketch of the usual location of the important trunks is given. The ilioinguinal nerve emerges from the external ring, and nearby the genital branch of the genitocrural appears. Early ocainization of these nerves, after splitting the aponeurosis eyond the internal ring, is perhaps the most important step f the operation. Schleich's solution No. 2, which contains 1:1000 cocain, has been found most suitable, and no bad ymptoms have resulted when the weak solution has been sed. Sterilization had not diminished its efficiency. Experi-nce with eucain B has failed to demonstrate any superi-rity, and it was found that anesthesia was tardy in appear-nce and of fleeting nature. The fact that the toxicity of ocain is greater is not an argument against it, provided weak solutions are used. Patients of advanced years are kept in bed a day or two before the operation, to test their ability to endure recumbency and to train them to void urine in this position. Three-quarters of an hour before the oper-ation an eighth of a grain of morphin is given, and this is repeated shortly before operation. Patients past middle age are shaved and prepared on the operating table; the skin in the line of incision is infiltrated with the solution and incision is immediately made; the infiltrated tissues are usually more vascular, and immediate clamping of all bleeding points is essential to successful dissection. It is unneces-sary and useless to anesthetize the panniculus. When the incision is carried down to the aponeurosis, the en-countered fibers of the iliohypogastric nerve are in the superficial fat at the lower angle of the wound together with 1 or 2 large veins; anesthetization may be necessary here. The iliohypogastric and inguinal nerves are immediately cocainized with 1% solution and the incision is carried down to the external ring; the internal oblique fibers are divided after preliminary cocainization to the edge of the muscle. Under ordinary circumstances there is no further need for the anesthetic. Care should be taken not to divide the genital branch, as it may give rise to paralysis of the crenaster. The treatment of the sac is carried out as usual and is practically without pain; closure of the wound may be accomplished painlessly by the usual method. Occasionally, if there is slight ability to endure discomfort, it will be necessary to give a few inhalations of chloroform. Patients have never complained after operation, and healing seems absolutely unaffected. The advantages are the avoidance of unpleasant or dangerous results from general anesthesia and of vomiting or retching which strains the sutures; urinary disturbances are less apt to occur, the diet continues as before the operation, and there is no backache resulting from the relaxation of the spinal muscle; above all there is comparative safety to patients who would incur risk in submitting to general anesthesia. The disadvantages are in the time consumed and the pain inflicted, but these are more than compensated for by the surgeon's freedom from anxiety. [M.B.T.]

2.—Fowler mentions the following indications for **interscapulo-thoracic amputation:** extensive injury to the region of the arm or shoulder rendering the life of the part improbable, caries, extensive local tuberculosis, gangrene, sepsis, osteomyelitis, pain of the entire upper extremity due to severe neuritis, carcinoma of the breast involving the axillary vein, and brachial plexus, benign tumors of great size, and malignant tumors of the region of the shoulder-joint. He believes that the operation is indicated in all cases of malignant disease of the humerus, however located. The steps of the operation, as he performs it, are as follows: the patient is placed on his back, the affected side overhanging a table, with a sandbag between the scapulae. During anesthesia the arm is lifted and abducted to remove blood from it, no tourniquet or bandage is permissible. In malignant disease or infective conditions an incision is made over the clavicle from the sternomastoid to the acromium, the clavicle is divided by a chain saw at its inner third and the larger portion is elevated and separated from its attachments; the layers of fascia overlying the vessels are divided and the artery is located by its pulsation; if the pulse is not present in case of severe shock, the external anterior thoracic nerve is a useful guide, the subclavian and artery and vein are then isolated, doubly tied and divided; the suprascapular vessels, which are usually seen crossing the upper portion of the wound, are tied. The flaps are then marked out, removing as much of the skin and soft parts as is compatible with accurate apposition; with the extremity partially abducted the skin incision is begun at the inner third of the clavicle carried downward from the pectoralis major to the anterior border of the latissimus dorsi; the extremity is further abducted during the latter part of the incision. After carrying the arm forward across the chest, the posterior incision is begun at the same point of the clavicular incision and carried across the spine of the scapula downward to meet the anterior incision; the extremity is then turned away from the body, the brachial plexus is sectioned on a level with the ligated vessels, the arm is thrown across the chest, and the muscles attached to the vertebral border of the scapula are severed. Complications may arise from difficulty in finding the artery or vein or from hemorrhage from enlarged veins in the region of the tumor. Secondary hemorrhage may also occur, making necessary further resection of the clavicle. The first essential in the prevention of shock is hemostasis; septicemia occurred in but one of the cases reported; air-embolus was noted in 7. Fowler gives abstracts of 72 cases of primary operation, without previous resection or disarticulation, in which the operation was performed for malignant disease. He reports a case in which he operated upon a woman of 51 who had first noticed a swelling a few inches above the left elbow 1½ years previously. The tumor grew rapidly and the arm became painful; her physician removed the growth locally but it recurred after 6 months. On admission the tumor was the size of an orange and the overlying skin was ulcerated, careful examination of the organs failed to show visceral involvement. The operation was carried out according to the

method described. There were bad symptoms due entirely to the anesthetic. Pathologic examination of the tumor proved it to be an osteosarcoma. One year after the operation there was no evidence of recurrence of the growth. A case operated upon by G. R. Fowler is fully reported for the first time. A man of 75 had had pain in the shoulder and elbow for a year; for 3 months the arm had been swollen, tense, and red and the growth appeared on the anterior border of the axilla; the swelling was greatest just above the elbow and profuse discharge escaped from a lacerated area. The infected mass was first removed from the axilla. Microscopic examination showed it to be alveolar carcinoma. Six days later interscapulothoracic amputation was performed. The hemorrhage was not excessive and the patient rallied from the shock of the operation but died the next day as a result of the shock, together with an organic lesion of the heart. In 72 cases reported in literature 8 deaths occurred, making the mortality 11⅓%. Considering the magnitude of the operation this is comparatively low. Permanent results were reported in 30 cases, 14 of the patients remained free from recurrence over a year after the operation, making a percentage of ultimate recoveries of 46⅔%. Four abstracts of cases of atypical interscapular thoracic amputation are given. The article is continued. [M.B.T.]

3.—Marcy reports an operation for **enormous** left inguinal **hernia** performed by Dr. J. C. Irish on a patient of 45. The operation was considered unavoidable because of the thinness of the sac, the overlying skin having ulcerated. The man's general condition was good. The hernia, on standing, extended nearly to the knee and its largest circumference measured 27 inches. At the operation the sac was found to contain most of the large intestine and several feet of small intestine; the mesentery was greatly thickened, there were no adhesions, and the intestines were of normal appearance. Reposition of the contents of the sac was difficult because of the lack of storage capacity of the abdomen and because of the thickened mesentery. Almost immediately after reduction respiration became shallow and rapid; the patient after coming out of anesthesia began to cough frothy blood mucus and died 32 hours afterwards. In a second case Marcy operated on a man of 50 who had an enormous right inguinal hernia which could not be retained by a truss. The patient had been operated upon twice because of strangulation. The tumor reached nearly to the knees and its greatest circumference was 29½ inches. By elevation and gentle pressure the tumor could be easily reduced to two-thirds its size when the patient was in the recumbent position. Prolonged rest in bed and diet were recommended, but the patient objected for several reasons. At the operation the sac was found to contain nearly all the large intestine and several feet of small intestine; the contents were restored to the abdomen with considerable difficulty and there was great distention of the abdominal cavity, though the abdominal wall did not seem extremely tense. The patient made a good recovery from the operation, but death occurred on the ninth day following, when he was thought to be practically out of danger. Death occurred suddenly and at the necropsy nothing was found; the peritoneal cavity was not infected, the intestines were not unduly distended and were normally dispersed. Marcy believes that the fatal issue in both cases is to be attributed to the sudden increase of intraabdominal pressure unduly limiting the action of the diaphragm. He cites the report of a successful operation for enormous hernia by Arnaud published in 1748, and in this case the patient was kept in bed for a long time with limited diet and moderate purgation gradually reducing the size of the tumor, the amount of intraabdominal fat and increasing the elasticity of the abdominal walls. With such preliminary treatment Marcy believes that the conditions are exceptional in which the cure of hernia may not be safely effected. [M.B.T.]

4.—From a review of the literature of the **effects of the modern small bore projectile** Schachner concludes that the character of the arms used by all advanced nations is practically the same. This modern small bore bullet is capable of producing wounds severe or humane in character depending on the intervening distance and the structure wounded. The explosive action of such bullets is yet undetermined. The modern bullet is propelled with greater energy, velocity and accuracy and on the whole the wounds are of more humane character than those of the old bullets. Explosive action depends upon deformation of the bulle the range, the character of the tissue. At shorter range th action is more pronounced; at 800 to 1,000 yards explosiv action is met with only in the skull and parts rich in moi ture; at 800 to 1,200 yards the wounds of entrance and ex are usually small. Rotary motion may continue after pen trative movement ceases, changing the character of th wound. [M.B.T.]

5.—Bullitt gives brief summaries of 23 **mammoth ovarian tumors** weighing over 100 pounds, which he ha collected from literature; he adds a twenty-fourth case. woman of 37 had noticed a tumor many years previously; years before she had arranged for operation, but her courag failed her and she returned home without intervention. Th tumor continued to increase in size, and pressure-effects be came so great that she had been unable to rest except in sitting posture for a year and a half; respiration was almos impossible; the enormous abdomen hung down to her knee and the circumference at the umbilicus was 79 inches. Th woman and tumor weighed nearly 400 pounds. Before ad ministering the anesthetic preliminary tapping was done an 24 gallons of fluid was withdrawn; after exposing the sac 1(gallons more of fluid was withdrawn. The operation wa difficult because of extensive adhesions; the unilocular cys was finally separated, tied off and removed; gauze was ther packed over the raw surface and dressings were applied Over all was placed a large pillow and a binder to replace something of the pressure of the tumor. The case progressed well until the fifth day when symptoms of intestinal obstruction appeared and death occurred on the seventh day. The weight of the tumor, sac, and contents was 245 pounds, 4 pounds more than any cyst yet recorded. In 24 cases collected from literature, 15 recoveries followed. The average weight of the tumors was 129 pounds, while in 6 cases followed by death, the average weight was 181 pounds. Bullitt concludes that the fatality from operation in such cases is directly proportional to the size of the tumor; extensive adhesions militate against successful operation. Primary aspiration is apparently no safer than immediate operation. Marsupialization is contraindicated. Successful tappings are sometimes tolerated, but usually lead to exhaustion and death in a few hours. Death is likely to occur within a few hours as the result of shock. If this first danger is passed the fatal issue is likely to be the result of intestinal obstruction following adhesions. [M.B.T.]

6.—A primipara of 22 was attended by a midwife who permitted labor to continue about 48 hours before the child was born. A few days after confinement urine passed from the **vagina,** and in a short while all of it came this way. On examination a **fistulous opening** ½ an inch in diameter was found in the bladder; the sloughing area was somewhat triangular in form, including part of the neck of the bladder and the entire thickness of the urethra. The patient was placed in the Sims' position, the bladder was dissected from the urethra; approximation of the parts was accomplished without great tension. A catheter was inserted in the bladder through the urethra, after the stitches had been placed, and a second catheter was inserted through a small incision in the base of the bladder. This incision closed readily after removal of the catheter. The middle part of the sutured wound healed, leaving a fistula at each end. A second operation a month later was followed by a partially successful result. Five subsequent operations were performed under cocain-anesthesia, and finally the fistula was completely closed. [M.B.T.]

Archives of Pediatrics.

January, 1900. [Vol. xvii, No. 1.]

1. A Clinical Study of Laboratory Milk in Substitute Infant Feeding. LOUIS STARR.
2. Cerebrospinal Symptoms in Influenza in Infancy. T. S. WESTCOTT.
3. A Case of Fracture of the Pelvis with Rupture of the Urethra. J. B. BISSELL.

1.—Starr considers **laboratory milk** theoretically the most perfect **substitute for normal human milk** that science has devised. His clinical experience, extending over a period of two years, fails, however, to support the theory. Some of his cases have been satisfactory; more partially

isfactory, and a still greater number unsatisfactory. The rtially satisfactory cases showed features of malnutrition, ıile in the unsatisfactory ones it was absolutely necessary discontinue the laboratory feeding, owing to the occurnce of acute dietetic disorders. The cause of the difficulty ıich infants have in digesting laboratory milk is that the oteids in the laboratory mixture are present in a form that ıkes them difficult of digestion, which fact is dependent ıon the destruction of the natural emulsion in the process mixing a separated milk and a centrifugated cream.

2.—Westcott reports two very interesting cases of **inıenza occurring in infants,** in both of which marked rebral symptoms manifested themselves. The first case ıd been previously reported and is here reproduced in stract. The other infant, aged 9 months, had never been strong child; for several days before her illness she had equent loose stools; at the onset she was apathetic, irritable, ıd pale. In the evening of the first day she vomited, and ıring the night was restless and vomited all of her food, ıd her bowels became looser. She rapidly sickened and veloped symptoms suggestive of pneumonia; rapid, labored ıd catchy respiration, with slight moaning. There was so some retraction of the head and sluggish pupillary action; the head became more retracted with a tendency opisthotonos. There developed some impaired resoınce with feeble broncho-vesicular breathing, without les, at the base of the right lung. The vomiting continued. ıe following day the spot of congestion at the right base eared up, but a similar one developed at the left base. On e evening of this same day twitching began in the left arm ıd hand, together with rapid movements of pronation and pination of the forearm. Similar movements soon began the right arm and hand and continued at intervals roughout the night. A distinct tache cerebrale could be veloped over the abdomen and chest, and the next day ınvulsive twitching began in the left arm about the elbow ıd extended to the hand. Movements of pronation and ıpination existed in the right arm, and the legs were curved ward, the feet drawn inward, and the great toes were arkedly flexed on the soles. The right foot was flushed; ıe pulse at the wrist was not perceptible, and respiration as catchy, sobbing and irregular. The eyelids twitched, ıe face was deeply cyanosed and to a less degree the whole ody. The legs were cold and deeply mottled; the abdomen as greatly distended with gas. Vigorous stimulation by ypodermatic injections of digitalin, $\frac{1}{600}$ to $\frac{1}{300}$ of a grain, ıe flushing of the bowels with boric-acid solution and the lacing of a rectal tube to relieve the tympanites, the appliation of hot and cold effusions to the chest, aided by hot ponging of the limbs and a hypodermatic injection of $\frac{1}{500}$ of a grain of atropin sulfate brought about a satisctory condition of the respiration after several hours. rom this time improvement began and persisted very owly to a complete recovery, which was reached at the end f four weeks, at which time the movements in the arms nd legs were practically normal. Lumbar puncture for the urpose of a bacteriologic study was not permitted. Westott lays special stress upon the advantages gained in the eatment of both these cases by the hypodermatic administation of remedies at the time of the collapse as a routine ıethod of stimulation. [S.M.H.]

3.—Bissell reports the case of a boy, 9 years old, who hile playing in the street was run over by a truck, the heels passing over his body. There occurred extravasation f urine, due to **rupture of the urethra** and probably of he bladder; fracture of the pelvis and lacerations of the ight femoral artery were also thought to exist. Owing to he rapidly growing seriousness of the boy's condition, he vas placed upon an operating table and anesthetized. On nspection the urethra was found to be torn transversely at bout midway in its course. The posterior portion of the anal was lying free in the wound, the surrounding tissues ıaving been stripped entirely away from it for about $1\frac{1}{2}$ nches. The anterior portion was separated from the poserior by at least one inch. Palpation with the finger revealed the broken edges of the pubic arch about one inch part, which were also brought into plain view by everting little of the upper angles of the wound. It was also discovered that the symphysis was disjointed. Deep incisions were made into the scrotal tissues freeing the extravasated ırine. A small catheter was passed through the posterior fragment of the urethra which easily entered the bladder and drew off a few drops of clear urine. The wound was packed lightly with acetanilid gauze and a broad band of adhesive plaster was bound around the pelvis to bring the broken fragments of bone into apposition and hold them there. The urine escaped freely after removing the catheter and fecal incontinence also occurred. There was constant improvement in the general condition up to the end of the eighth day; at this time the circulation having returned in the leg the child was anesthetized and the urethral ends brought together in the upper half, leaving the under half open for the escape of urine. The anterior third of the large perineal wound, which was made at the first operation on account of the extravasation of urine, was brought together by three silkworm-gut sutures, thus supporting the canal and relieving the tension of the sutures there. A plaster-of-paris splint was applied to the pelvic bones. The boy made a rapid and uninterrupted recovery from this date. [S.M.H.]

Edinburgh Medical Journal.

January, 1900. [N. S., Vol. 7, No. 1.]

1. Infectivity of Malignant Growths. G. BELLINGHAM SMITH and J. W. WASHBOURN.
2. Purulent Ophthalmia. A. MAITLAND RAMSAY.
3. Valedictory Address to the Medico-Chirurgical Society, Edinburgh. SIR JOHN BATTY TUKE.
4. Some Observations on the Excretion of Uric Acid, with Special reference to Its Connection with Leukocytosis. CARSTAIRS C. DOUGLAS.
5. Valedictory Address to the Edinburgh Obstetrical Society. J. HALLIDAY CROOM.
6. Note on Febrile Albuminuria, and the Question of a Special Rheumatic Albuminuria. F. PARKES WEBER.

1.—Smith summarizes an article on the **infectivity of malignant growths** as follows: 1. Malignant growths may be regarded as local in origin, and as possessing the power of infection of adjacent and distant parts of the individual. 2. Inoculation may take place from one part to another of the same individual, apart from transference by natural channels. 3. There is good evidence to show that one individual may be infected with growth from another. 4. There is experimental evidence to show that growths may be transferred from animal to animal of the same species by inoculation. 5. There are found in many malignant growths bodies which have a resemblance to microorganisms, and which have been regarded as belonging either to the protozoa or the blastomycetes. 6. A new growth, having the structure and also the behavior of carcinoma, has been described as arising, at any rate in two instances, from inoculation with a form of blastomyces. 7. These experiments are highly suggestive that the bodies found in cancer are the cause of the disease, though the evidence is wanting that definitely associates the two. [S.M.H.]

4.—Douglas makes some observations on the **excretion of uric acid with special reference to its connection to leukocytosis.** He collects his observations under two heads: (1) Variations in the excretion in health under different conditions of diet, etc., and (2) variations in disease. The conclusions he reaches are as follows: In ordinary health with a mixed diet the uric acid output is distinctly increased one and a half to three and a half hours after food, digestive leukocytosis being present about the same time. The output may rise even though the diet contain no nucleoproteid. Where a vegetable diet rich in proteid was given the total output of uric acid was little if at all inferior to that under ordinary mixed diet. The usual rise took place three hours after food, but digestive leukocytosis was feeble or absent. Where a vegetable diet poor in proteids was given the daily output of uric acid was below that on a mixed diet. The usual rise two or three hours after food occurred, and digestive leukocytosis was present on one occasion. On a plentiful meat diet both urea and uric acid were increased in much the same ratio and the leukocyte count tended to keep high. When calf thymus or solution of nuclein was administered with ordinary diet the uric acid output was very notably increased. Patients who were fasting, absolutely, after a laparotomy, showed varying excretion of uric acid, either much or little below the normal. As to the variations in disease, he found that

in diabetes mellitus the uric acid was mostly found to be distinctly increased, and the more so the richer in proteid the food was. It was not increased in proportion so much as the urea. In two cases of **splenomegaly** the amount excreted was little, if anything, below normal. In one of these cases a very distinct leucopenia was present. A case watched throughout pregnancy revealed a constant distinct leukocytosis, while the uric acid was in no wise increased. There seems to be no constant relationship between the leukocytosis of cancer and the uric-acid excretion in the cases examined. In various cases of anemia and diseases of the liver the uric-acid output was on the whole low, and the leukocyte-count normal or subnormal. In pneumonia, the amount of uric acid excreted was high, on the whole, and in several instances the leukocytes were raised in number. On the whole, therefore, there would seem to be a discrepancy between the amount of uric-acid thrown off from the body and the number of leukocytes. The author's observations show that the uric acid varies much less with diet than does urea, and that the ratio between the two is a very elastic one. The practical deduction from the observations is that in prescribing a diet for the gouty, care should be taken to indicate that vegetables are not to be taken promiscuously, but that those poor in proteids should be selected, and that such articles as sweetbread and similar tissues rich in nuclein should be excluded. [S.M.U.]

5.—Croom, in his valedictory address to the Edinburgh Obstetrical Society, makes reference to some of the **prominent advances in obstetrics during the last century.** The greatest of all progress has been in the prevention of puerperal sepsis. Cesarean section has been modified and improved, so that now it is possible to deliver a woman with extreme pelvic deformity by this method with a mortality of perhaps 10 or 12%; whereas, at the beginning of the century, the mortality could not have been much less than 90%. The adoption of the bi-polar method of turning has saved hundreds of lives, especially in cases of placenta previa. The advance in dealing with uterine fibroids by complete removal by the various methods of hysterectomy, either by the vaginal or the abdominal route, marks a new era in gynecologic surgery. [W.K.]

6.—Weber reports a case of a middle-aged man who was the subject of an obstinate form of **subacute articular rheumatism.** He had frequent exacerbations in which albuminuria and fever occurred. He was inclined to believe that the articular symptoms, the pyrexia and the renal disturbance which characterized these exacerbations, formed a rheumatic trio. He believes the term rheumatic albuminuria is justly applied to cases of this nature. He believes that in cases in which a little albumin is present in the urine but rapidly disappears after a few days of calomel or purgatives, or under salicylates, that a gouty or rheumatic tendency is in great part responsible for the condition, the kidneys being secondarily irritated. [S.M.U.]

February, 1900. [N. S. Vol. 7, No. 2.]

1. Sprue. LAUDER BRUNTON.
2. Injuries and Diseases of the Conjunctiva. A. MAITLAND RAMSAY.
3. Pyosalpinx Removed by Laparotomy in the Early Puerperium. R. MILNE MURRAY.
4. A Contribution to the Treatment of Hypertrophied Prostate by Vasectomy. T. VINCENT JACKSON.
5. Notes on a Case of Sudden Death following Labor due to Cardiac Disease and Pneumonia. G. W. SIMLA PATERSON.
6. On the Physiologic and Therapeutic Effects of the Röntgen Rays—The Treatment of Lupus. J. HALL-EDWARDS.
7. Vaginal Celiotomy. J. A. C. KYNOCH.
8. Papilloma of the Tongue. GRANT ANDREW.

1.—Brunton notes that the **difference** between the so-called **Indian Hill diarrhea and sprue,** is, that in the latter there is marked soreness of the mouth and anus, and diarrhea with liquid white frothy stools; while in the Indian Hill diarrhea the condition of the bowels is much the same, but there is not the same soreness of the mouth and anus. In either case there is marked loss of nutrition, and the patient becomes apathetic. The whiteness of the stools is due to the presence of undigested fat, and probably there is some alteration in the pancreas in some cases. The changes in the mouth are aphthous and there are afterward ulcerations. The changes in the gastrointestinal tract are chiefly loss of the epithelium and great thinning of the mucous membrane. The prognosis is bad, unless the cases are well treated. The patients usually grow progressively weaker, and finally die. The essential in the treatment is milk diet, excepting in the rare cases in which it is impossible to give milk. Even then careful diet is essential, and should consist of absolute meat-juice diet if possible. The medicines that are useful are chiefly bismuth with cannabis indica; the formula recommended is one containing bismuth, carbonate, sodium bicarbonate, tincture of cannabis indica, put up in mucilage of tragacanth and cinnamon water. Brunton mentions one case in which there was marked enlargement of the liver, with sprue, which is uncommon. He states that in one instance he found that homocea relieved the soreness which accompanied the disease. [D.L.E.]

3.—Murray thinks that the **diagnosis of a pyosalpinx in early pregnancy,** say, up to the third month, is a matter of comparative simplicity. Careful bimanual examination will determine the presence of an enlarged tube in one or other fornix, or sometimes behind the uterus, and the recognition, considering the risks involved as pregnancy advances, demands immediate operative interference. He relates the history of the case of a patient, aged 35, whom 2 days after delivery he found with a temperature of 103.5°, the pulse 130, thready and compressible; the tongue thickly furred and the expression profoundly anxious. These, with the other symptoms, he could ascribe only to a diseased tube. He performed an abdominal section, removed the intensely congested right tube and ovary. The peritoneal cavity was then washed out with several quarts of 1% lysol solution, and leaving a pint of this solution in the cavity the wound was closed. The uterus was also washed out with the lysol solution at 120° F., after which it contracted firmly. The patient made an uninterrupted recovery. The most anxious days to the obstetrician are those of the early puerperium, and the case recorded is an illustration of but one in a long catalog of possibilities he must keep in mind. [W.K.]

4.—Three cases of **hypertrophied prostate** are reported in which vasectomy was performed with a successful result in each case. [M.B.T.]

5.—Paterson reports a case of **sudden death following labor** due to cardiac disease and pneumonia, the patient dying 24 hours after the onset of the disease. The autopsy showed the uterus with the normal appearance after labor. The pelvic veins contained ordinary postmortem clot. The heart was the seat of old-standing endocarditis. The aortic valves were much thickened, and covered with vegetations, also the mitral valves. The left kidney was completely cystic, and on section was found to contain a large quantity of tubercular pus. Both lungs were largely congested and edematous. The remarkable feature of this case was that these conditions had produced so little discomfort, comparatively, during pregnancy, only to end in such sudden death immediately after delivery. [W.K.]

6.—A boy, 14 years old, had had **lupus** of the face for 11 years and had been under constant treatment. The disease covered nearly the entire face and had destroyed a great part of the nose; there was also a patch on the instep of the left foot and this was treated by exposure to the **x-rays.** Four 10 to 20 minutes exposures to the x-rays with the tube at a distance of 1 inch were made and the diseased patch broke down, leaving an ulcerated surface which healed under careful treatment and has remained well 12 months. In a second case a girl had lupus covering the entire face, with the exception of the chin, and also a patch about 2 inches in diameter on the right arm. The patch on the arm was successfully treated by the use of the x-rays. In a third case a girl, 16 years old, who had lupus of the face and right thigh, was treated with a successful result. [M.B.T.]

7.—Kynoch describes his technic in **vaginal celiotomy,** gives the history of a number of cases, and claims that the advantages of the vaginal over the abdominal route are: Shorter convalescence, 14 days as compared with 3 to 4 weeks; no abdominal cicatrix, therefore no risk of hernia or subsequent formation of intestinal or omental adhesions; less shock, on account of the peritoneum being less exposed;

ainage, if necessary, is best carried out through the pos-ior fornix. Its drawbacks are: On account of the limited ace, dense adhesions are more difficult to manage, and usequently greater danger of wounding viscera (bladder d rectum; greater difficulty in rendering the vagina ptic. The latter objection, however, is probably exagger-d. Cases suitable for the vaginal route (other means of atment failing) he believes to be: Mobile retroflexion, using symptoms at or about the menopause; chronic aritis with adhesions; prolapse of the ovary with fixation; arian cysts, if small, whether dermoid, simple or papillo-atous; pelvic hematocele; unilateral, mobile, tubal swell-gs. Cases unsuitable for this treatment are: Large tumors; l-standing tubal disease with dense adhesions, where the mplete removal of the appendages is necessary. [W.K.]

Berliner klinische Wochenschrift.

January 22, 1900. [27. Jahrg., No. 4.]

The Development of Ophthalmology in the Nineteenth Century. J. HIRSCHBERG.
The Toxic Effect of Normal Urine. C. POSNER and M. BERTUN.
Pneumatic Therapy from 1875 to 1900. JULIUS LAZARUS.
Simultaneous Gunshot Injury to the Thorax and Abdomen. FRITZ KÖNIG.
The Bacteria of Milk Products and Other Foods. BLOCH.

2.—The authors show that there are several fallacies in 13 conclusions which Bouchard and others have drawn om the results following the **injection of urine into the lood of animals.** In the first place, the apparently toxic tion may be in part due to the injection of excessive quan-ties; secondly, to the fact that urine and blood are phys-ally different fluids, and the mixture of the two cannot cur without grave changes. The urine, containing so ch more salts than the blood, is likely to produce an motic change which of necessity injures the red blood-rpuscles and the tissues. Forchheimer and Stewart (see HILADELPHIA MEDICAL JOURNAL, Vol. IV., p. 963) attributed e toxic properties of the urine to bacterial contamination, t Posner and Vertun show that it is in a large measure pendent upon a **difference in molecular concentra-on** between the blood and the urine. The osmotic power a fluid depends entirely upon the number of molecules at it contains in solution; it increases with the number of olecules. The freezing point of a solution is one of the st indices of the number of molecules contained therein. y salt-solution having the same molecular concentration that of the blood and the same freezing point is called **otonic,** and is generally harmless. For sodium chlorid, isotonic solution is one containing .91% of NaCl. If urine made equimolecular to such a saline solution, it is no more xic than the latter. The urine can be rendered equimolec-ar by dilution. It follows, therefore that the largest factor the toxic action of urine is probably the difference in con-ntration. In view of this the hypothesis suggests itself adily that uremia is due to changes in molecular concentra-n; indeed, it is possible, by the injection of strong saline lutions, to produce symptoms resembling those of uremia, parently dependent on the withdrawal of water from the sues by the solution. On the other hand, Korani, in veral cases of uremia, was unable to find an increase in olecular concentration, and in other cases in which the nal insufficiency was very marked, uremia was absent. He erefore believes that the **uremic poison is a transfor-ation product of albumin** which, not being inorganic, s no influence upon molecular concentration. The auth-s, however, believe that there are several substances pable of producing uremia. In infectious diseases the ine may contain toxins, the result of elimination. [D.R.]

3.—There are two methods of **pneumatic therapy,** the **ctive,** in which the patient has control over the apparatus, d can interrupt the procedure at any moment, and the **assive,** in which the patient is subjected to the action of mpressed air over the entire body, by being in a pneu-atic cabinet. The former consists in the inspiration of mpressed air, or the expiration into rarefied air. The re-lts with this method have not been satisfactory. The eumatic cabinet, however, is useful in chronic pleurisy, in renic fibroid changes in the lung, asthmatic bronchial catarrh, secondary circulatory disturbances without marked cardiac degeneration, chlorosis, and other anemias. The contraindications are a rigid thorax, arteriosclerosis, and a tendency to hemoptysis. [D R.]

5.—See Editorial columns, April 14.

January 29, 1900. [27. Jahrg., No. 5.]

1. The Surgery of Carcinoma of the Stomach. H. LINDNER.
2. Polyarthritis Chronica Villosa and Arthritis Deformans. MAX SCHÜLLER.
3. The Therapeutic Application of Moist Heat. HUGO DAVIDSOHN.
4. Simultaneous Gunshot Wounds of the Thorax and Abdomen. FRITZ KÖNIG.

1.—Radical **operation for carcinoma of the stomach** is indicated when the tumor is well limited, when there are no adhesions to neighboring organs, and when there is no glandular involvement. Gastroenterostomy is a palliative operation for cases in which the disease is so extensive as to make more radical operation impossible. Three questions have come up for consideration in connection with surgery of the stomach during recent years: Is it possible to carry out more radical operations for carcinoma of the stomach than has been considered wise in the past; is it correct in the cases in which pylorectomy cannot be performed to perform resection in place of gastroenterostomy; is it desirable, in case only palliative operation is possible, to make this as radical as possible? As to the first question, Lindner believes that there is scarcely a progressive surgeon who is not in favor of more extensive operation than formerly. Mikulicz has been especially instrumental in showing the necessity for the removal of carcinomatous glands. These glands are arranged in 4 groups, those in the gastrocolic ligament, in the gastrohepatic ligament, in the bend of the duodenum, and in the region of the common gallduct and the portal vein. Enlargement of the glands of the gastrocolic ligament is seldom absent, but it is not always of a carcinomatous nature; the glands in the gastrohepatic ligament, on the contrary, if enlarged, are always carcinomatous; this is also the case with the other groups which have been mentioned. As to the permanent results of the more radical procedures, too short a time has elapsed to determine them definitely. Not seldom lymph-glands are diseased which really do not belong to the lymphatic system of this region. Lindner has found reports in literature of 28 cases in which results of necropsy after recurrence following resection of the stomach are given; in 15 cases the recurrence was local, in 12 cases the recurrence was at distant parts, and in one case the recurrence was in the glands. From this result it would seem that the greatest danger lies in leaving behind a diseased portion of the stomach itself. When physicians have perfected a method for the early diagnosis of carcinoma of the stomach no doubt the result will be improved. In case of doubt as to the nature of the disease it is safer to operate than to wait for further development of the case. Lindner has collected reports of 64 cases of resection of the stomach in which the patients recovered from the operation. Seventeen, or 26.5%, of the patients died within the first 6 months, 14, or 22%, within the second 6 months, 13, or 20.3%, within the third 6 months; thus within the first year and a half 68.7% died, while 31.3% lived longer, though but few lived over 3 years. From an examination of the statistics of gastroenterostomy Lindner believes that decided improvement in the results would be possible if the operation were undertaken at an earlier period. He recommends combining enterostomy with gastroenterostomy; the replacing of gastroenterostomy by resection in advanced cases is not a step in advance, but a decided step backward. [M.B.T.]

2.—Under the term **polyarthritis chronica villosa,** Schüller describes a peculiar process affecting the synovial membrane of joints. The disease develops slowly, with painful swellings in the articulations, leading eventually to deformity and to impaired function. The joint changes are peculiar, and are brought about by a chronic inflammatory swelling of the synovia and hyperplasia of the synovial fringes, while the cartilages and bones remain intact. In consequence of the villous hyperplasia, irregular, lobular prominences appear about the joints. There may be a little fluid in the joints, but it is not significant. Schüller has

operated upon the joints in 20 cases. In all of them he found an enormous proliferation of the fringes and processes of the synovia. The hyperplastic processes are very vascular. In no case was the cartilage involved, as it is in arthritis deformans. There is one form in which the fringes, instead of proliferating, atrophy. This, in contradistinction to the hyperplastic form, he designates as ankylopoetic polyarthritis. In both forms he found a dumb-bell shaped bacillus; in the atrophic form, in addition, also numerous cocci. The histologic picture of the hyperplastic form is described, and illustrated by sketches. [D.R.]

3.—Davidsohn has devised an apparatus to **maintain the heat of cataplasms.** It is made as follows: Rubber tubing is sewed to a piece of rubber cloth. This "tubing-pillow," as it is called, is laid on the poultice material, being separated from it by a layer of linen. Hot water is kept running through the tube. He has also constructed a tubing-mattress, upon which the body can rest and heat be applied to the back. The pressure of the body is not sufficient to obliterate the lumen of the tubing. [D.R.]

4.—From extended study of **gunshot wounds** which injure the **thorax and abdominal cavity simultaneously** König draws the following conclusions: The fifth intercostal space, left and internal from the nipple line, is a place at which injuries may affect the pericardium alone, leaving the heart intact. The pericardium at this region is not covered by the pleura and this may be entirely unaffected. Such injuries usually cause adhesions of the pericardium. If threatening symptoms appear, puncture is advisable before pericardotomy is undertaken; symptoms of oppression may be caused by hemothorax; these are past relief by puncture. The operative opening of the pericardium and the pleural cavity comes in question after puncture has proved of no avail. Wounds of the diaphragm heal not by muscular union but from adhesion of the serous surface. Suture of the diaphragm is indicated only in case severe symptoms are present; if there is evidence of simultaneous injury to the abdominal cavity, celiotomy should be carried out in the usual manner in the region of the tenth or eleventh dorsal vertebra. At the left the spleen may lie but 2 cm. distant from the stomach and usually above it. In this position the spleen may be injured without injury to the stomach. Injuries of the liver may give rise to inflammatory processes; abscess may result provided toxic substance entered the wound, this may give rise to pyemia and for this reason every wound of the liver, no matter how slight, demands operation. A strip of gauze should be carried down to the wound draining it; in no case is suture justifiable. [M.B.T.]

February 5, 1900. [37. Jahrg., No. 6.]

1. Epidemiology and Prophylaxis of Malaria from Latest Standpoints. A. CELLI.
2. Symptoms of Intracranial Pressure with Typhoid Fever. H. SALOMON.
3. Mechanical Disturbances in the Growth of Bone. H. MAASS.
4. Syphilitic Struma. E. WERMANN.
5. Polyarthritis Chronica Villosa and Arthritis Deformans. MAX SCHÜLLER.

2.—Salomon examined the **optic discs** in a number of cases of **typhoid fever,** and found that in the initial stages of the disease the disc often had an appearance such as is found in cases of increased cerebrospinal pressure. There was not exactly a marked papillitis, but the disc was injected, the borders indistinct, and the veins dilated and tortuous. Lumbar puncture was made in some of these cases. The pressure varied from 180 to 250 mm. of water. The fluid was sterile in all cases, and had no agglutinating power in three cases in which it was tested. The author believes that the cerebral symptoms in ordinary cases of typhoid fever in the initial stages are due to an intrameningeal exudation of fluid, and that this explains one of the symptoms—the slowing of the pulse—at the outset of that disease. [D.R.]

3.—Maass has studied the effect of **mechanical disturbances upon the growth of bone.** In a series of experiments, he placed the hind paw of a young rabbit of from three to five weeks, into the genu valgum position by means of a plaster dressing. The result was an apparent inhibition of growth in the length of the tibia. The arrest of growth affected the diaphysis, and not the epiphysis, which was of the same thickness in both limbs. Examination showed however, that there was no actual shortening of the tibia but merely a change in the direction of growth. The changes in form are therefore not due to an arrest or an increase of the formative processes on the part of the bone matrix, but are solely dependent upon the disturbances of the spatial disposition of the young bony tissue formed in physiologic quantities. The disturbances in spatial arrangement strictly follow mechanical laws. There being no difference in the quantitative formation of bone, it follows that in every mechanical inhibition to osseous growth, there is in some other direction a collateral increase. Regarding the structural changes in bones, Maass believes that the spongios of a bone becomes denser as soon as the growth of that bone in a normal direction is prevented. The changes are entirely mechanical. The human skeleton presents the same changes as that of the lower animals as soon as it is subjected to abnormal pressure. There is no atrophy or hypertrophy of bone in these cases, merely a change in the direction of bone growth. The defects in rickets are due to a mechanical disturbance of the growth of the osteoid tissue, which is formed in physiologic quantities, but remains soft. Under such circumstances, the construction of a normal bony architecture is mechanically impossible. [D.R.]

4.—The patient, a man 24 years of age, was affected with syphilis in 1892. In 1898 the **thyroid gland** became enlarged. It was soft and perfectly painless. Iodids had no effect, but under inunctions of mercury the swelling almost completely disappeared. The condition was apparently a simple hyperplasia, and is looked upon by the author as a **manifestation** belonging to the **secondary period of syphilis,** despite the length of time that had elapsed since the initial lesion. [D.R.]

5.—The **dumbbell-shaped bacillus** which Schüller has found in the joints, he believes to be the cause of chronic villous **polyarthritis.** He has been able, by inoculation of cultures, to produce an analogous process in rabbits. The distinctions between this disease and ordinary arthritis deformans, which attacks principally the cartilages of the joints, are pointed out. The villous arthritis begins in the first half of life, sometimes in childhood, is associated with pain, and leads to ankylosis earlier than arthritis deformans. The monoarticular form is rarer than the monoarticular form of arthritis deformans. The general system is much more impaired in polyarthritis villosa than in arthritis deformans. Schüller has examined the urine in numerous cases of arthritis deformans, and has found a diminution in the lime-salts and in earthy phosphates in general. He has demonstrated by histochemic methods the presence of lime in excess in the joint-cartilages. [D.R.]

Deutsche medicinische Wochenschrift.

January 11, 1900. [26. Jahrg., No. 2.]

1. The Value of Tetanus Antitoxin and its Use in Human and Veterinary Medicine. E. BEHRING.
2. The Nourishment of Newly-born Infants. H. CRAMER.
3. The Diagnosis of Imbecility in Early Childhood. MARTIN THIEMICH.
4. The Differential Diagnosis between Deafness and Difficult Hearing. H. ROHE.
5. Some Significant Errors in Radiographic Diagnosis. CARL BECK.

3.—Thiemich in the **diagnosis of imbecility** in early childhood especially notes the senses of pain and taste and the attention paid by the child. The sense of pain is tested by pricking with a pin. Various grades of analgesia may be found. The taste was tested by the use of ¼% saccharin solution, 2% quinin sulfate solution, 2% hydrochloric acid solution, and 5% salt-solution. The reaction of the child when these substances were placed upon the tongue was noted, and conclusions were drawn from the child's general behavior. It is often difficult to draw positive conclusions from the results, however, since when many children are reduced in health, particularly rachitic children, they have marked reduction in the sense of taste, and it is important to consider the results, in the diagnosis of idiocy, only when the bodily condition of the child is good. It is especially noteworthy that imbecile children in early life are usually well developed, while children not idiotic that show loss of

e taste-sense are generally in very bad health. In testing e attention of the child it is important to note the atten-)n it gives to excitation of its various senses, and the length time through which it pays attention to pain and the like. ıe results are to be used in diagnosis only with the greatest ution; though if optic and acoustic irritants give no reac-)n the children are practically always idiots. If there is ıtire lack of attention, with analgesia, and loss of the taste- nse, one may make a diagnosis of idiocy at once. It is ıportant to remember that the time at which the child arns to pay attention to the desire for micturition and fecation varies greatly, and particularly in the uncultivated asses. The child may not become well trained in these atters for three or four years and yet not be imbecile. Like- se children with acute anterior poliomyelitis often have sufficiency of the sphincters during the acute stage without ıy mental changes. Speech is also often learned very late, ıd many children do not learn the first words of speech for ·o or three years, and yet subsequently develop normally. 'tentimes the diagnosis of imbecility is made from the esence of salivation, with flow of saliva over the cheeks, ıd from grating the teeth. These symptoms are sufficient arouse suspicion, but not to make a diagnosis. The diag-)sis must be made with especial care in children who show)or bodily development. Various disturbances may be esent in them without imbecility. It is important first to ıprove their general condition, and then to investigate the ndition of their minds. [D.L.E.]

4.—Rohe has made a number of experiments with Lu- e's "Interferenzotoscope" to determine with more or s positiveness the existence of a **one-sided deafness.** ıe results obtained were not quite in accord with those of ıcae, though in one of the tests Lucae's theory was veri- d. The chief object of the instrument was by utilizing e phenomena of sound-waves being reflected from the umhead, to be able to say whether a person shamming is ally deaf in one ear or not, and for this purpose Rohe says ıe instrument is unreliable and not practicable. [G.B.W.]

5.—Beck reports a case of oblique fracture of the lower ird of the tibia which was not visible in the first **radio- :aph** taken. This was taken from directly in front. A cond trial taken from the side showed the fracture very ainly. [G.B.W.]

January 18, 1900. [26. Jahrg., No. 3.]

A Further Investigation of Arrow Poisons. BRIEGER.
Clinical and Experimental Experience in Intradural Injections. PAUL JACOB.
Osmotic Pressure of Normal Fluids. M. SENATOR.
A Case of Traumatic Tetanus Treated with Tetanus Antitoxin. V. D. CRONE.
A New Clinical Method of Determining Quantitatively the Amount of Mercury in the Urine and the Elimination of this Metal in Soluble Metallic Mercury. FRIEDRICH ESCHBAUM.

1.—Brieger describes his results from the chemical inves- ;ation of the **Wagogo arrow poison.** It is practically entical with the Wakamba poison, and seems to have ıysiologically and chemically the same active principle. is obtained chiefly from the sap of the euphorbia, and in- stigation of the euphorbia sap itself showed that this was)isonous, but detailed examination of the euphorbia sap uld not be undertaken. The method of collection of the)ison was to make numerous slashes into the tree and collect e sap. The wives, children, and slaves of the tribe are not lowed to be present at the time of the preparation. It is)iled for two days, and the concentrated sap is then envel-)ed in the leaves. When the poison is needed in prepar- g the arrows, it is warmed. It then becomes fluid again, ıd is applied to the arrows. [D.L.E.]

2.—Jacob's investigations were undertaken for the purpose determining whether it was possible to inject fluids neath the membranes after removing a certain quantity the cerebrospinal fluid. In the second place it was deter- ined whether one should introduce only the amount of ıid that he had removed or whether other quantities should used; and third, to study the question of the absorption fluid so introduced in order to determine in what way the ntral nervous system could be influenced in this way. He scribes first the apparatus which he has devised for this purpose. The quantity to be used should be ordinarily about 25 cc. and one should take from 15 to 20 minutes for the introduction of this amount in order to avoid unpleasant symptoms. He found that he could follow the course of colored fluids which were injected by means of lumbar puncture and subsequent infusion all the way up to the brain, and the diffusion took place within a short time. He found also that the fluids seemed to remain for a considerable period in the subarachnoid space before they were absorbed. He made experiments with Blumenthal which showed this same point. Animals normally have no **antitoxin in their cerebrospinal fluid,** but when injected with antitoxin beneath the subarachnoid space, the fluid obtained by lumbar puncture showed for a considerable time the presence of antitoxin. Tetanus antitoxin has been introduced by subdural infusion in a number of instances with uncertain results. Jacob has experimented with the use of iodid solution in this way. He found that the solution should not be more than 0.04% in strength, and that one should not give more than 25 cc.; when introduced no severe symptoms resulted. In cases such as cerebrospinal syphilis, he contends that probably this may be a satisfactory method of rapid treatment; some of the cases so treated showed decided and rapid improvement. It is also probable that various forms of meningitis may be satisfactorily treated in this way. In one case after infusion of iodid solution he noticed a glycosuria which lasted for three days after the infusion. Another thing to which he draws particular attention is the fact that Bier has made subdural infusions of cocain, and has subsequently carried out entirely painless operations upon the extremities, even going as far as amputation; and in experimenting upon himself and some of his attendants in this way, Bier found that it is possible to pass pins entirely through the legs without causing any pain. Other operators have also used the same method of anesthesia. [D.L.E.]

3.—Senator has made investigations of the reduction of the freezing point of the blood and of the urine, the amount of chlorids, the chlorid equivalent of the urine (the total molecules excreted) and the total quantity of urine excreted in a series of cases of various kinds. Koranyi has found that the freezing point was reduced by the urine from 1.3 to 2.2. Senator did not find it very constant, and noticed variations between 0.98 and 1.83. He found decided variations in the chlorid equivalent. It varied from 22.6 to 61.5, but the most of the cases showed an average between 35 and 45. The freezing point was decidedly less reduced in urine that was very dilute after drinking large quantities of water. In cardiac diseases Koranyi considers that the **amount of chlorids in the urine** is influenced by the rapidity of the blood-stream, slower circulation causing the urine to become poor in chlorids and rich in achlorids, while the contrary is the case with more rapid blood-stream. This he considers takes place because of the flow from the already secreted urine which is rich in chlorids to the blood which is poor in chlorids. Lindemann, on the contrary, thinks that the reduction in the amount of chlorids is due to the retention of the chlorids in the fluid of the edema. He found the equivalent obtained by dividing the reduction in the freezing point by the amount of chlorids very variable. Senator's investigations did not confirm Lindemann's results since the quotient obtained was smaller as a rule than in health, and did not show marked variations. The reduction of the freezing point was in general slightly increased. In one case of cardiac debility, he found the reduction of the freezing point to be extremely slight. In 4 cases of marked circulatory stagnation, due to the pressure of abdominal tumors and the like, he found the reduction of the freezing point to be within normal limits, while the quotient obtained by dividing the figure for the reduction of the freezing point by the amount of chlorids was much increased, and the chlorid equivalent was much reduced. He was able to determine the freezing point of the blood in only three cases of heart disease, and found in two the extreme lessening of the reduction which Koranyi had noted. Koranyi states that in health the freezing point of the blood is kept at about a definite level, while in nephritis the kidneys are unable to regulate the amount of excretion and to keep the molecular concentration of the blood at a definite level; hence, the concentration of the blood and the reduction of the freezing point vary within much greater limits than normal; it is theoretically to be expected that the blood would be overrich in molecules

while the urine would be abnormally dilute. Lindermann believes that he could distinguish definitely between the parenchymatous forms of nephritis and the primary interstitial nephritis. The reduction of the freezing point should be less in the interstitial than in the parenchymatous form, while the secondary contracted kidney should give a medium figure. Senator was unable to make any definite distinction between the different forms, but he was able to confirm the statements of both previously mentioned authors that the freezing point is but slightly reduced in nephritis. There seemed to be fairly marked distinction between the primary interstitial and the secondary interstitial forms. The first variety gave usually smaller figures for the reduction of the freezing point than did the secondary contracted kidney. His results with the blood were contrary to those of Koranyi, the blood of several nephritics giving, even when there was slight uremia, no marked increase in the figures for the freezing point. There was no regularity in the figures. In outspoken uremia, however, several experimenters have found striking reduction in the freezing point. In diabetes mellitus, Senator found the freezing point within the normal limits, probably because the sugar increased the molecular concentration to about the normal point. The chlorids varied largely. In 2 cases he determined the quotient obtained by dividing the figures of the freezing point by the amount of chlorids; in one case it was very high, in the other normal. The chlorid equivalent was increased. There was, therefore, a molecular polyuria. The freezing point of the blood was always reduced below normal. In a case of diabetes insipidus the freezing point of the blood and urine showed very slight reduction. [D.L.E.]

4.—Crow reports an interesting case of **traumatic tetanus cured by the serum treatment.** The patient was a boy, 8 years of age, who fell and sustained a severe lacerated wound of the scalp. The wound was healing cleanly and rapidly, but on the eleventh day after the accident some stiffness of the jaws with pain in the back was noticed. The disease rapidly progressed and became most severe. The serum could not be obtained until the fourth day and was then given in 4 doses, one each day. No improvement was noticed until after the last dose (the eighth day of disease), but from that time on the child gradually and slowly grew better until perfect health was once more established. Opium and other such drugs had no effect whatever on the spasms and convulsions. [G.B.W.]

5.—Eschbaum carries out his method by adding grape-sugar to the urine, boiling for 15 minutes, precipitating the phosphates during the boiling by adding sodium hydrate solution, pours off the supernatant liquid after allowing the precipitate to settle, and collects the precipitate. He adds 0.1 its volume of official hydrochloric acid, then places in the test-tube containing the mixture a small piece of copper netting, and puts the tube in boiling water, and lets it remain there for about 20 minutes. The test-tube is then allowed to stand in the water-bath with the flame removed for 24 hours at first opened, afterward tightly corked. The water should be kept at about 45° to 60° C. He then pours off the fluid, washes the copper with water, then with a very weak solution of sodium hydrate, and then again with pure water, then with alcohol, afterward with ether, and it is allowed to dry. It is then pressed in a test-tube and the test-tube strongly heated. The **mercury** sublimes, and collects around the walls of the tubes. He then introduces a small silver plate, rolls it about in the test-tube so that it collects all the mercury, which quickly amalgamates with the silver. The silver plate should be weighed before its introduction and weighed again after the mercury has amalgamated with it. The difference in weight gives the amount of the mercury. The silver plate should be heated afterward to free it from the mercury. He gives results, compares them with the **amount of mercury known to be present,** and shows that the method seems to be accurate. [D.L.E.]

Münchener medicinische Wochenschrift.

January 2, 1900. [47. Jahrg., No. 1.]

1. Blindness for Blue with Cirrhotic Kidney. C. GERHARDT.
2. Clinical Investigations of Vaginal Douches During Labor and the Puerperium. KRÖNIG.
3. The Effects of Fluorescence Upon Infusoria. H. V. TAPPEINER.
4. A Peculiar Skin-Eruption Caused by Influenza. RIEGE
5. A New Guaiacol Preparation. ALFRED EINHORN.
6. Diagnosis and Treatment of Ophthalmia Neonatorum V. AMMON.

1.—Gerhardt calls attention to a discovery of König's, viz that of **blue blindness in granular kidney.** A numbe of such cases have come under his own notice. [D.R.]

2.—A study of the temperature-curve in two series puerperal women, one having received **vaginal douche** intra partum, and the other not having received thes douches. The number subjected to the douches was 51 Of these, 235, or 45.6%, presented a temperature above 3 C. (measured in the rectum) during the puerperium. On patient died—a mortality of .19%. Four hundred and sixty five women received no douches. Of these, 177, or 38%, ha a temperature above 38° C. during the puerperium. On died, making a mortality of .21%. Attention was also pai to the length of the puerperium and to the pulse-rate. Th total results showed that the height of the temperature, th height of the pulse, and the length of confinement, were les in the women that did not receive the douches; and Kröni concludes that douches are unnecessary, to say the leas [D.R.]

3.—Raab, a pupil of Tappeiner, has shown that the actio of infusorial poison, such as quinin, phenylchinolin, pheny acridin, and eosin, is closely connected with the property o these substances to produce **fluorescence.** These sub stances are much more active in the presence of light, bu the harmful agent is not the fluorescence itself, but certai processes developed during fluorescence. It is surmised tha this property of light has biologic importance, and it is likel that the influence of fluorescence is not confined to infusoria but extends to the cells of higher organisms. The skin, th retina, the blood and lymph-serum, are fluorescent, and thi may have a distinct significance. It is possible also that th ingestion of fluorescent substances may have some influence It might explain the enigmatic dermatitis that occurs i light-colored sheep and hogs on sunny days, after the inges tion of buckwheat. On the other hand, it might be possibl to utilize, therapeutically, especially in dermatology, the in troduction of fluorescent substances into the body. [D.R.]

4.—On the basis of three cases of a peculiar swelling o the skin, somewhat resembling erysipelas, but apparentl occurring in association with influenza, the author writes lengthy disquisition, full of speculative reasoning, and aim to prove that the eruption was an attempt on the part of th system to discharge the influenza-poison. [D.R.]

5.—Einhorn and Hutz have discovered a **guaiaco preparation,** which, unlike those at present on th market, is soluble and readily absorbed. It is the hydro chlorate of diethyl-glycocol-guaiacol. It is nontoxic, non irritant, is readily absorbed, is anesthetic, antiseptic, an deodorant. It can be given by the mouth, up to 12 gram (180 grains) per day, and can also be administered subcutaneously. It seems to be of value in tuberculosis, promptly arrests tuberculous diarrhea, is useful as a decdorant i ozena, stomatitis, gangrenous carcinoma, etc., and as a antiseptic and mild anesthetic in disinfection of the bladde and in ophthalmology. [D.R.]

6.—The incubation of **ophthalmic gonorrhea** of th newborn is, at the most, three days. Cases that develop afte the third day can, therefore, not be ascribed to infectio acquired during or immediately after birth. Of the author cases, more than one-half showed the gonococcus. In 44 in stances it was not found. In 2 cases only was the so-calle pseudogonococcus discovered. In 15 the pneumococcus wa present. The **pneumococcus conjunctivitis** of the new born is a much less virulent process than the gonorrhea ophthalmia. In 2 instances the staphylococcus was found and in 3 an organism resembling Friedländer's bacillus The diphtheria-bacillus and the Bacillus coli were not found Regarding the treatment, the author emphasizes the im portance of using mild measures. He has made some experi ments on the penetrative power of silver nitrate, in view of th Credé method of prophylaxis. If the latter method is applie early, it is useful; but it is far less sure in cases that hav reached a certain height. The **treatment** recommended i irrigation of the conjunctival sac twice daily with physiologi

olution, and the application of ice compresses, changed three minutes. Antiseptics should not be employed; ise, no specula. At the end of the irrigation, the lid are greased with vaseline. As soon as the swelling of ds has subsided—usually between the third and fifth astringents are indicated. Here protargol is of value. er three weeks a certain amount of irritation still ns, the astringent should be changed. Regarding the ility of corneal ulcers, the prognosis is bad, even under rotargol treatment. [D.R.]

January 9, 1900. [46. Jahrg., No. 2.]

mps in Childhood. J. Lange.
enosarcoma of the Cecum; Intussusception; Resection; Recovery. Krecke.
Saline Infusion with a Description of Apparatus. Häberlin.
nical and Experimental Experience with Orthoform. August Luxenburger.
morrhage from the Endometrium with Sclerosis of the Uterine Arteries. M. Simmonds.
Second Case of Removal of the Entire Upper Extremity for Sarcoma. Th. Kölliker.

-Lange believes that **phosphorus** is one of the best lies **for** the idiopathic **convulsions of childhood.** d a young dog for 6 days on small doses of phosphorus, nen injected it, as well as a control-animal of the same with strychnin nitrate. The dog which had been fed phosphorus developed a slight tetanic attack, from it recovered in 20 minutes; while the other fell into severe spasms, and could be kept alive only by inhalaof ether. [D.R.]

-The patient was 63 years of age and dated her present le a little over 1 year back. Her symptoms began as ks of constipation followed by pain and vomiting, and symptoms of true intestinal obstruction developed. On ination marked peristaltic movements were seen and a large tumor of rather hard consistence was felt in the ac fossa. Just before the operation a partial liquid was passed. Under ether the abdomen was opened and nor of the beginning portions of the colon was found an invagination of the ileocecal segment, into the asng portion of the colon. The diseased portion of the ine was resected and an end-to-end anastomosis done. patient made a good recovery and a year afterwards ill free from any return of the disease. Examination e specimen showed an **intussuception** evidently d by an **adenocarcinoma** situated at the iliocecal on. [G.B.W.]

-Häberlin speaks of the value of **saline infusions** in infections, and has devised a portable apparatus for the infusions. [D.R.]

-Luxenburger has shown that **orthoform,** when l on the colony, will within two days check the growth pyogenic microorganisms growing on agar-tubes. A lution of the drug will do the same thing. But it was nown that orthoform only checked the growth and lessthe virulency, and did not kill the bacteria. For these ns the drug cannot be looked upon as a true antiseptic. f the most valuable qualities of orthoform is its anesproperty. When applied to an irritated granulating e either as an ointment or dusting-powder within 5 es the sensibility markedly subsides and the anesthesia or hours or days. [G.B.W.]

-Simmonds holds that **hemorrhage** in women past the cteric is sometimes due to **sclerosis of the uterine ries.** He mentions the case of a woman, aged 55, from the uterus was removed because of persistent and rous hemorrhages. The endometrium of the enlarged s was intact, but microscopic examination showed the vessels much hardened, hyalin and chalky deposits in muscles and much contraction of the lumen of the ar, a condition known as apoplexia uteri. Reinecke s 4 similar cases. The sclerosis of the vessels is someound in all parts of the body, but is more commonly d to the uterus in elderly women. When the changes bloodvessels have progressed so far as to disturb ciron and cause hemorrhage which will not yield to thera treatment, the removal of the uterus is a justifiable ly. [W.K.]

January 16, 1900. [47. Jahrg., No. 3.]

1. The Measurement of Blood-Pressure by Gärtner's Tonometer. Hugo Weiss.
2. The Pathology of Miliary Tuberculosis. Georg Meyer.
3. The Treatment of Neurasthenia. Otto Dornblüth.
4. The Treatment of Suppuration in the Frontal Sinus. Winckler.
5. Suture of the Heart as a Typical Operation. Emil Rotter.
6. A Case of Penetrating Injury of the Ear with Escape of Cerebrospinal Fluid. Löhnberg.
7. A Case of Scorbutus in the Country. M. Rothschild.
8. Experimental and Clinical Experience with Orthoform. August Luxenburger.
9. Remarks on Hofmeier's Article, "The Treatment of the Puerperal State." S. Meyerson.
10. The Value of Urine Culture-Media in the Diagnosis of Typhoid Fever. Piorkowski.

1.—Gärtner's **tonometer** consists of a pneumatic ring connected with a rubber ball and a manometer. The pressure is measured on the fingers in such a way that the blood is first expressed out of the pulp of the finger, and the return prevented by blowing up the pneumatic ring on the second phalanx; then the pressure is lessened to a point at which the finger tip again becomes red, which occurs suddenly, with a feeling of beating synchronous with the pulse. Measurements in healthy persons showed that men give a higher tonometric number than women, and that large, healthy persons give higher figures than poorly-nourished individuals. The mean in men was 120, and in women 100 mm. In disease, high figures are a valuable indication that grave pathologic conditions, increasing the blood pressure, are present, as for example, arteriosclerosis. The tonometer is often of value when the palpating finger fails to determine the exact character of the pressure. [D.R.]

3.—Dornblüth recommends rest in bed, careful diet, hydrotherapy, and general faradization, in the **treatment of neurasthenia.** In the grave depressive forms, he uses codein systematically. [D.R.]

4.—Winckler calls attention to the great **variability in the anatomy of the frontal sinus** and of the cells of the ethmoid bone. He says that this variableness is important to the surgeon because it greatly modifies the indications for the various operations. For instance, if in opening the frontal sinus, a large number of cells are found and a septum dividing the frontal sinus into two or more portions, then it is necessary to thoroughly break down all partitions in order to get proper drainage. The choice between doing an external or an internal operation depends upon the configuration of the face. A broad nose with free passages will render internal operation easier. [G.B.W.]

5.—Rotter says that an operation for **suture of the heart** should (1) give sufficient space to allow of examination of the whole organ; (2) be quickly done; (3) accommodate itself to therapeutic indications; (4) be capable of being done with few assistants. Such an operation, he says, is as follows: An incision beginning 1.5 cm. from the left edge of the sternum at the lower edge of the third rib is carried laterally 10 cm., a like incision is carried for 8 cm. along the lower edge of the fifth rib and the two lateral ends are united by a third incision. An osteoplastic flap is laid back toward the center of the body. This incision, though it opens up the left pleural cavity, gives sufficient room to examine the heart thoroughly and to suture any wounds which may be found. [G.B.W.]

6.—A boy, 19 years of age, was **stabbed in the ear** and fell fainting to the ground. After recovering consciousness, he walked towards the right, falling repeatedly. Examination by his mother showed "bloody water" oozing from the ear. Under careful examination of the left ear, a moderate amount of watery liquid was found in the meatus. The tympanum was cloudy and injected, and in the upper posterior quadrant a perforation about the size of the head of a needle was seen. The ear was dried and dressed aseptically. Twenty-six days later the perforation was closed and the patient was discharged. [G.B.W.]

7.—A sporadic case of **scurvy** in a woman of 25, without ascertainable cause. The disease ended fatally. [D.R.]

8.—Luxenburger has used **orthoform** in ointment, in powder, or on gauze after operations, to avert the after-pains.

The drug has also proved useful as an injection in painful bladder troubles. The injections contained from one to two grams of orthoform, and were used nightly. They were of value in all conditions, except gonorrheal cystitis. The development of eczema under the use of orthoform is due to an idiosyncrasy; perhaps, also, to an excessive use and to peculiarities of the place of application. Orthoform necrosis may occur in cases in which there is an idiosyncrasy and poor nutrition of the tissues. [D.R.]

Centralblatt für Chirurgie.

January 6, 1900. [27. Jahrg., No. 1.]

1. Amputation of the Penis. H. LUCAS.

1.—Lucas recommends the following method of **amputation of the penis** as not likely to be followed by stricture. After transverse incision through the skin and corpora cavernosa the urethra is dissected until 3 or 4 cm. protrude beyond the transverse incision; it is then stitched carefully to the tunica albuginea of the corpora cavernosa, and to complete the operation the skin is sutured, mostly to the lateral surface of the urethra. A catheter is then tied into the bladder till healing is complete. By stitching the urethra to the tunica albuginea instead of to the skin as is usual, the elasticity of the albuginea draws the mucous membrane outward, preventing cicatricial contraction. He reports 3 cases operated upon by this method with excellent results. [M.B.T.]

January 13, 1900. [27. Jahrg., No. 2]

1. A New Method of Treating Diffuse Peritonitis by Irrigation and Drainage. FRIEDRICH BODE.
2. The Radical Treatment of Umbilical Hernia. E. PECCOLI.

1.—In case of **diffuse suppurative peritonitis** Bode opens the abdomen in the median line, flushes with salt-solution and then sponges each intestinal coil with compresses saturated with salt-solution; he then irrigates with a large amount of hot salt-solution. The patient's condition usually improves under this treatment. After the abdomen is thoroughly cleansed a slit is made at the root of the mesentery and a drainage tube is drawn through in a bow form, both ends protruding from the wound. Besides this median opening, lateral openings are made and tubes are inserted in the region between the stomach and liver; in the region of the spleen, and another tube is inserted in the small pelvis. The abdomen is left filled with salt-solution and irrigation is carried out with salt-solution through the main tube 2 or 3 times daily. After 2 or 3 days the main tube may be withdrawn. Treatment in this manner has given very good results, the patients usually recovering within 3 weeks. [M B T.]

2.—In the **radical cure of umbilical hernia,** a median incision 10 or 12 cm. long is recommended; the hernial sac is isolated, cut off, and closed with continuous sutures. The peritoneum is freed from the abdominal wall with the finger and under guidance of the finger the oval opening at the neck of the sac is converted into an elliptical opening; this is closed by sutures passing entirely through the muscles and the aponeurosis; the sutures are inserted in the same manner as Halsted's mattress sutures. [M.B.T.]

January 20, 1900. [27. Jahrg., No. 3.]

1. The Control of Steam Sterilizing Apparatus. MAX SCHÜLLER.

1.—Schüller describes the thermometers which he has used in measuring the temperature in his steam sterilizing apparatus and which he finds very satisfactory. [M B T.]

January 27, 1900. [27. Jahrg., No. 4.]

1. A Prophylactic Measure in Chloroform Narcosis. LEOPOLD FEILSCHENFELD.

1.—As a **prophylactic** measure **before chloroform-anesthesia** in case of weak heart, or if there is irregular action of the heart because of the excitement incident to the operation, Feilschenfeld recommends the use of small doses of strophanthus. Five or 6 drops of the tincture are administered in the morning before the operation, and the re have been very favorable. [M B.T.]

February 10, 1900. [27. Jahrg., No. 6.]

1. An Open Letter to Dr. Vulpius in Heidelberg. W. Sc THESS.
2. A Reply to Dr. Schulthess. O. VULPIUS.

1.—Schulthess criticises Vulpius' article on the actio the orthopedic corset unfavorably. [M B.T.]

2.—This letter is a reply to the above criticism. [M.

February 17, 1900. [27. Jahrg., No. 7.]

1. The Use of Gold Wire in Radical Operations for He DE FRANCISCO.

1.—Francisco reports 10 cases in which Professor Tan of Palermo, has used **gold wire** in place of silk in **sutu** the wounds in operation for hernia. Gold was chosen cause of its flexibility and the slight danger of its produ disturbance in the wound. The cost of it is not very g for all unused pieces may be saved and melted over a The results in the cases in which it was used were very s factory. [M.B.T.]

March 3, 1900. [27. Jahrg. No. 9.]

1. Streckmetal; a New Material for Splints. C. HÜBSCHE

1.—Hübscher recommends the use of fenestrated m which is often employed by builders in combination cement, for use as a splint material. This material is inexpensive and can be readily adapted to the part. comparatively light and cool. [M.B.T.]

March 10, 1900. [27. Jahrg., No. 10.]

1. The Use of Buried Silver Netting in Closing Abdom Wounds. O. WITZEL.

1.—Witzel recommends the use of **buried silver n ting** in closing **abdominal wounds** and in comple operations for hernia according to Macewen's, Kocher's Bassini's method. The size of the network which is to buried should be at least 3 times as great in its diamete the hernial opening which is exposed. The farther the si sutures are carried into the tissues the more certain will solid, perfect healing. [M.B.T.]

Centralblatt für innere Medicin.

February 17, 1900. [21. Jahrg., No. 6.]

1. Investigations Concerning the Carbohydrates. G. Ros FELD.

1.—The investigations concerning certain carbohydra and their derivatives which have hitherto been little studi They were carried out on dogs. First, the effects of d trose, gelactose, and mannose were determined. It found that of these gelactose appeared most readily in urine, mannose almost as readily, and dextrose much readily. Of the gelactose, from 50 to 70% was found in urine, of dextrose, only 40%, after doses of 15 to 40 gra Rosenfeld then investigated the effects of the correspo ing alcohols: dulcite, mannite, and sorbite. They pear in the urine with a readiness entirely similar to manner in which gelactose, mannose, and dextrose w seen. Concerning the forms of diabetes, Rosenfeld adhe to the old plan of dividing them into mild and severe for but he makes another distinction which he considers of portance. If two cases belong to the mild form, and b can, for example, take 100 grams of sugar without glycosu it will often be found that if larger quantities are given one of these patients he will excrete practically the wh amount over 100 grams, while in the second case a consi able portion of the increased amount will be assimilat for instance, if they be given 300 grams, the first would crete 200 grams in the urine, the second only 20 grams. second case, therefore, would be a much lighter and m favorable one than the first. Similar conditions are tru the severe cases. Two such patients would, with carbo

s excluded, excrete, for example, 20 grams of sugar. If were both given 200 grams of carbohydrates one would te perhaps 180 grams of this as sugar, the other only rams. Of these severe cases the second would be the satisfactory. Rosenfeld investigated the assimilation of ite in cases of diabetes and found that its effects were me as those of dextrose, and that the limit of toler- for mannite was about the same as that for dextrose. tigations of gelactose and pentacetylgelactose on dogs ed that gelactose had somewhat greater tendency to ar in the urine than the pentacetyl preparation, but ugh the latter did not appear so readily in the urine it ot seem to lead to the accumulation of glycogen in the It is therefore probable that the pentacetylgelactose not broken up entirely into acetic acid and gelactose, nderwent some other form of reduction. [D.L.E.]

March 17, 1900. [21. Jahrg., No 11.]

ice Again Concerning Kakke in Sucklings. Z. Hirota.

—Hirota reports a number of cases to show that distinct toms of kakke occur in sucklings whose mothers have isease and also insists that in many cases kakke may served in sucklings when the symptoms have never present in the mothers, and that it will be observed that distinct signs of kakke appear in the mother. In cases the only sign of any abnormality in the mother considerable period before the outbreak of the disease be a marked indican reaction in the urine. [D.L.E.]

Deutsche Zeitschrift für Chirurgie.

December, 1899. [Band 54, Heft 1 and 2.]

Epulis and its Giant Cells. Carl Ritter.
New Method for the Temporary Resection of the Malar Bone. Ernest Becker.
Necrosis of the Pancreas. A. Gessner.
Chronic Mastitis and the So-called Cystoadenomas. Roloff.
Paget's Disease. Oscar Ehrhardt.
Meckel's Diverticulum and Ileus. Meinhard Schmidt.
The Relation of Trauma, Separation of the Epiphysis and Coxa Vara. L. Kradel.
The Lesions of the Ulnar Nerve in Cases of Injury of the Elbow-joint. Erwin Payr.
Cystocele of the Linea Alba. M. Gerulanos.
Statistics of Abdominal Injury from Blunt Instruments. F. Roestel.
Ossification of the Brachialis Anticus as a Complication of Posterior Luxation of the Elbow-Joint. Wl. Mysch.
The Catgut Question—A Reply to Minervini. E. Saul.
The Catgut Question—A Reply to Saul. R. Minervini.
The Greifswalder Surgical Clinic from 1885–1899. Helferich.

—The name **epulis** at the present time refers to sarc- a of the alveolar process of either the lower or upper though formerly it was used to designate any growth of alveolar process. Almost always it is a giant-cell sarco- though it may be of either a hard or soft consistency. careful microscopic examination of some seven cases onstrated that the giant cells are not independently de- ped cells, as has been generally believed, but are protru- s or buddings from the bloodvessels, whose endothelium rectly connected with the protoplasm of the giant cells, the capillaries from which the giant cells sprang were always empty, but frequently filled with blood. The nd constituent of the epulis, viz., the spindle-cell sarco- ous tissue, is very frequently seen to be connected with giant cells and at other times with the capillaries, so that spindle cells also without doubt develop from the blood- els; indeed it is probable that these cells are in reality apsed capillaries lying closely against one another. The dspaces found in epulis are not hemorrhages from the uent traumatism to which the growth is submitted, but in reality venous sinuses, into which the arterial system ls capillary sprouts. [G.B.W.]

.—Becker describes a **new method of resecting the lar bone,** which may briefly be described as follows: An incision about 1 cm. in length is made over the middle of the zygomatic arch, the pericsteum is raised and the bone divided with a pair of bone forceps. Another incision beginning on the linea temporalis about 1 cm. above the zygomaticofrontal suture, arches forward to the supraorbital edge and runs along this to above the external canthus. The upper lid is then divided a few mm. external to the punctum lacrymale, and the gaping of the wound shows the zygomatico-maxillary suture. The incision is then carried downwards from this suture, cutting through the conjunctiva directly on the bone. With an elevator the periosteum is raised from the lateral and lower wall of the orbit and the eye-ball is gently displaced inward. The bone is then sawed through in the region of the zygomatico-maxillary suture below, while above the section is made in the line of the skin incision. With a periosteal elevator the loosened piece of bone is easily displaced as a part of the osteoplastic flap. This operation affords ample room for approach to both the orbit and the sphenomaxillary fossa from which foreign bodies or tumors may be readily removed. [G.B.W.]

3.—Gessner's paper on **necrosis of the pancreas** is the result of a number of personal observations and a careful review of the literature on the subject. The symptoms of pancreatic apoplexy, with its frequent termination in necrosis, do not correspond to those of a pure hemorrhage of a known cause and this disparity makes us look for another contemporary condition which may account for the difference. The durability of the pancreas against traumatism, as shown by accidental and experimental injury, and the ease with which hemorrhage can be produced by toxic or chemical irritation, would strongly suggest that where hemorrhage and inflammation are coexistant, the inflammation is the cause of the bleeding. However, for the clinician this division into two or more pathologic groups is necessary, as the symptoms are practically the same in all of them, Necrosis of the pancreas is often accompanied by disease of the gall-bladder; of 23 such cases, once there were inflammatory adhesions, twice suppurative cholecystitis, and in the remainder there was a gallstone. In these cases the pancreatic disease is in all probability secondary to that of the gall-passages. Other important etiologic factors are trauma and high living. Various connective-tissue changes may occur as the result of this disease, chief among which is fat necrosis, taking place 65 times out of 95 cases. The amount of fat necrosis, however, holds no relation to the amount of pancreatic disease. The beginning of an attack of pancreatitis is characterized by a lightning-like onset of symptoms accompanied with severe shock. The more important and constant symptoms are bilious vomiting with severe pain in the epigastrium, transient icterus, and slight meteorism with more or less constipation. As to the surgical treatment, no operation should be undertaken during the acute attack, as laparotomy at this time is almost sure death. If one waits until necrosis is complete and a parapancreatic abscess has formed, operation is attended with a little more success, but even here 13 cases died, 6 were cured, and 3 were evidently not influenced by the operation. The abscess may be opened either by laparotomy and then through the hepato-gastric ligament, gastrocolic ligament or transverse meso-colon, or by a retroperitoneal route from the lumbar region. [G B.W.]

4.—Roloff reports a number of cases of **chronic mastitis,** some of cystic adenoma of the breast, and a few of carcinoma; and from a study of these he deducts that Schimmelbusch's statement, that cystadenoma mammae is a neoplasm, is not correct. He goes on to say that the changes which occur in the breast are diffuse in nature and not localized in any one spot, as would be the case if the adenoma was of neoplastic origin. He believes that the condition should be regarded as the result of chronic inflammation. The adenoma is often very hard to differentiate clinically from carcinoma, and as Oberst suggests all chronic diseases of the mammary gland with enlargement of the lymphatics of the axilla require operative intervention. [G B.W.]

5.—Ehrhardt reports a case of **Paget's disease,** occurring in a woman 60 years of age. The condition had lasted for two years, and on examination an excoriation was seen on the middle of the right breast about the size of the palm of the hand, flecked with some dry crustations and associated with disappearance of the nipple. A hard tumor about the size of a hen's egg was found deep in the tissue of the mamma

with enlargement of the lymph-glands in the axilla. The diagnosis of Paget's disease was made, the breast amputated and the axilla cleaned out. Four months later the patient returned with a metastatic carcinomatous pleuritis. Examination of the amputated breast showed macroscopically that only in the region where the nipple had been did the skin affection hold any connection with the breast-tumor. In the cutis, between the fibrous tissue and the epidermis, there appeared a layer of granulation tissue which developed downwards into a thick plasmoma. In some portions of the border line, between the changed epidermis and the granulation tissue, the line of demarcation between the two tissues was not sharply defined. In some of the older portions of the disease carcinoma had developed, and was without doubt directly connected with the epidermis. It is from this carcinoma of the epidermis that the glands of the axilla were affected, as the cells of the one resembled very much those of the other. [G B.W.]

6.—Schmidt reports a case of a **Meckel's diverticulum** occurring in a girl, 15 years old. She had been sick four weeks before being operated on and was extremely emaciated and in poor condition. She died the night following. The condition found was a diverticulum of the intestine ending at the umbilicus. The intestinal end took its origin from the ileum close to its insertion in the cecum. Schmidt reports in detail two other previously published cases, and from a study of the three generalizes as follows: The presence of a Meckel's diverticulum, whether it be a true diverticulum or the remains of a vitelline duct, gives rise to practically no symptoms in the earlier years of life. But later on, perhaps as early as the second or third decennium, symptoms of acute intestinal strangulation and perityphlitic pain with more or less complete constipation, and intermittent vomiting appear. The cause of these symptoms is easily traceable to the development of adhesions between the lower coils of the ileum, the cecum and the vermiform appendix, which adhesions give rise to twisting and bending of the intestinal loops. The final condition is a high-grade chronic stenosis of the intestine with dilation of the gut above and collapse below the constriction. When operation is undertaken there is most apt to be a tearing of the intsstine because of the many adhesions, and for this reason it is generally best to simply establish an artificial anus. [G.B.W.]

7.—Kradel reports a case resembling closely **coxa vara,** but falling more properly under the head of coxa adducta (Kocher). The patient was a child, 4½ years old, who for the last half year had been limping. The left leg was shortened 2 cm. and the left trochanter projected 2 cm. more than normal above Roser-Nelaton's line. All movements of the joint were normal except abduction, which was markedly limited. There was no history of injury, but with the use of x-rays a line of separation was seen running through the upper part of the epiphyseal line, from thence obliquely through the diaphysis, stopping at the great trochanter; so that the loosened fragment was still hanging to the diaphysis by an unbroken portion of bone. The fragment formed an angle of about 45° with the shaft of the femur and the femoral head was turned upwards and outwards for some 50° or 60°. [G.B.W.]

8.—Payr reports two cases of **injury to the elbow-joint complicated by involvement of the ulnar nerve.** In the first case there was incomplete outward luxation of both bones of the forearm with fracture of the internal condyle or epitrochlea. In the second there was fracture at the lower ephiphysis of the humerus causing a wounding of the ulnar nerve with subsequent cicatricial compression resulting. The first case happened in a man 19 years old. Besides the signs of the luxation there was disturbance of sensation in the line of the ulnar nerve distribution and wasting of the muscles supplied by the same nerve. The luxation was reduced by an operation, when it was seen that the ulnar nerve was displaced forwards and a little bit outwards; it was replaced to its normal position behind the joint. The sensation was restored to normal and the motion of the arm greatly benefited. The second case like the first was seen some time after the injury so that operation was necessary to restore function. The ulnar nerve was found imbedded in the callous mass from which it was dissected free. The bony parts were restored to their normal position and the wound closed. The nerve regained its function only gradually, but the patient finally had a useful arm. [G.B.W.]

9.—Gerulanos reports a case of **cystocele of the l alba** in a woman 52 years of age. She first noticed a ing in this region 9 years ago, just after her last confine The hernia had, however, given her little trouble, unt middle of April, 1898, when, during her work, the cys became suddenly larger, as big as a man's fist, and since she has had several similar attacks. These attacks we companied with pain and inability to pass her urine the bladder had been pushed back into the abdomen the operation a diverticulum of the bladder was found jecting through from between the recti muscles and nected to the bladder by a very narrow pedicle. diverticulum was removed, the wound thus made i bladder sutured and the cutaneous incision closed exce a thin iodoform gauze drain. The wound healed slowly there was no return of the hernia. Examination c specimen revealed the presence of a small cyst in the of the diverticulum, evidently the remains of an old h rhage. [G.B.W.]

10.—The patient, a man, had suffered a severe co **sion of the abdomen.** He was so greatly shocked an operation could not be undertaken and conserv treatment was instituted. The subequent train of symp showed that perforation of the intestines had resulted the severe contusions of the gut, but adhesions ha formed as to localize the abscesses. These were opene the patient recovered, though for some time was not ca of work. [G.B.W.]

11.—In this case, 21 days after the reduction of a pos luxation of the elbow-joint, a hard swelling appeare above the elbow-joint, a little to the outer side. This rapidly enlarged, growing in the direction of the **brac lis anticus muscle.** An operation was performed an **ossified** portion of this muscle removed. [G.B.W.]

Revue de Médecine.

February 10, 1900. [22me Année, No. 2.]

1. Statistical Researches Concerning the Etiology of Ge Paralysis. P. SERIEUX and F. FARNARIER.
2. Contribution to the Study of Rubeoliform and Scarla form Eruptions in Typhoid Fever. P. REMLINGE
3. A Study of the Alterations and of the Role of the phatic Glands in Epithelial Cancer. L. BERNARD

1.—**Syphilis,** of course, excites the greatest intere studying the **etiology of general paralysis.** eight observations are reported in this paper. Of thes however could not be studied sufficiently carefully, and excluded from the list. The remaining 42 are divided 4 classes; those in which there was a certain histo syphilis, those in which there was a probable history, t in which the history was probably negative, and tho which it was surely negative. Of the first class there we cases; of the second, 12; of the third, 6; and of the fo only 3 cases. Of the whole number of cases observed were men and 12 women, and of the 42 cases studied c fully, 34 were men and 8 women. The authors decide about 78% of general paralytics show either a certai probable history of syphilis, and in nearly 31% one can no etiologic factor except syphilis. The time that elapse tween the syphilitic infection and the appearance of the eral paralysis was about 14 or 15 years. Of the cases 33% had a neuropathic heredity. Alcoholism was presen 19%, and one-sixth of the cases had a history of tendenc arthritic diseases; another 6 had a history of previous typ fever. In 9.5% there had been traumatism of the s General paralysis cannot rightfully be considered to b exclusively parasyphilitic or parainfectious disease; it better called paratoxic. [D.L.E.]

2.—Remlinger has observed in the Belvedère Hospita cases of **rubeoliform erythemata,** 1 of **scarlatinifo** and 4 of mixed character in 2 years. He gives a deta description of the cases and then an extremely interes discussion of these eruptions. They are much more quent in children, as the skin seems to be more sensit and most of those observed by any writers occurre

ients under 25. They are frequent in military hospitals. uptions have been observed in all forms of typhoid fever, m the most benign to the most grave. They usually pear between the twelfth and the twenty-first day, but ve been observed as early as the sixth day. Of the 49 ies collected by Remlinger rubeoliform eruptions occurred times, the scarlatiniform only 4 times, and 14 times the uption was a mixed rubeoliform and scarlatiniform. It ually occurs on the trunk, and next in frequency it affects limbs, and then the face. There are sometimes separate tches of eruption, and sometimes they coalesce. The ration of the eruption is usually brief, commonly between nd 4 days. They disappear as a rule without desquama- n, but at times they desquamate markedly. Desquama- n occurred in all the 4 cases of scarlatiniform eruptions, d in 4 of the 14 mixed cases. A peculiarity of the rubeo- rm eruption is that as it fades the spots take on a copper- ored hue resembling the eruption of syphilis. There are ually no subjective sensations connected with the eruption. e temperature varies, many having observed no change ncident with the eruption, but at times the temperature s been seen to go up rapidly, at other times it fell. ere are usually no other symptoms connected with the uption excepting that in large numbers of observations ere has been an albuminuria, and in isolated cases other mplications have been seen. There is an unquestionable idency to epidemicity, and the eruptions are undoubtedly ntagious, as it has been repeatedly observed that patients cupying the bed in which a case with eruption had pre- ously lain themselves showed eruption. There are numer- s interesting observations detailed in which eruptions ran definitely epidemic course throughout the ward. This idency to epidemicity makes it difficult to say how often ch eruptions occur in typhoid fever. There have been characteristic pathologic changes or bacteriologic finds association with eruption. The question of prognosis is a y variable one. Scarlatiniform eruption has always been ociated with dangerous forms of the disease, and the rtality in connection with all the eruptions has been high. other words, they seem to be connected with a severe m of the disease. The prognosis is by no means always favorable, as they may occur with mild grades of the dis- e. The scarlatiniform is most grave. The rubeoliform urs in two varieties: one during the course of the fever, en it usually indicates a serious prognosis, and another m which usually occurs during the defervescence, which, ile not absolutely favorable in prognosis is usually asso- ted with a mild course. The eruption is autonomous. ere are three theories to explain its occurrence, the dis- arge of bacteria by the skin, a secondary infection, and the ion of a toxin produced within the body in the course of hoid fever. [D L.E.]

3.—In examining 36 **cancers of different organs,** e authors found that in 17 instances the glands were in- lved, and 19 times they were uninvolved. They insist t the frequency of involvement of the glands and the pre- city of this involvement have been exaggerated. They ide the forms of glandular involvement into direct aden- athies in which the glands very near the primary growth involved, and adenopathies at a distance, which term plains itself. There is no clinical peculiarity of cancerous enopathies. The authors have investigated the value of largement of the glands about the clavicle in abdominal ncer, particularly cancer of the stomach as a diagnostic int, and state emphatically that this sign, which is usually ntioned as of value in diagnosis, is almost always absent. ey observed 6 cases, and in one instance found cancerous largement of the supraclavicular glands. This was a case cancer of the stomach which had become generalized roughout the glandular system. In 2 instances the glands re enlarged, but were tuberculous. They also insist that in ny instances enlargement of these glands is likely to lead errors in diagnosis if cancer of the stomach is suspected, such enlargement is often due to tuberculosis, syphilis, infection from the gastrointestinal tract, the lung, or the outh cavity, and the nature of the enlargement cannot be termined clinically. They also insist that cancerous en- gement of the inguinal glands is rare in abdominal cancer. nongst 10 cases they have seen this but once, and then ere was only one small cancerous nodule on one side. [It ems unquestionable that this view is correct. The teaching that the inguinal and clavicular glands are likely to be enlarged in abdominal cancer would, in the reviewer's experience, seem to be due to the repeated acceptance of statements made by some of the older authors. Slight inguinal enlargement is very common in cancer, but is probably not cancerous in most instances, as the inguinal glands are often enlarged in the absence of carcinoma. D.L.E.]

Revue de Chirurgie.

December 10, 1899. [19me Année, No. 12.]

1. Abdominal Hysterectomy. F. TERRIER.
2. Intralaryngeal Cysts. E. LOUYS.
3. Experimental Research in the Infection and Disinfection of Gunshot Wounds. E. TAVEL.
4. A Case of Lymphangioma of the Inguinal and Scrotal Regions, and Intraabdominal Filariasis. BRANT PAES LEME.

1.—Terrier gives the results of his experience with **abdominal hysterectomy** from 1896 to 1899. During this time he performed 134 operations with 16 deaths, a mortality-rate of 11.94%. In 99 cases supravaginal hysterectomy was performed with 8 deaths, mortality, 8.08%; while with 35 total hysterectomies there were also 8 deaths, mortality, 22.85%; 77 of the operations were undertaken for fibroma and some of these operations were complicated by pyosalpinx, cysts of the ovaries, and septicemia; in 15 cases the operation was performed for epithelioma. The later results are not very encouraging, 2 patients have died from recurrence; in 5 others there is full recurrence and in 2 other cases there is a suspicious appearance of the scar. In 3 other cases no definite reports have been obtained. In other cases the operation was performed for persistent metrorrhagia, for sarcoma, adherent retroversion, etc. The chief causes of death were bronchopneumonia, peritonitis, and secondary hemorrhage. Brief reports are given of 58 cases. [M B.T.]

2.—Out of 693 polypoid **new growths of the larynx** which have been reported 45 were cysts or about 6%. The epiglottis is most frequently affected, then come the vocal cords, the ventricle, the arytenoid cartilage, etc. The etiology of most of these cases is obscure, many of them are probably congenital; some take their origin from the elements of the mucous membrane of the larynx, some are lymphatic cysts due to an accumulation in the lymphatic vessels. A case is reported occurring in a young woman of 19, who had been troubled with hoarseness for a year, aphonia for 4 months, with pain and difficult swallowing. The growth was easily located on laryngoscopic examination. A transverse incision was made in the jugular fossa and low tracheotomy was performed. The anesthesia was then carried on through the tracheotomy-tube and a transverse incision at the upper border of the thyroid cartilage was joined by a second vertical incision. The thyroid cartilage was opened in the median line and the growth was removed by the galvanocautery snare. This opened a cavity from which a brownish thick fluid escaped. In the pedicle of the growth was an opening which extended in the direction of the greater cornu of the hyoid bone; it was dissected out carefully with the scissors and bistoury and was found adherent to the bone. The wound was packed with iodoform gauze and partially sutured. The patient recovered without any bad effects from the operation. The cyst in this case is believed to have been of embryonic origin, a remnant of the thyrolingual duct. In the wall of the cyst was found an island of cartilage. In classifying congenital cysts 3 forms are mentioned: those originating from the thyrolingual duct; those arising from outpocketings of the lateral thyroid lobe; and those having their origin in the branchial system. The symptoms of such cysts are those of a foreign body in the larynx; dyspnea, dysphonia associated with symptoms of inflammation of the laryngeal mucosa; pain and cough. The diagnosis is not always easily made, but may be easy if the ovoid or spherical form of the growth can be seen on laryngoscopic examination. In the treatment of these cases intralaryngeal operation is advised in case of unilocular cysts or those of small size. In case of large cysts laryngotomy is the only rational intervention. To prevent blood from entering the larynx during the opera-

tion the patient may be placed with the head lowered so that the blood tends to flow into the mouth. Another means of accomplishing this end is to perform preliminary tracheotomy and insert a tampon canula, but in simple cysts this procedure is unnecessary. Local anesthesia is preferable in many cases, provided the patient will bear a little pain, as general anesthesia tends to produce hypersecretion from the tracheal and bronchial mucous membrane. [M.B.T.]

3.—An elaborate series of experiments is reported which is in the main confirmatory of previous investigations with regard to **gunshot-wound infections.** Tavel finds that neither the heating of the bullet nor the mechanical friction with the velocity of 600 meters is capable of attenuating the virulence of microbes or of diminishing infection from gunshot wounds. Almost all gunshot wounds are contaminated, unless the bullets have been previously artificially sterilized. The traumatism of such wounds lessens the resistance of the tissue to infection in a very considerable degree, much more than simple incisions with cutting instruments, and there is a special predisposition for infection with tetanus. Contrary to the statements of Fränkel and of Pfuhl, Tavel finds that the garments of soldiers usually contain pathogenic germs which enter the wounds with the ball and cause infection. The entrance of foreign bodies in a wound has no great importance of itself, but the microbes which they carry and the traumatism of the wound is the cause of danger. Experiments in sterilizing wounds by the use of carbolic acid, tincture of iodin, and the nse of the thermocautery and also experiments with drainage, lead Tavel to conclude that in the treatment of contaminated gunshot-wounds the less one does the better will be the results. Disinfection by the employment of any chemical or mechanical means is impracticable and the additional injury inflicted on the tissue is a disadvantage. In this connection, of course, only simple gunshot-wounds are taken into consideration; wounds complicated by injuries of bones or internal organs have other special indications as to treatment, but for simple wounds the simple antiseptic occlusive dressings give the best results. [M.B.T.]

Sundry French Journals.

1. The Tuberculides. LEREDDE. (*Sem. Med.*, January 3, 1900. 26me Année, No. 1.)
2. Artificial Serum as a Means of Early Diagnosis of Pulmonary Tuberculosis. COMBEMALE and MOUTON. (*Gaz. Heb. de Méd. et de Chirur.*, January 25, 1900. 47me Année, No. 7.)
3. Contribution to the Study of Intestinal Hemorrhages in the Course of Uremia. FÉDOW. (*Gaz. Heb. de Méd. et de Chirur.*, January 28, 1900. 47me Année, No. 8.) (Toulouse Thesis, 1898-'99, No. 345)
4. Contribution to the Clinical Study of the Fracture of the Kidney by the Aid of Phloridzin. CLOUPET. (*Gaz. Heb. Méd. et de Chirur.*, January 28, 1900. 47me Année, No. 8) (Toulouse Thesis, 1898-99, No. 344.)
5. A Contribution to the Study of the Fluids of Edema; Pathogenesis, Chemic Composition, Toxicity. DUPIN DE LAFFORCADE. (*Gaz. Heb. de Méd. et de Chirur.*, January 28, 1900. 47me Année, No. 8.) (Toulouse Thesis, 1898-99, No. 343.)
6. Malignant Endocarditis in Acute Articular Rheumatism. ERNEST BARIÉ. (*Sem. Méd.*, January 31, 1900. 20me Année, No. 5.)

1.—Leredde thinks that the domain of **tuberculous skin lesions** should be enlarged so as to include, beside tuberculous lupus in its different forms, lupus erythematosus and the intermediate lesions. He thinks that many lesions affecting the vessels of the skin are examples of toxi-tuberculous angiodermatitis. He believes that the so-called scrofulides are manifestations either of tuberculosis or of syphilis, and thinks that the term scrofulide should no longer be used. [J.M.S.]

2.—Combemale and Mouton have discarded the use of tuberculin as a means of the **early diagnosis of pulmonary tuberculosis.** In place of this substance the authors employ saline solution (sodium chlorid, 7; sodium phosphate, 1; sterile distilled water, 1000). They inject 20 cc. of this solution into the flank and then observe the axillary temperature every hour. If the patient is tuberculous the temperature will rise. The reaction thus obtained is no irrefutable proof, but it is a very strong piece of presumptive evidence. Where the reaction with the tuberculin is also obtained the diagnosis is almost certain. [J.M.S.]

3.—**Uremic intoxication** produces not only dyspnei and cerebral symptoms but also gastrointestinal symptoms. Among the latter, **intestinal hemorrhages,** although rare have been observed. Fédow believes that these intestina hemorrhages, like those seen in other toxemic conditions may be due to excessive hyperemia or to ulceration of th mucous membrane of the bowel. The complication is c grave import. [J.M.S.]

4.—According to Cloupet **phloridzin produces glycosuria** whether it is administered by the mouth or hypoderm ically. The function of the kidney has considerable influenc over the amount of sugar eliminated and over the duratio of the glycosuria. The glucose is not only filtered throug the glomeruli, but is also elaborated by the tubular an glomerular epithelium of the kidney. **Phloridzin may** therefore, **be used in order to test the function o the kidney.** In cases of chronic nephritis, hypoglycosuri is always produced, and sometimes there is anaglycosuria often the elimination of glucose is prolonged. In cases o acute nephritis and, generally speaking, in cases of pyrexi that involve the kidney, hyperglycosuria is the rule. Control tests of toxicity of the urine will confirm the results obtaine by the use of phloridzin. [J.M.S.]

5.—According to Dupin the **fluid of edema** is always al kaline; and of a specific gravity that varies between 1.002 an 1.013. It is much richer in water than the blood or th lymph; it has less albumin than the blood or the lymph and there is no fibrin present. The serous fluid that is ex uded in cases of Bright's disease appears to be devoid of al toxic power. When injected into an animal by the intravenous way it produces death only after very large doses 250 cc. or 300 cc. per kilogram of bodyweight. This toxicity is much inferior to that of the urine, to that of the blood serum, and even to that of boiled and filtered water. The fluid of edema does not produce convulsions; but, on the other hand, the symptoms that do supervene are similar t those seen after the intravenous injections of artificial serum The toxicity of saline solution (sodium chlorid, 4; water 1000) is almost identical to that of the fluid of edema. The harmlessness of the edematous fluid obtained in a case o grave intoxication of the organism (uremia) seems t prove that the urinary poisons that the kidneys fail to dis seminate, should not be sought for in the fluid in question [J.M.S.]

6.—Barić reports two cases of **malignant endocarditis** that developed in the course of **acute articular rheumatism.** The acute endocarditis, which is such a frequen complication of acute polyarticular rheumatism, usually presents itself in a simple and benign form; but under certain conditions, the disease may be of extreme gravity. In some instances the gravity of the disease is due to the development of an acute dilation of the heart with insufficiency of the myocardium. In other cases the malignant character of the disease is due either to a true rheumatic toxemia which, in turn, depends upon a hypertoxicity o the pathogenic microorganisms or their toxins; or to some secondary infection that is engrafted upon the initial endocarditis. The question of soil must be considered in the pathogenesis of this affection; for, unless the ground is favorable, on account of individual conditions that produce an area of lessened resistance, neither rheumatic toxemia nor secondary infections can develop. In two cases the attacks o acute polyarticular rheumatism were so severe that in about three weeks all the complications of the most severe attacks of rheumatism were observed: hyperpyrexia, angina pectoris acute endocarditis, at first with muffled, and, finally, with almost total disappearance of the normal sounds, marked pericarditis, pulmonary congestion, pleuritis, and, in one case, albuminuria. Both patients were cured. On the other hand, in the two cases reported in the paper, the articular rheumatism was of medium intensity, but the endocarditis rapidly became grave. One of these patients was habitually alcoholic, and the other, of miserable appearance, was debilitated from a long duration of misery and privations of all kinds. Doubtless these facts account for the exceptional gravity of the rheumatic endocarditis that these patients presented. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Balsamics in Gonorrhea.—According to the *Journal he American Medical Association*, December 23, 1899, Four- r stated at a recent lecture at the Hôpital St. Louis that administering balsamics the following rules should be ob- ved in order to gain successful results: 1. As an abortive atment the employment of balsamics is always attended h failure. 2. The treatment of gleet, or of a small ount of discharge in the morning (morning drop) by bal- nics is equally inadvisable. 3. They should not be given ring the acute inflammatory stage of gonorrhea, and if y are administered at this stage one of two conditions y result; either there remains a light discharge consisting a few drops during the day, or there remains the "morn- drop." But now if their administration be discontinued, discharge reappears with its former abundance. The timely employment of balsamics is the cause of 80% of nnorrhea or gleet. 4. Balsamics should not be employed fore the close of the fourth week of the disease. At about s time the discharge is three-fourths lessened, has lost its enish tinge, and is light yellowish. The timely adminis- tion of balsamics is followed in the great majority of cases recovery. The inflammatory period, however, must be er, and there must be absence of pain on micturition, ab- ce of chordee, and diminution of the discharge, while the charge should be yellowish and ropy. 5. Balsamics must given in large doses—for example, a mixture of 2½ drams cubebs, 47 grains of copaiba, to obtain good results. San- lwood and other preparations are equally good. It is im- rtant to begin with large doses and to continue them for n or twelve days, and then gradually diminish the dose. A dden stoppage of the medicine would be followed by a re- rn of the discharge. 6. The medicine must be taken rice daily during the entire treatment. The amount of ids drank by the patients should be limited, in order to oid too great a dilution of the balsamic eliminated. 7. ere is no advantage in alternating the balsamics. The one at has been selected is to be continued. If at the end of n days the discharge is not almost entirely checked, the medy should be discontinued for from eight to ten days. the end of that time it should be given another trial.

Strict Milk Diet in Diabetes Mellitus.—Winter- z and Strasser (*Centralblatt für innere Med.*, November 11, 99, and *The Medical Review*, January, 1900) advocate a strict lk diet in diabetes combined with hydrotherapeutics, sys- matic exercises, fresh air and sunshine. 1. A strict milk et generally renders the urine free from sugar within 48 urs, or at least diminishes the quantity excreted very con- derably. 2. This applies not only to obese, middle-aged bjects, but to young persons with the severe form of dia- tes, and to the cases of diabetes arising after injury or ock. Even when ordinary diabetic diet, combined with a urse at Carlsbad, has failed, the milk diet may remove the gar completely. 3. In diabetes, complicated by nephritis, e albumin soon diminishes, or even disappears, if the sugar s been removed. 4. In some cases, after the disappear- ce of, or diminution in, the quantity of sugar excreted, etone appears, or, if already present, increases in amount. Sometimes, after being absent, the sugar reappears in eater or smaller quantities as soon as meat is added to the ilk diet, but resumption of the strict milk diet causes it to pidly disappear again. 6. When a mixed diet is resumed, is probable that green vegetables and cereals are prefer- le to meat. 7. Some diabetic patients are so completely red by a strict milk diet that their urine remains free from gar on a mixed but highly farinaceous diet. 8. At the ginning of the course the patients generally lose weight ghtly, but this soon becomes stationary, or even increases. The power of a diabetic patient to assimilate carbohy- ates not derived from milk is no measure of his power to similate milk-sugar when on the strict milk diet.

Santonin in Epilepsy.—Lydston (*Therapeutic Gazette*, . 15, 1900) states that his attention was first called to the value of santonin in the spasmodic nervous affections of children, and that subsequently he began its use in the treatment of epilepsy with the most gratifying results. While not claiming that santonin is a specific for epilepsy his experience has proved to his satisfaction that: (1) Upon the average epileptic patients show better results under santonin than under the bromids; (2) santonin acts well in cases in which the bromids for one reason or other are not tolerated at all; (3) santonin gives distinctly beneficial results where the bromids fail altogether; (4) santonin is free from injurious effects, which cannot be said of the bromids. Especially is it free from such effects as melancholia, mental hebetude, profound nervous and circulatory depression, and disfiguring eruptions. Such disagreeable physiologic effects as santonin produces are not severe as a rule, and are transitory. His custom is to begin in the adult with a dose of from 2 to 5 grains. This dose is gradually increased to the point of tolerance. Many patients tolerate 20-grain doses three times daily for some weeks. As a rule the dose is gradually increased to about 15 grains 3 or 4 times daily. The best criterion of the tolerance of the drug is its action on the genitourinary tract. Coincidently with an intensely yellow coloration of the urine frequent and painful micturition appear.

Pharmacological Action and Uses of Organic Nitrites.—Marshall (*Medical Chronicle*, September, 1899) says that in most cases of asthma nitroglycerin proves disappointing, and in part this is explained by Winkler's research on the action of amyl nitrite on the lung. He found that swelling, edema and rigidity resulted from its use. In pneumonia and other respiratory diseases there seems to be no rational basis for the use of nitroglycerin. The drug is of the greatest value in conditions affecting the circulation, and as far as experimental evidence goes, only in conditions accompanied by an increase in arterial pressure. When this occurs and gives rise to symptoms such as pain, they are often quickly relieved by nitroglycerin or any other rapidly acting vasodilator. But cardiac pain is not always so caused, and in these cases vasodilators as a rule fail to relieve. Whether these drugs act in any other way than by dilating the arterioles we do not know. Murrell's experience with large doses of nitroglycerin would suggest that they do, as it appears quite unnecessary, even after continued use, to employ such doses for purely vasodilating effects. A sedative effect upon the nerve-terminations about the heart and aorta has been suggested, but as yet has not been proved. Erythrol tetranitrate is of value where gentle and prolonged dilation of the bloodvessels is required. When the heart is failing from overwork, owing to increased peripheral resistance, as in many cases of Bright's disease and in old people, these drugs are likely to prove of use, and as they antagonize the vascular effects of digitalis, they may be used in combination with this. The chief value of these drugs, however, is as a prophylactic in preventing the onset of anginal pains, and in this erythrol tetranitrate has proved of considerable service.

Formaldehyd Fumes in Whooping-Cough.—Harrington (*Annals of Gynecology and Pediatry*, No. 10, 1899) states that formaldehyd fumes will completely check the vomiting and control the paroxysms of cough. A sufficient amount of gas for an ordinary room is generated by placing 2 or 3 paraform tablets in a half dram of alcohol, and allowing them to evaporate over a gentle heat. If the fumes become irritant they will do more harm than good. In very severe cases he also recommends the administration of bromoform.

Sodium Tellurate in the Night-Sweats of Phthisis.—Barié (*Journal des Praticiens*, February 17, 1900) calls attention to the value of sodium tellurate in the night-sweats of phthisis. Neusser of Vienna was the first to use the drug. He gave it to 51 patients in doses of about 3 grains, and found that it controled the sweats without exciting any untoward effects. According to Barie sodium tellurate appears as a white powder, soluble in water and alcohol. It is eliminated by the kidneys and lungs, and imparts to the breath a distinct garlicky odor. The writer has prescribed it for nearly five years in a great number of tuberculous cases and has never observed any serious toxic effects—occasionally when used in unusually large doses it caused a little colic and diarrhea. The only drawback to its use is the

odor of garlic which it imparts to the breath, but this is a matter of little moment. The dose is 4 or 5 grains a day for four or five consecutive days. In severe cases two doses of 4 grains each may be administered. The drug is best administered in pill form.

Gelatin in Melæna Neonatorum.—Guttmann (*Therapeutische Monatshefte*, Heft 10, S. 552, 1899) reports a favorable result in case of melæna neonatorum from the use of gelatin administered both by the mouth and rectum. Thirty-six hours after birth the infant lost 8 ounces of blood by the bowel. A solution composed of 3 sheets of gelatin in 8 ounces of water, boiled, and cooled, was then administered, half by the mouth and half by the rectum. There was no return of the hemorrhage.

Acute Cystitis.—

℞.—Fluid extract of buchu..... 1 ounce.
Potassium citrate..... 3 drams.
Sweet spirits of niter..... 4 drams.
Sirup of lemon to make 3 ounces.

A teaspoonful in water every 3 hours.—*Canada Lancet.*

Tincture of Iodin as an Antiseptic in the Diarrhea of Infants.—Cattaneo (*Pediatria*, October, 1899) calls attention to the value of tincture of iodin in the gastrointestinal infections of infants. This remedy has also been praised by Grosch and Stahan. The following combination is recommended:

℞.—Tincture of iodin.....5 to 15 drops.
Distilled water..... 5 ounces.
Sirup..... 6 drams.

A teaspoonful every 2 hours.

It is well to administer a purgative dose of castor oil or of calomel before using the iodin. This combination of a purgative with the tincture of iodin gives excellent and speedy results.

Phosphorus in the Convulsions of Infancy.—Lange (*Semaine Médicale*, No. 3, 1900), calls attention to the value of phosphorus in the convulsions of infancy. After thorough examination of the gastrointestinal tract the drug is administered for 2 or 3 days, in the doses usually employed in rickets. It is claimed by the author that phosphorus exerts a more decided calmative influence on the nervous system in infantile eclampsia than do chloral or bromids.

The Hypodermic Injection of the Salts of Iron, of Manganese, and of Arsenic in the Treatment of Chlorosis.—Steffanelli (*Settimana Med.*, Nos. 40 and 41, 1899), draws the following conclusions from his researches:

1. Under the influence of iron administered hypodermically menstruation is reestablished, and this effect is dependent upon the general improvement of the organism and the excitant action or hyperemia induced by the drug.
2. Under the injection of manganese the reappearance of the menses is more tardy, although the general health is much improved.
3. The reappearance of menstruation is always followed by an improvement in the general health and in the blood.
4. Iron and manganese act especially as reconstituents, not exclusively upon the hemoglobin, but also upon the red cells.
5. Arsenic does not materially increase the hemoglobin, but it notably increases the number of red cells.

Muscle Plasma in Tuberculosis.—Héricourt and Richet (*Rev. Scient.*, March 10, 1900) having found by previous experiments that an exclusive raw-meat diet gives excellent results in animals artificially infected with tuberculosis, have undertaken a new series of investigations with the view of determining the particular element in the raw meat which is therapeutically active. They conclude that it is not the pulp of the beef, but the muscle plasma, or the part soluble in water, which is efficacious. The latter is obtained in the following manner. A liter of water is added to 2 kilograms of raw beef carefully minced; after standing for 3 or 4 hours the mixture is subjected to sufficient pressure to express about 1,200 cc. of red fluid, which coagulates on boiling. According to the authors it is this plasma which is valuable, and not the remaining pulp or "washed beef." They believe that the good effects are not to be attributed to overfeeding, since the cold bouillon is less nourishing than the "washed beef." It is supposed that the raw seru extracted from the beef exerts an immunizing influence up the infected animal. As raw meat is indigestible it cann be given to phthisical patients, but the muscle plasn attained from 3 or 4 kilograms of beef is readily absorbe and may be rendered palatable by the addition of me extract and a little salt.

Percentage in Solutions.—A correspondent writes f a simple rule for estimating the quantity of a drug to be en ployed in making a solution of a given percentage. The ru is as follows: Multiply the weight in grains of fluidounce the liquid to be use as the solvent by the percentage desire of the solid drug, and the result will indicate the amount the latter required for each ounce of the liquid. Thus i estimating the amount of cocain per ounce required for a 10 aqueous solution, we multiply 455.7 (the weight in grains a fluidounce of water) by .10; the result—45.5, indicates th number of grains of cocain per ounce.

Treatment of Epistaxis. — Donnellan (*Therapeut Gazette*, March 15, 1900) writes it is well to remember th hemorrhage from the nose due to cerebral congestio especially in elderly people, must not be checked too quickl It is a blessing in disguise and may avert a cerebral hemo rhage; but where the bleeding is excessive, any of the fo lowing expedients may be tried, viz., spraying the nose wit a 5% solution of antipyrin, alum, tannic acid, or extract suprarenal capsule. The local application of tincture of th chlorid of iron or of Monsel's solution is not to be advise owing to the irritation produced by the clot which is forme and which may result in inflammation of the frontal, maxi lary, or sphenoidal sinuses. Iced compresses placed ove the nose, or peroxid of hydrogen, either sprayed in th nasal cavity or applied directly by a cotton-wound appl cator, will sometimes be successful. When the source of th hemorrhage can be seen under proper illumination, the ap plication of a slender hemostat, or the galvanocautery at dull-red heat will occasionally suffice to check the bleedin Packing the anterior naris with strips of gauze or with Bernays sponge of suitable size, and steeped in a 20% solu tion of tannic acid, will in may instances succeed. Whe these resources fail the posterior naris should be plugged b means of Bellocq's sound, or a large-sized flexible gun catheter. On account of the danger of sepsis, the packin should be removed within 24 hours and the nasal cavit douched with normal saline solution and afterward wit a solution of potassium permanganate 1 to 3000. If th hemorrhage has not entirely ceased the nose should be re packed.

The Treatment of Hiccough.—Noir (*Progrès Médi cale*, January 6, 1900) reviews the various methods of treatin obstinate hiccough. He alludes to galvanization of th phrenic nerve; to the application of a faradic current to th epigastrium (Erb's method); to compression of the lef phrenic nerve (Leloir's method); to the forcible elevation o the hyoid bone by the fingers (Nothnagel's method); an finally to vigorous traction of the tongue (Laborde's method) He prefers the latter on account of its simplicity and effi ciency. It has given excellent results in his hands. In nervous girl, aged 6 years, who was completely exhausted b hiccough of over 6 hours' duration, traction of the tongu for a minute gave immediate and permanent relief. In second case, a patient with advanced diabetes complicate with tuberculosis, hiccough which had already lasted severa days and which had resisted all other remedial measures promptly yielded to Laborde's treatment continued for abou 2 minutes.

Cocain in Vomiting of Pregnancy.—Neustub (*Wiener medizinische Blätter*, March 1, 1900) believes that co cain is the best remedy in the persistent vomiting of preg nancy. He believes that this symptom results from excita tion of the vomiting center in the medulla, and that cocai does good by lessening the irritability of the center and als by virtue of its anesthetic action on the stomach. He rec ommends 10 drops of 50% solution, repeated in an hour, an again in 3 hours, when necessary. Subsequently 5 or 6 drop are given three times a day until the vomiting is controled A mustard plaster is applied to the stomach, cracked ice i given by the mouth, and tampons containing 2% of cocain in solution or ointment, are applied to the cervix.

Original Articles.

SELECTIONS FROM THE LANE LECTURES.

BY T. CLIFFORD ALLBUTT, M.D., F.R.S.,
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LECTURE III.—SENILE ARTERIAL PLETHORA.

[Continued from page 863.]

I FREQUENTLY read descriptions of cases in the journals ı which increased blood-pressure and "atheromatous" :teries are regarded as two aspects of one malady. [edical writers often write so vaguely that their mean-ıg cannot be apprehended clearly; but I gather from ıe various contexts that the process is supposed to ɔnsist primarily in a peripheral arteriolar degenera-on, and secondarily and consequently in a raised ıean blood-pressure.

Now, although such a process no doubt often comes bout—for the diminished lumen and stiffer walls of ıe vessels necessarily raise the blood-pressure and in-rease the work of the heart—yet this is not the process ɔ which I wish now to direct your attention. In the elected cases to which I have referred the cardioarterial ystem was not obviously diseased; though of course, s Roy demonstrated (*Journal of Physiology*, Vol. III, . 125), the elasticity of the vessels falls in the health-est old age; indeed, I have selected cases in which the rterial system had not shown much alacrity in taking on lisease, severe and prolonged as the stresses had been.)n the other hand, cases are abundant in which, lthough cardioarterial degeneration—"atheroma" as may call it for brevity's sake—is obvious, elevation ɔf pressure is far from obvious, or is not present at all.

"Atheroma" is no doubt a disease of elderly per-ons; apart from acquired syphilis and other poisons t is rare in persons under 45 years of age. But we annot reverse the position and assume that all old nen's arteries are atheromatous. Twenty-eight years ıgo I opened the body of a man aged 84, a relative of ny own, who died of an obscure malady which proved ɔ be a gallstone abscess; educated as I had been in he doctrine or prejudice that all old men are atherom-ıtous, I was amazed to find heart, valves and vessels ıll as sound and clean to the naked eye as in a healthy nan of thirty. Now this patient had been a man of enormous energy, both mental and physical; and he had suffered greatly, as such men often do, at the hands of fortune; few men, perhaps, had undergone more excitement, more physical unrest, or more 'worry." From that somewhat remote day to the present I have become more wary in inferring cardio-arterial degeneration, though I need not say that evi-dence of such cardioarterial soundness in old persons is unusual. Yet again and again I roll the radial arteries of hale old persons, especially those of long-lived stock, under my finger and admire compar-ative suppleness of the vessel and the moderation of the blood-pressure. From the nature of the sub-ject, however, it must be that in the greater number of instances of senile plethora it will be found in asso-ciation with arteriosclerosis; in such patients, however, great relief and protection from apoplexy may be given by treating the plethoric element and, if possible, removing it.

I repeat, then, that in Senile arterial plethora, if this title be permitted me, the primary cause of the increase of the mean pressure is not the increased rigidity of arterial or arteriolar walls or the straitness of their channels; nor again is it obliteration of capillary areas. The primary causes seem to be concerned with an increase of peripheral friction, and to be rather of a dynamic than of a static kind; of a kind which can be reduced or removed more or less permanently by med-ication; and it may consist in an increased density of the blood. Considerable cardioarterial strain and dis-ease may be the consequences, perhaps must be, if long continued; yet unless there be a disposition in the individual to cardioarterial degeneration, or the strain be extraordinary both in degree and time, this conse-quent statical disease may not establish itself in any formidable degree.

Where senile hyperpiesis and arteriosclerosis coexist apoplexy is likely to be the end of the case; yet here again we believe that our labors may reduce an apo-plexy to small dimensions, and that by like means we may prevent a return of the stroke, at any rate for awhile. Sedentary scholars, who often live well, are apt to suffer thus in the later years of life. Dr. Ingle, of Cambridge, and Dr. Lloyd Jones, of Cambridge, will remember well such cases, one of which we have at-tended with each of them.

We are tempted to associate with these states the familiar depressions and irritabilities of gouty persons, male or female; and to speculate upon a community of nature in them. "Suppressed gout" is a ready diagnosis, but I cannot say that the suggestion throws much light upon the phenomena; at least it is to explain "incertum per incertius." Everyone's "grandfather died of the gout," this kind of hearsay goes for little; podagra apart, we are much in need of positive means of identification of the gouty variety of the human animal. Careful examination of the urine, with due regard to the hours of digestion, may give a vague im-pression of hyperacidity; urates may be abundant, and even uric acid; but these phenomena are too commonly seen in indifferent cases to serve as guides to a particu-lar diagnosis: indeed, in many if not in the majority of cases of articular gout there is no evidence of high blood-pressure. Many gouty persons are free from this excess of peripheral friction, from this secondary cardioarterial stress, and from ordinary arterial hyper-piesis. I repeat that my own clinical observation would lead me to say that in the subjects of articular gout high arterial pressure is not very remarkable; certainly it is not the rule. In a paper by Dr. Mitchell Bruce, which came under my notice after this subject was brought by me before the Hunterian Society in 1895, the author says, the "sufferer from the gouty heart has habitually no evidence of the pulse we associate with high tension."[1] On the other hand, I am disposed to think it is common in those who vaguely suspect themselves of goutiness, who are accused of it by their physicians, and who are of gouty kin. These persons probably present some allied catabolic abnor-mality, whether dependent on stomach, gland, periph-eral nutrition or nervous governance, I cannot tell, the effects of which are felt at the periphery in such a way as to increase friction, and thus directly to give rise to an increase of arterial pressure. This increase in its turn may in certain cases be the direct cause of some of the symptoms; it may be, perhaps, a direct cause of vertigo or other cerebral or mental uneasiness by its effects on intracranial pressures; of the latter kind I

[1] Address delivered to West Surrey Branch, British Medical Association, Octo-ber 18, 1894.

suggest that Mrs. C.'s attacks were a conspicuous example.

I have repeatedly published my opinion that "suppressed gout," if akin to articular gout, is not a mere dilution of it but is another perversion. We know of no local deposits of uric acid in the former malady, and we know that it is apt rather to be associated with high arterial pressure, and even with granular kidney; furthermore, those who are subject to suppressed gout are not liable to articular gout; the man of suppressed gout, in aspiring after the podagra of his neighbor, spends his days in counting the twinges of his toes. He is not so sanguine and energetic, but is rather a man of low spirits, the victim of endless functional irritations, not due, so far as we know, to uric deposits; and uric acid is not found in his blood. Articular gout is often, however, found among his kindred.

Dr. Balfour, in his work on "The Senile Heart," differs somewhat radically from Dr. Mitchell Bruce and myself in his interpretation of the effect of gout upon the arterial system; in Dr. Balfour's opinion gout always raises arterial blood-pressure,—whether directly, as a clogging of the blood-current, or indirectly, as a stiffener of the bloodvessels, he does not definitely say. No doubt as men grow older they take less nervo-muscular exercise and yet are disposed to eat at least as much food as in former years; indeed a more regular life too often means a greater regularity of attendance at meals than in years of adventure. If, as this eminent physician says, all surfeit due to such causes is gout, if gout be but a name for surfeit and have no more special quality about it, then high blood-pressure due to surfeit may be gouty. But a comparison of gout in the young with gout in the old does not favor so simple a solution of the problem; it indicates rather that gout is a specific morbid quality favored perhaps but not directly caused by surfeit.

Dr. Mitchell Bruce is correct, I think, in saying that the chief maxim of anti-gouty dietary is, not to avoid this or to eat that, but to observe strict moderation in all things; and again in saying that gout is not a direct cause of high arterial pressure, though often, of course, associated with it, and in some cases, probably, conspiring to produce it.

Dr. Balfour, however, attributes rising arterial pressure in elderly persons chiefly to the obsolescence of capillaries step by step with arrest of growth and involution of the tissues they supply: thus no doubt the area of the distribution of the blood is diminished, its issue into the veins is proportionately prevented, and the current thus dammed back tells upon the larger arteries and left ventricle as increased stresses. Dr. Balfour sees very clearly that even in old persons, as I have said, the heart is by no means always degenerate and often quite ready to grow up to the new needs if the quantity of and quality of its own blood-supply remain fairly good. The difficulties, however, of accepting capillary obsolescence as the cause of increasing arterial pressure in the elderly, seem to me, as I have already said, to be manifold. I will recapitulate my reasons as follows:

1. In cases of obvious arterial degeneration the blood-pressure (if we distinguish between blood-pressure and the resistance of less elastic vascular coats) may not be constantly, nor very frequently, high; or it is no higher than to compensate the increased rigidity of the arterial walls.

2. A rise of arterial blood-pressure beyond the compensatory, that is, beyond that of health or its temp rary equivalent, is by no means constant in old peopl nor especially manifest in those whose tissues see more shrivelled than usual. Many shrivelled old pe ple are very healthy, and their blood-pressure mode ate; in many, on the other hand, who are plumper an more florid, the arterial blood-pressure rises.

3. The bulk of the blood-mass in the arteries is n constant, nor anything like constant, even from hour t hour; nor in health does the heart supply all areas a once; the arterial stream is diverted now hither, no thither, as the alternating phases of bodily and menta work demand. The whole of the blood in the bod can be held in the venous system, and even in old pe sons can still betake itself thither readily, with symp toms of collapse, as we know too well. Unless, ther the output of the heart, and the demands of all area for blood remain constant, the relation of a given capil lary area to the pressure of the arterial blood is far fron constant.

4. The rise of arterial pressure which must necessa rily ensue upon the temporary closure of large area under normal vasomotor reactions is but momentary or temporary, the readjustment of pressures, as Dr. L Hill has shown, being very rapid, usually almost in stantaneous. It seems certain, therefore, that obsoles cence of capillary areas would be currently and promptly compensated.

5. In elderly persons the lie of the mass of the blood is more towards the venous system than in the young

6. Whatever the causes may be, the morbid state which I am now considering is readily and persistently modified by simple courses of medicine and diet which could not reopen obsolete vascular areas, any more than they could cure atheroma.

That senile plethora is not always due to relative excess in feeding, is proved, to my mind, by the habitual moderation of many persons thus disturbed, and by the insufficiency of diet alone to govern its course.

Morbid Anatomy.—The paper I read at the Hunterian Society, in February, 1895, was based entirely on clinical experience; I have had little opportunity of investigating the concurrent anatomical changes. The accounts of arterial diseases given by competent observers are not altogether consistent among themselves, nor have they a certain hold on the belief of pathologists; thus I felt then unable to enter upon this part of the subject with the care, persistency and knowledge of laboratory methods which it requires. The pathological inferences which I drew from the study of life were that the symptoms of senile arterial plethora are not directly due to atheroma, or arteriosclerosis, of which disease it is often independent. It may, and often does, coexist with obvious atheromatous disease; yet, on the other hand, it is to be found not infrequently apart from it. If it be true, as I have alleged, that the symptoms and signs of high arterial pressure, in early stages at any rate, are curable, even permanently eradicable—and if, not the arteries only, but by long and careful vigilance the thickened and dilated heart also have seemed to be restored in many of my patients, and to have remained apparently normal, then it would seem clear that this disease is not directly due to atheroma nor to any irremediable degeneration under whatsoever name —sclerosis or other.

While I thus regarded the problem, I lighted on a paper by Dr. Savill, which seemed to throw some light on the anatomy of the subject. Dr. Savill, in a paper

ich appeared in the *British Medical Journal* for Jan-
y 3, 1897, described cases presenting, on the whole,
same symptoms as my senile plethorics, cases
ich occurred likewise in elderly or aged persons.
w on examination of such cases after death, an ad-
itage which he found in a workhouse infirmary, Dr.
ill discovered a peculiar state of the middle and small
eries, which I will enter into presently. Dr. Savill's
ients, as observed in the Paddington Workhouse,
sented the same group of symptoms as my own—
diac hypertrophy, persistent high blood-pressure,
ncopal vertigo, paroxysmal dyspnea, depression of
rits, restlessness, insomnia, nervousness, sallowness,
ne emaciation, and so forth. The only point of ap-
ent difference between us was that Dr. Savill laid
re stress on vertigo and less on mental depression
l nervous instability than I had done. The vertigo,
s author tells me, may be overlooked on account of
indefiniteness; in his cases it was rather a transient
ziness than a true vertigo; and it is not sufficiently
nounced to lead the patient to complain, unless he
asked about it or is unusually self-observant. On
ding over my own notes again I find that several
tients had touched upon this symptom in a cursory
y. Dr. Savill in his infirmary was able to collect,
d to verify by necropsy, no less than 31 cases. In
necropsies he discovered the following conditions.
quote his words from a private letter:

'In the course of certain researches into the causes
senile decay, it was found that the arteries of per-
ns dying over 60 years of age are a shade thicker
an those of younger persons, owing to an increase in
e thickness of all the three coats in different propor-
ns. The most frequent change, a change, indeed,
hich was never absent, was in the muscular fibers of
e middle coat. In aged persons these are always
ollen and granular to some degree; and this change
ust lead to an impairment of the functional activity
the arteries in old persons; but it was found also
at in a certain proportion of persons the tunica
edia of all the middle and small arteries of the body
esented a marked numerical increase of the muscular
ers. Further, on examining the clinical records of
e cases which revealed this change, it was found that
ey all in common recorded certain symptoms during
e, chief among which were giddiness of a peculiar
nd, high arterial pressure, and headache."

Thirty-one cases presenting these changes after death
m various disorders were submitted to an exhaust-
e pathological and clinical investigation, and a table
ade, giving in full detail the precise measurements of
e different arteries, and of the several tunics of these
teries together with other paticulars of the cardio-
scular system. A clinical table was also made, show-
g that these cases presented a well-marked group of
mptoms, including, in order of frequency, cardiac
pertrophy, persistent high arterial blood-pressure,
ncopal vertigo, faintness, paroxysmal dyspnea, head-
he, hemorrhages, and some other occasional symp-
ms. By these means the disease may be recognized
uring life, and distinguished from other affections.
hat these symptoms are not due to atheroma is
oved by their absence in cases of atheroma without
terial hypermyotrophy.

The following conclusions were arrived at:

1. That the middle coat of the medium and small
teries was increased to as much as $1\frac{1}{2}$, 2, or even 3
mes the normal thickness.

2. That the increase of the fibers was a numerical one, that is to say, a pure hypertrophy; though the individual fibers and their nuclei were often enlarged (swollen) and their protoplasmic substance granular; changes which Dr. Savill regards as normal in old age.

3. These changes affected all the arteries to some extent; but the arteries of medium and small size, such as the radial and those of its branches which are visible to the naked eye, were most concerned. The arteries of the lower extremities were sometimes more affected than those of the upper, and those of the brain were less affected than those of the body and the limbs.

4. The tunica adventitia and intima were sometimes increased to a less degree; but sometimes they were diminished: and it was evident, both from a study of these cases and other cases not presenting changes in the middle coat, that the alterations in the adventitia and intima were not responsible for the clinical and pathological effects observed.

5. Cardiac hypertrophy was always observed unless conditions were present which would explain its defect; such as atheroma of the coronary arteries, or lowered general vitality. The disease is certainly much more frequent past middle life, and therefore the conditions incidental to old age were often found concurrent. The youngest of the 31 patients was 41, the mean age was 65.

"All the 31 cases (as verified by autopsy), occurred at the Paddington Infirmary during 18 months, showing that the disease is not by any means uncommon. That arterial hypermyotrophy is independent of renal disease is shown, first, by the fact that in 22 of the 31 cases the urine was found healthy during life, and, excepting in some cases the slight degree of fibrosis present in all the organs of aged persons, the kidneys were found normal after death. That granular kidney is an independent disease is also shown by an investigation of 41 cases of contracted granular kidney which occurred in the infirmary during the same period of time; in 28 of these cases arterial hypermyotrophy was absent. Nevertheless, arterial hypermyotrophy and contracted granular kidney, both being diseases apt to occur in advanced life, may well be associated. Besides certain general causes in advanced life, these two diseases, though separate, may often have also in common the high blood-pressure which, when prolonged, is a very frequent cause of arterial hypermyotrophy." May I not add that it is the only conceivable cause? As in the heart, it compensates dilation, and is well or ill marked as the reactive capacity of the individual is more or less.

Concerning the relation of arterial hypermyotrophy to other diseases, Dr. Savill goes on to say: "The change described by Sir George Johnson is histologically the same as this arterial hypermyotrophy, but differs from it in three ways: (*a*) This arterial hypermyotrophy affects also arteries of different and larger size, and is more widespread; (*b*) it is not necessarily associated with chronic Bright's disease; and (*c*) it corresponds to a peculiar and well-marked group of symptoms. Johnson declared that the fibro-hyaline change in the middle coat, described by Gull and Sutton in connection with chronic Bright's disease, is not a change of the living body, but is due to particular methods of preparation and preservation. Since then, Hamilton and other observers have confirmed Johnson's statements in this respect. Nevertheless, the name arterio-capillary fibrosis has unfortunately been adopted as

vaguely indicating any sort of arterial thickening without definite histological signification. After making nearly 100 examinations of cases of chronic Bright's disease, I have never succeeded in finding the appearance described by Gull and Sutton; though insufficiently stained specimens produce appearances very like it."

Dr. Savill adds: "'Senile vertigo,' 'senile syncope,' and even 'senile epilepsy' are clinical manifestations of arterial hypermyotrophy in its various stages. The disorder which you have described under the name of 'senile plethora or arterial hyperpiesis in the aged,' appears in its clinical features to correspond with the condition which on the anatomical side I describe as 'arterial hypermyotrophy.'"

So much for morbid anatomy, which does not bring us much nearer to the pathogeny of this affection. It is clear that like the heart the arteries are distended by their contents when these are at high pressure; like the heart, they take on hypertrophy under excessive demands upon their tonic function, yet thus far we get no insight into the causes of the high pressure. Whether the blood be more viscous, or the exchanges between it and the tissues slower, whereby its velocity is checked; or whether there be some particular toxic constituent of the blood which sets up delay somehow in the circulation, we cannot say: certainly the current of the blood runs more sweetly after purification, or after what we are wont to regard as purification, by certain dietetic and medicinal means.

Two of our graduates are working on the subject at my suggestion, but their researches are not complete. Dr. Lloyd Jones also has been kind enough to take the specific gravity of the blood for me in some cases of the kind. So far as these investigations have gone they point to a rise in the specific gravity of the serum.

I will not now occupy your time with remarks upon treatment, as in this respect, and in respect of diagnosis and prognosis also, sufficient has been said incidentally in earlier parts of this lecture. If empirically it seem important to reduce blood-pressure immediately, erythrol tetranitrate may prove more efficient than nitroglycerin. So crude a method, however, could only be desirable under special circumstances. But we must not forget W. Müller's experiments on dogs, in which by means of large transfusions the capacities of the circulation proved to be so modified and readapted that to withdraw again no more than the injected quantities caused death. In cases of some standing then no rapid cure is to be compassed. Indeed, in some inveterate cases an uncompromising method of pressure-reduction has so depressed and even enfeebled the patient that, even with the fear of apoplexy before us, I have been fain to accept nature's own arrangements.

THE WESLEY M. CARPENTER LECTURE ON INFECTION THROUGH THE TONSILS, ESPECIALLY IN CONNECTION WITH ACUTE ARTICULAR RHEUMATISM.[1]

BY FREDERICK A. PACKARD, M.D.,
of Philadelphia.

WHEN I was asked by the President of the Academy of Medicine to deliver the Wesley Carpenter lecture, I gave careful thought to the subject that I should select. Since the year 1889, when I was acting as Medical Re istrar to the Pennsylvania Hospital, I have been inte ested in the subject of the close connection existi between the diseases of the tonsils and other, presumab secondary, lesions, and have watched with care t literature bearing upon it. My interest was first excite by noting that in that year among the cases of rhe matism admitted to the wards of the Pennsylvan Hospital a remarkably large number gave a history sore throat among the early or prodromal symptom This was, of course, no new observation, although pr viously unknown to me. Since that time much has bee written upon the subject of the relation of angi to rheumatism, so much in fact, that I feel my tit may seem commonplace. It is, however, this ver wealth of material in literature that encourages me to belief that a review of the work already performed i connection with the subject of the tonsillar infectio and the possible infectious origin of rheumatism ma be not without interest, even though the novelty of th subject has been much diminished since I first bega to keep track of its literature.

In what follows I shall detail some cases that hav come under my observation and discuss the relation existing between various conditions that have bee more or less loosely grouped together under the muc abused term "rheumatic."

With the advance in the study of bacteriology, in creasing evidence is being brought forward showing th importance of infection in the etiology of many diso ders previously supposed either to be idiopathic, to b due to chilling or to be of metabolic origin. The wor infection carries with it the idea of the entrance o organisms into the very tissues of the body, whethe through wounds of the surface, through surface tissue pathologically altered, or even through exposed health covering of skin and mucous membrane.

The most exposed surface is of course the skin. W therefore find that it is best adapted by its structure t resist invasion, the epidermis being thick and arrange in many layers which are being constantly renewed The air-passages are probably the second most vulner able point, and we find protection here effected by th hairy sieve in the nose and by the ciliated cells, which individually weak, together form an excellent means o expulsion for foreign material that has passed the filte in the nose.

The digestive tract is open to infection, and at its very beginning we find a cavity well adapted to the multi plication of microorganisms. In the mouth there ar constantly present, under conditions favorable to thei growth from the presence of pabulum, moisture and heat, microorganisms, many of which are either patho genic or capable of becoming so under favorable con ditions. Thus, G. V. Black examined, in 1887, scraping from the tongue, or some other portion of the mucous membrane of the mouth, of 10 healthy individuals and found Staphylococcus pyogenes aureus 7 times; Staphylococcus pyogenes albus 4 times and Streptococcus pyogenes 3 times. Vignal, in 1886, isolated no less than 17 species of microorganisms from his own mouth. These included among a large number of unidentified forms such familiar organisms as Staphylococcus pyogenes albus, Staphylococcus pyogenes aureus, Leptothrix buccalis, and bacterium termo. Biondi, in 1887 examined 50 different healthy and diseased individuals and isolated 5 different organisms pathogenic to rabbits guineapigs, mice or dogs, which he named the Bacillus

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livarius septicus, the Coccus salivarius septicus, icrococcus tetragenus, Streptococcus septo-pyemicus, id Staphylococcus salivarius pyogenes. W. D. Miller, 1889, found 4 new pathogenic microorganisms in sociation with pyorrhea alveolaris or carious teeth. odbielskij in 50 individuals with carious teeth found less than 38 varieties of bacteria. Sternberg gives a t of 23 pathogenic microorganisms found in the outh, including such well-known forms as Staphylo-ccus pyogenes albus, Staphylococcus pyogenes ureus, Streptococcus pyogenes, Bacillus diphtheriae, acillus tuberculosis, Friedlander's bacillus and the icrococcus pasteuri upon the virulence of which he is done so much work.

Widal and Bezançon found streptococci abundantly esent in the mouths of 20 healthy individuals, and those of 49 persons suffering from various diseases. hey found that the streptococci of the normal mouth ever caused erysipelas or septicemia in animal experi-ents, while those obtained from 10 cases of erysipelas used either erysipelas or septicemia in three experi-ents. An interesting observation, especially in con-ection with the subject of the protective action of the liva was the fact that the streptococci obtained from ie mouths of 3 patients with variola never occasioned xperimental erysipelas, although the organs in this isease were found to contain very virulent strepto-cci.

With such an array of microorganisms in the mouth seems as though there must be constant infection of ie mucous membrane. There are in the mouth certain ieans of protection, such as the constant shedding of ie epithelial cells which must carry with them many rganisms, and the flushing caused by the saliva, which ust carry large numbers to the stomach where the gas-ic juice can effect their destruction. Sanarelli found at filtered saliva possesses limited germicidal proper-es, and that if the microorganisms present do not exceed certain number they are killed, whereas if they are too umerous their growth, while at first lessened, is not revented by saliva. Hugenschmidt, by an interesting eries of experiments, proved that the products of growth f microorganisms in the saliva have a positive chemo-actic action, and that this activity protects the mouth om infection through the phagocytosis performed by he leukocytes attracted by these bodies. Albert Mills, a careful study upon the action of the saliva and the astric juice, found that the former arrests the growth f most microorganisms and acts as a germicide, chem-cally, by the toxic action of its salts, and physico-hemically by their bacteriolytic action. Salts of the aliva were found to act less energetically because of he presence of ferments and albuminoid matters which eem to hinder their action, but in spite of this the aliva does attenuate the growth of most microbes, and prepares them for the action of the gastric juice. He lso found that the microorganisms in the saliva in eneral increase the virulence of imported germs, but hat sterilized saliva has no such action.

Midway between, and sharing the dangers of the pper respiratory and digestive tract there is an exposed to great danger of infection—the pharyngeal avity and the fauces. Without ciliated cells, and eing only intermittingly flushed by saliva, there is an rea without any of the means of protection possessed by the nose, the mouth, or the bronchial mucous mem-brane. In this area we have situated peculiar groups of lymphadenoid tissue, forming an almost continuous circle around the entrance to the respiratory and digestive tracts proper, the "ring of Waldeyer." The arrangement of this tissue leaves no doubt either that it serves a useful purpose, or that it is a relic of a formerly useful organ that has survived the process of evolution.

It is of considerable importance to determine exactly what we mean by the tonsils, whether we are to look upon them as collections of recesses and glands belonging to the mucous membrane or as groups of lymphadenoid tissue placed in the submucous tissue. According to Liegéois, among reptiles tonsils exist only in crocodiles, and consist of five or six folds situated on the sides of the pharynx. Nothing is said as to the existence of lymphadenoid tissue in these folds. In birds of prey, according to the same author, there are two large follicles situated upon the orifices of the eustachian tubes. Retterer enumerates 18 different animals besides man, the evolution of whose tonsils he has studied. In all there is an elevation of the mucous membrane which varies much in its complexity. According to Labbé and Levi-Sirugue a rabbit's tonsils consist of two small mounds at the base of the tongue partly covered by a fold of mucous membrane, while in the guineapig they could find no trace of adenoid tissue indicating the existence of that organ. Retterer states that in the bat the tonsils are in the form of simple projecting lips tapering at the end and prolonged by a fold of mucous membrane, while in the mole the same appearance is present with the addition of small indentations of the surface. From this simple form a quite perfect series of tonsils of increasing complexity of structure can be traced up to the larger mammals. These have tonsils closely resembling those of man in construction.

The tonsils are then evidently not evolutionary vestiges. The peculiarity of the tissues comprising the various tonsils consists not so much in the arrangement of mucous membrane as in the presence beneath the mucous membrane of lymphadenoid tissue such as we see otherwise only in the lymphadenoid tissue of the intestine. If we define an organ from its most clearly differentiated structure we would say that the tonsils are groups of lymphadenoid tissue covered by a plicated and involuted mucous membrane and that the latter differed only in extent and arrangement from that present in the neighboring parts.

The exact function of the various tonsils is still a question imperfectly determined. From their structure it is supposed, probably rightly, that one of their functions is the formation of leukocytes. With this property we will concern ourselves but little. The curious arrangements of crypts and plications of the mucous membrane over the tonsils of many animals lends color to the view that from this mucous membrane some useful material must be secreted. It has been supposed by some that one of the chief functions of the tonsils is the furnishing of a lubricating material to facilitate the passage of food through the isthmus of the fauces and the esophagus. It is possible, too, that the crypts serve the purpose of reservoirs for this lubricating material, and that these are emptied of their accumulated contents by pressure of the fibers of the superior constrictor of the pharynx during the act of swallowing. Such an explanation would apply to the arrangement of mucous membrane at this portion of the throat, but would not account for the presence of the lymphadenoid tissue lying beneath the surface. It must be remembered that

no such lubricating function can be attributed to the pharyngeal tonsils. It would appear, therefore, that some other function is performed by the curious chain of submucous lymphadenoid tissue composing Waldeyer's ring.

It has also been supposed that the tonsils are placed at the entrance of the respiratory and digestive tracts in order that they may act as guards at those orifices. The acts of swallowing and of inspiration occupy so little time, and such a small portion of the material swallowed and of the air inspired could come in contact with these organs that it is difficult to see in what way they remove offending materials.

Philipp Stöhr has described a continual exodus of leukocytes from the tonsils into the cavity of the mouth through stomata between the epithelial cells. He considers that the migration is probably not always taking place with equal vigor, and that in a widely open path relatively few leukocytes may be moving, thus leaving a channel the entrance of infecting material. Ruffer agrees with Stöhr's view, as do other writers upon this subject. Such a migration of leukocytes might be supposed to have three possible objects: 1. The furnishing of lubricating material to the food-bolus. It seems inconceivable that such highly organized cells as leukocytes should in this situation be used to perform an object which is elsewhere performed by cell-products, as for example, those of the goblet-cells. 2. They might be supposed to be poured out in order that they might act as scavengers upon the surface of the tonsil. 3. They may be supposed to carry to the surface material from the interior of the tonsil, the presence of which within that organ might be detrimental. Martin Hendelsohn, in order to test the significance of the migration of leukocytes, injected emulsions of soot and cinnabar into the tonsils, and found that so little of the material was taken up by the leukocytes and carried to the surface that the migration of these bodies could not be considered as a protective action. Goodale has lately shown that in tonsillar inflammation the leukocytes present in greatest number are the mononuclears, the polymorphonuclears being only present in abundance when the peritonsillar tissue became invaded. Labbé and Lévi-Sirugue have more recently arrived at results similar to those of Goodale. Their investigations show that in the reticular tissue of the tonsil there are found typical lymphocytes, a few eosinophiles (varying in number with the species of animals examined) but no polynuclear leukocytes in the normal tonsil. The lymphocytes being in other situations nonphagocytic this migration of the leukocytes cannot be looked upon as being mechanically protective and the reason for the migration is still to be discovered.

The question of absorption through the tonsils is one that has been the subject of numerous inquiries. Studies upon this subject by Hodenpyl, Ruffer, Goodale, Gulland, and Hendelsohn prove that foreign material such as carmine, soot and cinnabar can be absorbed from the surface and from the crypts of the tonsil within a short time after their application. Statements as to the presence of such foreign material within the leukocytes of the submucous tissues and of the lymphadenoid tissue of the tonsil are somewhat at variance, some authors stating that the leukocytes failed to contain such material employed; others stating that they found such material within polynuclear leukocytes. The question, therefore, of the character of the leukocytes within the tonsil in health and in disease, is one that cannot be said to be definitely settled, although the more recent work with more elaborate methods of staining would tend to prove that the leukocytes within the tonsils are not of the form which ordinarily in other portions of the body are considered to have phagocytic action.

An important point in regard to the function of the tonsils is the determination of their capacity for absorbing microorganisms. Lexer has painted the throat of animals with the pus from a case of acute osteomyelitis, and with cultures from the blood of a man dead of general staphylococcic infection. The animal developed osteomyelitis, purulent arthritis, and renal abscesses. On infection of the mouth with highly virulent streptococci, Lexer found that these microorganisms were present in the crypts of the tonsils one or two hours after infection; that in 24 hours after infection threads of microorganisms often could be seen penetrating partly through the epithelial cells beneath the epithelium and in the lymph-vessels of the lymphadenoid tissue. In animals living many days after infection no microorganisms were found in the mucous or submucous tissue, but in the periphery of the adenoid tissue there were small foci of inflammation containing collections of cocci. It is evident therefore, that previously healthy tonsils can not only be invaded by but can soon rid themselves of microorganisms. Dmochowski has found that in the case of the tubercle-bacillus the microorganism can pass through the mucous membrane of the healthy tonsil and penetrate into the lymphadenoid tissue of those organs. He found bacilli in the leukocyte paths, described by Stöhr, in some cases without evidence of interference with the epithelium. That microorganisms are capable of passing through the faucial mucous membrane and the lymphadenoid tissue of the tonsil is shown also by the finding of streptococci in the blood in one case of angina by Buschke, the diplococcus of Fraenkel in the blood of a case of angina with nephritis examined by Baduel, and by Gallois' discovery of staphylococci in the blood of a case of general infection following nasopharyngeal disease.

The structure of the true tonsillar tissue is essentially similar to that of the lymph-nodes. The function of these lymph-nodes is apparently one of protection. In a most elaborate and convincing article by Manfredi, which has appeared within the past year, it is practically proven that the lymphatic nodules protect the organism in three ways: (1) By filtration; (2) by weakening the virulence of the microorganisms that reach them, and, (3) by the whole organism obtaining a greater or less degree of immunity while the first two processes are in operation. The experiments and reasoning of Manfredi might equally be applied to the tonsils. Such being the case the tonsils should be looked upon not as a seat of frequent inflammatory trouble and, therefore, as sources of danger and menace to the organism, but as an extra protective group of lymphadenoid organs placed at a susceptible point, the involvement of which in acute inflammation of the throat is simply an evidence of their activity and of their battle with an infecting agent; precisely as are the lymph nodules at the angle of the jaw, which probably form a secondary defensive outpost. They should, therefore, not be looked upon as menaces to the organism any more than we should look upon the inguinal lymphatic glands as danger points for venereal infection. To my mind this is a point that

s becn somewhat neglected in the general hue and against the tonsils. Not that I would claim that arged and diseased tonsils should not under proper cumstances be removed. The tonsils probably act do other lymph nodules, which were found by Mandi, in the paper above mentioned, to retain bacteria g after they had disappeared from the other organs. they fail to destroy the virulence of the organisms ich they have filtered out, if they are the seat of anisms still elaborating poisonous materials, they uld be removed as the only means of getting rid of ir bacterial contents. Removal of the tonsils may o be advisable, because only by their excision can we rid of the susceptible mucous membrane covering l dipping down into them. Of course, also, the estion of removal comes up if the organs are so dised by repeated infection as to no longer perform ir function as filters, if they mechanically interfere h proper respiration, or if they are hypertrophied l useless as filters, and at the same time by the reses and folds of the mucous membrane covering m form resting-places favorable to microorganismal wth.

The flora of the mucous membrane covering the ton- is much the same as is that of the mouth. The rature of the bacteriology of the tonsils is so extene that even a resumé of it would require far too ch time. Among the microorganisms most frently encountered are streptococci and the various ogenic staphyloccoci, while the importance of the lococcus as a cause of angina has been pointed out ecially by Baduel, Rendu, and Widal and Benzan-. The great importance of the streptococcus as a se of angina is most clearly shown by the examinan by Buss of 102 cases, in which that organism was sent in all but two of the patients examined. The ne preponderance of streptococci has been pointed also by Veillor and Lemoine.

The term *tonsillitis* is so used that it is almost synmous with *angina*. While it is convenient to retain term I would urge that it be used with the reservan that the part inflamed and responsible for the ills is not in reality the tonsillar tissue proper, but the cous membrane of the throat at this most exposed ation. The phenomena of acute angina are those acute toxemia. With even the slightest form, fever, eral malaise and aching pains throughout the body present to a greater or less degree. The local sure disturbance may not apparently be very great, and lammation of an area of similar extent in any other tion of the surface of the body would cause by no ans such general disturbance except in the case of a of the more virulent local infections.

As in other infections, so in tonsillitis we get a variety secondary lesions, and one of the objects of this paper o call attention to what I consider a very important ject, although one that is not new.

In May of this year (1899) at the meeting of the Asiation of American Physicians I reported 5 cases of locarditis following acute angina. As these are reted in detail in the Transactions of the Association I ll here merely mention that in three of these cases it s definitely known that the heart was normal before attack of angina. During the acute attack endocarl murmurs developed; after the attack cardiac signs l symptoms persisted. In the other two cases the vious condition of the heart was not known from peral examination, but there was nothing in the past history pointing to a previous likely etiologic factor or to symptoms referable to the heart, while in both cases the abnormal cardiac signs developed precisely as do those occurring in a first attack of acute articular rheumatism. Since reading the paper referred to I have heard from another patient who left for her home after convalescing from an attack of acute follicular angina during the course of which a soft, blowing, systolic murmur developed at the apex. I did not mention this case in my paper because it is only lately that I have heard from her physician at home that she still has symptoms and signs of grave organic cardiac disease. Lately I have had still another case under my care in which I suspect endocarditis as a complication of a severe follicular angina (streptococcic), but I cannot as yet feel certain that the systolic apical murmur which developed during this attack may not be due to her anemia. My impression is that her mitral-valve leaflets have been damaged.

In addition to the references to reported cases of cardiac disease after tonsillitis given in my previous paper, I would add several others, confirming the idea of the frequency of this disease (or rather this group of infections), in the etiology of endocardial damage. While not a reported case of this association it is of interest here to note the results of an experimental endocarditis produced by Widal and Besançon through inoculation of a rabbit with streptococci obtained from their own saliva, the valves being previously uninjured.

In 1895 Raoult reported a case of pseudomembranous streptococcic angina and stomatitis, followed by purpura, pains in various articulations, and endocarditis. The report is rather meager, especially in regard to the endocarditis, so that it is not claimed that this is certainly an illustrative case. It is spoken of here chiefly because of the fact that endocarditis is mentioned in the title, although but little stress is laid on this feature in the report.

Cheadle, in 1896, said, "Endocarditis occurs early in the rheumatic procession of events—not infrequently in the case of children, first of all; before arthritis, although, as a rule, with it or with chorea."

Gustav Singer (on page 277 of his monograph) speaks of four cases of endocarditis arising after angina, one following a tonsillar abscess. Leon d'Astros has reported a cured diphtheria followed by staphylococcic angina, the development of a murmur at the apex and death on the fourth day. Autopsy showed acute mitral valvulitis, and staphylococci in pure culture were obtained from the heart-blood.

Jousset reports a case of angina of two days' duration followed in a few days by a tired feeling in the limbs and the development of a mitral murmur and pericardial friction. On the following day the mitral murmur became harsher, and the right foot became painful. In this case, therefore, the angina developed first, the cardiac and pericardial lesion second, and the articular manifestations were noted last in the series.

During the present year two articles bearing upon this subject have appeared. In a paper by de Rochemont upon an epidemic of tonsillitis, it is stated that endocarditis occurred in one out of the 18 cases. Paul Gallois in an interesting article states that in his opinion nasopharyngeal disease is more frequent in the history of young cardiac cases than in rheumatism itself. In 8 patients with cardiac disease only 2 had had rheumatism and 1 scarlatinal arthritis. These observations of Gallois are detailed at length by Le Tainturier de la Chapelle in his Paris Thesis of 1897.

The frequency of cardiac disease without history of preceding rheumatism has led me to make careful inquiry as to previous attacks of angina in these cases, and while I have kept no record as to this point and can give no figures, I have been astonished at the number of cardiac cases giving, sometimes voluntarily, sometimes on questioning, a history of one or more attacks of acute and severe sore throat.

In the epidemic of 18 cases reported by de Rochemont, in addition to the case of endocarditis, there was one of threatened heart-failure and one of pericarditis. W. Campbell McDonnel has reported a case of acute tonsillitis followed by pericarditis without endocarditis or arthritis.

Pleuritis as a complication of angina has been frequently observed. In several cases I have met with distinct pleural friction with the subjective signs of pleurisy in cases of tonsillitis, but have never seen pleurisy with effusion occur in this connection. Hanot, in 1891, reported a case of streptococcic angina, especially involving the pharynx, with pleurisy on the right side coming on eight or nine days after the onset of the illness. In the effusion streptococci were found. The patient died and the autopsy showed multiple small abscesses in the tonsils, a retropharyngeal abscess, and dissection of the pleura from the thoracic wall with rupture into the pleural cavity, in the contents of which staphylococci were found. In this case it would seem probable that there was direct dissection of the purulent collection from the point of origin to the pleural sac.

B. Auché has reported a case of acute suppurative tonsillitis requiring puncture followed by synovitis of one knee and ankle. Later pleural effusion occurred. Richardiere reported a case of non-suppurating tonsillitis followed by left pleural effusion and later by death from suppuration in the left pectoral region. At autopsy the tonsils were found to be large but free from collection of pus; there was no peritonsillar, retropharyngeal or mediastinal abscess, but in the left pleural cavity there was a large collection of pus having no connection with the abscess cavity in the left pectoral region. Heddaeus has reported a case of angina followed by pleural friction and later pleural effusion and pneumonia.

Huguenin, in an article on cryptogenetic pleurisy, makes the following groups from the point of view of etiology: 1. Those whose port of entry is the tonsils. 2. Those that are primary, which are ascribed to the still unknown poison of acute rheumatism. 3. Those having their cause in a carbuncle or furuncle. 4. Those which can hardly be traced to anything but the colonies of bacilli which are present in the buccal, nasal, and faucial membrane. 5. Those due to trauma. 6. Those associated with pneumonia. 7. Those due to chilling. It is thus seen that in two of his classes he incriminates the throat as the primary point of infection, or at least, entrance of the poison. He cites a case of severe lacunar angina followed by double pleurisy with effusion containing Staphylococcus pyogenes aureus. Pestlesohn has also reported a case of angina followed by pleurisy, sepsis and death.

Last winter I had the opportunity of seeing two cases of streptococcic angina, both in young women, without history of preceding rheumatism in any form, with a quite profuse outcrop of erythema nodosum during the subsidence of the attack. In neither case was there heart-lesion, and in both the erythema promptly subsided shortly after the cessation of the angina. B cases had somewhat more than the usual amount of r laise and other general symptoms associated with angi

In 1896 a white woman, aged 26 years, was admit to the Pennsylvania Hospital with sore throat. S had had several previous attacks of tonsillitis, mum as a child, influenza followed by pneumonia three ye before, and malaria two years before the illness which she was admitted. After a period of indefin discomfort and malaise she developed severe sore thr on the day before admission. On examination the wh mucous membrane of the throat was inflamed, the tons much swollen and the peritonsillar tissues were grea thickened. The urine contained a trace of albun and pale granular casts. The pain on swallowing ceas in five days and the albumin disappeared before the e of a week. Eleven days after admission there was r of temperature with a relighting of the tonsillitis a reappearance of albumin and casts in the urine. S complained of pain below both knees, and it was fou that on each leg there were from 20 to 30 red and p plish spots slightly elevated above the level of the s rounding skin, indurated, and varying in size from to 2 cm. in diameter. These lesions were very ten on pressure. Later a few new ones appeared, but t skin lesions gradually faded and disappeared 19 da after the relighting of the tonsillitis. The heart mained normal throughout the attack and before h discharge the urine ceased to show any abnormal c stituents.

Cases of angina accompanied by skin lesions ha been reported by Lasegue, Boeck and Bull, Loe Boeck, Ollivier, Stephanides, Auché, Chaddock, Le G dre and Claisse, Rocaz, Bourges, Raoult, and Sing The eruptions can be classed as erythema nodosum 29 of the cases; purpuric in 4; erythema multifor in 2; morbilliform, scarlatiniform, urticarial, herpe and an indeterminate erythema with desquamati each, one example. Stephen Mackenzie's paper is much interest in this connection. It is based or study of 108 cases of erythema nodosum, in 11 which, or over 10%, some form of sore throat had p ceded the skin eruption, while "rheumatism or rheur toid pains" had been the forerunner in 31.4%. In cases narrated by Singer he obtained Staphyloco albus from the blood obtained from the efflorescen In one of my cases, that will be given in more det later, there was a profuse urticaria involving all parts the body, at the same time alternating with hemog binuria; both occurrences following upon a sev diffuse erythematous angina.

I have had the opportunity of seeing two illustrati of chorea following upon tonsillitis. The histories these are, in brief, as follows:

G. A., a white boy, aged 10 years, was admitted to Children's Hospital in September, 1897. There may be fou some connection between his illness and the facts that mother had had nervous prostration and his father "very nervous and irritable." He never had rheumati At the age of 6 years, George had "malaria" followed what was described as sudden palsy of his left side with i bility to speak. His speech-defect lasted one week, and regained the use of his leg in two, of his arm in three we In two months he had perfectly recovered. The freque of the statement by the parents that the child is "paralyz in chorea, the occurrence of a speech-defect with pals the left side in a right-handed child, the rapid and comp recovery and subsequent events, all point to this as a n attack of chorea. After being well for four years with recurrence of the nervous symptoms, he was suddenly ta

a severe sore throat, accompanied by deafness. Two ks after the onset, choreic movements began affecting sides of his body. These persisted in the neck muscles his speech remained jerky. At the apex there was a t presystolic roughening followed by a short blowing olic murmur, poorly transmitted for about an inch to the He remained in the hospital for about three months. persistent chorea varying in intensity from time to e.

epeated cross-examination of the mother could elicit hing to cast a doubt upon the absence of previous cular pains, the acute onset of the sore throat, and the arent dependence of the last attack of chorea upon the te angina.

The other case of chorea following angina is not so rly established. As it shows, however, several nts bearing upon the whole question of the compli- ons of tonsillar trouble I think it well to insert it e.

mes R., colored, aged 25, was admitted to the Pennsyl- ia Hospital on November 27, 1894. He gave a history of llpox as a child, of tonsillitis in 1891, and of pleurisy in 2. On the day before admission he suddenly had a rigor severe pain in the throat. He had a typical follicular sillitis with much swelling of the tonsils, uvula and rynx. He improved under the use of salicylate of ium, but an abscess formed in the right tonsil and re- red incision. He was discharged cured, but was read- ted on January 12, 1895, having fallen on the preceding ning and struck his left side. Immediately after falling spat up some blood and that evening had a chill. On ex- nation there was no evidence of trauma and the ribs e sound. Expansion on the left side was diminished. lible and palpable friction and some impairment of reso- ce were present in the left axillary region. The next day re were tubular breathing, increased vocal resonance, e crepitant rales, and occasional friction over the dull in the left axillary region low down. He progressed brably until five days after the crisis, when the right tonsil ame swollen and painful. This improved, but about ten s later acute pharyngitis began. The tonsils became in- ed and an abscess again formed. This ruptured on Feb- ry 13, and at the same time his heart's action became irregular and his general strength much impaired. He tinued weak and ill with great irregularity of the pulse without further trouble, until March 16, when choreic vements began in the arms and head and continued for n two to three weeks. Shortly after they ceased, he an to complain of severe pain in the flank, for which Dr. hurst's advice was sought. Fluctuation developed in a days and he was removed to the surgical ward upon the position that there was a perirenal abscess. The flank opened by a long incision, but no pus was found, although tissues were noted to be curiously edematous. Although pus was present the operation relieved the pain and he finally discharged cured on May 25. Careful inquiry eloped the fact that at the age of 18 years he had had rea for four weeks, during three of which he was de ous.

The case is given in some detail because of the ociation of tonsillitis and chorea, and also because the possibility of the tonsil being the source of in- ion, lighting up inflammatory trouble at the seat of injury as happened in some of Buschke's cases ich will be referred to later.

The etiology of chorea is still obscure, yet we have a tain number of facts connected with it to give hope a solution of the question in the future. The close nection of chorea with rheumatism is conceded by ctically every one. The association of angina with umatism has long attracted attention. Angina is rly recognized as an infection; rheumatism is being re and more certainly forced into the infectious up of diseases. A glance, therefore, at some of the rk already performed in regard to the possible role of infection in the production of chorea will be of advantage.

As long ago as 1880 Leube urged the chemico-infectious origin of chorea. In 1883, C. Max Richter reported a fatal case of chorea. In the blood, obtained from the finger and apparently without the strict precautions that should have been used, he found numerous micrococci. In 1884, Donkin and Hebb performed an autopsy upon a case of chorea insaniens and they discovered many bacilli in the bloodvessels of the cord. As the autopsy was made 36 hours after death and there were already present signs of putrefaction, it is probable that the microoganisms were due to a post-mortem invasion in spite of their being present almost exclusively in the bloodvessels. Berkley's report upon a case of chorea insaniens is of interest from the point of view of etiology and because of his bacteriologic findings. In a person previously rheumatic with delirium, during one of the attacks there suddenly occurred jerking movements one week before she was seen. On admission to the Johns Hopkins Hospital there was found to be ulceration of the pharynx with enlargement of the cervical glands. A few days before death, parotid swelling appeared. At the autopsy the blood of the left ventricle showed an abundant growth of Staphylococcus pyogenes aureus, the same organism being found in the purulent area of the parotid gland. It would, of course, be improper to attach too great importance to the bacteriology of a case so complicated. Berkley himself thought that the presence of the staphylococcus was simply a coincidence; and, although he gives no reason therefor, says that the infecting agent in chorea is probably a bacillus.

Pianese in 1891, in the medulla oblongata of a choreic, found a special bacillus, slightly motile, spore bearing, growing well on ordinary culture media and staining well with carbol-fuchsin. Intraperitoneal and intravenous inoculation of dogs, rabbits, and guinea-pigs gave negative results. After trephining, and subdural inoculation of the bacillus, and after infection through the scarified mucous membrane of the nose, there occurred, as a rule, twenty-four hours after inoculation, irregular movements of the whole muscular system or of certain groups of muscles. In the same year, Leredde obtained pure cultures of Staphylococcus albus from blood removed from the thumb of a child admitted with enlarged tonsils and chorea. During its stay in the hospital the child developed a rise in temperature with signs of active endocarditis. Nine days after the acute symptoms subsided no growth could be obtained from the blood.

(To be continued.)

Aneurysm of the Gluteal Artery.—T. M. Calneck (*The Montreal Medical Journal*, December, 1899) reports the case of a man, 28 years of age, who was kicked on the buttock by a mule. Soon after there was pain and a little later a small tumor formed at the spot. The tumor remained small for 18 months, when a severe strain from lifting caused it to suddenly grow larger. Calneck advised operation for what was plainly an aneurysm, but the patient refused. He was given rest and medical treatment for a time, but tiring of this he applied to a quack, who supposed he had discovered a cold abscess and plunged a knife into the aneurysm. Calneck was now called upon to operate and found the aneurysm to be just at the bifurcation of the gluteal artery, consisting in reality of 3 aneurysms joined at one end. The distal ends were ligated and in attempting to pass a ligature beneath the main stem the aneurysm burst. There was considerable loss of blood before the ligature could be applied. The man died from shock shortly after the operation. [M.B T.]

REPORT OF TWO CASES OF FRACTURE OF THE SHAFT OF THE RADIUS.[1]

BY W. B. LOWMAN, M.D.,

of Johnstown, Pa.

FRACTURE of the radius below the bicipital tuberosity is of far greater importance than would appear at first sight. In order to illustrate many of the points of importance and treatment of fracture of the radius at this point, I will report to you two cases which have been under my care for the past few months. If you will permit me, before describing the cases, I shall quote some of the authorities.

Dr. J. B. Hamilton says in Moullin's Surgery: "Fracture of the shaft of the radius alone, is due either to falls upon the hand or blows upon the arm, and may take place either above or below the insertion of the

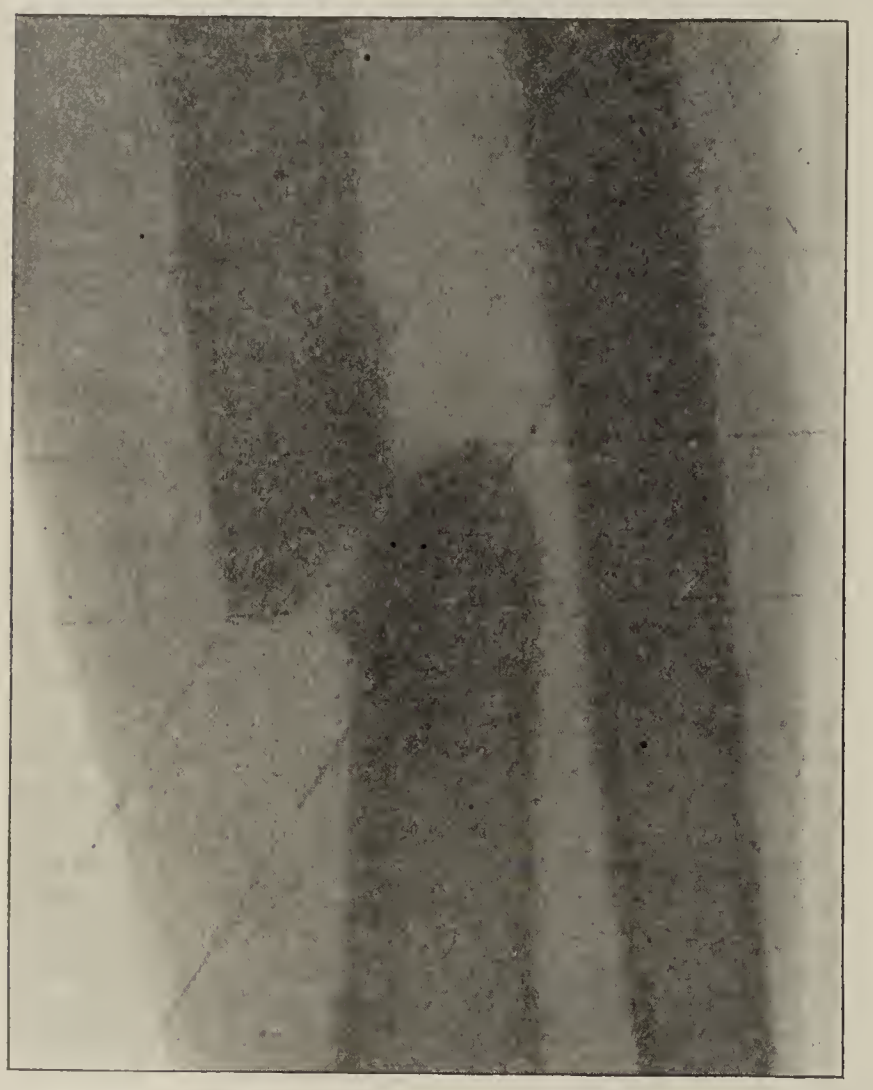


FIG. 1.

pronator radii teres. The upper fragment, owing to the attachment of the pronator teres, is not much displaced, but the lower is tilted inwards toward the ulna. So long as the ulna is intact the amount of deformity is very slight, there is intense pain over the seat of injury, pronation and supination are impossible. When the hand is grasped and made to rotate, the upper end of the radius does not move with it. Fractures of the upper part of the bone should, if possible, be put up in a position of complete supination. Straight back and front splints must be used, wider than the limb, so as to take off all lateral pressure, and well padded down the center, so that the muscles may be squeezed, as far as may be, into the interosseous space."

Wyeth says of this fracture: "Fracture of the radius

[1] Read before the Cambria County Medical Society, December 12, 1899.



FIG. 2.

above the bicipital tuberosity is one of the rarest for of injury, and when present is with difficulty rec nized. The cause is direct violence. Displacement the upper fragment will be slight. The action of biceps will tend to draw the lower fragment forwa The best position for treatment is to flex the forearm the arm, with the palm turned upward, and to apply anterior splint, wider than the arm and provided w an interosseous pad."

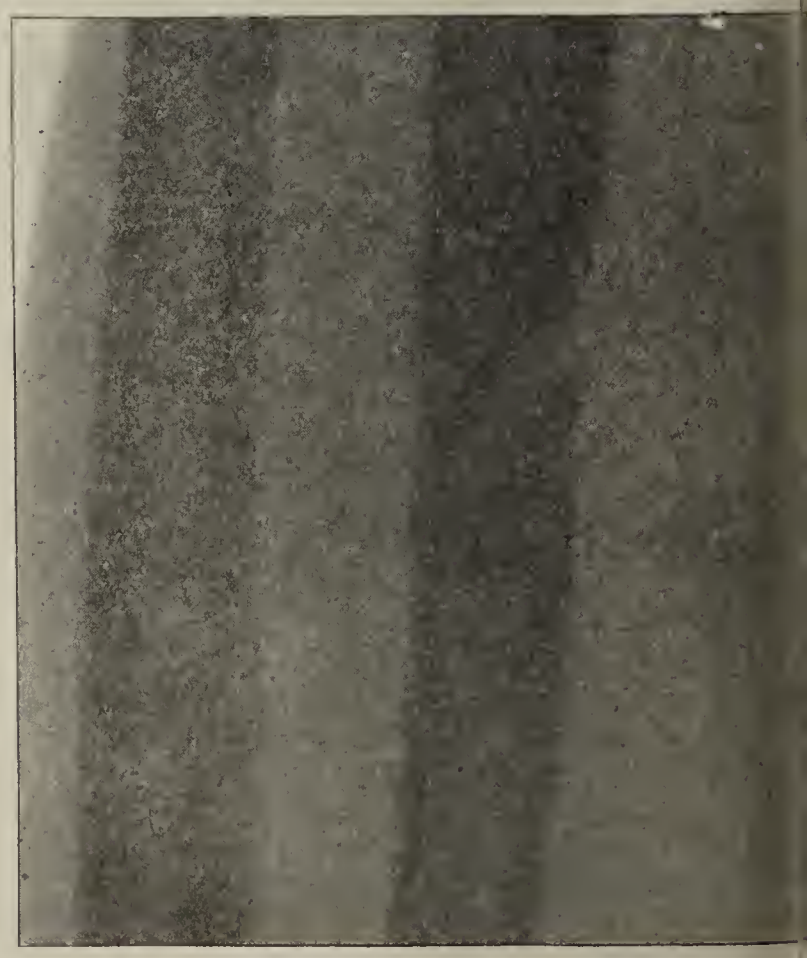


FIG. 3.

Wharton and Curtis say: "Fracture of the shaft of radius. This fracture usually results from direct ence, but may follow a fall upon the hand. Symp- s: In this injury there is noticed loss of both supin- n and pronation, the upper end of the radius when hand is rotated is fixed. The displacement sists in tilting forward of the upper fragment the action of the biceps muscle. Prognosis: The

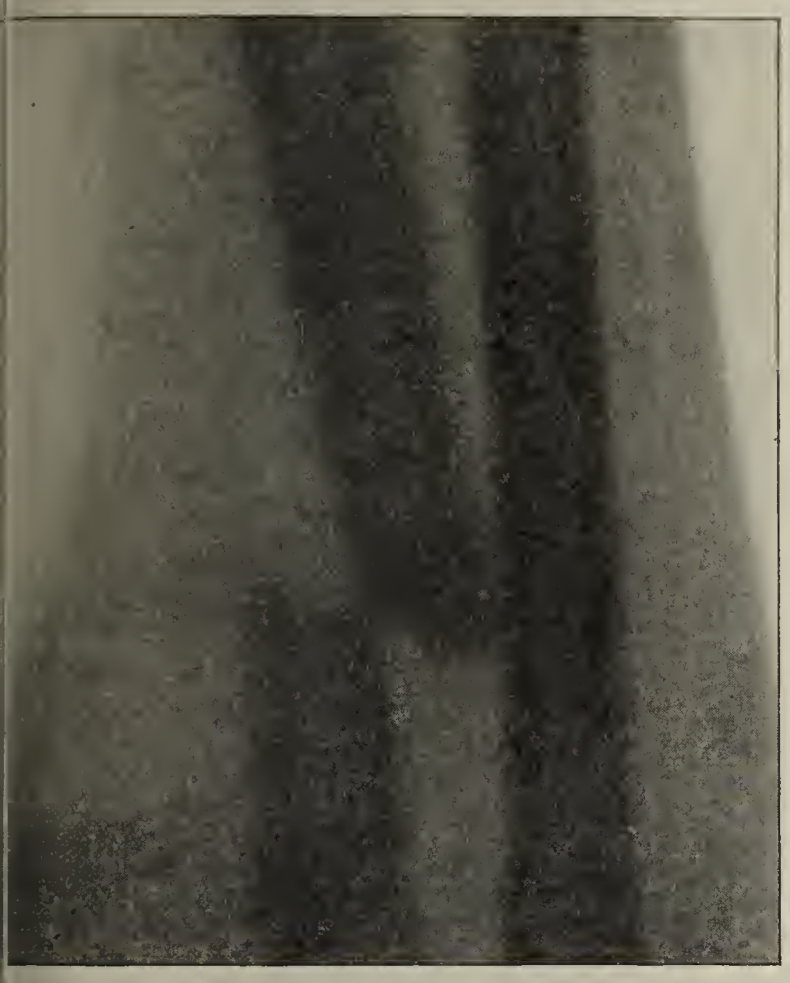


FIG. 4.

lts of this fracture are usually very favorable, un- the lower fragment is drawn so close to the ulna the callus forms an attachment to the ulna, and rferes with the motions of pronation and supination. atment: Well padded anterior and posterior straight nts should be applied and held in position by a er-bandage."

he above will be sufficient, since in looking over ny other authorities, I find they all agree. I must that my personal experience does not agree with of the authorities I have consulted. The diagnosis his fracture, fracture of the radius at either the er or lower extremity, is not so easily made out, as t of the authorities state. The majority of the cases ch have come under my observation were the result direct blows, and when seen have been so much llen and sensitive to touch, that it was impossible nout an anesthetic to make a definite diagnosis. In cases which I wish to report, I am confident I could have made a correct diagnosis without the aid of x-ray.

ne first case was G. F., age about 40, American by birth; ried; occupation rail loader; physique poor. He was red December 8, 1897, at midnight while at work at his ul occupation. A pile of rails slipped and came down on right arm. He said that he was pinned under rails and d not get his arm from under the rails, until the pile was oved. As soon as he was released he was taken to Cam- Hospital, where Steward Gibson dressed his injuries, ed the arm on an anterior splint, and applied a lotion of r, lead and laudanum. When I saw the arm the follow- ing morning it was very much swollen and so sensitive to manipulation that it was impossible to make a satisfactory examination. I could not distinguish either crepitus or deformity. Mr. Gibson informed me that he was quite certain that he felt crepitus, and was satisfied that both bones were broken. After a week or ten days' treatment with lotions, the swelling and inflammation subsided, and even at this period I was not able to make out crepitus or locate the point of fracture. I continued the treatment with well padded anterior and posterior splints, making passive motion occasionally. There was apparently nothing unusual about his recovery. Splints were removed at the end of the fifth week. The arm was perfectly straight, not the least apparent deformity, but motion at the wrist was somewhat impaired, due to being at rest so long. He went to work 8 or 9 weeks after receiving the injury, at first light laboring work, later heavy mill work. I did not see or hear of him until August 22, 1899, when he came to my office to show me his arm. On examination I found that when he rotated his arm, a prominence would jut upward and forward at point of fracture, but when the arm was extended no tumor or prominence could be distinguished. After thorough examination I could outline both ends of the radius at the point of fracture and a thickened condition of the muscles about the bone. There was very much thickening of the bone at this point. I prevailed upon him to let me take a radiograph (No. 1) of his arm. This revealed the true condition of this man's arm. After the patient had seen the radiograph and the condition of his arm had been fully explained to him, he readily consented to have whatever operation I deemed necessary to improve his condition. August 23, 1899, I made a long incision over the point of fracture. I found both ends rounded and covered with cicatricial tissue. The ends of the bones were sawed off as in-

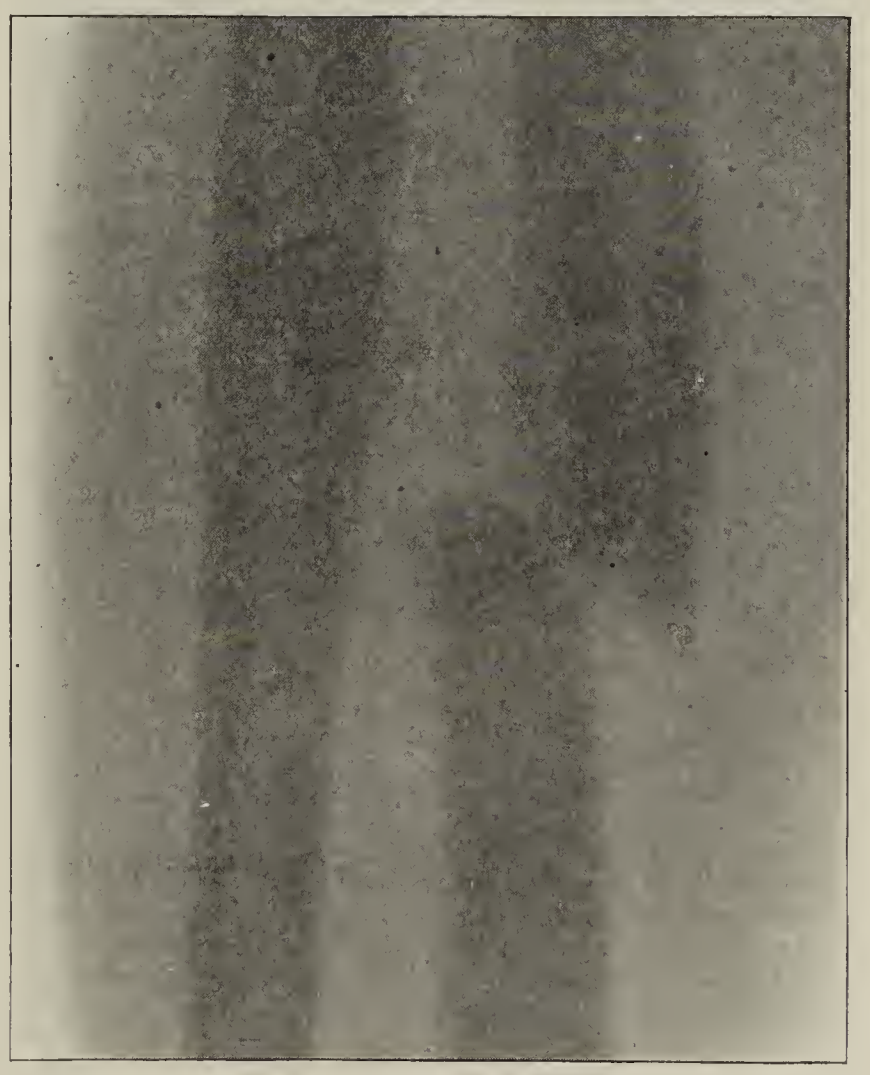


FIG. 5.

dicated on the radiograph. The bones were brought in apposition, and two of Roberts' nails were passed through the bones, holding them in perfect apposition. Fig. 2 shows but one nail, the other nail being removed ten days after operation and before this photograph was taken. The remaining nail was not removed until end of fourth week. There was good union and perfect apposition, which you will observe in Fig. 3, taken at end of fifth week. He has

made a good recovery and has very good use of his arm, much better than before operation, and at present is able to do light labor. At no time during this man's stay in the hospital was his temperature above normal, on two occasions it was down to 96°.

There are some very interesting points upon which I am in doubt: Was there ever union in this bone? Was it possible for this man to work for one year at heavy labor with his arm in this condition? Was there a possibility of this arm being re-fractured at this point?

J. O., aged 21, single, Hungarian, miner. Injured September 11, 1899, in the mines His arm was caught between car and rail. He was admitted to Cambria Hospital several hours after the accident and seen by me within three or four hours after its occurrence. The arm was very much swollen, and very sensitive to manipulations. I could detect no crepitus, but could define the deformity of the radius. The ulna could be outlined along its whole course, and was in perfect position. The diagnosis was fracture of the radius. I made every effort to place the fragments of the

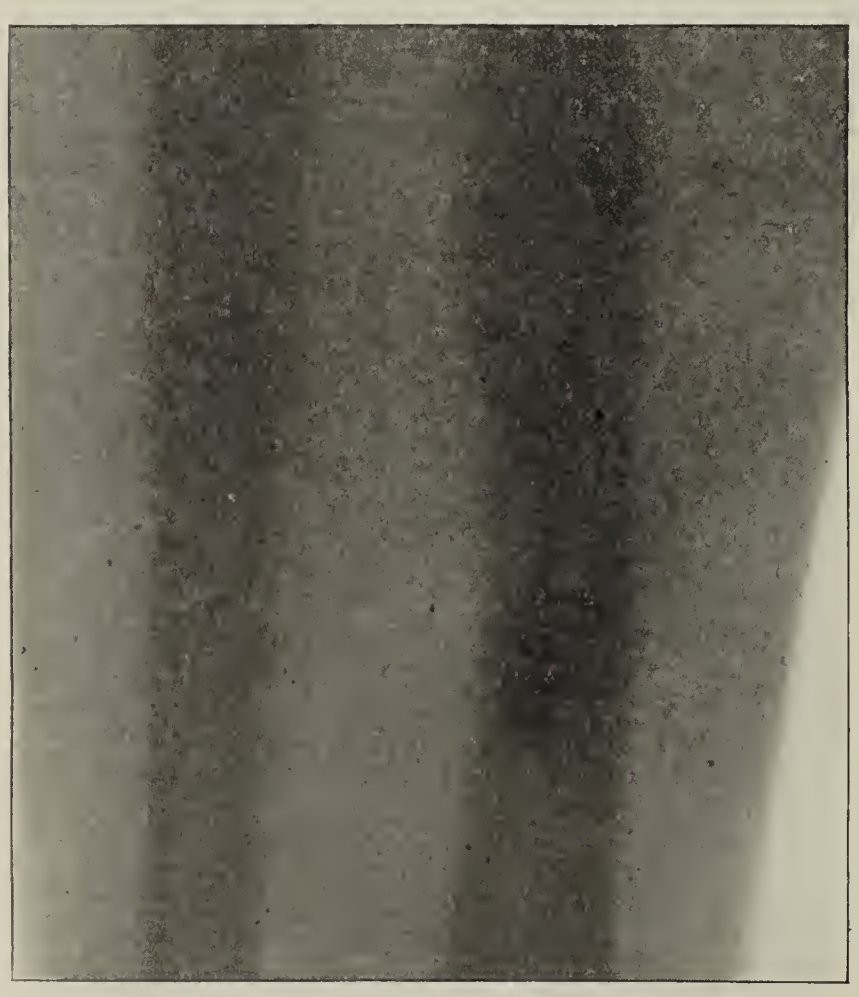


FIG. 6.

radius in proper apposition by the usual methods. The arm was placed on anterior and superior straight splints with an interosseous pad. Four days after injury the swelling and inflammation had subsided, and not being satisfied that the bone was in proper position, I took a radiograph which I show you, No. 4, showing the fragments of the bone are considerably out of line. I concluded that it would be impossible to replace the fracture without an anesthetic. The patient was anesthetized and every effort by extension and manipulation was made to adjust the fragments, and when I replaced them on the splints I thought they were in apposition. Six days later I took another radiograph (No 5), which reveals that we were not correct, but the bones were still out of line, but in better apposition than shown by the first picture. I came to the conclusion that it would be impossible to retain the bone in the usual way, and proposed to nail the fracture, as in my former case. Radiograph No. 6 shows one nail remaining, and bone in perfect apposition The operation consisted of an incision over points of fracture, exposing the bone, drawing them into place, then introducing nails according to the method of Dr. Roberts. I need hardly say the usual preparations of the field of operation were made, and ev precaution taken to avoid infection. The patient did recover as rapidly as former case, but the result is enti satisfactory.

To me both of these cases have been extremely teresting from the uncertainty of the adjustment fractures of this bone at this point, and one being ea misled by the arm being perfectly straight, and the u of course being in position. Without the x-ray, I tainly would have been in ignorance as to the t position of the bones.

APPENDICULAR ABSCESS RUPTURING INTO THE S OF A REDUCIBLE INGUINAL HERNIA; OPE TION BY DRAINAGE, WITH PERMANENT CU OF THE HERNIA. INTUSSUSCEPTION OF T BOWEL RELIEVED BY OPERATION; RELAI AND SECOND OPERATION. CHRONIC HEMA CELE OF THE TUNICA VAGINALIS TESTIS AS CIATED WITH AN ENCYSTED OMENTAL HERN RESEMBLING MALIGNANT DISEASE OF T TESTICLE.

BY ORVILLE HORWITZ, M.D.,

Clinical Professor of Genitourinary Diseases, Jefferson Medical College; Sur to the Philadelphia Hospital and State Hospital for the Insane.

IN December of last year I saw a case of chronic pendicular abscess in consultation with Drs. Ott a Musser, of which the following brief history was tained:

The man had been an invalid for some time; he ha history of a well-marked attack of appendicitis from wh he had recovered. He had been ill for the past ten da He had suffered for years from a reducible hernia, for wh ailment he wore a truss. When he was first attacked he duced his hernia, and, as was his habit, removed the tr before retiring for the night. In the course of a few day well-marked circumscribed abscess formed in the region the appendix, and suddenly, two days before I first saw hin tumor presented itself at the hernial outlet, descending p tially into the scrotum. It was hard, inelastic, and ten on pressure; there was no impulse on coughing; it was translucent, and it was thought to be an incarcerat omental hernia. Operation was decided upon. The absc was opened by the usual abdominal incision and drain On making pressure on the scrotal tumor pus immediat began to flow from the abdominal wound, and it was evid that the abscess had been ruptured into the hernial s which had been cut off from the general peritoneal cav The abscess in the scrotum was opened and thorough dra age established. The wound gradually healed, and the pati has had no recurrence of the hernia, and has not worn truss since his recovery.

Intussusception of the bowel relieved by operation; relapse second operation.

The next patient was an Italian, 48 years of age, who admitted to the Philadelphia Hospital in January last. Ow to his lack of knowledge of the English language, it well-nigh impossible to obtain a history of the case. complained of a tumor on the left side of the abdom which was painful and tender to the touch. He stated t two days previous to his admission the swelling had appea suddenly, and had gradually increased in size. The bow had not been moved for the past three days; but this not an uncommon condition, as he generally suffered fr constipation. The tongue was coated; temperature 1(pulse 110. He had vomited several times since his adn sion, the ejected matter being of a watery charact Previous to my first seeing him, salines had been adm istered, together with highly stimulating enemata, and wi out benefit.

A diagnosis of intestinal obstruction was made, and operation decided upon. The abdomen was opened over

axis of the swelling, and on exposing the intestines it seen that the descending colon was enormously dis-led; it was also hard, rigid, and evidently impacted with ass of solid matter. On passing the hand upward toward transverse colon, the impaction could be traced as far as hepatic flexure, where it seemed to disappear; on carry-the hand downward, toward the sigmoid flexure, it was overed that the thickened colon terminated in a large nd body. On making pressure at that point the lump lually began to recede along the descending colon, and gently pushing it along until the hepatic flexure was hed it suddenly disappeared, leaving the intestines in a mal condition. It was then very evident that we were ling with an intussusception of the ileum and part of the nding colon, which extended from the hepatic to the noid flexure. The wound was closed in the usual manner. the course of a few hours the bowels moved, and the ent made an uninterrupted recovery. On the eighth day tumor suddenly reappeared, together with all the symp-s of obstruction. The abdomen was opened through the vious incision, and the same condition found to pertain ad existed on the preceding occasion. In order to pre-t a recurrence of the intussusception an incision was le in the left hypochondriac region and the ascending n exposed. The ileum, just as it joins the colon, was stitched to the peritoneum in hopes that a recurrence he trouble would be prevented. The bowels moved a few rs after the operation, and the patient did well until the d day, when he died apparently of exhaustion. The tmortem exhibited in the vicinity of the head of the colon ight localized peritonitis, but it was not sufficient to cause th.

hronic hematocele of the tunica vaginalis testis associated with ncysted mental hernia resembling malignant disease of the cle.

his man was admitted to the Jefferson Hospital in April,), affected with a tumor of the left testicle which was the of constant pain. Owing to the man's stupidity it was y difficult to obtain an accurate history of the case. He ed that he had never been affected by venereal disease, t the trouble with his testicle began 5 years previous to coming to the hospital, and was produced by slipping n a scaffolding 4 feet high and striking the organ on the e of a board. The injury was followed by great pain and nediate swelling of the gland In the course of a few s the penis and scrotum became very much discolored, remained so for many weeks. He was confined to his for 3 weeks after the injury. The swelling would subside again recur, but never entirely disappeared. For the t 3 years it had been growing perceptibly, at the same e becoming tense and hard. A large pyriform tumor upied the left side of the scrotum, reaching to the middle he thigh. At the external abdominal ring a large, thick ss about the size of one's fist could be felt, extending into abdominal cavity. The tumor was not translucent, and re was no impulse on coughing. The lower extremity of tumor seemed to be cystic, as pseudo-fluctuation could liscovered on making deep pressure. The whole mass compact and immovable, and apparently firmly attached ome structure in the abdominal cavity. The shape of tumor was like that of a hydrocele, associated with a e inguinal hernia. Urine, heart, lungs, and temperature e normal. A malignant growth was suspected, and an loratory operation advised. An incision fully 7 inches length was made, extending from above the external ominal ring to the end of the scrotum. The subcu-eous tissues were enormously thickened, and changed n the normal condition. At the depth of about ¾ of an h the remains of the tunica vaginalis was located and ned. The cavity contained about 3 ounces of dark, gru-us fluid. It was at first supposed that a cyst in the tumor been opened; but on examination, the thickened and gular cavity was seen to be formed by the remains of the ica vaginalis, which, in spots, was lined by calcareous tes. The testicle was atrophied, and the cord was enor-usly thickened. On exposing the growth above the icle a large mass of omentum which had undergone ous change was laid bare, and looked not unlike the sec-n of a fibroma. This mass was traced into the abdominal ity for some distance, where it was found to be attached a pedicle to the healthy omentum; it was ligated, and together with the testicle removed. The peritoneum was closed by means of a continuous catgut suture. The muscular structures were approximated by interrupted sutures of kangaroo-tendon; the muscular walls being brought together as far down as the upper portion of the scrotum. The incision in the skin was closed by Halsted's subcuticular stitch. The patient made a prompt recovery, and although he has long since resumed his daily occupation, there has been no recurrence of the hernia.

It was impossible to obtain from the individual an intelligent statement as to the time of the first appearance of the hernia. It must have occurred subsequent to the appearance of the hematocele. He believed that the increase in size of the tumor was due to a growth of the enlarged testicle with which he had been afflicted for several years. In attempting to make a differential diagnosis the possibilities of incarcerated hernia with hydrocele or of hernia with malignant disease of the testicle were duly considered. None of the cardinal symptoms of either hernia or hydrocele were present. The swelling was dense, hard, and not translucent. There was no impulse on coughing. It was constantly increasing in size, associated at times with a good deal of pain, the only sign of hernia being the large, sausage-shaped mass that extended from the scrotum through the inguinal canal into the abdomen.

EARLY OPERATION IN APPENDICITIS BY THE COUNTRY PRACTITIONER; REPORT OF A CASE PROBABLY CAUSED BY TYPHOID INFECTION.

BY R. H. HARPER, M.D.,
of Afton, Indian Territory.

THE following case of acute appendicitis is reported to show what may be done by early operation under circumstances not the most favorable to operative and aseptic technic; the case was five miles in the country; the house a modest one of two rooms; our assistants were two women and a man, instructed as to details; the kitchen and kitchen-table served for operating-room and table; chairs, bowls and dishes served to hold the instruments; towels, cloths and instruments were sterilized with boiling water.

Whalen says, "I wish to encourage the ordinary practitioner to do this operation himself, since in this way only can it be of great value to mankind. Operations that can only succeed in the hands of a few great experts are not worth much to the race. The operation can and should be done by every well-qualified general practitioner. By wide use it can be of untold benefit in the saving of human life and in the alleviation of human suffering."

J. S., aged 13, had an ordinary case of typhoid of no special interest, lasting from September 10 to October 1, 1899. He had fully regained his usual health, when, on the morning of November 30, he had colicky pains, which increased; the bowels acted occasionally (six times by noon the following day); the pain continued through the night; I saw him first at 10.30 A.M., December 1; pulse, 132; temperature, 101.5°; pain worse on right side, and by comparison, found most tender point over the region of the appendix, 2 inches within and above the anterior superior iliac spine. There was no muscular rigidity. While I was present he had a chill, lasting 15 minutes; another occurred that evening at 6, lasting 35 minutes; I gave him ⅛ grain morphin and ordered hot applications to the painful area. My partner, Dr. J. R. Dawson, saw him with me at 3 P.M. We could feel a roll about as large as the little finger deeply located at McBurney's point; the pain was very moderate; no tympany, no muscular rigidity nor vomiting; pulse and temperature unchanged.

December 2, 8 A.M., pulse, 108; temperature, 100°; ⅛ grain of morphin every 5 hours had controled the pain; no tympany or muscular rigidity, but the hard roll was unchanged and quite tender to pressure; we decided to operate; commenced at 3 P.M., with incision over the appendix in a line with the fibers of the external oblique muscle; the cecum presented at once, and the appendix was located and brought up; it was firmly attached by adhesions along its entire length, to the posterior surface of the cecum; was but 2 inches long and had a very small mesoappendix; it was carefully separated from the cecum, found to be soft and slightly distended throughout, except at its attachment to the cecum, where it was constricted; it was tied with catgut and cut off; the stump was rubbed well with pure carbolic acid; there was a zone of peritoneal hyperemia, about ¾ inch wide, surrounding the appendix on the surface of the cecum; there was no bleeding, and we had a clean wound, so I ventured to return the gut and close the abdomen without drainage; this was done, layer by layer, with catgut, and supporting sutures of silk put in the skin; the appendix was dropped into alcohol and examined next day; it was not quite 2 inches long, had a sharp bend ¾ inch from the end; was entirely patulous, containcd only some soft blood-stained debris and pus. The patient did well; there was no shock, and ⅛ grain doses of morphin every 6 hours controled the pain. December 3, 8 A.M., pulse, 104; temperature, 99.° December 4, 4 P.M., pulse, 104; temperature, 98.6°; no pain; gave an enema and had good action.

Except for the misfortune to have stitch-abscesses along the upper half of the incision, the result was all that could be desired; by an oversight we neglected to sterilize our silk, and depended on a strong solution of carbolic acid to render it aseptic, but it did not do it. I had dismissed the case when, on December 12, at 8 P.M., the patient had sudden pain in the left lumbar region, followed by vesical tenesmus, and diminished amount of urine, with small amount of blood in it; very sensitive to pressure over the kidney. I was told that he had slight vesical tenesmus for 3 days past; the pulse was 120 and temperature 99°. I gave morphin hypodermically and hot fomentations over the kidney, but the pain continued and point of tenderness gradually moved down; the urine deposited a large amount of white sediment which on test proved to be phosphates; pain ceased on the third day, my diagnosis was a small phosphatic calculus, the formation of which had been favored by the general condition accompanying the appendicitis; he has not yet passed it.

Here was a case in which the general symptoms denoted improvement, but with a firm stricture at the orifice of the appendix, what would have been the result? Either a rupture into the cecum or into the peritoneal cavity, unless walled off; in that case an abscess would have formed and have required evacuation; the patient's general condition for operation would have been decidedly worse, convalescence tedious, and proper attention, five miles in the country, difficult. This seems to me to be an argument in favor of early operation.

What was the active cause in this case? Was it typhoid infection, or did the previous typhoid have anything to do with the attack? Possibly a small typhoid ulcer near the orifice of the appendix in the cecum had caused its closure by contraction of the cicatrix, and then the Bacillis coli communis became the active cause; possibly the bend of about 60° had been sufficient to cause temporary obstruction, setting up an inflammation which, by the swelling of the circular fibers at the orifice (Gerlach's valve) had caused the constriction that we found.

At present, January 17, 1900, the boy is in good health, with a firm scar.

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An Amelia Combined with Rachischisis and H drocephalus.—Arnold Schwyzer (*The St. Paul Medi Journal*, February, 1900) reports the case of a monster bo at about 8 months' gestation. It was completely devoid arms and legs. The spinal column was cleft and the he hydrocephalic. The mother had previously given birth several healthy children, and there was nothing positive known to account for the abnormality. The Röntgen p ture shows a number of the bones to be incompletely form [M.B.T.]

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Commercialism and Medicine.—There are two kinds of professional contempt for what is termed "commercialism." The justified and the justifiable kind is that which scorns the ignorance, trickery, and shamelessness frequently exhibited by lay manufacturing firms, and by the world of medical quackery and fraud. If it is really sincere and intellectual it also scorns these things when they exist within the profession. But there is another sort of (assumed) contempt for "commercialism" which is itself an instance of bad and contemptible commercialism. Those of this school, for example, think it virtuous and noble to treat commercial travelers who may call upon them with discourtesy and ill manners. They govern their own dealings with patients and with the profession by financial motives and business shrewdness, and yet pretend a toplofty scorn of lay monetary motives. They do nothing to advance original research and scientific progress and yet ignore or even spurn laymen and lay manufacturing firms who have done or are doing a high class of genuinely scientific work. There is said to be at least one "scientific" laboratory in which there is neither scientific method nor result, neither benevolence nor beneficence. On the other hand, in some commercial manufacturing firms there is both scientific method and result, and which are doing good work in the world. It is the irony of fate which makes the ignorant, unscientific and selfish, puffed with conceit, affect superiority to lay-superiors. Discrimination in judgment is needed to learn that in one way or another commerce lies at the basis of civilization, and that commercialism is not only of immense benefit to science but underlies and conditions all scientific progress.

A Plea for the Thesis.—In the olden times, when the degree of M.D. could be obtained from nearly all American medical schools after two courses of didactic lectures of four or five months each, the thesis was discarded as a requirement for the degree; and with good roason, for no man could gain even the rudiments of the knowledge needed within that short time. The same is true of the three or even the four years' course of six months, with the present increase in the number of subjects which absolutely must be studied; especially if the student enters a medical college with only a very second-rate high-school education.

But we are gradually nearing the ideal in medical education. Although the standards are still generally low, there are a few schools that are able to demand as much of their students, perhaps more, than the best of the world's most famous old universities. These schools should once more consider the claims of the thesis to a place in medical education, similar to that of the *Dissertation* of the German universities and the French *Thèse.* In the first place it would be difficult to overestimate the supreme importance and value of an exhaustive study of some one subject, or the effect of such study on the whole mental and moral disposition. The superficial and hasty student is likely to be conceited, presumptuous and rash; and the general course of medical study, covering as it does 20 or 30 subjects, cannot fail to make the student superficial. The object of any education should be as much the imparting of power as of information, and the most important step toward getting mental power is the acquisition of a right method in work, the ability to work independently and to gain a just standard of attainment. The physician is daily called upon to solve original problems, to investigate cases in some degree unlike any other case he has ever seen. Should he not have a little training in original, independent research before he undertakes these problems? It is quite true that not every able, well-educated man can originate much that is useful in thought or action; but there is a place in medicine for the man who knows where to borrow, who can quote judiciously and compile well. Thus, even if nothing specially original is attained, the labor is not entirely wasted.

Longevity of the Jews.—A recent editorial in the *Western Medical Review* comments upon the duration of life among the Jews, and offers as the most plausible explanation the temperance of the Jew in all things physical. Admitting the weight of this argument it cannot fail to be noted that the Jewish settlements in the slums of many large cities are singularly free from prevalence of the epidemic contagions of childhood which claim a large and reasonably constant number of fatalities among all other races. It has been suggested that the special reason for this exemption may be found in the fact that these poor Jews are among the most orthodox of their race, who observe with greatest exactness the prohibition of eating with unwashed

hands. Inasmuch as the infections of childhood are commonly those that are introduced through the mouth by the medium of contaminated hands or food, it would seem that the sanitary protection of hand-washing might very well be the prophylactic agent responsible for the frequent escape of Jewish children from scarlet fever and diphtheria, prevalent to so great an extent among their neighbors.

The Death Penalty.—Three legislatures have under discussion propositions to abolish the death penalty. After fifty years of agitation there are only five States in which the death penalty is forbidden by law—Colorado, Rhode Island, Maine, Michigan. and Wisconsin. In Michigan there is a strong agitation for its restoration. Iowa once abolished the death penalty, later restored it; and Maine, after abolishing it, restored it, and later again abolished it. Various arguments, of which it would be impossible to give even a synopsis, are employed by those favoring and those opposing; the principal points used by the advocates of the change are that capital punishment is brutalizing, that it does not act as a deterrent to crime, and that it defeats the ends of justice by making juries reluctant to convict when they know that a verdict of guilty will carry with it the death sentence. A New York case is cited in which a convict, sentenced to life-imprisonment for murder, was proved innocent and pardoned after serving twenty-two years. It is difficult to see wherein this man would have benefited had the death penalty been abolished prior to his trial. That it was not imposed upon him is, in itself, evidence either of mitigating circumstances or of reasonable doubt, and had his innocence not been proved, his life-sentence would still stand. It is also argued by those opposed to the abolition of the death penalty that capital punishment does deter from crime, as shown by careful investigations; that convicts under a life-sentence are a dangerous charge, because if they murder their keepers no heavier penalty than that which they are already undergoing can be imposed; and that through the abuse of the pardoning power the average term of life imprisonment has been reduced to confinement of about ten years. The constant filling up of prisons, placing heavy burdens upon the public, is also cited. However, the agitations have not been without fruit. In about twenty States the court may substitute life imprisonment, either at its own discretion or upon the recommendation of the jury; and in New York, Massachusetts and Ohio the electric chair has been substituted for the hangman's rope.

The Adrenal Bodies.—In spite of the careful investigations of late years upon the adrenal bodies, we are still more or less in the dark concerning the pathology of these organs. Among the rarest lesions are apparently primary carcinomas, and accepting either the mechanic or the parasitic theory for carcinoma, it is easily understood why such lesions are rare, because ductless glands are but little subject to injury or inoculation. Nevertheless, primary carcinomas do occasionally occur. Hausman and Collinet have reported typical examples, and there is a probable case recorded by Ball as far back as 1858. Recently Carrière and Deléard[1] have reported a case in which in addition to the primary growth in the adrenals, there were metastases to the liver. The patient suffered from ascites, pleural effusion, and apparrently died from exhaustion. There was no trace of bronzing of the skin, and this symptom, according to the authors, appears to have been absent in the cases previously reported; in fact, the chief symptom is the carcinomatous cachexia without the demonstrable presence of a tumor in the body.

Foolish Prognoses are altogether too common. It is true that the stories told by patients are not always trustworthy, but every physician hears histories which should suggest emphatic warnings against hasty prophecies as to the endings of illness. We are inclined to think that surgeons, more frequently than family physicians, make the mistake, and advise operation to avoid a fatal outcome. This fact constitutes a strong reason against the operative furore which, like all arguments in the line of desire and self-interest, may finally bring confusion upon the arguer. When one hears a surgeon assert that in all cases of appendicitis operation is demanded to save life, one thinks of the statement of the conservative friend of 40 years in busy general practice, that he had never known a case of death due to unoperated appendicitis. A very intelligent lady-patient recently said that she at one time had a rapid heart-action, some protrusion of the eyes, and a slight fulness of the neck. Every one of seven famous surgeons in America and Europe (named) had urged operation as the only method of avoiding a bad result, and the one most known as a master in the disease wrote letters pleading that to save life it must be undertaken at once. All this advice was not heeded and today, years later, the woman has no sign of exophthalmic goiter. There may be instances when a decided opinion as to prognosis is demanded and must be given by the physician, but in the vast majority of cases it is not necessary. Nothing so shatters confidence in the physician and in the profession itself, upon the part of patients and the lay world, as mistaken prognoses, and especially if of a fatal issue. The patient on whom you pronounced the sentence of death delights, and with somewhat pardonable vindictiveness, in smiling sardonically at you in after-years. We have known a patient thus malicious at the doctor's expense ten years after the customary two years' limit of life allotted by a rule-of-thumb science to the man with albuminuric retinitis.

[1] *Arch. de Med. exper. et d' Anat. path.*, xii, January, 1900.

It was of old advised, "Don't never prophesy unless you know."

Alcoholism and Drug Habit; Congenital or Early Acquired.—For a long time it has been considered a settled fact that when certain drugs are taken by the pregnant woman, they pass into the circulation of the unborn child; and there has been plenty of evidence that drugs taken by nursing women may appear in their milk. In spite of the general interest in the alcohol question, we are not aware that much has been done either by temperance enthusiasts or their opponents to try to determine definitely its effects on the infant or child in utero when taken by the mother. The recent investigations of Nicloux (*La Semaine Médicale*, December 20, 1899, and April 4, 1900) are of much interest in this connection. Nicloux administered a 10% solution of alcohol to pregnant guineapigs in definite amounts per kilogram of body weight; after sufficient time had elapsed for absorption to take place the animals were killed, the blood of the mothers and the young was collected and the percentage of alcohol was estimated. The milk of the animals was also collected and tested for alcohol. In this way Nicloux was able to demonstrate definitely that alcohol ingested by the mother passes through her own blood directly into the blood of the young and into the milk, and the percentages present, though not exactly equal are approximately so. These experiments, with their positive results, Nicloux believes permit the assumption that there is a definite congenital form of alcoholism.

From what we know of the effects of certain diseases of the mother on the child in utero—notably syphilis—it seems likely that Nicloux's conclusions with regard to congenital alcoholism are well grounded. Quite probably a considerable number of the sad cases in which men and women seem to be born with a terrible, unconquerable appetite for strong drink, have such congenital influences as their direct cause.

Another influence, possibly nearly as potent as congenital influence, is that of the habits of infancy and of early childhood. In this country fortunately it is not very customary to give little children alcoholic beverages, but among certain classes there is another custom quite as dangerous; that of using soothing sirups or drugs. Many a hard-working woman feels that she has not time to take up and tend her half-ill, fretful child, and she gives it a dose of paregoric or of some patent soothing sirup containing opium. Probably in many cases the fretfulness of the child may arise from the poor condition of the mother's milk as the result of hard work and overheated blood, and quite likely she takes a glass of beer or ale to keep up her strength, and alcohol is also taken through the milk as Nicloux has shown. If the mother cannot nurse her child, some poorly prepared artificial food is given and the soothing sirup quiets the pain of the colic of the resulting indigestion. But this state of affairs is not entirely among the poorer classes; of course the society woman cannot think of nursing or caring for her child, and while the nursemaid is gossipping with the cook or the coachman the baby is kept quiet with soothing sirup. When we realize how common are these conditions can we wonder that alcoholics and drug-habitues are numerous? Certainly the physician should consider all the possible effects of his prescription before he orders alcoholic or narcotic preparations for pregnant and nursing women, or narcotic drugs for infants. But there is also need of effort to remedy some faults of our civilization which make it necessary for the poor woman to overwork and which renders the care and nursing of her child distasteful to the wealthy woman. No doubt it would also be well if there were more strict legislation with regard to the sale of soothing sirups and narcotic drugs. Until these and many other changes are made it seems unlikely that there will be any great decrease in the prevalence of drunkenness.

Homeopathic Opposition to Science.—It is with genuine regret that we notice homeopathic journals, one by one, and with increasing violence, ally themselves against the great scientific truths upon which inductive medicine is based. We do not speak of the details of treatment or methods of medication, but of the very ground-work of common sense and induction upon which rationality in medication and prophylaxis are based. The reason we say we sincerely regret this is that in going over absolutely to this standpoint scientific medicine is deprived of a desirable buffer or intermediate between the ravings of popular hatred of science and the experimental school of medicine itself. As a result we have the portentous, literally terrifying, recrudescence of the blind diabolisms of quackery which we are now witnessing. Just as the bitterness of the homeopathists increases against vivisection, experimentalism, vaccination, measured physiologic tests of drugs, etc., just so fast we behold the appalling growth of the lunacies of demagogic quackery. We wish our homeopathic friends (who try so hard to be enemies) could recognize that it is no longer "allopathy" alone which supports the germ-theory of disease, the prophylactic nature of serotherapy, the validity of experimentation, etc., but that such things, in all essentials, are accepted and have been forever passed upon by the scientific minds of the world who care as little for "allopathy" as they do for "homeopathy." The saddest proof of this reactionism of homeopathy against sane common sense consists in a virulent denunciation in one of their journals of the medical inspection of schools. The plan is cursed with all the malignity of hatred, as interfering with education, insulting to the medical profession, and as spreading disease. To such results does the underscored logic lead!

The Professional Stimulus of Complete Health Department Reports.—Physicians who are fortunate enough to receive copies of the Monthly Bulletin of the Chicago Department of Health cannot fail to be impressed with its constantly increasing value both as an evidence of a large amount of work well done and as an educational factor for the medical profession of the inland metropolis. The presentation from time to time of original researches upon diphtheria, scarlet fever, cerebrospinal fever, and infectious diarrheas, from the officers of a department which at the same time it calls attention to the theoretic problem, offers facilities for its practical study and guarantees some effort to remedy the causes of infection spread, ought to be an inspiration to every physician in Chicago to cooperate in the scientific study of all problems of infection and prophylaxis. The Monthly Bulletin from Chicago is as different from and superior to the absolutely inane and useless list of deaths issued weekly by some other health-departments as day is different from and superior to darkness.

The health-officers of other cities read and keep for future reference the reports from Chicago and New York, from San Francisco and Buffalo and a few other cities that can be counted upon the fingers of one hand. They throw a great many other monthly and weekly reports into the waste basket without opening them, because past experience has shown them that opening and perusal would be mere waste of time.

A report of a board of health should be a detailed statement, giving information of value in regard to every avenue of effort that enlists the activities of the health-officers. This information should be presented in such a way as to enlist attention and command interest. Matters of special import should be emphasized by proper position and special headings,—not buried amidst a mass of valueless figures from which even an expert has difficulty in disinterring the crucial facts for which he is searching. The monthly report of a city health-department should go into the hands of every physician in the community which it represents. Thus the whole profession is in the confidence of the department and each physician feels himself to some extent a member exofficio of an advisory board. Thorough understanding of proposed or executed measures leads to reasonable cooperation and stimulates a most desirable feeling of professional loyalty to the health-officer and his work, without which no executive officer can hope to attain complete success in his undertakings.

A Medico-Legal Case Involving the Question of Cerebral Hemorrhage.—At the last meeting of the Medical Jurisprudence Society of the City of New York, the subject of intracranial hemorrhages as to their legal aspects were discussed and Dr. F. A. Sternberg, a member of the New York Bar, related a noteworthy case which occupied the Courts of New York for a number of years. A. B. brought suit against a street railway company for injuries received through the negligence of one of their employes. In his complaint he stated that while crossing the street he was knocked down by a car and injured on his head, causing intracranial hemorrhages, and finally, after long suffering, he was considered incurable by eminent members of the medical profession and therefore permanently disabled from ever procuring a livelihood for himself and family. At the trial the medical testimony was as follows:

Dr. P., attending physician, examined patient one hour after accident and found him still unconscious and suffering from all the symptoms of a hemorrhage in the brain. External marks were hardly visible. The doctor then described the plaintiff's condition in detail well known to medical men in intracranial hemorrhages. A few days after he noticed complete hemiplegia on the right side of the body. Speech was very much impaired. A consulting physician who also acted as an expert concurred in his testimony entirely with the attending physician.

The conclusive evidence by both physicians was:

1. That the plaintiff's hemorrhages into the brain were caused by external violence to the head.
2. That hemiplegia and all other symptoms described were caused by hemorrhage.
3. That the patient's condition is incurable and that his disabilities will be permanent.
4. The attending physician stated further that he has known the plaintiff two years previous to the accident and has always been his medical adviser, and that he has never at any time found a predisposition to intracranial hemorrhages or to any brain disease, and that the plaintiff has always enjoyed good health, except slight headaches and colds not unusual in a normal person.

Based upon the above evidence the jury brought in a verdict for $10,000 in favor of the plaintiff. The company appealed the case and the appellate division of the Supreme Court upheld the verdict of the lower court.

But during all the time of judicial proceedings the company did all in its power to investigate the case and, it seems, with complete success. The patient became insane and had to be brought to an asylum. A medical commission examined him there, and the following facts came to light:

The plaintiff stated that he had been a soldier in the Franco-Prussian War, and that he was shot in the head and that he could not remember whether the bullet had been removed or not; that he never intended to bring suit against the company, and that he was compelled to do so by his wife. Upon examination a slight scar was noticed on the left side of the head.

A few weeks after examination the plaintiff died and postmortem examination proved these facts beyond a doubt. A bullet was found in the left side of the brain, imbedded in congestive brain-tissue, and clots of blood were discovered as the result of brain hemorrhages.

The verdict was promptly vacated by the Supreme Court.

This case illustrates the difficulties both medical and legal underlying many trials. There are several ways in which the fraudulent claims of the plaintiff might possibly have been exposed, even without the timely

revelation that came through the patient's insanity and death. Was not trephining indicated on purely surgical grounds? Could the x-rays not have revealed the presence of the bullet? Why did not defendant's attorney look up the past history of the man? The army records (German or French) would have shown the history of the original injury. Such instances as these prove the good results that would follow the periodic examinations throughout life by a perfected Bertillon system of every member of the community.

On Malignant Neoplasms.—It may safely be asserted that there is no question more alive with interest than that relative to the origin and spread of the malignant neoplasms. Little by little definite ideas are being formulated, and it needs but the master mind to hit upon the solution of this most obstinate pathological problem.

Meanwhile careful experimental investigation is welcomed, and the recent contribution of Smith and Washburne (*Wiener med. Blätter*, January, 18, 25, 1900) is worthy of attention. These observers first present a short review of old and modern theories regarding the origin of new growths in the body and the causes of their metastases. They devote some attention to the investigations of Lack, which author, it may be remembered, experimented widely on the ovaries of rabbits, which he incised and then allowed the milk-like secretions to trickle down on the peritoneal folds, after which the wound was closed. The rabbits experimented on remained well about a year, when they began gradually to show signs of weakness, suffered from dyspnea, and, on being killed, were found to have large numbers of new growths scattered over the surface of the peritoneum, the pericardium, the liver and the uterus. The structure of these growths was found to resemble spindle-cell sarcoma. These results, if accepted as final, would lead to the assumption that healthy visceral cells, if implanted away from their normal area of growth, are capable of giving rise to large structures, which reproduce, in part at least, some of the cells of the original viscus from which they are derived. In addition to this consideration, however, it is known that constant irritation of a part has frequently given rise to new growths of a malignant nature. It is frequently found also that trauma is given as the ostensible origin of a sarcoma, and such an etiologic factor should not be neglected in the search for the causes of such growths. Why is it that such trauma in one instance causes acute suppurative periostitis, in another, chronic tubercular inflammation, and in still a third, sarcoma? It is now known that in the first two instances the trauma is but the efficient cause, while the real factor is to be found in a specific microorganism. How natural it is, therefore, to assume, also, in the third instance an essential factor in some minute organism. The analogies existing between tuberculosis and malignant neoplasms are so evident that it has often led to the idea that an infectious agent produces the second as well as the first. The method of spreading by means of the lymph-channels is common to both morbid conditions. General miliary tuberculosis indeed is closely imitated by the conditions known as sarcomatosis and carcinomatosis.

The authors say that they have seen sarcoma and carcinoma appear in a manner entirely analogous to the appearance of tuberculosis in like conditions. Then in addition there is the cachexia common to both diseases, in which they resemble the conditions produced by many microorganisms in the body. This is held as an important point in tracing the resemblances between cancer and any infectious disease. The authors finally give a number of instances in which experiment showed that infection was most certainly a property of the neoplasms. Thus cases are cited in which accidental infection of the same individual took place, *i. e.*, infection of the cheek through epithelioma of the tongue, infection of one lip from the other; the vagina through the cervix; a deeply seated intestinal infection through a more superficial one; one arm which had rested against the breast infected by the growth on that breast, and numerous others. The authors also cite the experiences of many surgeons (Reincke, Sippel and Roswell Park, *et al.*), who have noticed secondary tumors appearing at the site of the punctures made by a hypodermic needle in cases of carcinomatous peritonitis, and at the site of every stitch after a laparotomy for ovarian carcinoma, etc.

The most important cases are those in which the infection is carried from one individual to others of the same house or locality. Up to the present time it has not been possible to discover whether the infection is carried directly from person to person or whether the microorganism retains its vitality sufficiently long to remain outside of the body for any considerable length of time. Guelliot gathered reports of 77 cases in which the disease had been undoubtedly carried from one person to another. It is worthy of record that 71 of the cases were in man and wife.

Experiments, conducted by Smith and Washburne, in which they inoculated from tumors judged to be cancerous, gave many positive results. These when added to the evidence which these writers find in literature induce them to formulate the belief in the infectious character of these malignant neoplasms and to utter the hope that the fundamental etiologic factor may soon be unearthed.

The Mechanism for the Production or Redistribution of the Cerebrospinal Fluid for the purpose of equalizing pressure or supplying any sudden loss must be very perfect. St. Clair Thompson, who has recently collected all the cases recorded in literature of the escape of cerebrospinal fluid from the nose or

ears, has been able to show that as much as a pint may be discharged in the course of a day without the production of any symptoms whatever, excepting the annoyance of the dripping. In fact, when the flow ceases, the patient often complains of severe headache or shows signs of intracranial pressure. Of course, in these instances it is possible that there is a pathologic increase in the amount of the fluid, but the results of operation, particularly operations upon the spinal cord in which large amounts of cerebrospinal fluid are often lost without any apparent injury to the central nervous system, show that these losses are readily borne by the nervous tissues. In fact, the suggestion that before opening the dura, ligatures should be placed snugly but of course not tightly around the dura mater above and below incision in order to prevent the escape of the cerebrospinal fluid, appears to be entirely unnecessary. We recently saw an operation upon the cord, in which dural incision was performed, the patient losing probably as much as half a pint of the cerebrospinal fluid, and recovering from the anesthesia without a single symptom of vasomotor or pressure disturbance in the cord. Sicard, on the other hand, has been able to inject as much as 250 ccm. into the dural cavity of a dog without producing any symptoms, so that the mechanism for getting rid of a moderate excess of this fluid, if we can call it moderate, must be very perfect. The whole subject needs careful study. We know now a good deal about the chemical composition of the cerebrospinal fluid, but are still ignorant of its method of production, and the nervous or other mechanism that controls its movements.

Ligation of the Innominate Artery.—E. H. Howlett (*Quarterly Medical Journal*, November, 1899) reports the case of a laborer, 40 years of age, with aneurysm of the right subclavian artery. There was no history of traumatism or syphilis. In the right subclavian triangle a smooth pulsating tumor the size of a fist had first appeared a month previously. The heart and adjacent bloodvessels appeared in good condition. Rest treatment, with restricted diet and potassium iodid, was tried, but the tumor increased. The trachea was displaced a full inch, but there was no dyspnea. The patient suffered agonizing pain, which increased as the tumor grew larger. Two harelip needles were thrust into the sac and made to impinge on the opposite wall, and their position changed twice daily. This treatment not followed by improvement, ligation of the innominate artery was decided upon. After making an incision the clavicle was divided with rib-cutting forceps. A portion of the sternum was removed and the sac exposed. A strong silk ligature was placed about the innominate ¾ inch before its bifurcation, and a second ligature was applied to the common carotid 1 inch from its origin. On account of the great pain caused by pressure of the tumor, and owing to the very weakened and delicate character of the skin over the tumor inducing the fear of sloughing and rupture of the sac, it was thought best to open the sac and tie the vessel on both sides. Saline transfusion was being done by an assistant at the time the sac was opened. There was a gush of about an ounce of arterial blood and the patient immediately died. The necropsy showed that the heart and vessels on either side were in a normal condition. The arterial blood was supposed to come by regurgitation from the subclavian artery. [M.B.T.]

Correspondence.

REFLEX NEUROSIS FROM PHIMOSIS.

BY H. A. GALE, M.D.,
of San Francisco, Cal.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

SINCE reading Dr. Edie's article on the above subject in THE PHILADELPHIA MEDICAL JOURNAL of March 24, I am reminded of a case that recently occurred in my private practice which fully substantiates Dr. Edie's nomenclature.

September 15, 1899, I was called to see G. M., aged 9. I found a thin, anemic, and highly nervous child, with constipation and complete loss of appetite. He had always been healthy up to about one year previous to my visit, when he began to have what were described by his mother as spasms, which would come on nightly, and about two hours after retiring. The spasms always recurred about the same time and would last from one to two hours, when he would be completely exhausted for the next 24 hours. He had been treated for a variety of ailments without results.

Physical examination of the patient revealed nothing that could be for a moment considered as the probable cause of the great nervous disturbance, except a prepuce greatly elongated, but which could be easily retracted. There was not the slightest evidence of irritation about the corona glandis, yet I felt certain that the disturbance of the patient's nervous system was in some way due to the elongated prepuce, and decided to remove it at once.

After the patient had been anesthetized his father demurred to the amputation on account of complete absence of irritation about the parts, and stated that he did not believe that an elongated prepuce simply could be the cause of the patient's ill-health. As a hygienic measure, however, it was removed. The spasms did not recur. The patient began to improve immediately and has remained well since, and without other treatment.

FREE TUITION FOR MEDICAL MISSIONARIES IN THE UNIVERSITY OF VERMONT.

BY PATRICK CARTER LODGE, M.D.,
of Waterbury, Conn.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE editorial on "Medical Missionaries" in your last issue has pleased me very much. You say truly that nobler work is not being done in the world today than by these men, and I can say from 4 years close acquaintance with several missionaries who were fellow students of mine in the Medical Department of the University of Vermont that they were large-hearted, self-sacrificing, noble men indeed; men whose hearts and souls were in the work of Christ, otherwise there was no reason why they should subject themselves to the hardships and dangers of missionary life among the barbarous hordes of the Far East, because they were well fitted by education and character to make a good living at home. They were Protestant Episcopal clergymen, and in order the better to fit themselves for their work of Christian civilization, they studied medicine for several years in Burlington, Vermont. Character shone through every acts of theirs, and they were highly esteemed by their fellow students.

Before meeting these men I entertained the notion that missionaries devoted more thought to the funds of the various missionary societies and to "politics" than to the salvation of the heathen, but an acquaintance of 4 years with these missionaries has entirely changed my mind, and though differing from them in race and religion, for they were, with one exception, Englishmen, I feel it to be my

duty to testify to their honesty and sincerity of purpose, and to the extraordinary pains they have taken to fit themselves for their spiritual work. They would never allow themselves to be used for the purposes I have mentioned in connection with the sinister designs of their government.

Complying with your request to know of the fact if any medical college has ever offered free tuition to these our brethren, it gives me pleasure to inform you that the University of Vermont has for many years offered free tuition to missionaries of every creed and country, and that many Protestant clergymen from Canada and England profit by the offer, and study medicine in that institution for several years before going abroad on their missions. At the annual commencement of the medical college in July, 1898, Rev. George Huntley, of Yorkshire, England, was one of the 5 honor men, and he was a man of honor in every sense of the word.

THE PUBLIC BATHS ASSOCIATION OF PHILADELPHIA.

By W. L. ROSS, Superintendent.

To the Editor of The Philadelphia Medical Journal:—

On April 23, 1898, you gave a description of the Public Baths and Wash House which had just been opened to the public by *The Public Baths Association of Philadelphia* at the corner of Gaskill and Leithgow streets. In an editorial you called attention to the fact that this country was not meeting the great need of public facilities for cleanliness, especially in the slum districts of our great cities.

Since then much interest has been manifested in the subject, and baths similar to ours have been established in a number of cities, among them Boston, Pittsburg, Baltimore, Chicago and St. Louis. Besides, additional baths have been established in New York and Yonkers. The many visitors, not only of people in this city, but from St. Louis, Chicago, New York, Baltimore and other leading cities, show the rapid and healthy growth of a sentiment in this direction. The association has just received a letter from the editor of a western newspaper, requesting information with a view to establishing baths in his city.

Since we opened two years ago our experience has been most satisfactory. The first year (from April 21 to December 31) there were 21,656 bathers, making an average of 85 per day. The number of bathers for the corresponding eight months of 1899 was 30,562, showing a gain of 8,906 bathers, an average gain of 28 bathers per day. All nationalities, Hebrews, Italians, Germans, Irish, English, Japanese, Hungarians, as well as Americans, black and white are among the patrons.

A special effort has been made to show courtesy to the patrons and to maintain cleanliness and discipline, with good results, not only to them, but to the neighborhood in general. Where formerly the great majority of patrons came to bathe at irregular intervals, many coming in warm weather only, there is now a large and increasing number who bathe regularly, showingly that it is largely a question of education and habit. The shower baths have proved most satisfactory, and while many bathers prefer tubs at first because they have been in the habit of using tubs when bathing at all, the shower bath is preferred after a trial.

Our wash-house, which is small in proportion to the size of the baths, has being doing well also. The number of washers for 1898 was 256. The number for the corresponding eight months of 1899 was 716, showing a gain of 460 washers.

As the character of the baths become better known it is interesting to note that while the great majority of patrons are well behaved and desirable, a greater proportion of those who are somewhat discriminate in their tastes and manners are to be found among the patrons than formerly.

The growing numbers of those who are now regular bathers prove that the community can be educated to the great necessity of cleanliness if the facilities are provided.

THE LEGAL RIGHTS OF A WOMAN IN CHILDBED.

By GEORGE G. HOPKINS, A.M., M.D.

of Brooklyn, N. Y.

To the Editor of The Philadelphia Medical Journal:—

In your issue of the 21st inst. the great Pinard is quoted as saying that symphysiotomy should be performed upon a woman in childbed regardless of her wishes. This I can hardly credit, as it is contrary to his dictum of last year when he recommended the discarding of symphysiotomy for the modern Cesarean section.

That a woman should not have a voice as to whether an operation shall be done upon her in which there is a mortality of 12% and about 90% certainty of her being a cripple for life, is certainly unwarrantable.

In my estimation symphysiotomy is one of the most barbarous and unscientific operations ever devised and should be considered as bordering on criminality, and it should be entirely discarded.

With the improved technic in abdominal section, on pregnant women, for delivery of the fetus, with a mortality ranging, *in the past three years,* of from 5½% to 1%, symphysiotomy is not to be considered, it should be absolutely interdicted. I quote from a leading medical journal: "Pinard, of Paris, compared symphysiotomy, craniotomy, and prematurely induced labor. He inclines toward the Cesarean operation, with suture of the uterus and abdominal wall, rather than hysterectomy.

"Symphysiotomy was practised 100 times in the Baudelocque Clinic, from 1882 to 1899. There was a mortality among mothers of 12% and among children of 13%. Eighty-one craniotomies in Pinard's service from 1882 to 1899 produced a *maternal* mortality of 11%.

"A comparison of the best statistics shows that after prematurely induced labor the infant mortality is about 30%, and that of the mothers 2%.

"The *modern Cesarean section* should supersede craniotomy, symphysiotomy, and prematurely induced labor, for pelvic contractures.."

Those who have witnessed the wabbling, uncertain, feeble and painful gait of the vast majority of the women who have been subjected to this cruel operation will try almost any expedient rather than subject any woman, who has entrusted her life and well-being to their care, to such an operation as *symphysiotomy.*

TOBACCO AND ARTERIOSCLEROSIS.

By ALEXANDER R. BECKER, M.D.,

of Seattle, Wash.

To the Editor of The Philadelphia Medical Journal:—

Having been prevented from keeping pace with my Journals of late, I read Dr. Joseph Eichberg's generally admira-

ble paper on arteriosclerosis (March 10) only a few days ago. I was shocked to come upon this statement: ". . . chronic lead-poisoning and chronic tobacco-poisoning are frequently directly concerned in its causation;" and this is the more extraordinary because, directly following, he correctly says, "a chronic alcoholism has been regarded as an etiologic factor, but the evidence on this point is not clear, . . ." I marked the passage and laid it aside, intending to write him an indignant protest; but your very next issue (March 17) supplies a precise answer with all of T. Clifford Allbutt's weighty authority, for, in his second Lane lecture, in San Francisco, he says: "As to some other alleged causes of arteriosclerosis, such as the use of tobacco, we can only wonder at the levity which dresses up vague clinical impressions in the guise of practical axioms." "Levity" is neat, and nonactionable, but does it suffice to properly stigmatize the injection into a serious and scientific paper of a statement so ridiculous as to be worthy of the "Christian Scientists" or "W. C. T. U."? I think not. But I do think it is full time that the profession should demand of its members the disuse of such old-time vagaries of expression and a clearer uniformity in dealing with an article of such nearly universal use, regarding which, or its effects, there is no longer the faintest mystery or doubt.

That the daily newspapers should chronicle the deaths of this, that, and the other young man as "Complete Physical Wreck from Cigaret-smoking," is not remarkable—all things considered—but that "physicians" should certify that cause of death is shameful—for they *ought* to know that it was neither the tobacco, nor the paper, nor the inhaling that caused the physical and nervous wreck, but the narcotics incorporated in them by those unscrupulous manufacturers who each try to confirm the regularity of their customers by the cursed habit of that individual drug. That tobacco is harmful before and during adolescence and that, as a rule, no boy should smoke before he is 18, we all know and should teach much more than we do. But the percentage of grown men who are in any way injured by tobacco is far too small to be noted; and when it does disagree, it is only in some slight form that quickly passes on regulating the habits, for it never becomes the fundamental or etiologic cause of any disease whatever. When the Emperor Frederick was dying of cancer of the throat, there was a tremendous hue and cry and all the old women of both sexes nodded their heads and cackled loudly. I have personally only known 7 cases of that disease, but 5 of these were not in smokers, and 3 were in women.

For Heaven's sake, let that fetish be laid—forever!

WHAT AILS THE MEDICAL PROFESSION?

BY E. B. BAYLISS, M.D.,
of Parkersburg, W. Va.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

NOT a great while since, a copy of a western medical journal came into my hands, which contained an article on the subject of "Commercialism in Medicine." Unfortunately, so great was the press of work at the time the journal came, I mislaid if after reading the article in question, and so cannot give the name of the author. The burden of his song, however, was that some men who had proved failures as general practitioners, were able, after 3 months of special work, to be specialists. That sometimes these specialists were paid large fees for what an ordinary man could hav done as well. That often on one side of the street was a ma of large attainments but no practice, comparatively, while o the other side was a man of meager ability but a large an lucrative business. I have forgotten what the remedy fc this horrible state of affairs was, if any at all was suggested But that article needs answering by one which looks at th other side.

What ails the medical profession? First, I would sa jealousy. How many men are there today in medicine, wh are not jealous of their neighbors? And that, too, to an ex treme degree. How many physicians are there who wil speak well of the work done by another doctor, even thougl that work was done in an entirely different city, and for a patient who is not so much as known to the one who is pass ing judgment? There are some, of course, who are fair minded; who always try to see the best in their brothe physicians, but apparently they are in the minority.

Another thing that is destroying the usefulness of th medical profession is the overcrowding; and that is caused largely, in my opinion, by the idea that it is a disgrace for a man to abandon the practice of medicine, even though he finds that it and he are not congenial.

A man may start out fully equipped in every way, as fa as schools and books and instruments can equip him. Hi intentions may be the best in the world, and his willingness to do may be intense, and yet by reason of his peculia physical or mental make-up, he may find himself in a posi tion which, if continued in, will result in a failure; or a best, only a mediocre success.

Under these conditions, in any other line than ours, unless possibly it be the same with the clergy, a man is considered not only justified in changing his vocation, but indeed a fool if he does not. With us, however, should a man change, his failure in general work is held to be almost a crime, and should he go into a specialty, and be so fortunate as to find that his groove, he finds numbers of men who, instead of applauding his pluck in not staying where he was a failure, as they should, are rather inclined to find fault with him for making a success at all.

John Burroughs, in the current number of the *Century*, says that the science of anything can be taught, the art comes only by inspiration. Our too numerous small colleges, fostered often by our State Boards, which in many States do not require a diploma as a credential, are, it is to be feared, turning out large numbers of young men who, though they may be fairly taught, have not received and never will receive that inspiration that is necessary to complete success. Now and then a good man is produced, but the large majority are already condemned to be portions of the crowd ever standing at the bottom of the ladder called "Success," watching others climb, and too often engaged, in their more or less vindictive manner, in trying to pull them back, when, failing in their efforts, they act in such a way as to belittle the whole profession in the eyes of the public. We might wish that all could be born with the inspiration needed to be good physicians. Should one of these man-made, and not nature-endowed, doctors stay on in the profession with only fair success, he often wonders why his less artificial but more natural neighbor is apparently so successful in his efforts to gain and hold patients, while he, the unsuccessful one, fails.

I believe that not only are physicians born and not made—called if you please, as our clergymen friends would say—but that they are too apt to spend their time trying to cry down

eir brother's success and impugn his motives and methods, ther than in trying to find the cause of their own failure, d rectifying it. It seems to me that the successful physi- an is the one who can most heartily laugh with those who ugh, and earnestly mourn with those who weep.

The members of the medical profession must learn that eir employers, the public, look at exteriors. That they ke people at the estimate that they apparently put on emselves, and that a reserve that is possibly timidity, is ten construed to be a haughtiness, or an unwillingness to eet with others on the level of common life. The greatest ixer is the most successful physician, especially if he has mmon sense as a balance-wheel, and other things are ual.

Two other things it seems to me are ailing the medical ofession. Narrow-mindedness in looking at the achieve- ents of others, and of other 'pathies and 'isms. The con- ant fussing, bickering and backbiting that is going on, only rves to make the public lose faith in all physicians, and akes them more ready to run after what we, as physicians, ll "false gods." One of their excuses is, that judging from e way the physicians fight among themselves, the patient eanwhile recovering or dying apparently without regard to hat method is used, they have formed the idea that there is tle in medicine that cannot be secured by the said "false ds," and that the method followed by the latter is more greeable than the doses of unpleasant medicine given in e orthodox way.

Another thing that ails the medical profession today is the w fees. This is not due to an unwillingness on the part of e public to pay for what it gets, but is owing to the back- iting methods pursued by the profession at large. One wyer will uphold another in the most exorbitant charges. ach clergyman thinks that the laborer is worthy of his ire, and only the doctor is guilty of trying to make the ublic believe that every physician but himself has charged o much for the services rendered. On this tendency in ur profession hang all the low fees, the cut-down accounts, nd the pauper work, which make the practice of medicine t once the most laborious and poorly-paid profession.

What remedy would I propose for this ailment of our rofession? I would suggest that we adopt several well- nown injunctions as our watchword, and first I would put at divine commandment to "Love thy neighbor as yself," not forgetting that one's brother physician is to be lassed among his neighbors. I would also think that if we ll tried to cast out first the beam that is in our own eye, we ould more clearly perceive what could best be done for the Mote in our brother's eye," if indeed we did not discover hat it was all a case of beam in our own. Then it seems to ne that if we could learn to each "put his best foot for- ward," with "malice toward none, and charity for all," and hat last but not least, the laborer is worthy of his hire, the nembers of the medical profession would live in harmony, hat the so-called commercialism in medicine would disap- ear, and that we would regain the proud position that we nce had, as leaders in every good word and work.

The remedy does not lie in the State Examining Boards, ut in ourselves. Each one has a duty to perform to every ne else, and an obligation to be fulfilled. "Laugh and the world laughs with you, weep and you weep alone," finds no truer exemplification than in the way the world treats quar- reling physicians. We should try to laugh and make them enjoy our pleasure, instead of standing aghast at our quarrels.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending May 5, 1900:
Wednesday, May 2—College of Physicians.
Thursday, May 3—Obstetrical Society.

St. Agnes' Hospital, Philadelphia.—Dr. A. C. Wood has been appointed surgeon to the hospital to succeed Dr. A. W. Ransley, who recently resigned.

College of Physicians—Section on Gynecology.—Dr. H. J. Garrigues, of New York, will address the section at 8.15 o'clock, on Monday evening, April 30, in the hall of the college. Subject: "Periods in Gynecology." Following, a reception will be given at the University Club.

The new Nurses' Home of the Episcopal Hospital of Philadelphia was formally dedicated recently by Bishop Whitaker. Addresses were delivered by Rev. Joseph D. Newlin, D.D., Bishop Whitaker and others. The Home is a three-story building, erected at a cost of $100,000.

According to the will of the late Rebecca Emslie the following bequests are made to charitable institutions in Philadelphia: The Pennsylvania Hospital, the Episcopal Hospital, the Home for Infirm and Indigent Colored Persons, the Homeopathic Hospital, $5,000 each; the Home for the Homeless, $1,000.

Vital Statistics of Philadelphia for the week ended April 21, 1900:—

Diseases.	Cases.	Deaths.
Total mortality		739
Pneumonia 123, congestion of the lungs 10,		133
Pulmonary tuberculosis		84
Nephritis 36, uremia 23, disease of the kidneys 1		60
Heart-disease 46, fatty degeneration of the heart 8, neuralgia of the heart 2		56
Apoplexy 25, paralysis 9, softening of the brain 13		47
Convulsions		34
Influenza		31
Marasmus 12, inanition 7, debility 5		24
Measles		24
Inflammation of the brain 16, congestion of the brain 7, disease of the brain 1		24
Diphtheria 15, membranous croup 7	71	22
Gastroenteritis		21
Senility		21
Bronchitis		19
Carcinoma 12, sarcoma 3, tumor of the brain 1		16
Typhoid fever	77	14
Scarlet fever	62	10
Cerebrospinal meningitis	2	1
Smallpox		1
Casualties 7, erysipelas 5, gangrene 5, pleuritis 5, septicemia 5, peritonitis 4, pulmonary edema 4, abscess 3, cyanosis 3, hernia 3, pericarditis 3, intestinal obstruction 3, suicide 3, drowned 2, dysentery 2, puerperal fever 2, adenitis 2, purpura hemorrhagica 2, aneurysm 1, alcoholism 1, asthma 1, anemia 1, congestion of the liver 1, parturition 1, disease of the hip 1, disease of the liver 1, gastric fever 1, appendicitis 1, osteitis 1, laryngitis 1, neuritis 1, spondylitis 1, jaundice 1, leukemia 1, rheumatism 1, arteriosclerosis 1, spinal sclerosis 1, scrofula 1, tetanus 1, ulceration of the intestine 1, ulceration of the throat 1, unknown 1.		

NEW YORK.

Memorial to Dr. Fitzsimmons.—The parents of Dr. Fitzsimmons, a physician connected with St. Mary's Hospital, Brooklyn, who died a few weeks ago, have presented to the hospital chapel a pipe organ in memory of their son. It was dedicated last Sunday with appropriate ceremonies.

Hot-Air Treatment of Joint-Diseases in Bellevue Hospital.—A new apparatus for hot-air treatment of

rheumatism, gout, and kindred disorders, has been placed in Bellevue Hospital. It can be applied to the whole body or to the limb alone, and is capable of giving a temperature of 400° F. The patient does not breathe the heated air as in the ordinary Turkish bath.

Hospital Benefits.—A concert was given recently at the Waldorf-Astoria in aid of the New York Orthopedic Dispensary and Hospital. Many noted artists gave their services, and an interesting feature of the entertainment was the use of a piano that had belonged to Beethoven, and had been loaned for this occasion by Morris Steinert, of New Haven. A grand jubilee concert will be given on April 29 by the Sisters of the Poor of St. Francis for the benefit of St. Francis' Hospital and St. Joseph's Hospital.

Barren Island Nuisance.—Governor Roosevelt gave a hearing on the Doty anti-Barren Island bill. In this bill are embodied the suggestions of Dr. A. H. Doty for the establishment of 10 incineration plants for the disposal of the city's refuse. The opponents of the measure contended that it was an impracticable and extravagant scheme, and that the real intent of the bill was to compel the city of New York to abandon its present method of disposing of its garbage and force it to make a contract with a corporation to burn the garbage.

Mount Sinai Hospital, New York, has received a gift of $200,000 from Meyer Guggenheim and his sons, Isaac, Daniel, Murray, Solomon R., Simon, and William Guggenheim, to be used for the erection of a hospital building in the new group to be built by the hospital on Fifth Avenue, between 100th and 101st Streets. The object of the gift is to establish a memorial to Barbara Guggenheim, the deceased wife and mother of the donors. The building to be erected with this fund is that to be devoted to the use of contributing patients, and it is stipulated that the income derived from this source shall be used solely for the alleviation of the suffering of charity patients.

Complimentary Dinner to Dr. Jacobi.—A number of the distinguished professional and lay associates of Dr. Jacobi have constituted themselves a committee for the purpose of arranging for the proper celebration of the seventieth birthday of Dr. Jacobi in May. It is believed that this will be a fit occasion for a hearty manifestation of the esteem in which Dr. Jacobi is held, and for a recognition of the services he has rendered, in various relations, during the course of his career of almost fifty years as a physician, educator and civic worker. Under the auspices of the committee, a complimentary subscription dinner will be tendered Dr. Jacobi, at Delmonico's, 44th Street and Fifth Avenue, on Saturday, May 5.

New York Genito-Urinary Society.—A number of the leading genito urinary specialists of New York have formed a society to be known as the New York Genito-Urinary Society. It will meet monthly, when cases will be reported and papers read on different branches of the specialty. The office-bearers are: President, Dr. Ramon Guiteras, professor of genito-urinary diseases at the Post Graduate School and Hospital; vice-presidents, Drs. Winfield Ayres and Otis K. Newell; treasurer, Dr. George W. Blanchard; secretary, Dr. A. D. Mabie; corresponding secretary and stenographer, Mr. Samuel Bennett, 161 Garfield Place, Brooklyn, from whom information as to terms of membership, etc., may be obtained. Correspondence is invited with specialists in other parts of the country and abroad.

Congenital Absence of Part of Thoracic Wall.—The staff of the Long Island College Hospital are wondering over the case of Francisco Braschella, an Italian, who has lived in comparative comfort for 42 years with a portion of his chest wall lacking. On the right side of the thorax is an area, 4 inches by three, where the bony wall is deficient. Examination with the x-rays showed that three true ribs were only partially developed, and were, in consequence, very diminutive. In spite of this malformation the man insists that he has experienced very little difficulty in his work as a fruit dealer. The functions of the right arm were, however, somewhat impaired. There was nothing in the family or personal history to throw light on this anomaly.

Drug Clerks' Bill Passed.—Governor Roosevelt h signed Dr. Henry's bill providing for shorter hours for dr clerks, and securing to them certain rights and privileg conducive to a better state of health. The bill original provided that the State Factory Inspectors should make t inspections, but this was amended to meet the demands the labor element. The new law applies to cities of t State having one million or more inhabitants. It provid that no drug clerk shall work more than 70 hours per wee or 136 in two consecutive weeks; also that one hour shall allowed for each meal, that at least one full day off shall given in two consecutive weeks, and that no drug clerk sha sleep in the store, or in a room or apartment connected wi such store which does not comply with the sanitary regul tions of the local Board of Health. It goes into effect imm diately.

A Water-soaked Hospital.—Within the past fe months the Gouverneur Hospital has had its baseme flooded with water. The last time the basement had thr or four inches of dirty water in it, and the plaster was dro ping from the ceilings. The water backs up from the sewe and the storerooms, and even some of the sleeping rooms the help are filled with this filthy water. Superintende O'Rourke declares that this is the condition of the basemen of many houses in the immediate vicinity of the hospita and that it is because the hospital is situated below the lev of the river. The worst of it is that the old hospital wa long ago condemned, and a new building has been erecte but remains unoccupied because it has not yet been fu nished. The reason for this is, that the contractors faile before turning over the new hospital building to the city, an the building could not be accepted while mechanics' lie for large amounts were resting on it.

Trustees of the New York State Tuberculosi Hospital.—Governor Roosevelt has appointed as the trus tees of the New York State Hospital for the Treatment Incipient Pulmonary Tuberculosis: Howard Townsend, Manhattan, for five years; John H. Pryor, M.D., of Buffal for four years; Willis G. McDonald, M.D., of Albany, fo three years; Walter Jennings, of Manhattan, for two years, an Frank E Kendall, of Saranac Lake for one year. It is proba ble that the Davis bill establishing this experimental hospita would have failed to pass the Legislature had it not been fo the Governor's urgency message; even then the appropria tion was cut down from $200,000 to $50,000, and for som unknown reason it was still further amended so that th proposed site was vaguely stated as the "Adirondack re gion." The hospital will be built and equipped by the State but will be supported by counties, assessed pro rata for pa tients who do not pay.

Christian Science a Psychopathic Epidemic.—This is the term used by Dr. John H. Huber, in a recent lec ture in this city, to designate this fad of well-to-do society He stated that the statements of Mrs. Eddy and her sup porters attracted many persons of a temperament wel understood by the student of mental pathology. He ha noticed that most Christian Scientists were persons in middl or advanced life, and this he attributed to the fact that youth is likely to be normal in its mentality. Christian science was akin to alchemy, mesmerism, hypnotism, and countless epidemics of abnormal mentality. They appeal to the emo tional and hysterical and readily seize upon whole commu nities. The four Christian Science Churches in this city are all in wealthy portions of the city, and there are no missions by which the blessings of their faith may be disseminated among the less fortunate. Dr. Huber said he had examined 20 cases of alleged cures by Christian Science, and they had all been hysteria, neurasthenia, nervous dyspepsia, alcoholism, or similar examples of the sufferer's lack of self-control.

Music for the Nervous and Insane.—The State Pathological Institute has taken up the study of the question of the influence of certain musical tones and strains upon the nervous system, particularly in the case of the insane. The investigation is being conducted with the aid of the ergograph, a contrivance devised to note the amount of fatigue experienced by the muscles of the hand and arm under certain conditions. Hitherto this instrument has been used principally in the psychologic study of the pupils in

schools. It has been found that when a lively air was ed on a harp the persons experimented upon kept up exercise with the finger for a longer time before fatigue induced, and that, on the other hand, when certain tones e sounded on the 'cello the person's vitality became ably lowered. The subject is, of course, in a certain se a very old one, and finds a practical examplification the present day in the custom of armies marching to tle while the military bands play inspiriting martial or ional airs. It is thought that the physical well-being of insane may possibly be influenced favorably by the se- ion of music having the power to awaken emotions the posite of those which are characteristic of the depraved ntal state from which the particular individual suffers.

Final Decision in the Gerry Society Case.—The ion of the Court of Appeals in denying the motion for a rgument of the case between the Society for the Pre- ntion of Children and the State Board of Charities, closes a al contest which has a far-reaching influence upon the rities of the State. Last January the Court of Appeals nded down a decision in which the Gerry Society was said t to be a charitable institution, in the sense in which that m is used in the constitution, and that, therefore, the te Board of Charities has no right to inspect institutions pported by private benevolence, but must confine this rk to those institutions supported by public money. Mr. ridge T. Gerry has once more demonstrated that his per- nal influence is a potent factor in Albany, for the Court of peals decided by a vote of 4 to 3 to deny the application a reargument. Judge O'Brien, who wrote the opinion, ld that, according to the constitution, the term "charitable titution" does not include every corporation or society ving some charitable feature, but is one that receives pub- money, raised by taxation for the support of indigent per- ns. This decision of the highest court removes at one stroke er 600 charitable institutions in this State from the in- ection of the State Board of Charities, and affects upwards 145,000 beneficiaries. Mr. Gerry characterizes the work the State Board as "injudicious meddling by the inexperi- ced."

State Pathological Institute Crippled by Reduced ppropriation.—The scientific work of this laboratory ds fair to be brought to an abrupt termination by the action the Legislature this year in cutting down the appropriation m $36,000 to $20,000. This was accompanied by a rider ohibiting the use of any of this money for the payment of nt. Such legislation appears at first sight to be only a petition of similar attempts made frequently heretofore by liticians to achieve a reputation for economy without gard to what is sacrificed to this end, but in this instance e animus is apparently a difference of opinion between the mmissioners of Lunacy and Dr. Ira Van Gieson, the irector of the Pathological Institute. Dr. Peter M. Wise, e head of the Commission, is a firm believer in the old-time inical method of studying insanity, and of having all the ork done in close connection with the various hospitals for e insane. Dr. Van Gieson, on the other hand, has labored ceasingly to advance the science of psychology, and ready much excellent research work has been done in this ecial field, but it has been too exclusively scientific and eoretical to secure the approbation of that class who are ways demanding practical and immediate results. While is perhaps a just criticism to say that the work has been one too much in the domain of pure psychology, this action f the Legislature is but another instance of that parsi- onious and shortsighted policy that has so long kept us, as nation, so far behind foreign countries in just these spheres f scientific activity.

NEW ENGLAND.

Yale Medical School.—Dr. Otto G. Ramsey, instructor gynecology in Johns Hopkins University, has been elected rofessor of gynecology in Yale Medical School.

Dr. James J. Putnam presented to the Suffolk Dis- rict Medical Society, April 18, a paper on "The training in oordination of ataxic patients by Fränkel's method, with emonstrations."

Boston Society of Medical Sciences.—At the meeting held April 10th, DR. F. P. DENNY reported the results of 475 **examinations for diphtheria bacilli in cultures taken from healthy individuals.** DR. F. B. MALLORY demonstrated three **methods of staining** which he had originated; and DR. G. B. MAGRATH contributed a paper on **The relation of age, physique and preliminary training to class-rank in pathology.** He showed that age and preliminary training were of relatively greater importance than anything else. A case of **multiple myelotoma** was reported, with lantern-slide demonstration, by DR. J. H. WRIGHT.

The Annual Report of the Massachusetts General Hospital for 1899 has appeared. The total number of patients treated during the year was 5,086, the average number in the hospital 261 as against 253 in 1858. The number of free patients was 2,981, and those paying in whole or in part was 2,105—substantially the same as in 1898. The average cost per week was $13.74 against $13.16 in 1898. The average length of time in the hospital for all patients was 20 days. The new buildings in process of construction are a surgical operating building, a nurses' home, and a domestic building. The contemplated structures are a large outpatient building, and a ward connected with the outpatient department.

Thurber Medical Association, Milford, Mass.—At a meeting held April 5, DR. T. D. CROTHERS, of Hartford, Conn., Editor of the *Journal of Inebriety*, read a paper on **Late researches concerning alcohol as a beverage and medicine,** in which he presented a summary of the conclusions arrived at by the most recent scientific investigators in Europe and America. These related largely to the effects of small and moderate doses of alcohol upon the special senses of sight, hearing, touch, taste, and smell, and upon the muscular sense, muscular force, quickness of perception, and rate of mental action. The general tendency of these conclusions was in the direction of the classification of alcohol as an anesthetic and paralyzing agent, rather than as a stimulant and tonic. Dr. Crothers' paper contained no dogmatic statements, but aimed to be a purely scientific statement of the latest facts and conclusions in relation to alcohol.

Cases of Hair-Ball.—Dr. G. W. W. Brewster reports a case of intestinal obstruction in a girl of 10 living in Manchester, N. H., caused, as he found, by a hair-ball. In the median line above the bladder a sausage-like mass was felt about the size of half a banana. Incision discovered that it was in the small intestine, and as it could not be broken up nor pushed along, the bowel was incised and a mass of hair removed. The girl had a habit of chewing two long braids of hair which hung over her shoulders. Her teacher had tried in vain to break her of the habit. Apropos of this case, Dr. John Homan recalls that in 1866, while in London, he saw the stomach of a young woman of 25 opened, and a mass of hair removed, 9 inches long by 2 inches wide. The patient had been in the habit of swallowing the hair combed out morning and night. Dr. Frederick D. Lyon adds the recent case of convulsions in a child of 2 caused by hair-ball. A good dose of calomel, indicated by a history of hair-eating, resulted in the passage of hair-ball from the bowel, and the cessation of convulsions.

CHICAGO AND WESTERN STATES.

A chapter of the Omega Upsilon Phi Fraternity was established in the Medical Department of the University of Cincinnati (Medical School of Ohio), April 12, with 21 charter members.

To Aid the Presbyterian Hospital of Chicago.—Eighty churches of the Chicago presbytery devoted their Easter offerings, amounting to almost $20,000, to the support of the Presbyterian Hospital. Most of this sum will go toward the expenses of electric lighting and a sterilizing plant.

Chicago Laryngological and Climatological Society.—At a meeting held April 19, DR. GEORGE E. SHAMBAUGH reported a case of **primary nasal diphtheria,** in a girl 6½ years of age. None of the symptoms of diphtheritic

infection were present; in fact, the disease was a chronic one. The nose was filled with pus beneath which a thin, delicate, white membrane was found. Examination of this membrane upon two different occasions showed diphtheria-bacilli and staphylococci and streptococci in abundance. The bacteriologic examinations were made in the laboratory of the Health Department of this city. Removal of the membrane left a bleeding surface. There was a slight tendency for the membrane to spread to pharynx and larynx. The similarity of the symptoms to those obtained in fibrinous rhinitis was especially dwelt upon.

DR. OTTO J. STEIN presented a case of **symmetrical osteoma of the nose,** following a blow received 11 years ago. The enlargement on either side of the nose is about half the size of an egg, and has practically occluded both nostrils, causing the patient to breathe through his mouth and giving him a classical "frog-like" appearance of the face.

Chicago Medical Society.—At the meeting held April 18, DR. GUSTAV KOLISCHER presented some notes on points in **obstetrical practice.** He called attention to the position of the mother during labor, especially in cases of presentation of the vertex anteriorly, as under these conditions the pelvis is quite frequently malformed and gives rise to serious complications. This position is diagnosed by the absence upon external examination of the resistance afforded by the back of the fetus in occiput presentation. Upon internal examination the anterior fontanelle is found lower than the posterior. The progress of the labor is slow, there is great liability for the occurrence of a low crossed position, and increased danger to the perineum. According to statistics, this presentation occurs in about 8 to 10% of all confinements. The treatment of the condition and resulting complications, as well as the management of the labor, is gone into at length. The author believes in the effectiveness of quinin upon irregular and exhausting uterine pains. Quinin does not produce or increase the pains, but renders them more regular and less painful.

Chicago Pathological Society.—At the last meeting DR. E. R. LE COUNT showed the gross specimens and microscopic preparations of (1) a **benign hypernephroma** which was found in the body of a man, aged 64, examined at the St. Elizabeth Hospital. Death occurred from chronic diffuse nephritis and general arteriosclerosis. There was also present a small aneurysm of the right auricle. The hypernephroma was located on the anterior surface of the left kidney, and measured 2 cm. in diameter. It projected slightly and consisted of a mass of soft, bloody tissue, and microscopically was found to be made up of a number of compartments occupied with rows of large cells whose arrangement recalled the structure of the zona glomerulosa of the suprarenal capsule. No other tumor was found in the body. 2. A large **papilloma of the gallbladder** associated with gallstones. 3. The metastatic growths removed from the abdominal cavity by Dr. Byron Robinson following a primary **papillary carcinoma of the fallopian tube.** The primary growth was reported to the Chicago Gynecological Society, December 15, 1899, by Drs. Newman and Le Count. The metastatic growths weighed 1,300 grams; they were made up of papillary proliferations which in many of the masses were the seat of an extensive necrosis. 4. A **primary carcinoma of the lung** which was found in a woman aged 56. Her illness had lasted 18 months, and was characterized by emaciation, cachexia and a bloody expectoration. Tubercle-bacilli could not be found in the sputum. Both lungs were the seat of an extensive consolidation in the upper lobes, which was peculiar in being marked by many small white points. In the lower lobes there were several metastatic nodules which had produced puckered sears in the pleurae. The white points noticed in the anatomic examination were found to be due to a necrosis of the central parts of islands of tumor-cells. The tumor had sprung from the alveolar epithelium. There were no tumors elsewhere in the body.

SOUTHERN STATES.

Lieut.-Colonel A. A. Woodhull will take Colonel Dallas Bache's place as curator of the Army Medical Museum. Colonel Woodhull has just returned from Manila, where he has been the chief medical officer of General Otis' staff.

MISCELLANY.

Obituary.—DR. ORSON BUEL, South Norfolk, Conn., ag 71 years.—DR. WILLIAM T. ROBINSON, Philadelphia, April aged 63 years.—DR. ISAAC C. HARING, West Nyack, Rockla County, N. Y., April 16.—DR. W. L. DAVIS, Knoxville, Ten April 10.

Delegates to the Tuberculosis Congress.—T Secretary of the Treasury has designated Doctor Victor Heiser as one of the United States delegates to the Congr for the Prevention of Tuberculosis, and the State Depa ment has appointed Doctor Robert N. Willson, who h accepted, and started for Naples April 20. Dr. Heiser is o of the surgeons in the Marine-Hospital Service and station at Naples. Dr. Robert N. Willson is a son of Judge Wills of this city and an ex-resident of the Pennsylvania Hospit and at present studying pathology in Vienna.

Army Medical Delegates.—Lieutenant Colonel A. Woodhull, Captain William Stephenson and Captain E. Frick, of the Medical Department, have been detailed to re resent that department of the army at the meeting of t American Medical Association, to be held at Atlantic Cit N. J., in June next.

Colonel Charles C. Byrne and Captains William C. Borde and Charles M. Gandy have been detailed to represent t army at the ninth annual meeting of the Association of Mi tary Surgeons, to be held at New York City, May 30.

Surgeon Braisted, of the "Detroit," Receives Decoration.—The *Venezuela Herald*, under date of Ap 10, contains the following announcement: "At the time the taking of Puerto Cabello, in November, 1899, we point out to our readers the devoted conduct and disinterestedne which Dr. William C. Braisted, doctor of the *Detroit*, had di played after the battle, when, during twelve consecuti hours, he operated on and cured numbers of wounded Ven zuelans. This praiseworthy conduct has at last been rewarde by General Castro, who has just advised our Legation th Dr. Braisted has been decorated with the order of Boliva It is to be wished that this decoration was always so just merited."

Woodbridge Treatment of Typhoid Fever.—It understood that a board of medical officers convened investigate the merits of the Woodbridge treatment typhoid fever, as carried out at the Fort Myer General Ho pital during the war with Spain by Dr. Woodbridge himse then major and surgeon, United States Volunteers, finds mortality of about 10% of all cases treated by the Woo bridge method and about 7% of all cases treated by oth methods. In all, about 600 cases of typhoid fever we treated at the Fort Myer Hospital; of these, 57 were treate by Dr. Woodbridge, who was afforded every facility in th application of his treatment.—*Boston Medical and Surgic Journal.*

Changes in the Medical Corps of the U. S. Arm for the week ending April 21, 1900:

DEWITT, Lieutenant-Colonel CALVIN, deputy surgeon-general, chi surgeon of the division of Cuba, is relieved from further duty i the division of Cuba, and will proceed to New York City, r porting by telegraph to the Adjutant-general of the Army fo further orders.

HAVARD, Major VALERY, surgeon, is relieved as chief surgeon, d partment of Santiago and Puerto Principe, and will proceed t Havana, Cuba, for duty as chief surgeon, division of Cuba.

GORGAS, Major W. C., surgeon, is relieved as chief surgeon, depar ment of Havana, and will proceed to Santiago and report to th commanding officer, department of Santiago and Puerto Prin cipe for duty as chief surgeon of that department.

JACKSON, T. W., acting assistant surgeon, is relieved from furthe duty in the division of Cuba, and will proceed to New Yor city, reporting by telegraph to the Adjutant-general of the Arm for further orders.

ARWINE, JAMES T., acting assistant surgeon, will report at Vancou ver Barracks for temporary duty at that post until such time a he may be able to proceed to Fort St. Michael, Alaska, unde such instructions as he may receive from the commanding ge eral, department of Alaska.

FOGG, JOHN S., acting assistant surgeon, will proceed to Washing ton, D. C., for annulment of contract.

LONG, STEPHEN M., acting assistant surgeon, is assigned to duty a the U. S. general hospital Presidio.

TAYLOR, DWIGHT B., acting assistant surgeon, now on duty a Columbus Barracks, will accompany Company G, Seventh In fantry, to Seattle, Wash., and upon completion of this duty wil return to his proper station.

LF, First Lieutenant EDWIN P., assistant surgeon, leave is extended 15 days.
G, JOHN S., acting assistant surgeon, having reported to the Surgeon-General of the Army, will proceed to Columbus Barracks for temporary duty.
LER, DANIEL B., hospital steward, now at St. Francis Barracks, is transferred to Key West Barracks to relieve acting hospital steward Samuel S. Snarr.
RR, SAMUEL S., acting hospital steward, will proceed to Fort Barrancas for duty at Fort Pickens.
RCH, First Lieutenant JAMES R, assistant surgeon, is granted leave for 10 days.
ES, ROGER POST, acting assistant surgeon, is relieved from duty at military hospital No. 1, Havana, Cuba, and will proceed to Quemados, Cuba, reporting to the chief surgeon, department of Province of Havana and Pinar del Rio, for assignment to duty.

hanges in the Medical Corps of the U. S. Navy, the week ending April 21, 1900:

RMON, G. E. H., medical inspector, detached from the "Baltimore" and ordered to the "Oregon."
PHENSON, F. B. surgeon, detached from the "Oregon" and ordered to the "Baltimore."
RRIS, L., passed assistant surgeon, ordered to the "Baltimore."
NS, S.G., passed assistant surgeon, ordered to proceed home when detached from the "Marblehead," and to be ready for sea duty.

hanges in the U. S. Marine-Hospital Service, the 7 days ending April 19, 1900:

NNAN, A. H., surgeon, to rejoin station at New Orleans, La., April 18.
NTOSH, W. P., surgeon, detailed to represent the Service at the meeting of the Medical Association of the State of Alabama, to be held at Montgomery, Ala., April 17–21. April 13.
NTOSH, W. P., surgeon, to proceed to Tarpoon Springs, Fla., for special temporary duty. April 14.
TERAS, G. M., passed assistant surgeon, Bureau order of March 5, 1900, relieving from duty at Matanzas, Cuba, is revoked. April 17.
ISER, V. G., assistant surgeon, detailed as delegate to the Congress "for the struggle against Tuberculosis," to be held at Naples, Italy, April 23–28, 1900. April 14.
TTER, F. E., assistant surgeon, Bureau order of March 5, 1900, detailing for duty as quarantine officer at Matanzas, Cuba, is revoked; directed to proceed to Cienfuegos, Cuba, as quarantine officer. April 17.
LLARD, J. C., acting assistant surgeon, granted leave of absence for 51 days from May 1. April 16.
VELBURG, W., acting assistant surgeon, granted leave of absence for 30 days from May 10. April 18.
LEN, G. C., hospital steward, granted leave of absence for 27 days from April 19. April 16.
IS, G. W., hospital steward, to proceed to Cleveland, Ohio, and report to the medical officer in command for duty and assignment to quarters. April 17.

BOARD CONVENED.

ard convened to meet at Washington, D. C., April 19, 1900, for the physical examination of candidates for appointment as second assistant engineer in the U. S. Revenue Cutter Service. Detail for the board: Surgeon P. M. CARRINGTON, Chairman; Assistant Surgeon L. D. FRICKS; and Assistant Surgeon W. C. BILLINGS, Recorder.

APPOINTMENT.

IS, GEORGE W., of Minnesota, appointed junior hospital steward. April 16.

Health-Reports.—The following cases of smallpox, llow fever, cholera, and plague, have been reported to the rgeon-General, U. S. Marine Hospital Service, during the ek ended April 20, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ABAMA:	Mobile	April 7–14	1	
STRICT OF COLUMBIA:	Washington	April 7–14	1	
ORIDA:	Jacksonville	April 7–14	1	
LINOIS:	Chicago	April 7–14	1	
DIANA:	Evansville	April 7–14	4	
NSAS:	Wichita	April 1–7	5	
"	"	April 7–14	14	
NTUCKY:	Covington	April 7–14	9	
"	Lexington	April 7–14	3	
UISIANA:	New Orleans	April 7–14	51	19
AINE:	Portland	April 7–14	1	
ARYLAND:	Baltimore	April 7–14	1	
ICHIGAN:	Detroit	April 7–14	1	
INNESOTA:	Minneapolis	April 7–14	20	
EBRASKA:	Omaha	April 7–14	4	
EW YORK:	New York	April 7–14	1	1
HIO:	Cleveland	April 7–14	11	2
. CAROLINA:	Greenville	April 7–14	2	
TAH:	Salt Lake City	April 7–14	3	
IRGINIA:	Portsmouth	April 7–14	1	
ASHINGTON:	Spokane	April 7–14	3	

SMALLPOX—FOREIGN.

			Cases.	Deaths.
AUSTRIA:	Prague	March 17–24	4	
BELGIUM:	Antwerp	March 24–31	2	2
"	Ghent	March 24–31		2
BRAZIL:	Rio de Janeiro	Feb. 23–March 2		15
CANADA:	Quebec, Bonaventure Co.	April 5–12	25	
COLOMBIA:	Barranquilla	March 24–31	5	5
EGYPT:	Cairo	March 11–18	8	
ENGLAND:	Liverpool	March 24–31	21	1
"	London	March 17–31	8	1
GIBRALTAR:		March 26–April 1	3	1
GREECE:	Athens	March 24–31	10	6
INDIA:	Bombay	March 6–13		222
"	Kurrachee	March 4–11	17	6
ITALY:	Palermo	March 17–24		1
MEXICO:	City of Mexico	March 18–April 1	40	22
"	Vera Cruz	April 1–7		3
RUSSIA:	Moscow	March 10–17	9	2
"	Riga	Jan. 1–31		38
"	St. Petersburg	March 3–10	20	8
"	Warsaw	March 10–17		1
SPAIN:	Corunna	March 24–31		1
"	Madrid	March 16–24		6
"	Valencia	March 24–31	3	3
STRAITS SETTLEMENTS:	Singapore	Feb. 10–March 3		14

YELLOW FEVER.

BRAZIL:	Rio de Janeiro	Feb. 23–March 2		18
COLOMBIA:	Barranquilla	March 24–31	1	1
"	Panama	March 27–Apr. 10	3	
CUBA:	Havana	March 1–April 17	2	4

CHOLERA.

INDIA:	Bombay	March 6–13		10

PLAGUE—INSULAR.

PHILIPPINE ISLANDS:	Manila	Feb. 24–March 3		7

PLAGUE—FOREIGN.

INDIA:	Bombay	March 6–13		736
"	Kurrachee	March 4–11	90	63
JAPAN:	Formosa, Tamsui	Jan. 1–31	53	43
"	" "	Feb. 1–28	46	39
"	Osaka	April 16	Present.	
PARAGUAY:	Asuncion	Feb. 8–15		6
PERSIA:	Djiranro	March 29	Present.	

Association of American Physicians.—The following is the final program of the Fifteenth Annual Meeting to be held in connection with the Fifth Congress of American Physicians and Surgeons in Washington, D. C., May 1, 2, and 3:

MAY 1.

SESSION OF THE ASSOCIATION—10 A.M.

1. The President's Address, E. G. Janeway, New York.
2. General Business.
3. Endocarditis, and its Relation to other Diseases.
   Referee: William Osler, Baltimore.
   Discussion: Simon Flexner, J. C. Wilson, and others.
4. An Experimental and Clinical Study of Acid Intoxications, C. A. Herter, New York.
5. Notes on Diabetes: 1. On Casts in the Urine During Diabetic Coma. 2. On the Occasional Low Specific Gravity of Diabetic Saccharine Urine, James B. Herrick, Chicago.
6. Communication on the Relation of Uric Acid Secretion to Epileptic Attacks, James F. Putnam and F. Pfaff, Boston.
7. Report of a Case of Acute Ascending Paralysis, showing Hematoporphyrinuria, Charles G. Stockton, Buffalo.
8. The Relative Infrequency of Acute Transmissible Diseases During the First Year of Childhood, with a Discussion of the Probable Reasons for the Same, A. C. Abbott, Philadelphia.
9. Recurrent Vomiting in Children, J. P. C. Griffith, Philadelphia.
10. Sanitarium Treatment of Pulmonary Tuberculosis, and its Results, E. L. Trudeau, Saranac Lake.

SESSION OF THE CONGRESS—2.45 P.M.

2.45 P.M.—Congress opened by the Chairman of the Executive Committee. From 3 to 5 P. M.—General Session of the Congress.

Subject: "Bacteriology in Health and Disease."

Papers will be read as follows, viz.: Adaptation of Pathogenic Bacteria to Different Species of Animals, Prof. Theobald Smith, Boston, Mass.; The Physiological Resources of the Body in its Defense Against Bacteria and their Toxic Products, Dr. Samuel J. Meltzer, New York City; Flagella and Serum Reactions, Prof. Harold C. Ernst, Boston, Mass.; Relation of Bacteriology to Clinical Medicine, Dr. Richard C. Cabot, Boston, Mass.; Bacterio-Therapeutics with Especial Reference to Tuberculosis, Dr. Edward R. Baldwin, Saranac Lake, New York; The Etiology of Malarial Fevers, Prof. William S. Thayer, Baltimore, Md.; Bacteriology of Dysentery, Prof. Simon Flexner, Philadelphia, Pa.

MAY 2.

SESSION OF THE ASSOCIATION—10 A.M.

11. Election of Members.
12. Some Conclusions Arrived at after a Study of 104 Cases of Pernicious Anemia, Richard C. Cabot, Boston.
13. Report of Cases of Pernicious Anemia with a Special Reference to the Blood-Findings, Frank Billings, Chicago.
14. Clinical Notes on Cases of Pernicious Anemia, Frederick P. Henry, Philadelphia.
15. Observations on Cases of Pernicious Anemia, A. McPhedran, Toronto.*
16. Proliferation and Phagocytosis, F. B. Mallory, Boston.
17. Cases of Diarrhea Associated with the Presence of Strongylus Intestinalis in the Stools, W. S. Thayer, Baltimore.
18. The Organism and Lesions of Actinomycosis, J. H. Wright, Boston.
19. Case of Filaria with Specimens of the Adult Parasite, W. T. Councilman, Boston.
20. The Elimination of Deleterious Substances from Antitoxic Sera, Wm. H. Park, New York.
21. Varieties of Diphtheria Bacillus, F. F. Westbrook, with Drs. Wilson and McDaniel, Minneapolis.
22. A New Pathogenic Fungus (Streptothrix Schenck), L. Hektoen, Chicago.
23. The Existence of Bacteria in Normal Tissues, G. J. Adami for W. Ford, Montreal.

SESSION OF THE CONGRESS—3 P.M.

From 3 to 5 P.M.—General Session of the Congress.

Paper on Modern Therapeutics, Prof. William Osler, M.D., LL.D., Baltimore, Md.; Essay on Sociological Status of the Physician, Dr. Clarence J. Blake, Boston, Mass.; Poem on The Evolution of the Physician, Dr. S. Weir Mitchell, M.D., LL.D., Philadelphia.

Evening Session of the Congress—8 P.M.

Address on The Medical School of the Future, by the President of the Congress, Prof. Henry P. Bowditch, M.D., LL.D., D.Sc., Professor of Physiology in the Harvard Medical School, Boston, Mass.
To be followed by a Reception at the Arlington Hotel.

MAY 3.

MORNING SESSION OF THE ASSOCIATION—10 A.M.

24. Venous Thrombosis as a Complication of Cardiac Disease, Wm. H. Welch, Baltimore.
25. The Nature of the New Tissue in Cirrhosis of the Liver, and its Distribution, Simon Flexner, Philadelphia.
26. Cystoma of the Pancreas, R. H. Fitz, Boston.
27. Degenerated Echinococcus Cysts of the Pleura, Charles Carey, Buffalo.
28. Sub-Pectoral Abscess, J. H. Musser, Philadelphia.
29. Stone in the Kidney and Conditions Simulating it, D. D. Stewart, Philadelphia.
30. Aneurysm of the Aorta with Rupture into the Superior Vena Cava, Recognized during Life, Alfred Stengel, Philadelphia.
31. The Circular Fibres of the Heart (Mitral Sphincter) as a Factor in Functional Disturbances of the Heart with Mitral Insufficiency, Morton Prince, Boston.
32. Minor Forms of Cardiac Dilation, Beverly Robinson, New York.
33. Graves' Disease without Exophthalmic Goiter, W. H. Thomson, New York.
34. Graves' Disease without Exophthalmic Goiter, D. D. Stewart, Philadelphia.
35. Presentation of a Case of Addison's Disease under Treatment with Suprarenal Extract, W. W. Johnston, Washington.
36. Perichondritis in Typhoid Fever, with Exhibition of a Patient and a Specimen, M. H. Fussell, Philadelphia.

AFTERNOON SESSION OF THE ASSOCIATION—2.30 P.M.

37. The Attitude of the Physician and Surgeon to Appendicular Symptoms Complicating Typhoid Fever, H. A. Hare, Philadelphia.
38. Observations on Appendicitis, Ira Van Gieson, New York.
39. Would not be a Gain to Both Pathology and Practice if a Direct Interaction between the Moribific Agent (Noxa) and the Reparative Effort were Recognized, and the Conception of an Intermediate, So-called Inflammatory Process Abandoned? Andrew H. Smith, New York.
40. The History of a Case of Circumscribed Scleroderma, S. B. Ward, Albany.
41. Some Observations on Human Temperature in Disease, Norman Bridge, Los Angeles.
42. Study of a Mummy Affected with Infantile Paralysis, J. K. Mitchell, Philadelphia.
43. A New Modified Sphygmograph, Robert T. Edes, Jamaica Plain.
44. Papers to be Read by Title: Clinical Types of Uric Acid Diathesis. Treatment. Completion of Paper, J. N. Danforth, Chicago; Sarcoma of the Stomach, George Dock, Ann Arbor; A Case of Multiple Fibromas of the Nerves with Arthritis Deformans, L. Hektoen and R. B. Preble, Chicago; Multiple Myeloma, J. H. Wright, Boston: The Urea Content of the Blood in Cases of Nephritis, J. S. Thacher, New York; A Study of 24 Cases of Typhoid Fever with Symptoms of Peritoneal Infection. Laparotomy, George B. Shattuck, Boston, for George B. Shattuck, J. Collins Warren, Farrar Cobb, Committee of the Boston Society for Medical Improvement.
45. Concluding Business.

* Withdrawn.

Foreign News and Notes.

GREAT BRITAIN.

The late St. George Mivart was an admirable co parative anatomist. He was widely known as a contr versialist on social and religious subjects, but his place in t scientific world was determined by his careful skelet studies, for which he obtained the coveted Fellowship of t Royal Society.

Illegal Restraint of Lunatics.—An Inspector of t Local Government Board has recently attended a meeting the Guardians of Hampstead—a beautiful and wealt London suburb—with reference to the illegal use of belts a anklets for the restraint of lunatics temporarily retained the Hampstead Workhouse. The Local Government Boa rightly insisted that such inhumane and obsolete methods treating insane folk must cease—the wonder to most medic men being that in these days they any longer exist.

The late Mr. Joseph Kenny, the coroner for the ci of Dublin, who died on April 9, was a medical man, but h owed his appointment to his politics, not to his medico-leg knowledge. He was an ardent Nationalist and probably th most trusted and confidential friend that the great Parne had. When the split occurred in the Irish party because Parnell's one moral lapse, Kenny was faithful to his frien and became a member of Parliament for Dublin City, whic city mainly took the disgraced chief's side. He was al made coroner for the city, a berth worth £500 per annu and in the gift of the municipality. Kenny was a thorough good, amiable, honest man, and very popular with his med cal colleagues in Dublin.

Worrying the Vaccination Officer.—It is well tha the letter of the law as much as its spirit should be observe but a point has recently arisen in England under the ne Vaccination Act in which exactitude would seem to ha been carried to excess. At Stratford recently a whole batc of summonses taken out by the vaccination-officer—ge erally a very hard-worked official—against defaulters w dismissed because the officer's signature was lithographe instead of written. There was no dispute whatever that th summonses had been taken out by the vaccination office who, however, had his trouble for nothing as the magistrat dismissed all the cases on the ground of the irregularity signature. There are, as a matter of fact, certain lega luminaries who are regularly employed by the defaulters i vaccination to defend them. They spend time and ingenuit in "keeping their clients' end up" by picking holes in th procedure of the vaccination officers. These tactics have s far prevailed, but ingenuity has its limits. Each successfull defended case means that the party of law and order wi see where the flaw in their proceedings has been hithert and will avoid it in the future.

Milk.—A Departmental Committee upon milk-standard recently sat in London and took some important evidenc The medical officers of health all over England consider tha the subject of milk is of the first national importance. Mil is the principal diet of invalids and the only food of th well-fed infant, but in many English urban communities i is bad, badly collected from sick animals, badly stored, badl delivered, and badly kept in the houses of the public wh drink it. Epidemic after epidemic has been traced to milk and there is a general feeling that the law, which has recentl done much by regulating the "construction" of dairies, wi have to do more, for example, by insisting upon the non adulteration of milk and by rigorously inspecting importe supplies. Now and again a go-ahead corporation will try t help itself, and such a corporation is that of Liverpoo The death-rate of infants has alarmingly increased in Live pool, and now is said to average **42% of the entire mor tality of the city.** The chief cause of this appears to be from medical and other evidence, bad milk, but many of th parents are poor and cannot get any better. On the recom mendation of the local health-committee the city has de termined to establish a depot for the preparation and sal at a low cost of the best quality of sterilized milk for infant The infants who are fed on it will be kept under the parenta eye of the city authorities and weighed periodically.

he Good Luck of the Midwives Bill has Nearly n Phenomenal.—After being read for a second time xpectedly, and in the absence of all organized opposition, assed through committee practically unaltered, for ap-ently no one had a brief to speak against it. It now has e before the House of Commons again that the modifica-s, if any, due to the action of the committee may be sidered. This will give the opponents a last chance in House of Commons, but it was as nearly as possible lost hem; for, by an accident exactly like the one that led to unopposed second reading, the bill, after leaving com-tee, turned up in the House of Commons when no one prepared to speak against it. But the same comic rules procedure that brought it on, drove it off again, for before ould be discussed the attendance of the House fell below the smallest number needed for a quorum, the members npeding before the supporters of the bill could stop them. e delay thus gained may mean a good deal. It is unlikely t the bill will come up for discussion again before Whit-tide, whereas the General Medical Council meet on ay 22. The General Medical Council have been held to the House of Commons as thorough-going backers of bill. They are nothing of the sort, and an opportunity l now be given to them to contradict the incorrect asser-n in terms that can be settled by them in conclave. The neral Medical Council may also be able to modify the bill several directions in the House of Lords; for the Lord sident of the Privy Council—the Duke of Devonshire—great weight among the peers, and he should feel it his y to see that the opinion of the General Medical Council ich his department (the Privy Council) invited, has proper pect paid to it. These niceties of English parliamentary cedure are not without interest to all other nations. With-t admiring them or dismissing them as wholly irksome, it plain that in England a law cannot be made in a hurry, so it if a good piece of legislation is sometimes delayed, a l piece cannot often get in to the statutes without full cussion.

Sir William Priestly, who died April 12 in his 71st ar, had suffered for upwards of three months from malig-nt disease of the liver. He was the son of a Lancashire ntleman, Mr. Joseph Priestly, of Morley Hall, and was ucated at Edinburgh University, and Paris. At Edinburgh was a favorite pupil of Sir James Simpson, celebrated for s early work with chloroform, whose works he edited and whom he owed his early prosperity as an obstetrician. e was a successful student at Edinburgh, but soon came to ndon, being appointed lecturer on gynecology at Middle-x Hospital Medical School, and later, succeeding Professor rre as obstetric physician to King's College Hospital. In 56 he married a daughter of Dr. Robert Chambers, a con-ection of the great Edinburgh publishing firm. This lady d been brought up in close association with the intellec-al society of Edinburgh—at that time called "the modern thens"—so that she, and through her her husband, became pidly known in the literary world; and to their social utherings in Hertford Street many distinguished men of tters and science were wont to resort. Pasteur was an timate friend of the Priestley's, and when Oliver Wendell olmes made his second sojourn in England they were his osts. As an obstetrician, Sir William Priestley ranked high n the public esteem. He never had the scientific position f Barnes or Matthews Duncan, he made no pathological iscoveries and initiated no therapeutic departures, we be-eve that there is not even a sound called after him, and is literary labors were confined to editing Sir James Simp-on's works. But he was a safe and sound consultant and good, practical gynecologist. His standing as such was ecognized when he was appointed physician-accoucheur to wo of Queen Victoria's daughters—Princess Christian of chleswig Holstein, and the late Grand Duchess of Hesse, he mother of the Empress of Russia. In 1893 Sir William riestly retired from the active staff of King's College Hos-ital when he was knighted, and in 1896 he was elected a nember of Parliament, sitting as the Conservative represen-ative of Edinburgh University. During his short career in he House of Commons he showed that he was capable of naking a good speech—he made one against the abolition of compulsory vaccination—and was desirous of upholding nedical interests. He was opposed to the registration of midwives—at any rate to the bill now before the House with that object—and it was a distinct gain to the promoters of this piece of legislation that his voice was not raised against their measure; for his special knowledge, not only as a medical man, but as an accoucheur, could not have failed to carry weight in an assembly where experience is very highly valued. In private life Sir William Priestly was a highly cultivated and amiable man and an admirable host, and his death is felt sincerely by a large circle of acquaintances and friends.

CONTINENTAL EUROPE.

Methodical Percussion of the Cranium.—According to the *Lancet*, Professor Lannelongue recently communicated to the Academy of Medicine a remarkable paper by M. Gilles de la Tourette and M. Chipault with reference to a method of examining the cranium. In surgical operations on the cranium it is desirable to know as far as possible, before operation, the exact thickness of the walls of the skull. Anatomical researches have made us acquainted with the thickness of the walls in various regions, but these only apply to normal crania and give no information as to whether in any given pathologic case the walls are thinner or thicker than the normal. M. Gilles de la Tourette and M. Chipault believe that they have found, in part at least, a way of solving this problem by means of methodical percussion of the skull. A little hammer may be used or preferably the finger. The best finger to use is the middle one of the right hand striking absolutely vertically. The hair should be parted or the head shaved. By the sound so produced the elasticity or resistance of the tissues can be estimated. The subject should always keep his mouth shut, for variations in the sound produced depend in great measure upon whether the mouth be shut or open in varying degrees. If the mouth be shut, however, the tonality of the sound obtained varies directly with the thickness of the skull. The note is relatively clear in children and dull in adults, being more dull in men than in women, less dull in old persons, and clearer in the frontal and parietal regions than in the occipital region. These observations have been confirmed by operation. M. Gilles de la Tourette and M. Chipault have also established the fact that the continuity of the reverse of the walls of the skull exercises a marked influence upon the percussion note. In patients who have been trephined the note is clearer upon the trephined side. In two cases of old fracture where there had been slight loss of substance a regular cracked-pot note was obtained. If this observation was correct it will be possible to obtain a regular series of shades of tone to ascertain exactly the condition of the soft extracranial tissues, as to whether there be a gap or cicatrization and the course and extent of the injury. In idiots or backward children, especially in those who suffer from hereditary syphilis, percussion also permits of the diagnosis of premature synostosis preventing the development of the brain. It thus gives indications for the operation of craniectomy recommended by M. Lannelongue in some of these cases.

Enteric Fever—not Typhoid.—Otto Lerch (*New Orleans Medical and Surgical Journal*, February, 1900) reports the case of a man, aged 43 years, who suffered from an acute infectious disease, enteric in origin but not typhoid in type. The fever-chart did not resemble one of typhoid, not even of an atypic case. The onset, according to the history, was sudden, though prodromes seems to have preceded it. The eruption was entirely different from typhoid. It consisted of festoons arranged in scallops, with here and there rosettes of macules. It extended over chest, abdomen, back, and arms. There was no tremor of the tongue. The blood-count showed great increase in the leukocytes. There were the symptoms of infection: Clouded sensorium, typical facies, dry, painted tongue, tenderness on pressure over abdomen, enlarged spleen, congested liver. Widal's reaction was positive. The patient died on the eighteenth day after the onset, with heart-failure. The necropsy showed the heart to be fatty. Peyer's patches in the intestine were ulcerating. Lerch is of the opinion that this was a case of enteric fever caused by the common colon-bacillus, or some kindred organism, and not by the Bacillus typhosus. [M.B.T.]

The Latest Literature.

British Medical Journal.

April 7, 1900. [No. 2049.]

1. Practical Observations on Cancer of the Breast. SIR WILLIAM BANKS.
2. Some Cirrhoses of the Liver. W. B. CHEADLE.
3. The Typhoid Bacillus and Typhoid Fever. P. HORTON-SMITH.
4. The Action of Various Drugs and Diets on the Excretion of Nitrogen in Gout. WILLIAM BAIN.
5. The Gelatinous Form of Sodium Biurate and its Bearing on the Treatment of Gout. ARTHUR P. LUFF.
6. An Operation Performed for Complete Atresia Vaginae. J. M. COTTERILL.
7. A Note on the Telephone Probe. J. C. OGILVIE WILLS.
8. Incomplete Inversion of the Uterus. J. H. WILSON.
9. A Case of Puerperal Eclampsia in a Patient Aged Fifteen Years; Recovery. DAVID R. G. CORRIGAN.
10. When Is Cancer Curable? GEORGE ELDER.
11. A Case of Post-Hemiplegic Athetosis. G. H. A. HARRIS.
12. Ascarides Lumbricoides in an Adult. E. A. G. DOYLE.

1.—See abstracts of *Lancet.*

2.—Cheadle's experience with cirrhosis of other organs than the liver in connection with **cirrhosis** of the liver is in brief as follows: The heart was investigated in 36 fatal cases. In 6 there was severe fatty degeneration, in 1 myocarditis, and in 8 others the muscle was probably fatty. As to the kidneys, they were evidently affected in 26 of 53 cases. The spleen was enlarged in 23 instances, 11 of which were cases of atrophic cirrhosis, 12 of hypertrophic. In 14 cases in which the pancreas was examined it was cirrhosed in 3 cases; harder than normal in 10; in the remaining case the organ was large and soft. Patients with cirrhosis are especially liable to erysipelas, and 3 of the fatalities which Cheadle has observed occurred from facial erysipelas, and he has seen two previous deaths from erysipelas. As to the classification of cases, it is impossible to make any rigid permanent classification of cirrhosis of the liver. Concerning prognosis, when ascites appears it is a very unfavorable sign, and the case is not likely to last longer than a few months. The prognosis is better in the hypertrophic form than in the atrophic. In general terms the features of favorable cases are—first, the liver is large; second, the subjects are usually younger than in the least favorable cases; third, their nutrition is fairly good; fourth, they are as a rule hard drinkers or they are syphilitic. Syphilitic cases undoubtedly recover practically entirely in some instances. [D.L.E.]

3.—See *Lancet.*

4.—Bain reports the study of the **excretion of the uric acid, ammonia, phosphates, and alloxur bases** under various forms of diet—mixed diet, vegetable diet, and animal diet in a gouty subject. The effect of sodium-salicylate was only a slight increase in uric acid secretion, and a slight relative increase in the alloxur bases. Guaiacum caused marked increase of the uric acid, but the phosphorus and alloxur bases did not increase, therefore the drug probably acted by increasing the elimination of the uric acid in the body and not by increasing its production. The patient improved also during this period, and this seems to indicate that guaiacum is a useful prophylactic in gout. Colchicum increases the uric acid somewhat, as did quinine, contrary to the usual results. The vegetable diet caused an increase in the uric acid, while meat diet caused a reduction. [D.L.E.]

6.—Cotterill was called to see a young married lady, aged 28, who was said to be suffering from **malformation of the vagina.** She was examined under chloroform. Between the meatus and the anus was a perfectly flat area of thin skin with infundibuliform depression. There was no trace of a vagina, but a small atrophic uterus and ovaries much below the normal size were found on bimanual examination. The uterus and ovaries being functionless, any operation performed would be only for purposes of cohabitation and not of maternity. To relieve the mental distress occasioned by this state of affairs an operation was decided upon. An H-shaped incision was first made, the uprights of which, some 3 inches in length, ran from the lower extremity of the labia minora to a little beyond the anus on each side; the horizontal line of the H (1½ inche in length) lay midway between the meatus and the anu The flaps formed by these incisions were then reflected bac to their respective bases; the loose cellular tissue in th rectovesical space was then freely opened up with the finge and a large vaginal opening made. In the course of thi part of the operation the small uterus was distinctly felt an was pushed upwards with its peritoneal covering, the peri toneum not being opened. A second pair of flask-shape flaps, about 7 inches in length and 3 inches wide, were the raised by making an incision which began on each side jus below the tendon of origin of the abductor longus, passe obliquely downwards and outwards parallel to the buttoc fold, and was brought back to meet the top of the upright o the H-incision on each side respectively. These two larg flaps were then slid to meet each other in the middle line with, in the first instance, their raw surfaces laid flat agains each other, and they and the two small flaps were ther united along their free edges with a continuous suture of fin catgut until a body somewhat resembling a large penis, en tirely covered on its outer surface with skin, projected from the middle line opposite the new vaginal opening which had been made. All that now remained to be done was to invaginate this into the opening whose wall it was designed to clothe, and by the introduction of a large plug of iodoform-gauze to keep the raw surfaces of the new vaginal opening and its covering in close apposition to each other. The surgeon has since received a letter from this patient in which she says that she can walk quickly, and has no discomfort except after being overfatigued or sitting too long on hard seats. Marital relations are quite easy and both she and her husband agree in pronouncing the operation an unqualified success. She is already a good deal fatter. [W.K.]

8.—Wilson being impressed with the variety of **incomplete inversion of the uterus** as shown by the statistics, describes a case seen in his practice occurring in a woman aged 30, who had had 12 pregnancies in 9 years. The condition was found in less than a hour after delivery, but brandy and hot applications being used, she recovered very rapidly. [W.K.]

9.—Corrigan reports a case of **puerperal eclampsia in a girl of 15.** The seizures occurred before the birth of the 7½-pound child, and continued for 12 or 14 hours afterward. She was treated with hypodermic injections of ergot and brandy: chloroform was used to check the convulsions, and later a mixture of chloral and bromid was given. She made an entire recovery from this serious condition. [W.K.]

10.—Elder mentions a patient who was operated upon 18 years before for **cancer of the breast,** and was recently operated upon for **cancer of the rectum,** having had entire freedom in the interval. Another patient remained entirely well for 5 years after the removal of cancer of the breast, and even then the returned growth caused no trouble 8 years after the original operation. In another case cancer appeared in 1880, and the patient lived until 1899 with practically no disturbance of her health and no discomfort from the growth. Elder considers that we must reconsider our position as to the three-years time limit, and as to general prognosis as to duration of life. [D.L.E.]

11.—The case was of interest because it was one of **athetosis** in an adult after almost complete recovery from hemiplegia. It was unassociated with hemianesthesia, also the vasomotor changes were absent. It was also of some interest because the flexor and extensor muscles of the fingers were to some extent involved, interfering with the man's work considerably. The patient was 25 years old, a native of Hindu, without any history of syphilis. [D.L.E.]

12.—The interest of the case was in the facts that the patient was an adult, 24 years old, 104 worms were passed, the symptoms were very misleading, and consisted of malaise, anorexia, anemia, and fainting attacks, and the worms were passed alive in spite of the fact that as much as 11 grains of santonin were given at a dose, and in all 33 grains were given. The santonin seemed to act better when given mixed with castor oil than when given alone. [D.L.E.]

Lancet.

April 7, 1900. [No. 3997.]

1. Some Cirrhoses of the Liver. W. B. CHEADLE.
2. Practical Observations on Cancer of the Breast. SIR WILLIAM M. BANKS.

Remarks on the Physical Signs of Pulmonary Disease. P. H. PYE-SMITH.
The Surgical Treatment of Dilation of the Stomach. LEONARD A. BIDWELL.
A Parasitic Crustacean as a Foreign Body on the Cornea. RAYNER D. BATTEN.
The Uses of Oxygen Inhalation. PERCY G. LODGE.
Concurrent Pneumonia, Diphtheria, and Typhoid Fever. DAVID HARRIS.
Typhoid Fever of Prolonged Duration. HENRY EDWARD BELCHER.
A Rapid Result of Revaccination. WILLIAM GRADDON MORTIMER.
Two Cases of Resection for High Rectal Carcinoma. PAGE.
Two Cases of Malignant Pustule; Recovery. J. BELL.

.—See *British Medical Journal.*

.—As regards the parasitic origin of **carcinoma,** Banks resses his opinion that there is plainly a structure of defi- nature which is found in man at the growing edges of cinoma; it is not found in any healthy tissue nor in any er neoplasm; it used to be regarded as a protozoon or cidium, but most investigators seem now to regard it as a stomyces. Most parasites are inside the epithelial car- omatous cells, some are outside. There is a probability t they spread by spore formation. Their origin and action unknown, doubtless it is that of irritation which causes m to proliferate, there is no doubt that from these para- s cultivations in certain media can be made and that en injected into animals numerous growths are produced them, mostly of a fatal character which contain these asites. From personal investigation Banks is unable to anything on the subject. He believes that there is no ar proof of the infectiousness of carcinoma, but this pos- ility should not be lightly treated. He calls attention to paper published in 1877 in which he was the first to advo- e removal of the axillary glands for carcinoma of the ast. Banks dissents entirely from the views of those who d that removal of the pectoralis major muscle and the re extensive operations are necessary. He states that he operated in 73 cases of carcinoma of the breast in which patients remained free from recurrence over 3 years, but believes that the microscopic diagnosis of the disease is essary. [M.B.T.]

3.—Pye-Smith condemns the usual method of naming **ysical signs of pulmonary disease** elaborately. He t states with great emphasis that the physical signs elicited r the chest tell only of the perversion of function and not the nature of the pathologic process. He therefore jects to speaking of "pneumonic" crepitation and ronchitic" rales, and the like. The differences in rcussion notes are differences in the degrees of gth, intensity, pitch, and tone of the note. There no note that is peculiar to any one disease. The ferences on auscultation are likewise not distinctive of finite pathologic changes. The custom of speaking of y and moist rales is, Pye-Smith thinks, not a happy one, he does not believe in such a thing as a dry rale with free pectoration. The most important character of rales is as whether they are consonant or non-consonant; that is, to whether they have any musical quality or are mere ises. The consonant rales in his experience always mean eumonic consolidation. The term capillary bronchitis is an advisable one, as the condition which this is used to describe really a lobular pneumonia. He also insists that we usu- ly look for too pronounced signs in the very early stages of thisis, and if we check our auscultation and percussion by r knowledge of pathology we cannot expect any notable gns. The cause of marked dulness at the apex is more equently pleural thickening on the large cavity, rather than tensive consolidation of the lung. [D.L.E.]

4.—Bidwell tabulates 16 cases in which he has **operated r dilation of the stomach.** His results show that erations for nonmalignant stenosis of the pylorus are very ccessful, the mortality in his cases being nil unless the peration was postponed until the patient was exhausted. e considers pyloroplasty the most desirable operation in ases of nonmalignant stricture, as there seems to be a ten- ency for the opening to contract after Loreta's operation or astroenterostomy. In malignant cases, the fatal issue in early all cases was due to delay in seeking operative inter- vention. Bidwell believes that operation undertaken in the early stages of malignant stricture will not be followed by much higher mortality than similar procedure in cicatricial stenosis. The important point is early diagnosis, and in doubtful cases exploratory operation is recommended. The risk of pylorectomy may be greatly lessened by performing the operation in 2 stages: first, a gastroenterostomy, then in two weeks or so, after the patient's strength is built up, the pyloric growth is removed. In cases of advanced malig- nant disease, gastroenterostomy will give considerable tem- porary relief. After all his operations on the stomach, Bid- well's patients were fed by the mouth on the day following operation, and the amount of nourishment was gradually increased till about the twelfth day, when ordinary diet was given; no bad result was traceable to early feeding. [M.B.T.]

6.—Lodge describes a series of cases in which he used **oxygen inhalations** with marked benefit. The most interesting was that of a woman of 22 with grave anemia, the red cells being reduced to 2,000,000, the hemoglobin to 30%, and the red cells were much deformed. The woman had frequent attacks of syncope and was very weak. Upon the failure of iron and arsenic treatment she was given oxy- gen inhalations, and rapidly improved. Within 4 months the red cells had increased to 4,000,000, and the hemoglobin was about normal. She ultimately became entirely well. The apparatus which he recommends is similar to the one used for the administration of nitrous oxid. [D.L.E.]

7.—The patient had a chill and general malaise, and next day the signs of double **pneumonia.** There was an **influ- enza** epidemic at the time. Three days after this he had a **sore throat,** and examination showed a membrane over the pillars of the fauces and extending to the back of the pharynx on each side. The fever kept up, and about a week later **typhoid** spots and enlarged spleen were discovered, and he had some hemorrhage from the bowels. He convalesced rapidly, however, and the temperature became nor- mal about 2 weeks after he was taken ill. [Diphtheria bacilli are not reported to have been present, there was no Widal reaction reported, and the actual presence of the three dis- eases is certainly in doubt, though it is not impossible that it was in the beginning a pneumotyphoid. D.L.E.]

8.—The patient was taken ill on July 25 and fever con- tinued until September 15 when it touched normal. It be- came apparently finally normal on October 1, but rose again on the 16th. The patient was in extremely bad surroundings, and was removed to a more healthy house. The tempera- ture ultimately became normal on November 5, the one hundred and fifth day of the disease. [D.L.E.]

9.—The patient, who was revaccinated, was a man of 23, who had a curious warty condition of the skin about the base and edges of the nails, which was very disfiguring. Treatment had been entirely unsuccessful, but 4 days after he was revaccinated the warts began to disappear, and in a week after had entirely vanished and the man was entirely well. [D.L.E.]

10.—A woman of 34 had suffered pain during defecation, and there had been traces of blood in the stools, and she had lost flesh for 6 months. Rectal examination showed a lump which was evidently carcinomatous. An incision was made along the left margin of the sacrum and across the upper part of the coccyx. The coccyx was removed, giving ample room for manipulation. A tumor the size of an orange was found. **Resection of the rectum** and end-to-end anas- tomosis by Czerny-Lembert sutures was performed. Micro- scopic examination showed the growth to be an epithelioma. During convalescence fecal fistula formed which closed spontaneously later. The woman continues in good health about 7 months after the operation. In a second case a woman of 43 was admitted to the hospital with abdominal cramps, vomiting, constipation and abdominal distention. The abdomen was opened immediately and a tumor the size of a chestnut was found in the lower part of the **sigmoid flexure.** Resection and end-to-end anastomosis was per- formed. Pathologic examination showed the growth to be epithelioma. Uneventful recovery followed, the patient remains in perfect health 5 months later. [M.B.T.]

11.—Two cases of **anthrax** are reported which were treated successfully by incision, the application of fomenta- tions, and the internal administration of carbolic acid grains every 4 hours; tonics were also given and the diet was regulated. [M.B.T.]

New York Medical Journal.

April 21, 1900. [Vol. lxxi, No. 16.]

1. Cancer of the Stomach in the Young. WILLIAM OSLER and THOMAS MCCRAE.
2. A Contribution to the Histopathology of Epidermolysis Bullosa (Hereditaria). GEORGE T. ELLIOT.
3. A Consideration of the Neuromuscular Elements in Hip-joint Disease, with Especial Reference to the Question of the Abolition of Protective Treatment. NEWTON M. SHAFFER.
4. The Present Status of the Widal Reaction as a Diagnostic Test in Typhoid Fever. ARTHUR R. GUERARD.
5. Mysticism among the Negroes. F. JULIAN CARROLL.
6. Hepatic Abscess. J. F. RICHARDSON.
7. Some Practical Remarks on Clinical Examination of the Blood. WILLIAM N. BERKELEY.

1.—The records in the Johns Hopkins Hospital in 150 cases of carcinoma show 6 cases in patients under 30 years of age, or 4%. The authors give a review of the previously reported cases of **gastric carcinoma in childhood.** Only 6 cases are on record in the first decade, and these are subject to question in most instances. In the second decade there are 13 cases reported; in the third decade the cases are more numerous. The 6 cases mentioned as occurring in the Johns Hopkins Hospital are recorded in detail, and the authors remark upon the striking abruptness of the onset, and the acuteness of the course of the disease, none of them lasting over 6 months, with one exception. The conclusions of Mathieu are agreed with, *i. e.*, that carcinoma of the stomach below 30 years of age usually runs a rapid course, and often ends suddenly; and second, that early cancer is not latent, but is often overlooked. Brinton stated that loss of appetite was common in young persons, while Mathieu makes the opposite statement. In the cases recorded there was no loss of appetite in 3, it was noted in 2, and was not noted in 1. Pain was present in all but one case; vomiting in the same number. Tumor was present in 5 cases, in 1 it was found only at autopsy, being covered during life by the large liver. Ascites was absent in all of the cases; Mathieu states that fever is generally absent in the young, but 3 of these cases had fever, and there was a history of fever in 1 other. In the first case recorded there was no palpable tumor, and the patient was only 22, but there was a sudden onset of gastric symptoms, grave anemia, hydrochloric acid was absent, and lactic acid was constantly present, while the gastric tympany was increased. This man disappeared from observation. In the second case there was an evident mass with a secondary tumor in the umbilicus. [D L E]

3.—Guerard states that the method of carrying out the **Widal reaction** which they use is a 1:10 dilution made approximately with dried blood, the characteristic color of this dilution having been determined previously by testing known dilutions. They prefer serum from a fly-blister diluted 1:10. If no reaction occurs with this in five minutes it is considered negative. If complete clumping and immobilization appear in five minutes it is believed to be absolutely positive. He considers the reaction to be always absent in other diseases than typhoid, if the test is correctly done, but a negative result is not of much significance. A positive result practically absolutely indicates typhoid fever, and he considers the reaction of inestimable value in irregular or mild cases of typhoid fever. [D.L.E.]

6.—A case of **hepatic abscess** is reported which occurred in a man of 24, the onset being sudden, with chill, pain in the region of the liver, and vomiting. He had jaundice and marked enlargement of the liver. The symptoms appeared on January 13, and on February 3 he expectorated a quantity of pus of clear creamy character, the purulent expectoration being continued for some time afterward and decreasing in amount, the enlargement of the liver decreasing at the same time, and at the time of the report, 7 months after the onset, the patient was able to work and was practically well, excepting for some loss of physical endurance and some uneasiness on the right side. [D.L.E.]

7.—Is a description of **routine methods of examining the blood,** recommendations being that the puncture should be made with a pointed blade and not with a needle, expression should be avoided, two counts should be carried out, the pipet should be dried with a bulb and not by blowing through it with the mouth. He recommends fix smears with heat at 150° C., and for malarial organis fixing with formaldehyd vapor for 2½ minutes, and th staining with eosin and methylene-blue. [D.L.E.]

Medical Record.

April 21, 1900. [Vol. 57, No. 16.]

1. On the Formation of an Artificial Anus. ROBERT WEIR.
2. Indications for Constitutional Treatment of Catarrh Affections of the Upper Air Passages. WALTER WELLS.
3. A Case of Fracture and Medical Ethics. E. S. GOODH
4. The Use of Electricity in Chronic Rheumatism. WILL J. MORTON.

1.—Weir discusses the subject of colostomy in a ve thorough manner, and he draws the following conclusion An artificial anus of a temporary character can be b established by Maydl's operation or by Bodine's modifi tion. Overslipping of feces may be prevented by prop spur formation, by narrowing the rectal opening, or occluding the rectal end of the bowel, which may be fasten in the wound or dropped into the abdominal cavity. Con nence of the abnormal outlet is aided by muscle-separatio as suggested by Maydl, or by muscle bridging as reco mended by von Hacker and Hartmann, or by the use inflatable or moulded plugs or other apparatus. It is onl however, to be satisfactorily effected (though larger expe ence in this is desirable) by an extraabdominal iliac outl as by Witzel's iliac colostomy opening the bowel outside ar behind the iliac spine. In this procedure the bowel is cor pressed between the edge of the bony pelvis and the ski Weir has operated for the formation of an artificial an 30 times, with 9 deaths, of which there were 2 from cance 3 ulcerations, and 4 obstructions. Of these 16 were f malignant disease, either inoperable or preliminary to oper tion, 9 were for chronic ulceration, and 5 were for intestin obstruction. Among the 18 cases in which a colostomy w a preliminary to operation or was a curative agent, the were 7 instances in which the opening was subsequentl closed, 5 by the intraperitoneal method and 2 by th extraperitoneal suture. [M.B.T.]

2.—Wells particularly directs attention to those catarrh troubles which are the effects of other changes. It is pro able that **catarrh** of the air-passages is secondary, if n adequate local cause is seen, if direct local treatment fails, some other trouble has preceded it, if catarrhal troubles a present in other parts of the body, and if there is a gener cause which is apparently sufficient to produce the loc effect; also if treatment of the other conditions improves th respiratory catarrh. [D.L.E]

4.—Morton speaks of the special applications of **elec tricity** to the different forms of **rheumatism** as follows The application of sparks which are at first gentle an gradually increased in muscular rheumatism will alway relieve the pain at once, but the symptoms usually retur within 24 hours. Subsequent applications commonly effe a cure. In subacute and chronic rheumatism he has use some form of electrostatic treatment for 20 years. He ha found no method of treatment comparable to this, and h finds that gout shows even more satisfactory effects tha rheumatism, the paroxysm being oftentimes entirely cor troled. In rheumatoid arthritis he states that it is possibl to arrest the progress of the disease in any stage, the readi ness with which this is accomplished depending upon th stage to which the disease has been allowed to advance [D.L.E.]

Medical News.

April 21, 1900. [Vol. lxxvi, No. 16.]

1. Pain as a Pathognomonic Symptom of Ectopic Pregnancy HENRY C. COE.
2. Tuberculous Disease of the Urinary Apparatus. J. M GILE.
3. A Case of Probable Accidental Inoculation with the Ma larial Parasite. WILLIAM H. KATZENBACH.
4. The Curability and Treatment of Early Phthisis. W. F HAZELTON.

ateral Sinus Thrombosis and Acute Leptomeningitis Both Complicating Acute Suppurative Otitis Media; Complete Perforation of the Cranial Wall Above and External to the Antrum. Wendell C. Phillips.

—Coe discusses **pain as a pathognomonic symp- of ectopic pregnancy,** and summarizes as follows: alone, when not accompanied by a clear history of strual irregularity, symptoms of pregnancy, and the ence of a tumor at the side of the uterus or in Douglas' h, known to be of recent development, is pathogno- ic of extrauterine pregnancy only under certain condi-, viz.: The pain is of a sharp colicky character, distinctly lized on one side, attended with faintness more or less ked, and is usually followed by intervals of hours or days omplete remission. The pulse is accelerated during the ck, but there is no rise of temperature. The latter is an ortant symptom distinguishing ectopic from inflamma- conditions. The violent tearing pain attending intra- toneal rupture is accompanied by the unmistakable evi- es of internal hemorrhage. In extraperitoneal rupture symptoms vary in severity according to the amount of d lost, but soon subside, being succeeded by the usual ences of pressure resulting from a mass in the folds of broad ligament which displaces the pelvic organs. A istent pain following the acute attack may indicate local- peritonitis. [W.K.]

.—Gile reports 4 cases of **tuberculosis of the urinary ct** and concludes as follows: The condition is one of con- rable frequency, greater, perhaps, than the number of s diagnosed would indicate. Its course is as variable other organs, proving rapidly fatal or running a very lent course. For certain diagnosis we must depend upon bacteriologist, but even this will not definitely locate the ble. The hereditary tendency is more marked than in monary tuberculosis, and young adults are most gener- affected. [G.B.W.]

.—Katzenbach reports the case of a physician who prob- **inoculated himself with blood from a malarial ient** in the course of an operation. The case ran the al typical course, and finally, during the second relapse, examination of the blood was made, and great numbers arasites were found invading nearly all the red blood-cells, ally intracorpuscular, but sometimes showing a crescent e. The patient upon whom the operation was performed always lived in a malarial district and was subject to cks of malaria. [J.S.]

.—Hazelton summarizes the evidence of various authori- in favor of the **curability of phthisis,** and believes t they establish the fact that from 10% to 50% of the es can be cured. He does not believe that the efficiency uberculin has yet been proved with sufficient certainty render its use as a germicide, to the neglect of all other ans, justifiable. He does believe strongly, however, in ed feeding, in rest, and passive exercise. He urges par- ularly the avoidance of anything that quickens the pulse, causes fatigue. Results obtained in sanatoriums, no mat- what their geographical locations, are distinctly favorable; act, there is some reason to believe that the most perma- nt results may be obtained by curing the patient near ir homes or near the place where they expect to spend rest of their lives. The least favorable results in sana- ums show 14% of cures. [J.S]

.—The first case reported by Phillips was one of **acute ppurative otitis media** complicated by sinus throm- is and acute leptomeningitis. The ear trouble began ut eight weeks before the operation and the history since n, together with the present symptoms: Pulse 110, weak irregular; temperature, 101.4°; pain over the left side of d, especially the mastoid, vomiting, constipation, etc., to the diagnosis of thrombosis of the lateral sinus. At operation this condition was found and the sinus was efully cleared of the clot until slight hemorrhage was duced. The wound was thoroughly cleansed and packed h iodoform gauze, and healed in the course of two months, man returning to his usual occupation. The second case s a woman, 47 years of age, who three weeks ago began to e pain in her right ear. This was followed by a discharge l extension of the pain over the right side of the head. e gradually got better from these symptoms, but one night suddenly became much worse and died the following morning. The postmortem showed the mastoid full of pus with a perforation through its external wall one-fourth of an inch in diameter. The internal wall was almost entirely destroyed and pus had perforated the dura posterior to the tegmen tympani, causing a subarachnoid purulent infiltration. [G.B.W.]

Boston Medical and Surgical Journal.

April 19, 1900. [Vol. cxlii, No. 16.]

1. On Intermenstrual Dysmenorrhea. Malcolm Storer.
2. Treatment of Cancer of the Cervix of the Uterus Complicated by Pregnancy. George Ben Johnston.
3. Third International Congress of Obstetrics and Gynecology, held at Amsterdam, August 8–12, 1899. George J. Englemann.
4. Gunshot Wound of the Abdomen, with Multiple Wounds of the Intestine. Howard A. Lothrop.
5. The Practical Value of the White Blood Count in Surgical Cases. J. C. Hubbard.

1.—Storer reports 20 cases of **intermenstrual dysmenorrhea,** and reviewing, in addition, 25 collected from literature, concludes that the pain generally occurred regularly at from 12 to 16 days after the beginning of the previous menstruation, and, continuing from 2 to 4 days, reached its maximum on the first or second day, was often different in character from the menstrual pain and rarely accompanied by any discharge. He discusses the four theories hitherto suggested—the mechanical theory, the neurosis theory, the intermenstrual cycle of congestion theory, and the intermenstrual cycle of ovulation theory; and adds a fifth of his own, which he calls the "awakening of menstrual activity" theory, deeming the pain due to the coming menstrual period, as it usually occurs at a definite period before its beginning. [W.K.]

2.—Johnston divides **cancer of the cervix** of the uterus complicated by pregnancy into 3 classes: (1) Those cases in which the cancer appears before the termination of the fourth month of pregnancy and is limited to the cervix; (2) those in which the disease is discovered after the fourth month and is limited to the cervix; (3) those in which, regardless of the stage of pregnancy, the disease has extended to the vagina, and possibly neighboring structures, rendering the condition inoperable. In the first group of cases, the sole consideration should be the welfare of the mother, and the treatment should be same as with cervical cancer of the nonpregnant uterus; hysterectomy should be promptly performed, preferably by the vaginal route. In the third group in which the condition is inoperable, as the outlook for the mother is hopeless, every effort should be in behalf of the child. To this end the endeavor should be to sustain the mother, if possible, until term, or at least until the child is viable. In such cases delivery by the natural channel is fraught with such formidable dangers that cesarean section should always be resorted to as less perilous. In the second group of cases it may be possible, and the aim should be to save both lives. But even here if observation shows the disease is advancing rapidly, the child's life must be sacrificed and Porro's operation performed continued to complete extirpation of the uterus. If, however, the disease progress slowly the operation may be postponed until the seventh month, or possibly until term, and thus both lives be saved. [W.K.]

4.—The patient, a man, was **shot in the abdomen** with a 32 caliber revolver and entered the hospital one hour after the injury. He was moderately shocked and had a tender, slightly distended and rigid abdomen. The only external bullet wound was about 3 inches above the anterior superior spine of the left ilium. Celiotomy was performed and on opening the abdomen large quantities of fresh and clotted blood were found. The course of the bullet was down towards the right iliac fossa and it was from this region that the fresh blood was coming. There were four groups of intestinal perforations found. In the first two of these groups the openings were so numerous and close together that the gut was almost cut through, necessitating resection in both instances. The other perforations were closed by inverting sutures. The abdominal cavity was thoroughly cleansed with hot salt-solution several times during the operation. The bullet was found imbedded in the right ilium so firmly

that it could not be removed and attempts to do so set up a marked hemorrhage so that gauze tamponing was necessary to control it. The patient rallied well from the operation, was progressing very favorably when on the tenth day after the injury, on attempting to remove the packing, furious hemorrhage set in and would have ended fatally except for prompt interference. On the twenty-fifth day without warning or apparent cause a second bleeding occurred which proved fatal. The postmortem disclosed no cause for the hemorrhage. [G B.W.]

5.—Hubbard's paper on the **white blood count in surgical cases** is based on the records of the Massachusetts General Hospital since 1895. The average of these cases show a slight increase from the noninflammatory to the inflammatory and again to the purulent cases, but in the individual cases, in the noninflammatory group the counts varied from 4,000 to 25,800, in the simple inflammatory from 5,600 to 32,000, and in the purulent from 4,800 to 47,000. From this it must be admitted that in individual cases little help is to be derived from the blood-count, certainly the surgeon cannot place much reliance on the presence or absence of leukocytosis. [G.B.W.]

Journal American Medical Association.

April 21, 1900. [Vol. xxxiv, No. 16.]

1. Affections of the Kidney in Relation to Pregnancy. J. CLARENCE WEBSTER.
2. Evolution of the Animal Cell. JOSEPH SMITH.
3. Successful Pylorectomy. H. O. WALKER.
4. Ureterectomy. J. WESLEY BOVEE.
5. Suggestions on Rights and Liabilities of Surgeons. T. J. MAHONEY.
6. Thyroid Extract in Juvenile Obesity: A Clinical Note. I. N. LOVE.
7. Septic Conditions in Some Acute Infectious Disorders in Children. A. C. COTTON.
8. Cerebral Cyst; Report of Case. VAN BUREN KNOTT.
9. Primary Tuberculosis. Nephrectomy and Subsequent Total Resection of Ureter; Complete Recovery. DUDLEY TAIT.
10. Castor Oil in Treatment of Neuralgia. HAROLD N. MOYER.
11. Resection in Case of Ununited Fracture of Femur. I. P. KLINGENSMITH.
12. The Smegma Bacillus. OSCAR A. DAHMS.

1.—So far as may be gathered from more recent observations, it may be stated that serum-albuminuria occurs in about 2% of all **pregnant women** who are healthy at the beginning of pregnancy. The process of labor causes **albuminuria** in a still larger percentage of cases. It occurs mainly in advanced pregnancy. Hyalin casts are frequent in the urine, while granular and epithelial ones and broken-down epithelium may also occur. The majority of the patients recover so that few postmortem studies have been made, and there has been much speculation as to the origin of the disorder. Among the causes which have been suggested are compression of the ureters; increased intraabdominal pressure interfering with renal circulation and inducing degeneration; and the influence of the products of metabolism both of the mother and the fetus. It is highly probable that no single factor is causal, but rather a combination of various factors, varying greatly in different instances. The most important of these is undoubtedly the toxic element. When true nephritis exists before or begins in pregnancy, the disease, as a rule, is a more serious matter than in the nonpregnant state. In chronic nephritis, an acute exacerbation is usually induced. The patient may die from kidney failure, and uremia is very apt to occur. Only in a small percentage of cases does eclampsia occur. The treatment is to be carried out on the lines followed in the nonpregnant state. The strictest watchfulness on the part of the physician is necessary. With regard to the question of allowing the pregnancy to continue, it is difficult to decide. Certain indications point imperatively to the induction of premature delivery, in the interests of the mother, viz.: visual disturbances, and continued headache, pulmonary or other marked edema, marked cardiac disturbance, frequent nose-bleedings, continued increase in the casts and albumin in the urine, uremia. In a number of cases the woman may respon treatment so satisfactorily as to go to full term and be d ered of a healthy child. [M.B.T.]

2.—Smith's paper is devoted to a discussion of the lit ture of the evolution of the animal cell, both from the p genetic and embryologic standpoint. [M.B.T.]

3.—A woman of 37 who had had stomach trouble f years had been able to retain hardly any food for 6 we and she had become much emaciated. Analysis of gastric contents showed the presence of free HCl and usual digestive ferments; sarcinae and yeast were prese the usual acids of fermentation were absent and the Opp Boas bacillus could not be demonstrated; a movable tu could be felt through the abdominal walls. **Pylorecto** was performed according to Billroth's method, remov about $\frac{1}{3}$ of the pyloric end of the stomach. During operation a pint of salt-solution was injected under e breast because of the patient's weakened condition. T patient made a good recovery and one year later has gai 30 pounds in weight, eats whatever she desires without tress and does her housework. [M.B.T.]

4.—A man of 48 had had his left kidney removed 3 ye previously because of renal abscess, and subsequently other operation had been performed because of sinu which had persisted. He had been an invalid since the f operation, and three sinuses were still discharging in the lumbar region. An extraperitoneal incision was made fr in front of the quadratus lumborum muscle to an inch ins the anterior superior spine. The ureter was found fil with cheesy pus and calculi. **Ureterectomy** was p formed. Pathologic examination of the ureter showed ca ous tuberculosis of the ureter. Bovée discusses the histo indications and prognosis of ureterectomy and the meth of operating. He tabulates 20 cases in which this operati has been performed. [M.B.T.]

6.—See this JOURNAL, Vol. IV, p. 13.

7.— " " " " " " 12.

8.—A boy of 14 was troubled with convulsive seizures fi involving the right leg and arm, paralysis of the left exter rectus of the eye and of the extensors of the right leg and w almost constant headache; this condition had come on duri a year, and from a bright, intelligent boy he had become me tally dull. Three years previously he had received a seve head-injury from a fall. A diagnosis of a **tumor** of t **motor area** of the **brain** was made. An osteoplastic fl was raised over the front of the fissure of Rolando; the du bulged; on incision a cyst the size of a quail's egg was fou embedded in the brain-tissue; this was incised and cle straw-colored fluid escaped. The cyst-wall was dissect out and the cavity was packed with iodoform gauze, whi was removed after 48 hours. Uneventful recovery followe Since the tenth day following the operation the boy has h no convulsions; he has had no pain in his head since t operation, and his gait is somewhat improved; the strab mus remains unchanged. This report is given several mont after the operation. [M.B.T.]

9.—A man of 42 years had been taken 3 years previous with dull pain in the loin, followed later by sharp, shooti pain radiating to the testicle. Urination was frequent a the urine was turbid. This condition continued and the p tient had frequent chills and lost in weight. No gravel calculi was passed at any time, and repeated tests failed show tubercle-bacilli in the urine. There was rigidity a tenderness over the right kidney, but no bulging in the loi Examination of the urine collected by the Harris segregat was unsatisfactory. Lumbar **nephrectomy** was performe the tissue being removed by morcellement. The tissue r moved was principally composed of nodular areas, and series of caseous abscesses with characteristic tuberculo granulations on the walls. The urine the second day aft operation was clear for the first time in 2 years. Convale cence was complicated by septic pulmonary embolus. Th wound refused to heal and 5 months later excision of 12 c of the ureter was made by the lumbar route. The fistu still persisted, and after 7 months **resection of the re maining portion of the ureter was done by th anterior retroperitoneal route,** as for the ligation the iliac artery. Pathologic examination showed characte istic tuberculous lesions. At present the patient has r gained excellent health and has gained 25 pounds in weigh [M.B.T.]

—Moyer states that he has treated about 15 cases of **algia** during the past two years by the administration **stor-oil** and he finds the results superior to any other od of treatment. The oil is administered before break- n the dose of 1 or 2 ounces. He finds that it is most ably taken in ale, and in this way it is less likely to dis- the stomach. When first administered the oil acts on the bowels, but if it is continued daily its cathartic rapidly diminishes and it is not infrequent for patients te that they have but a single movement of the bowels the third or fourth dose. An interesting speculation t be entered on as to how castor-oil acts in relieving ılgia. That it is not due to the cathartic action of the is clearly shown by the fact that other cathartics and ives are of no value in relieving this condition. [M.B.T.]

.—A case of **nonunion** after **fracture** of the femur at inction of the lower and middle thirds is reported, in h **operation** was performed, sawing off the ends of the ients and fastening by transfixing with drills. Death ved 60 hours after operation, probably from shock. r.]

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erican Gynecological and Obstetrical Journal.

December, 1899. [Vol. xv, No. 6]

New Method of Diagnosis of Tuberculosis of the Kid- ney. Charles P. Noble.
ıe Anatomy and Physiology of the Visceral Sympathetic, and its Bearings on Pelvic, Abdominal and Mental Troubles. E. K. Bacon.
clampsia. F. L. Brigham.
ıe Operative Treatment of Uterine Fibroids. F. A. Lockhart.

—Noble and Babcock report a case of **tuberculosis he kidney** diagnosed by a new method which they mmend. This consists in securing urine by catheteriza- of the ureters with sterile catheters, and then injecting sediment from the urine into guineapigs. The urine ined from a tuberculous kidney and containing tubercle- lli will infect guineapigs, whereas that free from tubercle- lli will not. In the case reported the right kidney was oved because of tuberculosis, and guineapigs previously cted with the sediment from the urine were found to be rely infected by the tubercle-bacilli. [W.K.]

.—Bacon gives a very exhaustive study of the anatomy ıe visceral sympathetic and cites a number of cases to v the interdependency of the various organs, tracing the rent symptoms in each case to the disturbed nervous nization. [W.K.]

.—Brigham believes that many cases of **eclampsia** ht be prevented by watching our cases of pregnancy, not for physical signs of pronounced renal inadequacy, but he overcharging of the blood with toxic material as evi- ced by high arterial tension, headache, gastric disturb- es, physical and mental lassitude, and failure of bowels, , and lungs to perform their work properly. Veratrum le is, in his opinion, the remedy par excellence in mpsia, acting to reduce arterial tension and to soften the l os, thereby removing the causes producing the malady. K.]

.—Lockhart sums up the subject of **operative treat- nt of uterine fibroids** as follows: 1. A uterine fibroid uld not be interfered with unless it is giving rise to serious ıptoms, be they mental or physical, notwithstanding the ement of one gynecologist that he removes all fibroids ch he meets with in practice, whether they are causing ıble or not. 2. Cureting is merely a palliative measure, s, also, in many cases, ligature of the uterine arteries. 3. noval of the appendages should be merely a *dernier ressort*, t practically never cures and does not always even relieve. he operation of selection should be either total hysterec- ıy or myomectomy. 5. Myomectomy should be chosen n the tumor is submucous and pedunculated; when it is serous and either has a pedicle or a well-defined border; n several small nodules lie immediately beneath the itoneum. 6. Total hysterectomy is indicated when the ıor is submucous and nonpedunculated, and the cervix not be dilated sufficiently to allow of morcellement; when tumor is either interstitial, large and subserous without edicle, soft, fibrocystic, or undergoing degeneration; when tumor is complicated by diseased adnexa. [W.K.]

January, 1900. [Vol. xvi, No. 1.]

1. Acute Inversion of the Uterus. A. Lapthorn Smith.
2. An Improved Method of Treating Prolaps of the Uterus and Bladder. I. S. Stone.
3. The Treatment of Complete Prolapse of the Uterus and Vagina. X. O. Werder.
4. Results of Conservative Surgery in Some Recent Cases of Serious Pelvic Disease. Hiram N. Vineberg.
5. Intraligamentous Growths. Thomas H. Hawkins.
6. On the Etiology of the Nausea and Vomiting of Pregnancy. David James Evans.
7. Further Experience with the Operative Treatment of Anteflexion. W. L. Burrage.

1.—Lapthorn Smith describes a case of **inversion of the uterus** occurring in a primipara 6 days after confinement. The uterus was pressed into position under the influence of an anesthetic, after about 15 minutes' labor, and the patient's improvement was rapid and continuous. [W.K.]

2.—See Philadelphia Medical Journal, Vol. IV, p. 1203.

3.— " " " " Vol. IV, p. 1203.

4.—Vineberg reports 5 cases of **conservative surgery** in serious pelvic diseases, in which results were obtained which justified the conservative method. The case which was not entirely satisfactory had been reinfected, and the author suggests that many cases which may return for further surgical interference, do so because of fresh gonorrheal infection. [W.K.]

5.—Hawkins contributes a paper on **intraligamentous growths** with reports of 11 cases in his own practice comprising cyst, papillary cystoma, and fibroid, all intraligamentous. He considers the removal of the large intraligamentous fibroid growth with complications probably the most difficult operation in surgery. In cases of growths of the papillary variety, or more particularly of those of the migratory or retroperitoneal form, the complications are many and will have to be met according to the exigencies of the case; but the general principle to be observed is the same in all, that is, to control the ovarian and uterine arteries. [W.K.]

6.—Evans advances a theory that the **vomiting of pregnancy** is due to the rhythmic contractions of the uterus which occur during the whole pregnancy. He states that any hollow viscus in contracting may set up reflex nausea and vomiting; the overdistended bladder in its efforts to contract, not infrequently reflexly induces nausea; similarly the stomach sets up the same reflex. In ileus an analogous reflex action occurs. Appendicular colic is frequently associated with nausea and vomiting. In summarizing he says: 1. There exists more or less of a rhythm in the paroxysms of nausea and vomiting in pregnancy. 2. There must also exist a rhythmical exciting cause for these paroxysms. 3. There is a rhythm in the contractions of the uterus which occur throughout pregnancy. 4. The essential exciting cause of the paroxysms of nausea and vomiting of pregnancy is frequently the physiological contraction of the muscular fibers of the uterus. [W.K.]

7.—See Philadelphia Medical Journal, Vol. V, p. 615.

Archives of Pediatrics.

February, 1900. [Vol. 2, No. 2]

1. A Study of the Lesions of the Liver in Young Children. Rowland Godfrey Freeman.
2. The Mortality and Treatment of Acute Intussusception. Fred Kammerer.
3. The Necessary Factors in the Successful Treatment of Intussusception. C. L. Gibson.
4. Report of Two Cases of Sarcoma of the Lower Jaw. W. H. Hudson.

1.—Freeman summarizes a very interesting article on **lesions of the liver in young children,** in the following: 1. Descent of the liver down the right side of the abdomen, so that the right lobe reaches below the crest of the ilium, occurs not very rarely in infants, and particularly in those in whom the liver is enlarged. 2. Fatty livers occur very frequently in the infants and children which die at the N. Y. Foundling Hospital, or in about 41% of all cases. 3. The condition of nutrition of the child, as expressed by the absence of fat in general and wasting of tissue, apparently

has no connection with the fatty condition of the liver, the condition of nutrition in the cases having fatty livers averaging about the same as in the whole number of cases. 4. Fatty livers occur rarely in the following chronic wasting diseases: Marasmus, malnutrition, rachitis and syphilis, unless such condition be complicated by an acute disease. 5. With tuberculosis fatty livers do not occur more often than with other conditions. 6. Fatty livers occur most often with the acute infectious diseases and gastrointestinal disorders. 7. The two cases of cirrhosis of the liver examined by the writer ran a comparatively acute course. The livers on section showed a marked hyperplasia of the so-called new-formed bile-ducts. 8. Focal necrosis of the liver may be a lesion of measles. [S.M.H.]

2.—Kammerer advises early operative interference in the treatment of **intussusception.** The only bloodless method deserving any consideration is the injection of fluids into the rectum, and this is applicable only to cases of intussusception in the large intestine, namely, about 68% of all cases. He discourages forcible enemas in acute cases after the end of 24 hours; in chronic cases they may be employed with impunity. A hydrostatic pressure of more than 3 or 4 feet should never be permitted. The most serious objection to this method is the inability to recognize when reduction has been accomplished. The following rules are recommended for the application of enemas: In acute cases an attempt at reduction should be made very early in the case, and once only. These attempts should always be made under complete anesthesia, with relaxed abdominal walls, and hot water should be employed. In very acute cases the method should not be resorted to. After one failure, laparotomy is indicated. The mortality of intussusception would probably be greatly reduced if all cases were operated upon as soon as the diagnosis is made. Young children, according to Kammerer's belief, bear the operation of laparotomy relatively better than adults. He recommends that in reducing the intussusception compression be made upon the sheath a little below the point at which the apex of the intussusceptum can be felt. This is a safer method than that of ordinary traction and combines pressure upon the apex with traction on the sheath. As to the location of the abdominal incision, while in his cases he has chosen the median position, he believes that if the strangulated intestine is fixed in position it is better to make an incision as near to the seat of trouble as possible. He disapproves of any measure for the purpose of preventing reinvagination. Resection, either of the entire intussusception or of the intussusceptum alone are the methods which should be employed in irreducible cases. [S.M.H.]

3.—Gibson believes that the success of operation in the **treatment of intussusception** depends upon its performance before the intussusception becomes irreducible. [S.M.H.]

4.—Hudson reports two cases of **sarcoma of the lower jaw,** one in a girl aged 7 years, the other in a girl aged 18 years. In the first case the growth was of considerable size and of some months' standing before operation was done, and recurrence with an eventually fatal termination followed the primary operation within a few months. Microscopically the tumor was a spindle-cell sarcoma. Scattered here and there throughout the periphery were small deposits of bone tissue, with a considerable quantity of similar deposit in the center of the mass. The second case was much less advanced. Five months after removal there was no evidence of recurrence. Microscopically the second tumor was composed of cells which under a low power looked like round cells; under a higher power three varieties were recognized: 1. Small round cells of which some were a little oblong; 2. Larger round cells frequently showing two distinct nuclei; 3. Spindle-shaped cells, some of them strikingly spindle-shaped, while others were shorter with blunt ends. In many places in the tumor the stroma was well marked and in other places the cells were very close together. There were numerous small, embryonic blood vessels evident in all parts of the tumor. An interesting feature of this case was that the sarcoma had its origin in a tooth-follicle. [S.M.H.]

Annals of Surgery.

February, 1900. [Vol. xxxi, No. 2.]

1. Further Observations on Depression of the Neck of the Femur in Early Life; Including Fracture of the Neck of the Femur, Separation of the Epiphysis and Sim Coxa Vara. ROYAL WHITMAN.
2. The Technic of the Positive and Negative Diagnosis Ureteral and Renal Calculi by the Aid of the Rö gen-Rays. CHARLES LESTER LEONARD.
3. Intestinal Obstruction Due to Intussusception. Jo F. ERDMANN.
4. Interscapulo-Thoracic Amputation. RUSSELL S. FOWL
5. Pathology of the Lymphatics of the Peritoneum. BYR ROBINSON.
6. Traumatic Rupture of the Bile-Duct. RICHARD WILLI GARRETT.
7. Actinomycosis in Man, with Special Reference to t Cases which have been Observed in America. Su plementary Report. JOHN RÜHRAH.

1.—Whitman reports 18 cases of **fracture of the nec of the femur** occurring in **children** between the ages 2 to 16. The physical characteristics of this injury are sho ening of the limb of ½ to ¾ of an inch with correspondi elevation of the trochanter and slight outward rotation the leg. For several weeks or months there may be discor fort on manipulation, but when repair is complete the range motion is not restricted or slightly limited and a slight lim is the only symptom. Until recent years this injury was su posed to be confined to adults. In many instances patien are able to walk about within a few days, thus it may be i ferred that the separation of the fragments is incomple and that the fracture is rather a bending than a displac ment. Discomfort or pain during the stage of repair is ver often mistaken for hip-disease. Röntgen pictures show d pression of the neck as a whole rather than at the epiphyse junction. Whitman has also seen 30 cases of coxa va (which is, practically speaking, fracture of the neck of th femur) in children, but in many instances there may be i herited predisposition to the deformity or slight depressio may result from rachitis. Reports are given of 6 cases an all but one of these were treated by operation. The firs essential is the restriction of abduction whether of lig mentous or muscular origin before operating on the bon A wedge of bone about ¾ of an inch in breadth is usuall removed opposite the trochanter minor, the leg is held i extreme abduction by means of a plaster-of-paris bandag which should also include the foot, until union is firm. I case of fracture of the neck of the femur it is sometime possible to replace the neck to a certain degree by forcin the limb into extreme abduction and fixing it in that att tude by plaster-of-paris bandage or other appropriate ap paratus; during consolidation an ordinary traction splint i applied. [M B T.]

2.—Leonard believes that both positive and negativ **diagnosis of ureteral and renal calculi** can be deter mined with absolute accuracy by the aid of the **x-rays** The advantage of this method is the mathematical accurac of the diagnosis, enabling the surgeon to operate early, thu decreasing mortality and preventing partial destruction of th kidney. It avoids the dangers of exploratory operatio and prevents operation on the wrong kidney. A carefu examination of the ureters as well as the kidney is a essential of every complete x-ray diagnosis. The only sourc of error is the personal equation of the operator, his abilit to read correctly what the negative shows. Duplicat negatives should be made the same day if there is an chance of the calculus moving, and after localization, opera tion should follow as soon as practical. The greatest value o the x-rays in physical diagnosis is not in penetrating all th tissues but in producing differentiation between tissues. This is obtained by employing a discharge from a tube hav ing a low vacuum. The vacuum most suitable is equivalent in resistance to one of ½ inch of spark in air measured by the parallel spark gap. When such distinction is obtained that tissue less dense than the least dense calculus are shown, no calculus can escape detection. The time of exposure varies from 5 to 15 minutes. Interpretation of negatives requires study and experience. Leonard appends reports of 59 cases in which negative or positive diagnosis was established by x-ray examination. [M.B T.]

3.—Erdmann believes that **intussusception** is the cause of fully 30% of all cases of **acute intestinal obstruction.** In the treatment of this condition he urges against the use of opium, which tends to mask the symptoms. The use of water and air-pressure is justifiable in cases of less than 24

's' duration. In cases in which there is neither gangrene adhesions, reduction is readily accomplished by opera-
Should the condition demand haste, an artificial anus ld be made. Erdmann gives reports of 9 cases, 7 of h were operated upon, with 3 recoveries. Of the 4 ents that died, 2 had practically no chance for recovery the third but a slight chance. [M B T.]

.—Fowler has collected abstracts of 3 cases in which ction of the scapula preceded **interscapulothoracic putation** and 2 cases in which resection of the head ie humerus preceded that operation. He finds 26 cases hich removal of the scapula and clavicle followed disar- lation at the shoulder-joint; 3 of these patients died as result of operation, 29% made an ultimate recovery and tient remained alive and well for 30 years after the oper- n. Fowler believes that statistics show superior results ases in which the operation was performed without any r primary operation. Sarcoma of the humerus offers it chances of ultimate cure by any but the most radical edure, and the operation of choice is interscapulo- acic amputation. Fowler has found 2 cases in which operation was performed because of injury. He gives ll report of a case operated upon by G. R Fowler because xtensive burns. The operation was performed 3 weeks r the patient's admission to the hospital. He died 2 days r and a necropsy showed the cause of death to be pneu- nia and chronic diffused nephritis. The fatality of the ration when performed for injury is 36%, or 3 times as l as when performed for malignant disease. [M.B.T.]

.—A man of 21, while carrying a heavy beam on his ulder, fell, striking his abdomen across a beam upon ch he had been standing. When seen 4 hours later re was considerable shock and much pain midway be- en the costal border of the right side and the umbilicus. e patient was treated symptomatically for 4 days and im- ved so much that he desired to leave bed. One week r he was taken with severe epigastric pain and his abdo- n became distended. On inserting the hypodermic needle, and serum escaped and with the aspirator 6 quarts of owish green fluid were withdrawn. Celiotomy was ad- d but the patient refused operation. Four days later 4 rts more of fluid were removed and 3 days later another 4 rts. On the twentieth day following the injury an incision made over the gallbladder; greenish fluid escaped; the lominal cavity was flushed with normal salt-solution; ad- ions of the intestines to each other and to the abdominal l were separated; the gallbladder was intact, as was also cystic duct; but bile kept oozing up from the back part the liver. By means of an aspirating needle and bulb inge air was forced into the gallbladder and by reflected it the **tear** was located at the back and upper part **of e common bile-duct.** The patient's condition was h that farther operative measures seemed hazardous, so general abdominal cavity was walled off with gauze and arge drainage tube was inserted. Gradual improvement owed for the first few days; there was abundant discharge bile from the wound, but this gradually diminished and ntually the wound healed completely. [M.B T.]

.—Rührah has collected a total of 72 cases of **actinomy- sis** from American sources. He records 6 cases, 2 of ich had not been previously reported. In one of these es alveolar abscess followed chewing wheat grains with a ious tooth. Healing resulted after removal of the tooth, inage of the abscess, cureting and swabbing with iodin. the second case a quantity of pus collected in the right c fossa. Healing followed evacuation, but the suppuration urred and discharging sinuses remained until the patient d of malnutrition 4 months later. [M.B T.]

Edinburgh Medical Journal.

March, 1900. [N. S., Vol. vii, No. 3.]

On the Method of Zadig in the Advancement of Medicine. George W. Balfour.
The Differential Diagnosis of Gout, Rheumatism, and Rheumatoid Arthritis. Arthur P. Luff.
Some Observations on Vascular Resistance. Harry Campbell.
Food vs. Physic. John Haddon.
Ulcer of the Cornea. A. Maitland Ramsay.
6. The Place of Protargol in Eye Work. Sydney Stephenson.
7. A Case of Molluscum Fibrosum. G. L. Kerr Pringle.

2.—Luff insists that **rheumatism may be distinguished from rheumatoid arthritis and gout** by the following points: Rheumatism yields to salicylate of soda, rheumatoid arthritis and gout do not; rheumatism is associated with erythema and disease of the heart; it does not produce permanent deformity of the joints with bony outgrowths and lipping of the cartilages: it oftentimes flies about from joint to joint. Gout and rheumatic arthritis he separates from each other by noting that rheumatoid arthritis occurs most frequently in females, gout in males; the former is most common among the ill-nourished, gout among the well-nourished; rheumatoid arthritis is improved by good diet, gout requires a spare diet; the onset of the former is insidious, the latter sudden; gout is associated from the beginning with severe pain, and in rheumatoid arthritis the pain is usually of gradually increasing severity. Gout practically never attacks the temporomaxillary joint. Rheumatoid arthritis is remarkably symmetrical, while gout is not. Luff considers rheumatism an infectious disease due to accumulation of uric acid in the blood from some obscure cause; he believes that rheumatoid arthritis is infectious because it is often a sequel to infectious disease, and because microorganisms have been several times found in the disease, and recently a diplococcus has been discovered which produced a similar disease in rabbits. Against the possibility of its being nervous he puts the facts that the muscular wasting is due to mere disuse, and is not associated with the reactions of degeneration, and no nerve-lesions are regularly discovered. [D L.E.]

3.—Campbell insists that the usual teaching that the capillaries offer a marked resistance to the blood-flow is incorrect, as the resistance is but slight. The resistance in the proximal half of the pulmonary circulation is not as much greater than that in the distal half as is the case in the systemic circulation, because the bore of the individual vessels and the width of the bed of circulation in each half of the pulmonary segment is much the same. He insists that vascular complexity does not increase the resistance, but that the contrary is true because complexity means greater general surface of flow of the circulation. The purpose of **vascular resistance** is to insure continuous and not pulsative flow in the capillaries. The reason that the arteriolar resistance is so much greater in the systemic than in the pulmonary circulation is that the systemic circulation needs to supply varying quantities of blood to different regions in response to physiologic demands, while this is not necessary in the pulmonary circulation, and second, it overcomes the effects of gravity upon the circulation. [D.L.E]

4.—Haddon agrees with Haig that **meat diet** is the cause of **gout,** and he recommends even more strongly than Haig that meat should be cut out of the diet, best altogether for a time. [D.L.E]

6.—Stephenson in concluding states that although **protargol** is not an absolutely ideal agent in the treatment of **external inflammatory affections of the eye,** it nevertheless offers considerable advantages and constitutes in some instances an important advance over the silver salt that has been its immediate forerunner and predecessor. [M.B T.]

7.—Pringle reports a case of **molluscum fibrosum** occurring in a young woman of 23, the principal tumor appeared soon after birth, and was situated on the flexor aspect of the left forearm. It grew rapidly, was dark and congested in color, movable and not painful, in addition, other tumors were located on the back and chest and extremities which are about the size of peas; there was a large tumor on the dorsum of the foot which was removed, but it recurred. On section of one of the nodules which was removed from the back it showed fibrous tissue with connective-tissue cells, but no glandular elements. [M.B.T]

Wiener klinische Wochenschrift.

January 4, 1900. [13. Jahrg., No. 1.]

1. The End of the Century.
2. The Origin of Tube-Casts. Ernst v. Czyhlarz.
3. Some Renal Anomalies. J. Hochenegg.

4. Some Rare Concretions in the Urinary Tract. O. ZUCKERKANDL.
5. A New Cystoscope for Catheterizing the Ureters. M. SCHLIFKA.

2.—Czyhlarz believes that **granular casts** are chiefly composed of detritus which is found in abundance in the convoluted tubules in parenchymatous and fatty degeneration of the kidney, the epithelial cells in these conditions showing marked evidences of degeneration. This does not explain the formation of all the granular casts; some might be produced by a secondary disintegration of desquamated epithelial cells, leukocytes, etc., which had been previously formed into cylinders. Epithelial casts are generally dependent upon desquamation of the cells in the collecting tubules. [D R.]

3.—A woman, 52 years old, had been troubled with obstinate constipation and all of its disagreeable consequences since a girl. By the use of all sorts of cathartics and enemas and all other means which could be thought of, it was possible to get a stool only about once in 10 to 14 days. The woman had been pregnant 7 times, but had given birth to but 3 children and each labor was very long and the children were born in the breech presentation. On vaginal examination a smooth tumor the size of a goose-egg was found in the pelvis compressing the rectum. The woman would not consent to operation at this time, but some months later a vaginal operation was undertaken for the purpose of removing a suspected ovarian tumor. When the peritoneal cavity was opened, however, the adnexa and uterus were found entirely normal, there was no connection between the growth and the uterus or ovaries, but it lay retroperineally in the hollow of the sacrum between it and the rectum. It was impossible to remove the growth by the vagina, and as its location seemed to indicate a carcinoma of the rectum, an operation was undertaken a short time later for its extirpation by the sacral route. The steps of the operation were carried out as in operation for carcinoma of the rectum, and on reaching the growth it was found connected at its upper pole with a large artery. After this artery had been ligated and divided the growth was further freed from its attachment, and to the great surprise of the operators was found to be a **kidney located in the hollow of the sacrum.** As the large artery had been divided there was nothing left but to remove the organ, which was easily accomplished. The region was drained with iodoform gauze and the wound closed. The recovery was free from rise of temperature, but on the fourth day there developed a condition of mental excitement which was thought to be due to absorption of iodoform. This condition disappeared very soon and recovery was uneventful. After the removal of the kidney, immense masses of feces were removed by enemas; very soon the bowel movement became spontaneous, and now the woman is almost entirely well. The kidney was somewhat triangular and round in form; it was 8 cm. long, 7 cm. broad, and 3 cm. thick, the posterior surface was rounded and filled the whole of the sacrum; the small size of the organ perhaps accounted for slight disturbances following its removal. Hochenegg discusses the literature of the subject very thoroughly. He finds reports of 8 cases in which kidneys located in the pelvis have been removed by operation. [M.B.T.]

4.—A boy, 3½ years old, had for some time been troubled with great difficulty in urination. On examination with the sound a **stone** was found **in the urethra** and which could be felt by the rectum as a hard tumor about the size of an almond. The stone was removed by a perineal incision; the membranous urethra had been greatly distended by it. The urethra was closed by submucous catgut sutures and an uneventful recovery followed. In a second case a man of 55 had suffered from difficulty of urination following an attack of renal colic 5 weeks previously. The sound encountered an obstruction in the posterior urethra; this was pushed into the bladder with a catheter. Some days later the concrement was passed spontaneously by the urethra. It was 28 mm. long, 12 mm. broad, and the cortical layer was phosphate of lime. In a third case a 16-years-old boy had been troubled with difficulty in urination and occasional hematuria for 6 years. A stone was located in the pendulous urethra; it was removed by incision and the operation was completed as in the first case. It was composed of calcium carbonate. Zuckerkandl finds, in a search through the literature of the subject, that about 204 cases of callus of the urethra hav been thus far reported. Preputial stone is considerabl rarer; he finds records of but 30 cases. He reports the fo lowing cases which came under his observation. A man, 6 years old, had stepped into a wasp's nest 20 years previously and had been stung on the penis, and phlegmonous inflam mation resulted which was followed by cicatricial contrac tion of the preputial opening. For about a year he ha found great difficulty in urinating. Examination of the pre puce showed that it was distended to the size of a smal apple and crepitation could be felt. On operating 3 phos phatic calculi the size of pigeon's eggs were removed. Th glans penis had been flattened and reduced in size by pres sure and the mucous membrane was chronically inflamed In another case a woman, 55 years old, had suffered dif ficulty in urination for 1½ years, although there were n symptoms of renal colic. By the introduction of a sound a concretion was found in the bladder; cystoscopic examina tion showed that there was a mushroom-shaped rounded mas near the ureteral papilla. Under anesthesia the urethra wa dilated so that the finger could be introduced into the bladder It was found impossible to remove the calculus by bimanua manipulations. An incision was made through the vagina wall, the stone was removed and the vaginal wound wa sutured. A favorable recovery followed; the stone consisted of two parts connected by a narrow isthmus corresponding to the opening of the ureter; the smallest portion was within the bladder, the larger portion extended into the viscera portion of the ureter. [M B.T.]

5.—A new form of **cystoscope** is described, modeled after Caspar's instrument. It is impossible to describe the instrument satisfactorily without reproducing the illustrations. The advantages claimed for it are: That the injury to the urethra is absolutely impossible; the small distance between the opening for the catheter and the prism; and simplicity in the use of the instrument. [M B.T.]

January 11, 1900. [13. Jahrg., No. 2]

1. Congenital Defect of the Ribs with High Position of the Scapula. HERMANN SCHLESINGER.
2. Acute Polioencephalitis and Alcoholic Delirium Leading to Korsakow's Psychosis Without Polyneuritis. EMIL RAIMAINE.
3. A Case of Traumatic Paralysis. JULIAN DONATH.
4. Pseudobulbar Paralysis of Infants. M. BERNHARDT.

1.—Congenital defect of the pectoralis major muscles is one of the most frequent anomalies. Schlesinger finds reports of more than 100 such cases, but it is comparatively rare to find this condition combined with a partial defect of the ribs. Schlesinger has been able to find reports of but 6 such cases. He reports the case of a man of 22 who had a defect of the first 4 or 5 ribs, the upper end of the defect extending about 4 cm. from the left border of the sternum. He also reports another case which was previously described by Kaiser and discusses the literature of this anomaly. [M.B T.]

2.—Korsakow, in 1887, called attention to a peculiar form of **mental aberration** occurring in connection with multiple neuritis. It is characterized by rapid psychic exhaustion, inability of comprehending and elaborating external impressions, grave disturbances of memory, as well as by illusions. The author reports a case in which there was a similar psychic state, without the occurrence of polyneuritis. The patient, a man of 57 years of age. was an old alcoholic, in whom, simultaneously with the outbreak of delirium tremens, certain localized disturbances developed. An acute external and internal ophthalmoplegia of the right eye, disappearing with the exception of the abducens paralysis within 24 hours. There was also an abducens palsy in the left eye. There was likewise myosis. and reflex pupillary paralysis. Intense occipital headache also existed. The ocular palsy set in with an epileptiform attack. There was tenderness, of the skull on percussion, disturbance of equilibrium, a tendency to fall backward, and an exaggeration of the patellar reflex. The pulse was constantly slow and regular. The disease ended in recovery. The author believes that an **acute superior polioencephalitis** was at the bottom of these symptoms. The mental phenomena at first were those of alcoholic delirium, and then gave place to the peculiar disturbances of orientation and memory seen in

oholic multiple neuritis; but there was no evidence of y involvement of the peripheral nerves. [D.R.]

3.—The patient, a single woman of 25 years, poorly deloped, anemic, and scoliotic, immediately after an accint (a collision of a wagon in which she was riding with an ctric car) developed a **paralysis of the entire body,** ich recurred in frequent attacks, each lasting from half hour to 8 days. The attacks began in the fingers, extendg up the arms, then affected the feet, and then the lower tremities. During the worst attacks the head could not en be moved. The paroxysms were associated with a eling of heat, thirst, perspiration, and at times delirium, e paralysis was flaccid and was associated with a loss of e direct and indirect faradic and galvanic irritability. ere were no paresthesias. At times there were pains in e head and calves. Excitement, mental depression, expore to cold, sitting, and lying, favored the attacks. Active ovements prevented or retarded them. In the intervals, e electric excitability was normal, the mechanical irritality of the muscles diminished, the reflexes at times weak, times exaggerated. The author looks upon the disease as e to a toxic cause. [D.R.]

4.—Bernhardt points out that he has published some obrvations on infantile pseudobulbar palsy, which had esped Halban. (See PHILADELPHIA MEDICAL JOURNAL, Vol. , 1900, pp. 441.) [D.R.]

Berliner klinische Wochenschrift.

February 12, 1900. [27. Jahrg., No. 7.]

Autointoxication. C. A. EWALD.
The Natural Means of Protection of the Organisms Against Infection. P. BAUMGARTEN.
Experiments with Venesection in Uremia. P. F. RICHTER.
The Pathologic Diagnosis of Diphtheria. J. BRONSTEIN.
Epidemiology and Prophylaxis of Malaria from the Latest Etiologic Standpoint. A. CELLI.
Polyarthritis Chronica Villosa and Arthritis Deformans. MAX SCHÜLLER.
The Origin of Dermoid Cysts. S. W. BAUDLER.

1.—Autointoxication is a self-poisoning of the organm, due to digestive or metabolic products, of normal or bnormal formation, which the organism forms in the fulfilent of its own vital processes. The source of these products may be outside of the cells proper, of the organism, *e.*, in the intestinal tract, or interstitial, in the tissues themelves. As examples of intestinal autointoxication are cited he nervous phenomena that occur in the course of acute nd chronic digestive disturbances; likewise, some skin ffections, urticaria, acne, pruritus, and purpura; also asthma yspepticum, periodic vomiting, tetany, cystinuria, some of he anemias, and the toxic phenomena in helminthiasis. Among the interstitial autointoxications are usually menioned uremia, diabetic and carcinomatous coma, Basedow's lisease, Addison's disease, pancreatic diabetes, myxedema, achexia strumipriva, cretinism, leukemia and pseudoleuemia, eclampsia, and even various psychoses. Certain other ffections, such as gout, migraine, etc., may be classed in his group. It is probable that not all of these belong to the utointoxications, and it is improper to class acetonuria, xaluria or icterus gravis among the autointoxications. They are merely symptoms of different diseases, and must be considered as autointoxications occurring in the course of various diseases. [D.R.]

3.—Richter has studied the influence of **venesection,** with and without saline infusion, upon the **molecular concentration** of the blood, in animals in which a state of **uremia** had been experimentally induced. The experiments were undertaken for the purpose of finding some explanation of the beneficial effects which clinicians claim that venesection produces in uremia. There is in uremia generally an increase in molecular concentration; but the author found that in no case did the venesection, with or without saline infusion, produce any diminution in this molecular concentration or the osmotic pressure. Some other explanation must, therefore, be sought for the empiric facts. [D.R.]

4.—Neisser's method of staining distinguishes positively between the diphtheria and the pseudodiphtheria bacillus in cultures. The author has employed the stain also for diphtheric membranes, using both the original Neisser method and a modification in which dahlia was employed instead of methylene-blue. Out of 136 membranes, the Neisser's method disclosed the presence of the diphtheria bacillus in 135. The observations were controled by the culture-method. Bronstein recommends, however, that both in the smears from membranes and in culture-preparations, the Neisser stain should be employed three or five times as long as originally advised by its discoverer. Moreover, it is necessary to wash with distilled water. Ordinary water is injurious on account of its CO_2 content. [D.R.]

5.—For the diagnosis of malaria, the examination of either the fresh blood or of preparations stained by Romanowsky's method is recommended. [*A.* A saturated watery solution of methylene-blue. *B.* A watery eosin solution. Take from one to three parts of *A*, and from two to five parts of *B*, and mix. Allow this to act for from 20 to 30 minutes.] **Diagnosis** is the first step in prophylaxis; the second is **isolation** of the patient. In a malarial country a patient is a danger to others, and should be isolated. The patient is a source of infection to the mosquito, and in that way may become a source of infection to his fellow-men. The third step is **disinfection.** This is required for the sources of infection as well as for the means of transportation. Blood-disinfection is best achieved by quinin. Unfortunately, quinin is of but little use in the parasitic forms which produce relapses, and of none against the ameba, which completes the sexual cycle in the mosquito.

Disinfection of the malaria-bearing mosquito.—For the destruction of the larvae and the disinfection of the waters, there are but three substances of practical use: Unexpanded chrysanthemum flowers from Dalmatia, certain aniline dyes (larvicid), and petroleum. The best time to destroy the larvae is in the winter and spring. Wherever possible, the mosquitos themselves should be destroyed. For every mosquito killed, there will be two hundred million less in the following year, if eggs are laid four times; and twenty billions less, when eggs are laid five times.

Prevention of the entrance of the malarial organisms into the body. Persons should not sleep in the open air and should remain indoors at night and in the early hours of the morning, or, which is better, should spend these hours in a healthy locality. Lights should not be lit when the windows are open. If compelled to be out of doors at night, the face and neck should be covered with a veil and the hands with gloves. Mosquito netting and screens should protect the windows and doors. Among chemical protectives are turpentine, iodoform, menthol, and a paste of valerianic acid. Turpentine soaps are very good also.

Methods of removing the disposition: 1. *Systemic disposition.* Proper clothing, and methylene-blue internally. 2. *Local disposition.* Proper sewerage systems and certain methods of cultivating the soil. The dry methods of cultivation are much better than any others. Wherever there is irrigation, the fall of water in the canals should be considerable. Rice cultivation should not be allowed in malarial countries until a cheap larvicid is found, that is not injurious to the rice. As the insects do not fly upward, it is possible to build healthy dwellings at an altitude, even in a malarial district. Provision should be made for the proper regulation of occupations that favor infection with malaria. In this connection, the author inveighs bitterly against the heartlessness of capital in exposing human beings to disease. [D.R.]

6.—Schüller describes and figures cartilages from joints, the seat of **arthritis deformans,** in which, by microchemic reactions he had caused a crystallization of calcium oxalate. Such calcium oxylate crystals were not demonstrable in normal joints nor in polyarthritis chronica villosa. The crystals were also found in the inflamed synovia in arthritis deformans. If the nutrition of the joint cartilage be in any way disturbed, as by injury, it is very likely to become the seat of arthritis deformans: and a case is cited in which, after a gunshot wound of the hip-joint, arthritis deformans developed in it. As to the cause of the increased deposit of lime-salts iu the joints, the author believes that it is the result of a **metabolic disturbance,** and is not bacterial in origin. In the **treatment of arthritis deformans,** it is important to give food which is poor in lime-salts. The author disapproves of milk, which is recommended by many. The diet should be easily digestible, and all foods

and beverages should be avoided that decompose readily. The Carlsbad treatment, repeated for several years, has been found useful. In **polyarthritis chronica villosa** the treatment is totally different. For this, Schüller recommends injections of guaiacol-iodoform-glycerin, from which he has seen very good results. The injections are usually given every 12 days. They do not prevent recurrence, and demand a longer time for cure than operation. In addition to the injections, he employs massage and electricity, and inunction of the joints with guaiacol and europhen-oil. Internally guaiacol or thiocol is used. In arthritis deformans the injections have not been of any value. In the latter disease it may be necessary to operate, but the operation is different from that in cases of polyarthritis chronica villosa, and concerns the bones. [D.R.]

7.—Baudler rejects the theories of Waldeyer, Wilms, and Pfannenstiel in regard to the **origin of dermoid cysts,** and suggests the following: The dermoid cysts are formed through certain embryonal structures carrying with them cells that are designed for the formation of other tissue, these cells in their new locality producing such tissue as they would have formed had they been situated in their normal place. Thus, the dermoid cysts of the genital organs are formed by the Wolffian duct's carrying with it in its descent cells from the different germinal layers. The primordial gut (Urdarm), which in the beginning is connected with all of the germinal layers, in its descent toward the anus may readily carry cells of all the germinal layers with it; and these may subsequently form the dermoids of the sacral region. [D.R.]

Deutsche medicinische Wochenschrift.

January 25, 1900. [26. Jahrg., No. 4.]

1. A Specific Serum for Spermatozoa. MOXTER.
2. Clinical and Experimental Experience with Dural Infusions. PAUL JACOB.
3. An Investigation of the Saliva and its Influence on Gastric Digestion. MARTIN COHN.
4. The Application of an Apparatus to Support the Heart in Cardiac Affections. ABÉE.

1.—Moxter states that when the spermatozoa of the sheep are injected into the peritoneal cavity of the guineapig when suspended in salt-solution, their motion becomes less, and after an hour to an hour and a half ceases entirely. If guineapigs are repeatedly injected in this way, the time within which the movement ceases becomes much less, being reduced to as little as 20 minutes. The guineapigs, therefore, seem to have acquired an increased power of overcoming the activity of the spermatozoa. He found also that if living sheep spermatozoa were introduced into the serum of normal animals when removed from the body and at the same time into the serum of animals that had been treated previously with sheep spermatozoa, there was no distinct difference in the influence upon the spermatozoa, but if the serum of rabbits that had been previously treated were introduced into the peritoneal cavity of guineapigs and living **spermatozoa** introduced at the same time, it was found that the destructive action upon the spermatozoa was much more rapid than was the action of the normal serum of the rabbit; hence, he decided that the bodies causing immunity against the spermatozoa killed the spermatozoa within the animal body, but are not active when removed from the body. The spermatozoa were not dissolved. The serum of the immune animal also had a specific effect in dissolving the red blood-corpuscles of the sheep. The bodies producing immunity combined with the spermatozoa and with the erythrocytes, but they showed a more striking tendency to combine with the spermatozoa than with the erythrocytes. The **serum of the immune animal** possessed a temporary power of agglutination of the sheep spermatozoa, and the same agglutinative action was seen in connection with the red blood-corpuscles. [D.L.E.]

3.—Cohn draws attention to the importance of using a **special indicator in titrating saliva** for the determination of its alkalinity because of the large amount of CO_2 present. Phenolphthalein is not satisfactory; neutral-red did not prove much more useful, but methyl-orange was found to be an entirely satisfactory indicator. The alkalinity varied at different times of the day, and on different days. The average equaled 0.0154% soda solution. The lowest was equivalent to a solution of 0.002%, the highest alkalinity 0.048%. The saliva obtained when the stomach was emptied in the morning, was always of greater alkalinity. During the forenoon the alkalinity decreased, and became greater again with the midday meal. Later it decreased and increased again toward evening. Cohn could not note the presence at any time of an acid reaction in normal persons, but it has been repeatedly noted by others that the saliva was acid in diabetes and in some diseases of the mouth, esophagus, and stomach, an acid reaction has often been seen in infants. He was not able to confirm Sticker's observation that there was a relation between alkalinity of the saliva and the acidity of the stomach-contents. The alkalinity was exceedingly high in cases of paralytic sialorrhea, with tabes and bulbar palsy. The freezing point of the saliva was reduced to —0.25° in paralytic sialorrhea, while after the use of pilocarpin it varied between —0 07° and —0.34° the average being —0.20°. The amount of chlorids contained normally was on the average about 0.16%, while in paralytic sialorrhea it was about 0.18%. Certain authors have endeavored to cause the absorption of exudates and to increase the excretion of products of metabolism by causing free flow of saliva. Cohn carried out experiments along this line, but was unable to cause any increase in the average amount of chlorids, or any change in the alkalinity, but he did observe that in 2 cases of chronic parenchymatous nephritis, the molecular concentration was increased. He did not, however, see any special increase in the amount of saliva secreted in these cases. [D.L.E.]

4.—Abée describes the **plate** which he uses for placing upon the chest in cardiac cases in order **to support the heart,** and describes 10 cases in which this was used and seemed to cause a decided improvement in the subjective symptoms, and objectively appeared to cause the cardiac outlines to percussion to become elevated and somewhat smaller. The apex-beat was displaced somewhat inward after its use, and at the same time the lower border of the heart-dulness on the right was tilted somewhat so that he thinks the whole heart was tilted. The radial pulse became fuller and somewhat slower, and the borders of the lungs were found somewhat lower so that there seemed to be better expansion of the lungs. He believes, therefore, that supporting the heart in this way is a great aid in the treatment of cardiac cases. The plate is usually worn with comfort. The explanation he gives for the good effects is that the hypertrophied heart sinks and drags down the aorta, and that the plate elevates it again, and in this way eases the work of the heart. [D.L.E.]

February 1, 1900. [26. Jahrg., No. 5.]

1. The Treatment of Circumscribed Abscess of the Peritoneal Cavity. SONNENBURG.
2. Ileocolic Intussusception. LEWERENZ.
3. Investigations of the Saliva and its Influence on Gastric Digestion. MARTIN COHN.
4. A Case of Pneumathemia. PAUL BERNHARDT.

1.—Sonnenburg does not agree with Riedel when the latter favors immediate operation in all cases of **circumscribed abscess of the peritoneal cavity,** though he admits that in many cases, when a careful diagnosis has been made and the surgeon is skilful, brilliant results have been obtained. It is often impossible to tell just the kind and extent of inflammation of the peritoneum in the region of a circumscribed abscess, and because of the easy infection of a partially inflamed peritoneum, the opening of an abcess with the possibility of the contents soiling the abdominal cavity, is an operation not to be undertaken too hastily. When, however, the abscess is well encapsulated and there are no signs of peritonitis, operative interference is often indicated. The diagnosis of a peritonitis from an absorption of toxins from the abscess itself is often most difficult. As to the treatment, it is much the better method to try to locate and treat the abscess without opening the peritoneum, and sometimes even the appendix can be removed without getting into the general peritoneal cavity. The wounds should be thoroughly drained with gauze. [G.B.W.]

2.—Lewerenz reports a case of **intussusception** occurring in a boy 12 years of age. The symptoms so strongly suggested appendicitis that a diagnosis of this disease was made prior to the operation. On opening the abdominal cavity,

owever, the ascending colon was found to be markedly dis-nded with what proved to be invaginated small intestine. here was considerable edema and inflammation, but after 5 minutes' trial some 52 cm. of intestine was gently pulled it and the intussusception was reduced. There were a few dhesions torn through and the bowel was covered with a yer of fibrin. An iodoform gauze drain was put in and the odominal wound closed. The patient made a good recov-y. [G.B.W.]

3.—Cohn continues his article by giving the results of his xperiments concerning the **effect of saliva upon the astric juice.** He gave the patients test-meals through ie tube and in the normal way, and determined the differ-nce seen when the meal was chewed and swallowed, and hen it was taken through the tube. His results corre-ponded with those of previous investigators, showing that hewing the meal caused a much more active secretion of astric juices. He also determined the effect upon the mo-lity, and found that it was practically negative. [D.L.E.]

4.—Bernhardt reports the case of an idiot of 54 who was ound severely ill with **fever, diarrhea and oliguria.** He died 36 hours after it was noted that he was ill. The lood was found fluid and carmine red, there were numerous emorrhages throughout the organs, and the blood was oamy. There was bronchopneumonia. The liver was much nlarged, and through it there were very many small blad-er-like areas filled with gas; which upon cutting were found o contain a foamy blood. Bacteriological investigation as ar as carried out made it probable that the organism causing his condition was the Bacillus aerogenes capsulatus, but no ultures and experimental inoculation were made. [D.L.E.]

Deutsches Archiv für klinische Medicin.

November 23, 1899. [Band 63, Heft 3 and 4.]

8. Experimental and Clinical Investigations of the Functional Tests of the Intestine. SCHMIDT.
9. A New Method for Testing Clinically the Gastric Function and its Physiologic Results. PFAUNDLER.
0. Paroxysmal Hemoglobinuria. MANNABERG and DONATH.
1. The Valsalva Experiment with Open Thorax as a Measure for the Extensibility of the Lungs in Pneumothorax. REINEBOTH.
2. Reflex Hyperesthesia and Digestive Disorders. FABER.
3. The Influence of a Varying State of Nutrition Upon the Transformation of a Methemoglobin Injected Subcutaneously into Animals. VIDAL.
4. Mould Poisoning. HEGI.
5. Gonorrheal Endocarditis. LOEB.
6. Brief Communications. 1. Remarks Upon the Investigations of the Concentration of the Urine and Blood in Renal Diseases. LINDEMANN. KORANYI. 2. Reply to Prof. Koranyi's Remarks, Etc. LINDEMANN.

8.—Schmidt has attempted a variety of methods for the determination of the **digestion of the feces.** In the first series the material from starving dogs and healthy and pathologic patients was tested by mixing a portion with ten times its weight of gastric juice. The results were practically useless, because only in exceptional cases did they show any characteristic change. In general a quantity of albumoses could be obtained, which in normal cases were occasionally very considerable. Careful inspection with the naked eye enabled him frequently to find masses of connective tissue, often enclosing considerable quantities of albuminous substances, such as muscle-fibers, and when these were present they were associated not with a disturbance of pancreatic functions, but with some form of impaired digestion in the stomach itself; for when fragments of flesh passed through the pylorus, they were not further broken up in the pancreatic fluid. He was able to confirm Frerich's statements that in human feces, muscle-fibers invariably occurred if the diet included meat. In order to determine whether the few fibers normally found are in excess or not, various methods have been devised, but all of them involve such a margin of error that they are practically useless. A more important element is the size of the muscle-fragments. If these are at all abnormally large they indicate some pathologic condition. Schmidt has devised the following method: 1. A test diet is employed, which of course may vary considerably. The amount of feces is then determined, which is not difficult if they are in a solid form. They are then centrifugated after dilution; the precipitate purified by treatment with hydrochloric acid, alcohol, and ether. The resultant deposit is then placed in a measuring glass with a digesting fluid, and its amount read upon a scale upon the side of the glass. Some 50 tests were made upon patients, either normal or suffering from various diseased conditions, and it was found that when upon Schmidt's measuring glass a diminution in the sediment after digestion of more than 2 mm. occurred, providing the patient had been eating 100 gms. daily of chopped beef for several days, that some disturbance in the digestion of albumin had occurred. If connective tissue particles are at the same time present in the feces, they indicate a disturbance in the stomach. The variations, however, are chiefly due to alterations in the active functions of the intestine. [J.S.]

9.—Pfaundler has devised a method for testing the **functional efficiency of the stomach** which apparently is likely to yield more accurate results than any hitherto employed. Starting out with the assumption that under theoretical conditions the stomach can be regarded as a vessel into which is continually poured gastric juices, and out of which continually flows the gastric contents. He has devised the formula:— $C = -\frac{B}{A-B} \times \log\left(1 - \frac{A-B}{a} \times t\right)$ in which C equals the degree of concentration; A the motor activity of the stomach, that is the amount of contents discharged in a given unit of time; and B the functional activity of the stomach, that is the quantity of hyperchloric acid secreted in the same interval. A equals the quantity of the test meal, and *t* the time. The only variable in this formula is, therefore, the time interval, and C will show corresponding alterations in its value. In actual experience, it is found that the quantity of hydrochloric acid supplied in a given interval of time is not constant, but varies somewhat regularly, and that the amount of gastric contents also shows approximately regular variation. As a result it is necessary to employ a much more complicated formula, involving the application of the principles of calculus. As Pfaundler suspects that these higher mathematics are no longer familiar to the majority of physicians, he has devised a smaller formula which may be expressed as $-C_1 - C_0 = \frac{B}{V}$, $C_2 - C = \frac{B-X}{{}^2V}$ etc. The difference between the Cs represents the interval of time. This formula, although it is simply a quadratic equation necessarily becomes somewhat complicated, and he has therefore finally resorted to a graphic method which consists essentially in plotting curves of the acidity in percent and the volume, the base line being divided into intervals of time. In normal stomachs he has found that the variations in the expulsion of the contents and the concentration of the acidity are practically constant. He has carried out a series of experiments upon himself, observing the conditions of the experiment with great care, estimating the percentage of hydrochloric acid by the method of Lütke. He has obtained the following results: The maximum secretion of HCl occurs in the first hour. The total quantity of gastric juice in Pfaundler's own case after a test-meal amounted to 600 cc. The discharge of the stomach-contents into the intestines is approximately uniform until the end of the third hour, and then diminishes very rapidly. In regard to the diminution in hydrochloric acid toward the end of digestion, his curve showed that this is probably the result of the formation of chlorids. In conclusion, he states that the following data may be determined by his method: 1. The amount of gastric juice secreted during digestion in various intervals of time. 2. The period during which a secretion occurs. 3. The amount of hydrochloric acid in the secretion. 4. The volume of gastric contents evacuated in the intestines during the various intervals. He has obtained the following results after a test meal:—total quantity of gastric juice 595.5 ccm.; the period of secretion 4 hours; hydrochloric acid 0.35¼%; quantity of gastric contents discharged into the intestine 281.6 ccm. per hour. During normal digestion of a test-meal consisting of soup, meat, potatoes, bread and water, lactic acid is formed and may amount to 1%. Towards the end of digestion the acid gastric contents are neutralized by an alkaline secretion from the pylorus. In cases of hyperacidity, more gastric juice is produced in a given interval of time and the period of

production is longer than in normal stomachs, and there is probably also deficient neutralization at the end of digestion. [J.S.]

10.—In 3 cases of **paroxysmal hemoglobinuria,** the condition appeared to be produced by exposure to cold, and a series of experiments were therefore undertaken in order to determine whether artificial exposure would cause the appearance of the same symptoms. The patients were instructed to keep their feet in ice-water for varying periods of time, and it was found that in the youngest and most susceptible, exposure was seen to precipitate an attack. In the other 2 cases it was necessary sometimes to continue the exposure for from 40 minutes to one hour. The subsequent course of the attack was exactly similar to those occurring as a result of natural exposure. In 2 cases the attempt was made to abort the attack by the administration of amyl nitrite during the exposure, but without result. In order to determine whether mechanical injury, such as passive congestion or pressure upon the bloodvessels, was sufficient to cause hemoglobinuria, bandages were placed around the arm for varying periods until cyanosis of the extremity occurred. It was found in the first case that an exposure for 20 minutes produced distinct traces of oxyhemoglobin in the serum, and in the other cases for 15 and 20 minutes respectively. For purposes of control, a series of experiments were also performed upon 12 other cases with negative or very slightly positive results. The blood of the patients was also withdrawn, and shaken with various degrees of violence for various periods of time, and it was found that in all cases the hemoglobin passed into the plasma. In the 12 control cases, the results were negative in 3, positive in 6, and slight in the remaining 3. Specimens were therefore taken from the normal patients and from one of the cases under investigation and shaken for the same period of time in the same hand. It was found in the cases of paroxysmal hemoglobinuria, that separation of the hemoglobin occurred very much more rapidly. The blood was also drawn from a cyanotic extremity and shaken, and it was found that under these circumstances hemoglobinemia occurred more rapidly. The blood was also stirred vigorously by a machine, but this apparently had very little effect. Exposure to CO_2 usually produced hemoglobinemia. Two interesting experiments were also made in order to determine whether a hemolytic ferment was present in the blood, and it was found that blood from a normal person added to blood in which hemolysis had occurred showed distinct degeneration of the blood-corpuscles. The authors conclude therefore that in these cases the blood possesses a diminished resistance to mechanical injury, to $C\,O_2$, but that no hemolytic ferment is present. [J.S.]

11.—In cases of **pneumothorax** in which a communication exists between the pleural cavity and the surface of the body, if the patients undertake the Valsalva procedure, that is inflate the lungs, and then attempt to expire while the glottis is voluntarily kept closed, the air is forced from the distended into the collapsed lung, causing it to distend, and at the same time the mediastinum is pressed toward the diseased side. Under normal conditions the intrathoracic pressure is usually communicated to the bloodvessels, and can be distinctly observed upon the curve of the sphygmograph. Under abnormal conditions, however, the pressure upon the bloodvessels is more than neutralized by the movement of the mediastinum, so that the increase in blood-pressure does not occur. It has occurred to the author that these variations may be of some value in the prognosis of pneumothorax; for the degree to which compensation of the intrathoracic pressure occurs is in a sense a measure of the extensibility of the normal lung. When the rise in blood-pressure occurs very promptly, particularly if there is a considerable amount of air in the pleural cavity, it indicates that the involved lung is incapable of distending. In a case of diminished empyema, the absence of the increase in blood-pressure until the cavity has become relatively small is a favorable prognostic sign. These statements are based upon the study of 5 cases of pneumothorax in which the cavity contained less than 200 cm., and 4 cases in which it was greater. In another case in which the patient died of pulmonary tuberculosis, the experiment had given rise to a belief in the marked elasticity of the lung, and this was confirmed at the autopsy. In 3 cases in addition to the pneumothorax there was a fistulous opening into one of the bronchi. No positive data could be obtained because th air usually rushed through the fistula as soon as the experi ment was attempted. He believes, therefore, that thi method is valuable in cases of ordinary pneumothorax, bu is useless when an opening into one of the bronch exists. [J.S.]

12.—Faber, independently of Head, has studied th various forms of **sensory disturbances,** particularly th paresthesia and the hyperesthesia that occur in associatio with gastrointestinal disorders. He has collected together 2 cases of this condition, and found that the area of the sen sory disturbance usually extended from the anterior to th posterior median line as a fairly broad horizontal half zone Occasionally, this area extended as far down as the inguina region, and in a few cases a small area was observed upo the opposite side, chiefly anteriorly; the anterior extent o the sensory disturbance was always considerably greate than the posterior extent. Altogether Faber finds that ou of the service of 600 cases, of whom 100 suffered from the disease of the gastrointestinal tract, 29% had sensory phe nomena. A fairly large proportion of all these patient were women, and nearly all of them between the years of 17 to 30. The area appeared to occur without reference to the nature of the intestinal disease, but bore direct relation to the intensity of the latter, and this appeared as soon as it was cured. It is probably more frequently bilateral in cases of chronic enteritis. The lesion appears to be frequently associated with anemia, and in 7 cases there was pronounced hysteria. The practical value lies in the fact that it suffices to explain a variety of disorders of which the patients frequently complain. [J.S.]

13.—Vidal has performed a series of experiments upon guineapigs in order to determine the effect of the conditions of the animal upon the **absorption of methemoglobin.** The salts of methemoglobin were injected into some of the animals which were given a normal amount of food, and then killed. Others were starved, and still others allowed to live. It was found that in the various animals there was a great difference in the rapidity of absorption; in those with normal diet it occurred very slowly. The iron reaction appeared only after 96 hours. If the animal were given only meat, the absorption was increased in rapidity, and in starving animals or those in whom artificial anemia had been produced, the iron reaction was present in the tissues as early as 48 hours after the injection. Eosinophile cells were not found in the tissue, and this probably indicates that they have nothing to do with the absorption of iron. [J.S.]

14.—Hegi reports 4 cases of **poisoning with the amanita phalloides,** a species of toadstool found in Switzerland. The patients, all members of the same family, had collected this, mistaking it for a form of mushroom, had cooked it and eaten heartily about noon. Thirteen hours later, that is, one o'clock the following morning, all four were suddenly attacked with severe pain in the bowels resembling colic, exquisite tenderness in the region of the abdomen, followed by vomiting, purging, cramps in the calves, excessive thirst; the condition lasting until 10 o'clock the following morning. There was then some improvement until 3 o'clock in the afternoon, when all four became so exhausted, weak, and drowsy, that a physician was called, and he transferred them all to a hospital. The first case, a boy of 15, was in a state of extreme collapse, with cyanosis of the extremities, coma, and finally died without convulsions 36 hours after the poison was taken. The second, a boy of 10, developed some symptoms of cerebral irritation 43 hours after taking the poison, and died 14 hours later. The third case, a girl of 13, lived for 73 hours, and appeared at one time to be certain of recovery. There had been complete suppression of urine for the whole period. The fourth patient, the father, a powerful man of 39, finally recovered, but remained 15 days in the hospital. Autopsies were performed upon the three cases, and showed slight injection of the mucous membranes, swelling of Peyer's patches and of the follicles. The spleen was also somewhat enlarged. Microscopically, extensive fatty degeneration was found in the muscle of the heart and diaphragm. Fatty degeneration of the tubules of the kidney, fatty degeneration of the liver, and, in one case, hemorrhage into the acini had occurred. The remarkable point was the marked softening of the brain which could not be ascribed to postmortem alterations. A series of investigations were undertaken in order to deter-

ine the virulence of the poison; 10 grams and 15 grams of esh toadstool given to two rabbits caused no symptoms. nother rabbit was given 15 grams with a small quantity of ium. It developed cramps and finally died. The blood as apparently unaltered, and there were no signs of inflam- ation. Blood taken from this rabbit and injected into nother produced no symptoms. In another case, a rabbit ceived 55 grams and lived about 40 hours. It presented sentially the same phenomena found in the other cases. nother rabbit succumbed in a shorter time to 60 grams. here was no tendency in any of these animals to the solu- on of hemoglobin in the plasma. It therefore seems likely at the poison acts not on the blood, but directly upon the ssues causing death in a manner that cannot at present be derstood. [J.S.]

15.—Loeb reports a case of **endocarditis following gonorrhea** that was complicated by synovitis and rheuma- sm. The symptoms were those of ordinary endocarditis, nd at the autopsy extensive alterative changes were found the aortic valves. Otherwise the heart was normal, the ngs were markedly edematous, and cultures from the rethra, the synovial fluid, and of infarct of the spleen were ll negative. In the deposits upon the valves were found iplococci. Morphologically, they were in their staining eactions similar to the gonococcic cultures that were made. he diagnosis was, therefore, gonorrheal endocarditis, and oeb gives a brief description of the various cases recorded om the literature, finding altogether only 8, not including is own. He concludes that this form of endocarditis is sually a true metastasis of the gonococci, and is not to be onfused with the forms of endocarditis that are due to in- ection by the streptococcus and other germs. It may occur s the varicose or ulcerative form and probably in the rmer, cure may finally take place. It is more likely to ccur in women than men. In a note appended to the rticle he calls attention to the fact that altogether 73 cases f this condition have been recorded. The valves most fre- uently affected are those governing the base of the aorta nd the base of the pulmonary artery. [J.S.]

16.—1. Koranyi criticises the results of Lindemann, and tates that the fraction formed by the **reduction of the reezing point** over the proportion of sodium chlorid aries between 1.23 and 1.69 in normal human beings. This iffers from the results of Lindemann, who found an extreme imit in a normal person of 9.74. In cases of diuresis, and n incompensated heart-lesions, the amount of sodium hlorid in the blood is decreased. He admits that there is difference between the blood drawn directly from the vein nd blood drawn by means of wet cups, but claims that the ddition of CO_2 to the latter makes it equal to the former. t is also likely that Lindemann is mistaken in believing hat uremia was associated with an increase of osmosis of he blood. 2. Lindemann in reply claims that the urine sed by him was collected from healthy persons. He claims hat the excretion of chlorids in the urine does not depend pon the rapidity of the blood-current and still insists upon bjection to the use of blood drawn by wet cups. [J.S.]

Revue de Médecine.

March 10, 1900. [20me Année, No. 3.]

1. Nervous Hyperthermia in Women from Irritation of the Uterine Nervous System. Peritonism. G. Leven.
2. Functions of the Thyroid Body. G. Gauthier.
3. Contribution to the Study of the Rubeolar and Scarlatiniform Erythemata of Typhoid Fever. P. Remlinger.
4. Anatomic and Chemic Changes of the Liver in Scarlet Fever. H. Roger and M. Garnier.

1.—Leven reports three cases of **nervous hyperthermia** in women and quotes the case reported by Bertholle. He concludes that there is a relation between menstrual troubles and **peritonism** and hyperthermia. He thinks that the phenomena are **due to the irritation of the uterine nervous system.** [J.M.S.]

2.—Gauthier insists upon the chemic role of the thyroid body in the production of exophthalmic goiter. He believes that the thyroid body produces a normal and an abnormal iodothyrin that are, possibly, identical as to chemic analysis and to experimental medicine, but that are different in their biologic reactions. The one, physiologic, acts as a regulator of the nutritive changes; the other, abnormal, acts as a disturber of these changes and is capable of setting up the cachexia of exophthalmic goiter. This theory explains the change of an ordinary goiter into an exophthalmic goiter. It also explains why the symptoms of myxedema so often follow exophthalmic goiter; because, if an organ manufactures an abnormal secretion, after a certain time, it has a decided tendency to functional atrophy. The author explains the efficiency of exothyropexy upon an exophthalmic goiter by the supposition that the air coming in contact with an abnormal iodothyrin may convert it into a normal iodothyrin. The **thyroid secretion,** changed by a recent or old glandular lesion is the true **cause** of the symptoms of **exophthalmic goiter.** This abnormal substance, circulating in the blood, exercises its noxious influence by selection on the pons and medulla. It also modifies the general nutritive changes in the body, giving rise to the phenomena of exaggerated metabolism, such as fever, emaciation, and nutritive disorder. [J.M.S.]

3.—Remlinger publishes, in tabular form, 59 cases in which **rubeolar scarlatiniform erythemata** were noted **in the course of typhoid fever.** Of these, 47 cases are taken from the literature and 12 are original observations which were abstracted in the Philadelphia Medical Journal, Vol. V, p. 906. The data include the sex and age of the patient, the time of the appearance of the rash in relation to the beginning of the disease and in relation to the termination of the disease, the character of the eruption, its duration, its location, the gravity of the disease, the complications, the method by which the eruption terminated, and the result of the course of the fever. [J.M.S.]

4.—Roger and Garnier have studied 13 livers from persons dead of scarlet fever; 8 were taken from the bodies of adults and 5 from the bodies of children. They have found that the **liver in scarlet fever** presents a certain number of characteristic features; it is usually increased in volume, of a pale color, often mottled with red or with violet, and presents white or red areas on its surface. Histologic examination shows that the lesions are usually situated near the portal space and that they have a tendency to surround the lobule. The leukocytes are abundant and the hepatic cells tend to degenerate in the region mentioned. Among the forms of degeneration that effect the hepatic cells, the fatty metamorphosis is the most frequent. Chemic analysis shows that the variation in the amount of water is particularly marked when the fat is most abundant; the proportion may be reduced as much as 2 or 3 parts in 100. The amount of fat presents the widest range of variation; it may be twice or three times as much as normal. The quantity of albumin is usually increased. The latter is the fundamental lesion and is as common as the leukocytic reaction of which it seems to be the chemic expression. There are numerous exceptions to these general results, however, and these changes in the anatomic and chemic characteristics are more common than alterations in the clinic manifestations. It seems that the intensity of the changes in the cells is in direct relation with the duration of the disease; if death supervenes quickly the anatomic elements do not present appreciable modifications. This rule, however, has exceptions. The most marked and most extensive degenerations have been found, as a rule, in those cases in which the scarlet fever presented a subacute course. [J.M.S.]

Revue de Chirurgie.

January 10, 1900. [20me Année, No. 1.]

1. Endotheliomas of Bone. P. Berger.
2. Appendicitis. F. Terrier.
3. Accidents of the Attack of Epilepsy Accompanied by Severe Muscular Contraction. Ch. Féré
4. The More Restricted Use of General Anesthesia. O. Bloch.
5. The Surgical Treatment of Genital Tuberculosis. L. Longuet.

1.—Berger reports a case of **pulsatile endothelioma of the humerus** occurring in a woman of 58. The woman entered the hospital with this pulsating tumor of the upper portion of the left humerus which had already caused a subcutaneous fracture. The pulsation was synchronous with the pulse; there was true expansion, and on examination with the stethoscope the souffle cou'd be heard; compres-

sion of the subclavian artery diminished the pulsation. The growth was said to be of only 5 months' standing. Shoulder-joint-amputation was performed. A short time after removal multiple growths appeared at various parts of the body. Berger believes that in such cases interscapulothoracic amputation is the only satisfactory method of operating. [M.B T.]

2.—Terrier discusses the various forms of **appendicitis**; their etiology, pathology, anatomy, diagnosis, prognosis, and methods of operation without adding anything specially new to the subject. He is of the opinion that there is no medical treatment for the disease and advocates immediate intervention in all cases as soon as the diagnosis is established. The use of purgatives, opium or cold he believes are never curative. The great difficulty in these cases is that the surgeon is called too late; he believes that it is sometimes impossible to find the appendix and remove it, but he records 2 cases in which disagreeable consequences followed leaving the appendix in the abdomen. He treats the stump by dissecting back a cuff of peritoneum, destroying the affected mucosa with the actual cautery, suture of the peritoneal cuff over the stump after ligation, and an inversion of the whole into the cecum. [M B.T.]

3.—Féré reports a peculiar form of **muscular hernia** occurring on the right **leg** of an epileptic patient 45 years old. The tumor appeared after a severe convulsion; it was located at the level of the middle and lower third of the leg about 3 cm. from the crest of the tibia; it was about the size and form of an almond, with its long axis vertical; it was replaced with difficulty and considerable pain. When the patient assumed the dorsal position with the leg extended and the foot in abduction the tumor was reduced spontaneously, leaving a button-hole in the aponeurosis about 3 cm. in diameter. Féré has been struck with the frequency of this ignored form of hernia. He has examined 204 insane persons without distinction as to variety and finds this stigma of degeneration present in 15 to 25% of the cases. Very often there are 2 symmetrical tumors and the position is usually about the same as in the case which he reports. Most of these tumors were entirely ignored by the patients themselves. [M.B.T.]

4.—Bloch recommends the use of **ethyl chlorid** for replacing general anesthesia entirely or in part. He has performed 393 operations by the use of **local anesthesia** with ethyl chlorid preceded by chloroform, 503 operations with anesthesia with ethyl chlorid alone, and 115 operations without any anesthesia. If the ethyl chlorid is sprayed on the skin until a white indurated line appears, incision may be made without pain; the incision through the subcutaneous tissue is painful, however, because of sections of small branches of nerves. If the skin is inflamed anesthesia is not produced in spite of the whiteness and induration. The anesthetic does not interfere with primary union. Bloch has employed this anesthesia successfully in cases of herniotomy, tracheotomy, cholecystotomy, arthrotomy, and empyema. If there is any urgent contraindication to general anesthesia he advises employing slight general anesthesia with chloroform to begin the operation combining this later with the local application of the chlorid of ethyl. The patient is allowed to come partially out from under the anesthetic and the local anesthesia is then used. Ether may be used in place of chloroform if desired. It is almost incredible how little chloroform is needed for major operations by this method; 8 or 9 cc. is a very large amount. Of 393 patients, 267 inhaled only 6 cc. of chloroform or less. In order to operate successfully in this way careful study of the anatomy of the parts is necessary and as is also a light touch. Bloch has studied the various tissues of the body as regards their sensibility to pain. The skin is without doubt most sensitive, subcutaneous tissue is not sensitive of itself, but it contains numerous small nerve-trunks which radiate in all directions, the fascia, ligaments, the capsule of joints and tendons are not sensitive when in normal condition provided no nerve-trunks are injured by incision or suture. Muscle, periosteum and bone may be sawed or cut without consciousness of the sawing; cartilage is entirely nonsensitive; the serous surfaces of joints are not sensitive in healthy condition, nor is the peritoneum or its folds; the mucosa varies in sensitiveness with different parts of the body; it is extremely so at regions where it joins the skin, at the natural orifices of the body. Local anesthesia cannot be recommended for operations in the region of the anus. [M.B T.]

5.—Longuet discusses the treatment of **genital tuberculosis** at considerable length. In concluding his article he expresses the belief that castration as a method of choice in genital tuberculosis, as was the idea of surgeons at the beginning of the century, is an error. He decidedly disapproves of this procedure. Abstinence from operative measures is also condemned. Conservative operation is the method of choice. The technic of epididymectomy, epididymodeferentectomy, and epididymotomy are given. Longuet's opinions are based upon a personal experience in 30 cases. [M B T.]

Sundry French Journals.

1. The Condition of the Renal Function in Chronic Nephritis. WIDAL, ARCHARD, MERKLEN. (*Sem. Med.*, February 7, 1900. 20me Année, No. 6).
2. The Method of Nissl and the Nerve-Cell in Human Pathology. I. PHILIPPE and E. DE GOTHARD (*Sem. Méd.*, February 14, 1900. 20me Année, No. 7.)

1.—If it is true, as Bernard has shown, that uremia is more frequently seen in the course of interstitial nephritis than in the course of parenchymatous nephritis, it is, however, not less certain that this condition may supervene at the beginning of a pure epithelial nephritis, even when the kidneys present a normal permeability to methyl-blue. In interstitial nephritis the elimination of methyl-blue is delayed or covers an unusually long period. In cases of parenchymatous nephritis, on the other hand, methyl-blue is eliminated normally or its elimination may be exaggerated. In the latter cases the coloring matter, like all the constituents of the urine, comes in direct contact with the epithelial cells; in the former cases, however, the coloring matter has to pass across the sclerotic tissue which surrounds the arterioles and the capillaries. The difficulty of the elimination of methyl-blue in cases of nephritis is not usually proportional to the degree of the renal lesion, nor to the intensity of the uremic symptoms. In the discussion that followed Archard said that in order to understand the degree of **renal permeability** by the use of methyl-blue that it is necessary to take into consideration the time of the elimination and the quantity of coloring matter eliminated. The prolonged duration of elimination is frequently observed when the permeability is diminished. He described a method by which the amount of coloring matter eliminated in 24 hours might be determined. In the normal state about 0.025 gm. to 0.03 gm. of coloring matter are eliminated during the first 24 hours. He thinks that the disorders of permeability do not explain all the symptoms of nephritis because kidney diseases soon produce disorders in other organs. Merklen said that the amount of urea eliminated is a better index of the clinical condition of the kidney than the permeability to methyl-blue. [J M.S.]

2.—Philippe and de Gothard have made an extensive study of the **method of Nissl as applied to the nerve-cells of the human cerebrospinal axis.** They prefer the polychrome-blue of Unna as the coloring agent for use in making their preparations. They first describe the varieties of cells seen in the anterior horn of the normal spinal cord. They have found that in these cells the chromatic substance varies considerably in amount and distribution. In the second portion of the paper the authors describe the results of the examination by Nissl's method of sections of spinal cord from cases of tremor neurosis, polyneuritis, myelitis, myelopathic muscular atrophy, sclerosis in placques, and poliomyelitis. They find that there is nothing that can compare with the method of Nissl in the study of the morphologic lesions of the nerve-cells in man; but is does not give the complete formula of the pathologic state of the cells. It does not stain the achromatic substance, and is only able to show the characteristics of the chromatolysis. Chromatolysis of certain characters, however, has a true although restricted pathologic significance. The field for the study of the morphologic changes, swelling and atrophy, seems to be the most promising, particularly when applied to the changes in the cells of the cerebral cortex in the chronic polioencephalitis. In the future the technic should be so modified that the achromatin of the cell may be studied. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Eczema of the External Ear.—Stout (*Proceedings of the Philadelphia County Medical Society*, March, 1900) states that eczema of the auricle is most often caused by excoriating discharges from the middle ear and will usually promptly yield to treatment after removal of the cause. In obstinate chronic cases the crust should be carefully removed and the surface cleaned prior to the application of healing remedies. For this purpose green or castile soap and water, or, better, peroxid of hydrogen may be used to soak the scab, after which it can be readily removed. Then the surface may be dried by a solution of silver nitrate (60 grains to the ounce of water), after which an ointment of the yellow oxid of mercury (2 grains to the dram of petrolatum) should be carefully rubbed into the excoriated surface. In certain cases, after the cleaning process calomel ointment (20 grains to an ounce of petrolatum), or an ointment of zinc oxid preceded by black-wash; or ichthyol ointment, 25%, may be successfully used, but most cases yield sooner or later to the treatment first outlined. Most of these cases of eczema are essentially local in character, but in some of them codliver oil, hypophosphites, and, in the non-inflammatory type, arsenic may be indicated.

Oxycamphor (Oxaphore).—Meyer (*Deutsche Aerzte-Zeitung*, March 1, 1900) states that he has had excellent success from the use of the following mixture containing oxycamphor in dypnea from various diseases—phthisis, emphysema, asthma, pericarditis, and chronic nephritis:

Oxaphore	10 grains.
Sherry wine	50 grains.
Sirup	20 grains.
Water	150 grains.

Shake well before taking.

Digitalis and Caffein.—Huchard (*Méd. Mod.*, February 17, 1900) states that digitalis is especially indicated when there is simple dilation. It is not contraindicated except in the advanced stages of myocardial degeneration. Rest, purgation, milk diet and venesection are useful adjuvants to the exhibition of digitalis. When the myocardium is seriously affected and digitalis fails to act, caffein with sodium benzoate and distilled water should be given hypodermically. Being a direct as well as an indirect diuretic it often excites diuresis when digitalis fails. It is often useful in keeping up the diuretic effect which has been started by digitalis. In acute infections, and in other conditions of severe cardiac weakness caffein is superior to digitalis. In these cases camphorated oil may be given hypodermically in addition to caffein as a last resort. In acute Bright's disease caffein is also more efficient than digitalis, and in acute uremia it often proves very useful when combined with injections of ether. In other advanced stages of chronic interstitial nephritis, when symptoms of heart-failure appear, it is well to give caffein for two or three days for its tonic effect and then to substitute digitalis.

The Bromid Treatment of Epilepsy with Deprivation of Salt.—Toulouse (*Gaz. des Hôp.*, January 25, 1900, and the *Medical Review*, March, 1900). In a recent thesis read before the Académie des Sciences, Richet and Toulouse endeavored to show that depriving the organism of alkaline chlorids the affinity of the cellular elements for similar salts—alkaline bromids—was increased, that is to say, the absence of alimentary alkaline chlorids brought about an increased readiness of the cells to take up in their place other alkaline salts and thereby increased their therapeutic influence. In order to test the truth of these conclusions, the writer selected 20 epileptic subjects, unable to earn their own living owing to mental deficiency. In each patient a fit or attack of vertigo occurred on an average once a day. The following diet was then adopted: Milk, 1000 grams; beef, 300 grams; potatoes, 300 grams; bread, flour, etc., 200 grams; two eggs, 70 grams; sugar, 50 grams; coffee, 10 grams; butter, 40 grams. No wine was allowed.

Six of the patients had been under treatment at the time of writing for 3 to 7 months and 11 only 1 to 2 months. In some instances sodium bromid was given to the extent of 1 dram daily and then decreased to half that amount. Under this *regime* a fit occurred on an average about once every 3.41 days. The fits diminished 92% and the attacks of vertigo 70%, or altogether 81%. No patient was actually cured, but when the ordinary diet was resumed, fits immediately became more numerous, and the dose of bromid required increasing. In 13 cases the weight of the patient increased, or remained about the same. Three patients with extremely prolonged fits lost weight to the extent of 11 to 26 pounds. The others showed nothing abnormal. Similar results occurred under ordinary diet when salt was as far as possible excluded.

The bromids produce a greater influence with the special diet. An increased daily amount of bromids with ordinary diet has not the same influence. Neither the diet alone, nor the bromids alone explain the beneficial results obtained, as patients who did not take bromids either before or during the special diet showed no improvement. The results are not due to lessened absorption of toxins from the alimentary canal, as ordinary diet without salt in conjunction with bromids was equally beneficial. It is, therefore, sodium chlorid which diminishes the therapeutic effect of the bromids. If the organism is sensitive to the influence of bromids, it is still more sensitive to the influence of toxins. Consequently, patients who show a furred tongue with disappearance of muscular reflexes and increased mental enfeeblement should not take more that 30 or 40 grains a day.

This therapeutic principle of modifying nutrition so as to obtain a greater effect from drugs may probably be extended to other diseases. The term *thérapeutique métatrophique* has been applied to this method. Possibly iodids may be more effectual in syphilitic and atheromatous cases if sodium chlorid is removed from the diet.

The Subcutaneous Injection of Salt-Solution in Acute Diseases.—Lenhartz (*Annales de Médecine et Chirurgie Infantiles*, Sept. 1, 1899, and *American Journal of Medical Sciences*, April, 1900) reports his observations on the use of subcutaneous injections of a physiologic saline solution in the treatment of numerous acute diseases of childhood. The immediate effect of such injections is to raise the blood-pressure, and consequently to increase diuresis. Not only is the force of the heart improved, but, to use an expression of Sahli, there results a lavage of the whole organism, which is thus relieved of toxins. This treatment has given excellent results in typhoid fever, pneumonia, grave dysentery, peritonitis, ileus, cholera infantum and summer diarrhea. In certain cases all alimentation by the mouth or by the rectum was suspended, and for several days the patients were sustained entirely by the injections, which were given in quantities of a liter for adults or from 400 to 600 grams for children. In typhoid fever, notably, it was observed that the injection exercised not only a tonic action, but also was calmative, quieting both physical and mental agitation. The treatment is especially recommended in cases of grave peritonitis in which it is impossible to operate at once. Among the unpleasant sequels of this procedure are subcutaneous abscesses, which occur rarely in hospital, and slightly more frequently in private practice, and acute dilation of the right heart in nurslings. In 3 autopsies of infants Lenhartz observed slight edema of the glottis, of which there had been no symptoms during life. The number of blood-corpuscles and the proportion of hemoglobin fail to show any notable increase in the volume of the blood. The excretion of the sodium chlorid is quite rapid and the relatively high gravity of the urine at first shows that a large quantity of waste products is eliminated. The density of the urine later is reduced.

Painful Menstruation.—According to the *Gazette Hebdomadaire de Médecine et de Chirurgie* the following combination is useful:

R.—Codein	¾ grain.
Chloral	15 grains.
Ammonium bromid	15 grains.
Camphor water	1 ounce.

To be taken while lying down.

Citric Acid for the Relief of Ozena in Atrophic Rhinitis.—Somers (*Therapeutic Gazette*, March 15, 1900) reports a number of cases of atrophic rhinitis in which applications of citric acid proved useful in relieving the ozena. In all the cases no other remedies were applied, except that the parts were cleansed with an alkaline solution, this being followed by hydrogen peroxid and again with the former solution, and all crusts removed. This was repeated every day and the patient was instructed to do the same three times daily and to insufflate into the nostrils the following powder:

Citric acid	25 parts.
Sugar of milk	75 parts.

With greater strength than this the beneficial results were more marked and appeared more rapidly than with the use of weaker powders, but this gain was not commensurate with the pain and irritation produced. In from two days to three weeks the odor in all cases practically disappeared and was not noticeable, except when the cleansing was imperfect or the drug discontinued. The fetor is also markedly diminished if a considerable quantity of the drug be placed in the nares even without removal of the secretions; but its use in this manner is not advisable, as it proves of only transient value and in no way aids in improving the intranasal condition. The following conclusions are drawn:

1. The drug is of great value in preventing the fetid odor of atrophic rhinitis.
2. The successful action depends upon its direct application to the diseased tissues; for this reason the removal of all foreign material is absolutely necessary.
3. After its use the ozena usually remains absent from one to two days, and in exceptional cases longer, depending upon the extent and severity of the morbid process.
4. It exercises no direct action upon the morbid tissue in the direction of restoration to its normal functions.
5. Unless used at more or less regular intervals its action is but transient, and the ozena speedily becomes prominent again.
6. To a moderate extent it inhibits scab-formation.
7. Finally, citric acid is an important addition to the therapy of fetid rhinitis by enabling the rhinologist to successfully combat the chief and often only complaint of the patient—ozena.

Painful Fissures.—Bardet (*Gazette Hebdomadaire de Médecine et de Chirurgie*, February 15, 1900) recommends the following solution of orthoform:

℞.—Orthoform	75 grains.
Sulphuric ether	q. s.
Oil of sweet almond	5 drams.

The Dose of Diphtheria Antitoxin.—Villy (*Medical Chronicle*, January, 1900) states that in the Asylums Board hospitals the following doses are employed: An ordinary mild case, seen on the first day of the disease, would receive a dose of 2,000 units; but when, as sometimes happens, the symptoms have progressed very rapidly, even in a few hours, a larger amount is given. In severe cases it is the rule to give 8,000 to 12,000 units when the patient is first seen, followed by another 2,000 to 8,000 units every 12 hours for the next 24 or 48 hours, or longer, according to the gravity of the case and the persistence of the exudation. It may be said that antitoxin should be used as early as possible in sufficient dose to produce a distinct reaction in 12 hours. If such reaction is not obtained, a second or third dose must be given, till the effect is apparent. It is best to err by giving more than is necessary rather than by giving too little. There can be no question that a large initial dose will frequently produce surprising effects, even in severe cases which have only come under treatment late in the disease, such cases being but little affected by the usual doses of 2,000 to 4,000 units.

Relapses in Malarial Fever.—Maxwell (*Illinois Medical Journal*, September, 1899) states that the following prescription is exceedingly effective in preventing relapses when administered during convalescence from acute malaria:

℞.—Quinin sulfate	1 dram.
Dilute nitric acid	11½ drams.
Whisky	4 ounces.

A teaspoonful just before eating, three times daily.

Tuberculosis of the Larynx.—Dabney (*American Practitioner and News*, January 1, 1900) concludes: 1. Tuberculosis of the larynx before any manifest involvement of the lungs is not a great rarity. 2. In many the diagnosis can be almost positively made from the local appearances alone. 3. The prognosis, while exceedingly grave, is not so desperate as was formerly taught. 4. In addition to the medicinal, hygienic, and climatic treatment, local measures often do much to increase comfort and prolong life, and occasionally cure the local lesion. 5. The first step is to thoroughly cleanse the surface, for which Seiler's solution in an atomizer is fairly effective. 6. When there is ulceration the cleansing should be followed by insufflation of orthoform and iodoform or nosophen. If pain persists, 5% solution of eucain B should be sprayed into the larynx before eating. A 10 to 12% solution of menthol in oil may also be used with benefit. 7. When the ulcer is accessible and conditions permit, lactic acid should be rubbed into it, either with or without previous curettage.

A Substitute for Poultices.—Wilbert (*American Journal of Pharmacy*, No. 10, 1899) recommends the following mixture of kaolin and glycerin as a substitute for poultices:

℞.—Kaolin	1000 parts.
Glycerin	1000 parts.
Boric acid	100 parts.
Oil of peppermint	1 part.
Oil of wintergreen	1 part.
Oil of eucalyptus	2 parts.

The kaolin is heated to 212° F. for at least an hour to sterilize it; the glycerin is added and the mixture is heated for about 40 minutes, the mass being occasionally stirred. When nearly cool the other ingredients are added and mixed thoroughly. To prevent the absorption of moisture the preparation should be kept in air-tight receptacles. It is claimed that the mixture has the following advantages over poultices: It can be readily applied without boiling or other preparation; it does not require renewal for from 12 to 24 hours; and it gives almost immediate relief from pain in most cases of acute or subacute inflammation or congestion. It has advantages over oily preparations in being less dirty, and in being readily removed with cold water. It may be combined with such drugs as iodin, iodids, tar, ichthyol, and iodoform.

Cancer of the Stomach.—Hemmeter (*Diseases of the Stomach*, 1900) writes: A tonic which has been serviceable in my experience and which will arouse appetite and promote digestion in the invaded organ, if this is at all possible, is the following:

℞.—Extract of condurango	12 drams.
Strychnin sulfate	⅓ to ½ grain.
Dilute hydrochloric acid	3 drams.
Elixir of gentian to make	6 ounces.

Take one tablespoonful in 2 ounces of water, after meals, through a tube.

Intraaural Applications of Chloroform in Trifacial Neuralgia and Headache.—Bose (*Indian Medical Record*, January 3, 1900) has obtained excellent results in trigeminal neuralgia and severe headache from the introduction just inside of the external auditory meatus of pledgets of cotton-wool well soaked in chloroform. The pledgets are covered with dry cotton-wool before being inserted. Within half a minute a burning sensation is excited, and as this increases the headache disappears. The writer concludes that this method of treatment rarely fails to give even temporary relief, and only twice aggravated the pain; that it is only palliative in neuralgias due to fever or dental caries and in some cases of inflammatory origin, but is curative in very many cases of inflammatory, reflex, and inexplicable origin, and in cases due to anemia, insomnia, and exposure to the sun or to cold; that it removes uncomfortable sensations from the trigeminal area, and is probably the best remedy for neuralgias in neurotic persons who cannot bear internal medication. As one application usually cures pain that has lasted from a few hours to a few weeks in over 50% of headaches and faceaches, the method ought to be the first tried in all cases.

Original Articles.

THE WESLEY M. CARPENTER LECTURE ON INFECTION THROUGH THE TONSILS, ESPECIALLY IN CONNECTION WITH ACUTE ARTICULAR RHEUMATISM.[1]

BY FREDERICK A. PACKARD, M.D.,
of Philadelphia.

[Continued from page 919.]

TRIBOULET, in 1892, isolated from the blood of a dog with chorea (canine) a large coccus, solitary or in groups, but not in chains. Bouillon-cultures of the coccus were injected into three other dogs—one with chorea, one a healthy young dog, the other an adult animal. In the first there was no visible effect on the existing movements; in the young dog there was no result except wasting, muscular atrophy and the formation of eschars on the posterior extremities preceding death on the twenty-first day after inoculation. In a paper published the following year, Triboulet pursued his investigations. In a case of chorea with cerebral rheumatism cocci were found in the blood. In one of rheumatism with chorea and pericarditis Staphylococcus albus and aureus were found in the pericardium, but no organisms in the blood or nervous centers. Staphylococci were found in the blood of a case showing abnormal movements after influenza. In one of choreiform movements following erysipelas, the blood contained streptococci. In the blood of a patient with tetany following a staphylococcus angina, he found staphylococci. Among five choreic dogs he obtained from the blood: (1) A large coccus of medium vitality; (2) a large coccus in groups, slightly pathogenic and of feeble vitality; (3) non-pathogenic staphylococcus of minimum vitality; and (4) a streptococcus without vitality. Inoculation of bouillon-cultures into dogs produced late but rapidly progressing muscular atrophy, while injection with sterile bouillon-cultures produced rapid loss of weight. He considers chorea as due to an infection and as a nervous intoxication by microbic poisons.

Rodet and Courmont, in experimenting with soluble products of Staphylococcus pyogenes aureus found a substance precipitated by alcohol, the injection of which into a dog produced in a few minutes right hemichorea, which soon gave place to generalized contractures.

Guizetti has reported a case of Sydenham's chorea without rheumatism, cardiac signs or symptoms, which died on the twentieth day of the disease. Cultures were made from the splenic pulp and blood from the heart, brain, and spinal cord. The three latter gave no growth, but in two tubes inoculated with splenic pulp there grew a capsulated diplococcus in pure culture. In sections of the organs he found no organism except a few short bacilli. He considers that the capsulated organism found in the spleen was due to postmortem invasion.

Heinrich Meyer studied a fatal case of postrheumatic chorea in a boy. At the postmortem he found mitral verrucose endocarditis, hyperemia of the brain and membranes, and degenerative changes in the heart. Bacteriologic examination showed streptococci of feeble virulence, and Staphylococcus pyogenes citreus also, but slightly virulent, from the blood of the left auricle and of the spleen. Microscopic examination of the brain, spleen, kidney, and liver showed small groups of cocci, staining with Gram's method, lying exclusively in the bloodvessels and chiefly in the capillaries. Blood obtained from the finger in three chorea cases showed no growth.

Apert, in 2 cases of postrheumatic chorea, found no growth from the blood of one, and a growth of ovoid diplococci in anaerobic milk resembling the organisms found by Triboulet in acute rheumatism, which will be spoken of later. In his Paris Thesis of 1893, H. Triboulet has made an exhaustive study of the question of the infectious nature of chorea. He concludes from his own clinical, bacteriological, and experimental work, as well as from the scanty literature upon the subject, that the special cause of chorea does not proceed from any specific microbe, but that the disease can depend upon different infectious agents, and that it is important to emphasize the fact that the infection will not have this determination to the nervous system except in persons predisposed thereto.

The uncertain results so far obtained in this line of research is shown by Maragliano in a recent article, wherein he states that, in 11 reports (some of which could not be verified in the original by me), staphylococci were found in 7, diplococci in 2, and bacilli in 2 cases.

Whether we shall ever have more definite results cannot, of course, be predicted. Certain it is, however, that there is here open a field for study, in the hope of attaining more positive proof for or against the theory of the infectious origin of chorea.

The occurrence of albuminuria with casts in the course of tonsillitis is frequent, as it is in other infectious processes, and A. Fraenkel and Jeanselme both state that chronic nephritis may occur as a result of that illness. The close resemblance existing between angina of ordinary type and scarlatina (angina, skin eruptions, joint involvement) would suggest the probability of renal damage of permanent character after some cases of the former disease, in view of the frequency of nephritis as a sequel of scarlatina. Laségue in 1880 reported a case of apparently acute renal congestion, with hematuria occurring in a woman, aged 32 years, with intense redness of the fauces. Whether this should be considered an ordinary angina is perhaps open to question. Landouzy, in an article on infectious tonsillitis, mentions 3 cases of albuminuria in the course of sore throat, in one of which he found during life bacteria in the urine, and after death congestion of the kidneys. Nothing is said as to the method of collecting the urine for bacteriologic examination, so that the finding of bacteria has no weight. In the hospital epidemic of tonsillitis, reported by de Rochmont, nephritis occurred in one of his 18 cases, and Singer refers to a case of acute nephritis following tonsillar abscess. Fernet has put on record a case of tonsillitis with edema of the feet, beginning the day after the onset, soon followed by abundant epistaxis and hemorrhoidal bleeding, vomiting, and oppression. The angina appears to have been contracted from a fellow-worker, who also presented the combination of angina with edema, as did still a third man engaged in the same work. In the case coming under Fernet's observation, there was no other evident cause for the nephritis which was present. Boucsein relates in his paper the case of a boy, who contracted tonsillitis from his mother, but apparently recovered well. Three weeks after his apparent recovery, his legs became swollen, he had two convulsions,

[1] Read before the New York Academy of Medicine, December 7, 1899.

went into coma, and died. There had been no rash, or other evidence of scarlatina, and there was no reason to suspect the presence of diphtheria. Baduel saw 4 cases of nephritis following tonsillitis, pneumococci being found in the tonsils and in the blood. In each case, a period of malaise and weakness followed the angina before the nephritis appeared. In the urine also, he found the diplococcus of Fraenkel. Kannenberg has reported 2 cases of nephritis occurring in the course of tonsillitis, in both of which he found micrococci in the urine. In his paper, there is no evidence as to his having rendered sterile and clean the meatus or the fossa navicularis, or of having taken any of the precautions more recently urged by both Chvostek and Singer as requisite before drawing deductions from bacteriologic examination of the urine in such cases.

Somewhat closely allied to these cases was that of a man, aged 31 years, who sent for me on January 17, 1896. He was muscular, but had had frequent illnesses of various kinds. While in fair health he was suddenly attacked by fever, general soreness, occipital headache, pain in the nucha, and sore throat, on the afternoon of the day before my visit. On the morning of my visit he noticed that the urine was of a dark-red color. I found the mucous membrane of the whole throat very red and edematous. His temperature was 102.2° F., the pulse 130, the respirations 24. A specimen of urine was obtained on the next day and was found to be of a dark-reddish color having a specific gravity of 1.027 and containing 0.6% of albumin (Esbach), with many red blood-cells and broad casts deeply stained of a reddish-brown color. On the day after my first visit his temperature had fallen to 101° F., his pulse to 112. The throat looked less red and his aching had almost disappeared. On January 19 he still had some pain in the back of the neck, his throat looked better, his temperature was 99° F., and he had passed 96 ounces of urine in the preceding 24 hours, which was found to be smoky, 1.011, and to contain .3% of albumin (Esbach), with many red blood-cells, coarse and fine granular, and many epithelial casts. The urine gradually became more normal in character, so that by January 26 the record of the examination reads: Pale amber, clear, specific gravity 1.008, .2% of albumin (Esbach), no casts found. On the day last mentioned severe urticaria appeared over the whole trunk. The urine had still further improved in character, the albumin having fallen to .1%, but a number of hyalin and pale granular casts were present. Within a few days he had a succession of outbreaks of urticaria which alternated with diminution in the amount of urine and the reappearance of blood therein. During all of this period the erythematous and edematous appearance of the throat persisted in varying degrees in spite of local treatment. Early in February the patient felt better, except for the outcropping of wheals, and went to work in spite of warnings to the contrary. He was not seen by me again, but I heard indirectly that he died within the same year, whether as a result of the same illness or not I could not discover, as he had moved to another city.

Two interpretations could be put upon the case. It may have been an instance of infectious angina with acute hemorrhagic nephritis, the latter and the urticaria being due to toxin absorption, or it may have been a case of urticaria of noninfectious origin affecting the skin, the mucous membrane of the throat and of the kidneys. The latter view would not account so well for the fever and general symptoms. Unfortunately, I either failed to take cultures from the throat or neglected to record the result.

In Le Tainturier de la Chapelle's thesis, to which reference has already been made, there are detailed 5 cases of nephritis among the subjects of adenoid vegetations or purulent rhinitis. In none of the cases was there any other discoverable cause for the nephritis, and the author considers that in each case it was of infectious origin and due to nasopharyngeal disease.

Phlebitis following angina has recently been the subject of a paper by Troisier and Decloux apropos of a case of phlebitis of the popliteal vein, occurring 10 days after the onset of a streptococcal angina. Similar cases of phlebitis have been described by Trumbull and Vaquez.

Widal says that acute yellow atrophy of the liver is often not primary, but has its point of departure from a tonsillar, bronchial, or uterine lesion. Bearing out the truth of this statement as regards the tonsil, is the report by Babes of a case of fatal jaundice with delirium and abdominal pain occurring in the course of tonsillitis, with putrid plugs in the tonsillar crypts. At autopsy there were extravasations of blood in the internal organs, acute yellow atrophy of the liver, and cloudy swelling of the kidneys. Streptococci in pure culture were obtained from various organs, the tonsils and lungs showing a mixture with Staphylococcus pyogenes aureus.

Peritonitis occurring in the course of tonsillitis with articular pain is recorded in one case each by Groedel and Froelich, while Apolant details one and mentions two other cases of perityphlitis occurring in the course of follicular angina.

Verneuil has reported two cases of acute hydrocele in the course of tonsillitis, the two lesions disappearing at about the same time. Joal reports four cases of orchitis or ovaritis occurring in the same way, and concludes, probably rightly, that these ought to be classed among the complications of angina, that they are analagous to those which occur in typhoid fever and mumps, that they ought to be attributed to the infectious nature of tonsillitis, and that they are not due to any connection between the organs of generation and the tonsils.

In animal experiments with infection by various microorganisms, muscular atrophy is a frequent result, as was especially pointed out by Roger. Angina may, therefore, be an unsuspected cause of some of the many otherwise unexplainable cases of systemic disease of the spinal cord. According to Widal, atrophy of the muscles occurs days, weeks, or months after the inoculation of animals with streptococci. If animal experimentation is a guide to the effects of streptococcic toxemia in man, so long an interval may elapse between the infection and the manifestation of toxic action upon the central nervous system, that a primary sore throat might readily be forgotten. A case of progressive muscle atrophy following tonsillitis was shown by Wilson to the Oxford Medical Society November 8, 1895. In the abstract of the paper the interval elapsing between the angina and the atrophy is not given. Bourget saw convergent strabismus with nasal voice and incomplete paraplegia develop about one month after the occurrence of a nondiphtheritic angina, apparently due to an infection by a large micrococcus. Gübler briefly mentions the case of a male patient, aged 24 years, in whom not only palatine but "generalized" palsy, followed an attack of herpetic angina, and quotes from Pery a case of angina followed by "complete paralysis." Palatal palsy is not extremely rare after angina, more frequent after the angina produced by the Klebs-Löffler bacillus than after that produced by other organisms, but whether from toxin absorption or from direct involvement of branches of the palatine nerves it is difficult in every case to decide.

It is undoubtedly true that the general symptoms present in even the very mild cases of tonsillitis should

e looked upon as the result of absorption of toxic or eptic material from the part infected. It is rare to ave this intoxication reach a very high grade. That t can do so is shown by the case of Tichoutkine, one f staphylococcus infection of the tonsillar crypts with uppuration, in which death resulted, and in the organs here were found such changes as are ordinarily re-arded as evidences of septic absorption.

Pyemia as a result of tonsillitis is unusual, yet that t can occur is shown by Wainwright's case of severe onsillitis followed by great pain in the forearm, wrist, nd thighs, purulent synovitis of the left wrist-joint, hlebitis of the saphena veins, arthritis in the right lbow, and death on the eighth day of illness. Strep-ococci were found in his blood on the day of death. The case occurred during a house-epidemic.

I have mentioned above a personal case of what ap-peared to be an early stage of abscess-formation in the perirenal region following tonsillar abscess. Lexer ecords abscess-formation in the left arm and dorsum f the right foot a few days after angina in one case, nd in another an abscess in the ankle with metastatic bscess in the kidneys dependent apparently upon in-ection by a small abscess in one of the enlarged tonsils. Buss and Virchow have each reported cases of subcu-aneous abscess following angina. Buschke has reported four cases in which suppuration apparently depended on the appearance of inflammation of the throat; in one immediately after the appearance of angina suppura-tion occurred in a previously uncomplicated simple fracture; in another, suppuration occurred in the pre-viously aseptic wound of a plastic operation; in a third, upon the appearance of an angina suppuration occurred in the site of a bruise; while in his fourth case, subperiosteal abscess with osteomyelitis, the portal of entry was apparenly the tonsils. In the cases studied by Buschke the bacteriologic examination of the ton-sillar crypts, of the blood, and of the distant point of suppuration seemed to clearly prove the causative ac-tion of the angina in producing infection. A similar case has been reported by Kocher and Tavel. Buschke says, what it seems must be true, that the lymphatic apparatus (and in this I would include the lymph-adenoid tissue of Waldeyer's ring) is usually an effec-tive filter, but that his cases illustrate its occasional failure. To my mind this is a point of great import-ance in the whole question of tonsillar infection.

In many diseases the symptoms and signs connected with the throat occupy an important position. Diph-theria is usually a local lesion of the throat produced by a specific agent, and while the Klebs-Löffler bacil-lus is occasionally found in the organs of fatal cases, it is generally agreed that it remains a local infection with general symptoms of greater or less gravity due to tox-in-absorption. I would offer the suggestion that the well-recognized gravity of nasal diphtheria, except when it occurs in what we may call the less acute form of membranous rhinitis, may be due to the infection taking place at a point without special development of submucous lymphadenoid tissue. In scarlatina the symptoms and signs connected with the throat are so prominent that the mucous membrane of that point has been suspected of being the point of entry of the infecting agent. Whether we should hold this view or consider the erythema of the throat as due to an effort of the mucous membrane to eliminate toxins, or to a vasomotor disturbance produced by the absorption of toxins analogous to atropin cannot as yet be consid-ered definitely proved. Possibly the certain demon-stration of the cause of scarlatina, and the definite knowledge of its biologic characters may throw some light upon the question.

In one other disease the condition of the throat is an important feature. I refer to acute articular rheuma-tism. The frequency of angina preceding rheumatism has been noticed by almost all writers upon the dis-ease, and, it may be remembered, was the cause of my first becoming interested in this subject. Observers differ much in regard to the frequency of throat affec-tions as a prodrome of rheumatism, owing, I believe, in some measure, at least, to the fact that the angina is frequently so mild as to be forgotten by the patient, and that the examination of the throat may reveal but slight evidence of disease. In many of the fatal cases of rheumatism that are reported the tonsils reveal evidences of abnormality only upon section after death. In addition to this it is to be remembered that the so-called third tonsil may be the site of lacunar inflam-mation independently of the more readily examined faucial tonsils, a fact that was pointed out by de Havi-land Hall. The statements as to the percentage of pre-ceding tonsillitis in relation to rheumatism vary from 4% (Stoll's estimate in 572 cases) up to 30% (the pro-portion named by Kingston Fowler). Auclair states that it is rarely absent. Stewart gives the proportion as from 70 to 80%; Singer 42%; Kühnau 27%; Gerhardt 21%; Groedel at about 5%, while Stoll, as stated above, allows but 4%. In the cases tabulated by me in 1889 the proportion was a little over 70%. This number includes only cases giving a history of prodromal angina or having visible evidence of dis-turbance in the fauces.

Few observations have been made upon the bacteri-ology of the throat in rheumatism. In the few fatal cases wherein the tonsils were examined after death streptococci and staphylococci have been found.

Acute polyarthritis with cardiac lesions has been seen to succeed the following lesions so closely as to give rise to the belief that the former was the effect of the latter. These lesions or events apparently giving portal of entry are a wound of the foot (Sacaze); operation for ingrowing toenail (Pribram); vaccination (Block); epistaxis (Gallois); gum boil (Reinhard); phlegmon (Singer); otitis media (Sacaze and Wolff); dysentery (Quinquand), and bronchiectasis (Gerhardt). While it is questioned by some whether these cases should be classed as acute articular rheumatism or should be relegated to the class of pseudorheumatisms, I do not believe that, simply because they followed upon a gross breach of surface, we should look upon them as pseudo-rheumatisms. The same distinctions were made at one time in regard to traumatic and idiopathic erysipe-las, the latter of which is now known not to exist.

The nature of acute articular rheumatism has always been a subject of interest. For some years there has been a steadily growing tendency to class it with the well-recognized acute infections. Much confusion has resulted from the improper use of the term "rheuma-tism." In the remarks that follow I refer only to true, frank, acute articular rheumatism. The cases of sub-acute and chronic synovitis, often called rheumatic, fall into an entirely different class, and should be left out of consideration in any discussion upon the disease. A more confusing element in the question is the occur-rence of polyarthritis after or in the course of such dis-eases as scarlatina, erysipelas, typhoid fever, pneumonia,

and gonorrhea. This question will be touched upon later.

One of the criterions by which we judge of the presence or absence of infectious character in the case of any disease is its occurrence in epidemics. While such occurrence is a strong point in favor of the infectious character of a disease, it is not requisite to prove its nature. For example, it cannot be denied that a dissecting-wound is an infection, yet it is of course a disease of an individual. Nevertheless, if epidemicity, even though only rarely, characterizes a disease, we can safely say that there is strong reason for concluding that it owes its origin to infection. Direct transmission of a disease is still more certain proof of its infectious nature.

In regard to the latter point there are on record two oft-quoted instances pointing clearly to direct transmission of rheumatism. I refer to the cases reported by Pocock and by Schaeffer. The former case relates to a woman in the last month of pregnancy, who was attacked by rheumatism. Thirty hours after its onset she was delivered. The child seemed healthy at birth, but 12 hours later became feverish, and redness and pain in the right shoulder and elbow developed. The symptoms and signs in both mother and child were relieved by the administration of sodium salicylate. Schaeffer's case was a woman pregnant with her fifth child, who developed fever with pain in the ankles and hands. On the fifth day of the attack she was delivered of a healthy child. When the child was 3 days old it developed slight swelling of the dorsum of both feet, of the left ankle, and of one phalangeal joint.

The epidemiology of rheumatism has lately been most thoroughly discussed by Newsholme. He has shown that rheumatism occurs with waves of intensity in different countries, the period of minimum and maximum prevalence being quite like those noted in the well-recognized infectious and contagious diseases. Many localized epidemics are recorded in the literature, one of the most striking being that observed by Fiessinger. Mantle has also related a very marked instance. The possibility of local causes for such outbreaks, defective drains, dampness of the cellar, and other causes frequently supposed to account for some cases of rheumatism, might be capable of explaining some of these outbreaks, although the etiologic relation of these factors in the production of acute articular rheumatism is not proved.

In spite of the large amount of work performed in order to discover a microbic cause for acute articular rheumatism, so far definite proof as to the existence of a specific microorganism has not been furnished. The same is true of scarlatina, of measles, of variola, in fact, of many of the diseases universally recognized as infectious. The difficulty in interpreting the results of bacteriologic study has been much increased by our uncertainty in regard to the dividing line between true acute articular rheumatism and arthritis secondary to local lesions and to the typical infectious diseases, such as scarlatina and gonorrhea. A good example of the possible fallacy in drawing conclusions in regard to bacteriologic findings in rheumatism is afforded by the case reported by Guttmann in 1886. In this case a fourteen-year-old boy developed acute pain in the thigh. Five days later pain was complained of in the knee of the same side. On the eighth day pericarditis with effusion was found. At autopsy Staphylococcus pyogenes aureus was obtained in pure culture from the exudate in the pericardium and in that of the knee joint. In addition there were found purulent foci in the kidneys and in the muscles of the left chest. It is hardly proper to look upon this as a case of acute articular rheumatism. Rather we should suspect it of being osteomyelitis of the femur, with consecutive joint involvement and pyemia. So also in the case reported by Babes in 1883 there is doubt thrown upon the propriety of calling it an example of acute articular rheumatism, because of the presence of a "metastatic abscess," a lesion that may have been simply coincidental but is not a part of the typical picture of acute articular rheumatism.

There are, however, several reports of bacteriologic examinations in which this doubt cannot be entertained.

Mantle, in 1887, reported the case of a man with typical acute articular rheumatism, from whose knee-joint he aspirated fluid which contained micrococci and small bacilli, and in whose blood were found micrococci single or in pairs. Mantle says further that in each of 16 cases he found bacteria in the blood.

Popow, in the same year, made cultural examination of a case of acute rheumatism, and obtained a citron-yellow growth of cocci, single or in chains, and larger than the cocci found in erysipelas. Injection of the organisms into the jugular vein of 2 rabbits caused "acute articular rheumatism with pericarditis and endocarditis." I have been unable to obtain the original of Popow's article, and in the abstracts obtainable no statement is made to show how nearly the rheumatism resembled true acute articular rheumatism in the human being. If the resemblance was close this experiment is unique.

Buday, in 1890, found the Streptococcus pyogenes in the brownish-yellow bloody contents of the shoulder-joint of a woman with polyarthritis of some weeks' duration. In a series of interesting experiments with inoculations of staphylococci and streptococci in animals, he reached some interesting conclusions regarding joint-infection, but as they have little to do with our subject I shall not discuss them.

In the same year, G. Lion found diplococci and streptococci in the articular fluid, pleural effusion, and blood from the heart of a person dying in the acute stage of acute rheumatism. He also found by culture a streptococcus in the blood from the finger and in the urine of two other cases.

Bouchard and Charrin, in 1891, in the articular cavities, or in the surrounding structures of cases with acute rheumatism, found Staphylococcus albus 6 times, Staphylococcus albus and aureus once, Staphylococcus albus with Staphylococcus aureus and a short bacillus once, Staphylococcus aureus with a bacillus once, and in 2 cases no microorganisms.

Since 1891 several important communications upon this subject have been made by Achalme and others bearing upon the presence of a bacillus in the blood in acute articular rheumatism. It grows anaerobically, is slightly smaller than the bacillus of anthrax and forms a peculiar odor. Two interesting features in its life-history are the facts that its growth is facilitated by lactic acid, and is retarded or prevented by small quantities of sodium salicylate. Achalme's bacillus has been found also by Thiroloix, Carriere, and Rosenthal.

Triboulet, Coyon and Zadoc found Achalme's bacillus in 2 out of 6 cases. They lay stress upon the fact that both of these cases were complicated. In 11 con-

cutive cases of acute articular rheumatism of varying grees of severity they found a diplococcus constantly esent in the blood. This diplococcus, when injected to animals, caused mitral valvulitis, the mitral leaflets ing found to contain the organism. They claim that halme's bacillus is only present in complicated cases id never in ordinary uncomplicated acute articular eumatism.

Riva adopted the ingenious plan of using as culture edia synovial fluid alone, synovial fluid added to ore ordinary media, and sterile synovial fluid obined from the injured joint of a horse. By these eans he obtained a growth of peculiar large, roundish odies, later giving place to bacilli, whereas in the ornary media no growth occurred. So far as I can find, s results have not been confirmed.

For some time Singer has been carrying on systemic investigations upon the blood, articular fluid, and ine in cases of acute articular rheumatism coming nder his care. He has examined the blood of 60 ses of rheumatism and got a positive result in 9 cases .5%). Among these 60 cases 88 examinations were ade. The Staphylococcus pyogenes albus was found times; Staphylococcus pyogenes aureus with Staphycoccus cereus albus once, Streptococcus pyogenes once, id Streptococcus conglomeratus once. Examination the joints was made 31 times in 21 cases, with 4 ositive results, only 2 of which were manifestly culres of growths that undoubtedly came from the jointvity. Examination of the urine was made in 85 ses, of which 49 gave a positive result. Among these taphylococcus pyogenes albus occurred alone in 24 ses, combined with other staphylococci in 8 cases. taphylococcus aureus occurred alone in 2, streptoocci alone in 8, and combined with staphylococci in while Bacterium coli was found in 2.

Chvostek has made a similar series of examinations 1 19 cases. The blood was examined in 16 and always ound to be sterile; in 17 cases the articular fluid was xamined, and found to contain microorganisms but nce (bacilli in small number), while out of 15 whose rine was examined he found no growth from 10, while taphylococcus albus, Bacterium coli, a large, plump occus and Diplococcus ureæ were each found in one se.

Chvostek and Kraus, in a monograph published last ear, have pursued the subject further, and criticised he work of Singer. They claim that, in a large numer of different infections, bacteria are found in the rine, without reference to the nature of the disease. n malaria, a disease with a known and distinctive causative factor, and during the fever produced by tuberulin, they found staphylococci in the urine. They lso cast doubt upon the efficacy of his cleansing of the rinary passages, as the urethra is apt to contain microrganisms beyond the fossa navicularis. In regard to inger's discovery of organisms in the blood, they cite ne negative result, in 98 cases obtained by themselves, y Jez, by Michaelis, and Kühnau. In regard to the ases examined by Singer, they criticise the diagnosis f several, looking upon many of them as conditions ther than acute articular rheumatism. They thus educe the proportion of cases, in which positive reults were obtained from the blood, to 8.2% instead f 15%, the proportion claimed by Singer, and think hat others were examples of mixed infection, while till other apparently positive results were due to conamination.

Kühnau, in 67 cases of articular rheumatism, only once found staphylococci in the blood, while all of the others, including 18, in which lacunar or phlegmonous angina had accompanied the disease, he found no pathogenic organisms, except in a few cases considered by him to be due to accidental contamination.

To still further offset the positive investigations that have been made, we have a large number of reports in literature, showing the absence of organisms from the articular contents. Among these I would particularly mention the statements of Saint Germain, of Leyden, and of Sahli. In spite of this absence of positive findings, in many cases we must, before despairing of the finding of more definite results, bear in mind that new culture media are being constantly devised and new stains or combinations of stains employed. Possibly, with the further development of bacteriology we may find that there are constantly present microorganisms that elude our present methods employed for their detection. Singer's discovery of microorganisms in the urine still requires confirmation, and its significance cannot be rightly estimated at the present time.

Definite and unassailable proof of the presence of a causative agent in the blood is not necessary to the theory of the infectious origin of rheumatism. Such proof is not present in the case of scarlatina, measles or variola, well-known infections.

The sterility of the articular fluid may be explained in various ways, and does not invalidate the theory of the infectious origin of rheumatism. While it cannot be gainsaid that specially devised culture media and the employment of new stains may reveal a specific cause in the synovia, such development need not be awaited before classing rheumatism among the infections. Fraenkel says that the majority of all serofibrinous effusions into the pleural cavity are free from bacteria, especially when they occur in those previously healthy; and that, except in the case of tuberculous pleurisy, the effusion only contains microorganisms if the pleurisy be embolic and the emboli carry germs, if bacteria are found in the blood, or if the pleurisy be secondary to a neighboring bacterial inflammatory process carried to the pleura by the lymph-paths. Goldscheider also, among others, has demonstrated the frequent absence of microorganisms from pleural effusions. Even in gonorrheal arthritis, Singer found the articular liquid sterile in 4 cases. Buday holds that microorganisms reach the joint cavity only if the synovial membrane is the seat of metastatic abscess, necrosis, or hemorrhage. Saint Germain says that the infectious joint-inflammations arise from two distinct processes according to the organism causing them. Some result from a local direct action of the pathogenic microbes upon the synovial membrane, in which case they are found in the synovial effusions; others are produced indirectly (at a distance, so to speak) by microbes, which only penetrate the articular cavities when the organism, overcome by the infection, has no more power to resist them.

As Chvostek clearly puts this question, the absence of bacteria in the joints might be explained in one of three ways:

1. The microorganisms might be in the membranes of the joints and not enter the cavity. This explanation is not admissible, because the bloodvessels of the synovial membrane are easily penetrated by bacteria, and there is no reason for their absence from the cavity when the exudate contains cells derived from the mem-

brane. Examinations of the blood and of the fluid from the edematous tissues, aspirated from the neighborhood of the inflamed joints, gave no result.

2. The microorganisms might be dead within the joint, but in this case, while cultures would be negative, direct examination ought to discover them.

3. The synovia might exert a bactericidal influence; but this explanation cannot hold, inasmuch as synovial fluid is a good culture medium for many microorganisms.

His fourth explanation is the one that he himself advocated, as early as 1895. It is that the articular manifestations are due not to the action of bacteria directly upon the joint lining, but to the action of toxins. The same theory was advocated by Triboulet in 1892, and by Saint Germain in 1893, and later by Gerhardt.

This view would explain the sterility of the joint-contents, and the many negative examinations of the blood for microorganisms, while it is not inconsistent with the theory of the production of the disease by the bacillus of Achalme, by the diplococcus of Triboulet, or by the other bacteria that have been found in the blood in this disease and have been supposed to be a possible causative factor in its production. At the same time it might explain the occurrence of rheumatism in the newly-born as described by Pocock and by Schaeffer.

This theory of the production of the polyarthritis of rheumatism by the actions of toxins receives support from the articular pains frequently noted after the subcutaneous injection of antitoxin for diphtheria. Of course, the analogy between the action of the direct products of a microorganism and that of a substance manufactured by the animal economy to overcome a bacterial poison is one that is not by any means strict. However, another phenomenon noticed after these injections is so common a member of the rheumatic series that its occurrence cannot fail to impress one as being significant. I refer to the skin lesions present after the use of diphtheria-antitoxin. These superficial evidences of the action of the serum containing antitoxin take the forms of a simple erythema, erythema multiforme, erythema nodosum, and purpura, all of them forms that are associated with rheumatism. That the eruption is not due to the antitoxin contained in the preparation, but to the serum itself, has been recently pointed out by Berg and by Michael. The former states that the eruptions appear after the injection of serum from a nonimmunized horse, while Michael has shown that the exanthem produced by the injection is probably due to the blood-serum, inasmuch as it appeared relatively less frequently after the use of the more concentrated solutions of antitoxin than after the employment of larger doses of lower immunizing power. A possible explanation of the articular manifestations of rheumatism would be the manufacture of antitoxin by the individual in excess of that required to counteract the toxin produced by the infecting agent. Were this found to be the case the analogy with the action of diphtheria-antitoxin upon the joints would hold with greater force.

As illustrations of the effect of diphtheria-antitoxin in producing phenomena closely simulating rheumatism, I would quote two cases from literature. Auerbach reports the case of a woman with diphtheric angina of medium severity. On the second day she received 1,000 units of antitoxin. Four days after the injection there appeared in the evening a rise of temperature with typical erythema exudativum on both feet, with much edema and pain in the ankles. On the next day the eruption was more widespread, and the painful swelling of the small joints of the feet, of the knees and hips appeared. These manifestations continued for about 3 weeks after the injection. Suddenly, on the twenty-fourth day, periosteal swellings appeared and continued for a week. It is a question in this case whether the "rheumatic" manifestations may not have been due to toxin absorption from the throat (probably due to the presence of organisms other than the Klebs-Löffler bacillus rather than to the single dose of antitoxin).

Dickinson reported a case of acute rheumatism ushered in by symptoms resembling influenza. While thoroughly convalescing from this affection the patient contracted faucial diphtheria. Antitoxin was given, and 2 days later signs of pericarditis and mitral regurgitation developed. In the account in this case the close connection between the injection of antitoxin and the sudden onset of cardiac lesions with profuse acid perspiration strongly suggest the likelihood of the occurrence being due to an accession of "rheumatic" manifestations directly caused by the remedy. In answer to a letter of inquiry Dr. Wm. B. Coley writes me that he has not seen articular or cutaneous manifestations in connection with the use of erysipelas toxins in the treatment of malignant growths, but that in his earlier work, when he used living cultures, he did observe articular swelling and pain in a few instances; and that in 1895, in experimenting with the erysipelas serum (made by treating a horse with the toxins for several weeks) he noted urticaria and articular pains.

There are several points of resemblance between ordinary septicemia, a disease that is due to toxin absorption, and acute articular rheumatism. The fever-curve, the eruptions common to both diseases, and the joint-manifestations all cause us to feel that there must be some connection between the two.

The view that articular rheumatism is a modified pyemia has much that is attractive. The irregular fever, the free sweating, the frequent occurrence of sudamina and erythematous lesions of the skin all point to a resemblance between the two. It has been found by Courmont that the attenuated infections have a remarkable tendency to localization upon the joints. In this may be found an explanation of the greater relative frequency with which the joints are attacked in the course of angina as compared with lesions of points other than the throat; for it is not unreasonable to suppose that the organisms in the throat may be virulent upon their lodgment, but may become attenuated either by the action of the saliva which passes over them, or by the fact that immediately after they penetrate the mucous membrane they or their toxins are brought within the influence of the attenuating lymphadenoid tissue of the tonsils.

Again, as has been frequently urged, rheumatism may be a symptom-complex produced by a variety of microorganisms and not an infection by any one organism. This view has much to support it.

I have shown above that following angina we may have a series of accidents resembling those seen in acute articular rheumatism—aching pains, marked general depression, erythematous skin-lesions, endocarditis, pericarditis, and chorea. In many books we find the statement that the order of appearance of the various rheumatic manifestations can be indefinitely

varied; that the endocarditis may precede the arthritis; and that erythema nodosum may be the first lesion noticed, other members of the rheumatic series following later, while Wilks has reported a case of chorea directly preceding rheumatism. In such cases these accidents, so to speak, are frequently spoken of as being rheumatic. I question decidedly the propriety of such a view, nor does the result of treatment by antirheumatic remedies at all prove the affinity of a particular lesion to the rheumatic group. If rheumatism is frequently preceded by various throat inflammations, if any of the ordinary complications of rheumatism which in reality make a part of the disease can occur without joint-manifestations and following tonsillitis, it would seem far more rational to look upon all of these conditions as the result of infection taking place from the entrance of microorganisms or their toxins by way of the tonsils or other portal of entry. If this view be correct it would be more proper not to speak of rheumatic angina, but to reverse the order and look upon the angina as the cause of rheumatism and upon the various manifestations following the angina as the result thereof, and not as being due with the angina to some unknown, indefinite rheumatic poison.

I would sum up in the following statements the arguments that I have endeavored to use and to state my train of thought more concisely than was possible in the body of a paper covering such a wide field.

1. The tonsils are active and useful organs whose function it is to offer a barrier to the entrance of organisms into the deeper tissues at a point which by its location and construction is very open to infection.

2. The tonsils act in this respect as do other lymphadenoid tissues in the body, as is best exemplified by the lymphatic glands.

3. That during the course of or following tonsillitis we may have occurring most of the important complications of typical acute articular rheumatism.

4. That acute articular rheumatism is an infectious disease, dependent possibly upon no one organism, but upon a variety of bacteria.

5. That the phenomena of rheumatism can be accounted for by toxin-absorption.

6. That the toxin causing rheumatism may be produced by an attenuated microorganism.

7. That it is possible that the frequent entrance of the microorganism by way of the throat may explain the fact that we have acute articular rheumatism developing after an invasion of the throat rather than the ordinary septicemia or pyemia, for the reason that just beyond the port of entry there is situated a collection of lymphadenoid tissue capable of restraining the growth and virulence of microorganisms attacking the membrane which it protects.

8. That the terms rheumatic pleurisy, rheumatic purpura, rheumatic erythema, and rheumatic sore throat should be used with less freedom, and that it would be more correct to look upon them as the result of infection, whether accompanied or not by articular phenomena, rather than as latent, aborted or incomplete forms of a condition produced by an unknown, mysterious and intangible rheumatic poison.

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A STUDY OF THE RECTAL VALVES, EXPERIMENTAL AND CLINICAL.*

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THE history of the rectal valve constitutes one of the most remarkable chapters in medical literature. That an anatomic structure of such conspicuous characteristics should have remained undiscovered until less than seventy years ago seems very strange; and that its existence during all that time should have been the constant occasion of denial and controversy when the means of confirmation were ready at hand, seems stranger still. Explanation of this remarkable confusion may be found in part at least in the fact that until within the last half-dozen years the rectum, particularly its upper portions, remained a veritable terra incognita. Even today, I venture to assert, accurate knowledge of the anatomy and pathology of this organ is proportionally less among the profession at large than that of any other viscus in the body. Some conception of the difficulty and dissatisfaction which have attended physical examinations of the rectum in the past may be gathered from the speculums, retractors, bougies, etc., of bewildering number and variety, which have been devised to facilitate them. Until the very recent past probably no honest worker in this field has failed to realize the imperfection of his equipment and bewail the inadequacy of his best efforts when he had to do with the organ beyond its distal three inches. Today a different condition obtains. The spirit of progress characteristic of the age has been at work in this as in other directions, and there is no longer excuse for dispute or incredulity. I am guilty of no extravagance when I state that by means of the newer mechanical contrivances properly used the entire rectum from anus to sigmoid is for all practical purposes as accessible to sight and touch as any corresponding area on the surface of the body.

More about the methods and contrivances referred to will be given later on.

For the discovery of the rectal valve, as for that of numerous other anatomic structures and facts, the credit is largely due to physiology. In the course of investigations undertaken for the purpose of determining certain mooted questions concerning the physiology of defecation the valves were first encountered and recognized as definite structures. In the first account too much functional importance, beyond a doubt, was assigned them and the resulting discussion became at once animated and widespread.

It would scarcely be pertinent in this paper to enter into an exhaustive review of the literature of the subject. But the matter is one of sufficient scientific interest to demand, in simple justice to the distinguished disputants, a brief summarization of the more important contributions to the discussion.

The first and in many respects most noteworthy account of the rectal valve ever written appeared in 1830, from the pen of Mr. John Houston, of Dublin.[1] Several of the older writers had referred to certain "valves" and "mucous folds" as features of the lower rectum, but in language, from a scientific standpoint, so vague and inexact as to render their meaning in large measure problematic. Certainly, previous to the time mentioned, no clear and definite reference to the structures described by Houston is to be found.

According to this description of Mr. Houston's, three is the average number of the valves, though there may be four and sometimes only two. They are found in the old and young alike, and some variation in their position may be observed. The largest and most constant valve is located about three inches from the anus, opposite to the neck of the bladder. The next most frequent is placed at the upper end of the rectum; the third midway between these two, and the fourth and most infrequent about one inch above the anus. The location of the valves is further described as follows: "That situated opposite to the base of the bladder most commonly projects from the anterior wall of the gut; the valve next above from the left, and the uppermost from the right wall; that near the anus which is of least frequent occurrence, occupies a place when present toward the left and posterior wall." Continuing, the author emphasizes the fact that while deviations from the positions designated may occur, the arrangement is always such as to form a spiral tract down the cavity of the gut and give a sacculated form to its interior. The form of the valves is semilunar, being attached by their convex borders to the sides of the rectum, and from one-third to one-half the circumference of the gut in extent. Their concave free margins are sharp and well defined, and their surfaces have a slight upward inclination. When the gut is distended the valves vary in breadth from a half to three-quarters of an inch. In structure they consist of a duplicature of mucous membrane containing some cellular tissue and a few circular muscular fibers between its laminae, though upon this point it does not appear that Mr. Houston had verified his conclusions by a histologic examination. The concluding paragraph of this noteworthy paper was devoted to a brief consideration of the physiology and pathology of these structures. In regard to the former the view is expressed that their function is to support the weight of fecal matter and prevent its too rapid propulsion toward the anus. In reference to pathology comment is limited to the valves as possible factors in the etiology of stricture.

At about the same time that Houston described the

* Special Address delivered before the Nashville Academy of Medicine, December 7, 1899.

[1] Dublin Hospital Reports, vol. v, pp. 158-164.

semilunar valves Nelaton described what he designated the third sphincter ani muscle, ascribing to it approximately the same location as that occupied by Houston's largest and most constant valve. From this time on for many years the subject remained in a state of almost hopeless confusion. Velpeau (1837), Kohlrausch (1854), Gosselin (1854), Hyrtl (1857), Henle (1873), endorse with varying qualifications and designations Nelaton's idea of a third sphincter. O'Beirne (1833) and Bushe (1837) confine their attention to Houston's valves, the existence of which they fiercely dispute. Bodenhamer (1870) utterly discredits the presence of such structures as "veritable valves" in the normal rectum, and supports his views in a labored but somewhat illogical argument. Sappey (1874) emphatically denies that either the semilunar valve or the third sphincter muscle is to be found in the rectum under normal conditions. Van Buren (1879) contents himself with an incidental reference to the third sphincter as an organ indefinite as to location and uncertain as to function.

The first reliable corroborative evidence as to the correctness of Houston's views was furnished by two American investigators, and incidentally both record their convictions that no such structure as a third sphincter muscle is present in the rectum. Chadwick (1878), in a paper presented to the American Gynecological Society, attacks the idea of a third sphincter, and demonstrates with considerable clearness that the constriction met with about two and a half inches from the anus, which had been so denominated by Nelaton, Hyrtl, and others, is in reality "composed of two distinct semicircular bands slightly overlapping each other, the posterior being somewhat higher than the anterior." Chadwick, however, wholly misinterprets the physiologic action of these bands as evidenced by the term "detrusor fecium," which he proposes for them.

The investigations of the subject by Otis, of Boston (1887), were more elaborate and of a more scientific character than any previously made, and his conclusions coincide almost identically with those reached by Mr. Houston in regard to the structure of the valves as well as to their location, size, shape, number, etc. But he also falls into error with respect to their function, agreeing with Chadwick that they are "a part of the expulsory apparatus of the intestine to propel the feces toward the anal outlet, rather than to offer an obstacle to their descent." Before the scientific work of this investigator there is no evidence that the principle of observation of the interior of the rectum in situ under atmospheric distention had ever been applied in the study of this subject—a principle which has come to be recognized by those best versed in the proctology of today as absolutely essential to trustworthy results whether in experimental or clinical work.

Of the recent textbook makers Kelsey[2] alone seems to have realized the importance of the question. Under the subtitle "Defecation" he presents an elaborate and painstaking review of the literature of the subject, prefacing his closing summary with these words: "From a study of the literature of this question and from the dissection and experiments which we have personally been able to make, we are led to the following conclusions." The gist of these conclusions is a denial of the existence either of the superior sphincter or of the semilunar valves. It is to be remarked, however, that in the paragraph immediately preceding these conclusions he virtually admits the reality of the valves, though in rather evasive and indefinite language, when he says: "That the folds of mucous membrane, such as have been described, are of the nature to form an obstruction to the passage of feces, would seem to admit of no reasonable doubt. But this obstruction is passive and not active, and by no means sphincteric in character." We cannot but admire the evident fairmindedness of this author. It must be regretted, however, that he does not record the methods employed in his "dissections" and the nature of his "experiments."

Mathews[3] adopts a more dogmatic tone, and, after giving the locations "where it is said they (some *ineffaceable* folds which have received the name of Houston's semilunar valves) may be found," continues:

"Their use: To support the fecal mass.

"I have been thus explicit for the reason that I deny their existence and, if they did exist, would deny that their use is to support the fecal mass. For many years I have been searching for these folds and have yet to encounter them. In my opinion they existed only in the author's mind's eye." A little further on, in the same connection, discussing the question of a third sphincter muscle, Mathews quotes the conclusions reached by Kelsey and says: "I quite agree with all these conclusions of Kelsey, but would relegate the third or superior sphincter ani muscle to the company of Houston's valves and to the pockets and papillae."[4]

The distinguished author certainly defines his position on the question in unmistakable terms. But the query is a pertinent one. What does he mean by "searching" when other observers, perhaps as competent to testify, encounter these structures daily without searching? In a matter of scientific interest an investigator owes it to the intelligence of his readers and to his own honesty of purpose to specify the grounds upon which he makes bold to enter sweeping denial of a subject in dispute. It is a cause of particular regret that an authority as prominent as Dr. Mathews should have assumed an attitude so uncompromising without attempting to sustain his views with something more than a dogmatic negation.

Gant[5] disposes of the subject in a very few words. He quotes Houston as to the location of the valves and concludes with this brief statement: "The folds become almost obliterated when the bowel is distended." How erroneous this statement is will appear later on.

Other modern authors have either ignored the valve entirely or else alluded to it only incidentally and in such indefinite terms as to render their allusions valueless for reference here.

It remained for Martin, of Cleveland, to revive interest in the subject and confirm by his carefully conducted investigations the fact of the existence of these structures. And credit is due him in equal measure for original work both in establishing their pathologic significance and perfecting methods of diagnosis and treatment. His researches were conducted both upon living and dead subjects, the one essential principle of his method being *distention of the rectum in situ by atmospheric inflation.*

As the results of his investigations, Martin concludes[6] that the great diversity of views expressed upon

[2] Diseases of the Rectum and Anus, fourth edition, pages 25–40.

[3] Diseases of the Rectum, Anus, and Sigmoid Flexure, second edition, page 37.

[4] *Ibid.*, page 41.

[5] Diseases of the Rectum, Anus, and Contiguous Textures, page 10.

[6] "The Rectal Valve an Anatomical Fact," *Mathews' Medical Quarterly*, October, 1896, pp. 310–333.

this subject has been due chiefly to the very different methods employed by the various observers, and that "for a period of over 65 years these gentlemen have been discussing the same anatomic feature, but from quite different points of view." After referring with comments to the several methods made use of by observers in the past, he continues: "The method by which I first obtained a satisfactory view of the semilunar valves in the living subject was described by me in the July (1896) number of *Mathews' Medical Quarterly*. By this method I observed that the more relaxed the circular coat of the gut—and therefore in proportion as the gut was distended—the more prominent were the valves. It was noticeable also that the more relaxed the muscular coat the more sharply defined were the valves' free borders; and, furthermore, that when muscular contraction occurred the active structure appeared to be confined to the valves' bases; because for the fleeting second before complete contraction of the tube, the free valve border lost its taut appearance and hung relaxed and passive."

These observations suggested the necessity of microscopic examination of the valves which revealed the fact that "the characteristic element of the semilunar valve of the rectum is the fibrous, almost tendinous band of tissue which occupies its free border and underlies the entire surface of the valve." Referring to an accompanying illustration, he concludes: "The sketch, which was drawn from the valve while under the microscopic lens, exhibits its character and proves it to be that of a *typic anatomic valve*. And the absence of any other such thickening in the wall of this gut is evidence that the semilunar valves and the so-called plica transversalis, sphincter ani tertius, superior sphincter, and detrusor fecium muscles are one and the same thing, and *that thing is essentially a valve* which is most prominent when the gut is most distended."

As the result both of experimental dissections and careful clinical observation I am prepared to endorse Martin's conclusions. During the past five months I have subjected all patients, with a few exceptions, who presented themselves for rectal treatment, to preliminary proctoscopic examination. In addition, I have made dissections of a number of subjects taken indiscriminately, specimens from several of which are herewith presented. So far, speaking with reference both to deadroom work and bedside observations, I have not encountered an instance of absence of the rectal valves, nor one in which the slightest doubt of their presence could be entertained. On the contrary, they have uniformly presented themselves as the most conspicuous features of the movable rectum, and in the light of this experience I should regard the rectum in which I failed to find the valves abnormal to that extent.

In many cases I have taken accurate measurements of the distances of the valves from the anal margin, and in this respect as well as with reference to their location I have been able to confirm the accuracy of Houston's original description. In regard to the number, I have found three constantly present, the valve described as situated one inch from the anus, in the majority of instances being either entirely absent or so rudimentary as scarcely to deserve the name. The extent of attachment to the gut-wall and of projection into the lumen are both variable quantities. Two-thirds of the bowel circumference would be an approximate average of the former. Encroachment upon the lumen is uniformly greatest at the valve-center; and measurements by means of the bent probe show that the distance from the free margin of the valve at this point is less upon the proximal than upon the distal side, due, doubtless, to its upward inclination.

Houston described the rectal ampulla as presenting a sacculated form dependent upon the presence of the valves. The correctness of this description is at once apparent when their relative locations and sites of attachment are called to mind. Martin develops this idea and puts it to practical use by suggesting that these sacculated spaces be designated rectal chambers and numbered from below upward. The first rectal chamber would be that portion of the bowel lumen between the insertion of the levatores ani muscles and the first valve, the second the portion between the first and second valves, and so on.

Adoption of this nomenclature at once simplifies and systematizes the topography of the organ, enabling us to speak and write with anatomic precision of the location of any rectal lesion. Unless the finger is of extra length or endowed with some magic power, only the first, or at most the first and second rectal chambers are accessible to digital manipulation. For examination of the higher parts the proctoscope and accessory instruments are the only reliable means.

A word here as to this method of examination. The apparatus employed differs only in detail from that with which the profession has been more or less familiar for a number of years. But the kind of light and the necessary posture are perhaps not so generally well known. With respect to the former,—sunlight answers every purpose, but is uncertain and not always available in the room to be used. Artificial light of the proper kind serves equally as well and has the important advantage of being obtainable everywhere and at all times. Of whatever kind the light, a reflector is always to be used for directing and concentrating it upon the field of work. The proper posture is absolutely essential. The end desired is distention of the rectum by atmospheric pressure. Several elaborate contrivances have been described for attaining this object without reference to posture; but if their cumbersome nature and intricate mechanism were not sufficient to condemn them, the fact that they are utterly superfluous would be. The possibility of securing inflation of a neighboring hollow viscus by position alone was long since discovered by Sims, and the practical value of his discovery is daily attested by those who employ the Sims position in vaginal work. Applied to the rectum by means of the knee-chest posture this principle works out in results more satisfactory than can be obtained by any system of artificial inflation.

If with the patient or subject in the knee-chest posture the proctoscope is introduced into the first rectal chamber and maintained steadily in the long diameter of the gut, a perspective of the lumen will be obtained, appearing in the shape of an irregular or incomplete ellipse. This elliptical opening may be termed a valve strait and is from $\frac{1}{2}$ to 1 inch by $1\frac{1}{2}$ to 2 inches in dimensions. But it is a time-honored teaching that the rectal ampulla when distended is of a circular form and from 3 to 5 inches in diameter. What, then, is the explanation of this appearance? Simply that it is due to the projection and partial overlapping of two adjacent semilunar valves. This conclusion may be verified in the cadaver beyond the possibility of mistake or doubt by adjusting ligatures of different color or

mall scrafins of different shapes at several points in he opposing boundaries of the elliptical space, and hen removing the rectum and laying it open. The orresponding ligatures or serafins will be found at different heights and upon practically opposite sides of he bowel wall, attached to projecting folds which are listinctly marked whether hardening agents have been mployed or not.

In this connection I may state that my dissections ave justified a conclusion upon one point somewhat t variance with that of most observers, viz.: that neither hardening agents nor casts of the rectum are necessary to the demonstration of the valves. If the excised rectum be suspended by its proximal end and its interior inspected from above, the valves can be plainly seen. By laying open the organ in such a way that the incisions are confined to the portions of the gut wall not occupied by the valve attachments these structures are preserved and may readily be both felt and observed. I have demonstrated this fact in the case of fresh as well as preserved subjects.

One important point in removing the rectum for the purpose of studying the valves is to keep as far from the walls of the viscus as possible with the dissection. The structure of this organ is such that its natural condition, particularly with respect to shape, may be wholly lost by injury to its external coat at any point.

The rectal valve as a factor in the production of disease is a subject which has not yet been worked out in all its phases. Much, however, has been learned, and further investigation and clinical experience will doubtless establish for it a place as prominent from a pathologic as from an anatomic standpoint.

Obstipation.—From considerations both of interest and widespread prevalence perhaps the most important aspect of valve pathology is that which has reference to the causation of chronic obstipation. Preliminary definitions of the terms *obstipation* and *constipation* will lend clearness to our discussion of this question. The one is specific, the other generic. Properly understood, constipation may be concisely defined as a disease of the gastrointestinal tract or its accessory organs which is marked by the pathologic retention of fecal matter. Obstipation is that form of constipation dependent upon mechanical obstruction of the bowel lumen.

In a recent paper on constipation I took occasion to state my conviction that in a very large proportion of cases the primary cause of this disease is to be sought in the distal ten inches of the alimentary canal. Still leaving the proportion indefinite in order to avoid the charge of a too exuberant enthusiasm, I would here emphasize that statement. Obstipation (*i. e.*, obstructive constipation), the hypertrophied valve, and the relations between them are facts in this connection to which I would invite your most carnest attention. Study of the act of defecation teaches us that the office of the normal valve is a beneficent one, being that of physiologic barrier to the too rapid descent of the feces. But when altered by disease physiologic retardation readily merges into pathologic obstruction. The changes in the valves by which this condition is brought about will be referred to under stricture.

The distinctive symptoms of obstipation, though few in number, are clearly marked. Most conspicuous among them are: (1) The great muscular exertion required to effect a passage even after the use of purgatives or enemas; (2) frequent unrcquited desire to empty the bowel; (3) delayed return, and in some cases complete retention of enemas. In addition to these there are often enlargement of the abdomen with tympany, and the usual symptoms of chronic proctitis, which to greater or less extent is nearly always an associate feature of obstipation.

The diagnosis is easily confirmed by proctoscopic examination. Each valve should be tested in turn as follows: A long flexible probe, having the half inch of its distal extremity bent to a right angle with the shaft, is hooked over the valve's free margin. In the normal state gentle traction will cause sufficient eflacement of the valve to disengage the probe. When hypertrophied to an obstructive degree on the contrary no such effacement occurs, but the valve is drawn downward in proportion to the force used. Of course delicacy of touch as well as judgment and experience will be required to render this a trustworthy diagnostic manipulation.

Treatment.—The associated rectitis, if at all acute, should first be subdued by the measures hereafter to be noted. The treatment will then depend somewhat upon the number of valves involved and the extent of their involvement. In mild cases massage and divulsion through the proctoscope may be tried with some hope of success. But operative procedures are almost invariably demanded for the reason that these cases are rarely seen in their early stages. Very briefly expressed, the radical operation consists in incising the valves' free margins down to the muscular coat. Upon making such incisions the cut edges immediately retract, leaving triangular wounds with the bases toward the lumen. There is little tendency to reunion of the wound and all such is easily obviated by appropriate after-treatment. The result which may be expected to follow this operation in a properly selected case will be indicated under case reports.

I do not feel that I should be doing my full duty were I to omit a word of caution in this connectien. Although it requires neither general nor local anesthesia and only a few days' confinement to bed, there are few more delicate operations in surgery than that just mentioned, and not one that requires a more thorough knowledge of the anatomy of the parts involved. These truths at once become obvious when it is remembered that every step of the work is accomplished through a cylindrical tube an inch and a quarter in diameter and that the structures attacked are at a height where the peritoneum forms one of the tunics of the gut.

Stricture.—Perhaps the most natural question which presents itself in the consideration of valve pathology is, What part do these structures play in the etiology of rectal stricture? Mr. Houston raised this question in the final paragraph of the most notable paper ever written upon the subject; but his conclusion was purely conjectural and merely serves to indicate the comprehensiveness of his grasp of the valve problem. Among the later writers, when the subject was not entirely ignored, the possible pathologic significance of the semilunar valves was lost sight of in the storm of controversy precipitated concerning their existence and function. Martin has devoted considerable attention to the question and published his conclusion that the rectal valve, either from congenital or acquired abnormality, is the most frequent cause of benign stricture. This seems an altogether reasonable conclusion when we stop to consider certain facts with reference to this disease. The view is generally accepted that the immediate origin of benign stricture is uniformly a preexisting ulceration; and it is also generally admitted that a simple ulcera-

tion of the rectal ampulla of sufficient depth to occasion obstructive contraction in healing is a very uncommon disease. But benign stricture is by no means a rare disease, being met with occasionally even in cases which give no history of a previous ulceration. Some other explanation of this frequency is demanded, and the more closely the rectal valves are studied in all their bearings the more certainly do they appear to meet the demand.

It has been said that the valves vary in their attachment to the gut-wall, two-thirds of the circumference being the average. When the attachment exceeds this in extent it will readily be seen that the condition is already one of passive stricture, lacking only the element of rigidity to convert it into an active stenosis. This element is supplied by the changes incident to a long-continued inflammation from any cause. It will be remembered that normally the valves do not differ in histologic structure from other portions of the rectum and that they are subject to the inflammatory process both primarily and by extension from neighboring parts. From the fact of their projection and consequent greater exposure to traumatism, it may be inferred that such process more often originates with the valves and extends from them than vice versa. As a logical sequence, then, of inflammation, hypertrophy and rigidity of these structures occur. Again recalling the anatomy of the valves with respect to their attachment, it is evident that the effect of such changes would be not only to stiffen the valves, but also to diminish the lumen of the valve-strait by apposing their free margins, the degree of apposition being in proportion to their attachment.

Stricture produced in the manner described would be of the annular or diaphragmatic variety. Tubular stricture may well be conceived to be but a further step of the same process. When the movable rectum is the seat of the affection the site of the lesion corresponds accurately, in the majority of cases, with the location of the second and third rectal valves, whether the pathology be simple, specific, or malignant. These valves, it will be borne in mind, as a rule are barely one inch apart and upon virtually opposite sides of the rectal wall. As the result of chronic inflammatory action implicating both these structures hypertrophy would more likely be of an obstructive character here than in other situations. And the attendant rectitis and ulceration, always prominent features when the obstruction is great, would inevitably tend to hyperplasia and thickening of the parts involved. Thus, while from direct observation we actually know very little of the consecutive changes incident to the production of tubular strictures, we may reason that they are often built upon valve bases and their sites determined by the location of these structures.

It is worthy of careful consideration in this connection also, that stricture of the rectal pouch resulting from other than simple inflammatory causes is generally the sequence of deposit in the gut-wall and practically always of the tubular variety. In view of what has been said of the almost uniform sites of these lesions, the inference is plain that the rectal valves have an etiologic significance with reference to all forms of the disease.

In the process outlined I am convinced the true explanation of many cases of acquired rectal stricture is to be found. With respect to the congenital variety, little is known. But it is certainly as possible for a congenital stenosis to occur in the pouch of the rectu as at other points in the alimentary canal; and esoph geal stricture, imperforate anus, etc., are not even amon the curiosities of medical literature.

Summarizing, we may classify rectal stricture due t valve-lesions under three heads: (1) Incomplete c partial stricture, perhaps better designated simpl hypertrophied valves; (2) annular stricture; and (3 tubular stricture. To these we may add a fourth, viz congenital stricture, which may be or become of eithe of the three varieties first mentioned. The symptom diagnosis, and treatment of hypertrophied valve wer briefly referred to under obstipation. I shall not tres pass further by discussing at this time these aspects c the other varieties. Let it suffice to say that in moder proctology rectal stricture occupies a far less hopeles position than formerly, when a choice between excisio and colotomy was the only consideration of treatmen

Rectitis or *Proctitis.*—In the light of the foregoin observations on stricture the deduction is a legitimat one that the valves play an important role, both in th causation and maintenance of many, perhaps mos cases of rectitis. The factors most directly and obv ously operative to this end are the voidance of costiv stools and the resulting traumatism to the prominen valve surfaces. The inflammatory process, once estab lished, "grows by what it feeds on"; in other words the valves, by reason of the inflammation, underg changes physical and structural which tend to the per petuation of the very disease for which they wer originally responsible. Speaking from the standpoin of my own personal observation, I have yet to see a case of pronounced hypertrophy of the valves in whic there was not a coincident inflammation of greater o less degree involving the adjacent mucosa. In fact, s uniform has been this experience that, independent o other symptoms, I am led to suspect and look fo trouble with the valves when consulted by a patien giving a history which warrants the diagnosis of simpl proctitis.

The symptoms of rectitis are too well known to neces sitate mention here. The diagnosis may often be mad from the symptoms alone; but the proctoscope offers a painless means of confirmation which for the sake o accuracy should be systematically resorted to.

The treatment of this disease varies somewhat wit the clinical type presented. In acute cases, local medi cation should be of a sedative and antiphlogistic char acter; in chronic cases remedies essentially stimulatin are demanded. In all cases the best means of applica tion are the proctoscope and atomizer.

If the examination reveals the presence of obstruc tive valves, it may be at once accepted that permanen results are not to be expected from measures directe to the cure of the rectitis alone. In such case th judgment of the surgeon must determine whether th obstruction or the inflammation is to be first attacked

Of the following cases the first is reported chiefly t demonstrate the value of the proctoscope in diagnosis the others to illustrate the more common forms of valv lesions.

CASE 1.—On September 29 I was called in consultation wit Dr. T. L. Maddin to see Miss T., aged 36. The trouble fron which she was suffering dated back about one year, at whic time she first noticed some blood and mucus in her passages This gradually increased in amount and her general healt began to fail. She sought medical advice and was treate for "bleeding piles" and "rectal catarrh" and finally sent t the Springs. She returned home weaker than when she left

ing profoundly anemic from loss of blood and her bowels oving from six to twelve times a day. Proctoscopy dis-osed no trace of hemorrhoids, bleeding or otherwise, and lesion of any kind in the lower rectum. Not until the amination had been carried eight or nine inches up was e source of trouble discovered. At the junction of the ctum and sigmoid there was an outgrowth entirely encir-ing the gut which at first glance had much the appearance malignancy, but proved on microscopic examination to papillomatous in nature. Correct diagnosis could not ave been made in this case by any other means with which am acquainted.

CASE 2.—Mr. R., aged 20, of Mississippi, was referred to e for rectal treatment in October last. He had been oubled for several years with recurring attacks of mucous arrhea and had been treated by several physicians for piles" and anal ulcers. Proctoscopy revealed his trouble be ulceration of the ampulla One ulcerated point was tuated on the free margin of the third rectal valve, another the under surface of the second. Both were surrounded areas of acute inflammation and there was some general roctitis The inflammation was quickly reduced by the lver-nitrate spray, but the ulcers proved obdurate until uterized with pure nitric acid.

CASE 3.—Mrs. McC, aged 47, had been a sufferer from ronic diarrhea for the past four or five years, during which me she had been treated by a number of physicians with-t avail. At the time of my first visit she appeared to be most at death's door from exhaustion and loss of blood. er food was passing undigested and there were often as any as a dozen stools a day, consisting for the most part of ucus and blood. Under proctoscopy she was seen to have ree hypertrophied rectal valves and a general rectitis with any points of superficial ulceration scattered throughout e lower six inches of the gut. The ulcerated points bled eely upon the slightest touch. All hemorrhage was virtu-lly controled by the first use of the atomizer and the mu-osa rapidly regained a healthy state with a few additional eatments. She now awaits operation upon the obstructive alves, which will be done when her general health has been fficiently recuperated.

CASE 4.—Mr. B, a postal clerk, was referred to me by Dr. V. G. Ewing for rectal treatment. His symptoms pointed early to a chronic rectitis and he gave a history of ob-inate constipation with straining at stool, for the relief of hich he was accustomed to use laxatives or enemas daily. roctoscopic examination revealed a general chronic rectitis nd in addition two hypertrophied rectal valves which were arkedly obstructive. After relieving the rectitis with a few pplications of the nitrate of silver spray the patient was ent to St. Thomas' Hospital and a valvotomy done. Three eeks from the time of operation he reported that he no nger needed either laxatives or the syringe, and that he njoyed the unwonted pleasure of a free natural movement f the bowels every day.

CASE 5.—Mrs. B., aged 32, referred by Dr. W. A. Atchison. his patient presented all the symptoms of obstipation in ggravated form. She was neurasthenic, the result, prob-bly, of autotoxemia. The proctoscope showed her to be he possessor of four hypertrophied valves, two of which pproximated annular strictures in extent of attachment nd degree of obstruction. She was submitted to valvotomy ne week ago, the three lowermost valves being incised. At future operation the fourth will be dealt with, if found ecessary.

I could multiply reports of cases illustrative of valve esions did time and your patience permit. Enough ave been cited, however, I trust, to impress their im-portance with respect to the etiology and pathology of ectal diseases. The only requisites to the establish-ment of the valves as anatomic facts are a patient, a proctoscope, a head mirror and an honest observer with sufficient intelligence to interpret what he sees. And n proportion as they are recognized and taken into account will our grasp of rectal pathology be compre-ensive and our work in this department scientific and successful.

EXTRAABDOMINAL SHORTENING OF THE ROUND LIGAMENTS BY AN INCH INCISION OVER THE INTERNAL RING FOR FREELY MOVABLE POSTERIOR DISLOCATION OF THE UTERUS.

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POSTERIOR dislocations of the uterus sooner or later lead to chronic invalidism unless promptly and permanently rectified. The indiscriminate use of pessaries is productive of much harm and, except in recent displacements, they are capable of little permanent good. When the uterine supports have been long overstretched their power of retraction is permanently lost in the large majority of cases and maintaining the organ in position by means of artificial support in the vagina is productive of only temporary benefit, and this is only possible if the support is accurately adjusted and does not provoke irritation. Frequently, however, such form of support is a menace, even if it is at first worn with comfort, owing to the imprudences women are so often thoughtlessly guilty of; at best it is only a makeshift, often positively inconvenient, and certainly unclean and unnatural. These objections are greatly multiplied when the pessary is employed by one who has not acquired the skill necessary to adjust it properly.

The condition of the uterus and its supports and the character of the dislocation must be taken into consideration before it can be decided with any degree of certainty what method of procedure is best calculated to effect a permanent cure; that is, whether artificial vaginal support offers any reasonable chance of success or if operative intervention is absolutely necessary.

If the displacement has followed labor or abortion and too long a time has not elapsed, the uterus and its supports being still in a state of subinvolution, there is a reasonable chance of securing permanent retraction of the supports in conjunction with involution of the uterus by employing artificial vaginal support for a sufficient length of time. The pessary is, however, only one means of accomplishing the result, since it removes the strain from the sustaining ligaments. The result here must necessarily depend upon our ability to re-establish complete involution of the ligaments as well as the uterus. Pregnancy with proper after-care may, therefore, be consistently regarded as a means of cure for uterine displacements, but it is by no means certain. The well-known tonic action of electricity may be utilized to advantage as an auxiliary in the management of such cases. The mobility of the uterus is also an important consideration whenever a pessary is employed.

Recent displacements in the virgin uterus may sometimes be cured by employing a vaginal pessary for a sufficient length of time and toning up the uterine supports and, at the same time, improving the general condition of the patient. Great care should, however, be taken to avoid complications and the case should be kept constantly under observation until the pessary can be dispensed with. Should a cure not result after the lapse of a reasonable time and it is found that the pessary is constantly required, some more radical measure should be instituted without delay.

The ability of the pessary to maintain a normal anterior position of the uterus will depend upon the character of the dislocation. Flexions are less readily

corrected by the pessary than versions. In flexions, owing to the contraction of the posterior uterine wall at the point of flexion and the corresponding overstretching of the anterior wall, there is a strong tendency to recurrence of the flexion after it has been rectified, and the fundus will fall backwards over the pessary, which then presses up against the angle, thus failing to accomplish the purpose intended, viz., a throwing of the fundus forward. This tendency to recurrence of a flexion of the uterus is similar to that of a piece of rubber tubing long bent at an angle. It is due to the altered state of nutrition of the anterior and posterior wall at the point of flexion, and exists often without any material enlargement of the organ. In the case of version on the other hand, the whole organ is enlarged and the displacement is maintained because of the increased weight and because the intraabdominal pressure is exerted upon the anterior face of the uterus. If, in these cases, the uterus is replaced and a pessary is carefully adjusted so as to hold the cervix back in the pelvis, there is no tendency to recurrence of the displacement because the intraabdominal pressure is exerted upon the posterior face of the uterus and it is forced continually forward.

Therefore the chance of effecting a cure with the aid of the pessary is better with versions than with flexions, but it is uncertain in either case, hence this method of procedure is applicable only to a very limited number of cases. Usually when these cases come under observation the uterine supports have already become permanently overstretched and some more positive and permanent support than the pessary affords is necessary to bring about a cure. Because uterine displacements do not always give rise to unbearable symptoms immediately, they are not usually discovered early enough to prevent permanent atony of the sustaining ligaments.

The symptoms may be relieved by holding the fundus forward with a vaginal pessary, but this does not constitute a cure. *A cure consists in the uterus being able to retain a normal anterior position without artificial vaginal support.* Anything else does not constitute a cure.

When, therefore, a movable posterior dislocation of the uterus is encountered that may not be cured, as outlined above, by support with a pessary aided by stimulating applications of electricity, etc., or if for any reason the wearing of a pessary is objectionable, we may resort to shortening of the round ligaments by the extraabdominal method as a means of permanent support. The several methods of shortening this ligament within the abdomen is not to be considered because they necessitate opening the abdomen, which is not justifiable for movable displacements, and is wholly unnecessary. Vaginal fixation also is discarded as an irrational procedure since it fixes the uterus in an abnormal anterior position, which is a serious menace to subsequent child-bearing.

It has been denied that the round ligaments are directly instrumental in sustaining the uterus in its normal anterior position in the pelvis, yet it must be admitted that a retrodisplaced uterus which is freely movable may be brought up and forward into a normal position by traction upon these ligaments, and that such position will be retained if the traction is maintained. It is true, however, that these ligaments are only one of the supports of the uterus.

If the operation for shortening these ligaments had proved satisfactory when first suggested, or if it had bee better understood and its adaptability to certain cond tions had been more clearly appreciated, its resul would have been better and it would be employed no more universally. Even at the present time it ofte fails because of its misapplication and from neglect proper preparatory treatment which is essential fo success, often quite as essential as a properly execute technic in operating.

The technic of the original operation for shortenin the round ligaments has been so greatly modified an improved that it has become an ideal operation fo those displacements where it is appropriate. Conse quently those who were led to abandon it some yea ago because of unsatisfactory results have taken it u again. A wider experience with its technic and th recent modifications make it easier of execution, becaus the ligaments are more readily found and there is n longer any necessity for mutilating wounds which hea slowly by granulation or the long unsightly scars whic resulted from the earlier operations. Then, too, weak ening of the abdominal wall from laying open the in guinal canal, with the consequent risk of hernia, is no wholly obviated by perfected technic, as described be low. The method of shortening and attaching th redundant loop of ligament has also been greatly im proved upon, making it positive and certain. It will b seen, therefore, that many of the objections to the ear lier operation have been done away with.

There are two other essentials for success with thi operation, apart from a properly executed technic, viz. The uterus must be freely movable, must be capable o being replaced anteriorly without bringing forward wit it the anterior rectal wall to which it is sometimes ad herent, and it must be possible to retain the uterus i an anterior position with the aid of a vaginal pessary so as at first to relieve the strain upon the freshly at tached ligaments. The necessary treatment to accom plish this end is one of the essential preparatory step for the operation.

The technic of the operation is briefly as follows:

An inch-long incision is made over the internal rin parallel with Poupart's ligament. This incision extend through the skin, underlying fat and fascia, down to th external oblique muscle, taking care not to divide an of the vessels encountered, which is accomplished by pulling them aside by means of blunt hooks. Retrac tors are inserted, including all the structures separated down to the external oblique muscle, and with these the margins of the wound are drawn apart so as to en large the field of operation. Poupart's ligament, which serves as a landmark, is exposed by retracting the lowe margin of the wound while traction upon the uppe margin is relaxed. A point about two lines above Poupart's, midway between the angles of the incision, i selected and with a scalpel the aponeurosis of the ex ternal oblique muscle is divided for a distance of a quarter of an inch only in the direction of the fibers o the muscle. The two blunt hooks are then inserted into this incision and the fibers of the muscle are sepa rated down to the inguinal canal. Through this open ing (not more than a quarter of an inch long) in the roof of the canal a little below the internal ring the round ligament is sought. With one blunt hook the roof of the canal constituting the upper margin o incision is lifted up, and with another blunt hook in serted sideways and directed upward; the ligament i caught and drawn out. To avoid handling the liga

nent a ligature of stout pedicle silk is passed through he loop as soon as it is drawn up through the incision nd the two ends are caught with a hemostatic clamp lose to the ligament. Traction is then made on the igament until all the slack is drawn out. The peri-oneal covering that draws out with the ligament is ither stripped back or is incised all around so the liga-nent will play easily through the ring. The ligament hould be drawn out sufficiently to bring the fundus well forward against the anterior abdominal wall. Usu-ally the redundant ligament drawn out will measure rom five to seven inches.

At this stage the first sustaining suture is introduced. The suture-material used is silkworm-gut. It is threaded directly into a large quarter-curved needle. This suture serves the double purpose of securing the ligament as it emerges through the incision in the roof of the canal, preventing it from retracting into the abdomen and also aids in closing the wound in the integument. It is passed from above downward, being made to enter the integument a quarter of an inch from the upper margin of the incision, penetrates the underlying fat and fascia, then the margins of the incision in the roof of the canal and the thick part of the round ligament as it emerges through this incision and is brought out on the integu-ment below at a point opposite its insertion above.

This suture is not tied until the second has been in-troduced, but the ends are grasped with a hemostatic clamp, so as to prevent it being inadvertently pulled out.

The redundant loop of round ligament is secured by being woven under the fibers of the external oblique muscle above the canal, and the remaining loop end is folded down across the bottom of the wound on the surface of the muscle.

The second suture, which also serves a double pur-pose by aiding in securing the ligament and closing the wound, is inserted through the integument above, pen-etrates the thick portion of the round ligament loop as it emerges from under the oblique muscle, then pene-trates the muscle below to hold the ligament flat against its surface, then penetrates the extreme end of the loop of ligament and is brought out upon the surface below at a point opposite its insertion above. The ends of this suture are also caught with a hemostatic forcep.

The wound is now flushed with warm normal salt-solution and is closed by tying the upper suture first and the lower one afterwards. They are drawn tight enough to approximate the margins of the wound per-fectly.

The same procedure is then executed on the opposite side. The suture ends are not cut off, but are tied together across the surface of the abdomen, the ends being protected by a covering of adhesive plaster wrapped around them.

The wounds are dressed with moist iodoform gauze and over this is placed a thick layer of absorbent cotton which is held in place by adhesive straps and a bandage.

The operation done in this manner can be quickly executed, requiring not more than 15 or 20 minutes for both sides; there is no loss of blood if care is taken to draw aside the superficial vessels; there is no mutila-tion; there is no handling of the structures and the ligament is not cut, hence primary union is always secured and the remaining scar is scarcely noticeable.

The sutures are removed at any time after the tenth or twelfth day and the patient is permitted to get up at the end of two weeks. The pessary is usually retained for a month or six weeks after she gets up as a precau-tion to avoid strain upon the ligaments.

As has already been stated, this operation is applica-ble only when the uterus is freely movable and can be held in a corrected anterior position by a vaginal pes-sary, and should not be undertaken in any instance until this result is brought about by careful prepara-tory treatment. Its object is the radical cure of reduci-ble posterior dislocation, to obviate the constant wear-ing of a pessary.

When the uterus is only partially adherent the adhesions may sometimes be broken up by conjoined manipulation through the vagina and abdominal wall under anesthesia, and the ligaments shortened im-mediately after; but this should not be attempted when inflammatory lesions of the adnexa exist.

The adnexa may be examined through the internal abdominal ring at the time of operation by dilating the ring sufficiently to permit the introduction of the finger as suggested by Goldspohn. This will permit the free-ing of adherent tubes and ovaries, and removing them or portions of them when necessary. Thus the scope of the operation, as originally suggested by Kellog, is greatly broadened, but in such cases it has no advan-tage over a median incision and subsequent attachment of the fundus of the uterus to the anterior abdominal wall (ventral suspension), while it has many disadvan-tages as compared with this latter procedure.

The success of this operation (shortening of the round ligaments) seems to me to be best assured by limiting it strictly to cases where it is certainly appropriate, and not attempting to extend its use to cases where its expediency is, to say the least, doubtful, and where some other procedure is better adapted to serve the purpose.

Out of 150 cases operated by the method described above there have been no failures and no recurrence of the displacement, though in two pregnancy occurred shortly after and full-term children were born within a year after the operation. There was no recurrence of the displacement following the labor in either case, but I am always particular to caution these patients to avoid pregnancy for a year after the operation to avoid the strain upon the ligaments incident to pregnancy before the attachment has become firm. In only two out of this number was there anything unsatisfactory about the result. In one a small hernia occurred four months after, brought on by strain in mountain climb-ing. Her abdominal walls were very thin and the muscles very weak. This was easily overcome by oper-ation. In the other case some descensus of the uterus in the pelvis was discovered four months after the operation, but the fundus had not gone backward. This was perhaps due to the too early removal of the pes-sary, as the patient desired to return home and wished it removed before she left. The retention of the pes-sary for a month or six weeks after the patient gets about on her feet seems to be necessary in some cases at least to afford time for toning up the other supports of the uterus. It must be borne in mind that the round ligaments only serve to hold the fundus forward and have nothing to do with maintaining the uterus as a whole at a proper plane in the pelvis.

Water-bill.—The Government, embarrassed by war de-bates, will have no time to bring in a Water-bill for London on the lines of Lord Llandaff's Commission. This pleases some and is a great disappointment to others.

EXOPHTHALMIC GOITER: ITS COMPLICATIONS AND AFFINITIES.

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EXOPHTHALMIC goiter, which in English-speaking countries is known as Graves' disease, and on the Continent as Basedow's disease, seems to be increasing in frequency and in the complexity of its relations to cognate affections of the nervous system. I have here brought together some examples illustrating this tendency. No. 1 represents what may be called the typical form with its quartenary of symptoms, and is an example of the affection as it occurs from puberty through middle age to the climacteric period. No. 2 is that form which appears about or subsequently to the climacteric period, in which, beside the usual quartenary of symptoms, there occur important structural changes, as manifested in this case by a neuritis of the lower extremities, terminating at one point in gangrene. Nos. 3 and 4 illustrate that form in which mitral lesions, caused by rheumatic endocarditis, precede the thyroid development and the exophthalmus.

In the treatment of these cases, the complicating conditions must have due recognition. In every case of Graves' disease, that should be considered a complication, in which some one of the quartenary of symptoms exists in a preponderating manner. For example, when the mitral lesion is caused by endocarditis, and is a permanent alteration, which persists in spite of the disappearance of the other symptoms. Again, when with the exophthalmus there is associated ptosis, nystagmus, inequality of the pupils, etc., changes other than those that of necessity pertain to the disease. That is also a complication when the thyroid becomes cystic, or calcareous, or fibroid, or when more or less extensive pigmentation of the skin occurs, or when a neuritis develops. It is more especially the purpose of this paper to show how these diverse morbid states may be successfully managed.

CASE 1.—*Exophthalmic Goiter: Uncomplicated.*—Miss ——, of Toledo, Ohio, aged 21. A tall young lady; brunet; brilliant complexion; very prominent eyes, suffused, and staring, presenting in every detail the characteristic exophthalmus. The eyes are quite unstable and become much suffused in the attempt to fix them, and when she looks down to her feet, a broad white band appears under the upper eyelids. (Incoordination.) The neck is enlarged, especially on the right side. The thyroid is elastic, pulsating, and oblique in position diminishing to the left, as is the manner of the disease. The action of the heart is habitually rapid, never under 100, and in paroxysms rising to 160, 180, and higher. Any considerable exertion, shock, or emotion, will at once increase the heart-beat and respiration, so as to cause great distress. There is a well-marked anemic murmur in the mitral area, and a venous hum over the large vessels of the neck, and over the thyroid gland. A slight wound, a mere prick, will cause free bleeding, and the nose often bleeds spontaneously, being somewhat difficult to stop, and now and then requiring a cotton plug. The composition of the blood is that of anemia; the number of white cells is increased, of red lessened, but these changes are inconsiderable, and the hemoglobin is reduced.

The menses ceased in three months after the disease had appeared, and remained absent for eight months, and ceased and returned without any special disturbance.

The urine was abundant and normal

The appetite at first was capricious, and as she had been warned against free indulgence at the table, she ate little, but after a few weeks of slender regimen she was induced to enlarge her dietary and to eat fresh meat, vegetables, eggs, and milk. At first, taking solids instead of soups, she experienced some oppression, tachycardia, and rise of temperature, but these subsided presently, and she was able consume sufficient food to increase her body-weight and physical ability.

For several months she had lain in bed, undergoing modified "rest cure." The utility of this may be doubt as she became more nervous, lost flesh, and an obstin wakefulness was added to her other troubles. Systema walking exercise, the distance adjusted to her capacity, enjoined. The hours were at or about 11 A.M. and 4 P and whenever practicable, she had a brisk walk of sh duration at or about 9 P.M.

The remedial measures, beside the hygienic, consisted the application of central galvanofaradisation every d from 10 to 15 minutes, the positive pole on the nape of neck, and the negative on the epigastrium The applications were stabile, the electrodes kept in position duri the "seances," and the strength from five to ten millia pères, according to the susceptibility of the patient. this case, as is the rule whenever electricity acts most ben ficially, the applications had an immediate effect in slowi the pulse and respiration.

To prevent the formation of ptomains in the intesti canal, and to improve the nutrition, she received after ea meal a capsule containing forty minims of cod-liver oil a one minim of guaiacol. She had also the following pill:

℞ —Spartein sulfate ..... 1 dram.
Picrotoxin ..... 1 grain.
Mangan. sulfate exsic. ..... 1 dram.
Ferri sulfate exsic..... 1 dram.
Make into 60 pills. Take one pill three times a day.

The result of this treatment was good, and improvement was manifest from the beginning. The la symptom to disappear was the exophthalmus. T menses were reestablished in four months, but it w not until six months had elapsed that the exophthalmus disappeared.

CASE 2.—*Exophthalmic Goiter; Ptosis, especially of the ri eye; Neuritis; Gangrene of right foot; Amputation at mid third of right leg; Recovery.*—Miss ——, cashier, aged years. Had in youth what was called "catarrh of t nose;" and the effects of this are seen in some cicatrices the nose and depression of the bridge. Otherwise the has been no special disorder of her health. In her occup tion of cashier, she was compelled to stand most of t time, and had in consequence, as she thought of late, mo or less pain in the limbs, which seemed neuralgic After fatiguing day she had observed some weakness of the ey lids, and dropping of the right Her face had a somewh swollen appearance. Several years ago her neck becan "goitrous" as was supposed, but lately it has fluctuated size, and has been pulsating; then her eyes became prom nent, her expression assumed the characteristic appearan of Graves' disease.

About two years ago, the pains in the lower limbs becan more distinctly localized to the distribution of the anteri and posterior tibials. At those points where the pain w about to occur, tingling, heat and burning, with sudden sta of pain came on, and an erythematous blush spread ov the part. The skin generally of the leg and foot was whit shining, contrasting strongly with the spots of red—the se of the attacks of neuritis. Various parts of both lower lim were occupied in turn by the attacks of pain, followed l localized redness and swelling, but at length it was felt mo decidedly in the little toe, the nail of which became ha and incurvated, loosened gradually, and was detached l gangrene The toe became gangrenous. There was no di charge, and little or no odor. The gangrene extended som what from the base of the little toe, but did not then invol the other toes.

The electric sensibility of those parts where the neurit had been most severe was low, but not absent; the electr contractility, in the worst places, was feeble, but in oth situations approached normal.

As the gangrene seemed to be limited to the little toe was decided to exsect, and Dr. Holmes, surgeon to th Methodist Hospital, to which the patient was now admitte removed the little toe and the first metatarsal bone. The was no bleeding or oozing, and the muscular tissue was da

wnish in color, but the wound gave out no odor, and no charge of any sort occurred. The gangrene slowly exded for several weeks, but finally ceased when all the toes, bottom of the foot and the outer margin were involved. line of demarcation was at length set up, and coincidently h this there ensued a marked improvement in her general te; her appetite returned; the pain diminished; she was le to sleep, and a gain in weight was noticeable. This was nsidered a propitious time for another operation, and cordingly Dr. Holmes amputated at the middle third of e limb.

Examination of the limb disclosed an extensive lerosis of the vessels and nerves, and in many inances it was hardly possible to recognize them. lthough it has been shown lately by Lapinsky that e degenerative changes of endarteritis, or arteriolerosis, may lead to alteration of the nerve-trunks, the nverse is true here, that the changes in the nerves ad set up the disease in the vessels, and the morbid rocess involving both nerves and vessels caused the angrene. Fortunately, the amputation was sufficiently igh up, and an excellent stump resulted. A good eal of difficulty was experienced afterwards from a pasmodic action of the stump, owing doubtless to the ondition of the nerves—for although a line of demaration had formed below the place of amputation, there ere signs indicating the existence of more or less euritis above. The patient has been fitted with an rtificial leg, and will presently take up walking exrcise.

The treatment had consisted in the application of alvanism to both limbs, the positive electrode at fixed point above, the negative passed slowly over he painful spots below (labile). The strength of curent varied between 5 and 10 milliampères, according o the sensibility of the part, and the degree of reaction o the current. She received also a capsule of cod-liver il and guaiacol three times a day after meals. But the emedies which seemed most influential in bringing bout improvement were the following:

℞.—Sodii iodid..... .....5 drams.
Sodii bromidi .....3 drams.
Sodii arsenat..... .....1 grain.
Aquae distil.....4 fluidounces.
Sig.—A teaspoonful in sufficient water three times a day.

CASE 3. — *Exophthalmic goiter, succeeding to rheumatic endocarditis and mitral disease.*—A society young lady of this city, aged 24 years, had a few years ago an attack of acute rheumatism, accompanied by rheumatic endocarditis, and followed by the usual symptoms of mitral lesions. Although the rheumatism ceased, she never entirely recovered from the effects of it; she continued weak, anemic, thin, breathless on slight exertion; her menses disappeared. After two years of weakness and ill health, other symptoms came on. The thyroid gland swelled, and she was said to have a "goiter." Then her eyes, which before had been full and brilliant, now became larger than ever, the whites showing greatly. The action of the heart became habitually rapid, and paroxysms of violent palpitation, the number of beats uncountable, happened from time to time, on occasions of any excitement or mental emotion.

There was a double bellows murmur audible with greatest intensity in the mitral area, and the veins of the neck pulsated strongly. The urine contained a faint trace of albumin.

The treatment in this case consisted of central galvanofaradization, stabile method, and the use of duboisin with arsenic, iron and manganese, as follows:

℞.—Duboisin hydrochlor..... ½ grain.
Manganese sulf. exsic. } of each..... ½ dram.
Ferri sulf. exsic. }
Sodii arsenate..... 1 grain.
M.—Make into 60 pills. Take one pill three times a day after meals.

The treatment was somewhat protracted, but a cure was effected in two years in all, of which a considerable part was occupied by travel and amusement. The electrical treatment seemed to be the most influential factor. The duboisin acted most favorably in quieting the heart. As to the condition of the heart at this time, several years having passed, I cannot be positive, but the patient having married and had two children, I assume that she is not undergoing any special disturbance.

CASE 4. — *Exophthalmic goiter succeeding to rheumatic endocarditis and mitral lesions.*—A lady from North Carolina, aged 52 years, married, but has no children. She had an attack of acute rheumatism four years ago, since which her general health has been bad. She has been very thin and sallow, many spots of pigment appearing on her face and neck, and her appetite has been almost entirely wanting. The menstrual function ceased two years before she came to consult me. The thyroid swelling, the tachycardia, and exophthalmus appeared nearly simultaneously. The rapid action of the heart was phenomenal, apparently never under 160, and in paroxysms going much higher. The protrusion of the eyes was extreme, especially of the right, and hence her appearance was frightful, precluding her going into society, or even among her familiar friends. Her breathing was rapid; her temperature above normal; and on making any exertion her distress was extreme, so that she remained recumbent almost constantly.

As regards the physical signs, there were the usual evidences of mitral disease compensated. A double murmur was audible over the base, the mitral area, and in the axilla. The veins of the neck pulsated strongly, and had the usual venous "hum." The thyroid beat was synchronous with the heart's movements; its tissue elastic.

The treatment consisted in central galvanofaradization, stabile, with a galvanic current of three milliampères, as her susceptibility was great. The applications were made daily for three months, ten minutes each. The patient was given as much food as she could dispose of, gentle walking exercise, a warm bath, 100° to 105° F., followed by inunctions of lanolin, on going to bed, and a tepid sponge bath in the morning. She was directed to rest a half-hour or longer after each meal. The medicinal measures were first, duboisin, iron arsenite, and ergotin, three times daily. The most important remedies, and to which she attributed her recovery at last, were:

℞.—Spartein sulfate..... ..... 1 grain.
Picrotoxin ....$\frac{1}{10}$ grain.
Three times daily.

In a letter to me a year after she had returned home, she said that to this combination chiefly she owed the remarkable improvement that had taken place.

Comments.—Comparing the simplest form of exophthalmic goiter with the most complicated, we first observe the essential difference between a purely functional and an organic disease of the nervous system. The exophthalmus and the tachycardia may be due to stimulation of the cervical sympathetic, or to removal of the inhibition exerted by the pneumogastric—the peculiar principle having these effects, we may suppose, is derived from the thyroid body. So purely functional is the simplest form of the disease, that cases are encountered due wholly to some strong emotion, as excitement or fright. Thus a lady, while engaged in making her toilet, and now and then looking at her appearance in the mirror, received, on a sudden, some bad intelligence. She was greatly astonished on looking again in the mirror to see that her eyes were much enlarged and protruding. Some swelling of the thy-

roid subsequently followed, and tachycardia coming on afterward, the characteristic quartenary of symptoms appeared complete.

As respects remedies, much depends on the complications. No single remedy has seemed to me so useful as electricity in the form of galvanofaradism. I have usually applied the descending stabile current, so as to include within the circuit the pneumogastric and cervical sympathetic nerves. In the cardiac cases, such as 3 and 4, much good is derived from spartein sulfate and picrotoxin, and these may be combined with the sulfates of iron and manganese. In the more chronic cases, valvular lesions have occurred, the thyroid undergoing fibroid degeneration, and the skin pigmented, the best results are had from the administration of the compound solution of the iodid and bromid of sodium and arseniate of sodium. The most probable explanation of the utility of this combination is the chemical fact that the thyroid contains *iodythyrin*, which, if not an active principle in the ordinary sense, is at least an important constituent which must be reckoned with in the therapeutic management of these cases.

The hygienic management of exophthalmic goiter must, I am convinced, be conducted on different lines than have hitherto been pursued. The rules for diet and exercise on the one hand, and for rest and solitude on the other, should be placed on a different basis from that which now obtains. Systematic movements, not exhausting; mental occupation, not unduly exciting or exacting, but gently employing, are necessary to the healthy performance of function. Close confinement, as in the "rest cure," is not infrequently hurtful to the mind, and that is not a permanent gain to nutrition which consists merely in the deposition of fat.

SOME OBSTETRIC NOTES.*

BY FRANCIS H. STUART, A.M., M.D.,
of Brooklyn, N. Y.
Obstetrician to the Brooklyn Hospital (Low Maternity).

THIS brief paper will present three practical points for consideration by the obstetrician: (1) Preparation of the patient for labor; (2) the time to use the obstetric forceps; (3) the time to repair injuries to the birth-canal.

1. What does preparation of the patient for labor comprise? First of all it comprises an early diagnosis of the existence of uterogestation, and in this connection the discovery of any possible abnormalities of formation of the obstetric tract, whether of the bony or soft parts. Deformities too slight to be noticed by the patient or near relatives may be a positive impediment to delivery at term. They would not preclude parturition at one of the late months of uterogestation with safety to both mother and child. If gestation were allowed to proceed to full term the life of both mother and offspring would be endangered or sacrificed. A case in point recently came under observation at the Brooklyn Hospital (Low Maternity). An unusually large woman, married 10 months, was sent to the Maternity by the physicians who had been called in after labor had begun. They found that she had a complete mesial division of the genital tract; two vaginas, two uteruses. The septum came quite to the vulvar orifice. The case had been under the care of a midwife for full 24 hours before the duplicate condition was discovere With great difficulty a dead child was delivered, a tended with severe laceration of the soft parts. Tl fetus weighed 9 pounds and 5 ounces. Had the co genital malformation, or rather arrest of developmer been discovered early enough a premature delive would probably have saved the child and undoubted would have spared the mother from an extensive lacer tion, which could only be partially restored.

Though gestation is a physiologic condition it is ac visable with the present conditions of social life th every prospective mother should be under the observ tion and direction of a careful physician. A prope regimen should be established, which will compris regulation of the alvine and renal discharges, manne and times of bathing, and in general awakening th patient's interest in living a healthy life. It gives a opportunity for instruction in matters pertaining t well-being and well-living, which in most cases greatly needed.

During the later months a careful vaginal examina tion is desirable to determine the relation of the pelvi organs to one another. This is especially important i cases where there are complaints of cystic or recta discomfort. It is wrong to pass over such com plaints by telling the patient that such discomfort i incident to her condition. This explanation shoul never be made unless a careful vaginal examinatio fails to reveal a discoverable cause. A patient ma report a daily satisfactory stool, either spontaneous o as the result of a laxative, and yet may have vesical o rectal tenesmus which the local examination reveals i due to fecal accumulation in a greatly distended lowe bowel. Relief will promptly follow thorough evacua tion and the subsequent guarding against a recurrenc of the former condition.

Examination of the urine at frequent stated interval during the last three months of uterogestation shoul be made in all cases. Though albumin is found i many cases that pass through labor without convulsions and a certain amount of albumin may almost be re garded as physiologic in this condition, yet in case where the microscope reveals distinct kidney disease th question of premature delivery must be taken int careful consideration. In the light of present knowl edge supervision of the condition of the kidneys during uterogestation is imperative.

Aseptic midwifery demands that the physician shoul instruct both prospective mother and nurse in th requirements for securing asepsis during and after labor The word asepsis is used in distinction from antisepsis The birth-canal, except its vulvar portion, is aseptic This has been repeatedly demonstrated during the pas four years. Hence it is not necessary to give douche before and after delivery, as was so much in vogue fo a few years. In private practice I have never used such douches; but in my maternity work for a time they were given in all cases. The results since they have been discontinued show that patients are safer without than with douches. The instruction of patient and nurse in surgical cleanliness, and the aseptic preparation of the outfit for the conduct of labor, and all that pertains to the protection of the patient from infection during labor and puerperium, belongs to the obstetrician and should be entered upon long before the hour of delivery.

Only an outline has been suggested in the foregoing remarks. When such a course is followed by every

* Prepared by invitation for the Medical Society of Virginia, Thirtieth Session, held in Richmond, Va., October 24–26, 1899.

neral practitioner who attends cases of midwifery we y look for a great reduction in both the death and kness-rate in the lying-in room.

2. The time to use the obstetric forceps may vary, but ould usually be early. Many cases of labor are pro-cted. The causes are varied and multiple: exhaus-n of the uterine muscle, a condition of general haustion of the patient, a slight disproportion be-een the size of the fetal head and the birth canal, ch a change in the relation of the diameters of the tal head to the canal that moulding and adjustment es not readily take place, a persistent occipito-pos-rior position. One of these several conditions, or a mbination of two or more, may result in arrest of the ogress of the head and termination of labor within rmal limits of time. When such a pause is reached, is not good practice for the obstetrician to interfere by ie earlier use of the forceps than has hitherto been ie custom? My own answer to this question is an nphatic Yes. The danger to life of either mother or ild, or both, lies in delay rather than in prompt ac-on. The general condition of the mother after de-very by the forceps in these cases is decidedly better an when they are not used. And in not a few cases ie obstetrician will find that what promised to be an asy delivery will prove a most difficult one. In this nstance certainly there is great gain in having used the rceps early, before the mother's strength had become xhausted by protracted delay in what is shown would ave been a vain hope that labor would be terminated y the natural forces. Of course these are exceptional nstances, but they occur with sufficient frequency to mpress the obstetrician of large experience that the afer way is to deliver early. This is an observation ased upon many years of active obstetric practice in vhich there has never been any hesitation in applying he forceps as soon as there was a distinct arrest in the rogress of delivery. In many cases the stalling took lace in the middle strait, in more cases at or near the elvic floor. In no instance that I can now recall was here regret that the forceps had been applied. The xperience has been repeated many times that on at-ending a mother at a subsequent confinement she very early in the labor made this appeal: Doctor, promise me that you will not wait long, but will deliver me as you did before! An intelligent patient is able herself to judge correctly as to which is the preferable way. It has never been difficult to secure the patient's con-sent to use the forceps. If the obstetrician establishes a reputation for being gentle, painstaking, with a care-ful regard for the innate feeling of modesty, that he will not needlessly expose the patient while under the influ-ence of the anesthetic, "that all things are done decently and in order," he will find no difficulty in securing the prompt acceptance of the forceps and ready cooperation of his patients and their relatives. But this *manner* of conducting the operation of delivery by the forceps needs to be strongly emphasized. The underlying thought in all procedures in the lying-in room should be a constant regard for the sense of mod-esty inherent in every woman, no matter in what walk in life. This is not incompatible with the observance of every needed precaution against infection.

One who forms the habit of not permitting his ob-stetric patients to drag out weary hours in useless ex-penditure of strength and wear of nerves by pain and anxiety will early acquire a skill in the application of forceps which will turn the scale for the preservation of the life of mother or child, or of both, in the rare and difficult cases where the use of forceps is an absolute necessity, or when the resort would be to even more difficult and serious operations. In passing, I recom-mend the possession of the Tarnier forceps and their use in all cases except those that are usually called "low forceps." The same argument may be made for their use and becoming skilful in applying them that has just been made for the use of any forceps.

3. Under the heading of time to repair injuries to the birth canal, I do not presume to instruct this learned society any more than in what has been said under the other two headings. What is offered is only in the nature of reminders of what you already know and most of you practise. It is no longer questioned that an ocular examination should be made to ascer-tain the effect of delivery upon the tissues of the pelvic floor. Sometimes it is necessary to make a farther exploration for the source of a hemorrhage which per-sists after the firm contraction of the uterus. Such hemorrhages occur from lacerations of the cervix, and vaginal vault. The practical object now in view is to suggest that the repair of these lacerations of the cer-vix, vaginal vault and perineum should not be done immediately, except of course there be hemorrhage from one or more of these locations. I have found it of great advantage to postpone the repair of all of these injuries for a convenient hour of the first or second day after delivery. The patient has then rallied from the effort of labor; the parts can be examined with more care; their exact condition can be more accurately determined, for swelling will have declined, retraction of overstretched portions will have taken place, and there will be little escape of blood to obscure the view or interfere with the operator. Experience has demon-strated that in most cases there can be perfect adjust-ment of the severed parts, which can rarely be done when the operation is performed at the hour of deliv-ery. In operating the next day one has the advantage of good daylight, the patient is placed upon a table, all the details of preparation can be arranged, including proper assistance. In short, there is omission of no factor that will contribute to the success of the opera-tion, and so it is advanced from one of doubtful result to one in which success can be confidently expected.

A word may be said as to suture materials. It is now possible to procure reliable catgut, plain and chromicised. This is used for all internal sutures. Preference is given to the chromicised, as these inter-nal sutures are constantly bathed in the escaping lochia. It is well to use a rather small-size catgut and to introduce the sutures somewhat close together. One caution: many do not include enough tissue in the grasp of the suture. In obstetric reparative work this needs special attention. Much fewer external sutures are required if the internal sutures are carefully placed. The plane of the sutures should incline away from the operator, as is recommended and beautifully figured in Dr. Howard Kelly's work. For external sutures preference is given to silkworm gut, iron dyed.

Trial of this method as to time and manner in only a few cases will convince any one of its vast superiority over the older one of immediate repair, done while the flow of blood obscures the view and makes it difficult to accurately ascertain the extent and nature of the injury; when help is inefficient or insufficient; when the light upon the parts is poor; when the hand of the operator is wearied, and the patient still more so.

AN EARLY SIGN OF TUBERCULOSIS.

BY THOS. F. HARRINGTON, M.D.,
of Lowell, Mass.

A RECENT report of the league for the prevention of tuberculosis says: "For every six persons in this country (France), at least one dies of consumption. Of the 850,000 deaths that occur every year in France, over 140,000 are caused by pulmonary tuberculosis or phthisis, and this number, instead of decreasing, goes on augmenting every year. All epidemics and contagious diseases combined,—typhoid, varioloid, scarlatina, measles, diphtheria, cholera, etc.—do not cause half as many deaths." That the conditions in France are but the portrayal of those in other countries was evident from the published reports of the recent International Congress for tuberculosis held at Berlin in May, 1899.

It is now generally admitted that if the disease could be detected in what might be called the pre-tubercular stage, before the presence of the bacillus is demonstrable or before auscultation and percussion reveal the presence of the disease, a good step in advance would be taken towards the reduction of the number of cases now reported as incurable.

Inasmuch as science today possesses a knowledge of the means of diminishing the ravages of this disease, any observation tending to its recognition, especially in its very early stages, should be made known, even though the observation is incomplete or the deductions faulty. The glistening eye of the consumptive has often been commented upon, as well as the pupil-state in many diseases, but there is a condition of the eyes which is quite constant in patients who present themselves in the physician's office or at the clinic, and who make no mention of any symptom suggestive of a tubercular trouble, and in whom there are no evidences, either to physical or microscopic examination of tuberculosis. I refer to a widely *dilated state of both pupils*, not a paralyzed pupil, but rather one which seems to be in a more or less constant state of dilation, due to some irritation along the track of the nerve-fibers in the ciliospinal region; or perhaps an irritation of the sympathetic, brought about by some blood-change associated with very early tubercular infection not yet fully recognized. I have repeatedly observed this condition of the pupils in persons who were apparently well, also in those exhibiting manifestations of liver, stomach or intestinal disturbance, with no reason for suspecting tuberculosis; yet so frequently has tuberculosis followed at a later day that I have come to associate widely dilated pupils with incipient tuberculosis. Again and again I have made a note of the pupil-condition in patients in typhoid-fever, pneumonia, measles, surgical cases after operation, etc., and so uniformly has tuberculosis developed in those showing the dilated pupils that I now give a guarded opinion in prognosticating such cases. I readily admit that such a sign is not infallible, and that there are cases of tuberculosis in which it does not occur as a premonitory sign, also that some persons have widely dilated pupils without tuberculosis ever developing. Yet, I offer it as the result of individual observation in the hope of interesting those who have dealings with a large number of tubercular-exposed suspects in order that the value of a sign so easily recognized may be disproved or confirmed. If the presence of dilated pupils be the cause of instituting preventive measures against tuberculosis in any number of cases some good will necessarily result, much more, in fact, than can possibly follow the detection of the b cillus in the sputum or the employment of any mea yet discovered for the mitigation of the ravages of th terrible slaughterer of mankind.

Quadruplets.—H. Higham Wigg (*The Australasi Medical Gazette*, January, 1900) reports the case of a mul para, aged 31 years, who gave birth to 4 children—2 mal and 2 females. They were born at about the sixth month gestation and all died, one living one day and the remainir 3 for three days. There were three placentas, but the fir and second evidently constituted but one, and were to apart during labor. Each child appeared to have had separate chorionic and amniotic envelop. Wigg thinks th premature delivery was due to the great distention of th uterus. [M B.T.]

Removal of Gasserian Ganglion.—R. J. Pye-Smi (*The Quarterly Medical Journal*, November, 1899) reports tl case of a man 68 years old at the time of removal of th ganglion. He was a scissors-grinder, and his health ha been fairly good up to 60 years of age, when he had an attac of neuralgia of the left side of the face, following prolonge domestic trials. His physician gave him medical treatmer for many months, and had all his teeth removed. Som three years after the first attack he was sent to Mr. Charle Atkin, F.R.C.S., who describes his suffering as being ver great—even a whiff of air, protrusion of the tongue or the ac of swallowing almost sent him frantic. The inferior denta nerve was exposed by trephining the ramus of the lower jav and ¾ inch removed. The whole region supplied by the branches of the fifth remained free from pain for more tha a year. Then pain was felt in the region supplied by th second division of the fifth. Accordingly the infraorbita was removed, about 2 years after the removal of the inferio dental. Relief was experienced for a few months, when the pain recurring, Mr. Atkins operated a third time, whe all the branches of the third division of the fifth nerve wer divided just below their exit at the foramen ovale, and por tions of them removed. One year after the last operation b Mr. Atkins the patient came under the care of Pye-Smith He complained of severe pain in the gums of the left side left temple and cheek. On touching the left upper eyelic the pain in these regions was greatly increased. The patient' suffering was very great. Arsenic and cocain were ordered but failed to give relief. Operation, through the zygomatic fossa, for removal of Meckel's ganglion and as much as pos sible of the second division of the fifth, was performed. The patient recovered, but returned to the hospital some four months later, again complaining of pain in left side of face. Arsenic, gelsemium, butyl chloral, phenozone and morphin were all tried for one year without permanent relief. The patient preferred death to his suffering, and asked to be oper ated on again. Operation by the Hartley-Krause method for the removal of the gasserian ganglion was performed. The ganglion was exposed and by means of a small knife the second and third divisions were divided at the foramen rotundum and foramen ovale. Then by means of a sharp curet the ganglion was severed from the root and, together with as much of the first division as was deemed safe, was scraped away from the neighborhood of the cavernous sinus. The wound was closed without drainage and sealed by a dressing of iodoform-gauze and collodion. The dressing was removed on the eleventh day and the wound found healed. Preceding the operation the left eyelids were closed and sealed by isinglass plaster. This was removed on the eleventh day, with the result that in few days superficial ulceration of the cornea began. This condition was relieved by renewing protection, and the patient was soon able to bear light without ill effect. He was not entirely free from pain, but greatly relieved, and a year later said it had been the best year he had experienced for a long time. The patient died about two years after the removal of the gasserian ganglion, from a hemorrhage from the lung. A necropsy was not attained. Pye-Smith thinks the hemorrhage was due to rupture of an aneurysm of a branch of the pulmonary artery. [M.B.T.]

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See Advertising Page 8.

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It is with pardonable pride, we trust, that we ıll attention to our complete reports of the Congress f American Physicians and Surgeons, held in Washıgton this week. To be honored as the medium of ublication of their addresses by the orators of the eneral sessions is encouraging to an ideal of Ameriın medical journalism. To present them, and also the eports of the work of each constituent society, adding, ıoreover, those of several other organizations meeting t the same time, has been an onerous task, but one we ope which will prove of wide professional usefulness. .t the time of writing it is too soon to judge discrimiatingly of the scientific contributions and effects of ıis gathering of America's great medical societies, ut there can be little doubt that the present Congress ill be recognized as the best ever held. The instituion of the general sessions, and the assured brilliant uccess of these first ones, have called forth the most nanimous approbation. What is a political Congress omposed only of committee meetings, and in which o general laws are discussed and passed? It is evient that such a conception of medical sociology (or ocietology) has permanently given way to a larger and nore organic ideal of professional function. We trust hat sometime national meetings may devote one evenng to the popularization of scientific truth in which he lay aspects and truths of medicine may be preented before large general audiences.

Art and Medicine.—It is a strange fact that although medicine is full of heroism, tragedy, beauty, nd self-sacrifice, it has so far unaccountably failed to urnish the best artists with many themes. Esthetics nd medicine do not appear to mix well. We believe t is the fault of the artist rather than the fault of *our* rt. There are a thousand subjects and aspects of nedicine which could be treated artistically and yet here is not one medical poem or painting in a thousand. n the poem we are proud to publish in the present ssue, our honored colleague, Dr. Mitchell, has again lemonstrated that medicine is not necessarily inesthetic, nd that instead it lends itself readily to the artists' laws. It thus serves, as does all of Dr. Mitchell's work, to widen and deepen the recognition and sympathy of the entire lay world with the work and the workers of medicine. In its last analysis Dr. Mitchell's art thus becomes most genuinely professional in its scope and effect, and we trust in the general fame and success justly coming to him he will never forget his guild. Better subjects he cannot find elsewhere, and surely not a more interested and grateful audience!

The disinterested investigation of new drugs has recently received an impulse from the following resolutions which were considered by the Pharmacopeial Convention at its meeting in Washington :

"*Resolved*, that it is the sense of the Medical Society of the State of New York that the interests of medical science require the establishment of a Bureau of Materia Medica in order to institute disinterested investigation into the character and value of new drugs.

"*Resolved*, that this Society recommends to the Decennial Convention of 1900 for the revision of the U. S Pharmacopeia, the creation of such a Bureau by and under its authority, with the provision that it shall report annually upon the matters coming properly within the scope of its work."

The need of such a bureau is most pressing, and if a bad commercialism can be strangled, and the whole bureau put on a strictly scientific basis, the project deserves the support of every lover of truth, and we may be able to read reports on new articles of the Materia Medica which may be depended upon, and without a selfish bias.

Medical Sociology.—In reading Dr. Blake's admirable address, the physician is impressed with the wide range of our professional duties and opportunities, but more than all with the disunity which individualizes and dissipates our energies. We wish that the orator had spoken of this sad absence of the corporate mechanism, whereby the "power-value of psychic phenomena in the unit" fails of effectualization in "the physical economics of the mass." There is something bewildering in the multiplicity of ways in which the physician acts upon the community. There is no phase or method of general sociologic evolution that has not its medical aspect and opportunity, and there the physician is, or should be, present to guide and advise. At present, it is the individual physician only, who does, or neglects to do, the duty. The profession, the intelligence of the organized body of medical men, is absent, and, as a result, the community and the guild both suffer. It is fast becoming a question if the obligation of scientific progress is not second to that of professional unity, for only by that unity can the science attained, or to be won, be made a beneficent reality.

The Medical School of the Future.—We desire to call attention to the original article with this title, by Professor Bowditch, which appears in this week's issue of the JOURNAL. It contains many excellent suggestions in regard to matters which should be of interest to every practising physician. The present progress of medicine is so rapid that new points of view are constantly being secured, and such new suggestions should be carefully noted. "One of the most healthful signs of the times is the growing tendency of the better schools to ally themselves to universities and of universities to establish medical departments. It is difficult to see how a private medical school of the joint-stock-company type can ever in the future rise to the first rank, for such a school is not more likely to attract endowments than a cotton mill, and without endowments the enormous expenses of a modern first, class medical school can not possibly be met. This change we may reasonably hope will be associated with a diminution of the total number of medical schools now so greatly in excess of the needs of the country." Professor Bowditch believes in the desirability of a literary college course as a preparation for medical study, and to avoid the students getting into practical life too late, when such a literary course is taken, three methods have been devised: the reduction of the academic course to three years; the provision in the academic department of courses which partly anticipate professional work; and the permission of counting the first year of a professional course as the fourth year for the bachelor's degree. President Eliot, of Harvard, believes that in a short time the majority of men will complete their academic courses in 3 years. Another matter which is essential to any important advance in medical education is a distinction between those studies which should be absolutely demanded and those studies which it is desirable that certain students should know; that is to say, the introduction of elective studies in the medical courses. In the future the laboratory method of instruction will be greatly extended and students will be trained to get their knowledge as far as possible by the direct study of natural phenomena, but the didactic lecture, though reduced in importance, will not be displaced from its position as an educational agency. The work of the students will probably be so arranged that their attention will be concentrated upon one principal subject at a time and these subjects will follow each other in the natural order. Examinations will be so conducted as to afford a test of both the faithfulness with which a student performs his daily work and of his permanent acquisition of medical knowledge, fitting him to practise his profession.

These suggestions are of the greatest importance for the future of American medicine; the introduction of the university idea, the laboratory method of instruction, the practical examination to test the student's real fitness for practice; and even the Harvard arrangement of courses in due sequence, are all apparently past the experimental stage. Every member of the profession should use his influence to support such schools as are working for these ideals, and the entire profession through its societies should organize to support such schools and to use the profession's best influence to crush the inefficient diploma-mills which exist in such numbers in almost all parts of our country. Aside from the more ideal motive of striving for that which is best in medical progress there is the very practical motive which must appeal to every practitioner that the profession is daily becoming more and more crowded with inefficient men. According to the Bulletin of Professional Education of the University of New York there is already one doctor to about 600 inhabitants in most sections of the country, and if this increase continues an honorable living in the medical profession will be almost impossible.

The Discussion on Medical Education at the Philadelphia County Medical Society.—Not often has a more interesting discussion been held on any medical subject before the Philadelphia County Medical Society than that on the evening of April 25. It was introduced by a paper by Dr. Henry Beates, Jr., a member of the Medical Council and President of the regular Board of Medical Examiners. Following this there were contributions by Presidents Spahr of Franklin and Marshall, Sharpless of Haverford College, Warfield of Lafayette, and Birdsall of Swarthmore, besides remarks made by Drs. H. C. Wood, W. W. Keen, John B. Roberts, M. B. Tinker, Edward W. Holmes, and others. The sentiment of the meeting was very clear. With the exception of Drs. Wood and Beates, all of the speakers were upon the affirmative side and evidently the audience was in sympathy with them far more than with Dr. Wood. The following resolutions were passed unanimously:

"*Resolved*, that in the opinion of this Society it is highly desirable that the relations between the literary colleges and the medical schools should be so defined, that the students of the former may be given credit in their medical course for actual work done in such elementary branches.

"*Resolved*, that the Medical Council be earnestly requested to revise their recent interpretation of the Medical Act, so as to give such credit for work done."

These resolutions sustain precisely the position taken by the PHILADELPHIA MEDICAL JOURNAL at the inception of the debate on this question, that graduates of our literary colleges should not be required to do over again the work which they have done and, as was admitted by more than one teacher, done better in the literary colleges than in the medical.

Attention was called to a very important practical fact, namely, that the graduates of the Pennsylvania literary colleges, instead of pursuing their medical studies as heretofore in Pennsylvania medical colleges were now going to medical colleges outside the State, thus

making a distinct and very serious loss in the best class of students that our own medical colleges can have. Surely the medical schools, especially of Philadelphia, will have reason to regret any interpretation of the law which will lead to such a disastrous result.

If, as there seems every indication they will do, the Medical Council will erase the word "exclusive" from their interpretation of the law, leaving it to stand as it is in the law, that four years must be devoted "to the study of medicine" and not as they have interpreted it, "the *exclusive* study of medicine," the whole difficulty will vanish; but not, we fear, without leaving its scars in a diminished registration of college graduates in our local schools.

The statistics that were gathered by Dr. Keen spoke so eloquently for the position of the college man in medicine that we give space to his table here:—

Table giving the number of teachers of 10 medical schools who have received academic degrees.

	Professors.	Degrees.
[2] Johns Hopkins University	33	21
[3] Cornell University { New York	81	74
[3] Cornell University { Ithaca	25	
[1] Harvard University	31	31
[2] Rush Medical College	40	30
[2] University of Pennsylvania	21	8
[3] Medical College of Ohio	43	20
[2] University and Bellevue Medical College.	38	30
[1] College of Physicians and Surgeons	31	24
[3] University of Buffalo	64	21
[2] Jefferson Medical College	28	17
	435	276=63.5%

Table giving the number of teachers in the medical schools of Pennsylvania who have received academic degrees.

	Professors.	Degrees.
University of Pennsylvania	21	8
Jefferson Medical College	28	17
Medico-Chirurgical Medical College	26	17
Woman's Medical College	29	12
West Pennsylvania Medical College	21	14
Hahnemann Medical College	16	10
	141	78=56.2%

These figures do not represent the entire influence of the college man in medicine, because not a few of the teachers have spent from one to three years in college, but, not having graduated, have not received an academic degree and, therefore, are not classed as such in the table.

Some years ago, taking biographical notices of doctors in Appleton's Encyclopedia of Biography as an evidence of a man's having attained a greater or less distinction, Professor Thwing called attention to the fact that the college man had 50 times as many chances of forging to the front as did the man who had not received a college education.

[1] Professors only.
[2] Professors, Clinical Professors, Assistant Professors and Associate Professors.
[3] Professors, Clinical Professors, Assistant Professors, Associate Professors and Instructors.

Certainly we do not wish to abridge the college course or to make it less thorough. On the contrary, we would welcome every effort to make it more thorough, though, perhaps, at least at present, not longer. All that we have contended for is that the college man shall be credited with what he has done, shall not be compelled to do it over again or else spend an idle first year, which may lead him into vice as well as idleness, and that he shall not be driven from our Pennsylvania, and especially our Philadelphia, schools to seek his medical education elsewhere.

Problems in Bacteriology and Etiology.—Just as it is necessary for an advancing army to pause from time to time in order to connect its lines of communication, so it is essential for science to stop occasionally in its onward march to fill the gaps that have been left in our knowledge. Oftentimes the existence of such gaps is unsuspected, and we are astonished when some one takes the trouble to point it out.

That this could be true with respect to bacteriology, might at first seem doubtful; but if anyone will read carefully the thoughtful and suggestive article of Dr. Theobald Smith, which we publish elsewhere in this number, he will realize how many problems bacteriology has left unanswered as it swept onward in its triumphant progress. Thus, the question of racial immunity, or the range of infectiousness among different animal species, is practically beyond our power of explanation at present. Why the rat, which is as a rule quite resistant to infectious agents, should be so extremely sensitive to the bacillus of bubonic plague, and why the guineapig, which is one of the most sensitive of animals ordinarily, should be much less sensitive to this bacillus than the rat, are mysteries, as is also the reason why the tubercle-bacillus, so noxious to many animals, is quite harmless to the gray mouse, even in large doses.

An interesting point is emphasized by Dr. Smith, that to a certain extent the range of infective power coincides with the readiness with which bacteria can be artificially cultivated; or, in other words, with the degree of saprophytism.

Some light is needed, also, upon the affinities of the pathogenic organisms. There is strong evidence that some of the bacterial genera are represented by many species, varying slightly among themselves, but yet sufficiently to possess different pathogenic properties; and it is one of the duties of bacteriology to account for the differences that are presented by the members of the same group. Thus, there are in what is called the colon-group, a large number of bacilli which are connected with different diseases in man and animals. No doubt this group will be widened, as our knowledge becomes more extensive and more exact. There

is, also, a tubercle bacillus group, represented, according to Dr. Smith, by at least three members: the human, the avian, and the bovine tubercle-bacilli.

That bacteria and their hosts react upon each other, has long been known; but no one has pointed out the effect of the interaction upon bacteria so clearly as Dr. Smith. In the laboratory, we can illustrate the action of the host upon the bacteria by our ability to intensify or to attenuate, by passage through animals, the virulence of pathogenic organisms. Does this occur in nature? Does nature, in the words of Dr. Smith, "utilize animals as a workshop for preparing bacteria to act in a pathogenic role on the human race?" and, we may add, does she likewise utilize them for attenuating the virulence of pathogenic bacteria? Dr. Smith gives no direct answer to the first question; but there are, no doubt, certain facts that are suggestive in an affirmative way. It is not improbable, as he implies, that in its passage through the rat, the bacillus of plague is modified in such a way as to become exceedingly pathogenic for man. If we could find the organism in its primordial saprophytic habitat, we might, by proper experimentation on rats, duplicate nature's method of rendering it virulent.

There may also be a relationship between human diseases and those of animals, making it possible that the cause of the human disease resides in the latter, without producing in them any recognizable phenomena, the animal body merely influencing the parasite so that it becomes harmful for human beings.

Bacteria, however, are not only influenced by their parasitism on animals or human beings from the standpoint of species, but they seem to be even influenced in an individual way by the host in which they reside. Thus, it has been shown by Pfaundler that if three different cultures of colon-bacillus (C_1, C_2, C_3) are injected into three different animals, the serum of those animals (S_1, S_2, S_3) will produce the phenomenon of filamentation only in that colon-bacillus obtained from the animal furnishing the particular serum; that is to say, S_1 will act only on C_1, S_2 only on C_2, etc., and not S_1 on C_2, for example.

We believe that the sensitiveness of bacteria to the peculiarities of their environment has been underestimated. Baumgarten is again drawing the attention of scientists to it, and Dr. Smith likewise tries to vindicate its importance. It is not alone important to study bacteria in the human subject, but also to follow them up with every device of science, in their extrahuman existence; to study the bacteriology of the lower animals—the domestic animals, insects, etc., in which, it is not unlikely, some of the bacteria mature to a high state of virulence for man. Is it not possible, also, that plants at times form a link in the chain? Not merely by being the bearers of germs, but also by preparing them in some obscure way, analogous to that of passage through animals, to become harmful to man?

The problems that remain unsolved are many. A knowledge of their existence is the first step to their solution, and this knowledge of their existence has not been brought before the medical profession in a clearer way than in the article of Dr. Theobald Smith which has called forth this editorial.

The Clinician and the Laboratory Expert.—In Dr. Cabot's suggestive paper there is a warning which should be heeded by the practising physician. It is not that the bacteriologist's special skill and expertness is wholly untrustworthy—far from it—but that all laboratory results are usually conditional and must be interpreted by the clinician. In other words, our science is also an art, and its object is the cure of the individual instance of disease. We cannot divide our clinics and scientific work into air-tight or thought-tight compartments, between which there is no intercommunication and no influence. The phenomena of life, and of course those of disease, are infinitely variable and the rigid accuracy and prevision of physics will never be attained. It may be feared that the general physician is coming to rely too absolutely upon the specialist's reports. Whether, as is suggested, it is possible for the general physician to be his own specialist is a question open to great doubt. It appears to us that that is a dangerous road; but there can be no dissent from the advice that to be of the most perfect service in the treatment of disease the findings of the laboratory expert and the specialist must be interpreted, controled, and utilized, by a living and equipped clinical intelligence. It follows, of course, that to practise general medicine does not mean to parcel out the work to laboratories and specialists and then to fuse their reports into a mechanically-constructed rule of average and ordering. The limitations of each must be seen, the findings interpreted, the inner and vital unity of all deduced. The general in war and the generalist in medicine knows or should know far more than any or than all of his subordinates.

Climatic Influences in Colonization.—Reports from the German territory of Kiau-tchou show that the sanitary conditions among the civil population and among the garrison depend only in a slight degree upon climatic influences. Malaria is the most dreaded disease. Typhus fever and relapsing fever have occurred epidemically, and typhoid fever and dysentery are widely prevalent. Efforts are being made, with characteristic German energy and thoroughness, to improve the hygienic conditions. A chemicohygienic institute and a bacteriologic laboratory have been established, meat-inspection has been introduced, and the creameries have been placed under police-control. A hospital with 156 beds is in contemplation, and plans are being made for the establishment of central water-works. Germany has generally been looked upon as an indifferent

colonizing power, but the truth is that there has been no satisfactory opportunity in the past. The climatic conditions in Africa are unfavorable to Europeans. The broad principles on which the Chinese colony is founded, as regards both its liberal land laws and its sanitary regulations, give promise that this particular colony will not alone be successful, but will probably serve as an exemplar to other colonizing nations. Our own Government might do well to watch the development of Kiau-tchou.

Notice.—Our space has proved insufficient for the amount of matter sent us, and a number of reports have been postponed to coming issues.

Special Article.

THE PHYSICIAN.*

By S. WEIR MITCHELL, M.D., LL.D.,
of Philadelphia.

The hunt is o'er;—the stone-armed spears have won;
Dead on the hillside lies the mastodon.
Unmoved the warriors their wounded leave;
The world is young and has not learned to grieve.
But one, a gentler sharer of the fray,
Waits in the twilight of the westering day,
Where 'neath his gaze a cave-man, hairy, grim,
Groans out the anguish of his mangled limb.
Caught in the net of thought the watcher kneels,
With tender doubt the tortured member feels,
And, first of men a healing thought to know,
He finds his hand can check the life-blood's flow.

What sense of pleasure won that helping hand
You best can tell, you best can understand,
Who, looking back across your busy years,
Know what your hands have spared of pain and tears.
First of your guild! Before me sit today
His latest offspring, while the Century gray,
Proud of your past, and of your future sure,
Knows that what else may perish you endure.
What need to tell your story? Brief the task.
You are the wondrous history you ask!
A living record! They who first in vain
Throbbed with desire to ease a brother's pain
More largely live in you; and yours the joy,
The priceless happiness without alloy
Of him, the first, who saw his infant art
Bring back the life-blood to the failing heart.

Heirs of the ages! Heritors of thought
By Galen gathered, or by Celsus taught,
Greek, Arab, Roman breathe in you today,
And the great captains of that long array,
Who through dark centuries led your slow advance
To the proud sun-burst of the Renaissance.
A splendid lineage! Who may hope to trace
The dateless legend of your ancient race?
Lo! through the mist of years I see them rise,
The great, the good, the witty and the wise
The poet's laurel crowns your blazoned shield.
Sage, scholar, statesman reap your ample field.
Your names are many on the fearless roll
Of those who signed a nation's birthday scroll.

Too oft our changeful story seems to show
That what men knew they only seemed to know.
They lived, they toiled, they joined the silent dead.
On dusty shelves their books repose, unread.
The scholar wandering o'er this vast domain
Once rich with living thought, may think how vain
Our work will seem to those who hither come
To sum our gains when we, in turn, are dumb.

Yet that which wins tomorrow's grateful praise
Is the sure child of faltering yesterdays,
And countless hands must till the stubborn soil
That one may reap the harvest of their toil.
To know, alas! but feeds the crave to know;
Upon our hands life's endless riddles grow,
Until we learn that every hard-won hill
But sets the far horizon farther still:
Yet ah, how keen the mind-thrill of delight
When some new sun illumes our lessening night,
And problems dark for many a weary year,
Shine, simply answered,—luminous and clear.

With conscience calm you see the century go,
And know how much to you its glories owe.
It saw grow safe beneath the surgeon's knife—
Almost too safe—the sacred human life.
It saw forever stilled the cry of pain.
Which shall we dare to count the higher gain?
Two older victories we gladly place
In the proud annals of our English race;
When some glad seraph gave to Jenner's ear
The whispered spell that slew a giant fear,
And, strangely killed despite his guard of lies,
Touched with a needle's point the monster dies.
When, too, as one amid some deepest night,
Sees the quick lightning fill the world with light,
Our patient, modest Harvey saw revealed
The wonder-secret life so long concealed.
Who would not envy those who share alone
With God the secrets only He had known:
Who win the joy of soaring unconfined
High o'er the levels of the common mind,
Or, humbly searching some well-trodden ground,
Find the rare jewel no one else had found.

Such were the sires with whom your art began,
For you, who, thoughtful, that proud record scan,
Know the true children of the mighty dead
Are they alone who in their footsteps tread,
And that a man's true ancestors are they
Who, dying, left him all that genius may.
You wield new arms, are 'neath new flags arrayed,
Yet you are still what these our fathers made.
What they have given it needs not me to find,
Nor what high masters schooled the growing mind;
Great was the sire who gave to you and these
The stately oath of stern Hippocrates.
The creed was old before the Christ was born
To give it heavenly light and larger morn
Of ampler meaning, when a white-robed man
Taught—as those wonder-years in sadness ran—
Taught as he practised our divinest art.
Who heals the body best can heal the heart.

Your guild is old and no historic page
Records its birth or dares to set its age.
A score of codes the lawyer's learning needs;
The priest is servant of an hundred creeds
That sow dissension and that stir debate,
And in their turn have fed the fires of hate:
But you, o'er all the earth, in every land,
Find the warm greeting of a brother hand.
One creed is yours, and till all time has ceased
Still you are doctor, and are somewhat priest.
The colder man may vainly try to live
Free from confession such as sorrows give:
The priest hears part of life—you hear the whole,
When fear or anguish racks the tortured soul.
'Tis we who know, and haply we alone,
What grandsire's sin a life has overthrown,
What inborn taint has been the fatal source
That gave temptation such resistless force.
How can we lack the charity that wins
From God like knowledge large excuse for sins?
Not yours to pass upon the other side,
Or giving part, to leave the rest denied.
Our best have owned the rare dramatic power
Which gives to sympathy its lifting hour;
Go learn of them, the masters of our art,
To trust that wise consultant called the heart.
There are among us those who haply please

* Read before the Congress of American Physicians and Surgeons, held at Washington, D. C., May 3, 1900.

To think our business is to treat disease,
And all unknowing lack this lesson still,
'Tis not the body but the man is ill.
God's ways are dark, and in their gloom we walk;
Not ours to know why life's grim spectres stalk.
We tread mysterious paths in touch with pain,
Birth, death, disease, strange phantoms of the brain.
Perplexed we recognize the doubtful hour
When indecision paralyzes power.
No intuition leads with certain hand—
Tuition rather—and the sure command
Of reason competent to read with ease
The dim and half-seen signals of disease:
So doth the poet question Nature's soul,
And knowing part, infer the larger whole.

Would I might call these grave consultants here
To trace the coming century year by year,
To learn what crippled theories she flings
On the dust-heap of forgotten things,
What blazing head-lights shrink to tallow-dips,
What well-known names must suffer time's eclipse.
Yet hope shines ever in her maiden eyes.
Her silent lips are treasuries of surprise.
What ghastly shapes her stately presence fly!
What ancient plagues beneath her footfall die!

Fair heritress of every human hope,
Rich with the marvels of time's widening scope,
However high may rise thy soaring wing,
Whatever change thy fuller days may bring,
Our ancient lesson will be ever new;
That priceless lesson will be ever true;
Time did not teach it: time will change it not.
This, this shall last though all our lore's forgot,
To give what none can measure, none can weigh,
Simply to go where duty points the way;
To face unquestioning the fever's breath,
The hundred shadows of the vale of death;
To bear Christ's message through the battle's rage,
The yellow plague, the leper's island cage,
And with our noblest "well to understand
The poor man's call as only God's command."
Ay, under every century's changing sky
Shall the Greek master's triple signal fly,—
Faith, Honor, Duty,—Duty calmly done,
That shouts no self-praise o'er a victory won;
One bugle note our battle call,
One single watchword, Duty.—That is all.

Where are your honors? Ribbons, titles, place,
In other lands reward the winner's race.
But here, today, beneath our equal sun,
The simple guerdon of some victory won
Is but to hear your Ave! Hail! Well done!
Alas! not always even this is sure
For him who lessens that which men endure.
We are but mortal, and, with blinded eyes,
May fail to see who surely won the prize,
Or see too late, as once we saw in vain
The fate of him who wrought the death of pain.
Guard well that memory, lest again we flout
Some hero-victim with our torturing doubt.
How thanked we Morton? Ah! 'No joy-bells rang,
No pæans greeted, and no poet sang.
No cannon thundered from a peaceful strand
That bloodless victory to a grateful land.
We took the gift, so humbly, simply given,
And, coldly doubting, left the rest to Heaven.'

Swift pass the days. Our century slowly dies,—
Quick beats her pulse and filmy are her eyes.
Her flowing robes are red with countless wars,
Her tender breasts are sad with many scars;
Yet in her dying eyes prophetic glows
Some sweet prediction of a world's repose.
Lo, at her side the coming sister stands,
And bends to hear, and folds those wasted hands.
"What shall I bring which thou hast failed to find?
What nobler hope have I to give mankind?"
Hark! From the lips where life had seemed to cease
Comes the low murmur: "Thou shalt give them Peace."

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending May 12, 1900:

Monday, May 7—Academy of Surgery.

Wednesday, May 9—Philadelphia County Medical Society. The meeting will be devoted to a **discussion on malaria.** Dr. W. S. Thayer, of Johns Hopkins University, will read a paper on **The life history of the malarial parasites,** and Dr. Alfred Stengel, of the University of Pennsylvania, a paper on **The diagnosis of malaria.** The discussion will be opened by Dr. P. P. Henry (who will speak of the **treatment of malaria**), and will be continued by Dr. Simon Flexner and others.

Thursday, May 10—Pathological Society.

American Medical Association—Section on Neurology and Medical Jurisprudence.—All members of the Philadelphia Neurological Society are accorded the courtesies of the Section-meetings to be held at the Hotel Brighton, Atlantic City, June 5–8, and are invited to attend the Section-dinner, evening of June 5. Subscriptions ($2) can be forwarded to the secretary, if desired, F. Savary Pearce, 1407 Locust Street.

Philadelphia County Medical Society.—At a meeting held April 25, DR. JOSEPH HEAD read a paper entitled **Consanguineous marriages,** in which he combated the view that such marriages are of themselves detrimental. He maintained, on the contrary, that the evil results of such marriages were to be ascribed to the double inheritance of vicious traits and disease-tendencies. The remainder of the meeting was devoted to a discussion on **medical education.** DR. HENRY BEATES, JR., read a paper entitled **Some facts concerning medical education elicited by the application of the law governing practice in the State of Pennsylvania.** The discussion was participated in by Dr. W. W. Keen, H. C. Wood, John H. Stahr, president of Franklin and Marshall College, ISAAC SHARPLESS, president of Haverford College, E. D. Warfield, president of Lafayette College, W. W. Birdsall, president of Swarthmore College, Dr. John B. Roberts, Dr. James Tyson, Dr. Martin B. Tinker, Dr. Edmund Holmes. In the discussion it was maintained that college men should not be discriminated against, but that they should be given credit for studies in embryology, anatomy, botany, etc., pusued in the colleges. It was contended that the recent ruling of the Medical Council providing that four years must be devoted exclusively to the study of medicine unjustly discriminated against the college graduates. A resolution was introduced and adopted providing that the representatives of the colleges and medical schools should confer in reference to the matter of studies introductory to medicine, and that the Medical Council should reconsider the recent ruling already referred to.

NEW YORK.

Honors to Dr. Abraham Jacobi.—The well-known writer and lecturer on diseases of children, Dr. Abraham Jacobi, of New York, has attained his seventieth year, and the graduating class of the College of Physicians and Surgeons celebrated the event by presenting him with a silver cup. A complimentary subscription dinner was given him by the profession today. He came to this country in 1853, and became professor of diseases of children in the New York Medical College in 1861, and subsequently occupied the same chair in the University Medical College. He carries his years lightly, and is ever on the alert to catch and absorb new facts in medicine. He expects to go to Paris and read a paper before the International Medical Congress.

A New Pathologic and Bacteriologic Society.—On April 30, a number of invited bacteriologists aud pathologists met at the Arlington Hotel in Washington, and voted to start a new society. A committee of 7 was appointed to perfect plans of organization and determine upon a place and time of meeting next year. The original circular of invitation was signed by Wm. T. Councilman, Harold C. Ernst, Simon Flexner, Ludvig Hektoen, Wm. T. Howard, Jr., W. H. Park, Theobald Smith.

Society Reports.

ONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Fifth Triennial Session, Held at Washington, D. C., May 1, 2, and 3, 1900.

[From our Special Correspondent.]

THE fifth triennial session of the Congress of American Physicians and Surgeons opened on the morning of May 1 under the most auspicious circumstances and with a very full attendance. Throughout the meeting the mornings were devoted to work of the individual component associations and societies of the Congress, the sessions of the Congress occupying the afternoon. At 2.45, Tuesday afternoon, the Congress was opened by Dr. Landon Carter Gray, of New York City, Chairman of the Executive Committee, with a few remarks that were well received by the large and representative gathering. The Congress then proceeded to the consideration of the general subject of the meeting: **Bacteriology in health and disease.**

The first paper on the program, **Adaptation of pathogenic bacteria to different species of animals,** was delivered by PROF. THEOBALD SMITH, of Boston, Mass. It will be found in full elsewhere in this issue. DR. SAMUEL J. MELTZER, of New York City, then considered **The physiological resources of the body in its defence against bacteria and their toxic products,** a valuable paper which we publish in our Original Article Department of this issue. DR. HAROLD C. ERNST, of Boston, Mass., had as his subject **Flagella and serum-reactions,** and spoke substantially as follows:

Of the various hypotheses offered to explain the phenomenon of agglutination, that supported by Dineur, supposing the entanglement of the flagella to play the essential part, is the one which most readily suggests itself. That the flagella can play any important part is disproved by so many observed facts that they must be set aside in seeking an explanation. Dineur's paper is so explicit, however, in its statements, and the author's photographs are so clear, that we have devoted a large amount of time to an attempt to demonstrate whether such phenomena as he describes can be commonly observed. Dr. Robey has spent hours and days in testing many methods of preparing and staining specimens for flagella after Widal's reaction had been obtained. The results have been entirely negative so far as the possibility of supporting Dineur's claims are concerned. It is true that in normal typhoid-bacilli stained for flagella we often found the flagella flowing in one direction, but this has often been observed before and is probably due to their floating in the current at the moment of drying. We have also found flagella arranged in this manner after Widal's reaction. We also found that it was possibly occasionally to demonstrate masses between the clumped bacilli, if stained for flagella, that might be supposed to be twisted, tangled and broken flagella, and that these masses were not in evidence in similar specimens not stained for flagella. But these appearances were not present with sufficient frequency to justify the interpretation that they were actually the flagella playing an active part in holding the bacilli together. These observations alone, aside from collateral evidence, make it impossible for us to believe in the flagella as agents in the agglutination of the typhoid bacillus or other bacteria.

Other points seen by different observers have been studied by us, using the typhoid-bacillus in our tests because thus far the main practical value of the agglutinating property lies in its application as a diagnostic agent in typhoid fever.

The "thread-production" of Pfaundler has been seen by us, but not in such a typical way or in such frequency as by that author. These threads, or chains, have been especially seen by us in typhoid bacilli agglutinated by the serum of a horse immunized to typhoid fever; but threads of the typhoid-bacilli have been also seen in normal typhoid cultures grown in bouillon, and we are, therefore, unable to confirm his belief that thread production is a usual or necessary accompaniment to typhoid agglutination.

At times the flagella have also been seen entangled in what appeared to be fibrin; we have, however, only been able to interpret this mass that appears faintly stained and entirely indefinite in form, as fibrinous matter or detritus which was in the culture-medium and which took up the stain.

In the study of agglutination in nonmotile bacteria we have made certain studies of the diphtheria-bacillus that are interesting. The possibility of agglutinating this bacillus is asserted by some writers and denied by others. We find that diphtheria-antitoxin does undoubtedly "clump" the diphtheria-bacillus, and this almost instantaneously when the antitoxin has no preservative of any kind added. As an example, typical clumps were seen in from 15 to 30 seconds in an emulsion of a 30-hours serum-culture in distilled water to which was added an equal part of antitoxin. Much more dilute mixtures showed the clumping as characteristically but more slowly. We also showed that diphtheria-antitoxin would clump the typhoid bacilli almost instantaneously, and typical clumping occurred in a mixture of 9 drops of a typhoid bouillon-culture and one drop of diphtheria-antitoxin. These reactions may be dependent upon the fact that normal horse-serum will clump many bacteria, but the reactions in our observations have been so much more prompt and typical than we have seen reported with normal horse-serum.

An extremely interesting series of comparative tests has also been carried out with cultures of diphtheria and typhoid before and after administration of antitoxin. We found that the bacilli of diphtheria are not clumped in any dilution by the serum of patients ill with diphtheria who have not received antitoxin. On the other hand we found that an emulsion of diphtheria-bacillus in sterile water, mixed in equal parts with the serum of a patient who had received antitoxin, showed typical clumping in 10 minutes. Other experiments with the same conditions, except that the patient received smaller doses of antitoxin, showed typical clumping almost instantaneously. The results were not the same with the typhoid-cultures, for while the diphtheria-antitoxin and typhoid bacilli showed instantaneous clumping, no evidence of agglutinative action could be found in mixtures of typhoid cultures and the serum of diphtheria patients either before or after the administration of diphtheria-antitoxin.

It cannot, therefore, be the horse-serum itself which acts to clump the diphtheria-bacilli after the administration of antitoxin, and not the typhoid bacilli under the same conditions, when the antitoxin clumps them both "in vitro."

We have not been able to confirm the appearance of clumped masses in filtered cultures of typhoid. Typhoid bouillon-cultures carefully filtered and then studied with and without the addition of active typhoid serum showed no difference under the microscope either stained or unstained. There were some unidentified particles in the filtrate with both cases, but they were widely distributed and in no way resembled the nonbacterial masses that have been described.

We have found that corrosive sublimate clumps the bacilli of typhoid, but it has such an active coagulating action upon any mass of fibrin that it does not seem to us that much importance should be attached to this special result. On the other hand we are not able to find that formalin agglutinates typhoid bacilli. It did bring them to rest, perhaps killed them, but there was no evidence of agglutination.

The softening and swelling of the envelop preliminary to and as an active factor in clumping, has also been studied. If such swelling occurs as anything like an active factor in agglutination, it should be possible to demonstrate it in carefully stained preparations with some degree of uniformity, but this was not the case with us. Any swelling of the bacterial envelop that was seen by us has been irregular in appearance and has seemed much more properly ascribed to the action of the stain than to any specific change in the bacilli.

These studies do little more than furnish limited control of the work of others, but from them and other observations it seems to us that the agglutinative property does not lie in and is in no way connected with the flagella of the bacteria concerned. Secondly, that agglutination is not to be accepted as a specific property connected with a condition of immunity, although this is a difficult idea to give up. Thirdly, that the homologous nature of agglutination cannot be considered a positive characteristic. Fourthly, that no univer-

sally applicable explanation of agglutination has yet been offered. The most rational theory yet suggested seems to be that there is an agglutinating agent, perhaps an agglutinin, acting upon an agglutinable substance the nature of which is not yet determined and that this reaction occurs not only with bacteria but with many other elements, casein, and precipitates of various kinds.

The able paper of DR. RICHARD C CABOT, of Boston, Mass., on **The relation of bacteriology to clinical medicine,** published elsewhere in this issue, was then delivered; and this was followed by DR. EDWARD R. BALDWIN, on **Bacterio-therapeutics, with especial reference to tuberculosis**—a scholarly paper, published complete in this issue. PROF. WILLIAM S. THAYER, of Baltimore then discussed **The etiology of malarial fevers.** His paper, with others of the general Session, appears in full in this issue of the JOURNAL. The next paper, by PROF. SIMON FLEXNER, of Philadelphia, on **Bacteriology of dysentery,** was delivered as an extemporaneous talk, and will be published in a future number of this JOURNAL in connection with the Middleton-Goldsmith lecture of the New York Pathological Society.

The first paper on the program for Wednesday, May 2, was by PROF. WILLIAM OSLER, of Baltimore, Md., on **Modern therapeutics.** This was not delivered, as Dr. Osler was unexpectedly and unavoidably prevented from attending the Congress. The essay on **The sociological status of the physician,** by DR. CLARENCE J. BLAKE, of Boston, Mass., which appears elsewhere in this issue, was then delivered; and then the poem, **The Evolution of the Physician,** Dr. S. WEIR MITCHELL'S noteworthy production, was read. This poem appears as a special article in this issue.

The event of the evening session was the address by the president of the Congress, PROF. HENRY P. BOWDITCH, who took as his subject **The medical school of the future,** published complete elsewhere in this issue. Following the delivery of this paper, a reception was given at the Arlington Hotel.

AMERICAN SURGICAL ASSOCIATION.

Twenty-first Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

FIRST DAY.

AFTER the announcements of the Committee of Arrangements and Executive Session, DR. ROBERT F. WEIR, of New York, gave the presidential address on:

Perforated Ulcer of the Duodenum.—The perforation is usually located within 1½ inches of the pylorus, more commonly on the anterior wall; in 80% of the cases the ulcer is single, in 8% of the cases double, while in the remaining cases more numerous perforations occur. The causes of ulceration are difficult to determine; it has been attributed to habits of life, to circulatory disturbances, to the naturally delicate condition of the mucous membrane, to sepsis, burns, etc. Lockwood has collected 138 cases of burns treated by modern methods, and duodenal ulcer occurred in only 1 case. The affection is comparatively rare, occurring in about 0.2% of all necropsies. The patients are of all ages, but it is more common between 20 and 50. In many cases healing occurs without serious results, but in some cases cicatricial contraction results. The symptoms are often vague and may be entirely wanting. The patient's previous history is of great importance; there is usually pain, and tenderness, and vomiting; hematemesis, blood in the stools, and jaundice may be present. Pain usually follows some time after eating; hematemesis is less frequent than with gastric ulcer; vomiting is of importance if combined with other symptoms; jaundice rarely follows cicatricial contraction. Blood in the stools generally gives them a tarry appearance, but in some cases the blood may be bright red. Great advances have been made in the diagnosis of such conditions of late, and Weir believes that the differentiation from gastric ulcer is not impossible. The symptoms of perforation are sudden acute pain, vomiting, and shock. Later the symptoms of localized or general peritonitis supervene. The obliteration of liver-dulness is not of much value, as resonance may result from a distended colon. As in perforating gastric ulcer, the mortality depends much upon t time elapsing between perforation and operation. Of cases operated upon over 30 hours after perforation died. In the earlier cases the perforation was often found or sutured, but among later cases the perforati has been found and closed in 35% of the cases, and there much less confusion of the diagnosis with various forms intestinal obstruction, appendicitis, etc. The treatment nonperforating duodenal ulcer is seldom surgical, althou in some cases gastroenterostomy may be considered. operating, Weir advises a long incision along the edge of t rectus muscle, then the fascia is cut transversely. If t perforation is not discovered on the anterior wall aft wiping away the exudate the posterior wall should be e amined. Methylene-blue taken by the mouth may aid in th diagnosis. The perforation is closed by 2 or 3 rows sutures. Excision of the ulcer is necessary. Closing of th perforation is but half the battle; the careful cleansing the peritoneum is of the highest importance. If dilatio of the stomach or obstruction to the flow of bile results fro cicatricial contraction gastroenterostomy may be performe Weir has prepared a synopsis of 51 cases, including 1 case i which he personally operated, upon which he based h paper.

Gastric Ulcer, Non-perforating Hemorrhage.—DR. WILLIAM L. RODMAN, of Philadelphia. The paper wa based upon an exhaustive study of the statistics and Dr. Rod man devoted his attention mainly to the treatment. H showed the fallacies of the statistics on this subject by May Robson. The various operations which have been practise for hemorrhage were discussed; gastroenterostomy has bee most commonly performed and probably will continue to b because of the difficulty in locating the ulcerated vessels. I 55 necropsies the splenic artery was found to be ulcerated 1 times. Excision of the ulcer is the ideal operation, unles there are strong adhesions, and the mortality in those case in which this operation has been performed is less than tha of gastroenterostomy. Operation for acute hemorrhage i advised with limitations, but operation for chronic hemor rhage is always indicated.

Perforating Ulcer of the Stomach.—DR. J. M. T FINNEY, of Baltimore, mentioned the great interest which has been taken in this subject of late, the increased number of operations and the many exhaustive papers which have recently been published. It was not until 12 years after Mikulicz first operated, in 1880, that the first successful case was reported by Kriege. During the first 16 years only 78 cases have been reported, but since then the number has increased until with Finney's own recent tabulation the number up to date is 268 cases. Of 35 patients that have been treated in the wards of Johns Hopkins Hospital for gastric ulcer perforation has occurred in but one case, and death resulted before operation could be completed. The affection is most frequently met in young women of the lower walks of life; in men it usually occurs after 40. The site of the ulcer is more commonly the anterior wall of the cardia, next, most frequently the pylorus, then along the lesser curvature, and finally the posterior wall. In about 20% of the cases there is more than one perforation. The severity of the symptoms arising depends on the size of the perforation, the amount and character of gastric contents, the variety and number of bacteria present. If the stomach be empty the chances for recovery are much more favorable. The stomach is capable of sterilizing itself as the acid gastric kills many bacteria, but many may persist buried deeply in the mucosa. There are no symptoms of impending perforation, but Finney believes that the blood-count and the finding of leukocytes is of great diagnostic value. It is improbable that over 5% of patients with perforation recover without operation, and if operation is delayed septic peritonitis will supervene in case no limiting adhesions form. The less opium given the better in these cases. Operation should not be delayed until the patient has recovered from shock, but the sooner performed the better will be the results. Early exploratory operation is urged in case there is doubt as to the diagnosis. Cocain-anesthesia is sufficient in such cases; cover-slip preparations and cultures may be taken and the abdomen closed, provided no lesion is found. If necessary to continue the operation a general anesthetic may be administered. The cause of death in these cases is usually sepsis, but there has been

much improvement in the results of late. While the percentage of recoveries which is now placed at 87% may be somewhat too high, it is a great improvement over the 5% of recoveries which follow without operation.

Malignant Disease of the Stomach and Pylorus.—William J. Mayo, of Rochester, Minn., considers carcinoma of the stomach a strictly surgical disease. Early diagnosis is of the highest importance and the surgeon should not wait to have the physician make it for him. Exploratory incision is as justifiable as in the case of the breast and uterus. The curability of malignant disease depends upon the histologic structure of the growth, its location, extension to neighboring tissues, glandular involvement, and the general condition of the patient. If the tumor has a large amount of stroma its growth will be slow and the reverse is true if there is but a small amount. Disease of the cardia is generally easily diagnosed, but radical intervention is likely to be impossible, and while diagnosis of disease of the pylorus is difficult the prognosis is much better. Infection of the lymphatic glands is not as common as in malignant disease of some other organs, and if present radical operation will probably be impossible. In the beginning each operation is an exploratory incision for methodical examination having in view the question of radical operation, palliation or the inadvisability of attempt at relief. Even after the abdomen is opened it is often difficult to determine whether the growth be malignant. Mayo believes that in the future the more radical operation of gastrectomy will be more frequently performed. He points with pride to the fact that the first total gastrectomy was performed by Connors in America; while Schlatter was successful he was not original. In the case of more localized growths the pylorectomy by Kocher's method is preferred. Operation in 2 stages; first gastroenterostomy and some weeks later pylorectomy shocks the patient less and gives opportunity for him to gain strength before the final operation, but there is likely to be some trouble with adhesions if this method is followed. Cureting or the use of the cautery as a palliative measure is not favored. Gastroenterostomy is the most generally useful palliative operation. Whether it is performed by suture will depend on individual preference and experience. Mayo uses the Murphy button without suture. He questions the supposed advantages of posterior gastroenterostomy by von Hacker's method and personally prefers the anterior operation. If the anastomosis between stomach and intestine is made about an inch above the lower border of the stomach regurgitation of intestinal contents and vomiting of bile will be uncommon. Enteroenterostomy in addition to gastroenterostomy is usually an unnecessary complication of the operation.

Second Day.

Benign Obstruction of the Pylorus.—Dr. Frederick Kammerer, of New York. Obstruction of the pylorus may be either congenital or acquired; there may be acute stenosis at birth as the result of fetal peritonitis or congenital hypertrophy may exist. Acquired stenosis most commonly is an after-result of gastric ulcer, it may result from occlusion by benign tumors, from syphilitic gumma, from gallstones obstructing the pylorus, from spastic contraction from hyperchlorhydria. If medical treatment fails, daily lavage, rest, and careful diet, surgical treatment is indicated. Kammerer mentioned surgical treatment by dilation of the stricture, simple division of adhesions, and resection of the pylorus, but he devoted most of his paper to the discussion of **pyloroplasty** and **gastroenterostomy.** Study of a large collection of statistics shows the present mortality of pyloroplasty to be 15% while that of gastroenterostomy is 17%, but the mortality of the latter operation is much lessened now, and it is doubtful if it is really higher than that of pyloroplasty. The mortality of resection of the pylorus is about 28%, according to Mikulicz; that of Loreta's operation is also great and both these procedures have practically passed out of use. Adhesions may reform after pyloroplasty, causing return of obstruction, but not after gastroenterostomy. Gastroenterostomy is likely to be followed by regurgitation of fluids from the intestine, perhaps as the result of the formation of spurs, kinks, or twists. Anterior gastroenterostomy does not empty the stomach so freely in the recumbent position, and in some cases complications arise from the small intestine encircling the colon, hence posterior gastroenterostomy is preferred. Kammerer has performed 11 posterior gastroenterostomies with Murphy's button, with 1 death from exhaustion and 1 from pneumonia. In the remaining cases the after-results were excellent; there was no difficulty from spur-formation or regurgitation. As to the after-results from these operations, the motor function is generally increased, and there is reduction in the size of the stomach, but never to normal. There is not reflux of bile and intestinal fluids after pyloroplasty, but there is less reduction in the size of the stomach than after gastroenterostomy, and there is the possibility of recontraction from inflammatory thickening or reformation of adhesions. The fact that the results are always as good after gastroenterostomy and sometimes much better makes this the operation of choice in such cases.

Gastric Dilation—Gastroptosis.—B F. Curtis, of New York. In a discussion of the anatomy of the stomach, Curtis called attention to the fact that under normal conditions the pylorus can scarcely be palpated and the lesser curvature not at all. Dilation may arise from obstruction to the outlet of the stomach from benign or malignant tumors, or from atony of the stomach-walls, or from a combination of these causes. Atony of the stomach-walls in its turn may result from some constitutional disease or from repeated overloading. The prognosis in atonic dilation under medical treatment is unfavorable, and operation is indicated when the patient is losing ground under systematic lavage and dietetic and medical treatment. The mortality of the operation of **gastroplication** is low, and in properly selected cases the results are good; the choice of cases is difficult, however. The details of the operation have been variously modified from the simple folding and suture first proposed by Bircher. Curtis favors Weir's method, using several rows of sutures. **Gastroptosis** may be of three varieties: there may be simply fixation of the cardia and sagging of the pyloric end; this may be so extensive that we have to deal with a vertical stomach, or both cardia and pylorus may be fixed and the stomach sags in a U-shape. Curtis mentioned five operations without any accidents; improvement is not difficult to obtain whatever method of operation be adopted.

Hour-Glass Contraction of the Stomach.—F. S. Watson, of Boston. Hour-glass contraction of the stomach has existed as a surgical affection for only 10 years, and during that time 35 cases have been operated upon. The methods employed have been: gastroenterostomy, plastic operation, and gastroanastomosis by Wölfler's and Watson's own method. Watson first folds the stomach with the constricted part as a hinge, the sac nearest the pylorus is then fastened to the cardiac portion by 4 stay-sutures and then the 2 sacs are securely sutured before opening the stomach; a longitudinal opening is then made in the stomach-wall and the double partition between the 2 sacs is excised. The first patient, upon whom Watson operated, gained 42 pounds in the year after the operation; she remains well and is doing her work 5 years after the operation. In a second case a woman who had a long history of gastric ulcer was taken with symptoms of perforation. Operation was performed, and the perforation was sutured. The abdominal cavity and pelvis were infected at the time of operation, and the patient died 4 days later. At the necropsy the stomach was found to have an hour-glass shape, a fact that was not recognized at the time of operation because of adhesions. The pyloric end was also pulled up and attached to the lesser curvature by adhesions. As regards the choice of operation, Watson believes that gastroenterostomy should not usually be performed in such cases, because the digestive function of the second sac is lost; after plastic operation there is danger of recontraction of the opening, and the operation is not applicable if the opening between the two pouches is small. Under favorable conditions gastroanastomosis is the preferable operation; if adhesions exist they should be freed if the patient's condition permits.

Diagnosis of Cancer of the Stomach.—John C. Hemmeter, of Baltimore. The only diagnosis of carcinoma that is of interest to the surgeon is the early diagnosis, and as there is a period of 3 months before any definite signs appear, this is very difficult. The first symptoms resemble those of nervous dyspepsia or chronic gastritis. The methods necessary for chemical and microscopical investigation are time-robbing and not generally suited for general practice. Such symptoms as pain, dyspepsia and the appearance of

blood are of little value because found in other conditions. The absence of free HCl is an important symptom, but it may not be present even at the end of the disease. The presence of lactic acid is a sign of stagnation and is not present till there is pyloric obstruction. It is present in about 84% of the cases of cancer. The Oppler Boas bacillus was present in 53 out of 55 cases of carcinoma, but like lactic acid it may be present with benign growths. There is little hope of a diagnosis from gastroscopic examination, and it is not without considerable danger. The use of the x-rays is futile and electrodiaphany is of no value until there is great thickening. Cureting the stomach by the stomach-tube gives positive evidence of carcinoma if the growth has disintegrated. The appearance of atypical and asymmetrical mitoses in the cells of tissue undergoing transformation, if present, is highly suggestive. Until we gain a knowledge of the true nature of the disease, early diagnosis and successful treatment will be impossible and gastric surgery can be only palliative. In all cases of nervous dyspepsia or chronic gastritis, if there is no benefit resulting after 4 weeks' medical treatment; if there is lessened peristalsis and no free HCl; if atypical mitoses are found, exploratory operation is indicated.

Adhesions of the Stomach.—A. T. CABOT, of Boston. Ulcer of the stomach or duodenum and inflammatory conditions of the gallbladder most frequently give rise to adhesions. The symptoms if mild often remain unrecognized and may simulate biliary colic. Pain may be a marked symptom or it may be moderate and pass unnoticed, it does not radiate to the shoulder and is not spasmodic. In cases in which there is a history of ulcer, or the symptoms of stone in the gallbladder, Cabot believes that operation for the freeing of adhesions is often advisable even if the pain be not severe. His results after such operations have been very favorable.

Observations on the Gastric Functions Before and After Gastroenterostomy. — FISHER, of New York, believes that the results of German investigators who have studied this subject are of little value, because of the short time that their patients were under observation. He reports a case that was under observation for 4 years for disturbance of motor function and hyperacidity before operation. This patient remains under observation 2 years after operation; the hyperacidity continues and has been progressive, the dilation is less and the motor function is improved. In another case the hyperacidity was reduced, but becomes pronounced after emotional disturbances. Fisher believes that structural changes begun before operation are likely to continue after operation; in general the motor function is improved and the intestinal function is also improved.

Stricture of the Esophagus Following Typhoid Fever. Gastrostomy.—FREDERICK S. DENNIS, of New York. A man of 35 was presented before the society and in Dr. Dennis' absence his paper was read by the secretary. During the latter part of an attack of typhoid fever of 3 months' duration the patient was taken with a burning sensation in the region of the lower part of the esophagus, and later difficulty of deglutition followed. He was treated by dilation with bougies for 3 months, but his condition became progressively worse. Rectal feeding was resorted to, but the patient became bedridden from exhaustion; he lost flesh until he weighed but 100 pounds; he was cyanotic, almost pulseless and in such constant agony that he begged for any form of relief. At the time of operation he had taken no food by the stomach for 3 months. Gastrostomy was performed and since then the patient's condition has progressively improved; he now works hard, weighs 180 pounds and is able to enjoy life, in spite of this method of feeding.

Dislocations of the Hip; Demonstrations on the Cadaver Illustrative of their Mechanism.—OSCAR H. ALLIS, of Philadelphia. Allis called special attention to the value of this method for purposes of demonstration before classes. He demonstrated on the cadaver the method of producing different dislocations, their signs and the method of reduction, verifying his statements by incisions. He laid special stress on the necessity for fixation of the pelvis during reduction, the fact that the most important factor in reduction is to find the opening in the capsule from which the head escaped, and that by traction the head may be drawn up on the acetabulum and then pushed in by an assistant. By this method reduction may be accomplished even if the bone is divided.

THIRD DAY.

Discussion on Surgery of the Stomach, opened by W. W. KEEN, of Philadelphia. Malignant disease of the stomach is of more importance at present than nonmalignant disease because of its greater frequency, and because of the great difficulties in diagnosis. During the past few years the specialist on gastric diseases has given the surgeon great aid in the diagnosis. Hemmeter has called attention to the fact that if operation is to be successful it must be performed within the first 3 months of the disease, and if the specialist finds any probability or even a possibility of this disease, exploratory operation is indicated. There is little danger in exploratory incision, but there is danger in late operation that we shall be able to accomplish nothing. If a palpable tumor is present recurrence is almost inevitable. M. H. RICHARDSON, of Boston, believes that all methods of diagnosis should be exhausted before we resort to exploratory operation, but in case of doubt open the abdomen as soon as possible in all surgical affections of the stomach. In case of hemorrhage operation is not advisable unless medical means have failed. Perforation demands immediate operation, but the diagnosis is sometimes difficult. In case of carcinoma, the time for operation is before the tumor is felt, but not 1 case in 50 is suitable for operation at the time it comes to the surgeon. Total extirpation probably has a more limited field than was at first believed. MCGRAW, of Detroit, described a method of performing gastroenterostomy by means of an elastic ligature which he introduced some years ago but abandoned for Murphy's button. He gave the details of a case in which he performed anastomosis in this way, but the patient died of inanition 15 days later; at the necropsy it was found that the stomach was united to the ileum only about three feet above the ileocecal valve. The method of anastomosis is to pass the needle through about an inch of stomach and intestine and tie firmly. It takes about 3 or 4 days for the ligature to cut through. ALLEN, of Cleveland, reported a case in which he operated on a patient who was apparently moribund. A perforation was found low down on the posterior wall; gauze was packed down to the perforation and recovery followed. Cultures taken from the abdomen at the time of operation failed to demonstrate the presence of any bacteria and possibly that accounted for the favorable result. In another case in which he operated for gallstones the patient died 17 days later of hemorrhage from a gastric ulcer. In a third case a patient who had passed vomited blood and passed blood by the stool, was found to have an ulcer connecting the stomach with the colon. RANSOHOFF, of Cincinnati, advises operation for malignant disease of the stomach in two stages: preliminary gastroenterostomy, then about two weeks later pylorectomy. NANCREDE, of Ann Arbor, Mich., reported a series of experiments which show that infection with the colon-bacillus is not ordinarily the cause of death, but if morphin is administered a fatal result is likely to follow. He emphasized the desirability of statistics as to the result of pylorectomies by the members of the Association. He does not believe that there is 90% mortality after this operation; if so it is not a justifiable procedure. MOORE, of Minneapolis, mentioned a case that was referred to him by a specialist on stomach diseases. There had been previous good health till within 3 weeks, then the only symptom was pain and absence of free HCl. On opening the abdomen the disease was found too extensive for removal. In case of hemorrhage from gastric ulcer, the ulcer would often be found if exploration were continued to the duodenum. WEEKS, of Portland, Me., states that operations for carcinoma up to the present time have not proved curative, and he advocates gastroenterostomy in such cases. He favors operation with the use of sutures rather than by Murphy's button. He uses catgut, sterilized by boiling in juniper oil, as a suture-material. TIFFANY, of Baltimore, believes that pylorectomy is justifiable only in rare cases. He has operated in a number of cases referred to him by Hemmeter, and invariably found enlarged glands which precluded further intervention. As in the case of oophorectomy and appendicectomy, the pendulum will probably swing in the direction of useless exploratory intervention until we learn by experience, by actual handling of cases, the real conditions and indications for operation. WEIR, of New York, said that while a diagnosis is impossible we operate for the relief of such symptoms as pain, hemorrhage and dilation. As yet it is not

definitely settled what operations and what methods are most desirable. Weir personally prefers posterior gastro-enterostomy in combination with enteroenterostomy, using Murphy's button. During the past year he has operated upon 11 cases with no deaths. In exploratory operations cocain-anesthesia might be much more frequently used. ARMSTRONG, of Montreal, considers many cases of gastric hemorrhage, such as capillary bleeding, amenable to medical treatment, but the severe hemorrhage which arises from deep ulceration generally requires operative treatment. Repeated hemorrhages of considerable amount also demand operative treatment. In operating a large opening should be made near the middle of the anterior wall of the stomach to give plenty of room for exploration. TIFFANY, of Baltimore, called attention to the fact that by incising the gastro-colic omentum and passing the hand up behind the stomach, it is possible to turn the stomach practically inside out in examining the mucous membrane for ulcer.

The Methods of Closing Abdominal Incisions.—M. H. RICHARDSON, of Boston. Richardson advocates through-and-through suture as quicker, more convenient, less likely to leave dead spaces, which fill with blood and tend to produce infection, and he believes that there is no more tendency to hernia. After using various materials for suture, he has adopted silkwormgut for closing the abdominal wall and silk for all other ligatures and sutures. It is questionable whether union is any more secure after suturing like tissues than if the peritoneum is sutured to the fascia and fascia to muscles. The number of hernias through the scars of abdominal incisions is insignificant. In 5 years only 9 such cases have come to the Massachusetts General Hospital, though over 1500 abdominal operations have been performed. In some cases interrupted buried sutures of the fascia may be inserted with advantage after through-and-through sutures have been first inserted and before they are tightened and tied. It is well to first thread both ends of the suture with a needle and the needles are then passed through the abdominal walls on each side from within, outward. DEAVER, of Philadelphia, stated that he agreed with Richardson entirely. He confines his incisions to the muscular wall of the abdomen, preferably through the rectus muscle, not through the linea alba or linea semilunaris. He also uses silkworm-gut and silk as suture-material; never catgut. WEIR, of New York, believes that there is good in both methods. He uses the layer suture. The suture should not be drawn too tight so as to strangle the tissue and interfere with repair. Weir thinks that the percentage of ventral hernias is greater than is estimated by some previous speakers. G. R FOWLER, of Brooklyn, said that when experts disagree on such matters in which they have had wide experience the middle course is usually the safest. Fowler uses what he calls the crossed suture, a kind of double figure of 8 which crosses twice in the tissues. The suture is easily inserted, easily removed and efficient, the skin ends are farther apart from the edge of the incision, and they are passed through a bolster of thick rubber tubing. COLEY, of New York, favors the layer suture, and has used catgut for buried suture-material for 9 years. Out of 150 hernia-operations since he began using gloves he has had but one infection, and that could be traced to imperfect sterilization of the skin. He has seen many sinuses resulting from the use of silk. MIXTER, of Boston, does not use either method exclusively. There are great differences in the way in which sutures are inserted. If through-and-through sutures are used the different layers should be picked up with care and they should not be drawn too tightly. JOHNSON, of Richmond, Va., after extensive trial of both methods, prefers through-and-through suture, as it destroys dead spaces and does not leave weak places in the abdominal wall. NANCREDE, of Ann Arbor, Mich., said: The man who uses one method acquires dexterity with it and can use it to better advantage. By repeated experiment it has been proved that catgut can be reliably sterilized by boiling in cumol, and if germs are found on the ends of it they are the same as those on the operator's hands. CARSON, of St. Louis, prefers catgut as a suture-material. RANSOHOFF, of Cincinnati, uses continuous sutures in layers and fastens by the use of perforated shot. RICHARDSON, in closing the discussion, stated that his objection to catgut is not that it cannot be sterilized, but it does not tie well and is not permanent enough. Silk never gives trouble in aseptic wounds.

Strangulated Hernia Through a Traumatic Rupture of the Diaphragm. Laparotomy. Recovery.—E W. WALKER, of Cincinnati. A man of 29 was struck by a falling tree, and was only prevented from being completely crushed by one of the branches. Pain in the chest, nausea and vomiting, constipation and extreme shock resulted. After a time, the vomiting became stercoraceous. A median abdominal incision was made, and it was found the bowel had pushed into the thorax, and become strangulated. The bowel was pulled down, relieving the obstruction, and an attempt was made to suture the diaphragm. Rapid recovery followed, and the patient has been in good condition since the injury. MIXTER, of Boston, reported a case in which a man was taken with severe pain near the umbilicus, while pumping a hand-engine. On opening the abdomen, it was found that the intestines were protruded into the thoracic cavity through a rent in the diaphragm. The opening was enlarged, the hand was passed up as high as the second rib, and gangrenous intestine was drawn down. The thoracic and peritoneal cavities were both contaminated with feces, and death followed a short time later. Few patients are seen in time to be saved. MATAS, of New Orleans, considers the transpleural route most favorable in such; this is the opinion of Italian surgeons, who have had most experience in these operations following stabwounds.

A Case of Subpubic Hernia of the Bladder Through the Pelvic Floor. Operation.—F B HARRINGTON, of Boston. A woman of 46, who had a large tumor of the labium majus, was taken suddenly with retention of urine. Several years previously she had been operated upon for a large edematous fibroid of this region; the fibroid had recurred and pulled down the bladder. Catheterization reduced the size of the tumor considerably, but all efforts at reduction were unavailing. Operation was performed, reducing the hernia, and recovery followed.

Extirpation of a Very Large Aneurysm of the Renal Artery.—W. W. KEEN, of Philadelphia. See original articles, this issue.

A Case of Acute Tuberculosis of the Mesenteric Glands of the Ileocecal Coil. Removal. Permanent Recovery.—M. H. RICHARDSON, of Boston. This article will appear in full in a later number of the PHILADELPHIA MEDICAL JOURNAL.

Congenital Cystic Tumor of the Pelvis.—DE FOREST WILLARD, of Philadelphia. A neurotic man had for several years had severe pain extending down his leg, and his physicians had made a diagnosis of neuritis. The pain did not follow the course of any nerve and it was not continuous. Later on a tumor appeared in the region of the groin. Various diagnoses were made, including malignant disease of the inguinal glands or of the ilium. On operating it was found that the tumor came out of the pelvis, passing over Poupart's ligament and forming a sausage-shaped mass in the groin. Hundreds of yellowish bodies somewhat bean-shaped were removed. They were laminated and in color resembled fat. The cyst which contained them was so intimately connected with the iliac and femoral arteries that it was impossible to remove it, and the cavity was packed with gauze. The specimens were examined by a number of competent pathologists, but as yet none of them have been willing to express an opinion as to the character of the growth. The patient died a short time later from nephritis, from which he had been suffering for some time.

Union Following Pathologic Fracture of the Femur Due to Secondary Carcinoma. Spontaneous Disappearance of Carcinoma of the Lip.—LEONARD FREEMAN, of Denver. A woman of 35, who had had a hard carcinomatous nodule of the breast removed some time previously, fractured her femur while turning in bed. Extension-apparatus was applied although union was not expected. After four weeks it was found that firm union had resulted. Microscopic examination of a specimen removed after the woman's death showed it to be carcinoma which had invaded the bone through the Haversian canals. In a second case a man had had an apparently typical epithelioma of the lip which disappeared. Later the submaxillary glands became enlarged and were removed. Microscopic examination showed the growth to be carcinomatous.

The following officers were chosen for the ensuing year: President, Roswell Park, of Buffalo; first vice president, John E. Owens, of Chicago; second vice-president, Clayton

Parkhill, of Denver; secretary, Herbert L. Burrell, of Boston; treasurer, G. R. Fowler, of Brooklyn; recorder, De Forest Willard, of Philadelphia; member of the Council, Robert F. Weir, of New York; members on the Committee of Arrangements, W. S. Halsted, of Baltimore, and W. J. Mayo, of Rochester, Minn. Next annual meeting to be held in Baltimore, May 7, 8, and 9, 1901.

ASSOCIATION OF AMERICAN PHYSICIANS.

Fifteenth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

First Day, 10 A.M.

The President, Dr. Janeway, welcomed the members. He said that a number of the members were engaged in work that was designed to throw new light on new phases of disease and were engaged in working on the various phases of new diseases. The pathologists were also present to continue the good work thus begun by the clinicians, and some of the members had devoted attention to the phases of disease that could be elucidated by the science of chemistry. He expressed the hope that the younger members would so arrange their time that they might add to the general amount of information that these meetings bring forth. He made a plea for truth in medicine, truth in statistics, truth in diagnosis, truth in pathology, and truth in therapeutics. He reminded the members of the Association that during the past year Dr. J. E. Graham, of Toronto, and Dr. D. W. Prentiss, of Washington, had been removed by death.

Dr. James B Herrick, of Chicago, read a paper entitled: **Notes on diabetes:** 1. On the occasional low specific gravity of diabetic saccharine urine. 2. On casts in the urine during diabetic coma. The author has noted the low specific gravity of saccharine diabetic urine, in some cases even below that of the normal urine. At any time in the course of the disease an interstitial nephritis may begin and the specific gravity may then fall. Consequently, if in a case of diabetes the specific gravity becomes low this condition should be looked for. Again, the drinking of large quantities of water will lower the specific gravity; in one case the urinometer showed as low a reading as 1.004. One patient who had been drinking beer and was partially intoxicated also presented a specific gravity of 1.004. Cases have been reported in which urine containing sugar showed as low a specific gravity as 1.002. These facts show that it is not safe to exclude the occurrence of sugar from a given specimen of urine because the specific gravity is low. The only plan is to examine all urines for sugar if there is any possibility that this abnormal ingredient is present. Casts are common in many cases of diabetes mellitus when there is an accompanying nephritis. But casts may also occur just at the time of development of coma in diabetic patients. The author has seen this phenomenon in three cases in which it has been sought for. The sediment found in cases of diabetic coma is composed almost entirely of casts which are short, broad, and granular. They may appear long enough before the occurrence of coma to warrant preventive treatment. The first case occurred in a man, aged 65, in whom coma was advancing. The urine, obtained by catheter, contained a sediment composed almost entirely of finely granular "coma casts;" there was also a trace of albumin. The second case was in a woman, aged 84, who complained of sleeplessness and mental depression. The urine contained sugar and coma casts. The third patient was a woman, aged 60 years. Sugar had been present in the urine for three years and finally coma developed which resulted in death. The urine at the time of the development of the coma was loaded with sugar and albumin and contained casts. The pathologic conditions causing the appearance of casts are unknown. The author expressed himself as believing that the condition might be due to toxic substances acting on the kidneys.

Dr James J. Putnam, of Boston, read in behalf of himself and Dr. F. Pfaff, a **Communication on the relation of uric-acid secretion to epileptic attacks.** They think that the toxin theory of the neuroses and psychoses is not well proved, and that further search for anatomic changes should be made. They made 24 examinations of urine from 3 patients in the Massachusetts State Hospital for Epileptics. The results of these examinations do not bear out the statements that have been made that uric acid is below the normal for 2 or 3 days before the attack, then normal just before the attack, and above normal just after the attack.

Dr. Charles G. Stockton, of Buffalo, read the **Report of a case of acute ascending paralysis, showing hematoporphyrinuria.** The patient was a woman, aged 27, a domestic by occupation. For two years before she was taken ill she had been overworked. She had lost weight, but had no specific disease. She had been obstipated for 14 days, was irritable, anemic, restless at night, the appetite was good, the bowels regular. The urine was dark in color, acid in reaction, and free from sugar and albumin. Later she developed pain in the back and insomnia, for which sulfonal and trional were given. Both these drugs were vomited, however. The symptoms continued and the urine became claret-colored, 1.025 in specific gravity, acid in reaction, contained neither albumin nor sugar, but showed a trace of indican. Physical examination showed areas of prolonged expiration in the suprascapular and the infrascapular regions. The buttocks became anesthetic and the feces and the urine were passed involuntarily. There was weakness in the legs with some shooting pains, and later the deep as well as the superficial reflexes were abolished, there was no response to electric stimulation of the muscles of the legs, and still later both the legs and the arms became paralyzed. The temperature rose as high as 100° and the pulse was 135 per minute. Just before death the patient was practically without sensation except in the head. The consciousness was perfect up to the time of death. The treatment was by hypodermoclysis, diaphoresis by hot baths, and the administration of codein for the restlessness. The claret color of the urine was found to be due to the presence of hematoporphyrin. The author believes that there must be some relation between irritation of the nerve-roots and the appearance of hematoporphyrin in the urine. Dr. James J. Putnam had seen a case of similar character. The patient was debilitated from accident and from chronic disturbance of nutrition from the use of morphin. He had numbness in the extremities, paralysis, tenderness of the muscles and emaciation. The patient died from failure of the respiration and of the circulation. The urine in this case was claret-color. Sulfonal and trional had both been used. At autopsy there was no change in the cord, but the lesions of degenerative neuritis were found. Dr. E G. Janeway had seen a woman who was an invalid from dyspepsia to whom 10 to 20 grains of sulfonal had been given at night. Nausea and vomiting appeared, the urine became claret-colored, paralysis developed, and the murmur of mitral insufficiency was noted. This patient recovered in 1¼ years. The speaker believed the case to be one of multiple neuritis.

Dr. A. C. Abbott, of Philadelphia, read a paper on **The relative infrequency of acute transmissible diseases during the first year of childhood,** with a discussion of the probable reasons for the same. He presented charts showing the mortality from measles, scarlet fever and diphtheria in children under one year old, in children between 1 and 5 years, and in children between 5 and 10 years of age. The tables show that the death-rate is greatest between the ages of 1 and 5 years; that from measles being 64.8%, from scarlet fever 63.9%, and from diphtheria 63.6%. British statistics divide the mortality periods in the first year of life into three classes: between 1 day and 3 months, between 3 and 6 months, and from 6 to 12 months. The following death-rate is seen in these periods, given in order: Measles, 2.7%, 7.7%, 89.6%; scarlet fever, 7.6%, 12.3%, and 80.1%; diphtheria, 8.3%, 13.3%, 28.8%. It will thus be seen that there is a great increase in the death-rate in the third period. The author believes that the mother transmits something to the child with the milk during the nursing period that acts as an immunizing agent and prevents infection. He quoted Ehrlich's experiments with mice in which he was able to show the transmission of immunity to certain microorganisms from the mother to the nurslings through the milk, in support of his hypothesis.

In the discussion Dr. E. L. Trudeau referred to the fact of the possibility of the inoculation of young animals with tuberculosis in spite of the assertion by some authorities that young animals could not be infected. Dr. George Shattuck thought that the number of mothers that had had

diphtheria were few and that, therefore, the extensive transmission of an immunizing substance for this disease in the majority of cases would not be possible.

Dr. J. P. C. Griffith, of Philadelphia, read a paper on **Recurrent vomiting in children.** He had seen 4 cases. The attacks were characterized by severe vomiting, which was grave and continuous, and by which everything was ejected from the stomach and which frequently continued when nothing was put into the stomach. The bowels were obstinately constipated, but even after relief the vomiting continued. The patient was restless, the respiration was of a sighing character, the urine was diminished in quantity. Two of the cases died. In one, autopsy showed an extensive degeneration of the epithelium of the stomach and of the intestine, parenchymatous changes in the pancreas, and the lesions of glomerulonephritis. The condition usually begins suddenly, without gastrointestinal disturbance, and the vomiting is continuous. Constipation is present, the relief of which does not stop the vomiting. Sighing respiration, which is noted, may be due to toxic action on the medulla or to weakness. Recovery begins for no apparent reason, and convalescence is rapid. The attacks occur in from 1 to 11 days, but there is no distinct periodicity. Holt's theory that the cases are due to a change in relation of the uric acid to urea is not confirmed by these cases. If it is a neurosis it is probably a toxic manifestation. The treatment is unsatisfactory; morphin sometimes does good and at times is of no use. Dr. Charles G. Stockton said that in a case that he has seen the vomitus consisted of almost pure gastric juice. When the improvement began in his case the hydrochloric acid disappeared from the vomitus. He had noted a periodicity. He believed the condition to be a neurosis.

In discussion Dr. W. W. Johnston had seen a patient suffering from the disease who had vomited blood. The blood was usually altered, although it was at times bright red. He had noted the rapid development of great prostration with cyanosis. All the children that he had seen were the offspring of nervous parents and were precocious and the victims of child-neurasthenia themselves. There seems to the speaker to be some connection between precocity and the occurrence of the disease. In one patient the attacks ceased suddenly after an attack of scarlet fever at the age of 13 years. One of his cases had improved under rest and diet. The prostration was best treated by enteroclysis and hypodermoclysis. He believes that the development of a toxin, which may be the same as that concerned in the causation of neurasthenia in general, may be the cause of the disease. Dr. Kinnicutt agreed with Dr. Johnston in the use of hypodermoclysis and enteroclysis. He always had the fluid injected at a high temperature. Dr. Forchheimer had seen several cases of periodic vomiting in children who were constipated and neurotic. These children had the anatomic basis of constipation, the exaggerated development of the descending colon. He thinks the toxins might be absorbed from the fecal matter contained in this dilated colon. Toxins thus absorbed are eliminated by the stomach. He thinks the treatment should be between the attacks. Dr. F. G. Shattuck had seen one fatal case in a neurotic and precocious child. The autopsy showed extensive fatty degeneration of the liver, kidneys, and heart, which were recent and which suggested toxemic origin. Dr. Griffith thought the vomitus should be more carefully studied. He believes in hypodermoclysis and enteroclysis and has observed the neurotic tendency in the subjects of the disorder.

Dr. E. L. Trudeau, of Saranac Lake, read a paper on **Sanatorium treatment of pulmonary tuberculosis and its results.** For him the pretuberculous stage of pulmonary tuberculosis is the first stage of the disease, before the physical signs have developed. He uses the x-ray apparatus and the tuberculin-test before the physical signs have appeared in suspected cases. By the x-ray apparatus the diaphragm may be seen to be higher or to be limited in its excursions on the affected side. The tuberculin-test had not resulted in injury to any of his patients. In the treatment rest is essential, especially when taken in the open air. The patients at rest digest well, although taking no exercise. Tuberculin as treatment is injurious whenever the process is progressing. It should be used only in apyretic cases and should be given in small and frequently repeated doses, watching carefully the nutrition and the temperature. The remedy probably stimulates the formation of fibrous tissue. During the past 15 years, of the 1176 patients discharged alive, one-half are living and one-half of these are perfectly well.

In discussion, Dr. Bridge thinks that when we begin to use sera we are apt to neglect the sanatory and hygienic measures that are so useful. He is an advocate of absolute quiet, full and free feeding, and fresh air. It may at times be necessary to wash the stomach and the large intestine. Dr. S. S. Cohen asked Dr. Trudeau what method of diagnosis he employed before the disease was far enough advanced to give results by x-ray examination, and whether, under the term rest, he included local rest of the lung as well as general rest of the body? Dr. Trudeau said that he made the diagnosis in early stages of tuberculosis by the temperature-record. If the evening temperature is between 99.5° and 100°, and there is a slight disturbance of health, he makes the diagnosis. Tuberculin should be used only when necessary. Experiments with corneal lesions in rabbits, artificially produced, show that tuberculin does not cause the spread of the lesion. He procures rest of the lung by rest of the individual.

The secretary read a paper for Dr. C. A. Herter, of New York, on work done in his laboratory by Dr. Helen Baldwin, on **The origin of oxaluria from fermentation in the gastrointestinal tract.** The author concludes that in health there is no oxalic acid formed in the body; but that it is ingested with the food. In morbid conditions, on the other hand, particularly those associated with the absence of free hydrochloric acid in the gastric juice, oxalic acid may be formed in the stomach, possibly by a ferment.

In the discussion, Dr. James Tyson stated that he had studied urines containing deposits of oxalate of lime. As many healthy persons have oxaluria as those who are old and diseased. In those who present the condition the oxalate of calcium is present at all times. Milk is the only food that will cause total disappearance of the oxalate of calcium, clinically.

Dr. Kinnicutt, of New York, showed the specimen from a case of **Acute phlegmonous gastritis.** The patient was a male, aged 41 years. There was no history of syphilis, but the patient was an alcoholic. The disease followed a drinking spell and was ushered in by vomiting, first of food and later of a brownish fluid. There was abdominal pain, constipation, dry tongue, shallow respiration, 48 per minute, regular pulse, 108 per minute, restlessness, and an anxious expression. The temperature was 101° by rectum. The physical examination was negative except for a slight hypertrophy of the left ventricle. The abdominal walls were rigid and deep palpation was sensitive in the epigastric and left hypochondriac regions. There was crepitation beneath the left costal cartilages. The urine contained casts. The patient grew progressively worse and surgical intervention was deemed inadvisable. At the necropsy the organs were normal except for the hypertrophy of the left ventricle of the heart, before alluded to. The peritoneum presented a slight serofibrinous exudate. The stomach-wall was thick, especially at the pyloric end. The thickening was due to a purulent infiltration of the submucous coat with a yellowish exudate. There was a linear cicatrix on the posterior wall of the stomach, near the pylorus, on which was a necrotic area. The endothelium was desquamated on the serous coat. The muscle was invaded by mononuclear leukocytes. The submucosa was swelled to 4 or 5 times its normal thickness and contained leukocytes and microorganisms. The lymphatics contained bacteria. The necrotic area in the scar had nearly exposed the submucosa and was possibly the point of infection. The streptococcus was found throughout the stomach The bacilli in the lymphatics were possibly of postmortem origin.

In the discussion Dr. William H. Welch stated that he had seen a similar case in which there was a fibrinopurulent peritonitis. The patient was an alcoholic. The pus was found principally in the submucous coat of the stomach.

Dr. E. G. Janeway had seen 3 primary cases and 2 secondary cases. One of the patients was not a drinking man, and the 2 secondary cases followed sepsis and were local in their areas of involvement.

Second Day.

Dr. J. H. Wright, of Boston, read a paper on **The organism and lesion of actinomycosis.** The author

believes that the disease is frequently unrecognized and that it is much more common than is ordinarily supposed. He gave a lantern demonstration of the lesions produced by the organism. In the liver of a fatal case there were dark areas that represented colonies of the organism, which grows as masses of radially disposed filaments, which are situated in the middle of an abscess, which, in turn, is surrounded by fibrous tissue, so that it is walled off from the surrounding liver-tissue. Within the colony the individual filaments are seen to be separated from each other by masses of hyalin substance which represent masses of dead filaments. Sometimes the central portion of the colony is composed entirely of this hyalin substance with the living filaments surrounding it at the periphery in a radiating manner. Some of the filaments have clubbed ends and, again, in the periphery of the colony there is a zone or rays or clubs which represent degenerations in the filaments. This latter form is seen particularly in chronic forms of the disease. The specimens were taken from a case in which the liver, the lung, the kidney, the foot, and the abdominal wall were involved.

The primary involvement was in the dorsal region, the abscess perforating the pleura. There was an abscess in the wall of the heart that projected into the left ventricle. Macroscopically, the pus from these abscesses contains pearly granules that are composed of filaments. Cover-glass preparations made from these granules after they have been crushed, show the filaments and their characteristic branching. A certain diagnosis is to be made only after having examined both the crushed and unstained granules and the stained specimens. Culture of the actinomyces is difficult on account of the secondary infections which are so likely to occur. The organism is anaerobic and in a bouillon-culture is seen as a granular deposit on the bottom and sides of the tube. It will also grow on agar-agar and blood-serum. It is, in all probability, a streptothrix. DR. J. M. DACOSTA called attention to the fact that large doses of potassium iodid give remarkable results in the treatment of the disease, even producing cure in some cases.

DR. L. HEKTOEN, of Chicago, read a paper on **A new pathogenic fungus (Sporothrix Schenck).** The patient who furnished the text for the paper was a boy, who presented multiple refractory abscesses on the arm, as the result of an injury to the hand with a hammer. The disease was of 3 months' duration, and 24 operations had been done. The abscesses contained a thick, viscid pus, culture of which resulted in the growth of a fungus. These cultures became brownish as they grew old. Plate cultures show a central mass of mycelium, and radiating from the periphery of the central portion masses of spore-bearing threads. The organism is pathogenic for mice and for white rats, producing chronic suppurative processes. After peritoneal inoculation tuberculous nodules develop that contain, at first, masses of coagulation necrosis with fibrin, and later, thick pus filled with spores, but no threads. DR. SIMON FLEXNER said that he had no doubt but that this fungus and the organism of Schenck were identical. He called attention to the fact that in small animals the organism of Schenck produced a septicemia with enlarged lymphatic glands, the latter containing microorganisms. Dr. Hektoen said that he had not been able to produce a septicemia in mice, and that that was the only difference between his organism and the fungus of Schenck.

DR. RICHARD C. CABOT, of Boston, read a paper on **Some of the conclusions reached after a study of 110 cases of pernicious anemia.** Of the 110 cases reported 57 were males and 53 were females. Of the cases occurring in the female subject 4 followed parturition and in 1 of these, in which an autopsy was had, there was leukocytosis and diphtheritic endometritis. The disease is one of late middle life. He had seen all the cases within 7 years and thinks that the disease must be common in the vicinity of Boston. Many of the cases in the series were originally diagnosed general tuberculosis. Fourteen cases occurred at about the time of the menopause. Hemorrhage is probably a symptom and not a cause of the disease; it has been observed from the bowels, the nose, the gums, the stomach, and the ear. The symptoms are constant, in certain cases they are very mild, there is a lack of relation between the severity of the blood-lesions and the severity of the symptoms, and it is not the lack of the corpuscles only that cause the symptoms. Muscular weakness, dyspnea, gastrointestinal symptoms, such as vomiting and diarrhea, are seen. The latter train of symptoms is often paroxysmal. This fact is evidence against the hypothesis that atrophy of the gastric tubules is a cause of the disease. Hemic murmurs are always heard and occasionally a true regurgitant murmur is to be made out. The liver was enlarged in 30 cases, the spleen was enlarged in 13 cases. There were hemorrhages into the retina in 36 cases and 15 eye-grounds were normal. In 66⅔% of the cases fever between 99° and 100° was seen. The urine was normal in 53 cases. In other cases albumin with hyalin and granular casts were seen. The urine was usually pale. There were nervous symptoms in ⅓ of the cases; but this must not be construed as representing the total number of nervous lesions, because lesions may occur without giving rise to symptoms. In 106 cases the red blood-corpuscles were below 2,000,000, and in 4 they were above that figure. The leukocytes in 72 cases were below 5,000, in 38 cases they were above that figure. The hemoglobin in 79 cases was high, and in 31 cases normal or low. The red cells were usually increased in size, and megaloblasts were found at some time in 107 of the cases. In the three cases in which they were not found the blood was examined only once. The percentage of lymphocytes on differential count of the leukocytes was high, but the explanation of this result is that the lymphocytes were in reality normal and the polymorphonuclear leukocytes were decreased. Myelocytes were present frequently. In the periods of remission of the disease the red corpuscles usually rise and the hemoglobin falls, resulting in a condition that resembles chlorosis. The leukocytes also increase during this period, the additional number of cells being polymorphonuclears. The megaloblasts disappear, normoblasts take their place, to disappear in turn. The symptomatology and course of the disease as well as the result of the blood-examination are not at all like those of secondary anemia. In those cases in which latent carcinoma has been found, the carcinoma is not necessarily the cause of the pernicious anemia. No case recovers. In mild cases diarrhea is common. Twenty cases were progressive, in 69 cases 1 or more remissions were seen, and 21 of the patients went to work. Remission may take place in from 10 to 14 days. In 76 cases the duration of the disease was from 1 to 3 years. Treatment is hopeless, arsenic and bone marrow have no effect; but in some cases laxative treatment seems to have done some good. This bears out Hunter's idea that the disease is a toxemia.

DR. FRANK BILLINGS, of Chicago, showed charts to illustrate **A report of cases of pernicious anemia with a special reference to the blood-findings.** In all, 19 cases were reported; 11 in males and 8 in females. The average age of the patients was 46 years. No exciting cause could be determined except syphilis in one case. The symptoms were muscular weakness, dyspnea, palpitation, gastrointestinal symptoms, and diarrhea, as a rule. Nervous symptoms were frequent, particularly paresthesia of the lower extremities. The lemon-yellow tint was constant, the body-weight was preserved, cardiovascular symptoms were common, the spleen was enlarged in 4 and the liver in 3 cases. The stools were negative in all cases except one, and in that one infusoria were present. The disease, as a rule, progressed rapidly. Hemorrhages were frequent, retinal in 3 cases. The hemoglobin varied from 15° to 74°; the red blood-corpuscles varied between 150,000 and 4,000,000; the color index was above normal in 53 out of 66 examinations, sometimes it was low. The leukocytes were usually below the normal. The color index diminished during the remission and increased during the exacerbation as does the number of nucleated red corpuscles. Direct infusion of blood produced, in 1 case, very little effect. The myelocytes were most abundant when the patient was at the lowest ebb. The occurrence of megaloblasts are of importance in the diagnosis, and when the nucleus of the cells is irregular it indicates an increased degenerative change.

DR. FREDERICK P. HENRY, of Philadelphia, reported 5 cases of pernicious anemia in a paper, entitled **Clinical notes on cases of pernicious anemia.** In one of the cases, the transfusion of blood from an epileptic patient was followed in 10 days by convulsions. One case had been under observation 6 years, and was completely restored to health. In this patient, naphthalin, bismuth salicylate, Fowler's solution, codliver oil, and calomel were the drugs used. The author thinks that patients suffering from pernicious anemia

often present peripheral neuritis. He also thinks that the disease is likely to be complicated by erysipelas. In a case of gastric carcinoma, he has never seen a case in which the red blood-corpuscles were reduced below 30%, and therefore he thinks that a reduction in the number of red cells below this figure is a diagnostic feature in pernicious anemia. He is of the impression that the muscular system preserves its power. He believes that the corpuscles seen in the blood in this disease are reversions to the type of those seen in the cold-blooded animals. Dr. Richard C. Cabot said that he did not consider the case that Dr. Henry reported as having recovered to be a case of pernicious anemia; he should consider it a case of grave secondary anemia of unknown cause. Dr. Kinnicutt thought that one of the most important points elicited by the papers was that bearing on the prognosis. He hopes that some means will be found to benefit the condition. Dr. Hobart A. Hare said he believed that the disease is more common than the textbooks teach. The majority of patients, that he has seen suffering from the condition, were from the country. The duration is at times long, he believes that arsenic causes improvement, and that transfusion is futile. He said that he thought that the changes of the blood in health should be more thoroughly studied, and that the knowledge of the changes in the normal blood is one of the weakest points in hematology. Dr. W. Thompson referred to a case of pernicious anemia, in which the roots of the teeth and the gums were the seat of a purulent disease. He referred to the theory of Hunter that, in such conditions, the constant swallowing of pus containing streptococci might give rise to lesions in the gastrointestinal tract, that, in turn, might lead to pernicious anemia. Dr. A. McPhedran reported 2 cases of permanent recovery from pernicious anemia. He believes in saline infusion as a method of treatment. In one case he administered antidiphtheric serum because there was no other serum obtainable. The patient so treated remained well for 1½ years, but then died. Other patients have received blood-serum. He has looked for diseased teeth and gums in many of his patients and all have healthy gums except one. In the excepted case the gum-condition gets worse with the exacerbations of the disease. Dr. S. Weir Mitchell said that all blood-counts were relative and not absolute. He called attention to the work of Dr. J. K. Mitchell on the influence of massage on the blood-count. After ½ or 1 hour of massage the red cells increase 500,000. He thinks that the stagnation of the red blood-corpuscles in various parts of the body is greater in disease than in health and he is of the opinion that disturbing these reserve corpuscles by massage would greatly change the blood-count. Dr. Charles G. Stockton said that he had always found that the gastric secretion in pernicious anemia was different from that obtained from cases suffering from secondary anemia. In the former disease the hydrochloric acid always disappears during the exacerbations of the disease and it returns during the remissions. Dr. W. S. Thayer said that he had seen cases of gastric carcinoma in which the red blood-corpuscles were lower than 1,500,000, in one case, indeed, the red cell count was below 500,000. The blood-count alone is insufficient for diagnosis. The most important cells are the large ovoid cells, 2 or 3 times as large as the red blood-corpuscles and with pale staining nuclei. In a case that had been diagnosed pernicious anemia carcinoma of the pylorus subsequently developed. Dr. J. M. DaCosta called attention to the fact that the remissions were at times very long, in 1 case lasting for 11 months. The fever sometimes resembles the high fever of typhoid and is more marked than in other grave blood-diseases. Dr. James S Herrick said that the improvement of the patients depends, apparently, upon a relative increase of red cells and hemoglobin and not on an absolute increase to normal. Dr. Richard C. Cabot said that systematic massage had been given to 4 cases of pernicious anemia, after Dr. Mitchell's paper had been read, and that in these patients there had been less increase in the number of corpuscles after the massage than in perfectly normal persons. The lagging corpuscles, therefore, in cases of anemia seem to be less in number than in health. He does not consider the splenization of the bone-marrow characteristic of pernicious anemia, because any secondary anemia may show the condition if it is severe enough. He thinks the large-sized corpuscles with the pale staining nuclei to be characteristic. Transfusion may produce nephritis and is, therefore, not advisable. Since spontaneous improvement occurs when arsenic is not used, arsenic cannot be thought to be the cause of improvement. He was in accord with Dr. DaCosta concerning the occurrence of fever. Since all patients in the medical wards of the Massachusetts General Hospital have systematic blood-examinations made, he thinks that the normal condition of the blood is well understood. Dr. Henry repeated his statement that he had never seen a case of gastric carcinoma in which the red blood-corpuscles were reduced below 30%.

Dr. F. B. Mallory, of Boston, read a paper on **Proliferation and phagocytosis.** As a result of the action of toxins we find four processes: (1) Degeneration of cells, (2) exudation from the vessels, (3) proliferation of cells, and (4) phagocytosis. Strong toxins cause degeneration and exudation, while weak toxins cause proliferation and phagocytosis. The pneumococcus produces proliferation of the cells lining the pleura and the cells in the lymphatic vessels, and in the lymph-nodes of the lung; these cells are phagocytic. The toxins that are eliminated by the kidney produce proliferation of the cells of the glomeruli and of the epithelium at the beginning of the uriniferous tubules. The typhoid bacillus usually produces a mild toxin that causes proliferation of the lymph-cells and of the endothelial cells in the digestive tract and in its neighborhood. The majority of these cells are phagocytic. The phagocytic cells block up the blood and the lymph-channels and may also pass into some tubular structure and do harm by pressure. In tuberculosis there is sometimes proliferation of cells and sometimes exudation. When polymorphonuclear leukocytes, lymphoid cells, myelocytes or red blood-corpuscles are included within the phagocytes their nuclei disappear, showing that they are undergoing degeneration. The phagocytic cells are possessed of ameboid motion. When epithelium takes on phagocytic properties it is usually epithelium of an undifferentiated type, such as that in the lung. In the kidney the phagocytic cells are found in the tubules and in the connective tissue between the tubules. Some of the cells contain structures that resemble the colon-bacillus. These cells possibly originate in the connective tissue and pass through the walls of the tubules. In the epididymis phagocytic cells were found that were digesting the spermatic filaments. They were probably endothelial cells. In a case that was thought to be one of papillomata of the bladder the tumors were found to be composed entirely of phagocytic cells containing what were probably colon-bacilli. Cells that have proliferated under the action of a toxin degenerate when the toxin disappears. The proliferated cells are not reparative and may work harm. Dr. William H. Welch said that toxins and bacteria appear to cause proliferation of the cells primarily; but Weigert assumes some preexisting damage to the cells. He thinks that an important function of toxins is to excite necrosis and that the plugging up of the vessels is not the entire extent of the damage done. He believes that the large cells containing leukocytes and lymphoid cells are cells of low resisting power and that they are being attacked by the leukocytes. Dr. Mallory said that he thought that the passive cell in the phagocytic process was the one that degenerated. The included cells, lymphoid cells and leukocytes show degeneration of the nuclei.

Dr. W. S. Thayer, of Baltimore, read a report of **Cases of diarrhea, associated with the presence of Strongylides intestinalis in the stools.** He reported 2 cases. The relation of the parasites to the diarrhea is questionable. One of the patients had lived in Austria and then 6 years in Baltimore, the other patient had lived all his life in Virginia. He believes the worm to be more common in this country than is supposed. He made a plea for more frequent fecal examination. Dr. Stiles, of the Bureau of Animal Industry, said that when the farmers had cases of obscure disease develop in their cattle that feces are always sent for and that a diagnosis could often be made from the examination of this material. He thinks that troops returning from the tropics will bring back worms. The forms found in these patients are found in the lungs of the frog. Male fern has given good results therapeutically.

Third Day.

Dr. W. T. Councilman, of Boston, reported for Drs. Lothrop and Pratt **A case of filaria with specimens of**

the adult parasite. The patient was a male, aged 22 years, who had resided for some time in the Barbadoes. He complained of pain and swelling in the groin of 1 month's duration. A plexus of dilated lymphatic vessels was removed from the groin, and 2 weeks later the left tunica vaginalis became swollen, and a fluid that contained filaria embryos was withdrawn. The blood-examination showed the presence of the adult filaria at night. The left testicle was removed, and worms were found in the substance of the gland near the epididymis. The author then described the morphologic characteristics of the worm, and of the embryos. A brother of the patient, apparently in good health, had filariæ in his blood at night. Dr. Councilman showed specimens of the adult female worm and drawings of the adult worms in both sexes, as well as the embryos.

DR. F. F. WESTBROOK read a paper for himself and DRS. WILSON and MCDANIEL entitled **Varieties of the diphtheria-bacillus.** The classification of the diphtheria bacillus is based on the morphology of the individual bacilli. Three classes are recognized: 1. Granular forms with granules in the body of the organism that are metachromatic. 2. Barred forms. 3. Solid color forms, including those that look like diplobacilli. In pure cultures all 3 forms may be found. DR. ABBOTT said that the great difficulty in classifying the diphtheria bacillus is that we do not know its normal morphology, in fact we are not sure that the organism is a bacillus. He believes that by altering the environment of the different forms that they are interchangeable. The original descriptions of the characters of the organism are more satisfactory than the later descriptions. The difference in the preparation of the medium which gives us a hard, leathery serum instead of a granular, soft mass, may account for the discrepancy in the descriptions. The third group that is described is probably composed of involution forms. DR. PARK said that the appearance of the microorganisms does not indicate their virulence. In an institution that he knew of, measles was always followed by diphtheria; but now the officers gave an immunizing dose of antitoxic serum to all patients that develop measles and no diphtheria cases develop. DR. WESTBROOK said that the alteration in the environment of the microorganisms had been studied. The organisms in the third class had always been found in connection with those of other classes and not in pure culture.

DR. WM. H. PARK, of New York, read a paper on **The elimination of deleterious substances from antitoxic sera.** That the antidiphtheritic sera contain some deleterious substance is shown by the development of rash, fever, and joint symptoms after its use in certain cases. Filtering an antitoxic serum has no effect on these substances. Heat has no effect upon them. Bleedings from some horses has given rise to sera that produce far less complications than bleeding from other horses, and bleeding from the same animal gives rise to sera of varying deleterious contents at different times. Experiments show that, chemically, antitoxin is either a globulin or a globulin-like substance, and that it is inseparably attached to the globulins. A dried globulin, produced by precipitation and used after being dissolved in water showed that the antitoxic strength was the same as that of the serum, but it was slightly more irritating, locally. The best method of producing sera that shall be devoid of deleterious substances is to select the horse the serum from which produces the least complications and to put the serum from that animal on the market. DR. GEORGE PEABODY said that he had divided one bottle of antitoxic serum between 3 people for purposes of immunization. Two of the patients injected had no symptoms, while the third developed joint symptoms, urticaria and fever. DR. MELTZER inquired whether one could be immunized against the occurrence of rashes by the repeated injection of the same serum? DR. PARK said that in one individual repeated injections were not likely to produce repeated rashes.

DR. W. W. JOHNSTON, of Washington, presented a **case of Addison's disease under treatment with suprarenal extract.** The patient was a male, a farmer, in whom the symptoms had appeared suddenly with loss of flesh, weakness, and gastrointestinal symptoms. Pigmentation appeared later and was accompanied by exhaustion, vomiting, purgation, and was progressive. The blood was apparently normal. The symptoms became worse in the summer and improvement was noted in the winter. The patient is being treated with suprarenal extract with rapid improvement. The author has collected 43 cases of the disease that have been treated with suprarenal extract, of these 13 were improved, 9 recovered, 11 died, 3 showed no improvement, and the result was not recorded in 7. In answer to a question by Dr. Kinnicutt, Dr. Johnston stated that there had been slight enlargement of the liver, but no glycosuria. In answer to Dr. S. Weir Mitchell, he said that the temperature had been subnormal, and that he had used 9 grains of suprarenal extract, 3 times a day. In answer to Dr. McPhedran he said that at first the heart-beat had been feeble and the tension low, but that later the heart-beat had been stronger and the tension higher.

DR. WILLIAM H. WELCH, of Baltimore, read a paper entitled **Venous thrombosis as a complication of cardiac disease.** Distinct venous thrombosis is not usually recognized as a complication of cardiac disease. He recorded 4 personal observations. In the first the patient was a woman, aged 17 years, she had aortic and mitral insufficiency. During the course of the disease hard edema of the left arm developed and at autopsy adherent pericardium was noted and thrombosis of the innominate, the internal jugular, the exterior jugular, the subclavian, and the axillary veins of the left side. The oldest part of the thrombus was in the lower part of the internal jugular vein and in the innominate vein. Cultures from the body of this patient were sterile except those made from the lung and the thrombus, these gave the Streptococcus pyogenes. The second case was in the person of a woman, aged 35 years, who was suffering from mitral stenosis. The left side of the neck became swollen in the line of the internal and the external jugular veins, later the left arm became swollen and a thrombosed axillary vein could be felt. The collateral circulation was established and the symptoms disappeared. Later the patient had an embolus lodge in the popliteal artery, from which she also recovered. The third case was that of a boy, aged 16 years, who had mitral and aortic insufficiency. The left arm became markedly edematous and worse than the right, which was also swollen. The left axillary vein was thrombosed, as well as the lower part of the internal jugular vein. The boy died, but there was no autopsy. In the fourth case the patient was a man, aged 78 years. He had mitral insufficiency with thrombosis of the left femoral vein, and recovered. Dr. Welch has collected from the literature 23 additional cases. The location of the thrombus was in the veins of the neck and the upper extremities in the majority of instances. In 23 cases in which the thrombosis affected the veins of the upper part of the body, 17 were in females and 4 were in males; in 2 the sex was not stated. The heart-condition in 20 cases was a complication of mitral disease, and, since this form of heart-disease is more common in females than in males, the preponderance of female patients in whom this complication occurred may be explained. The age at which the majority of cases occurred was between 15 and 30. Rheumatism, while the underlying cause of the heart disease, was probably not the cause of the thrombosis. In the majority of cases the thrombosis appeared during the failure of compensation. The veins of the left side were affected in 21 out of the 23 cases. Usually the veins of both the neck and the arm were thrombosed. The case reported by the author is the only one in which microorganisms were found. In one case, reported by Helen Baldwin, the mouth temperature was 7° lower than the rectal temperature. The prognosis is grave, mainly on account of the gravity of the cardiac condition. The more frequent occurrence of the thrombus in the left side may be explained by the anatomic condition of the veins, blood coming into a common receptacle from various angles, valves in the jugular veins that are frequently deficient, and the regurgitation of the blood into the great veins, causing the whirling motion that favors clotting. The thrombus is probably of microorganismal origin. DR. KINNICUTT spoke of a similar case. DR. CARY thought that dilation of the left auricle might have an etiologic significance. DR. BIGGS spoke of a similar case. DR. WELCH said that a dilated left auricle would undoubtedly assist in determining the coagulation. Dilated pulmonary vessels also might have an etiologic significance.

DR. SIMON FLEXNER, of Philadelphia, read a paper on **The nature of the new tissue in cirrhosis of the liver, and its distribution.** Much of the new tissue in cases of cirrhosis of the liver is of the elastic variety. By digestion of sections with pancreatin, by which the cells and the elas-

ic tissue are digested out, much new tissue, of the white ibrous variety, together with reticulum is found. If the connective tissue and the reticulum are digested out the elastica nay be left behind. In cases of atrophic cirrhosis the elastica is usually seen in the periphery of the lobules, although here is some slight extension into the lobule. In the hypertrophic form it follows along the capillaries into the lobule. The elastica appears to be developed from the other tissues, nd seems to come from the adventitia of the bloodvessels. DR. F. B. SHATTUCK said that the pathologic findings do not eem to agree with the clinical features of the disease, because, clinically, there is one form in which the disease is een in the portal spaces, atrophic form, and another in which the disease seems to be around the bile-ducts, hypertrohic form or cirrhosis with icterus, of the French.

DR. R. H. FITS, of Boston, reported a case of **Cystoma of he pancreas.** The tumor was a multilocular cyst of the ancreas. It seemed to be due to the formation of new ibrous tissue and the dilation of the ducts with the production of new epithelium, both of the kind seen in the ducts nd that seen in the acini of the gland. The cyst was removed and the patient is doing well.

DR. CHARLES CARY, of Buffalo, reported a case of **Degenerated echinococcous cyst of the pleura.** The patient had what seemed to be chronic pleuritis. He had always lived with dogs until the age of 21 years, but he had never been out of the United States. Palpation of the thorax revealed a rough, vibrating friction, and friction was heard on inspiration. Exploratory puncture brought a fluid containing cholesterin, albumin and sugar. Aspiration later brought ½ liter of fluid. At operation a soft mass of collapsed cyst was removed which proved to be degenerated echinococcus cysts. At first no hooklets were found, but later 2 hooklets were seen.

DR. ALFRED STENGEL, of Philadelphia, reported a case of **Aneurysm of the aorta with rupture into the superior vena cava, recognized during life.** The patient was a man, aged 30 years, who developed a murmur similar to that already reported in a similar case. The patient lived for 24 days, and finally died in a convulsion. It is not beyond the range of possibility that recovery might ensue in such a case. Venesection may do as much harm as good in a similar case, because the overfilling of the vena cava and the equalizing of pressure on the two sides might allow the formation of a clot in the aneurysm.

DR. BEVERLY ROBINSON, of New York, read a paper, entitled **Minor forms of cardiac dilation.** Two classes of patients, particularly, are likely to present mild attacks of cardiac dilation: (1) anemic girls just past the age of puberty, and (2) obese women, married or unmarried, between 40 and 50 years of age.

DR. W. H. THOMSON, of New York, read a paper entitled **Graves' disease without exophthalmic goiter.** The specific symptoms of Graves' disease are: 1. Tachycardia, which is persistent and above 100. This symptom was absent in only 2 out of 67 cases. 2. Nervous symptoms, both sensory and motor. 3. Gastric symptoms. 4. Intestinal symptoms. 5. Nutritive disorders. 6. Death by syncope. Exophthalmos and goiter are not essential symptoms. The author thinks the source of the symptoms is not in the thyroid body, but rather that we should look for it in the alimentary canal. DR EDES said that one symptom that he had noted in Graves' disease was an uncomfortable sensation of heat. DR. MCPHEDRAN called attention to the lack of sinking of the eyes with emaciation as indicating some slight exophthalmos. DR. THOMSON had not noted the lack of relation between the emaciation and the sinking of the eyes.

DR. M. HOWARD FUSSELL, of Philadelphia, read a paper on **Perichondritis of the larynx in typhoid fever, with exhibition of a patient and a specimen.** He showed the specimen from a fatal case and exhibited a patient who recovered after tracheotomy. This patient wore the tube for 3 months. The cricoarytenoid joint in this patient is ankylosed. The complication is rare.

DR. H. A. HARE, of Philadelphia, read a paper on the **attitude of the physician and surgeon to appendicular symptoms complicating typhoid fever.** There is great difficulty, in the early stages of acute disease in which there are symptoms that refer to the appendicular region in diagnosing between appendicitis and typhoid fever. The author thinks that the absence of leukocytosis is an indication that a given case is not one of appendicitis. The absence of leukocytosis, however, is not pathognomonic.

DR. IRA VAN GIESON, of New York, read a paper entitled **Observations on appendicitis.** He thinks that the tortuous blood-supply of the appendix predisposes it to undergo retrograde and obliterative changes. He thinks that the attacks of appendicitis are the result of the evolution of the species, providing for a race in which the appendix will be absent. Attacks of appendicitis are predisposed to by these obliterative changes. Acute appendicitis is not an accident, but is a factor in natural selection. If the appendix was to be removed as soon after birth as is safe, the individual would probably be benefited, but the process of natural selection would be delayed.

DR. NORMAN BRIDGE, of Los Angeles, read a paper entitled **Some observations on human temperature in disease.** He thinks that a temperature of 102° is not dangerous. Free catharsis at the beginning of a fever may relieve the gut of ptomaines and thus benefit the condition; but it is doubtful that it reduces fever. He does not believe in the use of antipyretics or of aconite to reduce temperature, but thinks that the secret of treatment is pointed to by the results of the injection of antidiphtheritic serums.

DR. J. K. MITCHELL read a **Story of a mummy affected with infantile paralysis.** The mummy had one leg shorter than the other, with no sign of fracture. The pelvis was perfectly formed and the vertebral column presented no sign of compensatory scoliosis. The author thinks that this indicates the wearing of a high-soled sandal. He thought that the defect in the development was due to a poliomyelitis that might have been intrauterine.

DR ROBERT T. EDES, of Jamaica Plain, showed a **New modified sphymograph.**

The following papers were read by title: **The existence of bacteria in the normal tissues,** by G. J. ADAMI for W. FORD, of Montreal. **Subpectoral abscess,** by J. H. MUSSER, of Philadelphia. **Stone in the kidney and conditions simulating it,** by D. D. STEWART, of Philadelphia. **The circular fibers of the heart (mitral sphincter) as a factor in functional disturbances of the heart with mitral insufficiency,** by MORTON PRINCE, of Boston. **Clinical types of uric acid diathesis; Treatment; Completion of Paper,** by J. N. DANFORTH, of Chicago. **Sarcoma of the stomach,** by GEORGE DOCK, of Ann Arbor. **A case of multiple fibromas of the nerves with arthritis deformans,** by L. HEKTOEN and R. B. PREBLE, of Chicago. **Multiple myeloma,** by J. H. WRIGHT, of Boston. **The urea content of the blood in cases of nephritis,** by J. S. THACHER, of New York. **A study of 24 cases of typhoid fever with symptoms of peritoneal infection; Laparotomy,** by GEORGE B. SHATTUCK, of Boston, for GEORGE B. SHATTUCK, J. COLLINS WARREN, and FARRAR COBB, committee of the Boston Society for Medical Improvement.

The officers for the ensuing year are: President, Dr. William H. Welch; vice-president, H. P. Walcott; secretary, Henry Hurd; treasurer, J. P. C. Griffith; recorder, I. Minis Hays; council, W. W. Johnston.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-fifth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

FIRST DAY.

THE society was called to order by the President, DR. GEORGE J. ENGELMANN, of Boston, Mass., and the address of welcome was delivered by DR. JOSEPH TABER JOHNSON, of Washington, D. C.

The first paper read was by DR. WILLIAM P. PRYOR, of New York, on **An operation for primary vaginal carcinoma, applicable also to cancer of the rectum in women.** Primary cancer of the vagina is a rare form of malignant disease. It is usually situated on the posterior vaginal wall and extends rapidly towards the rectum and perivaginal tissues. The cancer is prone to spread by invasion of the tissues having common sources of blood, and any successful operation must seek the removal of all the

organs belonging to the vascular group in which the affected organ is placed. It also recurs locally. In Lowenstein's case recurrence took place after 3½ years. In both of Pryor's cases it recurred within 1 year. The operation of Olshausen consisted in a blunt dissection of the vagina from the rectum, which usually resulted in failure and early recurrence. Pryor reported 2 cases, the first, cancer of the rectum and vagina, ulcerated and infiltrated, involving the posterior vaginal wall 1½ inches. The second, cancer of the vagina, occurring 1 inch below the cervix on the posterior vaginal wall. The operation employed by Pryor has the distinct advantage of removing as thoroughly as possible all the diseased area. After the usual preparation of the patient an incision from the pubis to the umbilicus is made and the internal iliac arteries and the obturator vessels are ligated with kangaroo tendon, the bladder is dissected from the anterior uterine wall and the vagina opened anteriorly. The uterus and appendages with the entire rectum are later removed after the actual cautery has been used to char the cancerous mass. After the excision of the rectum and periproctal tissue, an artificial anus is formed near the normal site. This radical operation has a surgical basis in the following principles: (*a*) The preliminary and preventive hemostasis renders the field of operation comparatively dry, and there is less danger of transplantation of cancer-cells during the subsequent manipulations; (*b*) avoidance of injury to the cancerous field until hemostasis is secured and the cancer charred; (*c*) there is removal of all organs in which recurrence is apt to take place from above downward; (*d*) establishment of an artificial anus near the normal site.

In the discussion DR. MUNDE said that he had seen only two cases of primary cancer of the vagina in his long experience; these cases were practically inoperable—only curetment and cauterization was done which relieved the symptoms temporarily. He does not consider that such a bloody and radical operation repays, as the benefit to the patient is slight and the recurrence inevitable. SUTTON, of Pittsburg, has seen but one case in 34 years' experience. He has little faith in the radical operations for malignant disease of the genitalia. He considers that the causation and pathology, rather than new methods of operating should engage our attention, as we need to find the factor producing cancer in order to combat it successfully. VAN DE WARKER, of Syracuse, feels that nothing is gained by operating for cancer. If his cases recover and the disease does not recur he concludes that the condition was not cancerous. MONTGOMERY, of Philadelphia, that in no class of cases is the relapse so likely to recur as in cases of cancer of the vagina; the thin vaginal wall and the abundant lymphatic circulation is responsible for this rapid return of the disease. In 1892 he had operated on a case of cancer of the rectum and posterior vaginal wall by the Kraske method, after a preliminary Maydl operation, and had removed the uterus and appendages with the posterior vaginal wall and five inches of the rectum. The disease soon recurred. He does not believe that operative treatment has much value in these instances. There is no method of treatment by which one can insure the patient against a recurrence, and no way of determining how extensively the glands and perimetritic structures are involved. The present position in regard to these cases is one of experimentation. A. LAPTHORN SMITH thinks that often unsuccessful operations on the cases deter other patients from being operated upon that might be relieved. BURN has felt for years that radical hysterectomy was a useless operation in these cases and prefers high amputation of the cervix with galvanocautery as the preferable procedure. REAMY has had more satisfactory experience and has had his patients live many years after high amputation of the cervix for undoubted malignant disease. The prognosis depends upon the position of the cancer and extent of invasion. DUDLEY, of New York, confined his remarks to primary vaginal cancer. He had operated on two cases, and considers the disease returns here more quickly than elsewhere in the body. He believes that Pryor's operation does the best that can be done for these desperate cases, and is heartily in favor of this method. DR. PRYOR, in conclusion, said that very probably we would soon have positive evidence that the cancer-bacillus had been demonstrated and that he would not be deterred from operating on a given case, if he thought relief could be afforded by the consideration of remote cases that might be prevented from subjecting themselves to necessary surgical procedure b cause of the ill results ensuing.

Dr. I. S. STONE, of Washington, read a paper on **Feca fistulas.** Small fistulas in healthy bowel heal spontan ously. If persistent, they are usually due to diseases of th bowel, or obstruction. The various operative procedures fo the relief of this annoying condition were considered. La eral anastomosis is applicable in some cases. The sigmoi flexure and rectum are frequently injured in the enucleatio of the tuboovarian abscesses, etc. Stone reported two case successfully operated upon, and detailed the method use CURRIER had seen but one case of fistula of small intestin this was cured by resection of a portion of the bowel. If th fistula is high up in the intestinal tract early operation advisable. If low down it is well to wait, as nature will fr quently institute a spontaneous cure. The consensus o opinion in the discussion was that there is a constant tend ency in the fistulas to heal spontaneously in cases wher there is no tuberculous trouble and the opening is in the larg bowel. MUNDE observed that fecal fistula may occur in case where the surgery was clean and carefully performed. H cited 3 cases of intestinal fistula where the intestines ha been opened to save life, by relieving the great distention He employs the Murphy button in his intestinal work. I is important to differentiate between large and small intes tinal fistulas, as those of the large bowel usually result in spontaneous cure.

DR. W. L. BURRAGE, of Boston, read a paper on **The re mote results of conservative operations on th ovaries and tubes.** He had had 137 operations, whic were performed on diseased uterine appendages, with th object of preserving one or both ovaries, with their tubes, o as much of the tubes as were reasonably normal in appear ance. In 85 of these, reliable information as to the presen condition could be obtained at least a year after operation and the results included in the tables accompanying th paper, the cases being divided into the more severe and th less severe. In comparing the two it was found that gonor rhea and syphilis were more prevalent, and that the symp toms had resulted more frequently from difficult labors o abortions among the more severe, and that the tubes wer closed in a majority of the more severe, whereas they wer open in all but 4 of the less severe. Pregnancy followe operation in 4 of the more severe, and in 11 of the less severe In none of the cases when the closed tubes had been opene and new ostia formed did pregnancy follow operation. Al of the cases of subsequent pregnancy in both classes, excep 2 of the less severe, had had previous pregnancies. Anatom ical cure was recorded in 33 out of 57 cases who cam under observation, and symptomatic cure in 60 out of 85 The writer's conclusions were that it is advisable to do con servative operations in all cases when the ovaries and tube are not hopelessly diseased in all parts of their structure except on patients who are near the menopause; on patient who have pronounced gonorrhea of long standing; and or cases of malignant disease. With the present methods o performing resection of the tubes, if both tubes are found closed, subsequent pregnancy is not to be expected. In severe grades of inflammation of the appendages, irrespec tive of causation, if the ostium abdominale of one tube i patent, the prospect of subsequent pregnancy after the preservation of a portion of ovary is about 1 in 4¼, or 23.5%. In the less severe grades of inflammation under similar conditions of tube and ovary the prospect of subse quent pregnancy is about 1 in 2¼, or 44%. In women who have borne children, in both classes, subsequent pregnancy may be expected in 35%, whereas in previously sterile women it may be looked for in only 5%. DR. EMMET, of New York, ad vocates strongly conservatism in surgery of the uterine ap pendages and cited an illustrative case in which pregnancy occurred when only a fragment of ovarian tissue had been left. He urged that as much as possible of the tube be per mitted to remain. DR. DUDLEY, of New York, had performed 138 consecutive operations on the appendages without a death, and reported a case of double pyosalpinx in which he had successfully transplanted a part of the ovary in the interior of the uterine wall after exsecting the tubes. He was certain that grafting had occurred, as the patient was menstruating regularly and had had a possible abortion since operation. Pregnancies had occurred in many of his patients after the conservative operations. He tries to save both the

menstrual and procreative functions. Dr. Harris, of Paterson, N. J., thinks that in those instances where the tubes are exsected, the ovary, many times, is not sufficiently diseased to warrant its removal. For the past two years he has scarcely removed an ovary except in cases of ovarian abscess. He tries to avoid the personal inferiority which a woman feels who has lost both ovaries, and to prevent the occurrence of the premature menopause. Dr. Vineberg has had poor results when there has been pelvic peritonitis—even with slight lesions, as the patients suffer after the operation. Goffe considers that conservative surgery on the appendages is one of the most important subjects the gynecologist has to consider—most of his work has been done by the vaginal route; he uses the thermocautery to resect the ovary and burn out the cysts—preferring the ignipuncture method. Robb gave an instance in which adhesions and an ovarian blood-cyst followed conservative ovarian surgery.

Dr. A. W. Johnston read a paper on the **Internal secretion of the ovary.** There is no proof that the ovary has any function other than the manufacture of eggs. It is in no sense a gland. It is incorrect to compare it in any way with the thymus, thyroid, or other glands. He considers that if the cause of nervous phenomena in a woman was the lack of internal secretion, the girl prior to puberty or the woman with delayed menstruation would have similar phenomena. He thinks that the results produced by the administration of ovarian extract could be produced equally well by salt and soda, as hysterical patients are easily influenced. Gouty cases have greatest trouble at the menopause. He thinks there is not an iota of proof that the disorders of the menopause are produced by the absence of an internal secretion, but that they are due to faulty oxidation and deficient elimination. As a proof that the ovary has little influence on the development of the woman, he cites a case in which he removed both ovaries for cystic disease in a girl of 11, who notwithstanding went on to perfect physical development. He condemns the practice of preserving a part of the tubes and ovaries as simply a postponement of trouble.

Dr. Hiram N. Vineberg, of New York, read a paper on the **Technic, indications, and ultimate results of suturing the round ligaments to the vaginal wall for retroversions and flexions of the uterus.** Vineberg, by incision through anterior vaginal fornix, sutures the round ligaments of the uterus to the vaginal wall. He has operated on 53 cases in 4 years, and detailed the results in these cases. The operation is indicated in the following conditions: (1) In all cases of mobile retroversions and flexions of the uterus, in which a surgical procedure, for one reason or another, may be deemed necessary; (2) in the same conditions, when they are associated with prolapsus uteri of the first and second degree; (3) in all cases of adherent retroversions and flexion, in which the uterus only is adherent; (4) in cases of retroversions and flexion, associated with moderate disease of the adnexa, such as cystic ovaries, catarrhal salpingitis, hydrosalpinx, and hematosalpinx, and pyosalpinx, when the latter is of moderate size, and not too firmly and extensively adherent; (5) it is the operation of choice in women with thin, lax abdominal walls, which would offer a poor support for the uterus. The same applies to the extreme opposite condition, in women with very fat abdominal walls, in whom a suprapubic operation constitutes a very serious affair.

Second Day.

A paper on **A comparison of vaginal and abdominal operations,** by Dr. G. Richelot, of Paris, was read by title.

Dr. J. Clarence Webster, of Chicago, presented a series of **casts illustrating the anatomy of pregnancy and labor, also models used in gynecologic teaching.** The older textbooks on obstetrics are full of fallacies and errors on this subject and these casts are prepared in exact reproduction of nature, made directly from frozen sections of the cadaver. The method of their preparation was described and attention called to their value scientifically and as teaching adjuncts. Dr. Buckmaster has employed paraffin to secure representations of the pelvic organs, and has illustrated the steps of perineal laceration operation by this method.

A paper, by Dr. E. E. Montgomery, of Philadelphia, on **Combined nephrectomy and ureterectomy,** was read by title.

Dr. Reuben Peterson, of Chicago, presented a paper on **Anastomosis of the ureters with the intestines; An historical and experimental research.** The paper was illustrated by numerous drawings and photomicrographs. The first part was devoted to a review of the literature on the subject; the second, a detailed account of his experiments upon dogs—the changes in the ureter and kidney had been thoroughly studied and causes of death in many instances determined. In many cases Maydl's method of ureterotrigonointestinal anastomosis was employed. The writer's general conclusions were as follows: 1. The primary mortality of ureterointestinal anastomosis, both in experimental work on animals and in man, is exceedingly high. 2. The best technic is that requiring the least amount of suturing of the ureters themselves. 3. All efforts to prevent ascending renal infection in animals as in man when the ureter has been implanted without the vesical orifice have proved futile. 4. It is impossible to determine in advance the extent of the infection which will result from ureterointestinal anastomosis. The patient may die in a few days of a pyemia, or in a short time of pyelonephritis, or in rare cases may recover from the infection with resulting contracted kidneys. 5. Hence the operation is unjustifiable either for the purpose of making the patient more comfortable, as in exstrophy of the bladder vesicovaginal or ureterovaginal fistula, or for malignant disease of the bladder. 6. The results of ureterointestinal anastomosis through the formation of vesicorectal fistula have not been favorable up to the present time. 7. The success of Frank's experimental work in vesicorectal anastomosis justifies the expectation that the future results of this operation will be more satisfactory. 8. The primary mortality of ureterotrigonointestinal anastomosis is low for an operation of this magnitude. 9. While it cannot be denied that ascending renal infection may occur after this operation, the infection, as a rule, is of such a type that the chances of the individual overcoming it are good. 10. Hence the operation of implanting the vesical flap with its ureteral orifice into the intestine is a justifiable surgical procedure. 11. There is no valve guarding the vesicoureteral orifice, nor does the circular muscular layer of the ureter nor the bladder-muscles themselves act as a sphincter. 12. It has been abundantly demonstrated by experimental and clinical work that the rectum tolerates the presence of urine and acts as a good substitute for the bladder, and that good control over the anal sphincter will be maintained.

A paper by Dr. J. W. Bovée, of Washington, **A critical survey of ureteral implantation,** was read by title.

The subject of the next paper, by Dr. Howard A. Kelly, of Baltimore, was **The evolution of my technic in the treatment of fibroid uterine growths.** Dr. Kelly with the aid of drawings and photographs detailed his method, particularly in dealing with very difficult cases, such as large adherent tumors or intraligamentous fibroids. There are three ways of dealing with these tumors and meeting the complications: 1. By a median sagittal bisection of the uterus with the tumor. 2. By a coronal bisection of the uterus in the cervical portion. 3. By a bisection of the tumor alone. The situation and anatomic relation of the tumor should be thoroughly studied after the abdomen is opened, before beginning operation. The dangers to be avoided are brought about by atypical cases; the hemorrhage may be excessive and uncontrolable, prolonged operation and injuries to the intestines and ureters may jeopardize the patient. In all these cases the principle of the operation is the same, and the best method of enucleation is to seek out first, isolate and ligate the ovarian vessels of *one* side, then to expose and tie the uterine vessels of the *same* side, then to cut across the cervix and clamp the opposite uterine artery, then the round ligament, and lastly the ovarian vessels.

Dr. George J. Engelmann, of Boston, read the annual President's address. The subject of the paper by Dr. A. Lapthorn Smith, of Montreal, was **An appreciation of Kelly's method of removing fibroids of the uterus.** Smith had formerly been strongly opposed to operative treatment for fibroids, because of the high mortality then prevailing among best operators, but the ideal method perfected by Kelly had led him to adopt this as the method of preference. He detailed the salient features of this procedure

and considers that the great advantage is that there is much less danger of injuring the ureters. He laid great stress upon the importance of feeling for each individual artery and tying it before cutting it, and then putting a second ligature on it, as the first may be loosened after the tension of the tumor has been removed. Chromicized catgut is employed. He opposes leaving the tubes and ovaries remaining after hysterectomy, and he believes that sooner or later they will cause trouble. Hysterectomy is far more preferable than myomectomy except in case of a single polypus. All fibroid uteri should be removed as soon as discovered, because the woman with a fibroid is liable not only to hemorrhage, but to suffer from reflex disturbance of digestion and circulation. Besides, every day its removal is becoming more dangerous and the chances of its becoming malignant greater. The writer strongly condemned the vaginal morcelment, as the operation is carried on in the dark and the ureters frequently wounded, while complications such as adhesions of the vermiform appendix and tears of the intestine, which are easily dealt with by the abdomen and with the patient in the Trendelenburg position, are almost impossible to manage upon working from the vagina.

DR. F. H. DAVENPORT, of Boston, described an **Intraabdominal amputation of the uterus; a modification of hysterectomy.** In cases of cancer of the cervix or body of the uterus he employs the vaginal hysterectomy, but in nonmalignant conditions, even in small growths, particularly in young married women, he prefers supravaginal hysterectomy, permitting the cervix to remain. After careful study of the technic he thinks that not only the cervix but even part of the lower uterine segment may be left without ligating or disturbing the uterine artery, by doing a high amputation of the uterus. He first clamps the broad ligaments and divides them, then divides the uterus high up, having a curved needle armed with silk, introducing a continuous suture, controling the bleeding as he cuts; later the clamps are removed and the ovarian vessels are ligated. The organ being removed above the vesicouterine peritoneal fold, there is practically no danger of injury to the ureters or bladder.

In the discussion on methods of treating fibroid growths, PRYOR described his method of treating intraligamentous fibroids by bisecting the uterus and enucleation of the intraligamentous nodules. After their removal the then symmetrical uterus can be safely removed by the ordinary method. DR. SETH GORDON has for a long time employed the continuous suture in hysterectomy and is then certain that all the vessels are secured. He condemns strongly the use of chromicized catgut in abdominal surgery, as he believes it is not easily absorbed, and usually employs the ordinary catgut; does not use silk because non-absorbable. He thinks the sutures should be permitted to remain in abdominal incision for at least 2 weeks until complete union has occurred. DR. MANN, of Buffalo, thinks that cutting the upper part of both broad ligaments after ligation often will permit the elevation of the uterus and facilitate extirpation of growth. By Kelly's method one may get the growth out very quickly, but it will require much time to complete the operation. He leaves a part of the cervix in place and drains through the dilated cervical canal. DR. BALDY has had 2 cases recently in which the tumor extended over the bladder and he made the posterior incision through uterus to safely remove. He thinks that Kelly's method is of much value in the difficult and unusual cases, but is not valuable as the routine method, and is a dangerous operation for general surgeons or untrained gynecologists. He cited two cases in which the ureter had been injured in following the plan.

THIRD DAY.

DR. THADDEUS A. REAMY, of Cincinnati, contributed a paper on **Bronchial disease not invariably a contraindication for ether-anesthesia in abdominal surgery.** His personal experience with surgical anesthesia covers 8,000 cases. For surgical work he considers ether in every way preferable as an anesthetic. He has, however, never lost a patient under either ether or chloroform. The prejudice against the use of ether in the presence of acute, subacute, or even chronic bronchitis, is largely unfounded, provided proper conditions are observed in its administration. These conditions include proper preparation of the patient, that this anesthetic be administered in the operating room, the temperature of which must be from 98° to 100° F., the chest and trunk of patient lower than the pelvis and lower extremities, and the ether of pure quality. He thought ether-pneumonia was probably produced by ether-inhalation. He has seen bronchitis, both acute and chronic, at once cured as a result of ether-anesthesia; these results, probably, being due largely to its action upon the respiratory mucous membrane. In some instances he does not hesitate to administer it to patients suffering of severe bronchorrhea, but would not employ ether in the presence of emphysema. He would, of course, not employ ether when the patient is suffering from Bright's disease, but he has rarely seen damage to the kidney follow its administration in properly selected subjects. It is his custom in subjects for abdominal or vaginal section, to administer 4 or 5 grains of calomel 4 hours before the operation, and he orders that they have hypodermically $\frac{1}{6}$ of a grain of morphin and $\frac{1}{100}$ of a grain of atropia, 20 minutes before the section. The calomel he has found a good foundation for securing purgation by salines within 24 hours after the operation. He orders such patients to drink freely of water, and believes that all these protect the kidneys and respiratory organs from damage from anesthesia. Discussion: MCLEAN advises a warm, quiet, room, and believes that if no confusion or conversation is permitted, $\frac{1}{3}$ the quantity of ether will be required. HARRIS prohibits conversation in the anesthetizing room, and permits nothing to divert the attention of the patient from the anesthesia.

DR. ARCHIBALD MCLAREN, of St. Paul, read a paper on **The relationship between dysmenorrhea and appendicitis.** He spoke of the unsatisfactory results usually obtained in the treatment of dysmenorrhea and the necessity for prolonged general treatment. Pelvic inflammation is frequently the cause of dysmenorrhea and appendicitis causes disease of the appendages, and the appendix is frequently found adherent to the right appendage. In many cases appendicial colic is caused by the pelvic congestion at the menstrual period. The pain is principally on the right side and the symptoms are relieved by removal of the appendix. He detailed several illustrative cases in which the entire menstrual pain was relieved by removal of the appendix. In 40% of cases of inflammatory disease of the appendages he removes the appendix. SKENE has noted many cases in which the ovarian pain has disappeared after a removal of the appendix. He uses the hemostatic forceps as the best method, diminishing danger from hemorrhage and infection. LAPTHORN SMITH has frequently found the appendix firmly adherent to the sac of a tubal pregnancy or tuboovarian abscess. The combination of appendicitis and salpingitis is present in many cases. He thinks this fact an argument against the vaginal methods of dealing with intrapelvic lesions.

DR. PHILANDER A. HARRIS, of Paterson, N. J., demonstrated the utility of a certain **Chart for the determination of pelvic asymmetry from a very simple method of external pelvimetry.** He exhibited the instrument employed and urged the more frequent use of the pelvimeter. The best interest of the patient and physician demands this study of pelvic measurements. Harris also exhibited photographs illustrating the advantages of employing a certain background in the photography of pathologic specimens.

DR. MALCOLM MCLEAN, of Detroit, read **A contribution to the management of face presentations, with report of two cases.** He reviewed the methods of dealing with the head thus faultily placed. Schatz had advised converting the face presentation into a vertex while the head is free above the superior strait and the membranes are unruptured; but there are usually two difficulties to contend with: (1) the diagnosis of the malposition is not so easy as the textbooks indicate, and if descent is far advanced it is too late to employ Schatz's method; (2) it is difficult to secure the normal position and relapse to the abnormal is apt to occur. McLean's method is practically version by the vertex within the pelvis, and is performed as follows: The patient being under full anesthesia the hand is passed carefully within the vulva, with the outside hand seizing the body of the child. In the entire absence of uterine contractions, the chest is pushed as much away from the pelvic brim as possible from the point toward which the chin is pointing in the direction of the occiput, that is pushing obliquely from behind forward; at

the same time the fingers of the vaginal hand are pushed up alongside of the head in one or other of the oblique diameters of the pelvis so that they can reach the suboccipital portion of the head. The thumb at the moment steadies the brow and, with a slight lifting motion imparted to the whole of the head, it is caused to rotate on its axis as described, the chin passing upward above the sacroischiatic notch as the occiput is drawn down below the pubes. Flexion may be considerably hastened through pressing down the occiput by the outside hand as soon as the face is dislodged from its wrong position.

AMERICAN PEDIATRIC SOCIETY.

Twelfth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

First Day.

The Twelfth Annual Meeting of the American Pediatric Society was held in St. John's Parish Hall, Washington, Tuesday, beginning May 1, 1900, with Henry Koplik, M.D., of New York, in the chair.

Dr. Koplik presented his paper, entitled **The ambulatory and hospital management of the gastrointestinal derangements of infancy in the summer months among the poor of large cities.** He said that the breastfed infant is not so much exposed to infection as the infant who is artificially-fed. Cow's milk in the latter case is the substitute for the breast in the opinion of every practical man. But before the milk reaches the infant it passes through so many channels and is open to so many sources of infection that it is surprising the mortality is not greater. Milk, of all the foods, attracts infection, even if the milk is not directly infected. The animals from which the milk is obtained first introduce infection; reference was not made to tuberculosis, but to filth. The udder of the animal may be the means of introducing into the milk streptococci, which are capable of causing virulent forms of diarrhea. Dirt, while milking, is likewise introduced. Further, in going from receptacle to receptacle in commerce, milk is exposed to many sources of infection. All practical persons will agree that cleanliness is the light that has penetrated the dark and baffling problem of infant-feeding. The basis of artificial feeding is necessarily breast-feeding; although by this natural process the greatest diversity is found in the quantity and quality of the food, giving equally brilliant results. In a limited number of studies upon breastfed infants, it is shown that there is much variety in quantities; when one infant will take only 89 caloric equivalents daily, another will take 126. Both infants at the same time will be equally well nourished. Another feature, fat varies in the milk of different breasts, yet children of each breast thrive. The problem is a more difficult one in the case of milk from the cow. The milk must not only be diluted, but the waste is large, even in thriving infants, of the proteid constituents of the milk. An indication of this is phosphoric increase in the excreta. Both mild and severe forms of gastrointestinal diseases are therefore infectious.

Dr. Irving M. Snow, of Buffalo, N. Y., read a paper on **Intestinal obstruction by a loop formed by Meckel's diverticulum with ligamentous attachment,** with specimen showing a Meckel's diverticulum of 12 inches; the constricted portion was the last foot of the ileum. A boy, 3 years old, was the patient, and up to the present illness he was in good health. The history of the case is, that falling some little distance from some steps he struck on the abdomen to the right of the navel. He suffered no bad effects from the accident, and in an hour's time there was complete relief. He ate freely of grapes a day or so later, and it was believed that this dietetic indiscretion, by producing intestinal irritation and increased peristalsis, was the exciting cause of the obstruction. He had a normal fecal passage three days after the accident, but for four days he vomited persistently, and laxatives and enemas failed to move the bowels, which for five days were obstinately constipated. Agonizing and almost continuous abdominal pain was present, and opiates were required. There was no tenderness, induration or abdominal tumor to be felt. There was a slight distention of the belly, with a little gurgling and rumbling on palpation. The temperature was only a little above normal, and there was no fever during the entire course of the illness. The patient died inside of 12 days. The cause of death, as shown by the postmortem, was due to exhaustion and inanition from pain, vomiting and interruption of assimilation from an unrecognized abdominal obstruction. As the condition was not recognized as intestinal obstruction it was not relieved by operative treatment, hence it ended in death.

A case was reported by Dr. Augustus Caille in which the symptoms of obstruction were present, although the obstruction was not complete. Exploratory laparotomy should be made in such instances on the first occasion of fecal vomiting. The patient might have been saved by prompt surgical interference.

A case that was not operated upon until the symptoms became alarming was reported by Dr. Samuel S. Adams. There was a free movement of the bowels while the patient was being placed under anesthetics. The invagination was not found to be disturbed.

In a case reported by Dr. W. S. Christopher, where air was injected into the intestines after the abdomen was opened, he said that sufficient pressure could have been exerted to burst the intestines without loosening the intussusception. As this was the second time that intussusception had occurred in the same patient, the case was of more than usual interest, and Dr. Christopher noted that the patient recovered from the second attack.

Dr. Irving M. Snow, closing the discussion, said it was very difficult to make a diagnosis in cases where the symptoms are obscure. An exploratory incision should be made even if there be a doubt as to the diagnosis.

Dr. B. K. Rachford, of Cincinnati, O., presented a paper entitled, **Pancreatic digestion of casein.** In his experiments he used rabbits' pancreatic juice. This was collected in a common receptacle and then equally divided between digestion tubes of an experiment, giving to each tube an equal quantity of pancreatic juice of like digestic capacity. The bile which was also obtained from the rabbit was filtered before using. Ordinary dairy-milk, boiled and neutralized, was employed. Free fat or butter, he ascertained at the close of such experiments, floated on the surface of digestive mixtures in which the milk had been subjected to the action of both bile and pancreatic juice.

In discussing the paper, Dr. Augustus Caille thought hydrochloric acid a proper agent to assist digestion in a child from one to two years of age. Dr. L. E. Holt was opposed to giving hydrochloric acids to infants. He approved of diet exclusively. Farinaceous matter, Dr. T. M. Rotch said, did not assist the digestion as much as lime-water, and on that account he rather objected to the former. In closing the discussion, Dr. Rachford said his object was to determine how a baby should be treated, and the manner of these investigations could be determined afterwards. To his mind there were two things to consider. First, whether hydrochloric acid caused a larger amount of casein to be digested by the pancreatic juice; and second, whether hydrochloric acid was found upon examination to be deficient.

Dr. Augustus Caille read a paper entitled **Clinical observations upon the operative treatment of tuberculous peritonitis,** and stated a case in which a diagnosis of tuberculous peritonitis was made by exclusion. In this case, tuberculosis of the hernia-sac developed the Bassini operation for the cure of the hernia, at the same time affecting a cure of the tuberculous peritonitis. He stated, however, that the abdomen was not encroached upon. Other cases referred to by him presented solid tuberculous tumors of the peritoneum and mesentery. The Doctor had observed these cases himself and the variety was distinct from the other well-known forms of tuberculous peritonitis. In another case the diagnosis was made very early, but operative interference refused. For nearly two years every well-known method of medication, both internal and external, was persisted in, but without any apparent benefit. His conclusion was that medication was useless so far as cure is concerned. He stated that diagnosis is made by exclusion except where the tuberculosis-bacillus is found in the puncture-fluids, when a diagnosis is positive. Exploratory laparotomy, in all doubtful cases, is imperatively indicated because surgical interference can affect a cure only in cases that are recognized early, and when they are not complicated by

tuberculosis of other parts. He stated that in every case observed by him there was a low, irregular tumor. The main diagnostic features are the abdominal symptoms—pain, distention, disturbed bowel action, effusion.

In the discussion that followed, DR. T. M. ROACH referred to more than 200 autopsies in fatal cases of diphtheria in infants and young children, there being 17 or 18 cases of tuberculosis in some part of the body. He dwelt on the importance of diagnosis between primary and secondary peritonitis. In the secondary condition the treatment of tuberculous peritonitis is nearly useless. In the primary instance, however, good results are obtained from laparotomy. A case was reported by him in which an enlarged mesentery gland was removed, and the importance of the early removal of such glands when tuberculous was strongly emphasized, as in this way a further spread of the infection is prevented. He considered the use of tuberculin in diagnosis very important, especially where there is a low range of temperature. DR. J. HENRY FRUITNIGHT reported obtaining good results in a number of cases of tuberculous peritonitis following an operation in the Children's Hospital, New York, but in his opinion recovery could not be considered permanent. In the absence of positive clinical evidence, DR. A. C. COTTON stated that he was turned to bacteriology findings to decide the diagnosis in suspicious cases of tuberculous peritonitis. He drew attention to the limit doctors are justified in making exploratory laparotomy in such cases. This brought a reply from DR. ROTCH, that he did not see why exploratory laparotomy should not be made in all cases. DR. JACKSON emphasized the advisability of examination of the blood for leukocytosis, but questioned whether such examination would separate the disease from typhoid fever. In closing the discussion, DR. CAILLE did not consider medicinal treatment of any avail in these cases. He did not think it worth while to waste any time on guaiacol and creasote. He considered it the absolute duty of the operator to open the abdomen if the disease is suspected. Fluid in the abdomen may be due to a chronic muscular infection, a large spleen, anemia, nephritis, or to valvular disease of the heart. The opening of the abdomen, if the diagnosis could not be made otherwise, was harmless, as the patient, being anesthetized, suffers no pain. So far as the examination of the blood was concerned, he did not lay much stress upon it, as such an examination, he thought, would not differentiate cases of tuberculous peritonitis and every case of affection caused by chronic malaria or anemia. He admitted, however, such an examination might occasionally be useful in diagnosis.

SECOND DAY.

DR. EDWARD P. DAVIS, of Philadelphia, presented his paper entitled **The treatment of hydrocephalus by craniectomy,** and cited a case of an infant, 6 months old, the mother of which had two other children and was in excellent health before the birth of the present child. The birth was spontaneous, and the mother nursed the child for three weeks, at which time she was taken with what was called a "bilious attack." The secretion of milk failed and the child was fed upon starchy food. At birth, the child weighed 5½ pounds, and 9 pounds at 6 months of age. The child was restless and had a poor appetite, and it was brought for treatment. It was stupid and apparently suffered from intracranial pressure. It was seen by Dr. W. W. Keen in consultation at the Jefferson Hospital, where it was transferred and an effort made to secure continuous drainage. The fluid was difficult to withdraw from the ventricles. The child was then anesthetized, and the cranium was trephined at one side of a sagittal suture, and in the parietal bone on the right side, antiseptic precautions having first been taken. The child finally collapsed and died. So far as the operation was concerned, DR. ROTCH said it appeared to be quite simple. No bad results had taken place from the operation. In the Infants' Hospital at Boston the cases were either treated with one tapping or there was frequent drainage with tubes introduced into the ventricle, the fluid being withdrawn every day. He did not think that the operation was curative, but thought perhaps it might be palliative, the child being more comfortable for the time being. A case was reported by DR. DORNING in which 2 ounces of fluid were withdrawn. The child became quiet after puncture and seemed to improve for some three weeks. Three interesting cases were reported by DR. KOPLIK, one in a baby 7 months old which developed symptoms similar to those in tuberculous syphilis. It was tapped in the first lumbar space, and from 10 cm. to 20 cm. taken according to the indications. There was a visible improvement after each tapping. DR. ROTCH said that in the Infants' Hospital great care had been taken to tabulate the amount of pressure under which the fluid was withdrawn, and the amount up to the time the child died. He thought it a palliative treatment. DR. DAVIS said that the danger of immediate death appeared to depend largely in this case upon the amount of fluid which was drawn. Care should be exercised in withdrawing the fluid so that very little should escape. Hence the effort to maintain pressure while the drainage was being inserted.

DR. ROLAND G. FREEMAN, of New York, presented his paper entitled **Nephritis of influenza in children,** and cited the case of a boy of 4, who, for 3 years past has suffered from influenza. The ordinary symptoms of cold, prostration, fever and moderate earache accompanied the present attack in January, 1899. There was no discharge from the ear. His temperature on January 31 was 102.5°. On February 5 it reached 105°, then gradually diminished. On February 9 it varied between 100° and 101°. Some very red urine was passed on this date containing a large amount of blood—about 5% by bulk. Dr. Freeman thought that although albumin is fairly frequent, the influenza of nephritis is a rare complication. The nephritis complicated in influenza is usually clinical, of an acute hemorrhagic type, and morphologically shows toxic lesions. The attacks occur more frequently apparently in children than in adults. Any disturbance may appear some days after the acute symptoms of influenza, and sometimes a month later. DR. FRUITNIGHT stated that he had found but one case of albumin in 57 cases, and this had disappeared in a few days. More care should be exercised in examining the children, DR. DORNING said. In his report of 3 cases of complicating nephritis he cited the fact that one child, 9 years of age, had shown some edema of the face. Upon examination of the urine, 30% of albumin and a large number of blood-casts appeared. It was three weeks before the casts and the albumin disappeared. In another child of 4 years, which showed edema on the face, blood-casts were found, which cleared up. The third case reported was that of a child of 4 years of age, with a very pronounced form of nephritis. An examination of the urine showed blood-casts, and 50% of albumin. One case of nephritis was reported by DR. JENNINGS, following a double infection. The nephritis followed an attack of influenza, and was of a mild character. The urinary findings amounted to 16 ounces, and its specific gravity 1.015. The urine cleared up in a very short time, and on the third day the blood-casts disappeared. For a week later, the granular casts persisted in a few numbers. The urine increased to 20 ounces on the third day, and 28 on the fifth day. The child was practically convalescent after that period. DR. ROTCH thought these cases of nephritis and influenza are of an acute interstitial type, following the general rule of an infectious disease. A diagnosis of any special form of renal disease in young children should be made by means of an examination of the urine, and he laid stress on this point. A case was reported by DR. CARR, in which the child suddenly developed a taste for sugar. The case was interesting by reason of a sudden increase in the specific gravity, the child's fondness for sugar, and the absence of albumin. A question was raised by DR. CHURCHILL whether these cases of influenza, as well as as other infectious diseases, are not often the beginning of internal disease, which developed, later on in life, particularly at puberty or later. He wanted to know whether we find such manifestations by careful and thorough examination of the urine. A case was cited of a youth of 19, who was suffering from an attack of appendicitis. While examining the urine, simply as routine practice, he found chronic nephritis. DR. FREEMAN stated that more than a year ago the examination of this child's kidneys had been made, and that during all this time the kidneys remained perfectly right, and there had never been any deviation from the normal. There was no otitis at any time, and did not figure as a factor in the matter. The child had complained during January and December of pain in the ear at times, but it would pass off in a short time, and would not recur for a week perhaps. The cases reported were the result of an exhaustive research through the literature of 10 years past.

DR. AUGUSTUS CAILLÉ presented a paper on **Sudden death from perforation of trachea and bursting of caseous gland,** and showed a specimen which, he said, had been taken from the body of a girl. A cold abscess, about the size of a walnut, was revealed by the autopsy. This was a little above the bifurcation of the trachea.. It had ruptured into the trachea, the contents being cheesy matter, which had completely flooded the trachea. This child had been sent in with a diagnosis of bronchitis. However, the house-physician had heard a few rales underneath the sternum. There was no fever and no pain, and but little cough.

DR. A. C. COTTON, of Chicago, presented a paper on **Congenital cardiac malformation with endocarditis and anuria.** The family-history in this case was negative, and no history of syphilis was obtainable. The baby was born March 19, 1900. It weighed at birth 7 pounds 4 ounces, and was in length 22½ inches. It was well developed and presented no external malformations. There was a marked pallor which changed to a greenish hue, actual cyanosis supervening gradually. There was a loud, harsh diastolic murmur upon examination of the heart, which was heard all over the chest, and it was difficult to locate the exact position of this murmur. The child died of progressive asthenia on the fifth day. No urine had been secreted.

DR. SAMUEL MCC. HAMILL, of Philadelphia, read by title a report of **A case of antenatal hemorrhage into the suprarenal capsule and perirenal tissue.**

DR. A. D. BLACKADER presented a paper on **Enteric fever in childhood,** based on notes taken of numerous cases both in Montreal and in his own practice. He went exhaustively into all the characteristics of the disease as manifested in these cases with the relative frequency of the various symptoms and the results obtained by treatment. He emphasized the efficiency of cold baths and the Brandt method in the treatment of typhoid fever in children; the regular and systematic employment of the cool or cold bath in the treatment was, in his opinion, of great value. He thought it might be employed regularly without too rigid adherence to the rule of Brandt, of only using it when the fever reached 102.2°. The bath was not to be employed for its effect on the temperature so much as for its effect on the nervous system and through it, on the heart, respiration and secretion, especially secretion from the kidneys. This paper was very thoroughly discussed, there being a difference of opinion as to the propriety of using cold baths, and whether or not infants are attacked with typhoid fever. DR. SAMUEL S. ADAMS took the temperature in the rectum and considered this the only safe temperature in all children under 12 years of age. It was the opinion of DR. W. P. NORTHRUP that children under 2 years of age are little susceptible to the invasion of typhoid fever. DR. GRIFFITH said, typhoid fever is of frequent occurrence in infancy. The symptoms, however, are difficult to recognize on account of the tender age of the patient. DR. DORNING thought there was room for discrimination in the use of water. He was impressed with the value and also with the potency for harm of hydrotherapy. He did not believe that babies stood tubbing very well. In 2,000 autopsies conducted on children under 2 years of age, Dr. NORTHRUP said, he had seen typhoid fever in none. It was not his opinion that an infant under 2 years of age was susceptible to typhoid fever. DR. BLACKADER said he had tried to emphasize in his paper the necessity for care in each individual case.

THIRD DAY.

DR. T. M. ROTCH, of Boston, reported **A case of rachischisis.** The condition is characterized by a deficiency of the vertebral arches either complete or partial, and is one of the principal forms of congenital defects of the spine; it is of more interest pathologically than clinically.

DR. J. HENRY FRUITNIGHT, of New York, in his paper on **A fatal postotitic cerebral abscess, with amnesic aphasia,** reported a case of a girl of 12, who, in January, 1898, had suffered very severely from an acute pain of the left ear, diagnosed as otitis with an abscess. A paracentesis relieved a large amount of pus. The mother neglected to carry out the instructions, and when DR. FRUITNIGHT first saw the patient her temperature was about 100° and pulse 98. She complained of frontal headache. She had occasional chilly sensations and nausea, and there was some prostration, and a scanty discharge from the left ear. The clinical diagnosis was a deep mastoid caries, possibly cerebral abscess and beginning meningitis. Violent convulsions took place December 17 and continued six hours, being finally controled by the use of a rectal injection of chloral hydrate, inhalations of chloroform and hypodermic injections of morphin. DR. HERMAN KNAPP, of New York, who had made a clinical observation of the child, stated that if it was assumed from the symptoms, the location of the abscess would be higher up than where it was found. An operation was performed which disclosed conclusively the presence of an abscess. There was some congestion, but not sufficient to indicate the disease. DR. HENRY CHAPIN, of New York, said that when a mastoid disease does not affect the brain, but burrows in front, it is always best to look in that region. He laid stress on the mastoid trouble in children in whom the brain is not affected, and in reporting the case of a boy of 5, he said there was tenderness back of both ears, but no swelling. In this case the temperature fell from 103° to 101.5° and remained there for several days.

A very interesting and instructive paper was presented by DR. W. S. CHRISTOPHER, of Chicago, on the **Measurements of Chicago school children.** He used 13 charts in illustrating the paper and showed instruments used in taking measurements. The test consisted in lifting at each alternate second with the middle finger of the right hand a weight equal to 7% of the gross weight of the individual, and permitting them, at the next second, to return. Ninety seconds was the limit of the test, during which time this weight was lifted 45 times, a metronome being used to beat the seconds. The ergogram indicated the degree of fatigue exhibited by the child during the 90 seconds. The work of the boys was better than that of the girls; the endurance of the girls up to 14 years of age showed a greater percentage than that of the boys. The girls practically reached a maximum at 14, and from there on up to 20 years of age, the limit of examination, did not increase. The boys, however, continued to increase continuously up to 20 and the ratio of increase was greater than it had been previously. The amount of energy displayed by the girls at 20, amounted to very little more than half of that exhibited by the boys at the same age, so marked was the differentiation in the sexes at this time. Another interesting feature of the ergographic work was in the range of possibility of the different grades. The range of ergographic endurance of children in the lower grades was comparatively slight, but increased continuously as the upper grades were reached, until, in the higher grades, the endurance of the boy pupils amounted to nearly 6 times that of the poorest pupils. Various tracings of ergograms were shown, illustrating the peculiarities of the tracings in different individuals. A very interesting ergogram shown was that of a sprinter who said he could run 300 yards but not 330 yards. The ergogram showed that he maintained a high degree of strength for a short time and then suddenly dropped to complete exhaustion in less time than a normal child would break. The work of Dr. W. Thompson Porter in the examination of school children in St. Louis in 1892 was confirmed by Dr. Christopher. Dr. Porter thought that physical superiority in the school children was associated with intellectual precocity and the same way with physical inferiority. It was shown, by taking the average physical measurements in each grade, that the weight of a child in the second grade was less than that of a child in the third grade. In the child of 12 the highest physical measurements were noted, while a child of the same age in a lower grade showed a lower average in the physical measurements. The averages were distributed fairly in the intermediate grades. DR. MACDONALD, of Washington, thought that Dr. Christopher's paper contained the most important investigations on children extant. Those who undertake the work in these lines only know the amount of time required to accomplish it. Representing the Board of Education he had an opportunity of measuring some 20,000 children. Expeditions could be fitted out to the North Pole for scientific research, but objection was raised at once in the acquirement of facts about the children in such cases. This might be attributed to the lack of practicality in the results obtained. Boys at 14 years of age matured and were in the advance of girls. Children born in summer are stronger, healthier, and brighter than those born in winter. DR. FRUITNIGHT thought that medical men should give more attention to this line of study. He though

the school child was kept at his desk when he should be at play, enjoying the sunshine and fresh air, that the time had come for reformation along this line. From 10 or 11 o'clock, he suggested, until 2 were appropriate periods for recreation.

DR. COTTON felt the importance of close attention to this subject. He believed that benefits of great value would accrue to the children. He desired some light as to the period of greatest fatigue. DR. CHRISTOPHER said there was a period of diminished endurance from the fourth to the eighth grade. DR. CHURCHILL asked whether children who show the greatest amount of endurance on the ergogram stand highest in the class, to which Dr. Christopher replied that individually this had not been noted, but that he would answer the question affirmatively. DR. CHAPIN said that in the New York Juvenile Asylum 1000 children were measured with results that were somewhat peculiar; they had developed mental vices. DR. RACHFORD thought that Dr. Christopher had carried on his work under better conditions than any class with which he was familiar. He believed that the ergogram meant muscle-fatigue as well as nerve-fatigue. He thought that if the ergogram could show nervous exhaustion in the child it would be of great value. There seemed to be a trend toward precocity, that in children of a common age the child having the best physical development is farther advanced in school life than other children. DR. CHRISTOPHER said that no attempt had been made to solve problems. At the Alcott School the average weight of a six, eight or nine-year-old child was not found to be greater or less after vacation. He stated that color blindness had been found in the schools, although the teachers had asserted there was no defect because the children were able to paint, etc. The actual test, however, showed distinct color-blindness.

DR. HENRY D. CHAPIN, of New York, presented a paper on **Epidemic paralysis in children.** He referred to the epidemic which had occurred in Poughkeepsie, in New York, and stated that in a number of children the paralysis was due to poliomyelitis. He thought some infectious agent had been at work.

DR. NORTHRUP in a paper on **Atresia of the larynx due to faulty intubation,** stated that in this case the fault was that of the operator. The latter was a beginner he thought. The child had pulled it out several times, twice with a string, and in that way acquired relacerations up to the number of 5 in all, and, at last, was not able to lift it. The larynx had been wounded by some accident and dyspnea set in and tracheotomy was required. That allowed the lacerated surface to grow together. A subsequent operation was performed, but he was not able to remove the obstruction. The child died in November.

DR. J. MILTON MILLER read a paper on **Three cases of head-nodding and head-rotation.** In the case of a colored boy, 5 months old, breast-fed, he was first seen February 3, 1898. He had never been well, and had always been subject to gastrointestinal disorder. There was abdominal pain, vomiting and obstinate constipation since birth. The belly was protuberant and flaccid; the fontanels were large and there were no teeth. At the time of his visit to Dr. Miller the patient weighed 10 pounds and 14 ounces. Under the use of massage, salt-baths, etc., codliver oil and artificial food, he improved somewhat. On a subsequent visit, the evidence of rickets had markedly increased. The bowels were still obstinately constipated and the tongue coated. The second case was in a female child 12 months of age, breast-fed for 3 months, and since then on condensed milk. She was first seen at the Children's Hospital, February, 1895. She had diarrhea and constipation alternating for many months. There was a very marked rachitic symptom, protuberant belly, wide fontanels, no teeth, enlarged epiphyses and well-defined rosary. Case 2 was in an infant, 8 months old, seen in March, 1890, which had been fed upon condensed milk since birth. There were no teeth, very marked evidences of rickets; the tongue was coated and the child subject to attacks of diarrhea. The mother brought the infant to the hospital because of rapid lateral movements of the head which had existed for 2 months, and which were only noticed when the infant sat erect. In two of his cases the head-movements were horizontal, that is, from side to side, while in the other case they were distinctly vertical or nodding, occasionally interrupted by lateral movements with the inclination of the head to the right. He had nothing to suggest in regard to the pathology of the affection. The administration of bromids, so generally recommended, is not necessary as diet, hygiene, etc., and the administration drugs directed to the improvement of the general health ar relief of any constitutional advice or temporary ailment fro which the infant may be suffering, are all that are require

DR. SAMUEL S. ADAMS, of Washington, reported **cases poisoning by vapo-cresolene,** directly attributed to th fumes of a vapo-cresolene lamp. In one case he was tol that the child had whooping-cough. He found it shu up in a small room and inhaling the fumes from the lam In another case the child, he had been told, was dying pneumonia. He found the child with stridulous respiratio and frequently crying. It was in a cold, clammy sweat, wit dilated pupils. The child had bronchitis and someone re ommended the use of a vapo cresolene lamp. At 12 o'cloc that night the child refused food and this seemed to be re markable because it had been feeding pretty well. At o'clock the child awoke, uttering a peculiar noise, and whe picked up was found to be in a cold sweat. He ordered th child to be taken into another room and the windows throw up to air the apartments. It appeared to get better, but whe taken to the sick-room the symptoms reappeared, showin conclusively that the illness was due to the fumes generate by the lamp. He reported these cases for observation an thought possibly that there might be other experiences t relate in this connection.

At the business meeting held before the session opened the following officers were elected: President, Dr. Booker vice-president, Dr. Packard; secretary, Dr. Morse; treasurer Dr. Adams; editor of the *Recorder*, Dr. Carr; member o council, Dr. Crandall.

Place of next meeting, Niagara Falls, May 27, 28, and 29 1901.

AMERICAN ASSOCIATION OF GENITOURINARY SURGEONS.

Fourteenth Annual Meeting, Held at Washington, D. C. May 1, 2, and 3, 1900.

FIRST DAY.

THE Association was called to order by the President, Dr. James Bell, of Montreal. After a short business session the scientific program was taken up at 10 A M.

DR. JOHN P. BRYSON, of St. Louis, read a paper upon **Chronic unilateral pyelonephritis and its pathogenic relation to disease of the opposite kidney.** This question is becoming of greater importance as the diagnostic and prognostic value of urine-segregation is recognized and there is ground for hoping that the question may thus be solved. Observations need to be extended over considerable periods of time, as single tests are misleading. Notes of 4 cases were given, in 3 of which there was evidence that trouble had been caused in the opposite kidney, though conclusions in one were rendered uncertain by the presence of tuberculous areas in both epididymes. Conclusions reached were: 1. Postoperative observations confirm the belief that long-continued pyelonephritis, suppurative or not, has an effect on the opposite kidney. 2. The pathogenic effect is manifested in the tubular epithelium causing a parenchymatous nephritis. 3. Suppuration adds amyloid change to the other. 4. The mechanism of the involvement is not yet determined. 5. The benefit of frequently segregating the urine is not only to localize the disease but to warn the surgeon when to operate.

DR. FRANCIS S. WATSON, of Boston, reported **Some cases of renal surgery.** An interesting case was that of a man who had been the subject of traumatism over the right kidney at five different times, hematuria following each. A blood-clot was removed from the pelvis of the kidney and the organ gave no further trouble. In a second case of simulated renal colic the kidney was opened, no stone found, but entire relief followed. The capsule was thickened, which would confirm the belief that such cases were due to pressure of the capsule. In a third case in which nephrotomy had been done on a tuberculous kidney and fistula followed, the upper half of the kidney was removed in three pieces.

In discussion DR. KEYES has split the capsule of kidneys with the relief of pain, even when no calculus was found. Relief was given in one case of chronic granular kidney by

splitting the organ. He is in favor of splitting the kidney in cases of intractable pain simulating colic. Dr. Bryson stated that a displacement of the kidney or ureter sufficiently great to produce symptoms of colic might exist without the operator recognizing it in these cases unless it was sought for particularly. Such cases would be cured by fixation.

Dr. A. T. Cabot, of Boston, gave **Some observations upon hydronephrosis.** A case which brought out several interesting points was the basis of his remarks. The patient was a boy of 11 years, who had had symptoms of hydronephrosis since he was 1½ years old. When operated upon, a sac containing dark-colored urine was opened, when a mass, which proved to be the kidney, was seen at the bottom of the sac, the condition proving to be one of a ruptured hydronephrotic sac with a pseudohydronephrosis around it. The rent in the kidney was closed, but the ureter did not act and the kidney again dilated. The sac was reopened and a tube introduced. After continuous drainage for two years relief was sought from the fistula. To increase the urine before operation diuresis was instituted for 5 days. Not only did the sound kidney increase its output, but the urine from the affected organ rose from 9 to 30 ounces. This is considered an evidence that the surgeon should seek to restore the outlet of the ureter, even when the kidney-substance is thought to be destroyed. Operation in this case showed the ureter looped in an S-shaped manner over an accessory renal artery and nephrectomy was performed, as the ureter could not be probed after the artery was cut. After operation the urine fell from 40 to 15 ounces on the third day. The point emphasized was that preliminary diuresis is of the greatest importance before any operation which is to bring increased stress upon the kidney.

In discussion, Dr. Bangs stated that he had removed a kidney on which nephrotomy had been performed one year previously for hydronephrosis, the opposite kidney showing signs of irritation. Shock followed and saline solution was given by the rectum. The remaining kidney secreted 98 ounces of urine during the first 24 hours after operation. He prefers Mayo Robson's incision for reaching the kidney. In seeking the cause of renal colic the x-rays have given very unsatisfactory results in proving the presence or absence of a calculus.

Dr. Bransford Lewis, of St. Louis, read a paper upon **The pathology of gonorrheal nephritis,** and exhibited a specimen. The condition of the kidney was that of an acute interstitial nephritis added to chronic nephritis. Gonococci were demonstrated in pus found in the kidney. Dr. Lewis does not understand why an infection of the kidney by gonococci alone should be a rare occurrence, and thinks it is not so rare as supposed. He believes that infection of the kidney by means of the lymphatics which accompany the ureter and by metastasis through the bloodvessels is also much more common than is thought. Infection without bladder involvement, which has been found, would rule out ascending infection by continuity. Cultures of gonococci have also been made from the blood of a patient suffering from gonorrheal arthritis.

In discussion Dr. Young, of Baltimore, reported a case of chronic cystitis and double pyonephrosis which was due to infection by the gonococcus alone. He has aspirated the bladder, suprapubically over 100 times and thinks it the only way to get a pure culture from the urine. The gonococcus may be the cause of cystitis, but cannot be cultivated unless the medium in the bladder is favorable to its growth. In one case the gonococcus was demonstrated to be present in the bladder for five years without giving rise to marked symptoms. In a second case the patient had had chronic cystitis for seven years, this following typhoid fever. A pure culture of the typhoid bacillus was obtained from the bladder. Afterward a gonorrheal infection was added with no aggravation of the symptoms. The gonococcus drove out the typhoid bacillus, as a short time afterward only the former could be detected in pure culture.

Dr. W. K. Otis, of New York, read a paper on **The modern urethroscope.** Several improvements upon his most recent instrument were described, the principal ones being that it is smaller, the lamp is of low tension, or a "cold" lamp, and a conical diaphragm cuts off some of the light.

The following papers were read by title: **General sepsis following gonorrhea,** by Dr. G. E. Brewer, of New York; **Radical treatment for curvature of the penis,** by Dr. Eugene Fuller, of New York.

Second Day.

The first part of the session was devoted to the discussion of **The best method for obtaining urine direct from the ureters for diagnostic purposes.** The discussion was opened by Dr. E. Tilden Brown, of New York, who stated that the attributes of an ideal instrument were: (1) Its equal applicability to both sexes; (2) no contamination from the other gland, or from extraneous materials; (3) a minimum amount of discomfort to the patient, and of harm following its use; (4) a simple technic. From these standpoints, three types of instruments were discussed—Kelly's, Harris's, and the ureter cystoscope. The advantages of Kelly's methods are: (1) The instrument is the simplest in construction; (2) the mucous membrane around the orifice of the ureter can be cleansed; (3) it is the only instrument that can be used in some conditions of the bladder. Its disadvantages are: (1) It is essentially limited to the female; (2) the introduction of a flexible catheter is difficult; (3) the urethral tube is large enough to cause a temporary incontinence of urine; (4) displacement of the catheter is likely; (5) more assistants are needed; (6) the knee-chest posture is disagreeable to the patient; (7) general anesthesia is more generally indicated. The Harris segregator deserves commendation, but is contraindicated in a number of conditions. Its advantages are: (1) it can be used by any one who is expert in using a catheter; (2) small cost; (3) separate urines can be obtained synchronously; (4) it is easily sterilized; (5) there is not the danger of infecting the kidney. Its disadvantages are: (1) the difficulty of introduction, the discomfort to the patient and the danger of after-effects; (2) the advantages of cultures made from the urine obtained is practically nil; (3) the uncertainty as to its trustworthiness in separating the urines. The advantages of the ureter cystoscope are: (1) it permits the ascertaining of the condition of the bladder; (2) the operator can satisfy himself that the specimens of urine are from separate kidneys. Its disadvantages are: (1) it is not applicable when the capacity of the bladder is limited or when the fluid is not transparent; (2) it is relatively expensive; (3) its details require more study and experience. Dr. Brown concluded that the ureter cystoscope was the safest and best instrument for obtaining separate urines.

Dr. Otis, of New York, believes there is a tendency to think that catheterizing the ureters is a simple operation, when the truth is that it is a decidedly difficult procedure. He prefers the direct or convex ureter cystoscope. Dr. Otis exhibited (*a*) **A new electrocystoscope,** and (*b*) **a cystoscope for the catheterization of both ureters.**

Dr. M. L. Harris, of Chicago, present by invitation, discussed the various instruments. He stated that catheterization of the ureters is frequently a failure, even in the hands of the most expert operators. Some of the errors from this method are the presence of blood and epithelial cells in the urine due to traumatism of the ureter, and the fact that all the urine does not pass through the catheter in some instances. The chief danger is infection of the kidney, and this is a very grave objection. He has demonstrated that his segregator will accurately divide the bladder by cases in which only one kidney was present, in which blood was coming from one kidney, and by autopsy findings. To prevent vesical hemorrhage he uses suprarenal extract, 50 to 60 cc. of a 5% solution being allowed to remain in the bladder for 10 to 15 minutes. Local anesthesia is secured by placing 15 to 20 cc. of a 2% solution of cocain in the bladder for 6 minutes. Partial anesthesia of the rectum is secured by the use of antipyrin and tincture of opium.

Dr. Bransford Lewis, of St. Louis, demonstrated **A ureter cystoscope (for male or female) built on a new model.** One of its chief advantages is its simplicity. General anesthesia is seldom necessary. The catheter is introduced while the patient is in the knee-chest position, the cystoscope is withdrawn and the patient then placed in the dorsal position while the urine is collected. A cold lamp is used and complete control is had over the inner end of the flexible catheter. Dr. Bangs stated that he has found difficulty in passing a straight instrument even in young men. In others the instrument when introduced cannot be deviated

from the middle line sufficiently to find the openings of the ureters. In certain cases he has not been able to see the openings of the ureters. In making investigations regarding this point he has found the same condition in cadavers, not being able to find the openings without a careful search with a fine probe. He has also caused small traumatisms near the opening of the ureters in efforts to introduce a catheter. This may explain infection in some cases. He prefers to use the Harris segregator, unless in very exceptional instances, and thinks this is the best instrument for ordinary surgical diagnosis. DR. BRYSON stated that from the practical standpoint of the operating surgeon the Harris segregator was the best instrument. He always precedes its use with cystoscopy, as the knowledge of the interior of the bladder removes the main objection to the instrument. A great advantage of this method is that it can be used frequently over a long period of time—more than a year in one of his cases. Patients will object to this use of the other methods under discussion.

DR. EUGENE FULLER, of New York, read a paper upon **Anteroposterior subdivision of the bladder; an important anomaly.** Dr. Fuller has met with 2 cases of this anomaly, 1 specimen of which he secured postmortem. The partition was just in front of the ureteral orifices, an aperture connecting the anterior and posterior chambers of the bladder. The symptoms, which began in early life in both cases, were those of frequent micturition and slowly increasing difficulty in urination. The bladder-walls were greatly hypertrophied. The prostate was not hypertrophied in either case and in the specimen secured the gland seemed rather atrophied.

In discussion DR. RAMON GUITERAS stated that he had frequently met with difficulty in cystoscopy by the instrument seemingly entering the bladder and then refusing to enter further. On moving it about an opening was found and the bladder readily entered. He had attributed this difficulty to an enlarged condition of the prostatic urethra, and suggested that such was the case in this instance. DR. FULLER replied that the condition of the prostate in the specimen would not admit of that explanation.

DR. FULLER then read his paper of Tuesday's program—**Radical treatment for curvature of the penis.** The case was that of curvature following an internal urethrotomy. The fibrous urethra acted as a bowstring to the organ. The urethra and spongiosum was divided obliquely and separated, about ¾ of an inch being left between the two portions, and the tissues stitched over this gap. The patient is now in good condition, 1½ years after the operation, and normal intercourse is possible.

THIRD DAY.—Morning Session, Thursday.

DR. E. L. KEYES, of New York, opened the session with a paper upon **The therapeutics of urotropin.** Several cases were detailed to show the satisfactory effects obtained by the use of this drug. One case of persistent anuria following an external urethrotomy was relieved at once by the exhibition of urotropin, the symptoms again appearing when the drug was discontinued. Dr. Keyes always uses urotropin when urinary chill is present or is threatened. Urotropin seems to be almost a specific in acute catarrhal pyelitis. Large doses may be necessary at first, these being followed by long-continued smaller doses. The centrifuge and the microscope may be necessary to detect the change in the urine following its use. Dysuria, etc., may be caused by irritation, and irritation may be caused by small doses in some cases. Urotropin is a valuable prophylactic against urethral chill; good results follow its use after operations; urine passed during its administration occasionally has an escharotic effect on wounds with which it comes in contact. DR. BRYSON stated that in cases of tuberculous disease which had been operated upon, he had seen instances in which urotropin produced changes which retarded the healing of the wound. DR. OTIS has used cystogen a great deal because of its cheapness. He always uses urotropin for several days before catheterizing ureters, if this is possible. In closing, DR. KEYES said that he had given one patient 67½ grains of urotropin daily for months. In that case an enlarged prostate became lessened in size, the amount of residual urine diminished, and the patient was made thoroughly comfortable. The fact of sloughing from the effects of urotropin having been questioned, Dr. Keyes gave 3 instances in which weak solutions of formalin had produced such untoward effects, the wounds becoming healthy when the formalin was stopped.

DR. RAMON GUITERAS, of New York, reported several cases of **prostatic deformities due to loss of tissue.** He had often detected deformity of the prostate by rectal examination and found no explanation for it. Attention was finally called to one case in which tuberculosis had caused an abscess of the seminal vesicle, and eventually an abscess of the prostate. Evacuation of this left a depression. Many chronic cases in which there is a morning drop of discharge and a few shreds will be found due to the results of abscess in the prostate. In some of these cases rectal examination reveals depressions and cavities in the prostate or bands extending across the gland. In other cases the gland is almost wholly destroyed, the ejaculatory ducts in one instance being felt as cords extending from the vesicles. These conditions usually result from abscesses which have ruptured into the urethra. A pyogenic membrane is left in the prostate and pus forms for a long time afterward. Some cases are no doubt attributed to tuberculosis and gonorrhea. The remains of these abscess cavities may cause the most intractable cases of chronic discharge. The treatment must consist principally in rectal massage and irrigation and urethral irrigation.

DR. E. E. KING, of Toronto, read a paper on **Primary cancer of the prostate** and exhibited specimens. A feature of one case was the discharge of a large quantity of blood at one time with great relief of the symptoms. Pain was felt only when the bladder was distended with urine. The whole gland appeared to be involved in all cases before relief was sought, showing the insidious nature of the affection. Frequent micturition with some dribbling of blood were the common symptoms. Four members of the family of one patient had died of cancer. Especial points noted were: (1) The very advanced state of the disease before diagnosis; (2) the relief experienced when the capsule of the gland ruptured; (3) the small amount of metastasis present.

DR. JOHN P. BRYSON, of St. Louis, considered the **Differential diagnosis of circumscribed lesions of the upper, middle, and lower parts of the ureter.** Cases were detailed to show the symptoms referable to calculi in the parts of the ureter mentioned In cases of irritation in the pelvis of the kidney or the upper third of the ureter the subjective symptoms are referred to the kidney, the pain radiating toward the middle of the abdomen. When the irritation is in the middle third of the ureter the genitocrural nerve is involved. In the lower third of the ureter there is increased frequency of micturition but no vesical tenesmus. In the discussion of this paper DR. CABOT stated that he had seen involvement of the kidney produce symptoms referable to the neck of the bladder. He depends more upon local tenderness found upon thorough examination of the ureter than upon subjective symptoms for localizing the trouble, as subjective symptoms are so often misleading.

DR. KEYES stated that he had seen a case of retention from vesical spasm due to stone in the kidney, no other condition to account for the spasm being present, as the bladder was perfectly normal. DR. BRYSON stated that it was very common to find a lesion at the lower end of the ureter along with kidney involvement. In cases like the one just referred to, this lesion, if present, would cause the bladder symptoms instead of them coming from the kidney; when this lesion was not present he believed no bladder symptoms would be found in connection with kidney involvement.

DR. CHARLES L. SCUDDER, of Boston, reported a case of **Acute abdominal symptoms associated with a congenital malformation of a ureter in a child.** The symptoms resembled those of intestinal obstruction. Enemas, however, secured fecal evacuations. A tumor was felt in the right iliac fossa. Operation showed the tumor to be retroperitoneal. The condition of the child prevented further operation and the patient died soon after. Autopsy showed a normal right ureter and also an abnormal one, the latter being greatly dilated and sacculated.

DR. GEORGE K. SWINBURNE, of New York, read a paper upon **Bacteriuria associated with a diverticulum of the bladder.** A number of calculi have been obtained from the bladder. A catheter can be introduced ¼ inch into the diverticulum, the mouth of which can be seen, photo-

graphs having been made of it. The diverticulum is supposed to contain a calculus.

The following papers were read by title: **Prostatectomy for the relief of enlargement of the prostate,** by Dr. Samuel Alexander, of New York; **Rupture of the urethra,** by Dr. J. R. Hayden, of New York.

The Association elected the following officers for the ensuing year: President, Dr. Samuel Alexander, of New York; Vice-President, Dr. W. J. Belfield, of Chicago; Secretary, Dr. J. R. Hayden, of New York.

The Association then adjourned to meet at Old Point Comfort, April 30, 1901.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

First Day.

The meetings of the Association were held in the banquet room of the Arlington Hotel. The first session was called to order by the President of the Association, Dr. Jacobi, of New York, on Tuesday, May 1, at 10 A.M.

Dr. Jacobi delivered the opening address on **Heart lesions in infancy,** and cited cases which had come under his observation showing that functional heart-murmurs do occur in infants under 2 years, some noted authority to the contrary. Extracardial murmurs are very infrequent under 2 years. When deposits are near insertions of the valves, no murmur may be heard at all. Endocarditis is frequent at an early age, but compensation is quite early established.

The following papers were read by title: **The modern physician's duty to his tuberculous patients,** by Dr. Frederick I. Knight, of Boston; **The construction and management of small cottage sanatoriums for consumptives,** by Dr. Arnold C. Klebs, of Chicago; **A report of certain cases of tuberculosis which were apparently due to the nature of the soil,** by Dr. Richard Cole Newton, of New Jersey. Dr. Newton gave the history of 4 families whose family history showed no tuberculous taint, but who had several cases of it in the family after living in damp houses, or houses with damp cellars. The tubercle-bacilli may be found in healthy organisms, which can resist it. Let the subject's vitality be lowered and his resistance decreased, and he is much more susceptible to infection; damp places tend to do this, hence the danger. It is far easier to remove the conditions causing the disease, than to cure it when it has a start. The problem is that of improving surroundings and sanitation. Good drainage has been shown by statistics to decrease tuberculosis. No climate, however good, is proof against the filthy soil. Houses should have dry cellars and sandy sub-soil, and be away from swamps.

In the discussion, Dr. Leonard Weber, of New York, finds that it is not so much the soil as the crowded condition of the people and their unsanitary ways of living that cause the spread of the disease, by rendering the soil of the body good for the attack of the bacilli. Dampness does not increase danger of infection, but decreases powers of resistance. The paper showed the necessity of getting rid of the overcrowded tenements. Dr. N. S. Davis, of Chicago, said that acquired tuberculosis is most favored by poorly-ventilated rooms and imperfect exercise, and badly-ventilated lungs, which need ventilation as well as rooms. Dr. C. L. Turner, of Asheville, N. C., spoke of the great neglect of proper hygienic and prophylactic measures among all classes in this country, and urged that it was the duty of the physician to look after his patients in these respects while they were well as much as to attend them when actually sick. Dr. E. R. Baldwin, of New York, said that moisture keeps the tubercle-bacillus alive, and drying kills it; this may also enter into the cause of tuberculosis among those living in damp houses. Dr. Judson Daland, of Philadelphia, spoke of the recent appearance and rapid spread of consumption in Iceland; attributing this to the dampness, fog and winds. Dr. Newton ended the discussion by illustrating from his own experience how moisture could collect under the floor of a tent close to the ground, even in a very dry locality.

The educational and legislative control of tuberculosis was the next paper, read by Dr. Charles Denison, of Denver. Dr. Denison discussed at some length the degenerative effects of deficient ventilation and defective heredity, and showed how this condition, by inducing deficient pulmonary air and blood circulation led to autoinfection. Dr. Denison said the "life of the air" exists chiefly in its motion, which, with its light, heat, and electrical power, come from the sun, and the force of which is annulled by the imprisonment of the air through defective ventilation. Thus a gradual loss of vitality is brought about. This is the unified predisposing cause, anterior to the bacillus of tubercle, which will explain alike the origin of tuberculosis in animals, fowls, and men. He urged legislation requiring proper ventilation, courses for the study of methods of ventilation in all advanced schools and colleges, and governmental investigations as to the best ways and proper and necessary limits to ventilation.

In the discussion Dr. B. Robinson spoke of women's long skirts being an important factor in the spread of the tubercle-germs. Dr. C. E. Edson said that the bacillus alone, dampness alone, or bad ventilation alone, would not produce the disease. Dr. W. F. R. Phillips said that the changes in the life of the air were attributed by some to increased temperature and humidity and presence of CO_2.

Some phases of the tuberculosis problem in Colorado, by Dr. S. G. Bonney, of Denver, was the next paper read. In this paper the author pointed out the injustice done to Colorado by statistics which apparently showed an increase in the number of those becoming consumptive in that State, and showed that the actual increase was very slight. He noted the number of tuberculous children, and the comparative frequency of tuberculous meningitis. The influx of consumptives from other States complicates the problem.

In the discussion Dr. J. C. Wilson said that often climatic treatment was available in the region where the individual lived, without the risk and expense of a long trip.

(To be continued.)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-second Annual Meeting, Held at Washington, D. C., May, 1, 2, and 3, 1900.

First Day.

The 22d annual congress of the American Laryngological Association was held at the Hotel Arlington.

The President's Address.—Dr. Samuel Johnston, of Baltimore, Md., in delivering the opening address, referred to the increased attention which had been given in recent years to affections of the larynx and their bearing on other complaints. A large amount of credit for this was due to the association, whose meetings had been annually increasing in interest. At the last meeting in Chicago many important papers were read, and he trusted that the present meeting would be even more memorable. To attempt to make a survey of the progress that was being made even in this one branch of medical and surgical science would involve a herculean task, which he shrank from undertaking. He would therefore confine himself to a few practical suggestions as to the policy which should be followed by the association in the future. Among the points on which he laid the most stress were extreme care as to the qualifications of the new members they admitted, and the adoption of such measures as were deemed most efficacious for the purpose of inducing old and experienced members not only to retain their membership but also to keep up an active interest in the association. He next touched on the necessity of scientific research and clinical laryngology going hand in hand, and in regard to the arrangement of programs for their meetings he suggested that it would be better to have a few good papers with ample time for their proper discussion than that they should have a great array of papers, many of which could not be read, much less discussed, for want of time. He concluded by suggesting the introduction of some sort of censorship, to prevent theories which had not stood the test of clinical experience, being supposed to carry with them the endorsement of the associ-

ation, when published in the transactions of the association or elsewhere.

Laryngeal irritation a cause of asthmatic paroxysms was the subject of the first paper on the program. The author, DR. WILLIAM C. GLASGOW, of St. Louis, Mo., being absent, the paper was read by title.

DR. THOMAS AMORY DE BLOIS, of Boston, then read a paper on **fractures of the nose,** stating (1) that a broken nose was not generally broken, (2) that the subject could be divided according to the degree of injury, (3) relative to the parts involved. By his first assertion he implied that in most cases there was no fracture of the bone itself. It might be more properly classed as a dislocation. The nasal bones became separated at their internal borders from the nasal processes of the superior maxillaries; this, although accompanied by more or less violence, was not in itself a true fracture, and this solution of bony continuity was by far the most common variety of broken nose. Secondly, the injury might not alone involve the small nasal bones (for it was impossible to move one without the other), but it might be more severe, and result in fracture of the nasal process of the superior maxillary or the zygomatic arch of the molar, as from the kick of a horse. The author exhibited drawings showing examples of the different kinds of simple fractures and dislocations which were to be commonly met with, and then proceeding to deal with the subject of treatment, said that in many cases where the patient could be seen sufficiently often, it was found that apparatus could be dispensed with. In cases where for one reason or another, apparatus of some sort was considered advisable, he was in the habit of using soft rubber tubes, applied internally, for the purpose of getting the nose back into its proper position and shape. This was in cases where the same object could not be effected by manipulation of the fingers. In some cases he also used external splints, and those he made of plaster-of-paris. He understood that Dr. Leland, of Boston, thought that splints should be dispensed with altogether, but his own experience was that they were necessary in some cases, though by no means in all.

DR. EMIL MAYER, of New York, in opening the discussion on the paper, said he was opposed to the use of soft rubber tubes, because of their irritating tendency. This was why vulcanized tubes were often used. DR. DE BLOIS explained that he used the rubber tubes not so much as splints as for the purpose of restoring the nasal organ to its natural shape. They were never allowed to remain in the nostrils for any length of time. DR. WILLIAM E. CASSELBERRY, of Chicago, said he was afraid the rubber tubes would cause unnecessary pain. He advocated the giving of ether to patients who had to be operated on for nasal fractures or dislocations. DR. JONATHAN WRIGHT, of Brooklyn, remarked that the Greeks had frequent occasion to deal with broken noses in connection with their popular sports, and they used practically all the methods that were used now, together with some that might be used. He advised those not familiar with it to study the Hippocratic method of treatment. One thing particularly to be avoided was the introduction of absorbent material into the nostrils. DR. JOHN O. ROE, of Rochester, said he had found aluminum a good material to use for external splints, one recommendation it had being its lightness. DR. H. L. SWAIN, of New Haven, Conn., remarked that useful hints as to the treatment of broken noses were to be found in the work of an author less ancient than Hippocrates —he alluded to the work of Dr. Jonathan Wright, of Brooklyn, where he thought some things would be found that were not known to the Greeks. Some remarks followed from DRS. F. C. COBB and J. PAYSON CLARK, of Boston, both of whom urged the avoidance of splints as much as possible. DR. SIMPSON, of New York, having exhibited a splint which he recommended, DR. DE BLOIS closed the discussion by replying to some of the criticisms.

DR. J. E. LOGAN, of Kansas City, read a paper on **Atrophic rhinitis.** He protested against the multiplicity of terms that were used to describe the disease, and said they were as much in the dark as they were 10 years ago as to its etiology. While something was to be said in favor of the germ-theory, the experiments in the way of inoculation so far failed to support it. He was disposed to think that the disease had its origin in the accessory sinus. The view of the author of the paper received some support from DR. CLARK, of Boston, but was dissented from by DR. WRIGHT, of Brooklyn. The latter suggested that a more probable source of the disease was to be found in the occlusion of the connecting veins. Dr. Wright also called attention to the fact that the complaint was more common among broad-nosed people, and referring to statistics quoted by the author to show its greater frequency among women than among men, he suggested that the sexual life might also have something to do with it. He thought, however, that the origin of the disease was not to be traced to a single cause, but to a combination of causes. The discussion was continued by DRS. SWAIN and CASSELBERRY.

DR. EMIL MAYER, of New York, contributed a paper on **Recurring membranous faucitis due to the Bacillus of Friedländer,** at the same time reporting a case which showed all the same symptoms as those reported in Europe. His patient was a young woman, who had recurring membranous growths at intervals never exceeding a fortnight, and yet never showed any constitutional effects. The paper was discussed by DRS. J. E. ROYLAN, of Cincinnati, A. W. DE ROALDES, of New Orleans, SWAIN, and WRIGHT.

The secretary read a paper by DR. T. R. FRENCH, of Brooklyn, on the **Employment of the upright position in ether operations upon the nose, throat, and other portions of the head,** with exhibition of a chair to facilitate such operations. Several members said they would have liked to discuss the paper, but the chair ruled that it would be irregular to do so in the absence of the author. The secretary was instructed to request Dr. French to bring the subject up at another meeting at which he would be present.

The presentation of a number of instruments and specimens closed the proceedings for the day.

SECOND DAY.

The second day's proceedings began with a business meeting, at which reports were presented from the secretary, the treasurer, and other officials, showing the affairs of the Association to be in a satisfactory condition. The nomination of office-bearers for the ensuing year was then proceeded with, the following being chosen:—President, Dr. Henry L. Swain, of New Haven, Conn.; first vice-president, Dr. Henry L. Wagner, of San Francisco, Cal.; second vice-president, Dr. Arthur Ames Bliss, of Philadelphia, Pa.; secretary and treasurer, Dr. James E. Newcomb, of New York; librarian, Dr. J. H. Bryan, Washington, D. C.; member of council, Dr. Samuel Johnston, Baltimore, Md.

A discussion then followed on the subject of **The early diagnosis of laryngeal cancer and the treatment.** It was introduced by DR. JOHN N. MACKENZIE, of Johns Hopkins University, Baltimore, who dealt with the methods of diagnosis and general principles of treatment. The subject he considered of such importance that, as he mentioned, he had left a sick bed in order to be present and take part in the debate. The present unsettled condition of the question led him to confine himself to the statement of certain views that were entertained on the subject, and the submission of certain propositions, which some might consider either revolutionary or reactionary, but which, nevertheless, he hoped would meet with some support. Leaving out of account the possible existence of a cancer-bacillus, there remained three methods of diagnosis, namely, (1) the naked eye, or diagnosis by ocular examination; (2) thyrotomy; and (3) the microscope. The second, of course, was often included in and ancillary to the first. In his opinion it was impossible to exaggerate the importance of examination by the naked eye. It was the most practical of the three methods, and it was unfortunate that it was so often relegated to a subordinate position. Every resource of clinical work should be made use of before recourse was had to the microscope. It, indeed, should be the very last court of appeal. The literature of the day showed that far too little reliance was placed on clinical work, and far too much on the microscope. There was no solitary sign by which they could detect cancer. They must group all the phenomena and form their diagnosis accordingly. But supposing they had weighed all the facts, and a reasonable doubt still existed, would they not then be justified in removing a portion of the growth for the purpose of subjecting it to microscopical examination? In spite of all the authorities to the contrary, he emphatically said "No." The reasons he had for objecting so strongly to the removal of any part

of the affected tissue were that it exposed the patient to autoinfection, stimulated the growth of the cancer if such it proved to be, and often led to misleading conclusions. It was not to be forgotten that cancer was an infectious process. He believed that sooner or later its bacillus would be discovered, and that then the disease would cease to be treated surgically—the place of the knife being taken by an antitoxin. Meanwhile the cardinal fact that they had to face was that the surgical treatment of cancer had resulted in failure because the methods had not been sufficiently radical. They had not completely removed the disease. So long as they left the lymphatics to carry infection to other parts, they were bound to fail, and after painful experiences he had come to the conclusion that the only hope of success lay in the total extirpation of the organ and also the lymphatics. Surgeons had ceased to trifle with cancer in other parts of the body, and there was no reason why they should continue to trifle with cancer in the larynx.

Dr. D. B. Delavan, of New York, who was down on the program to report on the **Statistics relating to treatment of cancer** by the different methods, said he was very much in the position of the author who headed one of his chapters "Snakes in Ireland," and then proceeded to say "There are none." In regard to cancer it was not literally true that there was none, but such as existed were of very little value, principally because of the tendency on the part of surgeons to report only their successes, and withhold all mention of their failures. For this reason, in collating such statistics as he had, he had found it necessary to eliminate all American operators. Only a few European operators had reported both failures and successes, and the statistics he had gathered from their reports left the entire matter in a very unsatisfactory condition. He suggested that surgeons should be urged to practise greater frankness. The speaker proceeded to give the meeting the benefit of his researches for what they were worth.

Dr. J. Solis-Cohen, of Philadelphia, was then called upon to speak on the **surgical procedures connected with cancer.** He remarked that Dr. Mackenzie had struck the key-note of the matter so far as surgery was concerned when he said that a more radical operation was necessary in order to make sure that the whole of the infected area was removed. As regarded the procedure, the first danger to be guarded against was from the accumulation of septic material and its passage into the lungs. To avoid the latter, he operated with the head lower than the shoulders, which was easily accomplished by allowing the head to hang over the table. In some cases it might be found desirable to perform a preliminary tracheotomy, but if the patient was in such a condition that he could not wait for the radical operation it should be performed at once. In order to prevent septic pneumonia, it was necessary to shut off all communication from the mouth to the air-passages. Another important point was to avoid all dressing, and it was also essential to be careful in the after-treatment, the patient being put in a bed with the foot-board raised, so as to keep the head low. The operation required the cooperation of the laryngical mind and the mind of the general surgeon. Dr. Swain said that in view of the discouraging statistics it was desirable, if possible, to look on the brighter side, and with that end he related some of his experiences at New Haven. Dr. C. C. Rice, of New York, said that it was important that the laryngologist should not turn over his patients to the general surgeon until he was sure of his diagnosis. He thought, too, that some laryngologists were inclined to operate too early. Especially after hearing the discouraging statistics he thought they would do wisely if they did not come too soon to the conclusion that an operation was required. Dr. Emil Mayer, of New York, said the assistance of a general surgeon was always desirable, because additional operations were sometimes found necessary outside of the region of the larynx. Dr. A. B. Thrasher, of Cincinnati, thought the removal of a small part of the growth with a view to microscopic examination was sometimes justifiable. Dr. W. K. Simpson, of New York, agreed with the last speaker, and said he considered it would be very unwise to extirpate the larynx without a previous microscopic examination. Dr. F. C. Cobb, of Boston, gave the results of some of his experiences with thyrotomy. The authors of the papers then replied on the debate, Dr. Mackenzie stating in answer to questions that his experiences with the entire extirpation of the larynx without the removal of the lymphatics consisted of three dismal failures. The plan he recommended of including the lymphatics in the removal had not yet been tried so far as we knew. Dr. Cohen said that in the next case in which he was called on to operate he would insist on taking out the entire larynx and the lymphatics.

The discussion was found to have taken up so much time that the reading of the other papers on the program had to be postponed.

(To be continued.)

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-sixth Annual Meeting, Held at the Normandie, Washington, D. C., May 1, 2, and 3, 1900.

In his address to the Association, the President, Dr. Edward D. Fisher, of New York, said that the position of neurology among the divisions of medicine and surgery has changed very much during the past 25 years. Among other things to be considered is that neurologists must not separate themselves from general medicine, and while specialists may remain narrow and limited, this should not be the case with neurologists. The tendency should be toward the study of general medicine. Neurologists must recognize and fully understand general diseases. They should be able to examine the heart, the lungs and the other internal organs so as to make out any disease of special nervous character. Therapeutics is also important. Neurologists are accused of being more interested in diagnosis and localization of disease. The fact is that physicians and patients not only look for diagnosis, but also suggestions in reference to treatment. The importance of the necessity of the continued study of the histology and pathology of the nervous diseases is not underrated. The note of warning Dr. Fisher would sound, and especially to those about to enter this field of medicine, is to keep up as broad a knowledge of general medicine as possible. No one should enter neurology as a specialty without first having had an experience in general practice. If the signs of the times are read aright, that is the tendency of the neurology of the future.

Christian Pseudoscience and Psychiatry.—Dr. Smith Baker referred to the January number of the *Christian Science Journal*, in which an article appeared, by Judge Joseph R. Clarkson, of Omaha, to the effect that "Christian Science makes stronger, healthier, more unselfish, more honest, more contented, holier, purer, poor people," and that "through Christian Science there have been, as well as can be estimated, more than 1,000,000 cases of healing every sickness," and "that, in the opinion of the best qualified judge, there is no disease Christian Science cannot meet, arrest, and destroy," further quotes Mrs. Eddy as saying, that "Christian Science aims to destroy the patient's unfortunate belief by both silent and audible argument." He notes that if a disease is really an acute one, it easily falls within one or two classes; either it is natural, self-limited, or readily cured by any means, or else it has been wrongly diagnosed. No intelligent person, can suppose that a real fracture or dislocation, or a case of crushed bone, can be healed by Christian Science. No one can suppose a real case of typhoid fever, or of smallpox, or of pneumonia, to be under the dominance of the healer. But that many cases of those, as well as almost every acute ailment, or, at any rate, of such as have had given some sort of technical name are healed, there seems to be a question of indubitable evidence. It is altogether more certain that every such case includes a very large proportion of long standing, functional troubles, like neurasthenia, hysteria, asthenopia, diffuse or shifting pains, joint-aches or limitations, vicious digestion, faulty excretion, etc.

Dr. Edward B. Angell read a paper entitled **Imperative ideas in the sane and their management,** and said that even in the normal mind constantly are recurring words, phrases, emotions, or ideas, which force themselves against the will. In the morbid state of mind, these demands of imperative ideas become a disease against which the most strenuous efforts of the will seem impossible. Dr. Angell said his object was to determine how far our present knowledge through proper classification and analysis of these imperative ideas

will enable us to recognize their significance. It is necessary in the investigation of these morbid ideas to study the mind in its automatic activity, a condition which, to a very large extent, prevails in states of sleep, hypnosis, somnambulism, hysteria, and insanity, during which normal evolution is largely or wholly suspended. Dr. Angell thought hypnotism certainly formed a promising field of relief. Through means of the hypnotic state of the patient a knowledge may be obtained of the underlying primary disturbance which existed as a subconscious idea in the mind of the subject which otherwise never would come to light. Another important feature in the employment of hypnosis is that the patient should always be carefully awakened and left in a calm mood at the expiration of the seance. It was his belief that, in time, this method of education will entirely change into the sanatorium of the more unfortunate of this class of patients. In a general way much may be done to lessen emotional influences by training the patient to withstand painful stimulation of the skin.

In the discussion, DR. SMITH BAKER thought that antecedent to all parental conception are certain conditions of the mind in the form of a stress brought about by deprivation. For instance, in sexual obsession, this has been found when one of the patients or both of them have lived a life of absolute sexual stress of the order of deprivation. Take parents during the child-bearing period, who are eager for property and yet are deprived of obtaining it. That stress of mind or body seemed to be the ground-field in which the child will bear a weak spot, where the imperative obsession will be developed later on. Dr. Baker was rather skeptical about hypnosis and preferred rather to endorse the straightforward method of educating the mind by some such work as Emerson's Essays, or some new science, or a new field of work. DR. KNAPP, in discussion, did not think the claim Dr. Angell made of imperative conception and fixed idea is one that can be strictly maintained in practice. Removing a fixed idea in hypnosis seems like putting on a spinal brace to cure a weak back. DR. S. WEIR MITCHELL related a case of a lady who possessed a condition of repetition; that is, when she moved a book, for instance, she would feel impelled to move it a certain number of times, associating therewith some one of her relatives. For instance, if she turned the book on the table when thinking of her cousin, she would do it three times. When her mind dwelt on her husband, she did it seven times. She referred this peculiarity to a similar desire in childhood to move her shoulders. She was practically cured by being pinched, associating the discomfort with the pinch. Speaking with great gravity and seriousness and covering a wide experience, DR. MITCHELL confessed that he did not know of a case cured by hypnosis alone. DR. SACHS thought that the subject of imperative concepts is a physic phenomena which is closely allied to a physical condition, and does occur in persons otherwise normal. He expressed himself as of the opinion that hypnosis was attributable to origin rather than cure of imperative concepts. DR. PUTNAM expressed the opinion that when there are severe sexual perversions and drug-habits, the use of hypnotism proves helpful. DR. BROWNING, in relation to imperative ideas, said that if a woman who comes from a fine family and grows up with little to do; who has no opportunity for mental culture, could have a wider field of mental and physical application, she will be cured. DR. ANGELL, in closing, said that he did not think the American men or women are as susceptible to hypnotism as are the French or German or other Continental races. So far as Dr. Knapp's idea is concerned, the difficulty of establishing the absolute distinction between the fixed idea and the imperative idea, of course, that is true, because these conditions are largely relative, but I do believe that this distinction between the fixed idea and the imperative idea, so far as treatment goes, the imperative idea is attended in the antagonistic consciousness in the feeling of the patient.

DR. HOWELL T. PERSHING, of Denver, read a paper on **A case of Wernicke's conduction aphasia, with autopsy.** He reported a case of a man of robust appearance, aged 45 years, who was brought into the hospital in an unconscious condition, November 19, 1897. The history, which was meager, indicated that the man had fallen from his wagon into the bed of a small stream, where he lay for about 36 hours before being found. He was removed to the hospital, and on two previous occasions had become unconscious, but apparently recovered. On examination the right arm and leg were found rigid and tremulous, the head and eye showing slightly-marked deflection to the right. There was no sign of an injury to the head; the pulse and heart were normal, respiration 20, somewhat stertorous; temperature 99.8; urine, normal. A diagnosis was made of the vascular lesion. Conformable syphilitic thrombosis in the left hemisphere and inunctions and potassium iodid were ordered. Consciousness returned in the course of a week, but the man's talk was a mere jargon. He generally failed to do all he was told to do, but responded readily when shown by a gesture. No paralysis could be detected. During the second week in the hospital the word-deafness disappeared, and no sign of the cerebral lesion then remained except jargon-paraphasia and certain associated defects. There was no hemianopia. He had a keen eye for all that went on about him. The patient's condition remained substantially the same until January 23, when he suddenly began to vomit and was found to be unconscious. The left pupil was larger than the right, pulse 64, weak and soft, heart-sounds normal, temperature in right axilla, 97.7°; the left, 97.2°, and Cheyne-Stokes respiration. He was unable to swallow, and death occurred from intercurrent anemia January 29.

DR. JOSEPH SAILER read a paper on a **Case of bullet-wound of the spinal cord.** This was in a man, 31 years of age, formerly a major in the Cuban Army, who was wounded November 2, 1896, by a ball that entered 1 cm. to the left of the right nipple and just below it, and which passed out about 2.5 cm. to the left of the spinous process on the twelfth dorsal vertebra, having penetrated the lung, the liver, and the spinal column. DR. S. WEIR MITCHELL thought that the most remarkable thing in this case was the disappearance of the buttock muscles. DR. PUTNAM referred to a woman who came to him about a month ago suffering from a fall in 1897. She developed complete paraplegia and complete loss of sensation of the lower extremities and of the trunk and blunted sensation of the arms, but no loss of power of the muscles of the upper extremities. Upon operation it was found that the cervical spine of the sixth vertebra had been broken and was freely movable. After operation the bladder resumed its normal function. DR. SAILER said that Dr. Mitchell has instituted massage and electricity scientifically administered, with the result of considerable improvement of nutrition of the muscles, particularly of the thigh.

DR. G. L. WALTON read a paper entitled **Contribution to the study of the plantar reflex, based upon 750 tests, made with special reference to the Babinski phenomenon.**

DR. CHARLES K. MILLS made a verbal report of a case in which a **tumor of the parietal lobule, accurately localized, was removed by operation.** This case was interesting as to the diagnosis of brain-tumor on general diagnosis. The question was whether it was not a case of hysteria. There was much in the case to point towards the diagnosis of hysteria. The patient was hysterical and emotional. There was a difference of opinion chiefly because of the absence of some of the most frequently observed manifestations of organic focal disease and the presence of other symptoms and signs commonly regarded as characteristic of functional nervous disorder. DR. SPILLER said that from a pathologic standpoint, while the tumor first looked like a sarcoma, it was finally proved to be epithelium. The tumor was dark in color, not adherent to the dura, and the wall of a cyst was intact. It resembled the finger of a kid glove in appearance. DR. DERCUM said that he had seen the patients himself, and that he thought too much credit could not be given to Dr. Mills for the brilliant and successful outcome of the case. DR. WALTON said it was of interest to place on record all such cases of established tumor. In the absence of headache, vomiting and optic neuritis, though this possibility is recognized, it requires courage to make the diagnosis. He reported a case of an elderly man commencing with tremors in the wrist and gradually replaced by paralysis, finally complete in the arm and practically so in the leg, the latter of the spastic variety.

DR. JOSEPH COLLINS reported a **Clinical study of the reflexes,** the object being to determine, if possible, the physiologic nature of those reflex tendon-phenomena, and to inquire into their relationship to, and probable dependency upon, muscle-tone.

The discussion was opened by Dr. S. Weir Mitchell, who spoke in reference to reinforcement of kneejerks, quoting the literature on the subject, and spoke in commendatory terms of the work of the American neurologists as compared with the Continental. He dwelt upon the feature of muscle-reaction in its different phases. Dr. Knapp spoke about certain peculiarities of reflexes not mentioned by Dr. Mitchell. Drs. Sachs and Spiller closed the discussion on the subject.

(To be continued.)

THE EIGHTEENTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Wiesbaden, April 18, 19, 20, and 21, 1900.

[Specially reported for the Philadelphia Medical Journal.]

After an informal reception of the members of the Congress on Tuesday evening, the first session of the Congress formally opened with the President's address by von Jaksch (Prag). The President "at the turning of the century," reviews briefly the work done in internal medicine during the nineteenth century, and prophesies still greater advance in the twentieth. He notes especially the results obtained and yet to be won in the knowledge of the etiology of disease, and believes that physiological chemistry will unlock many secrets in the future.

The Congress was then officially greeted in the name of the Government and city of Wiesbaden, the medical department of the Army, and in the name of the Austrian Ministry for Education by Nothnagel (Wien), who expressed the wish that the continued efforts of German and Austrian medicine might be doubly successful.

Müller (Basel) delivered an oration in memory of members of the Society who died during the year. Immerman (Basel), Seitz (Wiesbaden) and Leichtenstern (Köln). The first main topic for discussion had been referred to von Korányi (Buda-Pest), and Pel (Amsterdam). It was not expected that anything especially new would be brought forward. Von Korányi reviews the literature and methods of treatment; considers that every method can, in certain cases, be of value, but that no method is specific.

Pel calls attention to the fact that the body is able, without help, to withstand pneumonia, consequently the physician would direct his attention to the general hygienic condition of the patient, would strive to strengthen the patient, and confine treatment to complications. Pel does not believe in the use of digitalis in pneumonia, except as prophylactic in threatened collapse; he holds that large doses are dangerous, that one cannot determine the individual reaction to digitalis, and that the beneficial action of the drug is not sufficiently proved. Speaker regrets that we have no satisfactory expectorant in pneumonia. In the crisis one must give stimulants, but Pel does not believe in the too indiscriminate use of alcohol. Fever may possibly be of use to the body in combating the disease and therefore should not always be fought against. In short, Pel recommends a general stimulating treatment, with careful watch for, and treatment of, complications.

In the general discussion which followed, Müller (Berlin) presents a table showing the statistics of pneumonia in the army. Pneumonia shows the highest absolute mortality of the diseases met with in the military service. The last twenty years show but little difference under the different methods of treatment; the change for the better in the last few years is due to improved hygiene and general treatment.

Rosenstein (Leyden) agrees with v. Korányi and Pel that no treatment is specific; calls attention to the fact that the physician must carefully watch the heart-boundaries and the pulse; in case of enlargement of heart, especially toward the right, stimulants are indicated.

Schultze (Bonn) does not give alcohol except when patients are accustomed to it; considers digitalis doubtful. Believes with Pel that none of the expectorants is satisfactory.

Naumeyer (Strassburg) calls attention to the value of potassium iodid as an expectorant; has used ergot in two cases with good results, though would not recommend it on the basis of two cases.

Lenhartz (Leipzig) notes the symptoms of general intoxication in pneumonia and believes that this bacteriemia, proven by the presence of diplococci in the blood, gives a hint for treatment.

Nothnagel (Wien) wishes to emphasize the good results often obtained by a hydrotherapeutic treatment.

Senato (Berlin) considers hot water, either in the form of the aromatic teas, or better, the alkaline mineral waters, one of the best expectorants.

Other members spoke a few words in the general discussion, the substance of which agrees with the ideas expressed in the main papers; there is no specific treatment; most successful is a treatment inclined to improve and maintain the general condition of the patient.

Second Session

Rosenstein (Leyden) in the chair. The second session opened with a paper on **Malta fever** by Musser (Wien), a disease just beginning to interest German medicine as a result of the political expansion of the empire. Musser presents a patient and demonstrates cultures of the Micrococcus melitensis of Bruce. Agglutination is a valuable aid in diagnosis; a specific treatment is unknown. The paper presents an exhaustive description of the disease, differential diagnosis, etc.

Wenkebach (Utrecht) follows with a paper entitled, **The physiologic explanation of the arrhythmic action of the heart.** Modern physiology teaches that the normal heart-action depends from: (1) the automatic excitation of the heart-muscle; (2) the power to conduct the motor impulse from muscle-cell to muscle-cell, and (3) the contractile power of the heart-muscle. Any of these normal functions may be affected. An increased automatic excitation is the cause of pulsus trigeminus intermittens, and similar pulse-forms. Lessened power of transmission explains Stokes-Adams' phenomenon and some forms of bradycardia; an increased power of transmission causes delirium cordis. Lessened contractile power causes pulsus alternans.

A lively discusssion followed the reading of the papers by Grube (Neuenahr-London), **Diseases of the stomach and bowels due to gout,** and **An artificially produced coma analogous to the coma diabeticum.** Characteristic for the disturbances in the digestive tract due to gout are the increased fermentative processes in the stomach and bowels; some patients can determine the approach of an attack by the offensive character of the stools. The symptoms are, however, not especially characteristic except in connection with the concomitant gout-symptoms. Nimkowski (Strassburg) warns not to lay all the blame for the dyspeptic symptoms to gout. He considers them a mere secondary symptom.

Von Noorden (Frankfurt) emphasizes also that the digestive symptoms are of mere secondary nature, and warns against a useless maltreatment of patients in regard to diet.

His (Leipzig) thinks, however, that the excretion of uric acid from the venous membranes may be the direct cause of the digestive symptoms by causing peritoneal irritation; he emphasizes the lack of anatomical material for the study of gout.

In his second paper, Grube demonstrates the respiration curves in a coma produced by injections of β-amido-butyric-acid. He believes that a true coma was produced, that the respiration was typical, and that substances characteristic for coma diabeticum can be found in the urine of the animals used.

Magnus-Levy (Strassburg) does not believe that the coma is a diabetic coma; the acids in question, in diabetes, are not β- but α-amido-acids.

Löwit (Innsbruck) considers the curves demonstrated by Grube simple dyspnea-curves.

Biede (Wien) also considers them to have been produced by the conditions of the experiment.

Schott (Bad Nauheim), **Influenza and chronic heart-disease,** brings nothing especially new; complications of influenza and heart-disease are very frequent; in no disease, except arthritis rheumatica, is the heart so liable to affection. He notes especially that pathological hearts are especially disposed to complication, especially hearts with valve-lesions.

WEINTRAUD (Wiesbaden) read a paper entitled **The katabolism of nuclein in the body.**

HILDEBRANDT (Berlin) describes **A new synthesis in the animal body.** He has found new bases which are formed in the condensation of piperistin and phenol by means of formaldehyd. Introduced into the body of an animal these substances unite to form a body which appears in crystalline form in the urine. Speaker describes these new bases and their chemical constitution.

The session closed with a demonstration by MORITZ (München) of a new apparatus for working with Röntgen-rays. The fault of former methods has been, for example, in determining the heart-boundaries, that the divergent rays from the Crookes' tube produced an enlarged shadow of the heart, but the degree of magnification of actual size of the heart could not be obtained because one could not determine the relative distances of tube, heart, and shadow. If, however, one works with the direct rays alone, cutting off the divergent rays, the exact size of the heart can be determined. Moritz cuts off all rays except those in the direct beams, by means of a metal screen and marks automatically upon a chart the points where these direct rays are intercepted by the heart. Experiments with bodies of known form have proved that the method is astonishingly exact. The fact that Prof. Moritz was requested to demonstrate his apparatus again on Friday evening shows the interest taken by the Congress in his apparatus.

THIRD SESSION—THURSDAY MORNING.

v. KORÁNYI (Buda-Pest) in the chair.

President v. JAKSCH read an invitation to the Congress for Tuberculosis, to be held in Naples; SENATOR (Berlin) is chosen to take part in the Naples Congress in the name of the German Congress.

The main feature of the third session was an animated discussion following a paper by TÜRK (Wien) on **The hemameba of Löwit in leukemic blood.** Türk claims, in short, that the "specific bodies" found by the method of Löwit in the blood of patients suffering from myelogenic leukemia are not parasites, but are artificial products caused by the action of the basic stains in water-solution upon the granules of the mastcells. He bases his claim upon the fact that in normal blood, as of the rabbit, which contained mast-cells, the hemameba can be found with the specific method of Löwit, but not with other staining methods, the number of granule cells in the latter being equal to the number of hemameba in the former. Having shown that these forms are artificial, Löwit's claim that he has successfully inoculated rabbits with leukemic blood cannot be considered as proved.

LÖWIT (Innsbruck) claims that one can obtain his parasites and the granules of the mastcells in the same preparation, after treating the slide according to a certain method—which method he declines to explain, since methods can only be explained at length, and on paper; he thinks Türk has not seen the typical forms, and emphasizes the form and green tint of his parasites.

TÜRK thinks that Löwit stains with his new method only those more resistant granule-cells, whose granules have not been disturbed by the "specific" treatment.

KRAUS (Prag) agrees fully with Türk.

v. JAKSCH suggests that the gentlemen demonstrate their preparations in order that the Congress may proceed, and the discussion is adjourned.

In the meantime, SONNENBERGER (Worms) treats the subject of **The etiology of the acute digestive disturbances, especially cholera morbus, of young children.** He points out that, in the light of late experiments, the milk must be considered an excretion, as well as a secretion. Cholera morbus in young children presents the picture of ordinary gastroenteritis; the convulsions, etc., which often occur, point to an intoxication, which is caused by the presence in the milk of alkaloids derived from weeds found in fodder. These alkaloids are not destroyed by heat, therefore the only effective prophylaxis is care that the fodder is kept free from these weeds. The paper was listened to with interest.

HOFFMANN (Düsseldorf), **On the pathology of paroxysmic tachycardia,** believes that this disease is not explained by assuming primary heart-disease, infection, etc.; he has noticed during the attacks a marked increase in the excretion of urine, with lowering of specific gravity, and believes that the explanation of the attacks of tachycardia is to be found in an infectious, or reflex—probably the latter—irritation of the medulla oblongata in the neighborhood of the centers for heart and kidneys. He would consider tachycardia merely a symptom of a disease, the disease itself not being in the heart.

NOTHNAGEL (Wien) agrees with Hoffmann, but prefers to consider tachycardia not a mere symptom, but a disease sui generis in the same sense that one calls epilepsy a disease sui generis; he believes that the attacks may be caused by many different factors, but the localization must be sought in the medulla oblongata, and the disease must be considered a neurosis.

HOFFMANN prefers not to call tachycardia a disease sui generis, but a disposition sui generis.

VIERORDT (Tübingen) seeks to prove, in a paper on **Cyanosis,** that cyanosis is simply dependent from a venous hyperemia.

MINKOWSKI (Strassburg) describes **a peculiar hereditary form of splenomegalia with chronic icterus.** He has seen 8 cases in the same family, in all of which enlarged spleen, yellow skin and dark urine have been observed since childhood. One autopsy showed enlargement of spleen, normal liver, no hemosiderosis, but an enormous amount of iron-containing pigment in the kidneys. He considers the enlarged spleen characteristic for this form of icterus.

SENATOR (Berlin) has seen two similar cases and mentions five similar cases published by a former assistant. He believes this disease a chronic affection of the spleen.

The discussion of Türk's paper was now continued. LÖWIT is not able to recognize his parasites in the preparations demonstrated by Türk; he emphasizes the form and color of his parasites.

TÜRK notes that form and color are not decisive characteristics.

LÖWIT (Innsbruck) follows with a paper, **Further observations on the parasites of anemia.** He claims to have found in the leukocytes in cases of lymphemia a new parasite characterized by its ring form; discusses its zoological position and claims to have inoculated some into rabbits.

GUMPRECHT (Jena) describes **A new constituent of the liquor cerebrospinalis.** The newly found body is cholin, one of the final products in the katabolism of lecithin. The katabolism of lecithin as well as the products of albumin katabolism found by Gumprecht in the liquor cerebrospinalis, lead to the conclusion that the subarachnoid cavity is a large drainage-canal for the removal of the physiologic metabolism of the nerve-tissues.

FOURTH SESSION.

ABRAHAM (Berlin) presiding.

The fourth session opened with a paper by BORNSTEIN (Bad Landeck, Schlesien), **The methods for increasing the amount of albumin in the body.** Speaker believes, in short, that the method of Weir Mitchell—albumin, fats and carbohydrates,—is too serious, and advocates a one-sided nourishment with 30–50 grains pure albumin,—preferably casein-albumin,—in addition to the ordinary diet. His experiments show that this plan is theoretically preferable to, the results are more lasting, and the method is more convenient for the physician and patient, than the method of Weir Mitchell.

SMITH (Schloss Marbach) describes **some new methods for determining the heart-boundaries.** The methods used by Smith are: Röntgen-rays, which he considers more reliable with the apparatus demonstrated by Moritz; the friction-method of Bianchi (Turin). He discusses the conditions which cause false results in the use of Bianchi's method, and recommends an improved phonendoscope; tension of the skin must be avoided. He describes further a subjective method; if an indifferent electrode is placed upon the patient's back and a button electrode over the heart, and the strength of the secondary faradic current is gradually increased, a point will be reached when the patient feels that the current, at first felt on the skin, now causes a feeling of vibration in the deeper-lying parts. After the patient has noted this feeling, the electrode is passed slowly from the

sides toward the heart; the points where the patient first experiences this feeling of vibration coincides with the heart-boundary.

In **Statistic-clinical studies of 200 cases of carcinoma of the digestive tract**, Boas (Berlin) draws the following conclusions: Carcinoma is on the increase, excepting carcinoma mammae and uteri; it is impossible to talk of heredity, unless both cases were treated by the same physician or an autopsy was performed; more cases of carcinoma intestinalis occur in males than in females; *cancer à deux* occurs more often than hitherto supposed; without entering into the question of pathogenesis he would insist upon a strict prophylaxis as in contagious disease. The paper was not finished in the 20 minutes allowed.

The paper by Poehl (St. Petersburg), **The organo-therapeutic remedies in autointoxication,** was also left incomplete at the end of the 20 minutes.

The cultivation of the typhoid bacillus from the feces was treated by Kraus (Prag). Kraus believes that the fact that Bacillus typhi produces gas in 2% grapesugar agar, while Bacillus coli does not, is a valuable aid to the differential diagnosis. The general discussion turns to the method of Pirokowski; Löwit (Innsbruck) considers it of value provided the cultures are grown at the proper temperature; Starck (Heidelberg) considers the method difficult and unreliable; Michaelis (Berlin) holds that it is the best method known at present for the rapid diagnosis of Bacillus typhi; Kraus (Prag) considers it unreliable.

The session closed with a communication and demonstration by Queirolo (Pisa), **The stomach boundaries and their variations, and a new method** (Queirolo-Landi) **for determining the same.** Queirolo introduces a sound bearing on its stomach-end a balloon of thin rubber; the upper end is joined to a tube for inflating the balloon and a tube connected with a small box provided with a diaphragm. The balloon is slightly inflated and a light percussion-stroke upon the stomach causes a compression of the contained air which is transmitted to balloon, air column in sound, and diaphragm, and is indicated by a pointer resting on the diaphragm. The connected points where the pointer first reacts give the outline of the stomach.

Thursday evening about 200 members met at a banquet in the "Kurhaus."

Fifth Session.

Senator (Berlin) in the chair. Session opened with the reading of an invitation to the congress for the study of malaria, to be held in Liverpool, July 24–27, under the presidency of Lister.

The feature of the fifth session was the discussion of the second main topic of the Congress, led by a paper by Litten (Berlin), **Endocarditis and its relation to other diseases.** The conclusions of this masterly and exhaustive treatise of the subject may be summed up as follows:

1. Endocarditis, with the exception of the atheromatous form, is never an independent disease, but always represents a complication.

2. Endocarditis occurs almost without exception during the course of an infectious disease, and is caused, excepting endocarditis atheromatosa, by microbic parasites.

3. The current, nomenclature, endocarditis mucosa and ulcerosa, admits no definite conclusions as to origin and course of the disease.

4. From the clinical standpoint and with regard to the danger to the patient caused by the disease, Litten distinguishes an endocarditis benigna and maligna.

5. In accordance with the secondary position of the disease the etiologic factor must be considered in the classification. Endocarditis is therefore to be divided into (*a*) endocarditis *benigna:* rheumatica, peliatica, choreatica, gonorrhœica, scarlatinosa, morbillosa, variolosa, diphtheritica, typhosa, pneumonica, tuberculosa, influenza, traumatica; (*b*) endocarditis *maligna*, non-apostematosa: rheumatica, choreatica, gonorrhœica; (*c*) endocarditis maligna: septico-pyemica, apostematosa, primary or secondary following one of the above-mentioned forms, caused by infection with pyogenic organisms.

Endocarditis benigna and maligna gonorrhœica are caused by the same organism, the gonococcus. The difference is therefore one of degree, according to the lessened or increased virulence of the gonococcus. One must also assume a constant etiologic organism in acute arthritis thermatica and the consequent endocarditis, the nature of which organism is not yet known. In analogy with the endocarditis gonorrhœica it is to be assumed that the benignant and malignant forms of endocarditis thermatica are caused by one and the same microorganism.

6. Endocarditis benigna either causes only slight changes which produce no clinical symptoms, or leads to the formation of chronic valve-lesions. It always affects the left heart and causes, if any at all, only anemic infarcts in the major circulating system. If one finds, together with these, infarcts in the lungs, they have originated in venæ thrombi, or coagulation in the right heart.

7. Endocarditis maligna brings under all conditions a considerable danger to the life of the patient; it occurs both in the right and left heart, and can show the anatomical picture both of endocarditis verrucosa and ulcerosa. It leads generally to metastases, which, according to the character of the disease underlying the endocarditis, act purely mechanically (rheumatism, chorea, gonorrhea), or infections (septico-pyemia, secondary or mixed infection), that is, anemic or pyogenic infarcts. Consequently endocarditis maligna must be divided into endocarditis maligna with or without pus-formation.

8. Traumata can also cause an inflammatory affection of the heart-valves which present all the characteristics of endocarditis benigna, and may end in recovery or the formation of valve-lesions. This form can likewise, following infection with pyogenic cocci, pass into the malignant septico-pyemic form.

Litten's masterly treatise was granted a vote of thanks from the Congress.

The general discussion was opened by von Jürgensen (Tübingen), who emphasizes the myocarditis accompanying endocarditis. He mentions that he saw no more cases which present the classic picture of rheumatoid arthritis; cases of later years show a tendency to develop neuroses, as, chorea, catalepsia, and even myelitis transversa. The best treatment is absolute rest as long as the temperature remains abnormal.

Lenhartz (Hamburg) considers Litten's classification too severe and not always holding good, basing his claim upon cases of endocarditis pneumonica and gonorrhœica, considered by Litten as benignant, which presented the clinical picture of a general sepsis, agrees that we have as yet no idea of this causal factor in rheumatoid disease.

Schott (Bad Nauheim) agrees with v. Jürgensen that the accompanying myocarditis is of importance. Endocarditis in influenza presents a similar picture to endocarditis gonorrhœica. Endocarditis is not influenced by any therapy,—Schott would especially emphasize that balneological treatment has no influence. The best treatment is absolute rest. Michaelis (Berlin) would retain the older anatomical names, verucosa, and ulcerosa; has examined a large number of joints, etc., in rheumatism and found them sterile.

von Leube (Würzburg) calls attention to the least complications which can occur in the course of the mildest infectious diseases; 5% of cases of diphtheritic angina show heart-affection; has seen endocarditis in the course of muscle-rheumatism. The physician should consequently watch the heart even in these simpler infections.

Wassermann (Berlin) claims to have found a streptococcus which produces joint-disease in rabbits; is at work at a serum from the same.

Litten (Berlin), in closing the discussion; says he sees in Berlin no more cases of classic rheumatism; fever-curve is different, and patients recover before the specific action of salicyl has time to show itself. Emphasizes that his classification is based on etiologic characteristics; the clinical and anatomical features may be the same in cases which he would distinguish. Litten remarks with considerable emphasis that the mere finding of a streptococcus is proof of nothing whatsoever.

A paper by Strubell (Breslau) explains **A new method for the examination of blood and urine,** a method based upon the determination of the deviation of light-rays in passing through the liquid in question.

His (Leipzig) closes the session with an interesting paper along the line of modern physical chemistry, on **The action and reactions of uric acid and its salts in solutions.** His shows in a theoretical study that some older

tenets are false; for example, that uric-acid concrements are more soluble in the presence of the salts of nitrium and lithium. His notes that the results of physical chemistry cannot always be directly applied in medicine, the conditions are too complicated. The discussion by MANKOWSKI (Strassburg), MORITZ (München), and HIS show that the subject of uric acid could bear further study.

SIXTH SESSION.

NAUMEYER (Strassburg) presiding.

PICK (Prag) describes **A peculiar hysteric paresis.** Patient could not voluntarily move his extremities of the left side, but could imitate passive motions of the right extremities. Pick considers this extraordinary phenomenon analogous to the condition in motor aphasia.

BICKEL (Berlin), demonstrates **The convulsions caused by the action of the bile and the acid salts of the bile,** injected into the subarachnoid cavity or brought upon the surface of the brain.

AGÉRON (Hamburg), in a paper too long for the 20 minutes allowed, brings some, but no new, **Diagnostic and therapeutic remarks on chronic ulcer of the stomach.**

STARCKE (Berka), **On the counting of the blood-corpuscles,** discusses the dependence of the results with the apparatus of Thoma-Zeiss from the barometric conditions, shows that the blood-count is dependent from atmospheric pressure, and recommends a device for rendering the Thoma-Zeiss chamber independent of barometric fluctuations.

WEISS (Basel), **The results of urosin treatment in uric-acid diathesis,** claims a specific action for urosin in these cases.

SCHWARZ (Prag) treats the **Excretion of aceton.**

Considerable discussion was provoked by a paper by MAGNUS-LEVY (Strassburg), **The Bruce-Jones albumin body.** He believes this albuminous compound either a product of the katabolism of albumin, or one of the bodies entering into synthesis of the albumen molecule. The discussion is in regard to the diagnostic value of this substance.

v. JAKSCH (Prag) failed to find it in three cases of tumor of the bones—one case diagnosed pathologically as myeloma; he considers the Bruce-Jones reaction of no diagnostic value.

NAUMEYER (Strassburg) agrees that in many cases of tumor of the bones the substance is absent; believes, nevertheless, with SENATOR (Berlin) that a positive reaction is of value in the diagnosis of myeloma, especially of the skeleton of the trunk. A negative reaction proves nothing.

WASSERMAN (Berlin), in regard to the nature of this albumin of Bruce-Jones, mentions the interesting result of late experiments; if cow's milk, for example, is injected into the circulation of an animal, a serum will be produced which causes coagulation of cow's milk, but will not affect the casein of goat's milk, etc. These experiments show that the specific nature of these albumin-compounds is as yet little understood. MALTHUS (Jena) describes one case in which the specific reaction of Bruce-Jones was of diagnostic value.

The session closed with a paper by MICHAELIS (Berlin), **Oxygen therapy,** which awakened some debate. Michaelis describes his method, to force O into the patient, thinks suggestion does not play a large role, and recommends O in dyspnea, psychoses and acute poisoning. v. JAKSCH considered formerly that any good effect of O treatment was due entirely to suggestion, has lately seen improvement in a case of coma diabeticum where suggestion was out of the question. SCHOTT saw likewise good results in an unconscious case of heart-disease. KRAUS (Prag) believes O-therapy useless because the question is one of O-consumption in the body, not of amount of O at disposal. MERKEL (Nüremberg) sees only transitory improvement in dyspnea, etc. On the contrary, saw good results in two cases of acute CO poisoning; two girls, of same age, were poisoned under the same conditions; one he treated with O-inhalations, the other not, and saw such marked improvement in the first that he removed the mask and administered O to the second patient, who then improved rapidly.

SEVENTH SESSION.

v. JAKSCH in the chair.

HEINZ (Erlangen), **Experimental researches on the action of digitalis,** claims to have shown for the firs time in figures, that digitalis exerts a tonic action upon th heart of warm-blooded animals. KOBERT (Rostock) empha sizes the contractile action of digitalis upon the large vessels HEINZ notes that the action of the different digitalis prepara tions is not known; he finds for example, that strophanti exerts a different influence from digitalis.

MÜLLER (Leipzig) has worked at the problem of **the origin of inflammation of the lungs.** He has studied th conditions in experimental vagus-pneumonia and finds tha the bacteria are conducted from the primary focus of infection in the interstitial lymph-vessels,—exactly as coal dus is transported in the lung,—in contrast to the theory that th bacteria attack directly the alveoli in the neighborhood o the disease-focus. Müller suggests that the pain in the side characteristic for the early stages of pneumonia is not to be explained by assuming a pleuritis, but as a symptom of a lymphangitis on the surface of the lung.

LENHOFF reads a paper by LENHOFF and BECHER (Berlin), **Further observations in regard to the relation between body-form and position of the kidneys.** Authors conclude that the canon of Fritzsch-Schmidt, in addition to the index found by them, is of value in the clinical determination of the position of the internal organs. The discussion seemed to show that the general opinion of these canons is that they are of little use in dealing with pathological conditions.

STRAUSS (Berlin), **On the function of the stomach,** lays weight upon a function hitherto little considered, namely, the ability of the stomach to maintain the osmotic pressure of liquids in the stomach below that of the blood.

WASSERMANN (Berlin) **New reseaches in the field of serum-therapy,** arouses considerable interest. Basing his work upon the late results published by Erhlich he has found that the immunizing serum of an animal made immune to typhoid,—which serum has been hitherto of little effectiveness,—acquires a real protective value when the bactericidal constituents of normal blood are added to it; he uses, therefore, serum from an immunized, plus serum from an unifected, animal, and claims positive results in protecting animals from typhoid. The value of Wassermann's communication is shown by the fact that ERHLICH (Frankfurt) expressed his great satisfaction at the results obtained by Wassermann. Ehrlich notes that the effect of the normal bactericidal blood-constituents is seen only by using serum from the same species as the animal one would protect. The paper is a valuable addition to our knowledge of the complicated nature of toxins and sera, if nothing further.

BIEDEL and KOLISCH (Wien), in a study of **phloridzin diabetes,** conclude that glycosuria is in reality a result of a glycohemia.

ERDLEFSEN (Hamburg), brings nothing new on the subject of **The determination of sugar in the normal urine.**

The Congress closed with a paper by LENNÉ (Neuenahr), **The addition of albumin to the diet of diabetic patients.** Lenné shows that the albumin required is in relation to the body-weight, and should not exceed an amount corresponding to an excretion of 0.37 gram uric acid pro kilogram body-weight for 24 hours.

VON JAKSCH, closing the Congress, remarks that the program was completed—no left-overs for next year—which was greeted with applause, and a vote of thanks to von Jaksch for his business-like success as president.

The Congress meets next year at Berlin with Senator (Berlin) as president.

Euphthalamin in Ocular Diagnosis.—Hale (*Chicago Medical Recorder*, February, 1900) draws the following conclusions: 1. Euphthalamin (5 to 10% watery solution) produces no subjective symptoms. 2. It causes practically only mydriasis, pronounced, but of short duration, which shows itself, as a rule, in 30 minutes; earlier, therefore, than in other drugs. 3. Its effect shows itself earlier in youth than in old age, but the difference is negligible. 4. It has no effect on ocular tension, at least no contrary reports have as yet appeared. 5. It causes no hyperemia or ischemia of the conjunctiva, and it has no effect on corneal epithelium. 6. Its influence on accommodation, especially in such cases as the general practitioner would most probably use it, is absent. 7. The normal condition of the pupil is rapidly restored. 8. It is apparently nonpoisonous.

Original Articles.

THE MEDICAL SCHOOL OF THE FUTURE.*

By H. P. BOWDITCH, M.D.,
of Boston, Mass.

Among the intellectual movements that have characterized the century now drawing to a close there is perhaps no one more deserving of careful study than that which is concerned with providing education for the people in the school, the academy, and the university. The importance of popular education became apparent in proportion as political freedom was secured for the people. Thus Viscount Sherbrooke, better known as the Hon. Robert Lowe, in the reform debates of 1866 and 1867, after the passage of a bill for the extension of the suffrage, uttered the well-known words: "We must now at least educate our masters." The same sentiment has also more recently been embodied in the inscription on the Boston Public Library. "The Commonwealth requires the education of the people as the safeguard of order and liberty," and in the presidential address of Dr. J. M. Bodine,[1] at the meeting of the Association of American Colleges in 1897, we find the same idea thus expressed, "In America the citizen is king. The king must be educated to wield aright his ballot-scepter."

For many years educators looked upon their work with no little complacency. The educational systems of the various civilized countries were supposed to be well adapted to the ends in view, and educational exhibits have generally been regarded as important features of international expositions. But within the memory of most of those now before me signs of serious discontent have not been wanting. Education has not always been found to furnish the required safeguards for order and liberty. Highly educated men have often been found singularly lacking in mental balance. Schools for the inculcation of "common sense" have never yet been established. Even the great development of psychology as an experimental science, which has occurred chiefly within the last 25 years, though it has served to establish many laws of mental action, has thus far failed to justify the hope that pedagogy may find in psychology a foundation for the erection of rational systems of education. Indeed we have recently been told by one of the ablest expounders of this science that it is a great mistake for teachers to "think that psychology, being the science of the mind's laws, is something from which they can deduce definite programs and schemes and methods for immediate schoolroom use. Psychology is a science and teaching is an art. A science only lays down lines within which the rules of the art must fall, laws which the follower of the art must not transgress; but what particular thing he shall positively do within those lines is left exclusively to his own genius."[2]

Even this general guidance has been very imperfectly afforded, for the limits set by the science of psychology to the art of teaching have never been precisely defined. In fact, the most fundamental question of all, viz., the relation of mental to physical development, has not yet been settled, though much material for its study has been collected. It is not, therefore surprising that in many countries teachers have made too great demands upon the time and strength of growing children.

This has been clearly the case in some parts of Germany, where schoolboys from 8 to 15 years of age have found their vital energy so far exhausted by the school work required of them that they have lost all inclination for vigorous athletic amusements so naturally indulged in by Anglo-Saxon boys. The deterioration of the race as a result of too close application to intellectual pursuits, to the neglect of the physique, has been fortunately obviated, in the case of Germany, by the army system which takes entire possession of the youth before it is too late and, by requiring him to devote three years to the education of his body, turns him out, at the end of that period, a young man with mind and body trained to a high degree of efficiency, well fitted for civil as well as military pursuits, and comparing favorably in all respects with men of his age in other nations. Looked at from this point of view the German army must be regarded as an important part of the educational system of the country, though as a piece of educational machinery its workings cannot be considered economical. In fact the absurdity of depending upon the army to remedy the defects of the school system has long since been forced upon the attention of German educators and the difficulties above alluded to are now in a fair way to be removed.

In our own country difficulties of a quite different kind have been met with. Here the great danger which threatens our system of popular education arises from its close association with party politics. The office of a school committeeman in one of our large cities has been well described as "the smallest coin in which politicians pay their debts," and as long as the education of our children continues to be entrusted largely to men who consider their position on a school board as the lowest step of the political ladder, there is small hope of the adoption of rational methods of education. Moreover, this intimate alliance between education and politics greatly aids the efforts of persons more zealous than discreet to direct the instruction of children in accordance with their own special views. Thus nearly all the States of the Union have upon their statute books laws requiring the physiogical action of alcohol to be taught to children in all grades of the public schools. These laws violate the first principles of pedagogy inasmuch as the physiological action of a drug cannot possibly be understood without a familiarity with anatomy, physiology and chemistry which school children cannot be supposed to possess. They have been passed at the bidding of total abstinence associations, sometimes in opposition to the earnest protests of the teachers entrusted with their execution. How these excrescences upon our educational system may be best removed and the work of instruction placed under the control of those best qualified to direct it are questions demanding serious consideration.

I have mentioned these instances in which great educational systems have been found wanting merely for the sake of pointing out that the critics of our methods of medical education, who, as Prof. Exner[3] has shown, are now raising their voices in every land, do but give a special expression to a widespread feeling that our educational systems are not accomplishing all the objects for which they have been devised, and that the discontent which they imply is but a healthy dissatisfaction with the results thus far accomplished. May the time be far distant when those in charge of our educational interests shall rest content with what they have achieved, for this will indicate that a state of stagnation

* Presidential address at the meeting of the American Congress of Physicians and Surgeons, held at Washington, D. C., May 1, 2, 3, 1900.

has been reached similar to that which characterizes the institutions of the Celestial Empire, and that no further attempt is to be made to adapt our methods of instruction to the constantly widening domain of human knowledge and experience.

It may perhaps be well for me at this point to offer a few words in explanation of the selection of such a well-worn theme as medical education as the subject of my remarks this evening. It is true that in recent years the subject has been a favorite one with those who have been called upon to address medical associations or classes of graduating students, and if, in spite of this fact, I venture to add another address to the fast growing literature of the subject my justification may be found in the following reasons: In the first place it must be borne in mind that such addresses are very quickly forgotten. "Were it not so," as Dr. Billings has remarked, "it would be a hard world for address-givers." In the second place the progress of medicine at the present time is so rapid that new points of view are constantly being secured and it is, therefore, not at all impossible that even at comparatively short intervals, new and valuable suggestions may be made both with regard to subjects to be taught and to methods to be employed in giving the instruction.

Lastly it so happens that during the academic year now nearly completed, the faculty of the Harvard Medical School has inaugurated an entirely new plan of instruction in the sciences of anatomy, physiology and pathology. This scheme, though still in the experimental stage, embodies ideas of such fundamental importance in medical education that its presentation to a representative body of the medical profession seems to me to be peculiarly appropriate.

I shall therefore ask you to consider with me this evening what lessons the faculty of a modern medical school may draw from recent advances in medical science and recent experience in medical education, or, in other words, on what lines the instruction of a medical school of the first rank is likely, in the immediate future, to be organized. I say in the *immediate* future, for what changes are in store for us in the course of the next few decades it is equally impossible to foresee and useless to speculate.

Relation of Medical Schools to Universities.

One of the most hopeful signs of the times in the field of medical education is the growing tendency of the better schools to ally themselves to universities and of universities to establish medical departments. Of the great advantages to medical education which may be expected from this union it is unnecessary for me to speak, for they formed the subject of a thoughtful discourse delivered by the last president of this congress at Yale University in 1888.[4] The twelve years that have elapsed since he spoke have brought accumulating evidence of the soundness of his views. In fact it is difficult to see how a private medical school of the joint-stock-company type can ever, in the future, rise to the first rank, for such a school is not much more likely to attract endowments than a cotton mill, and without endowments the enormous expenses of a modern first-class medical school cannot possibly be met.

Great as are the benefits to a medical school of thus forming a department of a great university, the advantages of the union are not wholly on one side. Besides the increase of prestige secured to the university by the broadening of its functions, the establishment of a medical school as part of the university organization greatly facilitates the instruction of those students who, without any intention of becoming physicians, seek in the study of the medical sciences a means of general culture and mental discipline.

The relations between the governing body of a university and its medical faculty in matters of administration are often defined by custom and tradition rather than by statutory provisions and vary considerably in different institutions. In general, two methods of government may be distinguished. Either the initiative is left with the teaching faculty, the governing body exercising simply a veto power, or the governing body acts directly without necessarily asking advice from the faculty or its members. The former method of government is most likely to be found in those cases in which a well-established medical school has allied itself to a university for the sake of the mutual benefits that may ensue from the union, and the latter method in those cases in which a university has completed its organization by the creation of a medical department. Both methods have certain advantages and neither is without its drawbacks. In all cases men are more important than methods. On the one hand the collective judgment of a teaching faculty on matters relating to medical education is likely to be of more value than that of a governing body which may not, and generally does not, include physicians among its members. On the other hand, personal and selfish considerations are perhaps more apt to sway the judgment of a faculty than that of a body of trustees, especially when the question is that of the appointment of teachers. That this is not a serious danger, however, the experience of Germany seems clearly to show, for in that country, as Dr. Farlow has recently pointed out, the faculty "has more power in regard to appointments and the general policy of the university"[5] than with us, and yet we find there the custom of calling professors from one university to another fully established: a custom which must be regarded as one of the strongest influences in maintaining a high standard of educational efficiency. On the whole, therefore, even with this possibility of error, the judgment of a faculty would seem to be the safer guide, and there are probably few boards of trustees who would feel themselves justified in disregarding it altogether.

The above-mentioned advantages of a union between a medical school and a university will naturally become more obvious as the problems of medical education become more complex and the methods of instruction more costly. Hence we may expect in the near future to find all of the better class of medical schools under the aegis of a university, and we may reasonably hope that this change will be associated with a diminution of the total number of medical schools now so greatly in excess of the needs of the country.

The union of a medical school with a university at once compels the consideration of the proper relation between the academic department and the professional school. To say that the former should be the feeder of the latter and that the holding of an A.B. degree should be the condition of admission to professional studies, is to adopt the position taken by two of our leading medical schools. The A.B. degree, however, since the introduction of the elective system, no longer stands for a definite amount and kind of training. Hence the Johns Hopkins Medical School demands not only the diploma, but also evidence of ability to read French and German and of laboratory training, in physics, chemistry, and

biology. The Harvard Medical School is content to accept the A.B. diploma as evidence of fitness to pursue professional studies, stipulating only that the holder shall possess an adequate knowledge of inorganic chemistry. Whether the example set by these schools will be generally followed is quite doubtful. Without undervaluing the importance of collegiate training as a preparation for a professional career it may perhaps be contended that a properly conducted admission-examination is a better test of fitness to pursue the study of medicine than the possession of a diploma the value of which varies so much with the character of the college bestowing it. Moreover, the possibility that a young man, unable to afford the expense of a college course, may yet by private study prepare himself for a professional career is not to be lost sight of. Hence the Harvard school provides for the admission, by special vote of the faculty, of young men, not holders of an A.B. degree, who may furnish satisfactory evidence that they have obtained an equivalent education, and that they are consequently able to profit by the instruction which the school has to offer.

The recent lengthening of the course of study from three years to four in all the best medical schools of the country has drawn renewed attention to the importance of enabling the student who takes the A. B. degree as a preparation for medicine to so far shorten the sum total of the time devoted to his education that he may be able to enter upon the work of his profession at an age not in excess of that at which his European confrères begin their career as practitioners. A few years ago an examination of the best accessible evidence on the subject led to the conclusion that foreign systems of university education enabled students of medicine to enter upon their life-work at least two years earlier than was possible for the alumni of Harvard College, a condition dependent upon the fact that the changes in the academic department which had raised the age of graduation had been made with little regard to the interests of the professional schools and chiefly for the purpose of making the undergraduate department as complete as possible in itself. In other universities a similar condition existed, though probably not in the same degree, as in Harvard.

That the American medical student, seeking the best possible preparation for his profession, is seriously handicapped by these conditions has been generally recognized and the question of the best method of meeting the difficulty has been widely discussed. The most thorough treatment of the case consists in reducing the academic course to three years. Less radical methods are the provision in the academic department of courses of instruction by which students may anticipate a part of their professional work and the permission to count the first year of a professional course as the fourth year for the bachelor's degree. The first and most radical method meets with strenuous opposition owing to the deeply rooted traditions which surround the four years academic course in this country, while the other plans violate what in some colleges seems to be regarded as an educational axiom: that one course of study should not count toward two degrees. It is interesting to notice that, without any specific legislation to this end, the quiet working of the elective system has, in Harvard College, practically solved the problem by bringing about a condition in which, as President Eliot says,[6] "Any young man of fair abilities can now procure the degree in three years without hurry or overwork, if he wishes to do so or his parents wish to have him." The President further ventures to predict that "within a time comparatively short the majority of those who enter the Freshman class will come to college with the purpose of completing the requirement for the degree in three years." As soon as a three years' residence becomes the rule rather than the exception, a young man spending four years in college will of course be regarded either as deficient in mental capacity or as having wasted his time.

That a reduction of the academic course to three years is an advantage to students looking forward to a professional career or to further study in a graduate school is too obvious to need discussion, but it is interesting to find the change advocated in the interest of the undergraduates themselves. Professor Clement L. Smith, for nine years Dean of Harvard College, points out[7] that there is a large and influential class of college men who get into the habit of frittering away their time simply because they have so much of it and that "for them and for those whom they influence—and these make up the largest part of the class we are now considering, the men who go from college into active life—the reduction of the course would be a distinct gain." Nor need we fear (as has sometimes been urged) that, in thus reducing the length of the college course, we shall lose the fourth and most valuable year, for, as Prof. Smith says: "The senior year is the best year not because it is the fourth but because it is the last year. The causes which make it what it is come from before not from behind; from the consciousness of opportunity passing away and of the serious problems of life close at hand. The period of waste lies between the fresh zeal and good resolutions with which the youth begins his course, and the growing sense of responsibility with which he draws near its close. It is this intermediate period that would be shortened in the briefer course. It is not the senior year that would be cut off; it is rather, let us say, the sophomore year, and with it might well go its absurd name."

It thus appears that the claims of the college and of the professional school upon the time of the student are in a fair way to be harmoniously adjusted.

The Elective System.

Let us now consider in what way the medical school of the immediate future is likely to differ from that of the present time with regard to the subject-matter of instruction. The most striking phenomenon presenting itself to the educator of today is the recent enormous widening of the educational horizon. "The immense deepening and widening of human knowledge in the nineteenth century and the increasing sense of the sanctity of the individual's gifts and will power[8]" are the fundamental facts which underlie the development of the elective system, but it is important to bear in mind that, as Prof. Smith observes,[9] this development has been "due not so much to increase of knowledge—for not all new knowledge is straightway fit for educational purposes—but rather to the conversion of new fields of knowledge to the uses of education."

A discussion of the elective system of education with its attendant advantages and dangers would require far more time than I have at my disposal and I must content myself with pointing out the possibility that, in this period of transition, the educational pendulum may have swung to an extreme position, and that too much attention has been given to the accidental differences of

pupils while the essential similarity of their natures has been lost sight of. In discussions on individuality as a basis for the elective system, one sometimes hears the statement (attributed to Leibnitz) that no two leaves of the same tree are alike. This dissimilarity, however, does not prevent them from all elaborating the same sap, and it is, moreover, always associated with sufficient essential similarity to enable any one, with even the most elementary knowledge of trees to distinguish the leaves of an oak from those of a maple.

While admitting that some of the extreme positions now maintained by the advocates of the elective system may, in the future, have to be abandoned, no one can doubt the wisdom of adapting the education to the powers of the mind to be educated and of allowing, in the case of advanced students, the choice of the individual to be a determining factor in the selection of studies. Let us, therefore, inquire to what extent the elective system may properly find a place in the curriculum of our medical schools. That it forms an essential feature of our post-graduate schools of medicine scarcely needs to be mentioned, for these schools have been organized for the express purpose of enabling graduates in medicine to select such subjects for study as may seem to them desirable and to acquire more advanced knowledge than was possible in the undergraduate course. Moreover, in some of our larger schools, since the establishment of the compulsory four years' course, a portion of the instruction of the fourth year has been given in elective courses in various specialties. The elective system in medicine is, therefore, not altogether a novelty and the question now before us is whether it may be profitably extended to the earlier years of the course.

In his remarks at the dinner of the Harvard Medical Alumni Association in 1895, President Eliot used the following language: "There ought to be in the Harvard Medical School an extended instruction far beyond the limits of any one student's capacity. This involves, of course, some optional or elective system within the school itself, whereby the individual student should take what is, for him, the best four years' worth, the faculty supplying teaching which it might take a single student, eight, twelve or twenty years to pursue."[10]

One year ago last December, in an address which I had the honor to deliver in New York before the American Society of Naturalists,[11] I gave the reasons which seemed to me conclusive in favor of this extension of the elective system, and, with your permission, I will take the liberty of presenting as briefly as possible the views there set forth.

In the first place, it may be assumed that a medical school of the first rank should be an institution in which the most advanced instruction in all departments of medicine can be obtained, and on this assumption it is, of course, impossible to arrange a course of study that every student must follow in all its details, for, in the time which may properly be devoted to a course of professional study, it is quite impossible for even the most intelligent students to assimilate all the varied information which such a school may be reasonably expected to impart.

It seems, therefore, to be evident that, in arranging a course of medical study, a distinction must be made between those subjects which it is *essential* that *every* student should know and those subjects which it is *desirable* that *certain* students should know; that is, between those things of which no man who calls himself a physician can afford to be ignorant, and those which are important for certain physicians, but not for all; in other words, provision must be made both for required and for elective studies. The task of drawing the line between the essential and the desirable in medical education will require the greatest possible good judgment and readiness for mutual concession on the part of those engaged in the work, but there is no reason to fear that the difficulties will be found insuperable, when the importance of the change has once been recognized.

Any one who is familiar with the existing methods of medical instruction is aware that in nearly every department many things are taught which are subsequently found to be of use to only a fraction of those receiving the instruction. Thus the surgical anatomy of hernia is taught to men who will subsequently devote themselves to dermatology, future obstetricians are required to master the details of physiological optics, and the microscopical anatomy of muscles forms a part of the instruction of men destined to a career as alienists. Now no one can doubt the propriety of including instruction on all these subjects in the curriculum of a medical school, but it may be fairly questioned whether every student should be forced to take instruction in them all.

To better indicate the nature of the reform which I am advocating allow me to describe a possible arrangement of a course of study in the department of physiology, with which I am of course more familiar than with any other. An experienced lecturer will probably find it possible to condense into a course of about forty or fifty lectures all the most important facts of physiology with which every educated physician must necessarily be familiar. Attendance upon these lectures, combined with suitable courses of textbook instruction and laboratory work, would suffice to guard against gross ignorance of physiological principles. In addition to this work, all of which should be required, short courses, of not more than eight or ten lectures each, should be provided, giving advanced instruction in such subjects as the physiology of the special senses, cerebral localization, nerve-muscle physiology, the internal secretion of glands, the physiology of the heart, circulation and respiration, the digestive secretions, the reproductive organs, etc. These courses should be elective in the sense that no student should be required to take them all. Each student might, however, very properly be required to choose a certain number of courses, which, when once chosen, become, for the student choosing them, required courses leading to examinations. There is, in my opinion, no doubt that an arrangement of instruction similar to that here suggested for physiology could be advantageously adopted in the departments of anatomy, histology, bacteriology, medical chemistry, pathology, surgery and in the courses of instruction in the various special diseases, such as dermatology, ophthalmology, etc.

In the existing state of medical education the introduction of the elective system in some form or other seems to be an essential condition to any further important advance, for the curriculum of most of our schools is already so crowded that no considerable amount of instruction can possibly be added. Various arguments may, of course, be advanced in opposition to the change. It may perhaps be urged that no choice of studies can be made without determining to some extent the direction in which the work of a future practitioner is to be specialized and that such specialization cannot be properly and safely permitted until the student has completed his medical studies. To this it may be answered that, whatever may be the dangers of too early

specialization, the dangers of crowding the medical course with instruction of which many students do not feel the need, and of thus encouraging perfunctory and superficial work, are certainly no less serious. It is, moreover, a matter of common observation among teachers in medical schools that a certain number of students very early make up their minds either that they will become surgeons, obstetricians, or specialists of some sort, or, on the other hand, that they have a strong aversion to certain branches of medicine and a determination never to practise them. For such students a prescribed curriculum necessarily involves great loss of time and energy.

If it be said that under this system the medical degree will cease to have the definite meaning now attached to it, and that it will be impossible to tell from his diploma in what way a physician has been educated, it may be replied that, though the degrees of A.B., A.M., Ph.D., and S.D. are affected with exactly this same uncertainty of signification, their value seems in no way diminished thereby. As long as the M.D. degree stands for a definite amount of serious work on medical subjects we may be reasonably sure that those who hold it will be reasonably safe custodians of the health of the community in which they practise.

If it be urged that the elective system in medical education will lead to the production of a class of physicians who, owing to the early specialization of their work, will be inclined to overrate the importance of their specialty, and to see in every disease an opportunity for the display of their special skill, it may be pointed out that this result is apt to be due, not so much to early, as to imperfect, instruction in the work of a specialist, and that since the elective system tends to encourage thoroughness in special instruction, the evil may be expected to diminish rather than to increase.

Methods of Instruction.

Having thus recognized the necessity of remodeling our conception of the subject-matter to be taught and noted the importance of distinguishing between the essential and the desirable in medical education we must next consider by what methods the needed information may be best imparted and the necessary training secured. There is perhaps no way in which modern educational methods differ more from those of an earlier period than in the greater prominence given to object-lessons. Beginning with the kindergarten, the child is trained to cultivate his power to observe accurately and to manipulate skilfully, and, through his school and college life, prominence is given to the objective side of education to an extent which would have seemed to the book-trained pedagogues of a former generation but ill adapted to provide the well-stored mind which it was thought to be the principal object of education to secure. In the professional schools also the reaction against purely didactic methods has been strongly felt. Even in those professional pursuits to which the object-method might seem at first sight least applicable, in the study of the law, the so-called "case method" of instruction has been found to exert a vivifying influence.

In medical education in this country it is interesting to note that, in the very beginning, the instruction was more objective in its character than at a somewhat later period. In those early days it was in the office of his preceptor and at the bedside, as his actual assistant, that the embryo physician was initiated into the mysteries of his calling. Then followed a period when it was clearly perceived that the trained mind is necessary to interpret the data of observation, and that mental training is essential to correct observing. Hence schools were established to provide this training by means of systematic didactic lectures covering all the departments of medicine and usually extending over not more than four months. These schools were intended at first merely to supplement the work of the preceptors, but in process of time the relative importance of these two educational agencies was reversed and the work of the preceptors became supplementary to that of the schools. The function of the preceptors finally became so subordinate that their names no longer appeared in the catalogues, though this did not always indicate that they had ceased to afford students opportunities for practical clinical work.[12]

The schools, once established, grew chiefly by an increase in the length and number of the lecture courses, as new and important subjects forced themselves upon the attention of the medical profession. Against this undue extension of purely didactic methods of instruction, a reaction has now set in, and during the last 10 or 15 years loud voices have been raised in advocacy of more objective methods than those at present in use. It is not, however, the reinstatement of the preceptor that is urged, but rather the greater use of laboratory methods in the strictly scientific departments of medical instruction, and their application as far as possible at the bedside of the patient. A fruitful discussion of the relative advantages of the laboratory, the lecture, and the textbook, as methods of education, cannot be undertaken without a recognition of the fact that this education has a double object. In the first place, the faculties of the student are to be so trained that he may observe carefully, reason correctly study effectively, and judge wisely; in other words, he is to be "trained for power," to use President Eliot's phrase. In the second place, there must be imparted to him a sufficiently large fraction of the acquired medical knowledge of the time to make him a safe custodian of the health of the community. Which of these two objects is the more important, is a question which we need not now discuss, but even if we grant all that is claimed by the advocates of training for power, it is evident that the constantly increasing range of subjects, with regard to which an educated physician must be informed, will greatly reduce the time which, in the curriculum of a medical school, may properly be devoted to courses of instruction not intended to impart direct and valuable information. In fact, "training for power" should be largely a function of the academic department of a university, and when undertaken in a professional school, should be so directed as to impart at the same time the greatest possible amount of useful information.

Let us now consider how far the didactic and the laboratory methods of instruction are each adapted to secure these two objects of medical education. For the purpose of training for power, no one can doubt the value of the laboratory method. Contact with the phenomena themselves, and not with descriptions of them, has a simulating effect upon the mind of a student, the importance of which it is difficult to exaggerate, but it does not follow from this that the lecture, the recitation and the textbook are worthless as methods of training. It is here that some of the advocates of laboratory methods have committed what appears to me a serious error, such as is too apt to characterize all reform movements, the error, namely, of assuming that, because one

proposition is true, another proposition, not logically inconsistent with it, must be untrue. "These gentlemen," as Professor Howell[13] has expressed it, "having become possessed of the golden truth, that the best knowledge is that which comes from personal experience, seem disposed to deny all value to knowledge communicated from the experienc of others." We are told, for instance, by Dr. Burr,[14] that the didactic lecture "dates from the time when printing was unknown, and manuscripts were rare and almost priceless, and the only means of communicating knowledge was by word of mouth. Today it is in large part an anachronism, because the time devoted to it could be put to better uses.

In his able address [15] at the last Yale University Medical Commencement, my colleague, Dr. C. S. Minot, expressed himself as follows: "The very best that can be said of a lecture or a book is that it describes well the knowledge which some one possesses. There is no knowledge in books. . . . A book or a lecture can serve only to assist a man to acquire knowledge with lessened loss of time. Knowledge lives in the laboratory; when it is dead we bury it decently in a book. . . . A lecture is a spoken book." I venture to believe that Professor Minot's students will hardly agree with this estimate of the lifeless character of either his written or his spoken instruction.

In place of these somewhat disparaging views of the importance of a didactic lecture, I am inclined to accept Dr. Weir Mitchell's [16] opinion that: "The best lecturing does not so much think for you as invite you to think along suggested lines of enquiry." If, as has been claimed, "the passive attitude of listening does not demand of the students intelligent thought" [17] the fault must lie with the lecturer and not with the method of instruction. In every department of medicine advanced instruction necessarily deals with subjects which lie within what Foster has called the "penumbra" of solid scientific acquisition and about which conflicting views are therefore certain to be held. It is in inviting thought with regard to the evidence on which these views rest that the experienced lecturer has his best opportunity to train the minds of his hearers. Other opportunities are also afforded by the historical presentation of subjects about which differences of opinion no longer exist, for there are few things more instructive than to follow up step by step the lines by which our knowledge has advanced, noting the marks which distinguish the paths which have been trodden successfully from those which have turned out to be "No Thoroughfare." Even better opportunities for mental training than those which the lecture-room presents are afforded by the recitation, for here the minds of the teacher and the pupil are brought most closely into contact, the pupil's difficulties are appreciated by the instructor and the point of view of the teacher can be learned by the pupil. It has always seemed to me that no higher enjoyment falls to the lot of the teacher than that which he experiences when, by a series of carefully considered questions, he leads his pupil onward from the known to the unknown and notes the gleam of intelligence which illumines his countenance as a subject, previously obscure, becomes clear, as a result of his own mental operations guided his teacher's skilful questions. It thus appears that no monopoly of opportunities for mental training can be claimed for the laboratory method of instruction.

We must next inquire, What are the relative advantages of the laboratory and didactic methods as means of imparting information? Here we at once perceive that a great deal will depend upon the kind of information to be imparted. Certain subjects are much better adapted than others to be taught in the laboratory. The student of anatomy, for instance, can secure the greater part of the information which he needs by laboratory methods, *i. e.*, in the dissecting-room, though a short course of lectures on descriptive anatomy in which an experienced teacher emphasizes the salient features of the subject will probably always be indispensable. Physiology and pathology (including physiological chemistry, pharmacology and bacteriology) are subjects in which laboratory instruction may be unquestionably much more freely used than is customary at the present time. The recent experience of the Harvard Medical School, in which the laboratory courses in these subjects have been greatly extended, has furnished conclusive evidence of the value of this method of instruction as a means both of imparting information and of stimulating the mind of the student. It must be remembered, however, that, as Dr. Welch[18] has said, "laboratory methods are extremely time-taking and are not adapted to teach the whole contents of any of the medical sciences. It is, of course, hopeless to attempt to demonstrate practically all of even the more important facts that the student should learn."

Moreover, observed facts are often apparently inconsistent with each other. Equally competent observers differ in their interpretation of them. Yet, because the last word of science has not been spoken on these subjects, it would be a mistake to exclude them from the medical curriculum. The student should rather be carefully instructed as to researches which have not yet yielded definite results. The most profitable way of reconciling conflicting observations should be pointed out, and he should be shown in what direction the search for truth can be prosecuted with the best prospect of success. He will then be able to appreciate the value of new observations and to assign to their true position the reported discoveries in medical science.

Instruction of this sort can, of course, be given only by an experienced lecturer who has mastered the subject of which he treats. It is in this kind of teaching and in the exposition of those facts and principles which cannot properly be made the subject of laboratory instruction to students that the didactic lecture of the future will probably find its principal field of usefulness. In the latter direction, however, the field is more restricted than might, at first sight, appear, for the amount of practical work that can be successfully performed by first and second year students in a physiological or in a pathological laboratory is surprisingly large. In the physiological department of the Harvard Medical School, for instance, during the current academic year each pair of students in a class of 180 has been furnished with a kymographion, a capillary electrometer, a moist chamber, an induction coil, unpolarizable electrodes, etc., and the most important experiments of nerve-muscle physiology have been successfully repeated. The fundamental experiments in the physiology of the circulation, respiration, etc., are to be performed in a similar manner. In the pathological laboratory the students, working in sections of ten, have had an opportunity of producing for themselves and studying experimentally the most important pathological degenerations. They have also studied in the same way the principal infectious diseases. In the anatomical department also, while the number of didactic lectures has been diminished, the whole class has had largely increased facilities

for the practical study of bones and of various special organs.

Still, after making due allowance for the legitimate expansion of laboratory teaching, it is probably safe to say that a systematic course of lectures in each of the medical sciences will never be found to be superfluous and that the day is probably far distant when the lectures will be merely "explanatory of the experiments."[19]

We have thus far considered the relative advantages of didactic and laboratory methods in teaching the medical sciences, but the agitation in favor of more objective teaching has extended also to the clinical departments of medicine and the organization of "clinical laboratories," in which the cases of hospital patients may be studied by the most refined methods of physiological and pathological research is a natural outcome of this agitation. In fact, however, so far as instruction is actually given at the bedside, clinical medicine has always been taught by means of object-lessons. In many of our schools this instruction has been supplemented by socalled "conferences," exercises in which a student reports before the class a case which he has himself examined, giving diagnosis, prognosis, and treatment. The subject is then discussed by the class and finally by the instructors.

Whenever actual cases of disease are thus utilized for teaching purposes the instruction is always likely to be more or less haphazard and unsystematic, for the diseases studied will be those of which actual cases happen to be available. To remedy this difficulty it has been recently proposed[20] to substitute the study of hospital records of cases for the examination of the cases themselves, a method quite analogous to that known as the "case-method," which has long been used with great success in training students in the Harvard Law School. It will thus be possible to group cases so that they will throw light upon each other and, though the student will miss the stimulus of contact with the actual patient, the method presents so many distinct advantages that it will doubtless commend itself to many teachers of clinical medicine and of theory and practice.

It is thus evident that the reaction against purely didactic methods of instruction is well under way. It is a movement to be heartily welcomed, for there can be no doubt that medical students have been and still are too much lectured, but, like all other reforms, it should be carefully guided lest useful as well as useless things be swept away. It should be borne in mind that it is quite as easy to abuse the laboratory as the didactic method of instruction and that in all schemes of education a good teacher with a bad method is more effective than a bad teacher with a good method. As Prof. Howell[21] has well remarked "courses of lectures that, if analyzed, would be found to be top-heavy and lop-sided, and otherwise possessed of an instability that should have insured failure, have been saved and made instruments of great value by the mere earnestness of the teacher."

Distribution of Work.

The next question which I shall ask you to consider is that of the proper distribution of the work of a medical student. Thirty years ago no such question seems to have presented itself to the minds of instructors in medicine. The medical faculties of that time contented themselves with providing, each year, courses of lectures covering all the departments of medicine, as they were then understood, and every student was expected to attend as many of the lectures as he saw fit. Between 1870 and 1880 the fact that there is a natural sequence in medical studies became generally recognized, and graded courses of instruction were established in the principal medical schools of the country. The grading was not, however, carried sufficiently far. Thus instruction in both anatomy and physiology was generally given simultaneously through the whole of the first year, though the knowledge of structure should logically *precede* a study of function.

The time seems now to have come for taking another step in grading medical instruction, and during the academic year now drawing to a close, instruction in the Harvard Medical School has been given in accordance with a plan of which the guiding principles are concentration of work and sequence of subjects. Thus in the first half of the first year the students devote themselves exclusively to the study of anatomy, including histology and embryology. In the second half year they are occupied with physiology, including physiological chemistry, while in the first half of the second year pathology, including bacteriology, engages their attention. It is perhaps too early to pass a final judgment upon the value of the method, but thus far both teachers and students seem to regard it as a success. The result seems to have justified the opinion of its advocates that the work of the student would be made "easier by concentrating his thoughts upon one subject instead of dissipating his attention upon many subjects."[22] Nor have its opponents found any justification for their fears that the average brain would become fatigued and unreceptive by too close application to one subject, for the sciences of anatomy, physiology and pathology "are not narrow-hedged in areas, but rather broad and diversified domains composed of many contiguous fields,"[23] in passing from one to another of which the student may rest his mind without interrupting the continuity of effort essential to effective work.

An obvious objection to this method of concentrating instruction is the large amount of work which it imposes upon the instructors. There is no doubt that the labor of teaching every day in the week may task the powers of even the most enthusiastic instructor, but it has been found that the laboratory work which has occupied from two to three hours every forenoon has been conducted with much less fatigue than was anticipated. In fact students, when supplied with printed directions for work and with the necessary apparatus, need remarkably little supervision. In the physiological laboratory it was found that one instructor could readily supervise the work of fifteen pairs of students and the experience in the anatomical and pathological departments was of a similar sort.

Examinations.

Closely connected with the questions of method of instruction and of distribution of work is the subject of examinations. With regard to these tests of our educational methods opinions vary even more widely than with regard to the methods themselves. There is only one point, as Professor Exner has remarked, on which teachers are practically united, and that is "that an examination is a necessary evil." Every examiner knows only too well that an examination is but a very imperfect test of knowledge, but few are ready with any suggestion of a substitute. Much of the confusion which prevails in the discussion of this subject would be

removed if the objects to be secured by an examination were more clearly apprehended. Professor Exner[24] points out that examinations may be broadly divided into two classes, viz., the *Controlprüfung*, to test the faithfulness with which the student has performed his daily tasks, and the *Reifeprüfung*, to determine the amount of his permanently acquired knowledge of medical subjects.

The examination which, at the end of the year, covers the whole ground of the previous twelve months' instruction and which is so common in our schools, belongs to neither of these two classes, and is really a concession to a very natural wish of the students to get the examination "out of the way" while the subject is still fresh in their minds. Having little justification from an educational point of view we may hope to see it abandoned when the extension of laboratory methods provides in the note-book and graphic records of each student the evidence of his daily work, and thus either renders a further examination unnecessary, or prepares the way for a final test of his fitness to receive his diploma of M.D. Whether the written or the oral examination affords the better method of applying this test is a question about which opinions vary. The fact that some persons can write more readily than they can talk, while others can talk more readily than they can write, seems to be a reason for providing a mixed method of examination in which each individual may have an opportunity of appearing to the best advantage.

CONCLUSIONS.

If the views here presented are well founded, we may expect that a medical school of the first rank will, in the immediate future, be organized and administered somewhat as follows:

1. It will be connected with a university, but will be so far independent of university control that the faculty will practically decide all questions relating to methods of instruction and the personnel of the teaching-body.

2. It will offer advanced instruction in every department of medicine and will therefore necessarily adopt an elective system of some sort, since the amount of instruction provided will be far more than any one student can follow.

3. The laboratory method of instruction will be greatly extended and students will be trained to get their knowledge, as far as possible, by the direct study of nature, but the didactic lecture, though reduced in importance, will not be displaced from its position as an educational agency.

4. The work of the students will probably be so arranged that their attention will be concentrated upon one principal subject at a time and these subjects will follow each other in a natural order.

5. Examinations will be so conducted as to afford a test of both the faithfulness with which a student performs his daily work and of his permanent acquisition of medical knowledge fitting him to practise his profession.

If I have clothed these conclusions in the language of prophecy it is because the title of my discourse has laid this necessity upon me. In forecasting the immediate future, I have borne in mind the history of the immediate past, and, if I have failed to read aright the indications of the lines on which our medical schools are to advance, it must be remembered that the development of a biological science and of its dependent arts not infrequently takes place in totally unexpected directions, thus introducing into the path of educational progress perturbations which may well defy prediction.

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ADAPTATION OF PATHOGENIC BACTERIA TO DIFFERENT SPECIES OF ANIMALS.*

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MEDICAL science and medical art are concerned chiefly with the phenomena of human disease. All that medical science desires to know is the series of causes or antecedents leading to any given disease, and the series of phenomena which unfolds itself within the body during disease. Medical art wishes to know where human ingenuity may enter to modify, suppress, or eliminate portions of this series so as to interfere with the progress of the disease, and bring it to a standstill. By general consent, hygiene devotes itself to the external phenomena; pathology, to the internal.

In the carrying out of this program, a strict adherence to the subject has been found inadequate to gain the results aimed at. To learn even the simplest fact, recourse to animal experimentation has been necessary at every step. But this somewhat artificial procedure of inducing diseases in animals, to many of which they are naturally insusceptible, has not furnished adequate information, and the next step is the study of diseases natural to animal life. This step has become necessary, because, in the attempt to analyze the series of events culminating in human disease, many links of the series are buried out of sight, or else inaccessible to analysis, since, by universal agreement, experiment upon the human subject, except when immediate benefit to the subject is expected, is not only not permissible, but, as a rule, sterile of results under the conditions necessarily imposed. In the host of infectious diseases of animal life, the submerged links of human pathology are often in full view or readily found by the ingenious explorer. Different diseases furnish different parts of the unknown elements we are looking for.

In the investigation of infectious diseases, the study of the most important link in the chain of their causation—the microorganisms—is equalled only in importance by the study of the host into which they enter. This study of microorganism and host necessitates at once the extension of our field beyond the exclusively human infections, if we wish to investigate the great

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facts of epidemiology, the rise and fall of virulence in the microorganisms, and the correlative immunity of individuals and races. Thus far, a scarcity of accurate facts, which is due chiefly to the inherent difficulties of the subject, confronts us, and, in presenting the little that is at hand, I shall have to take a more or less speculative position and point out the problems, the pursuit of which is likely to bring back important information.

If we glance at the infectious diseases, which we share with animal life, or in which the latter enters as a necessary factor, we find quite an array, readily divisible into groups :

1. Diseases common to man and certain animals, and presumably transmissible from animals to man, and vice versa. (Bubonic plague, tuberculosis.)

2. Diseases common to man and animals, but not known to be transmitted. (Actinomycosis, tetanus.)

3. Diseases transmitted from animals to man, but not as a rule communicated from man to man, owing to interfering conditions. (Anthrax, glanders, rabies, vaccinia, foot-and-mouth disease, meat poisoning, psittacosis, possibly also infections due to pus-bacteria.)

4. Certain specific symbiotic relations requiring two hosts for the complete life-cycle of the microorganisms. (Malaria, trichinosis, tapeworm infection.)

A small proportion of the infectious diseases of man and a large proportion of the infectious diseases of higher animals are transmissible, or at least inoculable, upon smaller animals, producing in them diseases having more or less constant characters. The range of infectiousness varies considerably and arbitrarily without any at present assignable reasons. Thus the rat, which is, generally speaking, quite resistant to infectious agents, is extremely sensitive to the bacillus of bubonic plague, while the guineapig, which is susceptible to a wide range of infectious agents, is much less sensitive to this bacillus than the rat. The tubercle-bacillus, which counts among its victims such a large number of mammals and birds, is quite harmless to the gray mouse, even in large doses. Certain bacteria affecting mammalia have also the power to produce disease in birds. Among these are the tubercle-bacillus, mouse-septicemia (swine-erysipelas), and rabbit-septicemia (fowl-cholera).

The range of infective power seems, to a certain extent, to coincide with the readiness with which the bacteria can be artificially cultivated on various substrata, or, in other words, with their degree of saprophytism. Thus, the plague-bacillus, the colon-derivatives, the rabbit-septicemia group, and anthrax, are quite readily cultivated, and their range is very wide. On the other hand, those microorganisms, which are cultivated with considerable difficulty, or not at all, or which are not even known, have a limited range. For instance, the organisms of leprosy, syphilis, gonorrhea and influenza do not attack animals ; the same is true of the exanthemata of man, exclusive of variola, and possibly scarlatina, and of certain diseases of unknown etiology in animals, among them contagious pleuropneumonia of cattle, and rinderpest. An important exception to this general statement is rabies, which produces disease in a considerable number of species. Many of these facts have been known for years, and are among the most familiar to bacteriology. The essence of such peculiar selective action has not yet been studied, and it may contain much that will elucidate the perplexing problems of natural and acquired immunity from disease. They seem to support, so far as they go, the recent contention of P. Baumgarten, that much of the natural resistance to specific infectious agents is, after all, due to the absence of a satisfactory soil.

The investigation of infectious diseases of animal life has brought before us another phenomenon, which is of considerable importance. Certain bacteria, causing disease among different species, have certain affinities which force us to classify them together, and which enable us at the same time to clearly separate them from other pathogenic groups. One of the most important of these groups consists of derivatives of the colon bacillus,[1] which produce epizootics among swine, guineapigs, field-mice and spermophiles ; which have been found associated with disease in horses, cattle, and certain birds ; with pseudotuberculosis in certain other species, and to which the *B. icteroides* of Sanarelli, and perhaps some forms belong which produce disease in the human subject, and which have been variously classed as paracolon bacilli and paratyphoid bacilli. Outbreaks of meat-poisoning in European countries, characterized by gastrointestinal disturbance, are most likely due to this group of organisms, which are introduced into the body in raw meat.[2] The typhoid bacillus is probably a more highly modified offshoot of this same stock. There is much minor variation among these derivatives, which is probably due to an adaptation to different animal hosts. We might say that the colon-bacillus, or some ancestral form, possessed certain qualities favorable to parasitism, which have enabled it to become a prominent pathogenic power under the form of a number of varieties.

Another group of closely related bacteria—the group denominated by Hüppe *Septicæmia hæmorrhagica*—is one which is capable of the same analysis. It appears as the cause of fowl-cholera and swine-plague ; it produces epizootics among cattle, buffalos, various kinds of game, rabbits and guineapigs. It occurs in various forms of bronchopneumonia in mammals and is a frequent parasite of the mucous membrane of the throat in cattle, swine, cats and dogs during health. In these respects as well as in others it is the analog of the micrococcus of sputum septicemia and of croupous pneumonia in man. It appears endowed with widely different degrees of virulence, giving rise to various types of septic diseases after inoculation into rabbits. Wherever found, it is recognizable to the trained bacteriologist from certain traits which it has in common with other varieties of the same species. A certain plasticity in its functional characters enables it to become a dangerous plague to animal life, but it seems to have little or no power to attack the human subject.

The tubercle-bacillus furnishes still another illustration. The avian type has been recognized as a variety for some years. Similarly the tubercle-bacillus of cattle has certain uniform characters which have thus far been found in but one culture from the human subject.

Among the more vulgar pathogenic bacteria the streptococci are found widely distributed, infesting a variety of domestic animals and appearing in many different kinds of lesions. The initial difference in the virulence of streptococci from different sources is now a well established fact. The staphylococcus also exists in animals under varieties, several of which have been more carefully studied..

Two main facts thus stand out among the phenomena of bacterial adaptation. 1. The direct passage of infectious agents from animals to man and from one animal species to another ; and 2. the adaptation of the same stock to different species leading to certain more or less profound modifications of this stock into recog-

nizable varieties or races. An important problem arising from the second proposition is the extent to which such races are capable of vicarious infection of different hosts. To this we shall return later in some concrete problems.

Turning now to the experimental phase of bacteriology for light upon this matter, we find certain principles established and confirmed by numerous experiments. Since the days of Davaine it has been known that the passage of certain bacteria through a series of susceptible individuals of some one species markedly increased the virulence of the microorganism. This increase manifested itself both by shortening the period of time between inoculation and death and by the successively decreasing dose necessary to produce the same fatal result. This has been demonstrated by Davaine for rabbit-septicemia, by Pasteur for *rouget* and rabies, by Petruschky for streptococci, and by Voges and others for various animal infections. Considering the excessively minute doses which experimenters have found sufficient to produce death in case of certain organisms like streptococci and rabbit-septicemia bacilli, we might suppose that the virulence can be indefinitely increased; but this seems possible only for certain species of bacteria and certain animals. With others, notably rabies, a limit has been reached which marks a certain condition of equilibrium.

The word virulence, however, has its restrictions and it was found in due time that the increase in virulence referred to might or might not mean a general increase towards other species. In fact, this increase may be associated with decrease towards other species. This was first claimed by Pasteur with regard to the bacillus of rouget or swine-erysipelas. By passing the bacillus through pigeons he made it less virulent to pigs. By passing it through rabbits he made it more virulent to pigs. This has been in general denied by Voges[3] recently, who states that the passage through one species reduces its virulence toward others and that to raise it toward pigs it must be passed through pigs themselves.

In the epizootic aphthae (foot-and-mouth disease) of cattle and swine whose etiology is still unknown, Löffler and Frosch[4] found that the lymph of the vesicles representing the eruption became attenuated if passed through calves alone. When, however, swine were alternated with calves, the virus maintained its infectious power. Another virus of unknown morphologic character, rabies, was increased in power by Pasteur by passages through rabbits for both them and for dogs. The transmission of the virus through monkeys and dogs gradually diminished and eventually extinguished the transmissive power, while the passages through cats increased it.[5]

There is thus no general scheme that will fit the results of experimental studies upon the increase, decrease or fixation of the virulence of pathogenic organisms by passages through series of animals. Each organism or related group of organisms needs to be considered by itself before generalization may be attempted. Undoubtedly such passages produce certain more or less permanent changes in the physiologic character of microorganisms which may lead eventually to the races to which we have already referred as the products of nature's work.

In supporting our views upon experimental results solely, we should bear in mind that the latter are the outcome, in the main, of experiments upon small, usually quite susceptible animals. Work upon larger animals endowed with a considerable degree of resistanc and approximating the human species in this respect, i meagerly represented, and in some instances it has le to results quite at variance with expectation. For ex ample, in certain plagues prevailing among larger mam mals, it has been found very difficult to infect health individuals even with large doses of the pathogeni agent under artificial cultivation. Anthrax serum which was powerless to protect rabbits, readily protecte sheep from the fatal dose subsequently injected.

In the continued flux and change of relationshi between microorganisms and their hosts, which is mad credible by what has been stated, but which our limita tions in time, space, and sense organs do not permit u to follow in nature, the problem that presents itself t human medicine is this: How far does nature utiliz animals as a workshop for preparing bacteria to act i a pathogenic role upon the human race? I do no intend to present an answer to this question, but simply to point out the desirability of learning more of th microorganisms parasitic upon diseased and healthy animals which are closely associated with man either a beasts of burden, as food-producers, as pets, or as unwelcome, though insistent, members of our household

We have already seen that with reference to certain specific microorganisms peculiar relationships among species come to the front. There is evidently some physiologic relation between man and the rat, as disclosed by bubonic plague, between man and the horse as revealed by the bacillus of glanders. Some writers believe in a relationship between man and certain domestic animals with reference to scarlatina. More general relationships between larger groups of animals are established by anthrax and rabies. If we go a step further into a less cultivated domain, we can readily think of other possible relationships between human disease and animals in which the causes of human disease may live without producing any recognizable disease. We can neither dispute nor affirm such relationship because we know comparatively little, if anything, of the microorganisms which thrive, say, upon the mucous membrane of horses, cats, dogs, rats, mice and certain birds which enter so largely into the daily life of man, both young and old.

Some of you will perhaps remember the accounts of the stir produced in lay and medical circles in Paris by the peculiar epidemic of 1892, caused by sick parrots from South America. This single epidemic involved 49 persons with 16 deaths. Though the bacteriology is not yet unraveled, the causal relation is clear. Leichtenstern,[6] who has recently summed up the evidence concerning this new disease of psittacosis, gives some additional testimony from his own city, Cologne, which definitely implicates this household pet in the production of highly mortal family epidemics. Leichtenstern, in describing the peculiar atypical typhoid-like pneumonia found in this disease, emphasizes the fact that similar house-epidemics of pneumonia of equal severity and atypical course, have been not infrequently reported and have occurred in his own practice without the presence of parrots. The suggestion which comes to us in reading this is, why not look up other household pets? Are there affections among household animals, not pets, which are responsible? It is not necessary for me to continue these observations farther to show that in tracing the cause of certain obscure diseases of man we may have been overlooking some important sources.

There is one other question which is more or less

associated with the subject I have chosen, namely, the fluctuation in the virulence of pathogenic organisms and the bearing of this upon the appearance of infectious diseases in epidemic form. It is an old question to which I simply wish to add a thought. The commonly accepted view of the gradual self-limitation of epidemic diseases is the exhaustion of susceptible material. The recrudescence is similarly ascribed to the reappearance of a young, susceptible generation. Thus the reappearance of the eastern plague after an interim of months is ascribed by one observer to the new generation of rats. But this explanation, though it may be true for many diseases, may not be true for all. We have seen that the passage through a series of individuals of the same species may lead to the attenuation and gradual extinction of the virus. If we indulge in a little speculation along teleologic lines we shall see that the attenuation of virus limited to one host is not an unreasonable hypothesis. We may assume that all parasitism tends toward a more or less harmless symbiosis. This tendency is for the good of both the host and the parasite directly concerned. If the latter promptly destroys the former, as in acute septicemias, not only the host perishes, but the parasite may, because of the sudden change of environment necessitated by the death of the host. If the organism is a perishable one like the pneumococcus or its animal equivalent, the rabbit-septicemia bacillus, it may perish before reaching another individual.[7] Hence we should expect the type of maximum virulence to thrive only temporarily and in densely crowded localities, in large herds or flocks. If, however, some arrangement can eventually be established tending to more mutually friendly, symbiotic relations, both organisms are in a sense the gainers. In the two organisms mentioned, I interpret this symbiotic relation as a parasitism of the mucous membrane of the upper air-passages without any disturbance of health. The tendency of the diphtheria-bacillus seems that way at present. This symbiosis probably leads to a loss of virulence, a weakening of the destructive powers toward the particular host in question.[8]

If the pathogenic bacteria have but one habitat—the one in which they produce a specific infectious disease—the probabilities are, I think, in favor of a gradual mitigation of the type of disease. This may be so slow that we, as individuals, cannot perceive it. A continuation of this process may eventually make the microbe of secondary importance which then acts only when other agencies prepare the way as is probably the case with croupous pneumonia in man and various types of pneumonia in animals, or else the disease becomes greatly prolonged, as in leprosy, syphilis, and tuberculosis, which are in reality mild types of parasitism when compared with the virulence of cholera or the plague. On the other hand, the bacteria may have another habitat in which they recruit their virulence. In this case we may expect the diseases to appear at times in epidemic form when transmission from individual to individual is possible. For the spore-producing bacilli of tetanus, anthrax, malignant edema, and *Rauschbrand*, the normal habitat is probably the intestinal tract, fecal matter, the soil and decomposing material in association with other favoring bacteria. They are protected by the capacity for spore formation from the necessity of adaptation to a varying environment. For the sporeless and easily perishable bacteria I cannot conceive this habitat to be other than the human or animal body. In these various situations a virulence for other species is probably maintained owing to certain unknown physiologic relationships between the species, as already suggested.

I am inclined to think that the great specific energy of many disease-germs was acquired in earlier geologic ages, possibly in animals of very different type from those now living. But it is not improbable that the process of making pathogenic bacteria is going on now in the animal world, to be noticed only when these bacteria have been transported by some accident from their unseen habitat to species which happen to be susceptible. Then a disease appears, and we become cognizant of the disease-germ. It is difficult to explain the incidence of certain animal diseases, especially the explosive septicemia, in any other way. Let us take a familiar organism to illustrate this hypothesis. It is difficult, for instance, to conceive the colon-bacillus as acquiring pathogenic or invasive properties by a saprophytic life in the intestinal tract of man without at the same time inducing immunity in the race. It is not so difficult to conceive of colon-bacilli living in such an environment in the intestinal tract of certain animals as to acquire at the same time pathogenic properties towards man and other animal species. In other words, the energy acquired by certain pathogenic bacteria may be gained under peculiar conditions, and to discover these conditions, if still prevailing, is one of the problems of pathology, and bacteriology. Viewed from this standpoint, microorganisms causing acute disease are out of place or else endeavoring to create a new habitat. Disease, itself, is a temporary disturbance of relationship largely accidental at first, but tending to become permanent as a form of parasitism. No better illustration of this statement is at hand than the Texas fever of cattle. In the South the microorganism is a practically harmless symbion of the blood. North of a certain line it produces a highly fatal disease in the same species which endangers and may entirely interfere with the normal transmission of the blood-parasite itself.

The difficulty encountered in making any brief statements upon the parasitism of bacteria and other low forms of life is very great and there is ample opportunity for self-contradiction. Perhaps the subject is best managed by some concrete illustrations.

I have already referred to the newest problem in our horizon, the bubonic plague. The German Commission[9] has come to the conclusion that in the endemic focus of the Himalayas, the rats, or perhaps other species of animals (*Arctomys*), preserve the infection sometimes for a number of years. Observations during the epidemic in the large cities have shown that direct infection from man to man is not very common in the hospitals. Again, some of the French observers have found that passages of the bacillus through rats is likely to fail after a time. The hypothesis that occurs to us as harmonizing these various statements is that the plague-bacillus gains its maximum virulence for man in the rat, for the rat in man, and that both species may be necessary to maintain the disease in an epidemic form.

The second illustration I take from tuberculosis. Under the conditions prevailing at present in civilized society, there are two species the victims of this disease, man and cattle. Many other species are susceptible, but the conditions surrounding them or governing the disease in them do not favor any general diffusion. In cattle the tubercle-bacillus is remarkably uniform in its characters and highly virulent to certain small animals

like the rabbit. In man there flourish many races of the bacillus as regards virulence, among them the maximum virulence of the bovine bacillus has been reported but once (Vagedes). What relation exists between the human and the bovine plague? Evidently not an indiscriminate one. Does the latter furnish the human race from time to time with bacilli of high potency to take the place of the attenuated forms that thrive saprophytically in the lungs? Or is the specific adaptation of the two forms such that any relationship worth consideration no longer exists? These are momentous questions, which present themselves not only in this disease but in others. They should receive careful attention from the human pathologist in studying the effects of the mingling of different races of the human family and of the different varieties of pathogenic organisms which they bring with them. Such varieties may lead to an increase in the virulence of strictly human diseases as observed in any one locality.

Within recent years much ridicule has been poured on the theories of Pettenkofer concerning the fluctuation of epidemics with season and locality—the unknown "y" and "z" of etiology. But the bacteriologists who have been the chief aggressors have left on all sides large gaps in the etiology of infectious diseases, so that there is scarcely a malady whose microrganism is now known which does not bristle with interrogation points. The sum total of bacteriologic knowledge points toward certain still unknown conditions which favor a restoration or a maintenance of virulence and which differ from those which are currently reported as in action. This statement does not intend to cast doubt upon accepted views of the increase in virulence due to passages through series of susceptible individuals of any species. These are too firmly established to be vulnerable. Nor can we dispute the evidence that the decline of epidemics is largely associated with acquired immunity. But there are certain supplementary facts bearing upon our relation to animal life which medical science can well afford to take as a text in order to discover, if possible, some of the still unknown dynamic sources of human disease.

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[2] *Centralblatt für Bakteriologie*, 1897, xxii, p. 45.
[3] *Zeitschrift für Hygiene*, 1898, xxviii, p. 38.
[4] *Centralblatt für Bakteriologie*, xxii, p. 357; xxiv, p. 569.
[5] Högyes, *Nothnagel's spezielle Pathologie*, v. Theil, ii. Abth., p. 66.
[6] *Centralblatt für allgem. Gesundheitspflege*, 1899, xviii.
[7] The difficulty encountered in establishing artificially a plague among susceptible animals, even with a microbe of maximum virulence, was made evident by the failure of Pasteur to disseminate this septicemia among the rabbits of Australia. Similarly the hope that by imitating nature we can infect animals successfully with bacteria and other parasites has not been fully realized, probably because our imitation of nature is not perfect.
[8] The persistence of pathogenic bacteria somewhere in the body, after the acute disease has passed away, is a phenomenon to which we have been accustomed in recent years and which has aroused considerable interest, mainly on account of the great difficulties which it places in the path of public health when endeavoring to secure satisfactory isolation of infected individuals.
[9] *Arbeiten a. d. k. Gesundheitsamt*, 1800, xvi.

SOME OF THE PHYSIOLOGICAL METHODS AND MEANS EMPLOYED BY THE ANIMAL ORGANISM IN ITS CONTINUAL STRUGGLE AGAINST BACTERIA FOR MAINTENANCE OF LIFE AND HEALTH.

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IT is now a well-established fact that microorganisms are the cause, or at least the inciting cause, of infectious diseases. Our body is surrounded by these organisms. Bacteria are present in immense numbers in the intestinal canal and in other accessible cavities of our body, and Prof. Adami[1] has told us recently that we are in a state of latent infection. Yet we may insist that there is a vast difference between health and disease, and that after all health is the rule and disease an exception. By what means does the body manage to keep its health against the pernicious activity of the omnipresent, highly prolific, toxin-producing bacteria? When we examine that part of the bacteriologic literature which concerns itself with the defence of the body against bacteria, we find a number of important facts which can be brought together and organized into an answer to our query. But we have to acknowledge that those facts were not discovered to find the cause of health; bacteriology was born and raised chiefly as a part of pathology, and it did not concern itself so much with the normal course of life, as with its exceptions and abnormities. It was attracted by the problems of immunity and of recovery from infectious diseases.

There is still another feature in bacteriology which, to my mind, is inimical to the proper treatment of the problems of the defenses employed in normal life, and which deserves some special discussion. It is the tendency prevailing in bacteriology to anticipate only a single factor that does the fighting in the battles of the body. Thus we see one large group of investigators believing exclusively in the theory of phagocytosis—while another group swears only by the alexins. It is interesting to note that the line of division between the two groups is the same here as it is in pathology: The old school of pathologists believed that the cause of all diseases was located in the body-fluids, or in the blood—humoral pathology—the new school looks to the cells of the body as the seat of the evil—cellular pathology. The enemy resides either in the blood or in the cells, and so is the defence to be found either in the blood or in the cells. The schools differ as to the character of the leaders—whether admirals or generals—but they agree that the attack as well as the defence can be carried on only by a single leader.

When, some 60 years ago, the young school of physiologists of those days demolished the idol of vital force, they rendered a great service to the science of biology by opening up all mysterious paths and phenoma of animal life to the searching light of the modern investigator, who learned to work with methods employed in the exact sciences. This service was, and is, generally appreciated; it consisted in the abolishment of the idea of vitalism. But the scientific revolutionists of those days have rendered to physiology another important service which, so far as I can see, was never yet clearly pointed out. When they overthrew the irresponsible reign of the vital force, they did not attempt to replace it by another single-headed force,—they have simply converted the monarchy into a republic. Within the last half-century the domain of physiology was toiled by an army of painstaking workers, throwing their searchlight into every corner and crevice of animal life; but until very recently no attempt was made to single out a tissue, a system, or a process, as the leading spirit of the living mechanism. Neither the nervous nor the circulatory systems, neither the anabolic nor the catabolic processes, and neither the blood nor the cells,—were singled out, to be entrusted with the leadership of the whole. The constant reappearance of the same morphological unit,—the cell,—in the histologic studies of the tissues of the body, naturally did

not impress the minds of the physiologists, whose object of study was chiefly the function, and not the form. But even the frequent reappearance in many body-tissues of one and the same functional phenomenon, the irritability, did not mislead the student of physiology to proclaim this characteristic feature of living tissue as the *primum mobile* of the life-machinery. The shape and quality of the bricks used in the erection of a building do not decide its nature and destination, whether it be a mansion, a monument, a factory, etc. Moreover, the animal body consists chiefly of a great number of harmoniously working mechanisms, in each of which all tissues, systems, etc., are participating in its complex construction; and it is still a great and open question whether any tissue takes part in the work of the body directly, without the intervention of a mechanism. But here, again, no exclusive leadership is entrusted to any special mechanism. To be sure, the propeller of the circulation is an important mechanism, a serious impairment of its working is sure death. But neither should the modest gateman at the entrance of the larynx be underrated; failure of the prompt closure of the glottis during each deglutition would cause suffocation and death. The same applies to the standing of the participating tissues within each mechanism. The respiration for instance is affected not only by such important changes as occur in the metabolic processes, in the composition of the blood, in the nerve-cells within the respiratory center, etc., but also by changes in tissues of apparently such low vitality as are the elastic fibers of the lungs, or the cartilages of the ribs.

In short, the unity of life is an ideal commonwealth, without a king, or an almighty president. It is governed by all its citizens, working in committees, each one of which performs its task, high or low, with promptness and exactness, to accomplish in the first place its own end,—but also with an avowed purpose to be in steady communication and cooperation with all the other committees; thus securing a harmonious, concerted action of one and all for the welfare of life and health.

It is not here the place to speak at still greater length of the correctness of such a view within the domain of physiology. Nor shall I discuss here the applicability of a similar view to pathology. But I shall insist hereupon, that the prevailing view in bacteriology,—with regard to the defense of the body against bacteria, viz: that it is entrusted chiefly to a single element (be it the blood with its alexins, or be they the leukocytes, or the other body-cells)—is neither correct nor advantageous. It is incorrect, because it is improbable that the republican government of the body, in which all parts are working harmoniously in all the other struggles of life, should delegate the steady struggle against bacteria to a single tissue. On the contrary, it seems rather highly probable that, like in all defenses, every tissue, system, mechanism is called into service to combat the invasion on every step and by any attainable means. And it is disadvantageous, because experimenters who concern themselves with finding exclusive principles which are capable of destroying bacteria and their products in experimental diseases to a value of 80% or even 100%, have only contempt for factors in the struggle which could contribute to the successful end only 4% or 5%, which is often below the possible experimental error. While in the natural struggle of life the army of the invading bacteria are met by a small army of trained defenders, any one of which, may be, contributes to the success indeed only 1%, or even only a small fraction thereof, the sum total of all of which represents nevertheless 100%.

Backed by the preceding considerations, I venture to offer the following two suggestions of a general character:

I maintain, in the first place, that in the struggle against bacteria the defense of the body is not carried on, exclusively or chiefly, by a single element. It is neither the body-fluids, nor the leukocytes, nor the other body-cells alone which can claim the exclusive merit of maintaining the health of the body, but each and every one of them has its variable share in attaining the desired end.

I maintain furthermore that, in health at least, the actual defence is carried on not by a single tissue, or a single function, but by concerted action of several tissues and functions, by the working af a mechanism. By mechanism I mean the cooperation of several independent factors in attaining a common purpose. Let us take as an illustration the protection of the conjunctival sac. It is nearly in direct contact with the air, and we might expect to find there an extensive bacterial settlement. Nevertheless, Lachowitz[2] and Bujwid found that in 69% the conjunctiva was perfectly sterile. The factors which accomplish this sterility, or at least the comparative scarcity of bacteria, are: the reflex which causes the closure of the lids at the approach of dust (the carrier of bacteria); the blinking which occurs regularly a few times in a minute, and which, in conjunction with the lacrimal moisture, throws out again mechanically the already-landed bacteria; and finally the bactericidal effect of the tears which destroys the balance of the invaders. Or, let us take the respiratory organs from the larynx down to the respiratory tissue, including the corresponding lymph-glands. I would like to call attention to the unique position of the respiratory path, which perhaps was never yet sufficiently pointed out; through this path the out-world stands in an intimate relation with the interior of the body, inasmuch as the air-column is separted from the lymphatics and capillaries of the lungs merely by a single layer of the very thin epithelium of the air-cells. Even the serous cavities are separated from the lymph-spaces by thicker layers. This arrangement is, of course, indispensable for the proper exchange of the blood-gases with the air. But what prevents the bacterial invasion of the interior of the body by this open and direct way? Moreover, most writers agree that the tissues of the trachea, bronchi and lungs of healthy animals are nearly sterile. In a number of rabbits under morphin-anesthesia, I found all these parts to be sterile. If one vagus, or a laryngeal branch, was cut, then the upper part of the trachea contained bacteria, but not the lungs. When both vagi were cut, then of course the lungs, too, were invaded. Jundell[3] reported recently that, by means of a special device, he was able to test the human trachea, and found that in the majority of healthy cases the region below the glottis proved to be sterile. What protects this path? In my opinion, the result is accomplished by the cooperation of the following factors:

The tortuous part of the respiratory path, lying above the epiglottis, removes perhaps the greatest part of the bacteria, contained in the inspired air-column, and the remaining number is, under normal conditions, just small enough to be disposed of by the factors present below the larynx. Bacteria which pass the glottis are either carried back outside of the glottis from the trachea and the bronchi, by the steady movements of the cilia of the epithelia; or, if the germs are carried in the center of the air-column, down to the air-cells, they penetrate

here quickly the thin epithelial layer, and are immediately within the reach of the lymphatic glands which take good care of them. The easy penetrability of the air-cells I consider here as a favorable factor, because, if the bacteria would be retained for some time in the alveoli they might settle there, proliferate, form a necrotic focus, and overflow the body with toxins, or even with bacteria, entering directly into the capillaries. As to the activity of the lymph-glands, there the observations of Loomis,[4] Pizzini,[5] and others are very instructive. The lymph-glands of more than 40% of nontuberculous lungs contained living tubercle-bacilli. The reduction of the invading bacteria to a small number is essential for the success. In inhalation-experiments with large numbers of bacteria thrown into the respiratory path, the normal mechanism fails.

In this illustration we see how an entrance which is most conveniently open to the invading bacteria, is guarded successfully, not by a single tissue or function, but by a combination of more or less valuable factors: by a mechanism.

In connection with the respiratory path, I would like to recall here the interesting fact, that both canals which lead farthest to the innermost of the body, that is the respiratory and the female genital canal (which latter terminates in the peritoneum), are lined by ciliated epithelium, the movement of the cilia being in centrifugal direction, and are—so far as the ciliated epithelium extends—entirely, or nearly, sterile. The tendency of our times is to underrate the value of mechanical factors. What energy those movements of the cilia represent, has been shown by our distinguished President 25 years ago.[6] According to his calculations the work accomplished by one cilia within one minute would be sufficient to lift its own weight 4,000 meters high!

Turning now to the plan of defense throughout the entire body, I have to state at the outset that, in its outlines, it is greatly the same as seen in the two mechanisms quoted above; that is the aim to reduce greatly the number of bacteria by mechanical methods, and then to destroy the remnant by some biologic means. The mechanical methods are: barricading the entrance, throwing out again the landed bacteria, or carrying them to the place of destruction. The following is a short sketch of the physiologic defense-work, carried on throughout the entire body.

Some of the entrances into the body-cavities are provided by sphincters, like the orbicularis oris and orbicularis palpebrarum, which hinder to a degree the free ingress of the bacteria thronging the corresponding cavities. From the nasal cavities a part of the invaders are thrown out again by the ciliated epithelia; into the mouth the main invasion occurs during eating and drinking, when a good part of the invading organisms are carried down with each deglutition into the stomach, where they are subjected to the prolonged destructive effects of the acid reaction and bactericidal power of the gastric juice. The tears, mucus, and saliva do also some destructive work in their respective cavities, by means of their bactericidal propertics. We know already the defending factors in the respiratory path. The legion of germs in the intestinal canal, are probably not very seriously affected by the loss of 12 to 13 milliards[7] a day, by defecation. It is, however, a more important fact, that in this canal the pathogenic bacteria are considerably decimated by the overgrowth of the less dangerous group of the colon-bacilli. The outcome of these preliminary skirmishes is, that the nasal cavities contain only a small; the mouth a somewhat larger, number of all kinds of saprophytic and pathogenic bacteria, and the intestinal canal harbors myriads of bacteria, which are surely pathogenic when invading the interior of the body in large numbers. But the microorganisms within all these body-cavities are separated from the interior by mucous membranes which, in normal condition, surely offer great resistance to the penetration of bacteria. From the extensive literature[8] on the subject of invasion of bacteria into the interior of the body from the intestinal canal, one may draw the conclusion that bacteria never penetrate the normal mucous membrane in considerable numbers, but a small number of them, especially of the group of the colon-bacilli, do enter by some way or other the adjacent lymph-spaces.

Adami[9] believes that the work of smuggling some bacteria from the body-cavities into the interior, is carried on by leukocytes from the lymphoid tissues. This mode of infection might exclude the fatal invasion of real pathogenic bacteria—which are not lacking in the intestinal canal—as the leukocytes have their likes and dislikes, positive and negative chemotaxis.

Of the fate of the toxins—which presumably are abundantly present in the intestinal canal—we know as yet very little. Behring and Ransom[10] state that the toxins of tetanus do not permeate the intestinal mucous membrane. Nencki[11] and his pupils report that the pancreatic juice destroys the tetanus toxins, and that the bile, together with the pancreatic juice, destroys the diphtheria-toxins. According to Calmette,[12] snake-venom is absorbed moderately from the gastrointestinal canal and is destroyed by bile. We should also remember, that albumoses and peptones, which are very poisonous, become converted into harmless albumins as soon as they reach the blood. As to the bacteria again, we should remember that against the invaders through the mucous membrane, as well as against an invasion from any quarter, the interior of the body is ably protected by the all-embracing net of lymphatic glands. Whatever may be the path of absorption of solubles, the corpuscular bacteria surely have to take their way through the lymphatics, and therefore have to pass the lymph-glands, where they are kept back mechanically, and where they and their products, according to Manfredi and Viola,[13] are often destroyed by bactericidal elements. The above-quoted statements of the presence of live tubercle-bacilli in the lymph-glands of lungs from nontuberculous individuals, gives us a good illutsration of the efficient and eminently useful work which is accomplished by the lymph-glands. When, however, by the virtue of the large numbers, or by the inefficiency of the glands, or for some other reason, the bacteria break through the gland-barrier and invade the interior, the bloodvessels and the organs—some of the invaders are thrown out again with some of the excretions and secretions of the body, for instance the bile, urine, and sweat. The literature[14] on the question whether this occurs under physiologic conditions is quite extensive. It was denied by Wissokowitsch,[15] Sherrington[16] and others, but the evidence accumulated in the last few years is decidedly in favor of such an assumption. And although we would not agree with Cohnheim, that the removal of the bacteria with the secretions is one of the chief factors in the defense against infection, inasmuch as the number of the excreted bacteria surely form only a small fraction of those present in the interior—we can safely assume that it is one of the many factors cooperating in the

work of the defense. Moreover, there is a general consensus of opinion that the toxins are freely excreted with the bile, urine and sweat. The significance of the latter, a constant companion of all crises and reactions, is perhaps not fully understood.

The number of bacteria remaining within the interior of the body is in normal conditions comparatively small, and is easily destroyed by the factors entrusted there with this task. What are these factors? We know that when saprophytic or moderately virulent bacteria are introduced intravenously into a healthy animal body, they disappear not only from the blood, but also from the entire interior of the body in a comparatively short time. Bacteria grow well on proteid-media, and develop rapidly in dead bodies. And they settle and develop well even in living bodies, if they find there necrotic foci, as it was shown among others by the experiments of Cheesman and myself.[17] But even only diminished vitality, like in chronic heart and kidney diseases, encourages the invasion and settlement of microorganisms in the body, as it is well demonstrated by Flexner[18] in his paper on terminal infections. It is then an established fact that the healthy living body destroys the invading bacteria. By what means? Metschnikoff and his followers believe that it is done chiefly by the leukocytes. We cannot discuss here the immense material brought forward for and against this theory. The impartial opinions seem to have settled now upon the conclusion that the leukocytes undoubtedly often assist in the work of the destruction of the bacteria; that they are, however, neither the exclusive, nor even the chief actors in this work. Buchner, Denys, and many followers, believe that the destruction of the bacteria within the body is accomplished by the bactericidal elements which are surely present in the blood outside of the body. However, the proof is still lacking, that they exist and are effective in the circulating blood within the animal. It is, however, gratifying to observe how the differences between these two leading theories gradually dwindle away. The present status is as follows: Metschnikoff[19] admits now that the body-fluids contain also some bactericides, but he maintains that they are derived from broken-down leukocytes; and Buchner[20] takes now the ground that the alexins are derived from the living leukocytes which secrete them. The mechanism of phagocytosis consists in the positive chemotaxis which causes the attraction, in the wandering of the cell to the microorganism, in the embracing or catching of it,—dead or alive,—and in the chemical digestion of the germ within the cell. In Buchner's theory the cells are attracted by and wandering to the bacteria, in the neighborhood of which they secrete the deadly alexins.

The studies upon immunity have brought to light important and intensely interesting facts, with regard to new properties of the blood and the body-cells. By the active immunization of animals, be it with bacterial toxins or with animal poisons, like the venoms of snakes and scorpions, or the serum of the eel, or the vegetable poisons, like abrin, ricin or robin, specific antibodies appear in the blood which, by transmission to the blood of normal animals, causes there passive specific immunizations. Furthermore, by injections of certain bacteria, living or dead, an antimicrobic immunization is produced, and the serum of these animals show two new properties; the lysogenic and the agglutinating. When bacteria are brought together with the fresh immune serum, or with a mixture of immune and normal serum, they become dissolved. The bacteria show also an inclination to clump together. It was found that the same properties can be brought out in specific immunizations against foreign body-cells like erythrocytes, leukocytes, spermatozoa, ciliated epithelia, etc. It seems that lysins and agglutinins are sometimes present in the normal serum of some animals. According to Ehrlich[21] and others, the lysins and agglutinins consist of two parts of different stability, one part is of the nature of a ferment and is present in normal animals; the other part, which is termed the "immune body," and which is generated only by immunization, connects the ferment with the bacteria or the forcign cells, and causes their agglutination and solution. The now widely accepted, socalled side-chain theory of Ehrlich[22] for the explanation of the working of the antitoxins, is somewhat similar in its construction. Antitoxin exists in the normal body as a side-link in the chain of the cellular molecules. Toxins are composed of a haptophorous and a toxophorous part. By means of the affinity of the haptophorous part of the toxin to the antitoxic part of the cell, the toxin becomes linked to the body of the cell, destroys greatly the antitoxic link, and attacks the cell itself. When the attack is not successful, the cell is then only stimulated by the injury to an overproduction of antitoxin (Weigert's hypertrophy through injury), and forms constantly new antitoxins which are thrown off into the blood. We see in both theories the same assumption of binding or fixing one part to another by means of a middle piece, and the assumption of the presence, in the normal animal, of one of the parts, here the antitoxin, there the ferment. That the lysogenic phenomenon is due to the action of a ferment, or an enzyme, has recently been advocated also by Emmerich and Loew;[23] but they believe that the enzyme does not come from the body, but is secreted by the bacteria and enters within the body into a combination with a proteid which they term immunprotcidin, and which is the cause of the acquired immunity. They found that the Bacillus pyocyaneus secretes an enzyme which causes the solution of this bacillus itself, and can cause also the solution of some other bacteria. It seems that their experiments offer quite an important practical outlook.

The facts and theories briefly referred to are very far-reaching. But for the present they cannot yet be utilized satisfactorily for the explanation of the rapid disappearance of numerous bacteria from the interior of the normal animal body.

I might be permitted to state here briefly the suggestion of two new factors, which—in my estimation—are capable of assisting in the work of the destruction of bacteria within the body.

One of these factors is the process of plasmolysis. When cells having membranes are placed in a salt-solution, more concentrated than that to which they were accustomed, by the osmotic interchange of salt and water, the latter leaves the cells, and the protoplasm recedes from the membrane. The same is truc also of bacteria. When the vacuolization takes place at the long sides of the bacillus, the vacuoles may meet at the middle of the long axis, and the receding protoplasm appears divided in two parts, presenting sometimes the appearance of a diplococcus surrounded by a halo. If the solution is soon diluted again, the cells may regain their normal appearance, though sometimes the membrane bursts, when the change is too sudden. When the injurious concentration continues, the changed form

might become permanent, or at least will yield very slowly to a later dilution. Even in the permanent change the cell will continue sometimes to live, but offers then but little resistance to any accidental injury. Now even in the same class of animals the body-fluids of different species—or even subspecies—have a different osmotic pressure, and what is isotonic for this species, might be hypotonic for one and hypertonic for another species. As there is no proof, nor any good reason, for the assumption that the blood and the other fluids of the animal body are isotonic with the protoplasm of the bacterial cell—may we not assume that the fluids are hypertonic, and therefore plasmolytic for bacteria which get into them? and as the organisms remain in the hypertonic animal fluid for some time, the state of plasmolysis becomes permanent, and the bacteria succumb easily either to the effects of the plasmolysis itself, or to some insignificant accidental injury.

Baumgarten,[24] who for years opposed the theory that the bactericidal properties which are manifestly present in the extravascular blood, exist and are active in the circulating blood, came out recently quite strongly for the assumption that the destruction of bacteria in the extravascular blood is chiefly due to plasmolysis. It is surprising that he does not even discuss the question, whether also the blood within the living body might be plasmolytic for the invading bacteria. Here he repeats his often pronounced opinion, that the natural immunity rests chiefly upon the absence of certain nutritive elements within the living organism which makes the latter an unsuitable medium for certain bacteria. I am not aware that the suggestion I make was ever brought forward before. But I am going to enlist in favor of my hypothesis certain important observations made by a distinguished member of our congress. I am doing it with great reluctance, as I am afraid that my interpretation of the facts will not receive the sanction of their discoverer. In a series of communications Professor Adami[25] has reported a number of extremely interesting facts concerning the presence of diplococcoid forms of bacteria in the liver, kidneys, etc., of which I shall mention here only the following few: When a culture of the colon-bacillus is introduced into the ear-vein of a rabbit, there appear after some short time in the liver and the kidney bacterial bodies, consisting of two dots resembling diplococci which are surrounded by a halo. Such bodies are also found in the liver of normal adult rabbits, but not in the livers of very young ones. Similar bacterial bodies develop also in body-fluids when inoculated outside of the body with the colon-bacillus. That these bodies are actually remnants of the colon-bacilli, is proved by the fact that some of them gradually assume normal forms, when reinoculated in suitable media. Now, double dots surrounded by a halo is just one of the forms into which bacteria are transfigured by a plasmolysis. I therefore risk the interpretation that Professor Adami has practically discovered the degeneration of the invading bacteria by plasmolysis, for which I put forward the claim that it is one of the regular factors in the defense of the body against bacteria.

The second new factor of which I believe that it has a regular place in the lines of the defense, is the vibrating effect of the heart-impulse. By the analysis of many data existing in the literature regarding the significance of vibration to cell-life, and on the basis of results of my own experiments,[26] I arrived at the conclusion that the relations of vibration to life are similar to those of temperature. A certain minimum is indispensable to all forms of life, a certain maximum cannot be overstepped by anyone, and there is a certain optimum for every one. But every species of cells has its individual minimum, optimum, and maximum. I found that a certain degree of vibration which was an optimum for one kind of bacteria was destructive for another kind. In recent experiments[27]—a repetition of experiments made by Professor Welch and myself[28] some years ago—I could establish the validity of this law also for the red blood-cells. In a previous paper I made the remark that the vibrations emanating from the impulse of the heart form probably the optimum for the living-cells of each individual animal. Now, recent experiments have shown me that the vibrations communicated to the body by the heart are deleterious to extravascular, dead blood. I have placed small rubber bags or bottles with blood in the peritoneal cavity or in the subcutaneous tissue of animals, and found that the red cells of this blood were destroyed much earlier than those of the blood which was kept in thermostat at a temperature equal to that of the inside of the animal. The suggestion which I wish to make is, that the vibrations emanating from the heartbeat of the animal is more than a maximum for all the bacteria invading the interior of the animal body, especially in the injured state into which they are placed by the other influences of the body, for instance, by the plasmolysis.

By the observations of Adami[29] and other investigators, we might consider it as an established fact that the interior of the adult body is regularly invaded by a number of bacteria, which, however, do not settle there, but are sooner or later destroyed. What effect does this constant invasion and destruction have on the body? If we introduce bacteria by some artificial method into the interior of an animal we immunize this animal. Why should it be different when the bacteria invade the body by natural ways? I believe therefore that the regular, moderate invasion of bacteria into the interior of the body is far from being an infection, an evil—it is a means of immunization, at least against the evils of an invasion of the same kind of bacteria in numbers larger than usual. The immunization is of course not strong enough to show the presence of antimicrobic serum within the blood; neither is it equal to meet the emergencies of extraordinary invasions. But we do not know whether it is not due partly to this perpetual immunization that disease is such a rare exception.

Latent infection, therefore, is not a foe to normal life, to health, but is rather a confederate in the defense of it!

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THE RELATION OF BACTERIOLOGY TO MEDICINE.[1]

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By the terms of the subject assigned to me, the parasite of malaria and the question concerning the parasitic origin of malignant new growths are excluded from discussion, since the organisms concerned in those diseases are not classed as bacteria.

Bacteriology has relations with every department of clinical medicine.

With *a.* Etiology.
" *b.* Diagnosis.
" *c.* Symptomatology and the course of disease.
" *d.* Prognosis.
" *e.* Treatment.

Etiology.

Through bacteriology we have been enabled to determine practically with certainty the causes of the following diseases:

I.

Diphtheria,	Asiatic cholera,
Tuberculosis,	Relapsing fever,
Bubonic plague,	Influenza,
Tetanus,	Gonorrhea,
Anthrax,	Glanders.

Erysipelas and the various diseases due to pathogenic streptococci and staphylococci.

II.

Epidemic cerebrospinal meningitis (Diplococcus intracellularis of Weichselbaum).
Croupous pneumonia—(Micrococcus lanceolatus).
Actinomycosis.
Typhoid.

III.

Among the diseases whose bacterial cause is *probably* identified are:
a. Malta fever (Micrococcus melitensis of Bruce).
b. Meat poisoning—certain epidemics—(Bacillus enteritidis of Gärtner and allied species).
c. Epidemic tropical dysentery (Shiga's bacillus).
d. Leprosy (Hansen's bacillus.)

IV.

Regarding the bacteria believed by some to be causally connected with the following diseases we are at present *in doubt.*
a. Whooping-cough.
b. Yellow fever.
c. Syphilis (Lustgarten's bacillus).
d. Cystitis and cholangitis (colon-bacillus infection in certain cases).
e. Soft chancre (Unna's bacillus).

V.

Finally we may make a list of bacilli probably pathogenic under certain conditions, but not constantly associated with any well-defined group of *clinical* manifestations. Such are the:
a. Bacillus pyocyaneus.
c. Bacillus of malignant edema.
d. Bacillus of Friedländer (ozena, lobular pneumonia, etc.).

Diagnosis.

Bacteriology is in the closest relations with clinical medicine through the help it gives us in clinical diagnosis. Such assistance is given
A. Through the demonstration of the bacilli themselves in secretions or in the products of disease.
B. Through the agglutination-test.
C. Through the injection of soluble products of the growth of certain bacilli (tuberculin, mallein).

A.

So far only two or possibly three such bacteriological tests can be said to be in general use throughout this country, viz.:
1. The search for the tubercle-bacillus in sputa.[2]
2. The search for the diphtheria-bacillus in the throat, and possibly
3. The agglutination-test for typhoid.

Other such aids to diagnosis which seem likely to come into more general use are the examination of
a. The Blood—(blood-cultures in pyemia, malignant endocarditis, bubonic plague, pneumonia, gonorrheal septicemia).
b. The Sputa—for the influenza-bacillus, plague-bacillus, and Micrococcus lanceolatus.
c. The Urine—for the bacilli of typhoid and tuberculosis.
d. The Feces—for the bacilli of typhoid, tuberculosis, and cholera.
e. Cerebrospinal Fluid—for the Diplococcus intracellularis, tubercle-bacillus, and Micrococcus lanceolatus.
f. The urethral, vaginal, and uterine secretions—for gonococci.
g. The nasal, pharyngeal, and conjunctival secretions—(for influenza or diphtheria-bacilli, bacillus of Friedländer, bacillus of Wecks).
h. Pleuritic or pericardial effusions for pneumococci, streptococci, etc.

B.

The Agglutination Test.

a. Next to typhoid, Malta fever seems at present the disease in the diagnosis of which we are most helped by the agglutination-test.
b. In the recognition of the true nature of certain obscure fevers, Durham believes that the serum-test with the bacilli most frequently concerned in meat-poisoning (Gärtner's Bacillus enteritidis) is destined to play an important part.

[1] Read before the Congress of American Physicians and Surgeons, held at Washington, D. C., May 1, 2, and 3, 1900,

[2] In examining sputa from cases of gangrene of the lung, it should be remembered that the smegma-bacillus may occur in such cases, and be mistaken for the tubercle-bacillus if decolorization with absolute alcohol is not attempted.

c. The diagnosis of relapsing fever between the paroxysms, once difficult or impossible, is now possible by the use of a reaction akin to the agglutination-test.

d. Well-marked agglutination-reactions have been constantly observed in leprosy, bubonic plague, Asiatic cholera, and tropical dysentery with the bacilli of these diseases. Just how much practical use is as yet made of these tests I am unable to say.

To other diseases the diagnostic assistance of the agglutination-reaction has not extended. Individual observers have reported success in the attempt to apply the serum-test to the diagnosis of tuberculosis and croupous pneumonia, but confirmation is lacking.

AID GIVEN TO BACTERIOLOGY BY CLINICAL CASES.

To a limited extent we are able to reverse the use of the agglutination-test. Instead of using a well-identified bacillus to test the body-fluid of a doubtful case, we can use the body-fluids of a well-identified case of disease to test a doubtful bacillus. In identifying doubtful cultures, M. W. Richardson uses slips of filter-paper soaked in the blood obtained at autopsy from a case of typhoid. Durham has used similar tests in differentiating the flora of the intestine.

C.

Of the diagnostic use of tuberculin it is only necessary to say that despite the warnings of Virchow it has passed into general use and deserves to be utilized much more widely still. The few who object to its use are for the most part those who have not tried it.

The use of mallein is well established.

SYMPTOMATOLOGY AND COURSE.

1. Bacteriology is rapidly bringing about a regrouping and rearrangement of those clusters of signs and symptoms by means of which we have been accustomed to recognize the entities called "*diseases.*" Previous to the development of bacteriology we thought of acute pneumonia as a single well-defined disease. Now we know that there are many kinds of pneumonia. The pneumonia due to the Micrococcus lanceolatus differs in many respects from pneumonia due to the Streptococcus pyogenes, to the plague-bacillus, or to Friedländer's bacillus. Such differences are clear on the postmortem-table and we are beginning to recognize clinical types corresponding to them.

I cannot help hoping that such differentiations will aid us to clarify the turgid sentences in which perforce our symptomatology is now expressed. When I read symptomatology, and still more when I attempt to write it, I am at times inexpressibly depressed by the wearisome recurrence of such phrases as "sometimes," "not infrequently," "in certain cases," etc. "Sometimes pneumonia ends by crisis—sometimes not." "Peritonitis sometimes caused distention of the abdomen, sometimes retraction." "Why?" asks the intelligent student, and there is no answer.

Now if we could say (as I hope before long we can): "Pneumonia when due to the Micrococcus lanceolatus ends by crisis—when due to the streptococcus by lysis"—what a godsend it would be! How much more scientific, how much less like the weather predictions of the Yankee fishermen our textbooks of medicine would sound!

2. Again by showing that one species of bacteria may set up disease in the brain, the lung, the endocardium, and the peritoneum, bacteriology has suggested that what we now separate as various diseases—meningitis, endocarditis, and peritonitis—should properly be brought together under the heading of "*pneumococcus infections.*" Influenza, tuberculosis, gonorrhea, and typhoid already occupy such a position. Influenza is still influenza whether it attacks the upper air-passages, the gastro-intestinal tract, or runs its febrile course without any recognizable local manifestation. The recent report of the Bombay Plague Commission manifests an advance in form of the same tendency when it specifies no less than 10 forms of infection by the plague-bacillus, at least as different from each other as are the different manifestations of the Micrococcus lanceolatus in various organs.

3. The interesting subject of combined bacterial infections is too extensive to be treated in this paper. But it is evident that our conceptions of the symptomatology of pulmonary tuberculosis have been greatly clarified since we began to distinguish the symptoms due to mixed infection with pyogenic cocci or with influenza bacilli from those due to the activity of the tubercle bacillus alone.

PROGNOSIS.

Statements regarding prognosis are likely to present an unrivalled material for the study of the art of *hedging.*

Bacteriology is helping us to make our prognoses less meaningless. The following examples are in point:

a. When pneumococci can be demonstrated in the blood of a case of pneumonia, a fatal termination is almost certain.

b. When the spirochetes of a case of relapsing fever are rendered motionless within one hour by the blood of another patient who has passed through one paroxysm and is expecting another—no second paroxysm will occur, while if the spirochetes are not quieted within two hours another paroxysm is sure to follow.

c. Empyema due to the pneumococcus is likely to heal after relatively rapid tapping, often without permanent drainage.

d. Coryza carries a much more serious prognosis if the nasal discharge contains influenza-bacilli.

TREATMENT.

a. Antitoxic or protective sera.

The subject is so familiar and well worn that I will simply classify the various antitoxic sera according to the best current opinion of the efficiency.

I.

Markedly curative.

Antidiphtheritic serum.
Antispirillum serum (relapsing fever).

II.

Efficient as protective.

Anticholera serum.
Antiplague serum.

III.

Limited utility in selected cases.

Antitetanus serum.
Koch's tuberculin (strictly a toxin, not an antitoxin.

IV.

Doubtful but hopeful.

Antityphoid serum.
Antidysenteric serum.

V.

Probably inert.

Antistreptococcus, antipneumococcus, antiamarillic (yellow fever).

b. Under a slightly different heading comes the treatment of inoperable cases of malignant disease by the injection of the toxin of erysipelas, which appears to have a distinct though very limited field of usefulness.

Relation of the Clinician to the Bacteriologist.

The Municipal Laboratory of the City of Boston now offers to examine for physicians material suspected of coming from any of the following diseases: Typhoid, tetanus, rabies, tuberculosis, diphtheria, malaria, glanders, gonorrhea, influenza.

Now, as a citizen of Boston, I take great satisfaction in knowing that we have such a municipal laboratory, and that our physicians can and do avail themselves of it. Yet I am sometimes appalled when I see how innocently, how literally, how trustfully, physicians accept laboratory verdicts as decisive. I have been amazed to see how my own laboratory reports, at the time when I was doing such work, were accepted as final, and used as foundations on which to build an extensive superstructure of diagnosis, prognosis, and treatment. No one who has ever done much laboratory work ever accepts the report of another in such a spirit, for he knows from experience.

a. The chance for error in the laboratory (from confusion of specimens, deterioration of cultures, or culture-mediums, etc.).

b. The difficulty of interpreting the results of bacteriological investigation, or of understanding just how decisively the bacteriologist intends to speak on the point in question.

a. The bacteriologist knows that some of his verdicts are relatively final—others less so, and more subject to modification, according to various other circumstances. He knows when his technic has been above suspicion, and when (either from the condition of the material furnished him, or the nature of test attempted), his results are to be taken less seriously. All this the bacteriologist knows—but the clinician frequently does not. Hence arise errors and misunderstandings, which not infrequently drive the clinician to an utterly unreasonable distrust of *all* laboratory results.

b. Few clinicians realize how difficult it is to interpret the results of bacteriologic examinations. For example, to draw the *properly limited inference* from the announcement of a positive Widal reaction; to be enough, and not too much, alarmed by a positive reaction to tuberculin, or by the finding of Klebs-Löffler bacilli in a patient's throat.

Especially is this true when relatively indefinite quantitative expressions enter into the bacteriologist's report. Only he who makes the test can really appreciate what is meant in a given case by such phrases as "Very numerous tubercle-bacilli, very virulent streptococci, very motile organisms, very numerous malarial organisms, etc."

In view of these facts I believe that we get the greatest help from bacteriology only when the bacteriological tests are made by the clinician himself or by some one (for example, his private assistant or interne) who is familiar with the clinical aspects of the case in question. Otherwise the wisdom of the laboratory and the wisdom of the bedside often fail to connect with and to reinforce one another.

Bacteriological evidence on clinical cases cannot be passed from hand to hand without damage; the truth as the bacteriologist sees it is not the same truth which the clinician receives through the medium of a written report. The journey from mind to mind has modified it—sometimes transformed it into something very like error.

BACTERIO-THERAPEUTICS, WITH ESPECIAL REFERENCE TO TUBERCULOSIS.*

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In my effort to present this subject I will include for the purposes of this paper, in order to cover more broadly the use of bacteria in medication, both preventive or immunizing methods and serumtherapeutics. I cannot, however, attempt more than a summary of our present knowledge of the subject in connection with human diseases other than tuberculosis.

The use of living but weakened bacteria in the prevention of the like disease has found but little scope outside of vaccination for variola and anthrax. Considerable immunity has been produced in this way experimentally against streptococcal, pneumococcal, diphtherial, and tuberculous infections, but its therapeutic employment would obviously be irrational. Living streptococcus inoculations have, however, been by accident or intent successfully employed in the treatment of sarcoma and lupus (Coley's first method).

The employment of dead bacteria, their extracts or culture-products, has at present an undoubted field in cholera, plague, and typhoid prevention in human beings. The results of Haffkine's[1] anticholera inoculations, have demonstrated its protective power for a limited time, while the use of extracts of plague-bacilli gives promise of similar comparative immunity.[2] The inoculations against typhoid in the British army are encouraging in their results.[3] In other diseases there has been little encouragement except as regards the lower animals. For therapeutic use the extracts, or dead bacteria, have not commended themselves in acute diseases like typhoid, plague, sepsis, pneumonia, and diphtheria.

The use of serums or tissue-extracts of animals immunized or treated with bacterial substances for these purposes manifestly is much more applicable for therapeutics, because it brings to the aid of the infected organism the protective substances or powers of others. The striking success of diphtheria-antitoxin in treatment has caused the flood of serums for all known diseases. It will here be sufficient to remind ourselves that except tetanus-serum no others have shown brilliant results in human medicine. It is interesting to note that both these serums have preeminently antitoxic as distinguished from bactericidal powers. Among the serums that have claims upon our notice at present the streptococcus,[1] pneumococcus,[4] and that of recurrent fever[5] are said to have bactericidal or bacteriolytic properties only, while the serums of plague, typhoid, and cholera, may have both antitoxic and bactericidal powers. Of tuberculosis serum I will speak later.

Experiments upon animals, and to some extent upon man, are entirely satisfactory as a basis for a much wider usefulness of serums and tissue-extracts as immunizing agents.

* Read at the meeting of the Congress of American Physicians and Surgeons, held at Washington, D. C., May 1, 2, and 3, 1900.

The promptly curative effects of diphtheria-antitoxin may obscure in the minds of some the good results of immunization by its use, but its demonstrated value should encourage a much more extensive employment, especially as the improvements in preparation have lessened the dose and increased the potency. These remarks also apply with greater force to tetanus. It needs no sage to observe that at present bacteriotherapeutics and serumtherapeutics have, with the exception of diphtheria, their best field for practical use in immunization against their respective diseases.

With this brief review of the general subject with which I do not assume familiarity, I crave attention to some remarks with reference to tuberculosis.

While I consider it not unprofitable to mention the present clinical status of tuberculin, it is certain that it can serve no useful purpose to recount the history of the blind leading the blind of a decade ago. It remains a history for the contemplation of psychologists. The term tuberculin has been used to cover broadly all extracts and culture-products of the tubercle-bacillus, and should not be confused with serums, as is frequently done. The extracts prepared subsequent to Koch's original tuberculin that have been used clinically, received various names according to their object and method of preparation, and may be enumerated as follows:

1. Original tuberculin (abbreviated "T. O."); boiled, concentrated and filtered, glycerinated cultures; now chiefly used for diagnosis.

2. Purified tuberculin ("T. Pur."); the resultant redissolved precipitate of the first with 60% alcohol.

3. The new tuberculin ("T. R."); an unsterilized, unfiltered, glycerin-water semisolution of living, dried, pulverized, and washed bacilli.[6]

4. Tuberculocidin and antiphthisin; dilute tuberculin made from the slight residue after precipitation with sodium-bismuth iodid.[7]

5. Hunter's[8] modifications; similar to purified tuberculin by precipitation with ammonium sulfate.

6. Tuberculoplasmin; the filtered watery solution of the protoplasm of moist living bacilli, extracted by crushing with hydraulic pressure.[9]

7. Watery extracts of bacilli without culture-medium.[10]

8. Tuberculinic acid; the nucleic acid obtained from fat-free bacilli, decomposed by superheated steam.[11]

It was soon discovered that the original tuberculin produced no immunity against relapses of tuberculosis, where the disease seemed completely arrested and even apparently cured by its use. Hence the new tuberculin, containing the substance of the bacilli and not its extractive matter, was introduced by Koch because it was found in animals to confer immunity against, as well as to be curative in the sense of complete arrest of, the disease.

The results of these experiments with the new tuberculin are entitled to respect (although not yet completely published as promised) (see Beck[12]) because they show the possibility of producing at least temporary immunity in guineapigs. Unfortunately, the conditions are such that man cannot tolerate proportionately greater doses of this bacillus-poison; nor, if he could, would the immunity be certain to be sufficiently lasting to commend its use. The clinical results, so far as they relate to new tuberculin for preventing relapses, are disappointing, though inconclusive as yet. Moreover, from our present knowledge of its effects, the tubercle-bacillus poisons used for immunization would require such ca to avoid overdosage that grave danger of chron poisoning and cachexia would result from attempts keep up the immunity even in vigorous subjects.

Therefore, it appears to me that the subject of tube culin mainly interests us at present in relation to it local action on tuberculous tissue, and to the mechanis of this specific relatively increased tolerance, observe especially as a consequence of injections of the ne tuberculins, dead bacilli and those of weak viru lence.[13 14] To discover and, if possible, utilize thi relative protection for passive immunity in the treat ment of tuberculosis is the aim of research today.

Much interest clings to the nature of the tuberculin reaction, and many theories have been held concernin it. That of Koch, which assumed a direct necrotizin action on tuberculous nodes; of Hertwig,[15] that ascribe it to chemotaxis; of Eber,[16] to "heightened cell-energy; of Buchner,[17] Rosenbach,[18] and Charrin[19] to "latent in flammation" and fever susceptibility; of Klein,[20] solely to mixed infections; of Arloing,[19] to weakening of th tubercle, and increase of secretion by the bacilli; o Liebmann[21] and Ribbert,[22] who thought the bacilli were increased in potency, have all been abandoned or modified with further study and the discovery of analogies. The later assumption of Babes[23] and Proca that it is a process of fermentation or enzyme activity excited by tuberculin is more in line with our present knowledge.*

A long list of substances is now known to produce like tuberculin, local and general reactions in tuberculous subjects, and similar general disturbances with fever in healthy persons when large doses are employed.

In general they are digestion-products such as albumoses and their ferments; also certain alkaloids such as physostigmin, pilocarpin, atropin; certain acids as cinnamic,[25] cantharidin, and especially nucleic acids and their combinations as found in bacterial proteids,[17] and finally abrin, ricin, and similar irritant bodies.

Their nature, taken in connection with our most recent knowledge of the chemical composition of tubercle-bacilli and of bacteriolytic powers of serums, is to me highly suggestive of the ferment or enzyme-theory propounded, and to some degree experimentally supported by Babes and Proca[23] to account for the tuberculin reaction. (See also Hahn.[9]) I may be permitted to present it with modifications to fit the times somewhat as follows: Tuberculin and allied irritants cause leukocytosis, or at least stimulate the secretion of ferments by leukocytes and other cells, particularly those which surround the bacilli as a wall. This ferment attacks both the injected irritant and the similar poisons that have been slowly accumulating in the tubercles during the life-cycle of the bacillus. The general fever-reaction now comes on because of the toxin set free, altered by or combined with the enzyme. The reactions are not produced in very recent tubercles nor earliest stage of tuberculosis because there has been no time for storage of toxin, which begins when the bacillus ceases to grow or dies, and because the organism as a whole has not developed susceptibility to this class of poisons, or power to attack them. The local and general reactions become less and less as more tubercles are exhausted of toxin, while the dose required to produce them increases because of less toxin in the tubercles, and also because

* It is somewhat unfortunate that our ideas of the reactions and dosage should have been based on the use of the original tuberculin, since it is a crude mixture, including albumoses and peptones from the culture-medium which by themselves produce reaction, supplementing that produced by the bacillus extract proper.

of the now lessened sensitiveness of the whole organism —or—toxin immunity.

Inoculations of sterilized bacilli produce tubercles and susceptibility to tuberculin-reaction. Hence, for the purpose of this argument, both living and dead bacilli may be considered simply as chemical irritants which the defensive mechanism of the animal strives to disintegrate and excrete. The bacillus being markedly resistant because of difficult soluble fats and irritant nucleobodies in its substance, this effort fails in part and leukocytes and other cells hedge it in to form the tubercle. The nearest cells imbibe or slowly dissolve out the soluble toxin or suffer death in the attempt. In either case the process of digestion or enzyme action is too slow to effect a marked local or general disturbance unless there are present a sufficient number of tubercles of the same age, or unless tuberculin and similar exciters are used, or there are accompanying infections that cause an increase of leukocytes and more enzyme action.

This hypothesis satisfactorily accounts for many phenomena clinically and experimentally observed in tuberculosis and tuberculin action, and gathers force from the recently strengthened theory of Buchner,[26] that bactericidal and bacteriolytic or dissolving properties of serums are proteolytic enzymes secreted by various cells, but preeminently by leukocytes. The agglutination of tubercle-bacilli by serums from tuberculous patients has been claimed by Arloing and Courmont,[27] and while this may not be a wholly specific property, it indicates the presence of some anti-body allied to those in bacteriolytic serums. If then we may assume that tuberculin acts as a spur to the functions of defense, we can easily apprehend the danger of overstimulation and harm from too large and frequent dosage, or when used on patients with poor nutrition or already over-poisoned by their malady. Likewise the severe local reactions, particularly in the lung, could cause new foci by washing out the bacilli. While this may have occurred during the tuberculin craze, I believe that all trustworthy advocates of tuberculin-therapy today, after years of observation, think that no recognizable danger exists when the violent reactions are avoided and proper cases are selected.

Whether or not tuberculins of any sort should be favored for limited therapeutic employment in the light of our present knowledge, I will not presume to decide, but that they can favorably influence a pure, localized pulmonary tuberculosis, and lupus, in a well-nourished and afebrile patient, seems to me sufficiently proved by clinical experience coupled with animal experiments. Obviously their use should be confined to institutions, and the patients observed through a series of years.

The experience of Petruschy[28] is valuable in showing the necessity for repeated injections of tuberculin with long interruptions in order to attain an absence of reaction-susceptibility to test-doses. This he regards (and to my mind with some reason) as a criterion of the complete cicatrization of all the tubercles (though not of the death of all bacilli in them). How far such a criterion may hold good depends upon how much an acquired toxin-immunity from the previous injections may have to do with it, but it is safe to say that the latent tuberculosis in a person in apparent good health, that will not react to a full diagnostic dose of tuberculin, should cause no anxiety. The few patients who have stood the test of time and tuberculin after long intervals are alone those of value in a clinical estimate of the curative influence of tuberculin in the sense above mentioned (complete cicatrization of foci).

It appears uncertain that tuberculins can do any more for the local process in aiding cicatrization or absorption of tubercles than other leukocyte irritants, such as cinnamic acid[25] and nucleins; but if a certain degree of toxin-immunity can be produced by the new tuberculins it is more rational to employ a specific irritant. Considering the difficulty and danger of producing even comparative immunity by the use of tuberculins the question is practically resolved to this: Can we safely aid nature to advantage in her attempt to hem in and destroy the tubercle-bacillus and its products by medication that increases the hyperemia and absorption from tuberculous nodes? I think it is reasonable to affirm that we can within narrow limits.

The successful treatment of tuberculous joints by combined active and passive hyperemia (Bier's[29] method), the complete absorption of tubercles from the peritoneum after simple laparotomy, due to creative hyperemia (Hildebrandt[30]), and the same result in lupus from tuberculin, x-ray, and other methods producing inflammation, are certain indications that it is rational so far as they can be applied to pulmonary tuberculosis.[31]

A more attractive subject for consideration is serum-therapeutics in tuberculosis, which is in an experimental stage at present. A great variety of relatively immune animals and birds have been utilized in the search for an antituberculous serum without practical success.

On the other hand Maragliano[32] and de Schweinitz[14] have attained some prolongation of life in tuberculous guineapigs with the serum of horses injected with bacillus-toxins. The serums have been and are being used clinically with greater or less claims for success.

Paterson[33] and Behring[34] found antitoxic properties in certain bird-serums, and de Schweinitz[14] and Behring[34] in tuberculous cows treated with toxins. These were found unsuited for use on human subjects because of irritant properties. Maffucci and Vestea[35] obtained prolongation of life in guineapigs with serum of toxin-treated sheep, but as it produced fever it was thought to contain tuberculin, and its activity thus accounted for. The antitoxic properties of the serums of Maragliano and Behring were assumed to be demonstrated by the inhibition of a tuberculin reaction in a human subject, and prevention of death from a fatal dose of the toxin in healthy guineapigs. None have so far been proved bactericidal or immunizing, and the evidence is yet unsatisfactory (see Trudeau and Baldwin[36]) as to the much-wished-for antitoxic power, which is at least so weak as to be unappreciated when measured by its immediate influence on the fever of tuberculous patients.

Thus far no tissue has been found to have an especial affinity for the bacillus-toxin as in tetanus and diphtheria. This may be the reason that we have such slight evidence of the presence of a strictly antitoxin body.

It might be expected from what has been learned about the mechanism of the tuberculin-reaction that a bacteriolytic property might be obtained in serums or tissue-extracts of immunized animals. If present, the practical value of such a serum might be limited by its inability to get at the bacillus in the caseating tubercles, unless, like laparotomy in tuberculous peritonitis, it could cause their complete absorption. The whole subject is being studied earnestly for more light on these problems, and we may not lose hope for results of practical value.

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THE SOCIOLOGICAL STATUS OF THE PHYSICIAN.[1]

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IN preparing this address I have liked to think of it as a possible prefaee to chapters which other men, who love their work and to whom it is a profession of faith in a purpose of usefulness, and who are wiser and more apt than I, might write; for the relations of the physician to the soeial problems of his day and generation, while individual in their charaeter and single in their purpose, are capable of manifold expression.

The term "sociology," first used by August Comte[2] less than 60 years ago, may be briefly and broadly defined as "the science of the laws of human relationships" and, as often happens in the presence of cognate intellectual processes working toward the same end, the suggestion of a concise definitive appellation furnishes a rallying point to whieh the various workers converge and from which they go out, strengthened by a sense of companionship and encouraged to more extended effort by a better comparative knowledge.

The title sociology, therefore, beginning with an application in terms of positive philosophy, has come, in the short period of half a century, to include not only theories as to the organization of society, but practieal considerations of the value, the application, the use, the control, and finally the prevention of certain social conditions.

The range of sociology, in its modern form, may be said to extend from investigation of the power value of psychic phenomena in the unit, to consideration of physical eeonomics in the mass.

The original ideas of society as the product of extrinsic causes or of soeiety as a force-aggregation upon a materialistic basis, have gradually given place to a recognition of the continuity of the ethical idea in an aggregation of human units, the majority of whom are relieved, in whole or in part, from the demands incident to a primitive struggle for existence.

It is precisely at this point in the development of sociology that a member of the body politie, who has long existed and who has indeed for several centuries had a definite sociological status, becomes an increasingly cooperative factor.

The science of society which has come in the growth of its responsibility to the human mass to find the need of a more aecurate study of the entity of the human unit, turns to the doctor of medieine for advice and counsel.

To the members of the medical profession, whose devotion primarily, to the needs of the unit, leads them to concentrate their energies upon a suceession of individuals and who, consequently, find themselves isolated more or less from the social community and placed apart as specialized workers, the newer and broader sociology brings, not only the stimulus of association and sympathy, but larger opportunities for the exercise of their usefulness.

As a natural result of this approximation, appreciation grows, barriers of prejudice are broken down, the conventionalities of self in which pessimism is nurtured disappear, and men of different walks of life come to understand each other better, in the light of a common purpose to helpful ends.

The sociological status of the physician, therefore, at the present time, may be said to be his standing in regard to an extensive movement in behalf of the study of human relationships with a view to a truer comprehension of their normal bases and to the betterment of their existing conditions.

Before proceeding to a consideration of the effectiveness of the doctor of medicine as a part of the social organization exhibited through the medium of the institutions with whieh he is particularly related, and of the other duties of which he is capable and which lie before him, it will be well to consider briefly the character of his professional training and its reactionary effect upon himself as a man and a citizen.

Of all special educations that of the science and practice of medicine, when it is of the best quality, is the most exaeting and makes the largest demand upon the staying power of the student; it is longer in duration, more confining, and requires more intense application than the corresponding courses which lead to a degree either in law or divinity, and affords a larger suggestive opportunity for collateral scientific reading.

It implies, in its beginning, the combating of natural repugnancies, and, in its continuance, a eeaseless struggle against the mentally depressing influence of daily contact with disease and dissolution, it challenges lofty sentiments and lays bare the framework of cherished emotions; on the other hand, it demonstrates truth and gives the foundation for a faith which, though usually silent and often circumscribed, nourishes the optimism necessary to this vocation, and helps the doctor to regard the affairs of life in the light of their importance, not to himself, but to the individual whom for the time being they most concern.

That the "outward profession of faith" is not usual in the medical profession is due not to the lack of this quality, but rather to the reluctance to make public expression on the part of men whose life is, in its practical exhibition, largely confidential, and who, moreover, have especial opportunity to give utterance to the spirit within them in human contact work.

[1] Delivered before the Congress of American Physicians and Surgeons, held at Washington, D. C., May 1, 2, and 3, 1900.
[2] Cours de Philosophie Positive, 1842.

To the claim that medical education furnishes the material for a deep and lasting faith in a creating and sustaining power may be added the claim that it tends to beget that sense of reverence of which Benjamin Kidd says "that it is a preponderating element in the type of character which the evolutionary forces at work in human society are slowly developing, and with which are tending to be closely allied the qualities of great mental energy, revolutionary enterprise, powers of prolonged and concentrated application and a sense of simple-minded and single-minded devotion to conceptions of duty."

That attributes such as these may be nurtured in the stern curriculum of a medical education and fostered under the exacting conditions of a career which is both a practical application and the continuance of that education, we know, but it is also well for us to know, daily, that the possession of a most intimate knowledge of human life and its relationships implies an enormous moral responsibility.

In addition to the justly economic purpose of following a reputable vocation likely to ensure a livelihood, the principal incentive to the study of medicine is a purpose of usefulness, or a basal sense of a desire to express in some way the appreciation of an obligation, a purpose which is the underlying motive of all sociological effort.

Coupled with this is the desire for a more intimate knowledge of the purposes of living as expressed in terms of accomplishment.

In addition to these motives there is that which comes from the possession of a truly scientific spirit seeking the acquisition of knowledge and the establishment to mental vision, of a utilizable truth, with a view, not to any individual aggrandizement, but to the end of making this a stepping-stone to further progress; this sequence of stimulation usually carrying with it the sentiment that the work done is a contribution to the general welfare.

In the very beginning of his studies the medical student is brought into investigatory relationship with that which he has heretofore thought of as an entity, a being, a mystery, and which, now put into his hands for demolition, he finds to be a most wonderful and delicately constructed machine, in the study of which he may be said to pass through much the same process of mental evolution as that attributed by Professor Giddings to primitive man.[3]

He is lost in marvel at the compact arrangement of muscular tissues, regards, as might the explorer of a buried city, the system of canals which carry quickening fluid to the outermost circumvallation and of drains into which are cast waste matters to be discharged without the walls; while the glistening white lines of nerves ending their branches in a network between muscles and under and over canals and drains, reveal to him the suggestion of a system for the communication of intelligence and the issuance of governing mandates to which the combined telegraphic and telephonic services of the greatest city built by human hands have no comparison in relative extent or in perfection.

There is probably no point in his career of so much initial portent as that in which the student, in the dissecting-room, for the first time lifts the wet sheet from a face that he has never known, but behind which there dwelt and through which there have been expressed, all that emotion and desire can crowd into the compass of a human life; it is a period in which he either consecrates himself or turns back; if he be honest he does one or the other; if he be a pretender he may, it is true, continue and complete his medical school course and go out into the broader school of work, but without the consecration he will inevitably fail of his highest possibilities as a physician.

The impress which is made by the study of anatomy upon the truly thoughtful man cannot but be emphasized in the physiological laboratory, where the student learns the values and uses of the different parts of the human machine and finds the answers to questions which the previous study of the structure of the silent body have evoked.

Here and in the associated laboratories he learns the chemical processes of the body in health and disease, the supplementary relationship of the different organs, the provision for their maintenance and repair, and comes to recognize and to know the functions of the microscopic organisms with which the body teems.

Carrying with him the lessons born of research, he next passes into the wider school of clinical teaching, and learns at the bedside that he has to study something more than the disease and that to render the fullest meed of service as a physician he must come to know, patiently, tenderly and, in the broadest sense, sympathetically, his brother man.

Here, too, he learns that his own feelings and emotions must be subordinated to the one purpose of his greatest help efficiency; that here, as in all scientific work, his personal equation must be reduced to a minimum and that he must lose himself in the effort to think wisely and judge well for others.

In former times, not very many years ago, the bedside teaching was provided under a system corresponding to that of apprenticeship in trade, and the student gained his clinical experience through association with some active general practitioner; but today, with the aggregation of population in cities and the consequent establishment of hospitals, these institutions are made to furnish the clinical material necessary for instruction, thus fulfilling one of their important obligations to the community which supports them; for, while the first purpose of the hospital is to provide for the care of the sick, no such institution does the just measure of its work unless its benefits extend beyond its walls through the education of those whose lives are to be pledged not only to a warfare against disease, but to an effort toward its prevention.

From an economic standpoint the hospital may be defined as an institution in which capital and skilled labor combine to provide such members of the community as are temporarily disabled and without means of support, with the maintenance and care which shall fit them to become again self-supporting and active community factors.

It is a free repair shop for human machines, and the capitalist who contributes to its support does so with the basal, though perhaps not with the defined understanding, that his contribution is returned to him, through the community, in the lesser number of incapacitated and dependent machines, while the physician who furnishes the skilled-labor contribution finds his return not only in the same manner as the capitalist, but in the opportunity which is given him of fulfilling his duty to humanity with less expenditure than if he did it at his own charge, and with better effect, under

[3] F. H. Giddings: The Principles of Sociology, Anthropogenic Association, p. 6.

conditions which inure greatly to his own well-being and usefulness.

But the hospital of today is something very much more than a mere repair shop; it is a school full of object-lessons in the application of those qualities which are the uprights, the girders, and the binding-rods of the modern social structure. In the first place, it is the most absolutely clean of all human habitations, and the present splendid successes of surgery in the amelioration of suffering and the preservation of life are due not only to the application of trained skill and intelligence, but to its operations under conditions of absolute sterilization which are microscopic in their minuteness.

Not only is the hospital a lesson in physical cleanliness, but, if justly administered, it is morally clean as well; for so important is its service, so often does the issue of a life depend upon the observance of some apparently minor detail, that its work must be done under the strictest discipline; order, obedience, alertness and complete devotion to the duty in hand must be commanded within its walls.

Under such responsibilities the position of superintendent of a hospital is a serious one, calling for administrative ability of no mean order.

Gradually with the growth of urban hospitals these posts have come to be filled by selected men who, from previous education, along other than medical lines, or from training in the hospitals themselves, have acquired the ability to deal with questions of structure, repair, lighting, heating, ventilation, equipment, food-supply, and the details having to do with a housekeeping for hundreds of patients and nearly half that number, the usual ratio, of medical house-officers, nurses, and attendants.

Many hospitals are administered by women who have had their preliminary training in such institutions as nurses; women are also supplementing the general administrative work as superintendents of hospital training-schools for nurses.

The entrance of women into hospital life and work is one of the sociological advances for which the medical profession is mainly responsible, a responsibility having a serious ethical as well as an important economic side.

Under present conditions the training-schools furnish to the hospitals a much better service than could otherwise be obtained, one which has contributed much to the precision and fidelity of the work done, and which has moreover exercised a generally beneficial effect upon the morale of the patients.

The course of study of the hospital-trained nurse is a severe one, usually of two years' duration, but now being lengthened to three and four years; the woman who enters upon, and continues in it, has a liberal education in the deterrent side of human life and, if she graduates well, comes out of the hospital to enter individually upon a vocation in which she is likely to find herself set apart from the society about her, even more than is the physician.

For, while the physician has his medical societies and other social relationships with his fellows, the nurse has only the affiliation with her training-school and hospital; that she often finds it difficult to cope with the competition in her profession and the discomfort of an uncertain income, is shown by the tendency to reenter institution-life, even at moderate salaries, among nurses who have been in private practice.

The trained nurse has now been in existence, as a community factor, a sufficient length of time to make statistical estimates possible, and it appears that the active professional life of the nurse, outside of institution is covered by an extreme limit of 15 years, and that he average annual income is that of the average woma teacher.

The teacher has a regular stipend, allotted hours o work, and a definite holiday; the nurse, in privat practice, has no regular stipend, no protracted leisur and leads an economically irregular life, with occasion ally extraordinary demands upon her strength an powers of endurance.

The medical profession, which has created the traine nurse, to its own great advantage and with considerabl extension of its helpfulness, owes a debt which shoul be acknowledged not only individually but generally.

The provision for lodgment of nurses in separat buildings where they may, when off duty, have th comforts of a home, is a step in this direction; here als the training in the hospital is supplemented by instruc tion in housekeeping, purchasing, and diet-kitche work, and the nurse thus educated who goes into privat practice and becomes temporarily the member of household, does so with a better knowledge of the per plexities which may beset the housemother when illnes cuts across the line of home affairs.

Another question which is coming to the front is tha of the establishment of cooperative training schools, i which a nurse, having served her probationary perio and a year or more in one hospital, is passed on to second and third hospital, either of a different class o in another city, returning to the first hospital for he final service and graduation. Under this plan th nurse, admitted only on an entrance examination an first trained in a general hospital, would continue he studies in a lying-in hospital, a children's hospita some special hospital, and in a hospital for contagiou diseases, and the higher educational standard require of applicants, the length of the course and its complete ness, would tend not only to furnish a better class o women, more competent to succeed in private practice but would help to prevent that overcrowding of th nursing profession already apparent.

Leaving now the hospital, a term here meant to in clude asylums, convalescent homes and similar institu tions which are his particular province, and passing ove questions, interesting in themselves in regard to th working relationship of medical staffs and boards o managers, let us consider other directions wherein th physician finds opportunities for the acknowledgment o his citizenship.

The medical supervision of public schools, of recen inauguration, demanded as a necessity in view of th opportunity afforded for the spread of contagious dis eases through the medium of these aggregation center is opening the way to a much larger sociological servic than was at first expected of it; for, where medical in spection has been fairly established, the examiners fin themselves confronted with questions of the proper seat ing of school children, of the provision of school lunche of proper lighting, ventilation and sanitary accommoda tions and of the detection and setting aside for com pensatory educational advantages children whose defec tive sight or hearing puts them below the average o their fellows.

It is in schools for the defective, however, that th doctor finds his especial work, and the generous pro vision now made for the care of feeble-minded and back ward children, the blind, the deaf, and latterly th

crippled, gives him a large opportunity for elucidative study leading toward the betterment of the condition of those whose inheritance or personal misfortune have made them a charge upon the community, not only for assistance, but for encouragement toward turning their moderate capital in life to the best account.

The distinction between lack of perceptive capacity and lack of sense-transmission is frequently represented only by a thin and shadowy line, and the partition classification of dependent and imperfect children is often one of the most exacting of the moral responsibilities of the doctor.

Children who are regarded as backward, or even idiotic, are sometimes found on careful examination, to be merely creatures shut within themselves by the closure of normal channels of communication, and the bringing of such children into touch, through the education of their tactile sense, with the human companionship which makes life worth living is worth far more than all it costs in time or effort.

In such cases as these the child has virtually no desultory memory, all impressions received come mainly through one channel and the memorizing capacity is in proportion to the concentration effort in reception, the nervous energy of the child, moreover, instead of being expended in an effort at reception through several sense organs, is limited to a distinctively volitional one, and in place of being used in the elaboration of different methods of expression, is devoted almost solely to perception.

The intelligence, slowly educated by an expenditure of effort on the part of the child, is, reactively, constantly increasing the perceptive power, so that when, through the utilization of a quickened tactile sense, new forms of expression are afforded, the concentrated nervous energy bursts its bounds in a flood of questions and there is no fairyland imaginable which will compare in its wonders to that into which such a child is admitted through the educational portals of the kindergarten for the blind.

The first attempts at the education of the so-called deaf mutes, but mutes only because of the lack of hearing and of training, began naturally through the medium of the signs and gestures which these unfortunates substituted for the inadequate utterance of which some of them were capable. While succeeding in imparting a good education, through the medium of the manual and gesture language, this method created a class set apart by itself because of its inability to communicate, through any other medium than that of writing, with its hearing and speaking environment.

The recognition in an educational process, of so serious a defect as the creation of a distinct class in the community, subject to the temptation of intermarriage and the consequent possibility of class perpetuation, together with a better knowledge of the fact that many of these people had an amount of hearing power sufficient to enable them to perceive sounds which they themselves made, brought about the gradual introduction into the manual schools, of a system of voice-training and lip-reading, which has so far gained ground as to lead to the establishment of schools devoted exclusively to this method.

The growth and progress of schools for the deaf in the United States since the establishment of the first school in 1817, may be judged from the fact that the twelve original pupils at that date have now increased to almost ten thousand, in over eighty schools, and that very nearly half this number of pupils are being taught articulation.

With the progress of a method of education which is ultimately destined in the main to prevail, since it is in the line of that sociological advance which seeks to make and to keep each unit a viable member of the community, a more precise determination of the amount of hearing possessed by each pupil, and the possibility of its improvement becomes a matter of great importance.

Under the auspices of the National Association of Teachers of Speech to the Deaf, acting in cooperation with one of the bodies forming this Association, the American Otological Society, a systematic examination of all pupils in schools for the deaf throughout the United States has been undertaken.

The purpose of this investigation is to provide not for what might be called a census-taking, but for the establishment of continuous special medical examination of the pupils, firstly, for their immediate advantage, and, secondly, to make records upon a uniform basis suitable for comparison and tabulation.

The work, already begun as a preliminary investigation in the Horace Mann School, shows that out of 150 children, set apart by their infirmity and specially educated, fully 8% are capable of being restored to an amount of hearing which will enable them, in some instances with the help of artificial aids to hearing, to take their places in the society of people of normal average hearing, while still others, to the extent of an additional 5%, can be so far improved as to be materially aided in their power to acquire well-modulated articulation.

Between 10% and 15% of these cases, in addition to those already mentioned, are found to illustrate the truth of the saying that disuse is abuse, for in them it is possible, by means of speaking-tubes and other appliances for the direct communication of sound to the perceptive organs, to awaken what may be called, for want of a better term, the latent hearing, and make it, if not a means of communication of consecutive thought, at least useful for improvement of the articulation.

With the continued prosecution of this investigation there is opened a large field for the study of the causes of high grades of deafness in young children, and one leading to better knowledge of possibilities of prevention.

A more recent effort at compensatory education follows lines laid down nearly 70 years ago in Bavaria, and since extended to other countries in Europe, finding its most marked success in Italy.

Five years ago there was opened in Boston a charitable institution which deserves more than passing notice for the comparative novelty, as well as the value, of the work undertaken, and for the promise which it gives of extension.

The Industrial School for Crippled and Deformed Children, beginning with 11 pupils in 1895, now with quadruple that number and a large waiting list, has served as a suggestion for the establishment of other institutions of the same or similar character in Milwaukee, Chicago, and Baltimore.

In New York a school of this kind is now projected, and in Philadelphia Mr. Widener has recently given the sum of two million dollars, the income of which is to be expended for the care, education, and industrial training of cripples.

"Strange it is," says Dr. E. H. Bradford, the practical founder of the Boston school, in a paper not yet published, but from which I am permitted to quote, "that

while in every civilized country the insane, the blind, the dumb, the epileptic and the idiotic receive careful attention, but little heed is paid to the education of the most deserving of all unfortunates, namely the crippled.

"The cripple is left to the almshouse or allowed to remain in a back room at home idle, useless, petted, often the only wilful member of the family whose misdirected kindness aids in ruining his character; hampered by disease and deformed, he is doomed to the injurious influence of idleness.

"Crippled children can be grouped under two heads: those who are suffering from a chronic disease which, during their childhood, either prevents their attending school altogether, or else where their attendance is interrupted or prevented because their feeble condition will not stand the fatigue of a school day adapted only for strong children. The majority of these, if they receive good care, good food, good air, under proper medical supervision, recover with more or less resultant deformity and, although handicapped as breadwinners, are eventually able to do something as workers, that is, if trained during their childhood, may become skilled in sedentary occupations, but, if uneducated, are necessarily idle and useless.

"The second class comprise those permanently crippled either by congenital deformity or by paralysis. They can never recover from their ailment and are permanently excluded from the use of their legs or arms. Special instruction is needed for these and special avenues must be made for them for certain kinds of work which they can be taught to do with the aid of suitable apparatus designed for them. This class can be of use to the community in many instances, as their affliction frequently develops a concentrated ability in certain directions, not found in more active or healthier persons. If they are unable to become producers to a large extent, yet in many instances they may be trained into workers contributing to their support. They are saved from the curse of idleness and in rare instances may develop unusual and useful talent." [2]

To make provision for these two classes in a day school it is necessary, or at least advisable, to furnish means of transportation under conditions favorable to the most helpless and, in the school itself, there must be, in addition to the ordinary recitation and study rooms, rest rooms with reclining chairs or beds, rooms for the training of the pupils in various occupations, and a diet kitchen from which food may be dispensed.

To meet these peculiar conditions the staff of teachers must be supplemented by a trained nurse and there should be regular medical visitors, preferably men, on service in orthopedic hospitals.

The census of 1890 gives the number of feeble-minded, both children and adults, in the United States as a little less than one hundred thousand; but one of the best authorities in the treatment of this class of dependents thinks that there are probably four to every thousand of the population, or a total of very nearly three hundred thousand. Of this number about one in thirty only are in institutions and the remainder are scattered throughout the community, some in their own homes, where they are the objects of solicitous care and affectionate regard, others and the larger proportion, in almshouses, in prisons, and on the road as tramps.

Their number is apparently increasing. In 1860 there were six hundred to the million inhabitants, in 1890, fifteen hundred to the million; and they propagate their kind; with them are linked the variable and occasional criminals, as distinguished from the criminals having criminal trades, and about the borders of this realm of the unfit circulate the merely idle, the dissolute, the profligate and the debauchee.

The differentiation of these classes, the sorting out of this waste humanity, the utilization of what is good in it and the protection of that which is feeble and useless constitutes one of the most intricate problems of modern social life.

He who holds the key to a situation is in a measure responsible for the situation, and the key to this particular problem is in the hands of the doctor more than in those of any other citizen.

He, more than any other, as a necessity of his education, has been brought personally into contact with the deficient, his active life is spent in drawing comparisons with a normal standard of which, if he is to do his work well, he must constantly seek to keep himself, physically, mentally, and morally, an example.

It is evident that among the many lines of sociological activity prescient of the growing intelligence and increasing public conscience of the people, this work of analysis of human waste and of discrimination out of which grows helpful suggestion is particularly the province of the doctor.

A measure of work of this sort should be commanded of the medical profession by the community, not that the medical profession is not already engaged in such work and does not find in it fruitful opportunities, but that to command is to sustain and to support, and the public could with advantage make the labors of the physician for the common welfare more productive than they are at present.

The experience which has led to the substitution, in the hospital supported by private charity and in the municipal hospital, of an educated and trained physician for the man of business or the politician as superintendent, should serve the same purpose in our public institutions. The doctor is ready and willing, and the number of medical men who would accept positions of this kind at moderate salaries under conditions which would give them time and opportunity for studious work, is steadily increasing.

The popular idea of an almshouse is often very much that it is a place for the storage of decrepit bodies past usefulness, an institution paying an annuity in food and lodgment to such members of the community as have not had the fortune or the foresight to provide for their inactive years.

It is partly to the prevalence of this idea that institutions of this class have been public jetsam stranded on the shores of the current of community life; but, the stream of humanitarian progress increasing in volume and growing ever stronger, is lifting them, they are coming to be regarded more as hospitals, administered more upon the hospital plan, and in several of the largest city almshouses of this country the changes which have taken place, to the betterment of the inmates, under the influence of a regular medical visiting staff, supplemented by salaried house-officers and trained nurses, is most gratifying and promissory of still better conditions.

The same influence is at work in the domain of penology; prisons everywhere are steadily coming to be less punitive, more reformatory, and the indeterminate sentence is a recognition, not only of the possible good underlying apparent evil, but also of the fact that betterment of the physical condition, as well as of the men-

l point of view, is a necessary basis for a healthier horality.

Dr. Coulston, of the Royal Edinburgh Asylum, illustrates the fact that purely mental and moral causes play ut a small part in the production of insanity, as compared with causes bodily and physical, by the statement hat of cases examined by him only 11.5% were due to nental shock, the remainder being the outcome of causes cting on the brain through the body; drink and dissoute living; faulty development, hereditary disposition nd the like; furthermore he gives it as his opinion that he late epidemic of influenza caused more insanity han all the public and private anxiety in connection vith the war in Africa.

The weakness of will and the inability to sustain healthy mental exertion, evident in asylums for the inane, are found also, though in lesser degree, in houses f refuge, almshouses and prisons, and the parallelism f conditions of the mentally, morally, and physically lefective, with the interchangeability of their classification, are nowhere more compactly observable, more eadily made subject of study, than in the public institutions departments of our great cities with their shifting population passing from one institution to another, pauper, a drunkard, a malefactor in succession, but lways a public charge.

These departments, classed in the civic roster with the lepartments of public works as channels of expenditure, iscal administration and possible political preferment, have come to be regarded, because of their humanitarian function, as fields for the exploitation of philanhropic effort.

Worthy and commendable as this is and most welome as opening the way to still better defined condiions, it fails of its fullest efficiency because it lacks the necessary foundation of accurate information in regard o the subjects with which it has to deal and, under the ordinarily existing political conditions, fails of continuity f effort.

The care of the physically, mentally, and morally sick s so very serious a part of the business of life, its udicious exercise so important to the welfare of the vhole community, that it is best placed, unreservedly, n the hands of those whose training has fitted them for ts obligations and who have learned, by repeated expeiences, that an emotion however good or an impulse however philanthropic, unexpressed in carefully conidered and continuously beneficial work, sinks to the evel of a personal gratification.

The ideal institutions department is that which, removed entirely from political control, but still a part of he city government, is adjusted and administered upon he hospital basis, bringing to its service, as does the hospital, the conjoint efforts of the man of business and he physician. The actual work is in the hands of a general superintendent or commissioner, a medical man f large experience and institution-training at a salary nabling him to devote his whole time to the duties of his office; under him, as the heads of subdepartments, alaried officials, among them medical men and women nd house officers, either senior medical students or ecent graduates, holding positions the equivalents of hose in general hospitals.

The whole under control, both as to appointment, general management and expenditure, of a board of rustees, the majority physicians, and an unpaid visiting nedical staff.

The existence of such an institutions department would mean the establishment of a biological station, which would be the means of bringing the greatest benefit to its inmates and at the same time would be an educational center from which would emanate, for professional and public information, deductions derived from conscientiously applied scientific observation.

Afiliated with the Institutions Department in cities is the Department of Police; through the police station pass a large proportion of the inmates of the city institutions and, under police supervision and inspection, live the defectives with whom the medical profession could, advantageously, be brought into more recognizedly effective contact, either by medical appointments on police commissions or by the creation of medical bureaus as a part of police departments.

Such bureaus, in addition to rendering the professional services for which private practitioners or contract surgeons are usually employed, would provide responsible care and carefully trained investigation in cases of accident or violence with correspondingly accurate records, and could be made to do valuable correlative work with the institutions, the police and the hospitals.

It has been said by the trainers of youth that they do not get from the doctor the help expected and needed in the inculcation of those lessons which teach the moral value and moral use of the human body and are the substructure of healthful living, but it is doubtful also if the doctor has as yet had his sufficient opportunity.

The recent endowment in a large university, of a professorship of hygiene, with the stipulated condition that the appointment shall bear with it the obligation of a closer relationship with the lives of the students, is an important and welcome step in this direction, and the chair so endowed might be made the center of a Department of Civics.

Still another relationship, which may be broadened beyond its individual phase, is that between the doctor and the clergyman, and recent experiments based upon a proposition that the divinity student should have opportunities to see the practical side of hospital and other institution work under medical guidance, are so promising as to lead to the serious consideration of making this a definite part of regular divinity-school instruction, while the growing appreciation of the importance of medical missions, with the understanding that they are to be in the charge of thoroughly educated physicians, and the demands for instruction in medical ethics in our medical schools show a tendency to approximation in the work of two professions which began originally as one.

It would be interesting to take up in detail other and various channels through which the doctor, because of the elaboration of modern community life, finds recognized opportunities for his outgo from the unit to the mass; such, for instance, as questions of water-supply and sewage disposition, food and drug adulterations, asylum and hospital construction, health and quarantine regulations, hygiene and physical training and to cite illustrative instances, but enough has been said to emphasize the fact that his principal value to the community springs from his intimate knowledge of the personal needs of his brother man.

His sociologic status is the outcome of this distinctive privilege, and his recognition and proper use of it, as the teacher of the individual and as the exponent of the beauty and righteousness of cleanly, wholesome and useful living, make his foremost duty to society.

NEPHRECTOMY FOR A LARGE ANEURYSM OF THE RIGHT RENAL ARTERY, WITH A RESUME OF THE TWELVE FORMERLY REPORTED CASES OF RENAL ANEURYSM.[1]

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HAVING recently encountered the following case of a very rare surgical disorder—a very large aneurysm of the renal artery—I have taken occasion to gather together all the reported cases as a basis of a brief consideration of its symptoms, diagnosis, and treatment.

CASE 1.—*Large Aneurysm of the Right Renal Artery; Operation; Recovery.*—Miss A. B., aged 45, first consulted me January 27, 1900, at the instance of Dr. William H. Mercur, of Pittsburg, and Dr. de Schweinitz, of Philadelphia. Her menstruation has recently become irregular. She has never had any serious illness, excepting typhoid pneumonia, 8 years ago Her family history is good except that a paternal aunt died of tuberculosis. Her occupation, literature, is such that she has never been exposed to unusual physical strain nor has she ever had any accident. About 5 years ago, she noticed on the right side of the abdomen a sense of discomfort and had the first of the series of 10 or 15 attacks of the kind described below. Two of these were very severe; one lasting about 10 days, and another about 5 weeks, though she continued her public lectures in spite of them. The attacks began with chilly sensations, followed by nausea, but usually without vomiting There was considerable fever, the temperature rising in one attack to 105°. They had usually been considered "bilious attacks," most of them passing off in two or three days. She has never been jaundiced and never noticed any gallstones in the stools. For several years, possibly more than four or five, she has noticed that the right side of the abdomen was apparently a little fuller than the left, but she thought that it was a normal condition. Her present illness began on January 14, yet in spite of her illness, she has given three lectures. Dr. Mercur states that her gall-bladder he thinks was enlarged at this time in addition to the presence of the tumor in the right abdomen which he discovered and judged to be cystic. She has noticed no blood in the urine until the morning of the day when I saw her, when there was a slight amount passed. She has had no pain in the tumor, nor is it tender. She thinks that very slight variation in the size of the tumor has occurred, but this has had no relation to the amount of urine that she passed.

I learned later from Dr. Wharton Sinkler, of Philadelphia, that he had been called to see her in a severe attack about five years ago when he made a careful examination of the abdomen, finding the right kidney movable and slightly enlarged.

Physical Examination.—The moment that the abdomen was uncovered the right side was noticed to be very much enlarged. Palpation showed a tumor which was tense, not nodulated, apparently cystic, at least toward the inner side, but firm externally. It was not tender, was somewhat freely movable though within narrow limits, lay in the right side of the abdomen filling the entire distance between the border of the ribs and the iliac crest. It extended from the right flank to about 5 cm to the left of the middle line. (Fig. 1.) By palpation reciprocal pressure was felt anteriorly and posteriorly. The gall-bladder was not distended.

Diagnosis.—A partially cystic tumor of the right kidney, probably due to hydronephrosis, with a possibility of a sarcoma or other neoplasm. I advised exploratory operation which would probably involve a nephrectomy.

On entering my hospital, the amount of urine was small, 28 ounces, but under the use of Poland water it rose in the next 24 hours to 56 ounces, in addition to a small amount passed with one stool. Professor Coplin examined the urine and reported on January 30 that it was turbid, amber-colored, sp. gr. 1.020, acid, neither albumin nor sugur were present, urea 1.1%. By the microscope only a few leukocytes, squamous epithelial cells, granular debris, and an abundance of amorphous urates were present. No casts, crystals or blood were found, and no tubercle-bacilli could be demonstrated.

Operation February 1.—A vertical incision 6 cm. long was made over the center of the tumor. As soon as the tumor was reached it felt soft and almost fluctuating, yet did not have the appearance or the feel of a sac containing fluid. I punctured it with a pair of hemostatic forceps. Nothing escaped but blood. The descending colon lay to the left of its center and was adherent to it by the mesocolon. As soon as the outer layer of the mesocolon was torn through, the tumor was readily isolated and finally delivered through the incision which had now been prolonged to 17 cm. The pedicle was so broad that it had to be secured in seven different sections, the arteries being numerous and large and the veins especially enormously distended. During the operation, as there was a possibility that the other kidney would not be equal to its work, Dr. J. Chalmers Da Costa, who with Dr William J. Taylor and Dr. George W. Spencer, was assisting me, transfused a quart of normal salt solution into the veins of the left arm. In spite of the injection of

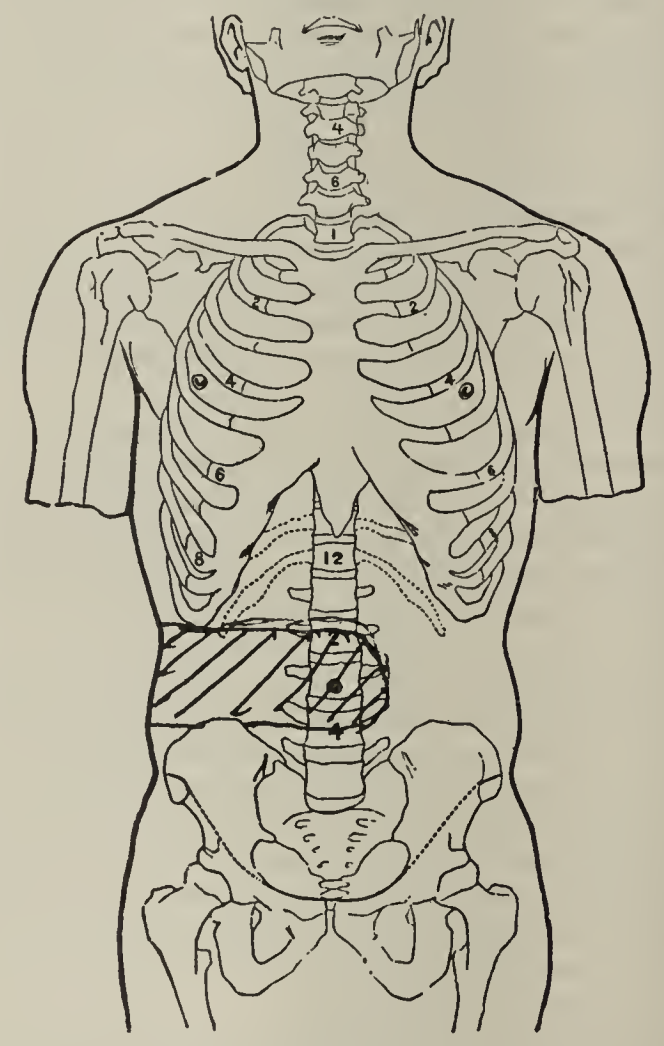


FIG. 1.

the salt-solution, and also the fact that not over 4 ounces of blood was lost, she was very profoundly shocked. Oxygen and chloroform were used as the anesthetic instead of ether on account of the possible effect of ether on the other kidney. The operation lasted less than 30 minutes. I had intended prior to the nephrectomy to determine the presence of the other kidney, but the tumor was so large and the difficulty of introducing the hand beyond it into the abdominal cavity so great that I quite forgot to do so. The appendix was examined, found normal and was not disturbed. The wound was closed without drainage. After the operation, the temperature fell to 97.2°, by the fifth day it had reached 100.6,° by the ninth day had fallen to 99°, after which time it was normal. She left the hospital on February 19 perfectly well and without feeling the slightest discomfort or sense of weakness in the region of the tumor. She was directed to wear a belt until it was worn out, by which time it would not be necessary to renew it. After the operation, the amount of urine passed was as follows:

[1] Read before the American Surgical Association, in Washington, May 3, 1900.

Date.	Oz.
Feb. 2	39½.
Feb. 3	32 plus urine with stool.
Feb. 4	21.
Feb. 5	17½ plus urine with three stools.
Feb. 6	4½ " " " four stools.
Feb. 7	6 " " " five stools.
Feb. 8	11½ " " " one stool.
Feb. 9	22.
Feb. 10	23½.
Feb. 11	23, from which time it became normal.

Macroscopic Description of the Tumor, by Prof. W. M. L. Coplin, professor of pathology at the Jefferson Medical College :

The specimen consists of a kidney somewhat flattened out on the surface of a globular mass on which it lay. The whole mass is 14.5 cm in diameter. The specimen, including the kidney, weighs 970 gms. The globular mass to the inner side of the kidney is soft and fluctuating and presents on its external surface considerable fat and shredded tissue, the remains of the adjacent soft parts. The color is for the most part reddish pink with irregular mottling of purple and purplish black. At the upper end of the globular mass is an artery which may be described as follows:

At the point where it is separated from its connection the lumen is 0.35 cm. Macroscopically it is quite normal From the point of attachment to the tumor it is directed downward and outward. At a distance of 3.1 cm. it divides into two branches, the superior being the larger. Its position is such as to preclude absolutely accurate measurement, but its lumen is apparently 0.15 cm. It projected downward and outward and entered a cavity just above the point where the ureter comes off. The lower branch passes downward and toward the renal pelvis and 0.5 cm. from its origin divides into two branches. The smaller one was an extremely minute vessel, not over 1 or 2 mm. in diameter. The larger branch passes downward toward the pelvis of the kidney, but could not be traced into that structure.

The kidney resting upon the surface of the globular mass already referred to, is a crescentic body with what appears to have been the pelvis flattened against the globular mass. The surface of the capsule is shredded, evidently the result of the separation of adhesions The kidney measures over its convexity 12.5 cm , and from the capsule to and including the pelvis, a little less than 3 cm.

An incision was made through the entire mass, extending from the convex surface of the kidney nearly through to the globular mass, permitting the separation into two almost equal parts. (See colored plate) The tumor proper is found to consist of a large central mass of coagulum and a capsule. The latter is apparently continuous with or partly adherent to the pelvis and capsular tissues of the kidney, and varies in thickness from 0.15 to 0.35 cm. The density and resistance of the capsule varies. In some areas it is intensely fibrous and cannot be torn or pinched through. At other points it is softer, cuts with little resistance, and can be broken through. At and near the kidney it contains small bloodvessels, but at the cut edge in other areas no bloodvessels are visible. At various points the wall contains fat which is on the outer surface and at no point does it penetrate the wall.

The larger part of the tumor (contained within the sac last described) is formed of laminated blood-clot. The different parts of the clot are evidently of different ages. On the side next to the pelvis of the kidney the clot is lighter in color than at the opposite side of the clot. From the lower portion of the sac nearest the pelvis (so far as can be determined the cavity containing the clot does not communicate with the pelvis) the laminae radiate from a single point, passing off as fan-like bands. From this center they commonly become broader and often separate as they pass toward the opposite side of the tumor. Between the laminae are more or less recent blood-clots, some of which are soft and jelly-like and at the upper portion of the kidney are still fluid. One-half of the clot was cautiously loosened and lifted out of the portion of the sac next to the pelvis of the kidney in order to determine, if possible, from within the sac the point of communication with the bloodvessel. The outer surface of the removed clot is irregular and resembles somewhat in appearance a half of the cerebrum. The base and that portion which would correspond to the occipital lobes are composed of rather recent coagula, while the area which would correspond to the motor area of the brain and slightly anteriorly is evidently older and almost completely decolorized fibrin. Running over this area from the base toward the superior surface is a Y shaped body, the appearance of which strongly suggests that it is an artery, as a section shows a lumen filled with a clot. The lower arm of the Y is 2 cm. long and each of the upper arms about the same length. The long arm of the Y is probably 0.2 cm in diameter, the smaller arms are little over one-half that size. The lower branch of the renal artery already described passes into the cavity of the tumor at a point which corresponds approximately to the point at which the main branch of the Y-shaped artery ends. (See plate.)

The capsule of the kidney strips off with its usual readiness. The cortical and medullary portions are a little darker in color than normal and the papillae are flattened and partially surrounded by the pelvic flap. The pelvis itself is small, the ureter was located with difficulty, but found to pass downward in its normal position. (See plate.) It was adherent to the globular sac already described, but easily separated from it.

Cubes of tissue from the kidney, aneurysm wall, and from the clot in the aneurysm were fixed in Heidenhain's solution, embedded in paraffin, sectioned, and sections stained with hematoxylin and eosin, hematoxylin and picric acid, and toluidin-blue.

1. Microscopic examination of sections from the kidney. The capsule is thickened and shows a slight lymphoid-cell infiltration. Many of the Malpighian tufts are flattened, and show a slight lymphoid-cell infiltration and areas of hemorrhage. Its capsule shows little change. The tubules are normal in a few areas, but in the greater part of the section the epithelial cells have desquamated, and with the exception of a few which are dilated, their lumina are smaller than normal. In passing toward the pelvis these changes are more marked. In this area many of the tubules contain a material that takes the acid stain, is homogeneous and resembles hyaline material, and in all probability is necrotic and degenerated epithelium. In various areas throughout the whole section there is an increase of fibrous tissue. Near the pelvis are a number of cysts. The largest of these is 0.5 cm. in diameter, and with the exception of a few places the walls are formed by a connective tissue membrane not covered by epithelium. The few recognizable epithelial cells remaining attached to the wall are of the low columnar type. Its lumen is empty. In the smaller cyst the epithelial cells, which are cylindrical in type, are still in situ,—at least most of them remain attached to the wall. Some of the cysts show papillomatous projections from one or more aspects of the cyst wall, and barring a few desquamated epithelial cells their lumina are unoccupied. One of the striking features of the sections is the extraordinary thickness of the bloodvessel walls, especially of the intima. Most of the bloodvessels are empty, while a few contain some erythrocytes and leukocytes Scattered throughout the section a small amount of blood-pigment is found.

2. Sections from the wall of the globular mass :—The outer margin of the wall is formed by an irregular layer of a rather dense fibrillated membrane frayed out externally and internally continuous with the mass of blood-clot In many places the blood is infiltrating the wall, and older areas of hemorrhage can be recognized by the presence of deposited pigment and the detritus resulting from the erythrocytolysis At a number of points the wall is apparently formed by blood clot in process of organization The adjacent clot contains nothing deserving of special mention; structurally it is composed of the cellular and fibrinous elements usually present in such masses

3. Sections from the clot show masses of fibrin arranged in lamellae; the superficial layers are evidently older, although in the deeper part of the section are to be recognized similar layers. The cavities formed by the layers and many spaces within them contain collections of red and white cells.

Diagnosis.—False aneurysm of a branch of the renal artery. Pressure atrophy of the kidney.

Following this I give an abstract of all the cases

that I have been able to discover in the Index Catalogue of the Surgeon-General's Office and also by the courtesy of Dr. J. C. Merrill, U. S. A.

CASE 2.—*Traumatic Aneurysm of Left Renal Artery.*—D. Solomo Constantinus Titius De renum Vitiis, Aneurysmatis Arteriae Renalis Sinistrae Exemplum. Vitebergae, 1798. The aneurysm resulted from the fall from a horse and proved fatal after four years. The patient was a doctor. No details of the case are given.

CASE 3.—*Aneurysm of the Left Renal Artery Bursting into the Pelvis of the Kidney and Followed by Fatal Hemorrhage.*—Gossett (*Lancet*, 1829–30, i, 388.) A woman, aged 43, on September 9 had an attack of rheumatic fever. She recovered in a few days, but pain and tenderness over the left kidney persisted. On September 16 she had marked dysuria and then voided a considerable quantity of blood. September 20 a very large quantity of arterial blood was voided, so that she was at the point of death. The blood was first thought to come from the uterus. Examination by the rectum showed a pendulous body of a gelatinous consistence behind the uterus. The os uteri was contracted. This mass was found to be a flaccid bladder filled with blood. She died September 25. At the necropsy an aneurysm of the left renal artery was found. It had burst into the pelvis of the kidney. There was a coagulum of from 16 to 18 ounces in the bladder. The other viscera were healthy. No description of the aneurysm is given.

CASE 4.—*Aneurysm of the Right Renal Artery.*—Leudet, *Comptes rendus Société Biol.*, Paris, 1852, iv, 159, *Bull. Soc. Anat*, 1852, xxvii, 457, and *Gaz des Hôp.*, 1852, 583. The three references are all to the same case. The aneurysm was found at the necropsy on the body of a woman, aged 62, dying of nephritis two days after admission. Her illness had existed for two years, with general debility, but no edema of the legs or face. Two months before death there was marked aggravation of the dyspnea and cough, edema and finally coma appeared before death. The right kidney was less than one-half the size of the left, which was somewhat enlarged and in the renal artery, at its bifurcation, an aneurysm the size of a bean (haricot). Its interior was filled with semisoft yellowish material, but no fibrin or blood. The arterial walls were calcareous.

CASE 5.—*Small Aneurysm of the Right Renal Artery.*—Danner (*Bull. Soc. Anat.*, 1856, xxxi, 170). The patient was a gouty man, aged 66. In the right kidney the arteries were calcareous. At the bifurcation was an aneurysm the size of a nut (noisette). The contents were of a blackish color and somewhat adherent.

CASE 6.—*Small Aneurysm of a Renal Artery.*—(*Catalog Museum St. Barth. Hosp*, London, 1882, i, 234, specimen No. 1536.) "Portion of a renal artery with a small aneurysm. Earthy matter is distributed in the coats of the sac and the adjacent walls of the artery appear thickened and indurated."

CASE 7.—*Large Aneurysm of the Right Renal Artery.*—Armstrong (*Am. Jour Med. Sci.*, October, 1885, 435). Armstrong believed the case to be unique. A man, aged 50, was admitted to the hospital comatose and died a few hours later. Necropsy. Free blood (300 cc.) was found in the abdomen and a large clot under the liver. The right kidney was enlarged and there was a circumscribed peritonitis around it. The capsule was ruptured posteriorly, and this was the source of the hemorrhage into the abdomen. On incision, the enlargement of the kidney was found to be due to a black, easily disintegrated clot, within which lay the kidney. The clot consisted of 900 cc. of blood. "The kidney was slightly eroded on its surface, and in the external border was a small spherical cavity, about 1 mm. in diameter. The tubules were pressed away, not destroyed, and there was a well-organized fibrinous clot. This was the *fons et origo* of the hemorrhage; and as it contained the only well-formed fibrin that existed in the exudate, and from its shape, I considered it an aneurysm of an interlobular artery." The left kidney showed chronic nephritis.

CASE 8.—*Traumatic Aneurysm of the Right Renal Artery.*—Turner (*Trans. Path. Soc. of London*, 1885, xxxvi, 277). A male, aged 19 years, was thrown from a cart on May 13. Hematuria was present from the sixth day after admission. There was pain in the right side with vomiting. On June 10, a swelling appeared in the right renal region, with symptoms of peritonitis and hectic fever. He died June 13. Necropsy. General peritonitis. A large cavity surrounding the right kidney was filled with a disintegrating blood clot. The central part of the kidney was entirely disorganized. On its posterior surface, near the hilum, was a "well-defined encapsulated blood clot of round outline and of the size of a large cherry attached to the central branch of the renal artery, about half an inch from the point of division of the arterial trunk." The upper end of the kidney also was disorganized; the lower alone being normal. The calyces were ulcerated and filled with puriform fluid. The pelvis of the kidney communicated with the perinephric cavity. The seventh and eighth right ribs were fractured.

CASE 9.—*Large Traumatic Aneurysm of the Right Renal Artery; Operation; Recovery.*—Hochenegg (*Wien. klin. Wochenschrift*, 1891, iv, 512); Illich (*Rif. Med*, May 28, 1891, 481). These two reports relate to the same case, which was operated on by Albert, of Vienna. Hochenegg's report is the fuller of the two. A man, aged 51, on April 19, 1889, fell a distance of three meters, striking on the right lumbar region on the upright part of a ladder. Dr. Kunz, who saw him within half an hour, found a fracture of the right rib. The right lumbar region was very tender and painful. The urine passed an hour after his fall was bloody and the next morning he lost a liter of pure blood. The hemorrhage lasted for three days and it was estimated that he lost three liters in all. After three weeks he was out of bed. The middle of May another copious hemorrhage (4 liters) was followed by collapse



FIG. 2.—The specimen removed by Albert in Case 9. *N*, the kidney; *S*, capsule; *F*, fibrinous contents of aneurysm in laminae; *H*, hollow space filled with fresh coagulum.

and cystitis. He was then in bed till the end of June. In the autumn he was in apparently perfect health. On November 10 a renewed profuse hematuria occurred for three days, during which he lost three liters of blood. Up to this time repeated examinations had shown no tumor, but after this hemorrhage, a tumor the size of two fists appeared in the right lumbar region. It was elastic, slightly movable, not painful. There was no pulsation and no bruit. Other hemorrhages occurred on February 21, July 12, September 19, November 8 and December 17, 1890. In the last he lost from a half to one liter. In the intervals between these hemorrhages the urine was normal. After these hemorrhages his general health began to fail. The total amount of blood lost was estimated to be about 13 liters in all (13.78 quarts).

He was sent to Albert's clinic in Vienna with a diagnosis by Dr. Kunz of either a lesion of the kidney or a traumatic aneurysm of the renal artery. On admission early in 1891 he was very neurasthenic, wasted and weak; even to speak was an effort. In the right lumbar region was a tumor the borders of which were two finger-breadths below the border of the ribs, 3 cm. to the inside of the right mammillary line. The tumor was larger than a fist; was slightly movable by pressure and on change of position. It did not move with respiration. Its surface was smooth, pulsation was very indistinct (sehr undeutlich). (As at the



Dr. W. W. KEEN'S CASE OF ANEURYSM OF THE RENAL ARTERY. (Natural Size.)

Right and left are the two halves of the Kidney; the whole central mass is the Aneurysm, filled chiefly with a laminated clot. A is a probe showing where the Renal Artery communicates with the Sac of the Aneurysm. B is a probe in the Pelvis of the Kidney and the Ureter.

operation, palpation of the kidney itself gave no sense of pulsation, this was probably an error of observation) The urine showed a trace of albumin, but no blood. The diagnosis was a renal tumor, probably arising from a hematoma, and nephrectomy was advised and accepted. Operation was by Albert, March 8, 1891, lasting an hour and a half. When the tumor was exposed no pulsation could be discovered. The tumor was extensively adherent to neighboring structures. On separating the loose adhesions, severe hemorrhage occurred from laceration of the renal artery. This was arrested by iodoform gauze and a pair of hemostatic forceps, which were left in place for five days. The patient left the hospital in good condition 48 days after the operation The tumor (Fig. 2) measured 15 by 10 cm. A small portion of renal tissue was found. The remainder of the tumor consisted of stratified fibrin in a capsule. In the center of the tumor was a cavity 3 by 4.5 cm, communicating with the renal artery and filled with fresh red blood-clot. Kundrat's examination showed an aneurysm of the renal artery, probably the result of a laceration followed by hematoma. Hochenegg believes that by the fall the entire kidney was suddenly displaced downward and forward and was compressed in its upper half, producing a tear in the artery inside the capsule, which produced the aneurysm

Case 10.—*Large Aneurysm of the left Renal Artery, possibly Traumatic.*—Oestreich (*Berl. klin. Woch.*, 1891, xxviii, 1042). A woman, aged 50, in February, 1891, suffered from apoplexy and fell on a stairway unconscious. On April 23 there was a hemorrhage from the genitalia with pain in the abdomen. The hemorrhages became daily worse and finally were excessively fetid. On admission, May 25, the bleeding was found to be from the left kidney, in which region was a large tumor. The bladder was distended with a large decomposed clot and fluid blood; death occurred three days later. Necropsy: Left ventricle dilated and hypertrophied. The aorta showed many patches of endarteritis. A hemorrhage had taken place in the left thalamus; the left retroperitoneal tissues were distended and infiltrated with blood, especially around the left kidney and descending colon. At the lower end of the left kidney, partly in the renal tissue and partly in the surrounding tissues, was a great mass of blood communicating with the pelvis of the kidney. The outer layers were fresh hemorrhages; the inner partly laminated. The branches of the renal artery next the clot were markedly dilated and tortuous. The renal substance was unaltered. Diagnosis, rupture of sacciform aneurysm of the left renal artery with chronic endarteritis.

Case 11.—*Aneurysm of the right renal artery the size of an apple.*—Oestreich (*Berl. klin. Woch.*, 1891, xxviii, 1042) A young man who died from multiple embolism, the result of malignant endocarditis. At the necropsy an aneurysm of the right renal artery the size of an apple, almost completely filled with clots, was found. It developed between the adrenal, the kidney and the aorta and extended upwards behind the liver. No symptoms had been observed during life. Whether it arose within or without the kidney was uncertain.

Case 12.—*Large Traumatic False Aneurysm Originating from a True Aneurysm of the Left Renal Artery.*—Gruber (*Wien. med. Woch.*, 1891, xli, 1646). A man, aged 39, eight months previously fell from a height of 2 meters, striking his back on a chest. In spite of severe pain in the left loin and great dyspnea, he walked to his house, 30 paces away. There was no vomiting. Half an hour later his urine was bloody and in it were clots of uncertain shape for two days. For three months there was no bleeding, but he was very weak and suffered much pain in the loin. Then, without known cause, hemorrhages recurred on several occasions. On admission, in the left hypochondrium was a tumor extending two finger-breadths beyond the middle line and into the false pelvis. The tumor was soft, smooth, solid, not adherent to the abdominal wall. On percussion it was dull. There were no pulsation and no auscultatory signs; hepatic dulness was absent; left lumbar region was tender; slight edema of the legs, and albuminuria. Blood appeared in his urine, especially after exercise. He was obliged to pass his urine every 30 to 50 minutes, and this frequent urination and the blood in his urine were the chief symptoms. A renal origin of the hemorrhage was diagnosticated from the history and the tumor. Splenic tumor, floating kidney, and malignant disease were excluded. The cachexia which was present was deemed to be the result of his hemorrhages.

The diagnosis was a lesion of the kidney from his fall, with retroperitoneal hemorrhage and clot. He died in February with paraplegic symptoms.

Necropsy.—Left renal artery at the hilum showed a sac 20 by 12 cm. Where the artery entered the sac it was dilated to the size of a child's fist. Both microscopically and macroscopically it was demonstrated to be a false aneurysm originating from a true aneurysm of the renal artery, probably as a result of the trauma.

Case 13.—*Large Traumatic Aneurysm of the Left Renal Artery; Operation; Recovery.*—Hahn (*Deut. med. Woch.*, August 9, 1894, 637). Woman, aged 49, always healthy, married, labors normal. She had had a right inguinal hernia for 20 years. Early in March, 1893, she fell several steps. This produced a sudden feeling as if there were a movable ball in the abdomen and she felt a tumor under the left border of the ribs. She has never been well since, suffering from indigestion, loss of appetite and a sense of weight. From time to time, especially on sitting, she suffered from severe pain in the sacral region. She was admitted to the surgical ward May 2, 1893. A tumor the size of a child's head, elastic, smooth, dull on percussion and sharply delineated, was found in the left side of the abdomen. Upward it extended to the border of the ribs; downward a hand-breadth below the navel; inward to within three finger-breadths of the middle line. There were no adhesions to the abdominal wall; the tumor was not very movable, there being no change with change of posture nor with respiration. There was no pulsation. On bimanual examination ballottement was present Her arteries showed slight sclerosis. Urine, sp. gr. 1.012, no albumin or sugar. Diagnosis, hydronephrosis, or a soft, renal tumor. Operation, May 8. An oblique incision over the loin exposed the kidney, which was found normal in size and appearance. Puncture of the tumor revealed only blood. On attempting to loosen the inferior pole of the tumor a sudden profuse hemorrhage occurred. The wound was then packed, the patient turned on her back and an anterior incision made. The tumor and the kidney lay included in a common capsule to the left of the descending colon. Puncture showed no fluid contents; the colon was displaced inward. On tearing the capsule a dark brown friable tissue was discovered, but only a little blood escaped. The tumor was removed after ligature of the pedicle. The peritoneum was closed by continuous suture, and the anterior wall was sutured. The operation lasted an hour and a half. The lumbar wound was allowed to close by granulation. In the fifth week the ligature on the pedicle came away. She made a smooth recovery. Examination of the specimen showed that the aneurysm was entirely separate from the kidney, but in the same capsule. The upper portion of the kidney was normal, the lower end flattened and atrophic. A branch of the renal artery was traced into the sac.

Remarks.

Aneurysm of the renal artery is one of the rarest of all the varieties of aneurysm. In the very careful search that I have made I have found only 12 cases, which with my own above reported make in all 13. Of these 7 were right-sided, 5 left-sided, and one is uncertain.

Cause.—The cause of such aneurysm in 6 of the 13 cases seems to have been an injury; thus Case 2 resulted from a fall from a horse: Case 8 was the result of being thrown from a cart; Case 9 followed a fall of 3 meters; Case 12 a fall of 2 meters; in Case 13 the patient fell several steps. In Case 10 it is a question whether the fall down a stairway was the cause of the aneurysm or not, but I think in view of the 6 other cases of almost undoubted traumatic origin the fall may be assigned as the probable cause in this case. Nephritis seems to have been present in Cases 4 and 7; calcareous degeneration in Cases 5 and 6; chronic endarteritis in Case 10; but in most of the cases no such disease of the arterial system appears to have been present. Among those in which there was no apparent cause are

Case 3, in which fever and rheumatism are noticed on September 9; the patient recovered in a few days, hematuria appeared on the 16th, and death on the 25th. As the postmortem showed an aneurysm bursting into the pelvis of the kidney, the aneurysm probably had existed for some time without any known cause. In Case 11, the patient died from multiple embolism, the result of malignant endocarditis. An aneurysm of the renal artery as large as an apple existed, and was almost entirely filled with clots. Whether it arose within or without the artery was uncertain, but no cause is assigned. In my own case, absolutely no cause could be assigned. The patient's arteries were not calcareous, there had been no injury, and no other assignable cause. Her age, about 45 years, was not such as to presuppose any sclerosis, nor did the radial arteries show any such condition.

Symptoms.—In many of the cases, especially those of small true aneurysm, undoubtedly no symptoms will be present. If the patient dies of some other disorder, as in Cases 4, 5, 6, and 11, the aneurysm is only discovered at the necropsy.

First, a Recognized Tumor.—This was present in Cases 1, 8, 9, 10, 12, and 13, and varied from the size of two fists to one and one-half heads. Surgically speaking, these are the only cases to be considered; only three of these, 1, 9, and 12, have been operated on and all of them with recovery. In my own case, the tumor was as large as any reported. The tumor as a rule is smooth, not bosselated, elastic. It may be differentiated from rupture following an ordinary laceration of the kidney or its artery, resulting in a hematoma, by the fact that it grows less rapidly than such a hematoma, which would be an acute instead of a chronic disorder. On the other hand, the tumor will grow more rapidly than an ordinary sarcoma. If such a tumor is present, and especially if the arteries are sclerosed, if there is no fever nor marked pain, we might possibly suspect an aneurysm. In only one case of the whole series was the diagnosis of aneurysm made, and that by a very shrewd general practitioner (Case 9).

Second, Pulsation.—The chief reason why the diagnosis has not been made is that the artery is relatively small and the sac very large, hence the impulse of the blood is not sufficient to distend the large sac and produce pulsation. In only one case (9) very indistinct pulsation was believed to have been observed prior to operation, but palpation of the tumor itself during operation showed the absence of pulsation. In my own case, not the slightest pulsation was observed, nor was it even suggested to my mind that it was desirable to look for it.

Third, Auscultation.—The same might be said of auscultation to detect a bruit. A thrill of course would be absent if there were no pulsation. In only one case was auscultation employed, and in that the result was negative.

Fourth, Hematuria.—One of the most important symptoms is hematuria. If the aneurysm is outside of the kidney and does not communicate with the pelvis of the kidney, there will be of course no hematuria. Eventually, however, the sac will probably burst into the pelvis of the kidney, and so produce a very profuse and probably fatal hemorrhage. Strange enough in Case 3 at least, the hemorrhage was supposed to be uterine until a careful examination showed it to come from the bladder, which formed a pendulous body of gelatinous consistence, apparently back of the uterus. In Case 9 the aneurysm evidently developed within the kidney and therefore there was hemorrhage from the very beginning. So profuse was it that the man was believed to have lost over 13 liters of blood in a period of time extending from April 19, 1889, when he met with his accident, to December 17, 1890.

Differential Diagnosis.—Practically the only disorders which one might possibly confuse with it if the tumor is small, would be renal calculus. In this the sudden accession of pain, its intense severity, its sudden cessation, the presence of microscopical blood, and the recurrence of the attacks would all favor renal calculus rather than a possibly developing aneurysm. A much more needful differential diagnosis is between renal tumor, ruptured kidney or renal hemophilia on the one hand, and aneurysm on the other. In renal tumors, which are malignant, the metastasis in other organs, the general wasting, the pain and tenderness, the family history, all would point toward a renal tumor proper rather than an aneurysm. In hydronephrosis, the variation in size and coincidentally the variations in the amount of urine passed, the possible entire disappearance of the tumor, coincident with the passage of a large amount of urine (the "flush-tank" symptom) and the very elastic nature of the tumor, would help us in the diagnosis. In the present case, the elasticity due to fluid blood and the relative solidity of the rest of the tumor, together with the other symptoms and absence of symptoms, I think may afford a reasonable excuse for the error in diagnosis. In rupture of the kidney, as I have already pointed out, there would be a much more rapidly growing tumor, if the blood escaped around the kidney and the tumor would be smaller and the hematuria very great if it were intrarenal alone. In renal hemophilia, there would of course be no tumor; excessive hemorrhages would be the only symptom.

Treatment.—In 1891, Oestreich, in entire ignorance that that very year would see his advice followed, strongly advocated extirpation of the kidney with the aneurysm. He made the prophecy, which was well verified in my own case, "It may easily happen that we will find an aneurysm when we operate with the intention of removing a tumor." But three cases have been operated on thus far: Case 9 by Albert, in 1891, Case 13 by Hahn, in 1893, since which time no case has been reported until the present Case 1, which is reported in this paper. There is nothing peculiar about any of the three operations other than the danger of hemorrhage especially from the pedicle. In my own case, the pedicle was broader than I have ever encountered in any prior case of nephrectomy, so that I had to tie it in seven different sections. All three of the operative cases have terminated in recovery, a most encouraging outlook for the future.

A Victoria Cross for a Member of the Royal Army Medical Corps.—Major Babtie, R. A. M. C., has been recommended for the Victoria Cross in recognition of his conspicuous bravery displayed at the battle of Colenso, when he went to the aid of the wounded across a zone of furious fire on two occasions. On the first occasion his pony was hit three times, which accentuates the gallantry of his second errand of humanity. Major Baptie is the first member of the Royal Army Medical Corps to obtain the coveted decoration for their South African Campaign.

PRESIDENT'S ADDRESS

At the Decennial Convention for the Revision of the United States Pharmacopeia.

By H. C. WOOD, M.D.,

of Philadelphia.

In the thought of the Infinite, it may well be that event follows event in unbroken sequence, from infinity to infinity, but man, bound to time by the limitations of his own existence, for his own purposes arbitrarily breaks the monotony of progress, and calls the larger fragments years, decades, centuries. Today the tally of the decades is full, and assembled here together we stand upon one of those great mounds which mark the passage of a century. Looking forward, as a traveler who has reached some high dividing summit, we strive to peer into the future, but its mists are impenetrable, and what seems to our straining vision the outlines of figures are but the projected shadows of the present. The view behind is plainer; the roads by which we have reached the summit are crowded with footsteps, in the near-by sharp and distinct, and fading with the distance. Under such circumstances, it is but natural that the opening address of your President should take an historic tinge, and that before we settle down to work we should try to draw from the past such lessons for the present as shall make secure the future. Such retrospect is especially fitting, since our labors, when they shall be carried to their end, will finish the first century of Pharmacopeia work in the United States.

It is true that, as told in the historical introduction to the Pharmacopeia, there was published in Philadelphia, in 1778, for military purposes, a small Pharmacopeia, but it was the Counsellors of the Massachusetts Medical Society, who, in 1805, first appreciated the need in America of a general Pharmacopeia, and it was the result of their labors, issued in 1808, that suggested to Dr. Lyman Spalding, of New York City, the formation of the National Standard.

The dry-bones of history, such as may be found in the opening pages of the U. S. Pharmacopeia, interest most of us but little, but when they are clothed with flesh and blood, it quickens heartbeats to see how near kin the men of the past were to the men of the present, and how, notwithstanding all change, the continuing brotherhood of the race reveals itself in the written lines.

In 1874, profoundly impressed with the rapid multiplication of medical books, and the phenomenal growth of medical literature, I wrote in opening the preface to my book on therapeutics: "Indeed, art is so long; life is so short, that every student has the right to demand of an author by what authority he doeth these things, and to challenge every memoir for its raison d'être." Judge of my surprise, when recently looking over the Pharmacopeia published by the Massachusetts Medical Society to read among the first sentences, "Books multiply so fast that it has become necessary to preface every new work with reasons, indeed almost an apology, for its appearance." This in 1808, when America was little else than a wilderness; when, as we view the matter, either medical journalism nor medical literature existed in the United States.

Very far from the truth is Tennyson's antithesis between the permanence of the brook and the momentary life of humanity; the fact is that the stream of mankind flows on forever as much as does the current of the brook; only as the drops of water in the brook change moment by moment, so do the drops come and go in the great human stream; and almost as like as drops are to drops so is man to man. Hands from which had scarcely fallen the gauntlets of Puritanism, wrote in primal New England: "It must not be understood that in adopting the modern language of botany and chemistry we have consulted the whims of every pretender. In this as in former ages men are creating confusion by creating names." Wise words are these, which the coming sub-committee on nomenclature of the U. S. Pharmacopeia should ponder a little more seriously than have their immediate predecessors. "In this as in preceding ages men are creating confusion by creating names." Applicable is this to all sciences, but most applicable is it in the purely natural history studies, so-called, such as zoology and botany. Smith or Jones or Thomson or Cope, written at the end of the name of an animal or plant fails, not in its influence on human personality. I well remember with what glee and pride in the days of my callow youth, when I should have been under taskmasters learning methods and facts, I first saw H. C. Wood written after the name of a piece of fossil drift-wood from the coal fields of Pennsylvania. The boy is the father of the man. Unconsciously there remains in each of us some capacity of enjoyment such as was in the boy who, pointing to his name in the newspaper, said to his old aunt, "That's me." If the personal element could be withdrawn from the specific nomenclature of animals and plants there probably would be much simplification. Let it be said of none of us that we have created confusion by creating names. Why must the poisoned American perish while we are searching our memories for ferri oxidum hydratum cum magnesia when antidotum arsenica might have saved his life, if only he had lived in Germany.

In the preface of the Pharmacopeia of 1808 it is interesting to find the germs whose subsequent growth has cost the members of this Convention and its committee so much labor. In accordance with the statement in the preface, "As there frequently arise errors of no small importance from the promiscuous use of weights and measures, it is proper that the quantities of substances, whether fluid or solid, be determined by weight." In accordance with this the framers of the first American Pharmacopeia adopted the system of parts by weight, but, unfortunately, they went on to say:

"Yet it may suffice to measure wine, water and aqueous liquids in some instances, provided that for this purpose vessels be employed, of glass where the nature of the substance requires it, whose capacities and divisions accurately correspond with the divisions or multiples of the modern pound." And so saying our fathers sowed the tares which grew up with the wheat, and choked out the true grain until only by the labor of many years were they uprooted and the system of parts by weight in its purity reinstated in the United States Pharmacopeia. The tares grew rapidly, for in the second edition of the Pharmacopeia, that of 1820, fluid measures were employed. The sin of the men of 1820 in changing from parts by weight to liquid measures of quantity was made greater by the fact that the liquid measures were not at that time in use among the apothecaries of America. That the amblyopia of the Revisers was not deeper than that of their contemporaries is, however, shown by the following extract from a contemporary review of the National Pharmacopeia in July, 1821: "If the American Pharmacopeia be adopted throughout the United States, as no doubt it will be,

these modes of indicating quantities must necessarily come into use, and that they will be continued after having been once introduced, we do not hesitate to affirm, because they are more *definite and precise and consequently safer* than the old methods. In such case it will be necessary that the apothecaries be provided with the measures above mentioned."

The language of the Massachusetts Pharmaeopeia of 1808 was English. The first United States Pharmaeopeia of 1820 was printed in Latin, with a translation of the Latin into English upon the opposite page; and the Convention of 1830, as not departing from the use of Latin, justified itself in the language of the prefaee beeause "the Latin, if not essentially necessary, may prove highly servieeable by fixing the preeise meaning of an English phrase which might not otherwise be well understood." Faney an American apotheeary or an Ameriean doctor of the present time, when he eould not understand the exaet meaning of the English, turning to the Latin to clarify his thoughts.

The Pharmacopeias of 1820 and 1830 were prepared by the eonventions themselves, these conventions being composed solely of physicians. In 1840 the growth in numbers of the eonvention necessitated the referenee of the detailed work of Revision to a eommittee, and the method still in vogue was inaugurated. The same eonvention made itself further historic by determining that the eonvention to be called in 1850 should be eomposed of the two professions of Medicine and of Pharmaey, by whose co-union in labor the eontinuanee of the Pharmacopeia of the United States as an authority has been made possible.

Since 1840 the great part of the labor of revision of the Pharmacopeia has fallen upon the suceessive Chairman of the Committee of Revision. In sixty years of these labors there have been only four ehairmen, namely, George B. Wood, from 1840 to 1860; Franklin Bache, from 1860 to 1870; Joseph Carson, from 1870 to 1880; Charles Rice, from 1880 to 1900. As no revision of the Pharmaeopeia has been more sueeessful than the last, and as at no time have the neeessary duties of the chairman of the eommittee been as great as they are at present, so never in the eentury has there been found a man more laborious, more eonscientious and painstaking, or better fitted by extraordinary aequirements and personal qualities to fulfil the onerous duties of the position than the present ehairman; and your President most earnestly hopes that by his eontinuance in offiee the suceess of the next revision of the Pharmaeopeia may be ensured.

During its whole life the United States Pharmaeopeia has received no governmental support, and has been free from governmental eontrol. Under the eircumstances the influence whieh it has exerted upon the pharmaceutical and medical professions; the voluntary obedience which has been given to it, are not only a tribute to its practical excellence, but also a strong evidence of that peculiar Anglo-Saxon power of recognizing authority that is not upon the statute books, a power born of self-control and common sense, which makes the race, of all others, most capable of self-government. The indirect recognition by the Government of the Pharmacopeia becomes each year more apparent both in Federal and State legislation, so that there does not seem at present any danger of the Pharmaeopeia losing its control in the United States.

The Pharmaeopeias which have been produced in the United States by voluntary effort both in the past and in the present, eontrast favorably with the governmental standards of European countries. In its seientific aeeuracy, in its general usefulness, and in the effieieney and eleganee of its resulting preparations, our Pharmaeopeia is the peer of the best.

I am not one of those who are eonceited in things American, freely acknowledging that we have added very little to the great sciences whieh underlie the practice of medieine, and that we have been indebted to Europe for almost all of our fundamental inspirations, I still hold most strongly, however, to the belief that there are no therapeuties superior to the Ameriean therapeuties, and that in no other eountry has pharmacy been carried to the perfeetion that it has reached in the United States.

Delegates of the Pharmaeeutieal Assoeiations, I eongratulate you on representing a profession whieh has attained its highest development in the United States.

There is a probably widespread, and eertainly often spoken of, feeling that the medieal profession of the United States does not properly appreeiate and support the United States Pharmaeopeia. There is some foundation for this feeling, but assuredly it is exaggerated. It is true that—owing to the aetivity of manufacturing pharmacists, and the number and skill of their commereial salesmen (vendors of samples), aided by the defieieneies of medieal edueation and the peeuliar ehildlike eredulity whieh is so eommon in doetors—all kinds of proprietary mixtures and proprietary artieles, and extra-pharmaeopeial remedies are largely used in the United States. It is so easy for the lazy doetor to write for Smith's Panaeea for human ills, and so easy for the doetor who knows neither materia mediea nor therapeuties to order Jones' Consumption Cure or Thomas' Kamianita, that so long as laziness and ineompetence remain with us so long will this thing be done. But this is no fault of the Pharmaeopeia, and no perfeetion of the Pharmaeopeia will greatly influenee it. Certainly any attempt to reduee the produets of the Pharmaeopeia to the level of the proprietary or patent medieine would be to destroy the dignity of the work, to bring it into eontempt, and finally to uproot its influenee. Under the influenee of State law and of public opinion the average edueation of the Ameriean medical profession is rapidly and steadily rising; in this and not in anything that this Convention or its eommittee ean do lies the hope of the future. Moreover, the intensity of the feeling that the Ameriean medieal profession is not so thoroughly interested in the Pharmaeopeia as it ought to be, rests largely upon a miseoneeption of the intent of the Pharmaeopeia and its relations to the medical profession. A Pharmaeopeia is not intended to be a guide to praetiee, or a working book to be used by the doetor, but is really a handbook of the apotheeary. I do not believe that at any time or in any eountry, Pharmaeopeias ever have had mueh sale among the medieal profession; and each year, as the professions differentiate themselves more and more, as the doctor becomes less and less of a pharmaeist, the tendeney of the doctors to buy Pharmaeopeias must grow less rather than more. The Pharmacopeia ean only be popularized in the medieal profession by making it a treatise on therapeuties; in other words by causing it to eease to be a Pharmaeopeia. So long as it is a Pharmacopeia it is the basis upon which textbooks and dispensatories are to be written; and it beeomes through these treatises a guide to the medical profession. It remains the apotheeary vade mecum, with whieh in hand he does

his work, and its sales must be chiefly among the apothecaries.

There may have been a time when the medical horizon was so narrow that the doctor had time to trouble himself as to how the druggist made laudanum, but at present the doctor has as much as he can do to store his mind with purely medical facts; he wants simply to know what laudanum does when he puts it into the patient, and he trusts the apothecary to give him laudanum when he calls for it.

Be these things as they may, it is certain that the present condition of the United States Pharmacopeia is one of great prosperity. The book itself ranks with the best of its predecessors or of foreign Pharmacopeias, representing all that was possible in 1890. Its hold upon the people of the United States is more firm than it ever was before. Its sales have far exceeded those of any previous edition, and for the first time in the history of this Association the treasury is overflowing. Indeed, so rich have we become that the greatest danger which threatens the Association is, to my thinking, surplus of revenue.

Standing on the great divide between the centuries, viewing the past and the present, what lesson can we draw that shall help us to make sure the future? Is it not steadfastness to the old ways? Is it not that we shall push straight out the old paths? For one hundred years they have been trodden by successive generations who have found them sure roads to scientific advancement and practical success. Why should we depart from customs whose soundness has been time-proven?

It is a remarkable fact that, during a century of successful life, this Convention, or Association, has had no written fixed law for its government. Largely for this reason certain errors have grown up, and received widespread adherence as to the nature and scope of this body. Thus many persons are inclined to look upon each meeting of the Convention as a separate and distinct Association, and even to consider the Committee of Revision as an independent body. The fact is that the Convention for the Revision of the United States Pharmacopeia is a continuing association, parallel in its nature to the American Medical or the American Pharmaceutical Association, or other similar organizations; the sole difference being that the period between its meeting is 10 years instead of 1 year, as is usual. The Convention should really be spoken as an association; it is continually alive through its officers, whose duties never cease, and whose positions are never vacant, unless it be for the moment of change of occupants during the session of the Convention. The Convention is further always active through its Executive Committee, *i. e.*, its Committee of Revision and Publication, to which, as agent, the Convention délegates its powers when not in session.

The growth of this Association in numbers, in influence, and in wealth, has seemed to make it imperative at this time, that what has been tradition—the growth of custom—should be clothed with the fixedness and authority of written law, and that a written Constitution and By-Laws should be adopted.

The increasing responsibilities of ownership and of business make it further essential that this body shall in some form or other be incorporated. It seems to me also necessary that a slight alteration should be made in our working methods; an alteration which is, however, not so much a change as a development. The present Committee of Revision and Publication has, as its name implies, two offices or functions which are entirely distinct; the one being concerned with the preparation of the Pharmacopeia, the other with its publication; the one requiring on the part of the committee that has charge of it scientific knowledge and practical skill in medical and pharmaceutical matters, the other business judgment and activity.

It is certain that a scientist may also be a business man, but the scientist is in reality no more frequently a business man than the business man is a scientist; and so it has come to pass that in order that its personnel shall include men of business, of science, of medicine, and of practical pharmacy, the Committee of Revision and Publication has been composed of 25 members, a number which makes it cumbersome, wastes the time of the Chairman, and achieves results no better than would be obtained with much less labor by a smaller body.

The proposition which I have to offer for the consideration of this Convention is that this double committee shall be divided into its component parts, and that out of it shall be made two committees, one to prepare, the other to publish the Pharmacopeia. Let the new Committee of Revision be composed of twenty members, and let the Convention nominate five members who, with the President of the Convention and the Chairman of the Committee of Revision, after they shall have been appointed, shall constitute a Board of Trustees which shall have charge of the financial and publishing business of the Convention.

The experience of the last decade seems to make this imperative. A considerable sum of money has been very properly spent in the paying of experts for research work, but there are many members of the Committee of Revision who have done work greater in quantity and in importance than any of these investigators, and who yet have received no compensation for their services. Why? Because gentlemen do not vote out of a public fund money to themselves, even though it may have been properly earned. Let me give a concrete instance; Prof. Maisch went over all the materia medica definitions of the Pharmacopeia; with his great knowledge, and with a splendid materia medica museum at his command, he spent hours and days rectifying, enlarging and perfecting the definitions of drugs until probably they are the best ever written; for which no compensation has been awarded him or his heirs. One of the duties of this Convention certainly is to set aside or in some way make provision for the payment of such services, but it is always better to be just during the time of action than to atone afterwards for an injustice; and if a business committee is formed by this Association it can determine the relation between the value of services rendered by the members of the Committee of Revision, and the power of the Convention to compensate. If it is thought desirable this Business Committee or Board of Trustees, with the officers of the Convention and the Committee of Revision, can be made to constitute a council who shall represent the Convention in large matters, such as the decisions whether an edition of the Pharmacopeia should be published in 1905 or 1906.

Time is failing, but I think it must be evident to every one, without further discussion, that it is essential to separate that which is business and financial from that which is scientific and practical pharmacy; and that this Convention can best attain this object by having two distinct committees.

Having adopted Constitution and By-Laws, appointed officers and the two committees, this Convention should

give instruction to its officers and the two committees together to incorporate the Convention. I am told by eminent counsel that there is no legal difficulty in the way, only it must be clearly stated in the Constitution that a delegate from one of the bodies entitled under the Constitution to representation, becomes by virtue of his election as a delegate a member of the incorporated body, and loses his membership when he ceases to be a delegate.

Finally, gentlemen of this Convention, a word and I have finished. As the American nation of 1800 seems to us to have been but a handful of seed of whose growth we are the fruit, so will those who shall meet here in the year 2000 think of the American people of today as a small body from which they have themselves sprung. We live but for the moment; one hundred years from now the greatest of us will remain only as fading memories—as men whose records have been so over-written on the palimpsest of time that only here and there can a sentence be deciphered. So it ever has been and so it ever shall be with the human race; men come and go and are not; but though the worker disappears and is forgotten the work lives on. Our fathers labored and we have entered into their labors. Let us see to it that preserving in its essential lines that which has come to us, and adding to it in our day and generation as strength is given us, we may leave for the coming century good work and true, which shall remain as the abiding though unrecognized witness of our earnest living.

ON RECENT ADVANCES IN OUR KNOWLEDGE CONCERNING THE ETIOLOGY OF MALARIAL FEVER.*

BY WILLIAM SYDNEY THAYER, M.D.,

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THREE years ago the form in which the malarial parasite lives outside of the human body, and its manner of entrance into the organism, were wholly matters of speculation. The idea, especially insisted upon by Manson,[1] that the crescentic forms of the estivoautumnal parasite might represent bodies intended to carry on the life of the species outside the human body, and the view expressed also by Dock[2] and Mannaberg[3] that the flagella upon the functional importance of which their discoverer, Laveran, had always insisted, might represent the first stage in the life of the malarial parasite in an external medium—were still matters of dispute.

With regard to the manner of infection three main theories existed:

1. That the disease was acquired through the gastrointestinal tract, especially by drinking-water.
2. That the infectious agent entered through the inhaled air.
3. That inoculation occurred through bites of insects.

The experiments of Celli, Marino, Zeri, Grassi and Feletti[4] were suggestive evidence against the idea that the disease might be acquired through the gastrointestinal tract, while a careful study of the literature, as well set forth by Norton,[5] revealed the utter lack of evidence in support of such an idea.

With regard to the theory that the infectious agent entered through the respiratory tracts, it could only be said that while certain general facts spoke in its favor, no positive evidence in support had ever been adduced.

That inoculation might occur through the bites of insects, and especially of the mosquito, had become an attractive hypothesis. This theory, to which Nott[6] had referred in 1848, was first definitely put forward by King[7] in 1883; it was again brought forward by Laveran[8] in 1891 and 1895. The arguments in favor of the mosquito-theory, the strongest being the remarkable observations of Theobald Smith,[9] were well brought together in 1896 by Bignami.[10] Experimental evidence, however, in support of this view was entirely lacking, despite the fact that Bignami (*loc. cit.*) and Dionisi had already attempted to produce the disease by exposing patients to the bites of mosquitos. At the same time Manson[1] had suggested that the mosquito might act as the intermediate host for the malarial parasite, as it does for the Filaria sanguinis hominis.

In the summer of 1897 McCallum[11] cleared up the much disputed question as to the nature of the flagellate bodies. His observation that in the Laverania Danilevskyi there exist sexually differentiated forms of the parasite; that the flagella, representing the male elements, penetrate and fecundate the female forms, was the first real advance. This discovery not only demonstrated the nature of the flagellate bodies, but, from analogy with other biological processes, justified the inference that the resultant fecundated element might represent a form capable, perhaps, of development in a medium other than the blood of the animal in which it had risen.

In the meantime Ross,[13] working in India at the suggestion of Manson, had noted the development of flagellate bodies within the stomach of mosquitos which had been fed upon patients whose blood contained crescentic estivoautumnal parasites. Later Ross[14] observed in the stomach-walls of several of these mosquitos, which have been since shown to belong to the genus anopheles, a number of round refractive encapsulated bodies containing granules of pigment quite similar to that previously contained in the crescentic parasites which had been ingested. These structures, unlike any which he has previously observed in the mosquito's stomach, he suspected to be stages of an extracorporeal cycle in the life-history of the malarial parasite.

Owing to a dearth of material Ross[15] was compelled to continue his experiments upon birds. He soon found that 48 hours after feeding the "gray mosquito" (Culex pipiens) upon birds infected with the *Proteosoma Grassii* similar bodies appeared in the muscular coat of the stomach-wall. These bodies at the onset measured about 20 micromillimeters, showed a well-marked refractive capsule, granular contents, and a number of pigment granules quite similar to those previously existing in the hematozoa. On repeated experiments Ross observed the gradual development of these structures until at the end of seven or eight days their diameter measured nearly 70 micromillimeters. At this period they projected from the external coat of the stomach into the coelom. Soon afterward the capsules ruptured, setting free a number of delicate filamentous bodies which were later found accumulated in great numbers in the large clear cells of the venenosalivary glands. Feeding experiments proved that at this stage mosquitos could transmit the parasites to noninfected birds.

Early in the course of the work Ross and Manson assumed that the penetration of the stomach-wall was accomplished by motile pseudovermicules which MacCallum (*loc. cit.*) had shown to be the followers of fecundation in the *Laverania Danilevskyi*, and Koch[16] has since observed the development of these pseudovermi-

*Read before the Congress of American Physicians and Surgeons, May 2, 1900.

cules in proteosoma containing blood within the mosquito's stomach.

Ross thus demonstrated the fact that the Culex pipiens was not only capable of playing the part of an intermediate host of the Proteosoma Grassi, but further might actually transmit the infection from one bird to another. These observations have since been confirmed by Daniels [17] in India, and Koch (*loc. cit.*) in experiments made with the Culex nemorosus in Italy.

Simultaneously with Ross's work, Grassi's [18] interesting studies in Italy revealed the fact that several varieties of mosquitos, namely the *Anopheles claviger*, *Culex penicillaris*, and the *Culex malariae*, were almost invariably present in malarious localities at the malarial season. This association was so constant that Grassi was led to believe that some definite relation must exist between the presence of some or all of these mosquitos and the prevalence of malaria. Bignami [19] in the meantime had succeeded in producing malarial infection by exposing a patient to the bites of mosquitos collected from malarious localities, and Grassi showed that while only members of the genus culex had been employed in the early unsuccessful experiments, on this occasion a number of Anopheles claviger had been present.

Grassi, Bastianelli, and Bignami [20] then proceeded to feed specimens of a *claviger* on infected human beings with complete success. Only members of the genus *anopheles* appear to serve as a host for the human malarial parasite, but all species of the genus so far studied have proved themselves capable of harboring the organism.[21] The Italian observers have followed the complete extracorporeal cycle of all three varieties of parasites. After entering the mosquito's stomach flagellation and fecundation* occur, the fecundated bodies develop into pseudovermicules (that it is the pseudovermicule which enters into the stomach-wall is shown by the structure of the earliest forms of the estivoautumnal zygotes found by Grassi, Bastianelli and Bignami, and by us in our one successful feeding experiment with the estivoautumnal parasite), and from 30 to 48 hours after feeding there develop within the stomach-walls structures closely similar to those observed in the Culex pipiens fed on proteosoma containing blood. These undergo a similar course of development, reaching maturity in about a week, rupturing and setting free great numbers of small filamentous bodies which accumulate in the salivary gland of the insect.

A sufficient number of inoculation-experiments have proved that the bite of a single mosquito with infected salivary glands is capable of transmitting the disease.

Observations by the British West Africa expedition[22] and a few which we have had the good fortune to make in this country have confirmed the beautiful studies of the Italian observers.

The conditions in Baltimore appear to be essentially the same as those in Northern Italy. In the city we observe one main variety of mosquito, the *Culex pungens*† while in the suburbs we have found numerous examples of other culices (especially the *C. taeniorhyncus* and the *C. triseriata*). Repeated feeding-experiments with different culices upon human beings and upon birds infected with *Laverania Danilevskyi* were without result.

At Sparrows' Point, a most malarious district in the suburbs, and in a number of houses in the neighborhood, beside the ordinary culices there were found to be great numbers of the *Anopheles quadrimaculatus* (Say). This anopheles, both in the markings upon its wings and in its gross appearance, is very similar to the Anopheles claviger. In several examples of this mosquito obtained from the room of a patient suffering with malaria, there were found in the stomach-wall characteristic encapsulated refractive pigment-containing bodies corresponding in every way to the extraeorporeal stages of the tertian parasite which I have since had the pleasure of observing in Bastianelli's specimens. In two examples of the Anopheles quadrimaculatus fed upon a patient whose blood contained full-grown tertian parasites, Dooley, in our laboratory, has been able to obtain similar bodies. In one A. quadrimaculatus, fed upon the blood of a patient containing crescentic bodies there were found in the stomach-wall, about 30 hours after feeding, two lanceolate pigmented bodies in every way corresponding to the earliest stages of the extracorporeal phase of the estivoautumnal parasite.

In this country the relation of the distribution of anopheles to the prevalence of malaria has not as yet been carefully studied. In Baltimore we have obtained only culices from the city proper where malaria is infrequent. From two houses on the outskirts, in each of which malaria existed, specimens of the Anopheles quadrimaculatus have been obtained. From Sparrows' Point and a number of houses in the neighborhood along the Eastern shore, a district in which malaria is prevalent, considerable numbers of *A. quadrimaculatus* have been obtained.

On October 28 I visited the town of Jackson, Northampton County, N. C. This is situated in the lower Roanoke region, near an exceedingly malarious district. The season was late, frosts having occurred, but in that part of the town in which the most serious malaria prevailed, we found, in one house in which the disease had recently existed, several examples of the Anopheles quadrimaculatus, no culices. In another house in the near neighborhood, thirty or forty examples of the A. quadrimaculatus were found. In the swamps about the Roanoke we found several examples of the *C. posticatus* and of the *C. triseriata* and one *Anopheles punctipennis*. Two days later I visited Newport News, Va., where a considerable amount of malaria had existed. The weather had been cold and only in one house did I find anopheles. In this house, however, there were two convalescents from malarial fever. In New Orleans in the first week in December great numbers of the *C. pungens* were found in the city. In the swampy malarious regions about the lake numerous *Anopheles quadrimaculatus* and *A. crucians* were found; these were for the most part hibernating in barns and stables.

In a pool in a stone quarry just outside the city limits of Baltimore Dr. Lazear discovered the breeding-place of some *A. punctipennis* and numerous examples were found hibernating in the cellar of a house in the same region.

The malarial season that year was unusually mild and our opportunities for feeding-experiments were poor. So far the only results which we have obtained have been those mentioned, all three having been obtained with the *A. quadrimaculatus*. Last September, however, I had the privilege of seeing the beautiful and convincing specimens of Bastianelli and Bignami.

The malarial parasites then possess in common with certain coccidia, as shown by Simon, Schaudinn, Siedlecki and others, two cycles of development. Within the human being the ordinary cycle is asexual, ending

* The actual process of fecundation has never been observed in the mosquito's stomach. MacCallum's observations of penetration of fresh blood on the slide is as yet the only one. That it must occur, however, is fairly clear.

† I am much indebted to Drs. L. O. Howard and D. W. Coquillet, of the Agricultural Department in Washington, for identifying the different mosquitos which we have found, and for many kind suggestions.

in segmentation. Sex-ripe forms, *gametes*, however, develop which may be distinguished morphologically, especially by their staining reactions. After ingestion by the mosquito the male elements (*microgametocyte*) undergo flagellation, the flagella (*microgametes*) escaping and penetrating the female elements (*macrogametes*). These fecundated elements (*zygotes*) are capable of undergoing further growth in the stomach-wall of the mosquito, developing and setting free eventually the *zygotoblasts* which, accumulating in the salivary glands, are inoculated again by the insect with his bite.

It may then be considered as proved:

1. That the malarial parasite possesses an extra-corporeal cycle which is completed in the stomach-wall of mosquitos of the genus anopheles.

2. That members of the genus anopheles can transmit malaria from infected to noninfected individuals.

Is this the only method by which malaria may be acquired? At the present moment it can only be said that it is the only proved method; that from analogy with other similar diseases it is unlikely that there is more than one method of infection; that up to the present time this theory explains most conditions associated with malarial infection; that reports showing the protective efficacy of mosquito-nets even in the most malarial districts are rapidly accumulating; that there is no serious evidence in support of any other theory.

And yet even if we accept the theory that the only manner in which malaria can be acquired is through the bites of mosquitos, several questions arise. Numerous experiments have failed to show any evidence of a transmission of the infectious agent from mosquitos to their progeny.

Can the mosquito acquire the infectious agent *only* from man? Would the mere removal of all cases of malaria from a given region for one season remove all source of infection? The evidence, as far as we now have it, tends to favor an affirmative reply. Are we, then, to assume that in wild and sparsely populated tropical regions an intermediate part must always be played by man? This seems, at first, hard to believe. And yet it would be rash to express oneself too positively before careful investigations have been made with this point in view. It is often surprising how firmly fixed upon our minds baseless impressions become. Have we any positive proof that uninhabited, tropical, anophelas-containing regions are dangerous to parties of individuals free from infection on arrival? One cannot but remember, in connection with this, the statement often made, that in Tropical Africa, for instance, exploring parties may spend considerable periods of time in the uninhabited interior without illness, even though the regions may appear, from outward conditions, most unhealthy. It is only on their return to the seacoast to districts where the surroundings would appear to be better that the outbreaks of malaria occur. This hitherto inexplicable fact becomes clear if we assume that in the woods, though all conditions are present for a spread of the disease, the mosquitos are uninfected and so harmless; it is only on coming back to the settlement where infected mosquitos occur, that the disease breaks out. The well-known history of the epidemic of malaria in Lile de la Réunion is most interesting in this connection. Here, in a region which from its climate and general character might have been expected to be malarious, the disease was unknown. In 1869, in connection with an immigration from India, malaria appeared as an epidemic, and since this time has remained endemic. Studies by Celli and Delpino,[23] by Grassi (*loc. cit.*), by Bastianelli and Bignami (*loc. cit.*), o epidemics in small communities, have shown that the vernal cases of malaria are almost all relapses; that during the month of June the anopheles begin to be active that about a month after the beginning of the activity of the anopheles the true epidemic of malaria begins starting apparently in foci about individuals who have recently suffered from relapses of the disease. During the season in which anopheles prevail the malarial epidemic flourishes only to disappear again with the disappearance of the mosquitos.

There is then reason to believe that if in any given region (1) proper measures for treating the spring relapses of malaria were adopted, and (2) efficient measures for destroying the dangerous mosquitos in their larval stage could be carried out, the prevalence of malaria might be materially controled.

The importance to the community of insisting upon the proper treatment of all cases of malaria cannot be too strongly emphasized. *An infected patient in a malarious district is a source of danger to those about him.*

Before we can attempt, however, to carry out intelligently measures to destroy the mosquitos we must first further control the important work of Ross and the Italians; we must determine definitely the dangerous species of mosquitos in this country; we must study their distribution, their habits, their breeding-places.

The valuable prophylactic hints which the recent discoveries have given us have been well brought together and published by the Liverpool School of Tropical Medicine.[24] It is much to be hoped that the results of the intelligent application of such and other measures may, in the near future, demonstrate the practical value of the new knowledge which we are now gaining.

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VOL. V, No. 19 MAY 12, 1900 $3.00 PER ANNUM

The "Popular" Evening of National Medical Societies.—Hardly less important than the discovery of new medical truth is the realization of it in the health of the people. The application, indeed, is the ultimate aim of the discovery. Nor is it enough, necessary as it is, that the new knowledge should be wrought into the minds of the profession. We have a certain duty to bring it to the people in a general way. It is the misfortune of medicine that the means and methods of communicating its special truths to the world are few, and that these few are sadly unutilized. Hence, the appalling vogue of quackery. The masses know far more of any other science or art than they do of ours. Why should we not devote one evening during national gatherings—that, say, given to the useless and expensive banquet—to instructive popular addresses or illustrated lectures which should bring the best scientific results within the comprehension of an intelligent lay audience? The knowledge is at hand, the plebificators are easily found, the people wait, and the newspapers would vie with each other to carry the news to the world. The subjects to be selected and utilized in medicine are almost infinite. Rightly managed and effectively realized, the plan would be productive of tremendous good to profession and to public.

The Visiting Nurse Society.—The good done by these admirable organizations is only partially exhibited by the annual report of the Philadelphia Visiting Nurse Society; for, in addition to the professional service rendered, a moral and an elevating influence is exerted that does not cease with the help extended. Virtue is best taught by example and the practical work of the Visiting Nurse Society is eminently of this character. Only the physician, whose duty brings under his notice cases among the poor, in which the question of recovery or death hinges upon the nursing of the patient, carefully appreciates the value of the work done through the instrumentality of this society, which should be most generously supported in its praiseworthy efforts. From the fourteenth annual report it appears that during the year ended March 1, 1900, there were attended 2,277 cases, requiring a total of 11,626 visits. Those who are unable to make any payment are visited without charge; those who can afford to do so pay merely the carfare to and fro; while those in better circumstances pay 25 or 50 cents an hour for the services of the nurses. Nurses are permitted to remain with patients for a few hours after surgical operations.

The character of the general sessions of the national medical gatherings is not only not fixed but is evidently in a very rapidly changing phase. Some conclusion of negative experiments, some definite policy, must soon be adopted. It is evident to all observing and wise men that questions of politics, ethics, or esthetics cannot be settled by large numbers. The ends of such attempts are as pitiful as the means. *Vox populi* is and can be only a roar, decidedly different from the still, small *Vox Dei.* In such things the fewer the voices the greater the wisdom. Therefore, some representing body should, if not govern, at least decide. Moreover, the scientific society exists for the attainment and dissemination of scientific truth, and in all its meetings should confine itself to its proper function, to the perpetual silencing of the politician, sentimentalist, ranter, or self-advertiser. One of the simplest of indications would appear to be that in the general meeting the subjects discussed, and the methods of setting them forth should be interesting and easily understood by all members of the congress or association. To choose such subjects as are interesting only to certain specialists, and to treat them so technically as to make them fall on nonperceiving ears and brains, is a striking error of judgment, and one that leads not only to small audiences and harsh criticisms, but to demands that the general session shall be abolished or called from its grave only once in every five years. We believe the criticism just, but that the abolition or prolongation of the meeting-time would be most unwise. To the general sessions may be given two half-days and one evening (abolish the banquet!) out of four without harm to the section or to the individual society-work. But the tastes and abilities of every one of the members should be considered in the plan and in its outworking. Make the subjects chosen of general interest and treat them so that all shall understand.

Bogus and Bonafide Subscription Lists.—The subscription list of a medical journal is not a secret or private business affair. The method of its make-up and its exact nature are of professional and public con-

cern. In the long run the profession has to pay for the tons of unread "medical" journals flung into the waste-baskets every week. Every advertiser has a right to know precisely the number of paying subscribers, the number of copies printed, and how the copies above the genuine paying subscription list are used. It is simply a question of business honesty. An advertiser pays for space according to the actual number of paying subscribers, not according to the copies sent nonpaying subscribers, for exchanges, for free distribution, for advertising purposes, as "complimentaries," and for claptrap effect. It is downright dishonesty to send medical journals continuously to people who never ordered them and who do not pay, thereby to deceive advertisers and get unjust prices for advertising space. The sharp advertiser does not concern himself as to "circulation," but as to paying subscribers. The man who does not pay for his journal does not pay for his drugs and instruments and is of no use to an advertiser. Exchange, free-list, "dead-wood," etc., are also valueless to him. As to the professional aspect, every physician, and the profession as a whole, is affected by dishonesty and secrecy in the subscription lists of medical journals. The "padded list" is a professional disgrace. If the publisher pays his bills he must do so from the income of the journal, and if this income is derived from sources that we dare not make public, the profession is wronged and disgraced. The PHILADELPHIA MEDICAL JOURNAL, although only two and one-third years old, has today more than 10,000 paying subscribers. We are printing 12,500 copies; about 2,000 are being used as samples to secure new subscribers, for reserve to fill future new orders, for gifts to medical libraries, and for minor miscellaneous purposes. "Circulation" is a loose and meaningless term which may sometimes mean noncirculation. Our "circulation" could easily have been made twice as large if we had adopted the old methods of increasing it. We believe those methods are bad commercially, ethically, and professionally.

The method of honoring professional heroes which we have spontaneously adopted is the best conceivable. Titles cannot be compared with it, and many doubt if these do not sometimes rather detract from genuine honoring. When men gladly undertake the labor of producing worthy original papers to be gathered into a volume, the *Festschrift*, dedicated to the revered and beloved teacher, the sentiment that moves them to do it must be genuine and deep. Some years ago such a volume was presented to Dr. Burt G. Wilder, of Cornell University, by his pupils whom worldly work and fame could not make forgetful of their beloved teacher. In the same way, Dr. Welch, of Baltimore, finds unexpected recognition of the years of helpful labor and the fulness of scientific inspiration given those who have come under his influence. In the dinner and *Festschrift* to Dr. Jacobi, of New York, there is a peculiar heartiness and unanimity of feeling which must prove not only most gratifying to this good man and physician, but which should fill with comfort those who are pursuing the ideal of professional progress and beneficence in silent independence and faithfulness. We wish to point out one aspect of these guild-honorings which may escape the notice of some, consisting in the fact that it is not the self-seeker we honor in this way; it is not intellect alone; not the discoverer, not the scientist only or perhaps chiefly, not the great clinician, not the institution builder, not, verily, the lonely literary worker! Greater intellects perhaps, surely greater discoverers, more famous men, go over to the silent majority without knowing this last and sweetest demonstration of fraternal and reverential love. This comes only to the good man; the man who through many years of service demonstrates that good science and noble intellect must be persistently and unselfishly used for the benefit of one's fellow-workers and of one's fellow-men.

The slums of a great city are the abiding-place of vice, crime, and disease, and anything aimed at their eradication or at amelioration of the conditions that prevail in their midst, must be considered a salutary measure capable of a far-reaching influence upon the material and moral welfare of the community. With poverty and ignorance go overcrowding and filth. From a realization of these facts an act was passed in 1890 by the English Parliament providing for the demolition by the public authorities of houses unfit for human habitation, and, if it was deemed advisable, the erection of new and suitable dwellings upon the areas made vacant. Legislation covering the first of these provisions has since been enacted in the State of Massachusetts. Similar plans had previously been adopted by the cities of Glasgow in 1866, and Birmingham in 1875, and have been in active operation since. In 1895 a law was enacted authorizing the New York Board of Health to order the removal of unsanitary dwellings, and a commission has recently been appointed further to carry out the provisions of this law. There is here a rich field for investigation, and a rare opportunity for the adoption of measures that will contribute not a little to a reduction in mortality, disease, pauperism, and crime.

The Children's Seashore House at Atlantic City for Invalid Children is engaged in a most humane and praiseworthy work, extending an invitation to every poor, bedridden, or crippled child in Philadelphia to visit the seashore during the summer. During the year 1899, more than 2,000 patients were received in the 100 days that the institution was open, each remaining an average of 9½ days; 255 of the children were sent from hospitals, and many of them being surgical cases. Those who can afford to do so pay a nominal

amount. There are three departments, one for girls between 14 and 20, a second for children between 3 and 14, and a third for sick infants under 3½ accompanied by their mothers.

The Relation of Diet to Urea.—In doing experimental work in physiologic chemistry, the great difficulty has always been to control accurately the amount of food ingested by the subject. Only those who have attempted to keep not too intelligent patients upon a strict diet and perhaps a limited or monotonous diet, for any length of time, can realize how frequently they indulge surreptitiously in some other form of food. For this reason not a few investigators have submitted themselves to the diet which they wished to prescribe, and become not only investigators but also subjects. The brilliant work of Dr. A. E. Taylor, published last year,[1] belongs to this category. Recently Maurel has published[2] the results of some experiments made upon himself during the last 15 years, that bear upon the subject of the effect of diet upon the elimination of urea. The work was apparently done with great care, notwithstanding the fact that at many times it was accomplished with considerable difficulty, and in the midst of other oppressive occupations. He concludes that the urea of a healthy man is derived usually from two sources. One of these is the unassimilated albuminoid substances, and equals about 0.15 to 0.20 grams for every 20 kilograms of food. The remaining part, from 0.10 to 0.15 grams, is the result of the combustion of the nitrogenous elements of the food. In certain pathologic conditions, there may be even a third source from which in part it is derived, that is the breaking up of the albuminoids introduced in excess into the circulatory current. If the total daily quantity of urea, which ordinarily amounts to about .35 grams, is exceeded, it indicates that the nitrogenous elements of the food are being utilized to supply energy and not to supply tissue; and, therefore, Maurel, some years ago, suggested a fixed ratio of nitrogenous substances that was sufficient to supply the waste of the tissues, that is a proportion of nitrogenous elements to the carbohydrates, of about 1 to 4. Unfortunately, these scientific methods of feeding have never been able to supplant the much more convenient, and, for the time being, satisfactory personal standard, that is the degree of appetite the subject experiences.

A Pathologic Tendency of Pathology.—Both publicly and privately there have been doubts expressed concerning the tendency shown by some of our medical societies, especially by the *Association of American Physicians*, to become too technical, and in doing so to devote too little attention to clinical medicine. If we judge correctly this criticism is sometimes reasonably well-founded. It is necessarily true that even the best equipped clinicians cannot be thoroughly conversant with the technic and latest methods of research in the laboratories of bacteriology and pathology. Moreover, a relative indifference to the clinical aspect of medicine, so far as to relegate it to a secondary place, can only result in harm to society or to the profession, or in the formation of a new clinical society. Why then, it is asked, not form new bacteriologic and pathologic societies? Such a society was, perhaps, founded last week at Washington. The "perhaps" is justified by a double doubt, as to whether, if meeting at the time or forming a part of the Congress, it will not prove injurious to the association, and, if formed largely of nonmembers and meeting at another time, whether it will relieve the association of its incubus of technical pathology. It is a dilemma which will tax the wisdom and the tact of all those interested. It is, however, quite plain, whatever the enormous value of the technical studies underlying and conditioning clinical medicine, that actual clinical progress should not be neglected in the avid search for new truth. The caution is perhaps needed that there is also a science of clinical application as well as one of discovery, that medical scientific truth is of no use unless utilized in curing or preventing disease, and, finally, that the practice of medicine is an art as well as a science.

Muscular Atrophy and Pulmonary Tuberculosis.—"To be forewarned is to be forearmed," is an axiom of medicine as well as a truism in strife, and any sign which heralds the early stages of a serious malady is of primary importance in treatment. As early as 1883 Ch. Bernard called attention to the significance of muscular atrophy in pleurisy, and French writers of late years have amplified his teachings and have recently laid much stress on scapulothoracic muscular atrophy as an early diagnostic symptom of tuberculous pulmonary disease. The gradual emaciation which takes place in the muscles of the chest has been recognized as a symptom of general weakness, and has most frequently been interpreted as an affection of the general nutrition, but that there exists a more intimate relationship has been urged by E. Boix, Bompar, Astré, Klippel, and, more recently, by Dr. Paul Carcassonne (*Thèse de Paris*, February, 1900). This clinician has made a series of observations on the scapulothoracic muscles not only with reference to atrophy, but he has also determined what changes take place in their consistency, their mechanical and electrical excitability, the tendencies to tetanization, to painful contracture, and to sensory changes. He has shown that the muscular atrophy is more pronounced on the side most seriously involved, unilateral, if the lesion is unilateral and on the same side. While the occurrence of this atrophy has been known, the author calls attention to the fact that the symptom can be observed early and is

[1] *American Journal of the Medical Sciences*, 1899.
[2] *Arch. de Med. exp. et d'Anat. path.*, xii, January, 1900.

not necessarily associated with the general wasting; moreover, it may be present before the auscultatory signs of tuberculosis are manifest. With reference to the time when this symptom develops, Carcassonne believes that it is a precocious sign, but not a primitive one. Muscular atrophy is never the first sign of tuberculosis of the apices; but, nevertheless, it does exist as a sign before the development of percussion or stethoscopic evidence.

A number of explanations have been advanced to account for the atrophy. Claude Bernard was one of the first to ascribe it to immobility. This seems to be an insufficient cause, since in the very early stages of the disease the limitation of muscular movements is not enough to interfere with their nutrition. Others class it as an accompanying general emaciation. Peripheral nerve-lesions are held accountable by some observers, while still others claim that the toxin of tuberculosis, even in small quantities, is sufficient to cause structural changes in the anterior horn cells of the spinal cord. Still other observers ascribe this atrophy to changes in the bloodvessels and the blood itself.

As a final summary of the present study, Carcassonne concludes that there is to be observed as an early sign of pulmonary tuberculosis a localized atrophy of the muscles in the region of the pulmonary lesion. This atrophy is not accompanied by any deformity nor functional changes in the muscles, nor is their electrical or mechanical excitability altered. Muscular hyperesthesia does not develop. This atrophy advances with the increase of the adjacent pulmonary lesion and is of great diagnostic value by reason of its unilaterality, if the pulmonary lesion is such, and by its early onset. Its pathology is essentially nervous as to its origin, and the brunt of the structural changes is borne by the anterior horn cells. This degeneration may be explained either as due to reflex action, as occasionally to retrograde degeneration, or as a primary medullary lesion. The pathology is thus to be considered analogous to that of arthropathic muscular atrophy.

Is Genitourinary Surgery a Specialty?—Specialties multiply so rapidly that the general practitioner is in danger of becoming a mere distributing agent. Nevertheless, the progress of science must from time to time create new branches of special effort requiring special qualifications on the part of those who assume to be practical men. Twenty years ago a microscopist was supposed to investigate everything that needed microscopic investigation; today we have histologists and pathologists and bacteriologists in medicine, while outside of medicine four or five other branches of microscopic study have been specialized.

The general surgeon hates to acknowledge that any part of his field has become so highly cultivated that he must yield its care to a specialist. But the ophthalmologist, the aurist, the laryngologist, the gynecologist, and the abdominal surgeon have become recognized specialists. A few general surgeons still attempt some of the work of all these branches, but almost no general surgeon dares attempt all of the difficult feats of all these specialties.

The genitourinary tract has been the field of the most persevering study and remarkable advances in the last few years. No class of cases was more neglected a decade ago. Now few are more carefully studied. But the general surgeon has rarely done this work. In the big surgical wards of the old-time hospitals how many of us saw the utter neglect by the general surgeon of the men who had cystitis. Indeed, under the term "cystitis" were classed all of the genitourinary cases too difficult for the diagnostic ability of the general surgeon with his intense interest in trauma and his longing ambition to open the belly more times than some of his neighbors.

Instruments of precision have done much to specialize knowledge and attainments in this branch. The cystoscope requires as much skill for its proper use as does the ophthalmoscope; the urethroscope is as necessary and as difficult to use in the urethra as the laryngoscope in the throat; the lithotrite requires more dexterity and greater tactile sensibility than any other surgical appliance; the passage of a urethral sound in itself is a test of delicacy of touch which few men acquire even in a life-time. It cannot be denied that some general surgeons can use one or another of the instruments mentioned both with skill and dexterity. Few can use them all as they should be used. Special aptitude, special training, and much special work are necessary to qualify one's self for the use of these instruments as well as the mastery of methods both of study and of treatment. In other words, the genitourinary surgeon must be a specialist both in his training and his practice.

The Housing of the Laboring Classes.—The burdens of a community fall most heavily upon the poor, both absolutely and relatively, and anything done to lighten the load will be in the direction of true philanthropy. Such an effort has been successfully undertaken by the Washington Sanitary Improvement Company, a corporation that has been organized in the District of Columbia, under the auspices of the Civic Center and the Woman's Anthropological Society, for the purpose of providing neat, clean, and economic homes amid good and hygienic surroundings for families of small means. In every large city the poor are crowded into narrow, unventilated, and dark quarters, and often with a vicious and demoralizing environment, at a rental outlay that not rarely is relatively excessive. The task that the Washington people undertook to perform consisted in converting alleys into minor streets and places, and having condemned those unfit for human habitation, and the erection of

sanitary and comfortable houses on a business basis. A company was organized with Surgeon-General George M. Sternberg as president, and after sufficient subscriptions to the stock had been received a number of two-story houses were constructed, each with an independent flat on either floor, comprising a parlor, 2 bedrooms, a kitchen, a cellar and a yard. Tenants are encouraged to hold the stock of the company, and a month's rent is allowed in twelve for, or instead of, repairs. The venture has been entirely successful in every way. During the less than two years of its existence, the company has, in addition to providing desirable dwellings at moderate rental, earned and returned 5% on its capital stock, and has besides accumulated a surplus, which is applied to extending the sphere of usefulness of the society. Thus one portion of the community has been made more self-dependent and its burdens lightened, without in any way depriving any other portion or adding to its burdens. The report of the operations of the Society, which is well worth studying, has been issued from the Government Printing Office at Washington, and no doubt copies can be obtained on application to the secretary, Dr. George M. Kober.

Correspondence.

PRECOCIOUS MENSTRUATION.

By H. MacVICKER SMITH, M.D.,
of Olean, N. Y.

To the Editor of The Philadelphia Medical Journal:—

For the sake of the records I desire to report the following case of precocious menstruation:

R. I. S. Normal birth (second stage 6 hours), 9½ pounds. Menstruation on fifth, sixth, and seventh days—probably a total of half an ounce. Two months have since passed without any further flow.

PAROTITIS IN CROUPOUS PNEUMONIA.

By W. M. HOLLADAY, M.D.,
of Hampden, Va.

To the Editor of The Philadelphia Medical Journal:—

I wish to add one more instance of parotitis, complicating croupous pneumonia to the 5 mentioned by Dr. James Ely Tally in the Philadelphia Medical Journal, of March 24:

A young negro, aged 17 years, had a most severe attack of croupous pneumonia, involving the middle and lower lobes of the right lung; his temperature was 105.5° F., and cerebral symptoms marked, being almost comatose with stertorous breathing. On the seventh day of the pneumonia the temperature reached 106.2° F. (axillary) and continued as high during the eighth and ninth days. On the seventh day the left parotid gland began to swell rapidly and in a few hours was more swollen than I have ever seen it in mumps. Applications of ice-water were made continuously and on the ninth day of the pneumonia the temperature fell to 103° F. The gland had lost most of its swelling and by the eleventh day from the beginning of the pneumonia was almost normal in size; at no time was there any pus-formation.

Of the 5 cases mentioned in Dr. Talley's article the left gland was involved in 4.

Influenza may have had something to do with the above case, that disease being endemic at the time. The rise of temperature on the day of glandular involvement is interesting. At no time was there any endocardial or pericardial trouble.

Aside from the parotitis, the cerebral symptoms were peculiar. On entering the room one immediately thought of apoplexy, the stertor being so great and the breathing so irregular. The youth could be aroused to semiconsciousness only, and seemed a model case for bleeding, except that there was no hard full pulse, nor was the right heart overburdened. After the first 2 days of the cold applications to the head and chest this stertorous, semicomatose condition was much improved.

The recovery was uninterrupted.

MEDICAL REPORTS IN THE NEWSPAPERS.

To the Editor of The Philadelphia Medical Journal:—

Many years ago there was a generally observed law of our venerable code of ethics which discouraged newspaper advertising, and its violation so often led to a prompt arraignment of the offender and his punishment, that it was almost a misdemeanor even to endorse the harmless mineral waters, or to appear in print in any way.

"Mais nous avons changé tout cela," and the medical department of the newspapers has come to be a recognized and fixed institution. Before the writer is the Sunday issue of a "yellow" paper which contains a page upon the effects of alcohol upon monkeys, with portraits of the latter in all stages of intoxication, and an interview with the head of a State institution upon invaluable discoveries, and this is selected at random from a plethoric scrapbook. In one of today's newspapers is a shameless puff of a "New Marvel in Surgery" which exploits the performance of spinal laminectomy, a well-known and often repeated operation in recent years, and extols the three men concerned, commenting at the same time upon the absolute professional ignorance of other doctors who saw the patient, and whose mistakes were afterwards recognized and rectified by this trio of surgeon and neurologist and general practitioner. The recent report of a similar case has been advertised from one end of the country to the other, and it points rather suspiciously to the fact that the "story" must have emanated from one of the triumvirate. To many of us it must appear from those things that, after all, medicine has degenerated into the veriest kind of a trade and that the press agent is a necessary adjunct of the doctor. It is certain that some means of restraint are demanded by those who still cling to the old traditions of their profession, even though many did, a few years ago, advocate a modification of the old code.

M. D.

[With the foregoing letter were enclosed newspaper clippings and illustrations which show that "the hospital" or the physician must have given information,—a fact often altogether too evident in such literature.—Editor Phila. Medical Journal.]

Her Majesty, **Queen Victoria,** while staying in Dublin, visited Kilmainham Hospital for delayed soldiers, while Princess Christian paid a visit to the Mater Misericordiae Hospital. Queen Victoria remains in excellent health, but motives of prudence obliged her to decline to prolong her stay or to extend her visit so as to include Belfast.

Special Article.

WHAT BEARING HAS HIGHER PROFESSIONAL EDUCATION ON THE WORK AND WELFARE OF THE MANUFACTURING CHEMIST.*

BY JOSEPH HELFMAN.

Editor of the *Bulletin of Pharmacy.*

IF any warrant is needed for the obtrusion of a spectator's views, so to speak, upon an active professional public, it may be readily found in the fact that for twenty years the subject has sought the man, not the man the subject. For well nigh twenty years, every motive of personal interest and official duty, in various capacities, has prompted me to acquire, or at least to seek, an acquaintance with the tendencies of medical and pharmaceutical education, the convictions, the sentiments, the needs of daily practice, nay, the very fashions and caprices of the two kindred arts.

Looking back over the stretch of almost two decades to the callow days of my experience—the days of skin-deep observation and careless inference—I will recall, among the beliefs which the subject years have at least modified, the notion that the welfare of the manufacturing pharmacist depended less on the enlightenment than on the blind faith of medical men in medicinal preparations. In that view I had plenty of company. To this day manufacturing pharmacists may be heard contending that it is the unschooled doctor who pours medicine by the gallon into the bodies of his patients; that the heavy consumer of the pharmacist's products is the naive practitioner whose faith in drug-treatment is beyond all assault; that with much knowledge cometh much unbelief; that the highly educated and accomplished physician is the more apt to be a therapeutic nihilist, distrustful of drugs and not indisposed to parade a cynical depreciation of drug-therapy; and that the advance of higher professional education must infallibly curtail the use of the plant and mineral substances which constitute the pharmacist's stock in trade.

I will not say that this is a false view, but it sounds so well that I am suspicious of it. When a statement which contains only a half truth is made with great energy and emphasis, the hearer is often impelled to state the other half of the truth with equal dogmatism. If the real allies of the manufacturing pharmacist be indeed the undiscriminating enthusiasts and the blind devotees of drug-remedies, he may at times pray to be delivered from his friends. In truth, the worst foe of drug therapy may be the physician addicted to profuse, extravagant and routine medication. Excessive drugging is a powerful and pernicious means of discrediting drugs. Failure and disaster are sure to follow in its train, and from unbounded faith to unbounded disappointment and unbelief it is only a step. Just as surely as action and reaction are equal and opposite, so surely does the injudicious or immoderate employment of medicinal preparations in general practice engender a distrust of galenical remedies, and this quickly exhibits itself in a lessened consumption. Drugs are sometimes abandoned from excess rather than from failure to command a trial. Theapeutics, like theology, has its superstition and its incredulity; the one begets the other; they are the universal correlatives; and the irrational frame of mind which leads men to believe everything is little removed from the equally irrational mood in which men believe nothing.

At all events, let us not reject the view that if the large consumer of medicinal preparations is the friend and benefactor of the manufacturing pharmacist, so likewise is the trained, cultivated and enlightened physician who uses his drugs judiciously, who is the master and not the slave of medication, who commands the fine art of wisely combining his remedies, who possesses the gift of sifting evidence, who dreads and despises wild generalizations, and whose final testimony establishes the properties, uses and status of the given remedy. His present consumption of medicine may be comparatively small, but it is sure, stable and permanent. It is, moreover, a beacon to the eye and a guide to the feet of his colleagues; and in the multiplication of such men is indissolubly bound up the future welfare of manufacturing pharmacy.

The erroneous conviction that the steady advance of higher, sounder and better medical education may work detriment to the interests of the manufacturing pharmacist, leaves out of account, moreover, the heavy losses annually inflicted on all the manufacturing houses by the immense demand for ready-made combinations. I refer not only to proprietary preparations, but also to the formulae marketed under correctly descriptive names in the form of pill, tablet, elixir, etc. It is the common mistake to suppose that the "enterprise" of the manufacturing pharmacist is alone responsible for the bewildering multiplication of ready-made compounds. Nothing could be farther from the truth. The manufacturing pharmacist is not the creator, but rather the creature and the victim of the existing demand. These formulae are called for by the profession, and they must be supplied. Simply to keep his line complete, and be in readiness to supply the occasional want, the manufacturer is forced to lumber up his catalog with countless combinations in slender demand. Examine the price list of any manufacturer and note the wealth and variety of its contents. Now, is it to be supposed for a single moment that all these diverse preparations command a large sale or yield a fair profit on the invested capital? Not one-half of them! Observe the various classes or "lines" of medicinal preparations—fluid extract, solid extract, pills, tablets, elixirs, etc.—and then give due weight to the facts that the really staple and profitable formulae are in the minority; that every manufacturer applies the pruning knife to his overgrown list at least once a year, discarding the less salable items; that on the majority of his products, owing to the disproportionate cost of a small output, the manufacturer either makes no profit or suffers an actual loss; and that it is the popular minority which yields his entire revenue besides bearing the brunt of unremunerative investments made necessary by the demands of the physicians who expect the manufacturer to meet every emergency—to provide not alone the staple but the occasional and exceptional remedy as well. Were it not for the fear of lessened *prestige* and patronage, there is not a manufacturing pharmacist in the country who would not gladly disencumber his catalog from its large proportion of little used compounds—compounds which drain his capital, reduce his income, multiply the detail of his work, and, dragging like so much dead weight, impede alike his commercial development and his progress along truly scientific lines.

Higher medical education will reduce this burden of loss to the manufacturer by weeding out many of the ready-made compounds. Higher medical education will mean, as it has already exhibited, a severe and thorough training in the oft-slighted yet vital science of therapeutics. Higher medical education will complete the task it has so ably begun of training its disciples to depend upon their own resources for the selection of drugs, to acquire correct and wholesome ideas of combining and prescribing remedies, to seek their therapeutics and their materia medica anywhere save in the manufacturer's price list. In the process of eliminating from professional use many overvaunted drugs and many of the strange, motley combinations which often afflict the eye in the manufacturer's catalog, higher medical education is bound to work havoc with the drug-fetich wherever it is encountered. The manufacturing pharmacist will naturally suffer some loss and inconvenience in adjusting himself to the new conditions, but his ultimate gain will be certain and large.

That this commendation of higher professional education smacks somewhat of the counting room—that it suggests less a disinterested enthusiasm than a careful balance of interests, I readily admit. But I am more concerned for the truth and the cogency of my argument than for the beauty or the elevation of my sentiments. I must abide by subject and text. Suspicion justly attaches to the high-soaring ideals which have advantages annexed. The immoral creators of Tartuffe and Joseph Surface have taught us, with Sir Peter Teazle, to be wary of "fine principles." In the eyes of keen, shrewd practitioners the manufacturing pharmacist only discredits higher professional education when he pretends that he loves it "wholly for itself."

But there remains to be considered the most important phase of the entire subject—one which will indeed

* An address delivered at the annual reunion of the Alumni Association of the Buffalo College of Pharmacy, April 27, 1900.

permit the manufacturing pharmacist to lay aside the language of cold calculation—one which is capable of kindling every forward-reaching hope, every generous ambition of which his life is susceptible. Partly from the instinct of an aggressive enterprise, partly from compulsion, the manufacturing pharmacist is now entering into a new domain of original research and investigation along biological, pharmacological, and chemical lines. The "compulsion" lies in the fact that commanding reputations can no longer be created or sustained in this day and generation by an ability to manufacture—quinin pills. The pharmacist in search of a halo must seek it with other aids than an "elegant" elixir. The ordinary untested fluid-extract fills no one with awe and admiration. A chocolate coated tablet confers no crown of glory. The ready-made compound whose formula has recently emerged from the fitting obscurity of a prescription file brightens the luster of no "scientific department." These things, representing the crude achievements of early manufacture, have had their day as sources of reputation, but the medical profession is now, happily, more severe and exigent in its standards. Its applause for scientific enterprise must be arduously earned by genuine research worthy of the same, by the solution of real problems relating to the chemical composition and the pharmacological action of drugs, by the elaboration of remedies suited not to the fancied but the true and pressing needs of medical practice. That this high office may be worthily filled the pharmaceutical manufacturer has provided research laboratories, superior to those of our foremost universities, with scarcely an exception. The investigations there pursued deal with problems both practical and abstruse; in their results they constitute the fine flower of American pharmacy; and the power with which they appeal to medical practitioners is exactly measured by the intelligence and cultivation of the professional audience. The destiny of American pharmacy is bound up and conditioned in research: through research alone will be won the laurels and successes of the future; and for the incentive, the spur, the motive power, the crowning reward of all investigations in the pharmacist's laboratory, where in the wide world is he to turn, if not to the highest scientific culture of the kindred professions? With every advance of higher professional education will be multiplied the circle of accomplished physicians and pharmacists who are capable of valuing and inciting the manufacturer's best work. At every step in the triumpant progress of higher medical education will be seen a thinning in the ranks of illiterate and half-schooled to whom modern medical truth is so much Sanskrit, to whom research-work appeals in vain, to whom the brilliant discoveries of biology are a delusion and a snare, to whom serumtherapy is a mad worship of "putrid horse-blood" owing its efficacy to the preserving grace of "its carbolic acid!" Higher professional education—original research in the domain of higher pharmacy—these are the parallels and correlatives of the future; and as the former prevails, the latter must needs come to its reward.

Having so far spoken wholly from the view-point of the manufacturer, I hope I may be permitted in these concluding lines to express my deep and warm admiration for those generous spirits among American teachers and writers and investigators, who, holding their profession to be the noblest of human callings, are battling for its best and highest welfare.

The New York Juvenile Asylum has been successful in its endeavor to compel the Commissioner of Charities to pay the amount of $110 a year allowed by the municipality for the maintainance of each child cared for by that institution who has been surrendered by his parents. The city allows a like sum for all children, but the Commissioner declined to pay the amounts due in the case of four children who had been surrendered by their parents for a term of years, on the ground that the terms for which they had been surrendered had expired. Justice Leventritt of the Supreme Court has handed down a decision, directing the Commissioner of Charities to certify that the requirements of the State Board of Charities have been complied with. He holds that the New York Juvenile Asylum has complied with the law.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Meetings of Philadelphia Medical Societies for the week ending May 19:

Wednesday, May 16—College of Physicians, Section on Laryngology and Otology.

Thursday, May 17—College of Physicians, Section on Gynecology.

According to the will of the late Mary Baker $5,000 are bequeathed to the West Philadelphia Hospital for Women, to endow a free bed.

Medico-Legal Society, Philadelphia.—At the regular quarterly meeting held last week, Dr. J. Madison Taylor read a paper on **Hypnotism and its medico-legal aspects.**

Philadelphia Hospital.—Dr. Herman B. Allyn and Dr. David Riesman have been elected visiting physicians to succeed Dr. Samuel Wolfe and Dr. Frederick A. Packard who recently resigned.

The Annual Dinner of the Jefferson Medical College Alumni Association will be given at the Art Club, May 14, at 7.30 o'clock. The guests of honor on this occasion will be Dr. Francis X. Dercum and Dr. J. Chalmers Da Costa, the newly elected members of the faculty.

Franklin Free Dispensary, Philadelphia.—At a meeting of the representatives of the Beth Israel Hospital Association and the Franklin Free Dispensary, at No. 236 Pine Street, recently, the two organizations were united under the name of the latter. The building in which the meeting was held will be the future home of the dispensary. It was formally dedicated. Addresses were made by Rabbis S. E. Englander, A. H. Eshler, and B. Leventhal. Dr. Max Stern, Dr. Isadore Koch, Dr. Marcus Belber, Gutman Kline, Dr. Rachael Skidelsky and others interested in the movement were present. Provision was made for the maintenance of twenty beds, and several subscriptions for general purposes were received.

Associated Health Authorities and Sanitarians of Pennsylvania.—The seventh annual meeting, being the eleventh State Sanitary Convention of Pennsylvania, will be held at Mechanicsburg on May 23, 24, and 25. At the first session the report of the Executive Committee will be presented by Dr. Benjamin Lee, secretary of the State Board of Health. A paper on "School Hygiene" will be read by Professor A. J. Beitzel, principal of the Mechanicsburg schools. C. Herbert Obreiter, of Lancaster, will read a paper on "The Rural Director as a Health Officer." Discussion will be opened by Miss Dora Keen, of this city. At the evening session Professor A. C. Abbott, bacteriologist to the Board of Health of this city, will make an address.

The second day's session consists mainly of the reading of papers on rural hygiene. The third day will be devoted to visiting the Indian School at Carlisle and the battlefields at Gettysburg.

College of Physicians of Philadelphia and the Philadelphia Neurological Society.—A joint meeting, held April 20, was devoted to a discussion of the fifth pair of the cranial nerves in their neurological and surgical aspects. The following papers were read:

"Peripheral Resection of the Fifth Nerve," by Drs. W. W, Keen and W. G. Spiller; "Pathologic Report on Two of the Gasserian Ganglia Removed by Dr. Cushing," by Dr. W. G. Spiller; "Microscopic Studies of Gasserian Ganglia," by Dr. L. F. Barker, of Baltimore; "The Natural History of Tic Douloureux, with Some Observations on Treatment," by Dr. C. L. Dana, of New York; "On a Method of Total Extirpation of the Gasserian Ganglion by an Infra-Meningeal Route, through the Temporal Fossa, with a Report of Four Cases," by Dr. H. W. Cushing, of Baltimore; "Method of Exposing the Gasserian Ganglion: Removal of the Superior Maxillary Nerve," by Dr. G. G. Davis; "Endothelioma of the Gasserian Ganglion; Two Successive Resections of the Ganglion; First, by the Extradural (Hartley-Krause) Operation; and, Sec-

ondly, by an Intradural Operation," Clinical Report by Dr. F. X. Dercum, Surgical Report by Dr. W. W. Keen, Pathological Report by Dr. W. G. Spiller; "Contribution to the Surgery of the Fifth Nerve," by Dr. Robert Abbe, of New York; "Contribution to the Surgery of the Fifth Nerve," by Dr. L. McL. Tiffany, of Baltimore.

Vital Statistics of Philadelphia for the week ended April 28, 1900:—

Total mortality		618
Diseases.	Cases.	Deaths.
Pneumonia 120, congestion of the lungs 7,		127
Pulmonary tuberculosis		54
Marasmus 18, inanition 13, debility 5		36
Heart-disease 23, fatty degeneration of the heart 8, neuralgia of the heart 2		33
Nephritis 24, uremia 9		33
Inflammation of the brain 20, congestion of the brain 5		25
Apoplexy 12, paralysis 9, softening of the brain 4		25
Convulsions 24, epilepsy 1		25
Diphtheria 21, membranous croup 2	70	23
Influenza		19
Senility		18
Typhoid fever	74	18
Gastroenteritis		16
Scarlet fever	68	6
Cerebrospinal fever	2	
Peritonitis 9, carcinoma 7, erysipelas 6, cirrhosis of the liver 5, cyanosis 5, hepatitis 5, asthma 4, casualties 4, intestinal obstruction 4, suicide 4, burns and scalds 3, cerebral hemorrhage 3, pertussis 3, anemia 2, aneurysm 2, parturition 2, pulmonary hemorrhage 2, laryngitis 2, jaundice 2, rheumatism 2, sarcoma 2, ulceration of the stomach 2, dropsy 2, atheroma 1, gallstones 1, drowned 1, appendicitis 1, cystitis 1, pleuritis 1, locomotor ataxia 1, poisoning 1, arteriosclerosis 1, trauma 1, tumor of the brain 1.		

Vital Statistics of Philadelphia for the week ended May 5, 1900:

Total mortality		517
Disease.	Cases.	Deaths.
Pneumonia 77, congestion of the lungs 2		79
Pulmonary tuberculosis		57
Nephritis 25, uremia 15		40
Heart disease 26, fatty degeneration of the heart 2, neuralgia of the heart 4		32
Marasmus 15, inanition 12, debility 5		32
Convulsions		26
Apoplexy 13, paralysis 10, softening of the brain 2		25
Diphtheria 20, membranous croup 3	86	23
Inflammation of the brain 19, congestion of the brain 1		20
Carcinoma 18, sarcoma 1		19
Measles		18
Gastroenteritis		15
Bronchitis		14
Senility		14
Casualties 10, burns and scalds 2		12
Typhoid fever	79	8
Scarlet fever	78	6
Smallpox	1	
Influenza 8, peritonitis 7, pertussis 7, septicemia 6, cirrhosis of the liver 5, diabetes 4, drowned 3, pulmonary hemorrhage 3, alcoholism 2, cyanosis 2, dysentery 2, erysipelas 2, appendicitis 2, pericarditis 2, suicide 2, locomotor ataxia 2, pyemia 2, arteriosclerosis 2, abscess of the lung 1, abscess of the stomach 1, asthma 1, anemia 1, atheroma 1, congestion of the liver 1, disease of the liver 1, gastric hemorrhage 1, uterine hemorrhage 1, hernia 1, cystitis 1, cecitis 1, hepatitis 1, pleuritis 1, spondylitis 1, intestinal obstruction 1, pulmonary edema 1, rheumatism 1, spinal sclerosis 1, surgical shock 1, traumatic tetanus 1, ulceration of the stomach 1.		

Woman's Medical College of Pennsylvania.—The commencement will be held in the American Academy of Music on May 16, and this will be the first day of the celebration of the fiftieth anniversary of the College. On account of the importance of the occasion, effort has been made to secure an especially good program. In lieu of the usual address to the graduates by a member of the Faculty, one of the most distinguished alumnae of the College, Dr. Mary Putnam Jacobi, of New York, will perform that office. The other main speaker will be His Excellency the Chinese Minister. One feature of the occasion will be the presentation by the alumnae and the acceptance by the corporators of the portrait of Dr. Ann Preston, the first woman to hold the position of dean in the College, and the moving spirit in the founding of the Woman's Hospital of Philadelphia. A detail of reminiscent interest in the commencement exercises will be the presence as stage usher of Miss Susan Rogers Corson, now a student of the College, who is a niece of Dr. Hiram Corson, long the heroic champion of the cause of the medical woman. On the evening of commencement day a reception will be held at the College, and for this a larger number of invitations than usual will be issued; it is expected that the medical profession especially will be represented. The main building of the College and the new laboratory building will be thrown open for the inspection of guests. The Alumnae Association will omit the usual sessions at the College building, and will hold its meetings, occurring on the 17th and 18th, in the New Century Drawing-room. In place of the customary exercises, which consist mainly of papers on medical subjects, the sessions will be occupied by the reading of papers from different parts of the United States and from foreign countries on the status of women in medicine. These meetings will be of general interest and will be open to the public. Among those whose papers are already in hand are the following: Dr. Aletta Jacobs, Amsterdam, Holland; Dr. May Thorne, London, England; Dr. Anna M. Fullerton, India; Dr. Kosakovitch-Stefanosky, St. Petersburg, Russia; Dr. Ellen Sandelin, Stockholm, Sweden; Dr. Marie Renotte, Sao Paulo, Brazil; Dr. Anne Walter-Fearn, China; Dr. Emily Blackwell, New York City. It will be seen that a distinctive feature of the occasion is its international character.

The Alumnae will hold their supper in the large gymnasium of the new laboratory building of the College on the evening of the 17th, and on the afternoon of the 18th, the managers of the Woman's Hospital will give them a reception.

Pittsburg (Pa) Academy of Medicine.—At a meeting, held March 19, DR. I. G. SIMONTON reported two cases of **cerebrospinal meningitis,** and in reply to questions said that lumbar puncture had not been done, and that the children had not been playing about stables. DR. G. L. HAYS reported a case of **general suppurative peritonitis** following appendicitis in a boy, with recovery. Operation was done 8 hours after rupture of the appendical abscess, with a pulse of 160. The peritoneal cavity was flushed clean of pus and drained with iodoform gauze. DR. E. W. DAY reported a case of **epithelioma** apparently originating in the external auditory canal. The patient had had chronic otitis media and her physician had been using silver nitrate, 60 grains to 1 fluidounce, as a local application. The growth had ulcerated through the cartilage of external meatus, which was closed. The tumor was removed by an extensive operation, and the patient recovered. It was later discovered that a neoplasm of the cervix uteri was present, the nature of which is being investigated. Dr. Day also reported a case of **large fibrous tumor** completely filling the nasopharynx. Operation had been attempted 6 times. It was successfully removed, the incision being similar to that used for removal of the superior maxilla, but extending across the base of the nose, which was turned up. Hemorrhage was profuse and a tumor was found attached to the sphenoid and vomer. DR. F. F. SIMPSON had seen Dr. Day's cases, and referring to the second one leaving the palate intact, as was done here, is a very important point. DR. LITCHFIELD stated that some famous surgeon has said: "When a malignant growth is suspected anywhere, always examine the uterus and rectum before operating," and it is good advice. DR. J. D. SINGLEY reported a case of **carcinoma of the mammary glands with glandular involvement** in a woman of 25, and remarked upon the value of Kocher's transverse incision for tubercular glands of the neck. He reported a case presenting a mass extending from just below the tips of the mastoid to the clavicle, that was thoroughly removed by a single transverse incision a half-inch above the clavicle. DR. LITCHFIELD reported a case of **malignant tumor of the omentum** found to be nonoperable after incision. Also a case of **enlarged testicle** with typical constitutional appearance of tuberculosis which refused

operation 5 years ago, but still lives. Dr. F. F. Simpson referred to a case operated upon in 1890 by a distinguished surgeon for tumor of the liver. It was pronounced malignant and the abdomen closed, but the patient is apparently in good health to-day. Dr. E. S. Montgomery opened a **symposium on anesthetics** by speaking of their use in general surgery. He uses ether entirely in hospital practice, but in private practice may use chloroform. Ether is much the safer agent if properly given. With proper precautions he had never seen any bad results. Pneumonia is supposed to be due to ether at times, but he was not inclined to accept this as true. It is more likely due to the sudden change of temperature from operating room to hall. Dr. E. W. Day followed by speaking on **anesthetics in operations** on ear, nose and throat. He stated that in his practice ether had been gradually supplanted by chloroform and he thought results in this line of work were much better in consequence. He now uses chloroform exclusively. However, the man who gives the anesthetic is a most important factor, and good anesthetists are scarce. Dr. Litchfield spoke on **anesthetics in obstetrics.** He nearly always uses one and prefers chloroform, except in prolonged anesthesia when ether is given. He had never seen the report of an accident. These agents are frequently given too soon and in excess. Dr. Elterich spoke on **anesthetics in children.** There are two important factors to consider,—the general physical condition and the reaction on a very susceptible nervous system. The relative safety of the two agents commonly used is much the same as in adults. Shock is generally more marked in children. Ether can be as readily and safely given to infants as chloroform, notwithstanding the prevalent opinion to the contrary. In discussion, Dr. J. I. Johnston said he was opposed to the A. C. E. mixture, as we do not know what we are using. A single anesthetic is much more preferable. He thought that the younger class of general practitioners, having usually had hospital experience, were very competent to give an anesthetic. An important point often disregarded is to avoid meddling with the anesthetizer. Dr. E. B. Heckel spoke of a method he had seen mentioned but never tried, in which an Esmarch bandage is applied to all four extremities close to the trunk befor anesthesia is begun. It is said to require less anesthesia and when the bandages are taken off the patient recovers more promptly. In general, it is not so much what we use but how we use it. Dr. Simpson thought the quantity used was of great importance. Dr. Litchfield inquired if the eye is often effected locally by the anesthetic falling on the eyeball, thus causing reflexes to be abolished by direct action. Dr. Heckel replied that he did not think it had any effect other than that of a local irritant. Dr. Thompson referred to the administration of anesthetics per rectum.

Pittsburg (Pa.) Academy of Medicine.—At a meeting held April 16, Dr. Robert Milligan reported a case of **cyst of the inferior maxilla** containing a viscid material and the root and crown of a tooth, not connected. Dr. E. W. Day presented an incus and malleus removed from a child for **chronic otitis media.** Dr. J. C. Dunn reported the case of a man with a large **epithelioma of the back of the hand,** who also had a tumor of the bladder which he considered of the same nature. Dr. Day said that the uterine disease in his case would not have caused death for 3 years, while the condition for which operation had been done, he thought, would have proved fatal in 6 months. However, he was not aware of any other disease at the time of operation. Dr. R. W. Stewart reported a case of **complete rupture of the urethra** produced by a crushing injury, the force being applied to the sides of the pelvis. This caused an overlapping dislocation of the pelvic bones at the symphysis, but it is difficult to explain how the urethra was ruptured. External urethrotomy must be resorted to in complete rupture, and in his practice he has given up attempting to locate the proximal end of the urethra by dissection—a most difficult matter. After a sound is passed down to the site of the rupture and cut down upon through the perineum, a suprapubic cystotomy is done and a sound passed from the bladder through the urethra and into the incision in the perineum. Each end of a piece of rubber tubing is then fitted onto the points of the two sounds projecting into the wound and both sounds withdrawn, leaving one end of the tube in bladder and the other projecting from the meatus where it is fixed. Dr. W. H. Kirk read a paper on the **Treatment of epilepsy by the ophthalmologist** with report of a case. The patient had had from one to three convulsions per week for 2 years. Since September, 1898, when she was refracted she has had 3 convulsions, and these occurred during the first few weeks following the correction of the refractive error. In discussion Dr. Joseph E. Willets said that if the convulsions were due to an organic lesion refraction would be of no value; if due to a functional disturbance it may be of some value. It is important to remember that every convulsion is not epilepsy, and he has serious doubts as to whether Dr. Kirk's case was one of epilepsy. Dr. Litchfield said that with the exception of Jacksonian epilepsy, ordinarily epilepsy was not considered to be due to an organic lesion. He mentioned a case which completely recovered after the removal of hypertrophied tonsils 9 years ago. Dr. Walker said that the most patent factor in epilepsy is predisposition, and in such individuals any source of irritation is capable of producing such convulsions. He inquired if the family history in this case would lead one to suspect such a predisposition. Dr. Kirk replied in the negative, and said that he undoubtedly considered his case one of epilepsy.

NEW YORK.

Smallpox in New York.—A number of cases of smallpox have recently developed in the upper section of New York city, particularly among the colored people in West 137th Street and West 146th Street.

A New Superintendent for St. Luke's Hospital.—The vacancy left by the retirement of the Rev. George S. Baker from the position of pastor and superintendent, which he has filled for so many years, has been filled by the appointment of the former assistant superintendent, Rev. George F. Clover. A by-law of the hospital makes it obligatory to appoint a clergyman, and it is said that this selection meets with general approval.

Fire Among the Randall's Island Institutions.—On the night of May 3 a fire broke out in the Industrial School on Randall's Island, and caused a good deal of excitement among the many little inmates of the adjoining building, notably in the Children's Hospital and in a small reception house situated quite close to the burning building. The school itself was a one-story frame building, and was burned to the ground, but the flames were prevented from spreading farther.

A Change of Name and Fortune.—Dr. Evan Barker Jones, of Brooklyn, with his wife and three children, has petitioned the Court to change his family name. Judge Aspinall authorized them to be known by the name of Barker after May 26. They take the name because Dr. Jones' granduncle, Gilbert Barker, formerly a wealthy physician of Thorley, England, made a will, by the terms of which the nephew could not have an estate of $200,000 unless willing to assume the old doctor's surname and bear his coat of arms.

Bath Soldiers' Home Bill Signed.—The Governor has signed the bill exempting this Home from the supervision of the State Board of Charities. In so doing he explained that it was in accordance with the well known policy of the Nation and State to differentiate between these old soldiers and the other wards of the State, and that it was in no sense a reflection on the State Board of Charities. That Board had, by virtue of the constitution, the power of visitation, and the effect of the new law would be "merely to take from the Board of Charities such power of management and control as it now possesses, if any, not included in the power of visitation and inspection conferred upon it by the Constitution."

Another Spinal Operation.—Another well-known young athlete has looked to surgery to relieve him from a pitiable condition of paralysis. The young man is Bache McE. Schmidt, and he has been paralyzed, and growing worse, since 1897. When the operation was decided upon recently by Drs. Robert Abbe, C. L. Dana and E. P. Fowler, his lower extremities were so markedly and rigidly flexed

that his heels nearly touched his hips. Dr. Dana located the pachymeningitis at the junction of the cervical and dorsal regions, and at the operation it was found that the inflammatory exudate, which was responsible for all the trouble, extended along the three lower cervical and the three upper dorsal vertebrae. The immediate result of the operation was satisfactory.

Medical Missionaries.—At the recent Ecumenical Conference held in New York, there was a long discussion on the qualifications of medical missionaries, and as to the best method of educating natives for this work. Dr. Grace Kimball, now one of the physicians at Vassar College, but formerly a missionary in Turkey, opened the discussion. She deprecated the tendency to call on medical missionaries to be both physicians and evangelists, and protested against missionaries being educated in medical work. The medical missionary, in the best sense, was the one who preached without opening the lips. On the other hand, Dr. Carlton, took the ground that the medical missionary should be first a missionary, or evangelist, and then a physician. Among those who discussed the broader subject of education of the natives for such work, the opinion seemed to prevail that it was inexpedient to send the natives to foreign countries for such training, and that, for the present at least, only a rudimentary medical education—one stripped from many of the refinements of modern medical science—was the best.

A Shake-up Among Superintendents of Hospitals for the Insane.—The Burnett Bill, which has just become a law, makes some radical changes in the hospitals for the insane in this vicinity. In the first place, it legislates out of office four physicians whose names have been intimately associated with the insane, viz., Dr. A. E. Macdonald, General Superintendent of the Manhattan State Hospital on Ward's Island; Dr. Oliver M. Dewing, General Superintendent of the Long Island State Hospital at King's Park, Long Island; Dr. Robert M. Elliott, Medical Superintendent of the old hospital at Flatbush, and Dr. Herman C. Evarts, Medical Superintendent at King's Park. The new law also contemplates dividing the Manhattan State Hospital into three divisions, the male and female sections on Ward's Island, and the colony at Central Islip. Similarly the Flatbush buildings will hereafter be known as section one, and those at King's Park as section two of the Long Island State Hospital. Until these new arrangements can be effected, it is understood that the present superintendents will retain their positions.

The Training of Nurses.—The superintendents of training-schools for nurses, a body of more than one hundred women representing the largest hospitals in the country, closed a three days' session in New York City last week. The chief subjects discussed by them were the extension of the course of study to three years instead of two (fifty hospitals having already done so), and the practicability of giving up the monthly stipend to pupil nurses, and giving instead uniforms and textbooks which the money was supposed to buy, using the funds thus saved by the hospital for enlarging the work of the schools, furnishing outside bedcovers, etc.

An address was given by Dean Russell, of the Teachers' College. The subject of a periodical was under discussion. Before adjourning, the Army Nursing Bill, which failed to pass in the United States Senate last week by one vote, was brought before the society again, and the following resolution was passed unanimously:

Resolved, That this society strongly endorses the principles set forth in the Army Nursing Bill recently brought before Congress, and pledges itself to use every effort to further the objects therein set forth.

"A Field for Missionary Enterprise."—Add to all these evidences that New York is mainly inhabited by persons who are "a soft mark" for any impostor who happens along, no matter how wild his claims may be, the fact that its newspapers fairly teem with advertisements of "divine healers," "magnetic doctors," and "thought physicians," who offer to cure anything and everything by "secret methods," known only to themselves, and the picture is about complete. One of the bolder of these medical adventurers, who has recently been put under arrest, published startling pictures, in which his imaginary establishment was shown surrounded by two human processions, one going in at the front door on crutches and in various postures of pain, the other streaming out with athletic strides, completely cured by "self-reliance," and "divine healing." There is little hope, notwithstanding the activity of the police, that New York will cease to be the paradise of charlatans. The remedy must go deeper. It is a case for popular education and enlightenment on a grand scale. If we were not so busily engaged thinking out schemes for improving and elevating the Filipinos, New York City would surely attract more attention as a field for missionary enterprise.—[*The Baltimore Sun.*]

A Dinner to Dr. A. Jacobi.—The seventieth birthday of Dr. A. Jacobi was celebrated on the evening of May 5, by a banquet given at Delmonico's by over 400 of his friends and admirers, including not only members of his own profsssion, but many prominent laymen. Dr. Joseph D. Bryant presided, and among the speakers were Carl Schurz, Seth Low, President of the Columbia University, Dr. W. H. Thomson, Dr. William Osler, ex-Mayor William L. Strong, Charles S. Fairchild, John S. Kennedy, Dr. William M. Polk, D. S. Lamont, Edward M. Shepard, J. W. Keller, Joseph Laroque, Dr. Rotch, Dr. W. H. Welch, Dr. John S. Billings and Professor William Chandler. Dr. Jacobi came to this country nearly fifty years ago, and very soon identified himself with that particular branch of medicine, the diseases of children, in which he was destined to become so famous. Since 1870 he has been clinical professor in that department of the College of Physicians and Surgeons. An interesting feature of the entertainment, and one especially novel to most Americans, was the presentation to Dr. Jacobi of the "Festschrift," a book of nearly 500 pages. containing a compilation of medical articles by eminent French, German, English, and Spanish writers. The preparation of this work, which bears the title, "International Contributions to Medical Literature," has occupied a good part of one year, but those who planned this splendid souvenir were enthusiastic in their work, believing that this is the first time that this European custom has been introduced into this country. It is understood that an edition of 1,000 copies will be distributed among the libraries and physicians of the country.

An Interesting Case of Loss of Memory.—A law student of 19 suddenly lost his identity, and found himself wandering in the streets of what he considered to be a strange city. He asked people in the street if they could tell him who he was, and went to the libraries and hotels to search in the newspapers for stories of missing persons in the hope that he might get some clue as to his identity. He spent three evenings at the Mills Hotel, having been directed thither by a policeman who thought he was a homeless man. After five days of wandering, searching, and anxious questioning he finally entered a police station, and provoked the mirth of the sergeant on duty by requesting the officer to tell him who he was, and in what city he was. At length he reached Police Headquarters, and there requested that a search be made of the record of missing persons. When this was done it was found that there was a description tallying closely with his appearance. The name was George Ridderband, and though the boy started when he heard the name read off, he forgot it almost instantly. A detective was sent with the boy to the address given, where the wanderer was received with great demonstrations of joy by his mother and sisters. To their astonishment the young man thanked them in the most formal manner for their great kindness, but assured them that he did not know them or the place. The mother told the police that he was a somnambulist and had left home before while asleep. In his pocket was a diary in which he had entered the details of his strange experience since the time he left home and forgot who or where he was. His physicians state that this attack of amnesia is gradually passing off, and that while he shows memory of other events in his past life, any reference to himself seems to be the signal for another lapse of his memory. He writes intelligent answers to certain questions, and a few moments later denies any knowledge of having done the writing.

To Keep Up Prices of Patent Medicines.—The patent medicine men, in conference assembled under the dignified title of "The Proprietary Association of America," have declared solemnly and emphatically that it is high time that the present tendency in some quarters to cut prices on

their wares shall be stopped. They have, therefore, adopted a resolution, which was concurred in by the National Wholesale Druggists' Association and by the National Association of Retail Druggists, providing that wholesale dealers and jobbers shall not sell proprietary medicines to any aggressive cutter of prices. The members of the first named association agree to limit their sales to the list of jobbers and wholesalers prepared by the joint committee. It is hoped by thus cutting off the supplies of the rate-cutters to bring them into line with those who do what is considered to be a more legitimate business. What shall constitute "an aggressive cutter" is to be determined by a three-fourths vote of the retailers in the district in which the alleged aggressive cutter does business. One of the "aggressive cutters" stated that he would pay no attention to this action of the associations, and declared that his business was comparable to that going on all the time in the book trade—that, in other words, he was content with 10% profit, while most retail druggists expected 25 to 33% profit on all proprietary medicines handled by them. In this connection it is noted that the "righteous" indignation of such philanthropists as "Professor H. H. Munyon" has been aroused over the government's obduracy in continuing to levy the war tax on proprietary medicines, and he is quoted as saying: "It is unjust to make the poor and ill continue to pay doubly for their medicines. The manufacturer is not the one who pays it; it is the consumer. We hope to have the matter taken up at once by the President and Congress."

Contagious Diseases in the Schools.—Mr. Virgil Prettyman, Principal of the Horace Mann High School, has sent an open letter to the daily papers in which he asserts that the Board of Health has been very remiss in the matter of reporting to the schools cases of contagious disease. He charges that out of 20 cases of measles in his own school, only 3 had been reported to him by the Board of Health, and only 2 out of 7 cases of scarlet fever. He goes on to say that he has never received notice concerning pupils ill with whooping-cough or chickenpox. At least 8 cases of measles had occurred during April and 6 in March. Mr. Prettyman explains that he would not have resorted to this mode of bringing the matter to the attention of the proper authorities had it not been that he had been protesting over the telephone for 2 years, and his protests had been utterly disregarded. Dr. F. H. Dillingham, Assistant Sanitary Superintendent for the Borough of Manhattan, on reading this complaint, began an investigation immediately, and as a result, expressed the opinion that there was but little in the complaint. He contended that some of the cases had been reported, while others had not been measles, but German measles, a disease which physicians are not required by law to report. Dr. Dillingham also maintains that there is no law which compels the Health Department to notify principals of schools regarding cases of contagious disease occurring in the families represented at the schools, but adds that the board voluntarily undertakes this work in the interests of public health. Every day at noon a messenger is sent to the offices of the Board of Education with a list of the cases of contagious disease reported, and their locations. The list is revised by the Board of Education and then notifications are sent to the principals of the public schools. In addition the inspectors of the Health Department notify the principals directly by postal card of all cases of contagious disease brought to their notice. When all danger has passed, the principals are notified, and the child is allowed to return with a certificate from the Health Department.

The Buffalo Academy of Medicine—Section of Surgery.—At the meeting held May 1, DR. ARTHUR G. BENNETT read a paper entitled **Fitting glasses on children,** in which he severely censured those who allowed strabismus in the young to go without attention, as in the majority of cases it was due to refractive errors, the correction of which would remedy the squint and prevent the train of symptoms following such uncorrected conditions. He objects to the teaching that still prevails that the child "will outgrow it," that correction should be attempted only after the child can read, and that the child is liable to hurt himself with the glasses. He believes that the time to operate, if indicated, is early, while the squint is periodic, thereby preserving binocular vision and conserving the sight of the squinting eye. He quoted statistics to show that concomitant convergent squint begins before the child is four years of age. He reviewed the reflex conditions accompanying eyestrain in childhood and stated that functional disturbances are usually accompanied by hyperopia or hyperopic astigmatism. He dwelt upon the advantages of the present objective methods of examination in the determination of these errors; and believes that an early correction by the use of proper glasses will prevent operative interference. He takes the position that the rational procedure is to correct the refractive error as soon as any evidence of eyestrain becomes manifest and put the child in a position to use the eyes easily. He thinks a child of 2 years none too young to wear glasses, and he related several cases with good results in which he had fitted glasses at about this age. He concluded his paper as follows: (*a*) "That convergent squint in the vast majority of cases in childhood is due to hyperopia and hyperopic astigmatism; (*b*) that hyperopia and hyperopic astigmatism can be relieved by properly-adjusted glasses; (*c*) that most cases of squint (convergent) are curable without operation, if taken early enough, by wearing glasses; (*d*) that even if operated upon the necessity of glasses still remains, as the operation has not affected the refracted condition; (*e*) that no child is too young to wear glasses if needed, and no child will object to wearing glasses if they relieve the eyestrain; (*f*) that it is the duty of the family physician to impress these facts on their patients.

DR. EDWARD M. DOOLEY read a paper on **Abscess of the lung,** which was discussed by DRS. MYNTER, PARMENTER, E. A. SMITH and PHELPS.

New York Academy of Medicine—Section on Medicine.—At the meeting held on April 17, DR. LOUIS FAUGÈRES BISHOP read a paper on **The iodid treatment of aneurysm,** in which he said that his experience had been that this treatment made these patients more comfortable and diminished the size of the aneurysm. He had great confidence in this treatment.

DR. LEWIS A. CONNER read a **Report of three cases of thoracic aneurysm in which subcutaneous injections of gelatin were used.** The method consists in injecting 200 cc. of a 2.5% solution of sterile gelatin into the subcutaneous tissues of the thigh, at intervals of about one week until 15 or 20 injections have been given, the patient being kept during this time absolutely at rest. He had found the treatment exceedingly painful and not particularly beneficial. In the first case, the aneurysm had ruptured during the course of treatment; the autopsy had failed to show any evidence of recent clot-formation. The second patient had shown slight improvement, but the treatment had been discontinued because of the great suffering caused by it. In the third case there had been the same severe pain and no improvement.

DR. ROBERT J. WILSON read a brief paper on **Rabies in New York City,** in which he called attention to the fact that this disease might be said to be endemic in the borough of Richmond. That this should be the case was particularly inexcusable, because of this borough being situated on an island, making it comparatively easy by the enforcement of wise dog-ordinances to stamp out the disease. The best application to dog-bites, he said, was the actual cautery, and either this or fuming nitric acid should be applied thoroughly to all but the most superficial injuries, while the patient was anesthetized. This treatment would confer protection in 90% of all cases. The Pasteur treatment was rather painful, and required a period of from 14 to 25 days, but it was entirely free from danger, and if instituted promptly in all suspicious cases, would yield 99% of successes.

DRS. H. T. TRONK and CHARLES H. LEWIS reported **Cases of rabies** that had come under their observation in hospital-practice in New York City.

DR. WILLIAM HENRY PORTER read a paper on **The good and bad effects of digitalis used as a therapeutic agent.**—He said that five glucosides had been isolated from digitalis, viz: (1) digitalein, (2) digitoxin, (3) digitonin, (4) digitalin, and (5) digitin. Three of these glucosides have a common action, the fourth is absolutely antagonistic to the other three, and the fifth exerts no active influence on the human organism. His conclusions were: (1) The chemical composition of digitalis is complex, some of its active principles antagonizing; (2) the various preparations of the drug

differ widely in their composition and action; (3) the so-called cumulative action is the result of its contracting the arterioles, and so shutting off nutrition; (4) it is both a useful and a dangerous remedy, but its range of usefulness is very limited; (5) it is only of value in lesions of the mitral valve, and then only for a short time, and should be discontinued as soon as these have been overcome; (7) it is only useful as a diuretic when the arterial tension is low and the kidney is engorged with blood, and (8) digitalis decreases the excretory action of the normal kidney and impairs its nutritive activity.

NEW ENGLAND.

South Middlesex (Mass.) Medical Society.—Dr. C. H. Cook was elected president at its recent annual meeting. The annual address was by Dr. Godfrey Ryder on "Surgical Pain."

Carney Hospital, Boston.—The following are the changes in the staff of Carney Hospital: Dr. Farrar Cobb has resigned from the position of surgeon to out-patients; Drs. Pease, Brewster, Jones and Gay have been appointed assistant surgeons, and Drs. J. S. Stone, R. B. Greenough, J. C. Hubbard, and M. F. Bourke, surgeons to out-patients.

Suit Against the Massachusetts Medical Society. Dr. Aaron H. Thomasson was denied an examination last November by the Massachusetts Medical Society, and brought an action by a writ of mandamus to compel the society to consent to his examination. The matter was heard in Court this week. Dr. J. B. Ayre and the district censors also figured as defendants and claimed that the plaintiff was not educated as required by the society, and that they had a legal right to refuse to examine him if he were. The Supreme Court denied the petition of the plaintiff, but will probably report the case to the full bench.

Boston Society of Medical Sciences.—At the last meeting DR. WM. HALLECK PARK, of New York, read two communications. One on **Some experiments on the nature of antitoxins and the elimination from antitoxic sera of the deleterious substances,** and a second on **Behavior in ice and river water of 20 typhoid bacilli derived from various sources.** DR. E. W. TAYLOR demonstrated a series of preparations illustrative of **diffuse degeneration of the spinal cord,** and DR. FRANKLIN DEXTER reported two observations on the **morphology and the digestive tract of a cat.**

The Suffolk District Medical Society celebrated its fiftieth anniversary, April 28, with exercises of a historical character. Addresses were made by Drs. B. Joy Jeffries, A. T. Cabot, J. C. White, D. W. Cheever, J. C. Warren, George B. Shattuck, and H. L. Burrell. Officers were elected as follows: President, Dr. H. L. Burrell; vice-president, Dr. T. M. Rotch; secretary, Dr. H. A. Lathrop; treasurer, Dr. W. H. Prescott; librarian, Dr. B. Joy Jeffries; commissioner of trials, Dr. F. W. Draper; member of nominating committee of the Massachusetts Medical Society, Dr. E. H. Bradford, Dr. F. C. Shattuck; committee of supervision, Dr. S. L. Abbott, Dr. John P. Reynolds.

New Rules for Barbers.—The Boston Board of Health has imposed the following rules upon all barber shops in the city: The place of business, together with all the furniture, shall be kept, at all times, in a cleanly condition. Mugs, shaving brushes, and razors shall be sterilized by immersion in boiling water after every separate use thereof. A separate, clean towel shall be used for each person. Alum, or other material used to stop the flow of blood, shall be so used only in powdered form and applied on a towel. The use of powder puffs is prohibited. The use of sponges is prohibited. Every barber shop shall be provided with running hot and cold water. No person shall be allowed to use any barber shop as a dormitory. Every barber shall cleanse his hands thoroughly immediately after serving each customer.

New Out-patient Annex for Carney Hospital.—The new out-patient annex for Carney Hospital, South Boston, will have a frontage of 63 feet on Old Harbor Street and 40 feet on Dorchester Street. The first floor will have a physicians' room, office, large waiting-room, and off the waiting-room the orthopedic and surgical clinics, each containing three or four rooms. On the second floor are the gynecologic and eye clinics, the former consisting of one large room and two smaller ones for examinations, connected by a common dressing-room. The third floor will have fine accommodations for the medical clinic—a waiting-room with three examination-rooms and rooms for the throat, ear, and skin clinic. The building will be of brick and finished in Georgia pine.

Cooperative Hospitals.—Dr. George W. Galvin, of Boston, who revived the Emergency Hospital of Boston, after its failure, as the Wage Earners' Emergency Hospital, reports that the first six months of the later venture have proved successful. His advertised scheme is to draw support from a wage-earners' association to which the admission fee is $1 per year. This entitles the member to free care in the wards of the hospitals if he is ill enough during the year to require it. "I am asked," said Dr. Galvin recently, "how it is possible to take people into the hospital and care for them for so small an amount. It is because only 4 out of every 100 require to be taken as in-patients during the year. We have two sources of income—the $1 assessments, and the sale of medicines from the dispensary." The total receipts for the first six months are given as $32,444.46, and total expenditures, including $3,000 of old debts, were stated as $29,478.88. The cash balance stood at $2,970.58 at the end of the first six months. Dr. Galvin further says that he is going to establish similar cooperative hospitals in other cities in Massachusetts, for example, Lowell and Lynn, where there are large bodies of working people.

CHICAGO AND WESTERN STATES.

Foul Air in Theaters.—Complaints have been lodged with the Health Department by the Actors' Society of New York against the sanitary conditions existing in a number of the cheaper theaters in Chicago. The matter of ventilation of these theaters will be taken up by the City Council erelong. Provision will be made for the proper ventilation of these theaters with sunlight during the time they are not occupied.

Maurice Porter Memorial Hospital.—The Maurice Porter Hospital for Children, which has 40 beds, has recently increased its medical staff. The staff now consists of Drs. N. Senn, Frank Billings, Truman W. Miller, Norman Kerr, M. L. Harris, J. W. Oswald, W. S. Christopher, W. W. Quinlan, W. D. Stores, J. P. Houston, Samuel J. Walker, George F. Fiske, A. M. Hall, R. R. Campbell, M. Herzog, Hugh T. Patrick and George Chapman.

Disposal of Garbage.—Specifications for the construction of a crematory in Chicago, authorized by the City Council in the annual budget, for which $100,000 was set aside, are being prepared, and the street officials desire to examine systems in other cities before closing any contracts for the establishment of incinerating plants here. It is the intention to secure a plant that will consume all the waste materials without the separation of garbage from ashes.

Ohio Hospital for Epileptics.—Generous provision has been made by the legislature of Ohio for the support and enlargement of the Ohio Hospital for Epileptics at Gallipolis, which receives a total appropriation of $480,400 for the years 1900 and 1901. Considerable additional land will be purchased, including a new agricultural tract. For construction $125,000 has been set apart, and a general hospital costing $35,000, an administration building for $50,000, and two residence cottages for patients for $40,000 are provided for. The pathological laboratory is well endowed, and a special appropriation has been made to enable this laboratory to send a collection of specimens to the Pathological Exhibit of the American Medical Association. The record of the 74th General Assembly of the State of Ohio is one in which the medical profession may take pride, for not only are the State Hospitals liberally provided with funds, but its amendments to the Medical Practice Act are such as effectually kill licensed quackery in this commonwealth.

Some Problems of Sanitation in Chicago.—Health Commissioner Reynolds recently delivered an address on this subject before the Chicago Academy of Sciences, and among

other things he said that the solution of the drainage and water problems will be accomplished when the sanitary waterway and its auxiliary, the intercepting sewer, are completed. The hope of relief from the dust and mud can come only through the complete sealing of the surface of all streets and alleys by the pavement most likely to secure the desired end. Permanent relief from smoke will come through the application of science to the combustion of bituminous coal. As sunlight is the great life-giving principle for man and the chief enemy of all the diseases of germ origin, greater care in the future should be taken in the building of residences, shops and offices, so that an abundance of light will have free access to every part of the building. The bulletin of the Department of Health for April, 1899, shows that during a generation the duration of life in Chicago has more than doubled. Thirty years ago the average age for deaths in this city was 13.9 years. At the present time it is 29.4 years. With an average annual death-rate of 14.4 per thousand during the years 1894 98, compared with an average annual rate of 40.6 per thousand from 1845 to 1854, a saving of 42,050 lives per annum can be demonstrated.

Chicago Medical Society.—At a meeting held May 2, in order to illustrate the difficulties which sometimes present themselves in the **diagnosis of aneurysm of the aorta,** Dr. E. Fletcher Ingals narrated the histories of two cases which recently came under his observation. Dr. Edward F. Wells presented 3 cases. The first was one of **exophthalmic goiter with mitral insufficiency.** The patient, a man of 40 years, of negative personal history, developed exophthalmic goiter 8 years ago. The ordinary symptoms and signs were present except tachycardia In comment it was said that mitral regurgitation in connection with, and probably as a consequence of, exophthalmic goiter is uncommon. Attention was called to the bearing which an examination of the blood may have upon the diagnosis of organic from anemic cardiac murmurs. The sphygmograms presented were asserted to be indicative of mitral regurgitation. The second case was one of **pulmonary tuberculosis** with demonstration of a **new diagnostic sign.** The patient, a male, has been under observation 4 years, during which time he has had 4 attacks of hemoptysis. Only recently have distinctive physical signs and bacilli in the sputum been manifest. Two weeks ago, and for a week, the evening temperature attained 99 8°, being normal since. Arterial tension is reduced. Each of the **thumb nails show five shallow transverse depressions.** This sign was present upon the thumb and finger nails of two other patients shown. Dr. Wells' attention was called to this sign several months ago and he has observed it in a very considerable number of cases since. It was offered as one of the minor contributory diagnostic signs, and derives its importance as indicating short and more or less regularly recurrent periods of interference of nutrition due to febrile attacks. The depressions are usually very shallow. They do not denote the presence of tuberculosis, but are present in this affection and in the manner described. He also reported a case of **chlorosis** and demonstrated a convenient method of examining the blood.

Chicago Medical Society.—At a meeting, held April 25, the subject of **appendicitis** was discussed. Dr. Edward H. Lee spoke of the significance of pain in this disease. Dr. William D. Middleton, of Davenport, Iowa, discussed the varieties of appendicitis and the importance of their recognition in furnishing the indications of treatment. He discussed the catarrhal, the suppurative, the perforative, and gangrenous forms of the disorder. The author believes that a properly conducted operation adds very little danger to life, and where he can make a hundred in which it may be said of ninety-nine that they might have recovered without operation, and of one only that death would have certainly ensued without it, he should still believe that he was doing God service and the profession credit. Dr. John B. Murphy discussed this phase of the subject—why we operate, and when. Speaking of the subject from a mortality standpoint he excluded three classes of cases and retained only one. He excluded appendicular colic. He believes there is such a thing, but does not consider it a surgical lesion. He excluded catarrhal appendicitis as it is generally understood, and thinks it does not materially, if ever, jeopardize the life of the patient. He likewise excluded partially recurrent appendicitis, but the mild so-called recurrent variety, which may be either a recurrent catarrhal appendicitis or a recurrent appendicular colic. Dr. Murphy then devoted his attention to the acute infective variety of the disease. In a very large proportion of cases, in the first 24 hours the infection is confined to the wall of the appendix. In the second 24 hours the pathologic conditions may vary from an increased quantity of pus or inflammatory debris in the appendix to a completely gangrenous or necrotic appendix, or to a perforation of the organ, with a circumscribed or general peritonitis at the end of 48 hours. If the diagnosis is made in the first 24 hours, he believes the surgeon can operate during that time with a mortality of 2% at the maximum, as the speaker has never seen a death from a case operated on inside of 24 hours. Inside of the first 24 hours the chances for operating are much better; the surgeon is much more certain of his ground.

Physicians' Club of Chicago.—At a meeting held April 30, Dr. Sydney Kuh presented a paper on the **Fallacies of hypnotism.** He cited a number of cases in which hypnotism caused very serious, in some instances even fatal, accidents, and refuted the statement so frequently made that such accidents are due to improper use, ignorance or carelessness. Hypnotism acts only by increasing suggestibility, and there are other methods of achieving this same end—that any exalted emotional condition, such as hope and fear, will do the same. He referred to a series of experiments made with suggestion in the waking state, for which purpose hypodermic injections of aqua distillata were used, and which yielded most satisfactory results. He concluded that hypnotism is dangerous, that there are other and safer remedies known to the profession, and that physicians ought to be particularly careful, because the very cases which are most liable to be benefited by hypnotic suggestion —neurotic patients—are also most easily and most seriously injured by its use. Dr. Harold N. Moyer discussed **Suggestion without hypnotism** as a therapeutic agent. He stated that any discussion of hypnotism must state the theories upon which it rested. Suggestion was no new discovery, nor a new force which had been created in the last few years, but it had existed ever since the nervous system had developed beyond that of a mere reflex mechanism. The older psychologists found no place for the experiments and observations of Braid and Mesmer. The metaphysical conception of the mind which denied reason to animals, made no study of diseased minds, and did not recognize the essential continuity of nervous phenomena, could find no place for observations such as these. The later psychology, which does not make these artificial distinctions and which broadens the term mind to include subconscious mental phenomena, offers an excellent explanation of the phenomena of suggestion. The subconscious mental phenomena may be easily reached by suggestion, if hypnosis is produced. Perhaps it is as readily, and even more easily reached in many cases where the individual is awake. In the writer's judgment, hypnosis adds very little to the value of suggestion. In those cases in which it is readily produced, suggestion is quite as efficient in the waking state, and he is of the opinion that persons who are readily hypnotized are injured by the induction of hypnotism if it is frequently repeated. The known dangers of hypnosis should place it always in the hands of trained medical men.

SOUTHERN STATES.

The abuse of free clinics in New Orleans by those *able to pay* having grown to a huge imposition on physicians, by depriving them of legitimate fees, and on the deserving poor, by depriving them of care and treatment, the Orleans Parish Medical Society, through a number of committees, is actively instituting measures for the suppression of this steadily increasing evil.

Tribute to Dr. W. H. Welch.—The past and present students of Dr. Welch united to celebrate the 25th anniversary of his doctorate, at the Maryland Club, on May 4th. About 30 assembled at dinner and afterwards Dr. Councilman, of Harvard University, presented him with an address and a memorial volume of scientific contributions by his pupils. The work contains 29 articles and is sumptuously

illustrated. It is issued from the Johns Hopkins Press and will be ready for distribution to the subscribers at an early date.

The Medical and Chirurgical Faculty of Maryland held its annual meeting in Baltimore April 24, 25 and 26. A number of very interesting papers were read and the meeting was a very successful one. The annual oration was delivered by DR. GEORGE E. DE SCHWEINITZ, of Philadelphia, who selected for his topic **Pathological changes in the Bloodvessels of the eye.**

DR. CHARLES L. LEONARD, of Philadelphia, was present by invitation to give a **Demonstration of the work with the x-ray, illustrated by lantern slide.**

The following officers were elected to serve for the ensuing year: President, Dr. Samuel Theobald; vice-presidents, Dr. Samuel T. Earle, Jr., and Dr. J. B. R. Purnell; secretary, Dr. J. Williams Lord; treasurer, Dr. Thomas A. Ashby; executive committee, Dr. William Osler, chairman, and Drs. Clotworthy Birnie, L. McLane Tiffany and H. Barton Jacobs.

The meeting closed on the evening of the 26th with the annual banquet.

Orleans Parish (La.) Medical Society.—At a meeting held April 28, DR. E. J. HUHNER read a paper on **Asymmetry of the lower extremities and scoliosis; with report of a case.** He called attention to the fact that many cases of lateral curvature of the spine are due to unequal length of the lower extremities and consequent obliquity of the pelvis—a fact often overlooked by the surgeon. The more is this apparent when it is considered that strict symmetry of the two sides of the body is regarded by eminent authorities as the exception, not the rule. As asymmetry of the lower limbs is the underlying cause in a surprisingly large percentage of cases of scoliosis, the importance of recognizing this defect is important, in order to institute intelligent treatment.

General discussion on school hygiene was opened by DR. E. L. MCGEHEE. It having been observed that there existed unhygienic conditions—easy of correction—in the public schools of New Orleans, the above subject was offered for discussion. After due considereation, a set of resolutions, designed to correct these evils, was passed, to be submitted to the School Board. The employment of teachers suffering from phthisis, was especially condemned. In addition, the following resolutions were unanimously passed: "Resolved, that the Orleans Parish Medical Society memorialize the Board of Health and School Board, pointing out the dangers of infection from tuberculosis, and suggest to them that a circular be issued on the prophylaxis of tuberculosis; and that a copy of this circular be placed in the hands of every school teacher in the State, private and public; also, that a copy of the said circular be posted in a conspicuous place in every factory, store, street-car, and workshop; and further, that the daily press be asked to lend their powerful influence to help educate the people on this most important matter."

MISCELLANY.

At a meeting of the American National Committee of the Thirteenth International Medical Congress, held at Cosmos Club, Washington, May 2, Dr. W. W. Keen in the chair, the secretary read the minutes of the preceding meeting and reported that already about 200 American physicians had joined the Congress. It was unanimously voted that the president of the American Medico-Psychological Association be added to the committee; and further voted that the organizations whose presidents compose the committee, be requested to contribute to the expenses of the said committee.

The meeting adjourned subject to the call of the president.

The psychophysiology of anesthesia is a productive subject greatly in need of adequate investigation and discussion. Both pure science and practical surgery have doubtless much to gain from a deeper-going study of experiences under ether, chloroform, nitrous oxid, etc., than has yet been made. Scientific literature has frequently contained accounts of isolated individual experiences reported most often because of their strangeness. A very large number of descriptions of the ordinary experiences is what is now desired, and to this end blanks have been prepared on which replies to certain simple questions may be written. All persons and especially hospital surgeons, officers of medical societies and instructors in medical schools, are requested to send to George V. N. Dearborn, Physiological Laboratory, Harvard Medical School, Boston, Mass., for as many of these blanks as they care to distribute among persons who have been under an anesthetic.

Obituary.—DR. EDWARD LYON, Williamsport, Pa., April 14, aged 61 years.—DR. T. R. HASSIE, Gouverneur, New York, April 14, aged 42 years.—DR. W. G. SPELMAN, Brooklyn, N. Y., April 20.—DR. J. W. SPILLMAN, Columbus, Miss., April 17.—DR. JOHN J. CRANE, Elizabeth, N. J., April 18, aged 49 years.—DR. JOHN HABIRSHAW, New York, April 20, aged 40 years.—DR. S. E. SHELDON, professor of gynecology in the Kansas Medical College, Topeka, Kan., April 18, aged 63 years.—DR. G. R. C. TODD, Barnwell, S. C., April 28, aged 76 years.—DR. W. E. H. BROWN, New Orleans, La., April 27, aged 71 years.—DR. GEORGE M. HARRIS, Huntsville, Ala., April 26, aged 80 years.—DR. JOHN R. PRICE, Banner, Miss., April 25, aged 61 years.—DR. DAVID W. MCCLOSKEY, White Plains, N. Y., April 24.—DR. JOHN A. STEWART, formerly a physician of Edinburgh, lately of New York, May 2, aged 40 years.—DR. JACOB RICKABAUGH, Tredyffrin township, Chester County, Pa., May 6, aged 85 years.—DR. CHARLES H. MESSEREAU, New York, April 27, aged 37 years.

American Therapeutic Society.—In pursuance with a call for an American Therapeutic Society issued by the Therapeutic Society of the District of Columbia, a meeting was held in Washington, May 1, 1900. The organization was effected and much enthusiasm displayed. The following were chosen as officers of the new society which will become affiliated with the Congress of American Physicians and Surgeons, which meets in Washington every 3 years: President, Horatio C. Wood, Philadelphia, Pa.; first vice-president, Howard H. Barker, Washington, D. C.; second vice-president, R. W. Wilcox, New York City, N. Y.; third vice-president, E H. Long, Buffalo, N. Y.; secretary, Noble P. Barnes, Washington, D. C.; recorder, William M. Sprigg, Washington, D. C.; treasurer, John S. McLain, Washington, D. C. Censors: T. E. Satterthwait, Leon L. Solomon, D. Olin Leech. Judicial Council: Samuel C. Busey, Chairman; William Osler, Baltimore, Md.; A. R. Cushny, Ann Arbor, Mich.; J. J. Abel, Baltimore, Md.; R. T. Edes, Boston, Mass. (Harvard); Franz Pfaff, Boston, Mass. (Harvard); H. A. Hare, Philadelphia, Pa.; Smith E. Jelliffe, New York City, N. Y.; T. E. Satterthwait, New York City, N. Y.; John T. Winter, Washington, D. C.; Robert Reyburn, Washington, D. C. (Vice Chairman); D. Olin Leech, Washington, D. C.; Leon L. Solomon, Louisville, Ky.; J. V. Shoemaker, Philadelphia, Pa.; James Tyson, Philadelphia, Pa.; D. R. Brower Chicago, Ill.; J. N. Hall, Denver, Col.; George C. Ober, Washington, D. C.; Francis P. Morgan, Washington, D. C. The next annual meeting will be held in Washington, D. C., about May 7, 1901.

The forty-third annual meeting of the Medical Association of Missouri will be held in Mexico, May 15, 16 and 17. The following papers have thus far been promised:

J. K. Bauduy, St. Louis, "A Case of Secondary Carcinomatous Spondylitis"; Carl Barck, St. Louis, "Intraocular Tumors;" J. C. Crist, Lexington, "Acute Invasion of the Uterus;" C. R. Day, Mayview, "Quackery *vs.* Medical Ethics;" C. A. Dannaker, Kansas City, "Are Obstetrical Emergencies Fully Anticipated;" A. H. Ohmann-Dumesnil, St. Louis, "Two Cases of Chancre of the Groin;" P. S. Fulkerson, Lexington, "Diphtheria;" William Frick, Kansas City, "Some Observations on Secondary Syphilis;" Pinckney French, St. Louis, "Modern Pathology and Treatment of Appendicitis;" R. S. Kelso, Joplin, "Smallpox, Its Prevention and Treatment;" O. P. Kernodle, Sedalia, "Recent Improvements and Discoveries in the Science of Alimentation;" H. W. Loeb, "Limitations of the Laryngologist in the General Treatment of Nose and Throat Diseases;" F. J. Lutz, St. Louis, "Report on Abdominal Surgery;" John Punton, Kansas City, "Hysteria, and Its Protean Manifestations;" E. E. Parrish, Memphis, "Hystero-Epilepsy;" E. L. Priest, Nevada, "State Medicine;" J. L. Short, Kansas City, "Entropium and Its Rational Treatment;" E. Van Note, Kansas City, "The State's Greatest Crime;" C. H. Wallace, St. Joseph, "Treatment of Hernia by the Marcy-Bassini Operation."

A symposium on gallstones will be a feature of the meeting, which will include the following: "Physiology of the Bile," C. Shattinger, St. Louis; "Pathology of the Galsltones," H. Summa, St. Louis; "Etiology and Diagnosis," W. G. Moore, St. Louis;

'Medical Treatment," C. F. Wainwright, Kansas City; "Surgical Treatment," A. V. L. Brokaw, St. Louis.

In addition the following have promised to contribute: W. S. Alee, Olean; L. W. Dallas, Hunnewell; J. M. Allen, Liberty; John Young Brown, St. Louis; J. F. Campbell, Calleo; O. B. Campbell, St. Joseph; R. M. Funkhouser, St. Louis; Hal Foster, Kansas City; C. Lester Hall, Kansas City; L. I. Jones, Linden; J. E. Jennings, St. Louis; W. F. Kuhn, Kansas City; W. P. King, Kansas City; E. W. Schaufflen, Kansas City.

Arrangements have been made for an exhibit of pathologic specimens. Those who have appropriate specimens that are available are requested to notify the committee at once.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended April 28, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ALABAMA:	Mobile	April 14–21	12	
DISTRICT OF COLUMBIA:	Washington	April 14–21	2	
FLORIDA:	Jacksonville	April 14–21	1	
ILLINOIS:	Aurora	April 1–7	1	
"	Chicago	April 14–21	4	
INDIANA:	Evansville	April 14–21	5	
"	Indianapolis	April 1–21	8	
KANSAS:	Wichita	April 14–21	11	
"	33 towns and counties	March 1–31	456	5
KENTUCKY:	Covington	April 14–21	7	
"	Lexington	April 14–21	2	
LOUISIANA:	New Orleans	April 14–21	75	19
MAINE:	Portland	April 14–21		1
MICHIGAN:	Detroit	April 14–21	1	
NEBRASKA:	Omaha	April 14–21	2	
OHIO:	Cleveland	April 14–21	15	
PENNSYLVANIA:	Philadelphia	April 21	1	
"	Pittsburg	April 14–21	2	
SO. CAROLINA:	Greenville	April 14–21	3	
UTAH:	Salt Lake City	April 14–21	3	
WASHINGTON:	Spokane	April 14–21	3	
WISCONSIN:	"	April 14	1	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	March 14–31	5	
BELGIUM:	Ghent	April 1–7		2
EGYPT:	Cairo	March 18–April 1		16
ENGLAND:	Liverpool	April 1–7	8	2
"	London	April 1–7	2	
"	Southampton	April 1–7	1	
FRANCE:	Paris	April 1–7		2
"	Gibraltar	April 1–8	4	1
GREECE:	Athens	April 1–7	4	2
INDIA:	Bombay	March 13–20		163
"	"	March 20–27		138
"	Calcutta	Feb. 24–March 3		21
"	Kurrachee	March 11–25	24	12
MEXICO:	Chihuahua	April 1–14		2
"	Vera Cruz	April 7–14		6
RUSSIA:	Odessa	March 24–April 7	9	3
"	St. Petersburg	March 18–24	30	3
"	Warsaw	March 18–31		2
SPAIN:	Madrid	March 24–31		8
STRAITS SETTLEMENTS:	Singapore	March 3–10		3

YELLOW FEVER.

COSTA RICA:	Limon	April 20	1	
MEXICO:	Vera Cruz	April 7–14		2

CHOLERA.

INDIA:	Bombay	March 13–27		11
"	Calcutta	Feb. 24–March 3		70

PLAGUE—U. S. INSULAR.

HAWAII:	Honolulu	March 26–April 2	3	3
"	"	April 9	1	

PLAGUE—FOREIGN.

BRAZIL:	Rio de Janeiro	April 20	6	6
INDIA:	Bombay	March 13–27		1428
"	Calcutta	Feb. 24–March 3		411
"	Kurrachee	March 11–31	292	223

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 5, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ALABAMA:	Mobile	April 14–28	14	
DISTRICT OF COLUMBIA:	Washington	April 21–28	1	
ILLINOIS:	Chicago	April 21–28	11	
INDIANA:	Evansville	April 21–28	2	
"	Indianapolis	April 21–28	7	
KANSAS:	Wichita	April 21–28	8	
KENTUCKY:	Covington	April 21–28	6	
"	Lexington	April 21–28	1	
LOUISIANA:	New Orleans	April 21–28	43	25
MASSACHUSETTS:	Boston	April 21–28	1	
MICHIGAN:	Detroit	April 21–28	1	
"	Grand Rapids	April 7–28	1	1
MINNESOTA:	Minneapolis	April 14–28	47	1
NEW YORK:	New York	April 21–28	2	
OHIO:	Cleveland	April 21–28	12	
PENNSYLVANIA:	Pittsburg	April 21–28	1	
UTAH:	Salt Lake City	April 21–28	1	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	April 1–7	2	
BELGIUM:	Ghent	April 1–14	2	
BRAZIL:	Rio de Janeiro	March 2–23		42
CHINA:	Hongkong	March 10–31	10	5
ENGLAND:	Liverpool	April 7–14	9	2
"	London	April 7–14		3
GIBRALTAR:		April 8–15	4	
GREECE:	Athens	April 7–14	5	1
INDIA:	Bombay	March 27–April 3		120
"	Calcutta	March 3–10		19
KURRACHEE:	Kurrachee	March 24–April 1	27	6
JAPAN:	Nagasaki	March 21–31	1	
"	Tamsui	Feb. 22–28	87	
MEXICO:	Chihuahua	April 14–21		2
"	Guadalajara	April 21	Epidemic.	
RUSSIA:	St. Petersburg	March 24–Apr. 17	80	24
SCOTLAND:	Glasgow	April 7–14	1	
SPAIN:	Madrid	April 1–7		10
"	Valencia	April 14	1	1
STRAITS SETTLEMENTS:	Singapore	March 19–26		7

YELLOW FEVER.

BRAZIL:	Rio de Janeiro	March 2–23	104	50
COLOMBIA:	Panama	April 10–24	4	
COSTA RICA:	Port Limon	April 21		1
CUBA:	Nuevitas	April 24	1	
MEXICO:	Vera Cruz	April 14–21		3
SAN SALVADOR:	Livingston	April 11	Epidemic.	

CHOLERA.

INDIA:	Bombay	March 27–April 3		7
"	Calcutta	March 3–10		74

PLAGUE—FOREIGN.

INDIA:	Bombay	March 27–April 3		685
"	Calcutta	March 3–10		601
"	Kurrachee	March 24–April 1	248	166
JAPAN:	Tamsui	Feb. 1–28	47	38

Changes in the Medical Corps of the U. S. Army for the two weeks ending May 3, 1900:

GARDNER, Major EDWIN F., surgeon, is assigned to temporary duty with station in San Francisco, Cal., awaiting transportation to the Philippine Islands.

PEDLAR, ALFRED J., acting assistant surgeon, now at the Presidio, is granted leave for 26 days.

GORGAS, Major W. C., surgeon, so much of order of April 3, from headquarters, division of Cuba, as relieves him from duty as chief surgeon, department of Havana, and directs him to proceed to Santiago, Cuba, for duty as chief surgeon, department of Santiago and Puerto Principe, is revoked.

PENA, J. M., acting assistant surgeon, is assigned to station in Havana, from April 9, and will report for duty to Major E. St. J. GREBLE, Acting Adjutant-General, in the department of hospitals and charities.

KNEEDLER, Captain WILLIAM L., assistant surgeon, awaiting transportation to the Philippine Islands, is assigned to temporary duty with troops on the U. S. transport "Hancock," to sail about April 17.

SHAW, HERBERT G., acting assistant surgeon, is assigned to temporary duty at the U. S. general hospital, Presidio.

POWELL, WELCOME N., hospital steward, now at Angel Island, Cal., will be sent, together with two privates of the hospital corps school of instruction, to Seattle, Wash., in time to arrive there not later than April 25, to report to the commanding general, department of Alaska, for duty.

ECHEVERRIA, Major R., surgeon, is assigned to duty in charge of such parts of U. S. Military Hospital No. 1, Havana, Cuba, as have been retained by the military government of the island.

COMBE, Major FREDERICK J., surgeon, is assigned to temporary duty at the U. S. general hospital, Presidio, awaiting transportation to the Philippine Islands.

MAURA, FRANK R., acting assistant surgeon, is assigned to temporary duty at the U. S. general hospital, Presidio, awaiting transportation to the Philippine Islands.

MILLER, ALBERT L., acting assistant surgeon, is assigned to temporary duty at the U. S. general hospital, Presidio, awaiting transportation to the Philippine Islands.

BYRNE, Colonel CHARLES C., acting surgeon-general is detailed to represent the medical department of the Army at the ninth annual meeting of the Association of Military Surgeons of the United States, to be held in New York City, May 30 to June 2, 1900, and upon adjournment of the association will return to his proper station.

BORDEN, Captain WM. C., assistant surgeon, is detailed to represent the medical department of the Army at the ninth annual meeting of the Association of Military Surgeons of the United States to be held in New York City, May 30 to June 2, 1900, and upon adjournment of the association will return to his proper station.

GANDY, Captain CHARLES M., assistant surgeon, is detailed to represent the medical department of the Army at the ninth annual meeting of the Association of Military Surgeons of the United States, to be held at New York City, May 30 to June 2, 1900, and upon adjournment of the association will return to his proper station.

WOODHULL, Colonel ALFRED A., deputy surgeon-general, is detailed to represent the medical department of the Army at the meeting of the American Medical Association, to be held at Atlantic City, N. J., June 5 to 8, 1900, and upon adjournment of the association will return to his proper station.

STEPHENSON, Captain WM., assistant surgeon, is detailed to represent the medical department of the Army at the meeting of the American Medical Association, to be held at Atlantic City, N. J., June 5 to 8, 1900, and upon adjournment of the association will return to his proper station.

FRICK, Captain EUCLID B., assistant surgeon, is detailed to represent the medical department of the Army at the meeting of the American Medical Association, to be held at Atlantic City, N. J., June 5 to 8, 1900, and upon adjournment of the association will return to his proper station.

CROSBY, Major WM. D., surgeon, is relieved from further duty in the division of the Philippines, and on the expiration of his present sick leave will proceed to New York City for duty as attending surgeon and examiner of recruits, to relieve Captain Wm. Stephenson, assistant surgeon.

STEPHENSON, Captain WM., assistant surgeon, will proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty.

KENNEDY, Captain JAMES M., is relieved from further duty in the department of California, to take effect about May 10, and will report to the commanding general, department of California, for transportation on the first available transport for Manila, P. I., for assignment to duty.

VITOU, BENJAMIN, hospital steward, at U. S. A. general hospital, Washington Barracks, will be sent about April 23 to Manila, P. I., for assignment to duty.

BALL, THOMAS Z., acting assistant surgeon, will proceed from Waveland, Ind., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

DAY, JAMES L., acting assistant surgeon, will proceed from Lebanon, Mo., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

DESSEZ, PAUL T., acting assistant surgeon, will proceed from Washington, D. C., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

FELTS, ROBERT L., acting assistant surgeon, will proceed from New York City to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

HALL, ALVA R., acting assistant surgeon, will proceed from New Sharon, Iowa, to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

HULSEBERG, FREDERICK W., acting assistant surgeon, will proceed from New Haven, Conn , to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

JACKSON, FREDERICK C., acting assistant surgeon, will proceed from Columbus, O., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

JONES, WENDELL A., acting assistant surgeon, will proceed from Westerville, O., to San Francico, Cal., and report to the commanding general, department of California, for temporary duty.

MAY, JAMES V., acting assistant surgeon, will proceed from Philadelphia, Pa., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

MCCLURE, SANFORD B., acting assistant surgeon, will proceed from Cincinnati, O., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

PORTER, LEWIS B., acting assistant surgeon, will proceed from New Haven, Conn., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

RHOADS, THOMAS L., acting assistant surgeon, will proceed from Boyerton, Pa., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

SHEPARD, JOHN L., acting assistant surgeon will proceed from Galesburg, Ill., to San Francisco, Cal., and report to the commanding general, department of California for temporary duty.

SHEPHERD, JOHN M., acting assistant surgeon, will proceed from Brooklyn, N. Y., to San Francisco, Cal., and report to the commanding general, department of California, for temporary duty.

SHORTLIDGE, EDMUND D., acting assistant surgeon, will proceed fror Wilmington, Del., to San Francisco, Cal., and report to the com manding general, department of California, for temporary duty

TENNEY, EDWIN R., acting assistant surgeon, will proceed from Kan sas City, Kan., to San Francisco, Cal., and report to the com manding general, department of California, for temporary duty

SANBORN, CHARLES F., acting assistant surgeon, will proceed fror Willard, N. Y., to San Francisco, Cal., and report to the com manding general, department of California, for temporary duty

BEVANS, JAMES L., acting assistant surgeon, is relieved from furthe duty at the general hospital, San Francisco, Cal., and will pro ceed to Seattle, Wash., and report to the commanding general department of Alaska, for assignment to duty.

STUCKEY, HARRISON W., acting assistant surgeon, now en route t San Francisco, Cal., with troops from Columbus Barracks, wil report to the commanding general, department of California for assignment to duty with troops going to Philippine Islands and upon arrival at Manila will report to the commanding gen eral, division of the Philippines, for assignment to duty.

WOODHULL, Lieutenant-Colonel ALFRED A., deputy surgeon-general will report to the Surgeon-General of the Army for duty in hi office.

QUINTON, Captain WILLIAM W., assistant surgeon, is relieved fron further duty in the division of Cuba, and will proceed to Nev York City, and report by telegraph to the Adjutant-general o the Army for further orders.

VANE, PATRICK P., hospital steward, U. S. Army, will proceed t San Francisco, Cal., and report to the commanding general, de partment of California, for transportation to Manila, P. I.

DE WITT, Lieutenant-Colonel CALVIN, deputy surgeon general, is on surgeon's certificate, granted leave for 4 months.

LAHNA, FRANK, hospital steward now at the U. S. Army and Nav general hospital, Hot Springs, Ark., will, when fit for duty, b sent to Fort Reno to relieve Archibald Robbins, hospita steward.

ROBBINS, ARCHIBALD, hospital steward, on being relieved, will b sent to Madison Barracks for duty.

CORSON, JOHN M., hospital steward, now at the U. S. A. general hos pital, Presidio, will report to the commanding general, depart ment of California, who will furnish him with transportatio to Manila, P. I., for assignment to duty in that division.

STEWART, LYELL R., hospital steward, is transferred from Bayom to Holguin, Cuba.

COONEY, D. C., acting assistant surgeon, is granted leave for 15 days with authority to visit the United States.

SALEEBY, NAJEEB M., acting assistant surgeon, is granted leave for months.

SWIFT, Major EUGENE L., surgeon, is relieved from duty with th Thirty-fifth Infantry, U. S. Volunteers, and will report to th commanding officer, military district of northeastern Luzon Aparri, province of Cagoyan, for assignment to duty as chie surgeon.

CHAMBERLAIN, First Lieutenant WESTERN P., assistant surgeon, i relieved from duty on the U. S. Army hospital ship "Relief," and will report to the commanding officer Sixteenth Infantry Aparri, for duty.

GREENLEAF, First Lieutenant HENRY S., assistant surgeon, is re lieved from duty with the Sixteenth Infantry, Aparri, and wil report to the commanding officer, Santa Mesa Hospital, fo duty.

CORBUSIER, Major WM. H., surgeon, will proceed to San Francisco Cal., where he will report by telegraph to the Adjutant-Genera of the Army for orders.

WAKEMAN, Captain WM. J., assistant surgeon, will report at Sant Mesa Hospital for assignment to duty.

ARWINE, JAMES T., acting assistant surgeon, is relieved from tem porary duty at Vancouver Barracks, and will proceed to Seattle Wash., and report to the commanding general, department o Alaska.

EDGAR, JR., First Lieutenant BENJAMIN J., assistant surgeon, is as signed to temporary duty at the U. S. General Hospital, Presidio awaiting transportation to the Philippine Islands.

ARWINE, JAMES T., acting assistant surgeon, is assigned to dut with troops on transport "Rosecrans" during the voyage o that vessel to Port Valdez, Alaska, and upon arrival at Por Valdez will take station at that post.

WEBB, EUGENE C., hospital steward, is relieved from duty at th U. S. General Hospital, Presidio, and will be sent to Fort Mc Dowell, Angel Island, Cal., for duty at the post hospital.

HEIZMANN, Major CHARLES L., surgeon, is assigned to temporar duty with station in San Francisco, Cal., awaiting transporta tion to the Philippine Islands.

MATTHEWS, Major WILLARD S. H., surgeon, is announced as attend ing surgeon and examiner of recruits at St. Paul, Minn.

HENDERSON, CLINTON F., hospital steward, will report on transpor "Rosecrans" for temporary duty during the voyage of tha vessel to Port Valdez, Alaska. Upon arrival at Port Valdez h will report for assignment to duty at that post.

GEDDINGS, EDWARD B., acting assistant surgeon, is granted leave fo 20 days.

APPLE, EDSONW., acting assistant surgeon, at Fort Columbus, will in addition to his present duties, visit Fort Wood daily an perform the duties of medical officer at that post.

WARRINER, BENJAMIN B., acting assistant surgeon, will proceed from Crewe, Va., to Fort Fremont for duty.

ALEXANDER, JAMES A., acting assistant surgeon, is relieved fron duty at Fort Fremont, will proceed to New York City and repor

by telegraph to the Adjutant-General of the Army for further orders.

Alden, Colonel Charles H., assistant surgeon general, the retirement from active service April 28, by operation of law, under the provisions of the act of Congress approved June 30, 1892, is announced. Colonel Alden will proceed to his home.

Gibson, Major Robert J., surgeon, is relieved from duty as commanding officer of the U. S. Army hospital ship "Missouri," and will report to the commanding general, department of California, San Francisco, Cal., for temporary duty.

von Clossman, August, acting assistant surgeon, now at St. Louis, will proceed to Jefferson Barracks for duty.

Allen, H. Eugene, acting assistant surgeon, will proceed from Chicago, Ill., to San Antonia, Tex., and report to the commanding general, department of Texas, for assignment to duty.

Rose, Martin, hospital steward, now at Fort Wadsworth, from the department of Santiago and Puerto Principe, Cuba, is transferred to Fort Yates for duty.

Everts, Captain Edward, assistant surgeon, having been examined by a board of officers and found physically disqualified for the duties of surgeon with the rank of major, by reason of disability incident to the service, his retirement from active service as a major is announced, to date from April 28. He will proceed to his home.

Stoney, Randell C., acting assistant sargeon, now on temporary duty at the Presidio, will report to the commanding general, department of California, for assignment to duty.

Miller, Daniel B., hospital steward, St. Francis Barracks, is transferred to Fort Logan H. Roots.

Kirschenbauer, Wm., acting hospital steward, is relieved from duty at Fort Logan H. Roots, and will be sent to Fort Bayard for duty.

Roberts, Wm., hospital steward, Army Medical Museum, Washington, D. C., is transferred to Key West Barracks.

Snarr, Samuel S., acting hospital steward, relieved from duty at Key West Barracks, will be sent to Fort Barrancas for duty at Fort Pickens.

Gorgas, Major William C., surgeon, is relieved from further duty as chief surgeon, department of Havana and Pinar del Rio, and will report to the commanding general, division of Cuba, for assignment to duty.

Bruning, Charles, acting assistant surgeon, will proceed from New Orleans, La., to Tampa, Fla., and report by telegraph to the Adjutant-General of the Army for further orders.

Bruning, Charles, acting assistant surgeon, upon the completion of the duty assigned him at Tampa, Fla., will proceed to Havana, Cuba, and report to the commanding general, division of Cuba, for assignment to duty.

Tweedie, Hedley V., acting assistant surgeon, will proceed from Jackman, Me., to Seattle, Wash., and report to the commanding general, department of Alaska, for assignment to duty at Fort Egbert, or other post if deemed advisable,

Alexander, James A., acting assistant surgeon, upon completion of the duty assigned him at Tampa, Fla., will proceed to Havana, Cuba, and report to the commanding general, division of Cuba, for assignment to duty.

Changes in the U. S. Marine-Hospital Service,

for the 14 days ending May 3, 1900:

Gassaway, J. M., surgeon, leave of absence for 5 days from April 23, 1900, under the provisions of Paragraph 179, Regulations, H.M.S. April 23.

Wertenbaker, C. P., passed assistant surgeon, detailed to represent the Service at the meeting of the Association of Military Surgeons of the United States, at New York, N.Y., May 31 to June 2, 1900. April 25.

Stimpson, W. G., passed assistant surgeon, granted leave of absence for 10 days from April 28, 1900. April 25.

McMullen, John, assistant surgeon, granted leave of absence for 3 days, April 18, 1900; granted four days extension of leave of absence April 24; upon expiration of leave of absence to proceed to the Gulf Quarantine Station, Mississippi, and report to the medical officer in command for temporary duty. April 24.

Goldberger, Joseph, assistant surgeon, upon being relieved from duty at the Immigration Depot, New York, N.Y., to proceed to the Reedy Island Quarantine, Delaware, and report to the medical officer in command for duty and assignment to quarters. April 24.

Eagleson, J. B., acting assistant surgeon, granted leave of absence for 3 days from May 8, 1900. April 21.

Rodman, J. C., acting assistant surgeon, granted leave of absence for four days from April 23, 1900. April 20.

Olsen, E. T., hospital steward, upon being relieved from duty at Wilmington, N.C., to proceed to the Mullet Key Detention Camp, Florida, for duty. April 23.

Crowley, C. F., hospital steward, to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters. April 23.

Bailhache, P. H., surgeon, detailed to represent the Service at the Convention for the decennial revision of the U. S. Pharmacopeia at Washington, D. C., May 2, 1900. April 30.

Wasdin, Eugene, surgeon, detailed to represent the Service at the meeting of the American Medical Association at Atlantic City, N. J., June 5–8, 1900. May 1.

Cobb, J. O., passed assistant surgeon, to report to Chairman of Board of Examiners for examination to determine fitness for promotion to the grade of surgeon. April 30.

Geddings, H. D., passed assistant surgeon, detailed to represent the Service at the Convention of the decennial revision of the U. S. Pharmacopeia, at Washington, D. C., May 2, 1900. April 30.

Rosenau, M. J., passed assistant surgeon, detailed to represent the Service at the meeting of the American Medical Association at Atlantic City, N. J., June 5–8, 1900. May 1.

Tabb, S. R., assistant surgeon, upon being relieved from duty at Savannah, Ga., to report in person at the Bureau for further orders. May 3.

McMullen, John, assistant surgeon, granted 3 days extension of leave of absence. April 29.

von Ezdorf, R. H., assistant surgeon, relieved from duty at New Orleans, La., and directed to proceed to Savannah, Ga., and assume command of the Service. May 3.

Fricks, L. D., assistant surgeon, relieved from duty at Washington, D. C., and directed to proceed to Manila, P. I., and report to the Chief Quarantine Officer for duty. April 27.

Corput, G. M., assistant surgeon, to proceed to Mullet Key, Fla., and assume command of the Detention Camp and the steamer "W. D. Bratton." April 30.

Stansfield, H. A., assistant surgeon, relieved from duty at Honolulu, H. I., and directed to proceed to Manila, P. I., and report to the Chief Quarantine Officer for duty. April 27.

Maguire, E. S., hospital steward, relieved from duty at Evansville, Ind., and directed to proceed to New York, N. Y., (Stapleton) and report to the medical officer in command for duty and assignment to quarters. May 1.

Mason, M. R., hospital steward, to proceed to New York, N. Y., and report to the medical purveyor for temporary duty. April 26.

Holt, E. M., hospital steward, to proceed to Portland, Me., and report to the medical officer in command for temporary duty and assignment to quarters. April 28.

BOARD CONVENED.

Board convened to meet at Washington, D. C., May 3, 1900, for the examination of Passed Assistant Surgeon J. O. Cobb, to determine his fitness for promotion to the grade of Surgeon. Detail for the Board: Surgeon J. H. White, Chairman; Surgeon R. M. Woodward, and Surgeon G. T. Vaughan, Recorder.

PROMOTIONS.

Passed Assistant Surgeons T. B. Perry, R.M., Woodward and G. T. Vaughan, commissioned as surgeons. April 21.

APPOINTMENT.

Crowley, Charles F., of Nebraska, appointed junior hospital steward April 21.

Changes in the Medical Corps of the U. S. Navy,

for the 2 weeks ending May 3, 1900:

Morris, L., passed assistant surgeon, detached from the "Brooklyn" and ordered to the "Baltimore."

Stoughton, J., passed assistant surgeon, detached from the "Bennington" and ordered to the "Castine."

Lippitt, T. M., assistant surgeon, detached from the "Baltimore" and ordered to the "Oregon."

Thompson, J. C., assistant surgeon, detached from the "Castine" and ordered to the "Bennington."

Grunwell, A. G., assistant surgeon, detached from the "Yosemite" and ordered to the "Brooklyn."

Leys, J. F., passed assistant surgeon, detached from the "Essex" on reporting of relief, and ordered home and to wait orders.

DeLancy, C. H., assistant surgeon, detached from the "Amphitrite" and ordered to the "Essex."

Thompson, J. C., assistant surgeon, will return to the United States by the "Beninngton."

Farenholt, A., passed assistant surgeon, will return to the United States by the "Concord."

Pigott, M. R., passed assistant surgeon, from the Naval Academy and ordered to the "Chesapeake" same day.

Ohnesorg, K., assistant surgeon, detached from the Naval Academy and ordered to the "Newport" same day.

High, W. E., assistant surgeon, detached from the "Manila" and ordered to the hospital.

Beebe, D. G., assistant surgeon, detached from the "Yorktown" and ordered to the "Isla de Cuba."

Berryhill, T. A., surgeon, detached from the "Monogahela" on reporting of relief and ordered home and to wait orders.

Wheeler, W. M., passed assistant surgeon, detached from the "Vermont" May 3, and ordered to the "Kearsarge."

Barber, G. H., passed assistant surgeon, detached from the "Kearsarge" and ordered to the "Monongahela."

Morgan, D. H., assistant surgeon, ordered to the "Vermont," May 3.

Boyd, J. C., medical inspector, detached from duty as Assistant to Bureau of Medicine and Surgery, Navy Department, and ordered to the "New York" as fleet-surgeon of the North Atlantic Station.

Fitzsimons, P., medical inspector, detached form the "New York" as Fleet Surgeon of the North Atlantic Station, and ordered to proceed home and wait orders.

Gatewood, J. D., surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, May 3, and ordered to duty as Assistant to Bureau of Medicine and Surgery, same day.

Foreign News and Notes.

GREAT BRITAIN.

University of Edinburgh.—It is confidently expected that, now that Professor Osler, of Baltimore, has definitely declined to be put into nomination, Dr. Byrom Bramwell will be elected professor of medicine in the University of Edinburgh in the room of the late Professor Grainger Stewart.

The Royal College of Physicians of London.—At a ballot for the presidency of the college held recently Dr. W. S. Church was reelected president by practically a unanimous vote. He received 92 votes, Sir William Broadbent received 4, Sir Richard Douglas Powell, Dr. Pavy, and Dr. W. H. Dickinson 1 each. Dr. Church who was very little known outside his intimate circle at the time of his election has proved a great success in office.

New LL.D's of Edinburgh University.—The spring graduation ceremony of Edinburgh University was very interesting this year. The recipients of the honorary degree of LL.D. included two medical men, viz, Dr. C. D. F. Phillips, the well-known writer on materia medica, and Dr. Anderson Stuart, professor of physiology in the University of Sydney; one lady, Miss Eleanor Omerod, adviser in entomology to the Board of Agriculture and the first female recipient of an honorary degree in laws at Edinburgh; and one ambassador, his Excellency the Hon. Joseph Hodges Choate, ambassador to the English Court from the United States of America.

The death of the Earl of Londesborough, which occurred recently in England, has brought to the recollection of medical men the extraordinary story of the Scott-Sanders forgeries. Lord Londesborough, always a patron of elegant Bohemia, was persuaded by Dr. Scott-Sanders, a very good-looking plausible young medical man, to finance a club called the Lyric Club, where the worlds of fashion, art, and science could disport themselves without the stiffness prevalent, or supposed to be prevalent, in high society. The Lyric Club had a short success, but suddenly collapsed, when Dr. Scott-Sanders was found to have forged Lord Londesborough's name on various bills for enormous sums. The greater part of the money was undoubtedly sunk in the club, which was managed by Dr. Scott Sanders with colossal profuseness, but the acts of forgery were proved to be deliberate and continual, and the offender received a long term of penal servitude.

Mr. McHardy, ophthalmic surgeon to King's College Hospital and the Royal Eye Hospital (Southwark), has made a forcible complaint of what he terms the unreasonable demands of the London School Board upon the ophthalmic service of the London hospitals. No doubt there is much in what he says. But the public will expect the hospitals to try to cope with the difficulty as far as possible, because the neglect of the eyesight of the young is little less than a national misfortune. Short sight is a common defect in English children and if neglected the evil becomes permanent and serious. Easily made worse by injudicious methods of education, short sight debars the lad from entering the army, navy, police force, or railway service. It is therefore an evil of a far-reaching sort and the School Board must do their best to meet it. Mr. McHardy holds that the Board should be prepared to provide a medical officer capable of inspecting, and if necessary of treating, the eyesight of the pupils. If this plan were adopted the school-rates of London, already enormously high, would be increased considerably, a fact which will probably prevent any innovation upon such a line.

The Progress of the South African War.—"Medical men," says a regular correspondent, "are beginning to be anxious as to the prolongation of the war. The Royal Army Medical Corps is undermanned and no particular effort has been made in England to strongly reinforce it. Hitherto epidemic disease has been practically absent from the British army. There has been little malaria or rheumatism and still less pneumonia. There has been a certain amount of enteric fever and about 11,000 wounded men, almost all of whom have recovered and a large percentage of whom have returned to the front. But as the year goes on and the weather gets colder, while the strain of long campaigning gets mere severe, this comparative immunity from disease will not last. Already a larger percentage of sick and wounded are dying and all circumstances point to the proportion of fatality going up. It is also noticeable that Lord Kitchener's arrangements for the transport of the wounded under Lord Roberts are not so humane as those that were made by Sir Redvers Buller, and as the next great advance forward of the British army will be undertaken with Lord Kitchener as organizer of transport, we may expect a higher percentage of deaths from wounds. All these things suggest to the medical mind that the Royal Army Medical Corps should be supplemented now, before the stress is felt more severely."

The Representation in Parliament of the Universities of Edinburgh and St. Andrews.—The death of Sir William Overend Priestley creates a vacancy in the parliamentary representation of this double constituency. For many years the representative was a legal man, but when Sir William Priestley was asked to stand, the Universities awoke to the fact that it was time that their medical graduates—certainly their best known and most important alumni—had an innings. Sir William Priestley was a parliamentary success, and it is said he will be succeeded by a medical man. Sir John Batty Tuke, an ex-president of the Royal College of Physicians of Edinburgh, and the mouthpiece of that body upon the General Medical Council, has been invited to become a candidate, and will probably be elected. Sir John Batty Tuke is an M D. of the University of Edinburgh, and is well known both in the scientific and economic worlds as a shrewd authority upon mental diseases and the management and care of the insane. He has also been chairman in the General Medical Council of the Education Committee—a committee which discharges the section of the Council's work that is of most importance to the general public. Both on general and medical grounds no better representative in Parliament of the two Scotch universities could have been selected, and it is possible that the fact will be recognized in a practical way by the nonappearance of any rival candidate. Like Sir William Priestley, Sir John Batty Tuke is a conservative and a supporter of the existing Government.

The Report of the Army Medical Department for 1898 has just made its belated appearance. Taking the average strength of the European troops at home and abroad as 202,166, the returns show a ratio of 981 9 admissions to hospital per 1,000 of strength, while the death-rate per 1,000 is 10.8. During 1898 the health of the army in India was better than usual despite the epidemic of plague, for there was a decline in the rate of admission to hospital and fever soldiers were returned as "constantly sick." Malarial fewer (on the increase) and venereal diseases (on the decrease) were responsible for more than half—about 55%—of all admissions to hospital, while the admission rates for cholera and dysentery were lower than usual. But enteric fever was more prevalent as it was in the British army wherever stationed throughout the year. The Khartum expedition suffered severely from enteric fever, and 90 cases with 10 deaths occurred among the troops employed in the Soudan war after their return to England, showing the long latent period of the disease. Enteric fever was also very prevalent in South Africa, especially in Natal, a fact which tallies well with the account now being made public of the severity with which the Ladysmith garrison were attacked by the same disease early in 1900. Enteric fever must be considered endemic in Ladysmith, and mere medical men cannot help wondering why this fact, which must have been well-known to the War Office, did not prevent this unfortunate town from being selected as the British base in Natal.

The Vaccine-Lymphs of Commerce.—The *Lancet* of April 28, is numbered 4,000, and the editors allow themselves to speak with some pride of the long history of their journal. We endorse their remarks and congratulate our contemporary upon its record; and in so doing wish to speak with particular commendation of a report upon vaccine-lymphs which is the most striking feature of their 4,000th issue. After the appearance of the report of the Royal Commission on Vaccination, in which the adoption of glycerinated calf-lymph as the agent for legal vaccination was clearly foreshadowed, many firms placed upon the market

glycerinated calf-vaccine lymphs. The *Lancet* has now carried out an exhaustive investigation into the claims of 13 of the best known of these lymphs, and the result of its labors should be of great use both to the medical profession and the public. The lymphs are found to vary much in their standard of bacterial purity, but it is satisfactory to see that even the worst is not persistently bad. The names and addresses of the manufacturers are published in full, so that opportunity for reply is given to those who may consider themselves impeached, while medical men can use the information as a guide to them in choosing a lymph to employ. Of the 13 lymphs chosen for investigation that supplied by the Local Government Board of Great Britain was one, and it is interesting to note that in a summary of the relative bacterial purity of the sample, the official lymph of the Government occupies a middle place, the lymph of 6 private firms ranking above it and of 6 below it. The investigation only causes us one misgiving. Can the results not be seized upon, distorted, and used in opposition to scientific truth, by those opposed to vaccination?

Twenty-four Years of Death-Certification.—At the last meeting of the Medical Society of London, Dr. H. Campbell Pope read an interesting paper entitled "Twenty-four Years of Death-Certification in General Practice." The series of deaths tabulated consisted of 595 cases and was divided as follows: Carcinoma, 51; kidney diseases, 14; diseases of the lungs, 170; diseases of the heart and circulation, 46; scarlet fever, 9; typhoid fever, 4; diphtheria, 5; measles, 18; rheumatism, 11; diabetes, 8; senile decay, 8; influenza, 18; general tuberculosis, 2; tetanus, 2; hemophilia, 2; liver diseases, 14; gout, 9; anemia, 3; purpura, 1; debility and malnutrition, 62; diseases of the brain and nervous system, 69; extrauterine gestation, 1; ovarian and uterine disease, 2; parturition, 8; hernia, 1; diseases of the digestive system, 42; erysipelas and septic diseases, 9; lymphadenoma; 1; bladder diseases, 5. The conclusion which Dr. Pope drew from his figures were not, he said, those which he should have expected to draw. The 24 years of medical life with which his statistics deal have been spent in the west of London, where so large a proportion of deaths from respiratory diseases was certainly not to be anticipated. The comparative infrequency of death from infectious diseases he attributed in part to the gravel subsoil and in part to the excellent preventive arrangements made by the medical officer of health for the district—the latter factor playing, we should think, the more effective part. There was, he considered, a lamentable waste of young human life, but as his figures purposely exclude deaths made the subject of coroners' inquiries they are not complete under this heading. It happens that the annual volume of criminal statistics for 1899 in Great Britain has just been issued on a Parliamentary return and from it we learn that, while for every 1000 legitimate children born it was necessary to hold 6 inquests, for every 1,000 illegitimate children born it was necessary to hold 31 inquests. These figures shed a lurid light on the chances of the unwanted infant, of whom it must be remembered many die without their fate being subjected to inquest, inasmuch as the midwife's certificate of stillbirth is granted very loosely. Dr. Pope's practice lying in the west end of London may not have brought him closely in contact with the tragedies that are thus hinted at, but they seriously affect infant mortality in large cities. We commend Dr. Pope's example of keeping a statistical record of his cases to other physicians in general practice. In hospitals the results of clinical work are carefully tabulated, but most of the experience of general practitioners dies with them. This is an enormous waste of valuable information.

Measures to Lessen Inebriety in the British Army in Scotland.—The problem of how to deal with habitual inebriates has been long before the country. This is the class that swells the statistics of police courts and furnishes the greater number of recruits for pauper lunatic asylumns. According to the *Bulletin* a Parliamentary commission a couple of years ago took evidence on the subject and made recommendations, and largely on account of the attention then directed to the matter some practical steps have been taken by the State to reclaim the inebriate, and making him a decent member of society, before he drifts hopelessly down the stream. Several State Inebriate Reformatories have been established. One of the most important of these has been converted out of a disused wing of the Berth General prison, and this week the Secretary for Scotland has drawn up regulations for the management of these institutions so that they will now be enabled to open their doors. The regulations provide for the appointment of commissioners to overlook generally the affairs of these reformatories; but visiting committees nominated by county councils and the magistrates of burghs are to be elected to manage the affairs of each reformatory. Very strict rules are laid down for the appointment and guidance of the officials of these reformatories. Superintendents are to have charge in each case, and are to be responsible for the conduct of the institution with which they are connected. They are directed to study the history and character of each inmate, and to do their best to bring reformatory influences to bear upon the men and women under their charge. One of the regulations is that no officer is permitted to taste spirituous or intoxicating liquors while engaged in the institution; and while there are punishments for refractory intimates, there are rewards and gratuities for the industrious and well-doing. This experiment, directly under State control, for the reform of inebriates, will be watched with great interest by all social reformers.

CONTINENTAL EUROPE.

A Pasteur Institute has been inaugurated at Tananarive, Madagascar.

A monument to Tarnier is to be placed in front of the lying-in clinic, in the Rue d'Asses.

The latest treatment for tuberculosis in Paris is a 2.8% solution of fluoroforme, in doses of 5 teaspoonfuls a day.

The Academy of Medicine (Paris) has elected Prof. Sklifassovski (St. Petersburg) and Prof. Röntgen (Munich) as foreign associates.

The Berlin Academy of Science recently celebrated its bicentenary in the presence of the Emperor and representative savants from all parts of the world.

The late Baronne de Hirsch left a legacy of 100,000 f. to Prof. Landouzy for the Hôpital Laënnec, and 10,000 f. to Prof. Bergeron for the hospitals of the Marine.

Paris Théatre Médicale is the name of a new medical journal that has just been launched. It is intended to be the organ of the 650 doctors employed by the Paris theaters.

A congress of Polish medical men and scientists will be held at Cracow in July. In connection therewith will be a medical and scientific exhibition limited to Polish firms and such foreign firms as produce articles which are not made in Poland.

Venereal Diseases in Jerusalem.—According to the *British Medical Journal*, the erection of a hospital for venereal diseases in Jerusalem is said to be in contemplation. The hospital will be situated at Ghaza, and will provide accommodation for 90 patients.

The New Medical Faculty of Odessa.—Dr. Podwyssotzki, professor of pathology in the University of Kieff, will be the Dean of the new Faculty of Medicine of Odessa, which is to be opened in the course of the present year. The election of professors will take place in May.

Vaccination Compulsory in Constantinople.—Vaccination, it is announced in the *Archives Orientales de Médicine et de Chirurgie* (quoted by the *British Medical Journal*), has been made compulsory in Constantinople. Parents neglecting to have their children vaccinated are punishable by a fine of 150 piasters.

A Sanatorium at Turin.—The Turin Savings Bank is promoting the establishment of a sanatorium for the tuberculous poor belonging to the Commune and Province of Turin. It has assigned 150,000 lire (£6,000) towards the erection of such a sanatorium, which is intended to build when funds sufficient to maintain 40 beds are available.

An Anatomic Congress at Pavia.—The Anatomical Society held its annual meeting this year at Pavia from April 18th to the 21st, under the presidency of Professor Gustav Retzius, of Stockholm. Among those who contributed papers were Professors Waldeyer, His, v. Kölliker, Giocomini, and other well-known anatomists.

Riberi Prize.—The tenth reward of the Riberi Prize of 20,000 lire (£800) will be made by the Royal Academy of Medicine of Turin on December 31, 1901, for the best printed or manuscript work, or the most important discovery, during the quinquennium, 1897–1901, in the domain of experimental pathology, hygiene, or forensic medicine.

Paris Association of Female Students.—The number of female students, Frenchwomen and foreigners, in the Paris Faculties, including the Faculties of Science and Medicine, has increased so much during the last five years that, according to the *Lancet*, some young Frenchwomen, Russians, and Roumanians have proposed to form themselves into the nucleus of a female association analogous to the General Association of the male students. The object of this new association will be to make the female students better acquainted with one another, to give assistance to those who are in need of it, and to provide something of the nature of a family circle, especially those who having come from far and not possessing the means of frequently returning home lead a solitary existence in Paris during the long week of the vacations when study is necessarily interrupted. Only one of the female students of medicine in Paris is English.

MISCELLANY.

Swiss Mortality-Statistics for 1899.—The Federal Statistical Department has published its report for 1899 with a death-list of 58,052 for a population estimated at 3,144,741, or a mortality of 18.0 per 1000 inhabitants. The infantile mortality was high, representing 22.5% of the total, but there was a percentage of 20 deaths of people over 70 years of age. The deaths from infectious diseases numbered only 4%, those from organic heart disease 4.4%, and those from cerebral hemorrhage 3.9%. Accidental deaths showed a rate of 5%, a small fraction of these—only 168 in number—being suicides, or only 3 in 1000. Congenital debility accounted for 6.6% of the mortality and senile marasmus for 7.1%, whilst phthisis, together with other tuberculous diseases, stood prominent with a percentage of 15.6, surpassed only by diseases of the respiratory organs, which were 17.8. Very few (41) fatal cases of influenza were reported. Only 2,738, or less than 5%, of the deaths were not medically certified. The surplus of births over deaths amounted to 36,619. —[*Lancet.*]

International Medical Congress.—The committee in charge of the Paris Congress has been at work for two years, and now announces that the preparations are practically completed. This committee is composed of men who have had experience in previous congresses, as follows: President, Prof. Lannelongue; secretary, Count M. Chauffard, and MM. Bouchard, Bouilly, Brouardel, Dieu, Gariel, le Dentu, Malassez, Nocard, Raymond, Rendu, Roux. Five main sections have been made: (1) Biology; (2) medicine; (3) surgery; (4) gynecology and obstetrics; (5) public health and forensic medicine. Biology has been divided into three parts: (1) Descriptive and comparative anatomy; (2) histology and embryology; (3) physiology, physics, and chemistry in relation to biology. Medicine has been given ten sections: (1) General pathology; (2) bacteriology; (3) morbid anatomy; (4) Internal pathology; (5) children's diseases; (6) therapeutics; (7) pharmacology and materia medica; (8) nervous diseases; (9) psychiatry; (10) dermatology and syphilography. Surgery comprises the seven following divisions: (1) General surgery; (2) children's surgery; (3) genitourinary surgery; (4) ophthalmology; (5) laryngology; (6) otology; (7) stomatology. Obstetrics and gynecology each has its own section. Public medicine is divided into: (1) Medico-legal jurisprudence; (2) military medicine and surgery; (3) naval medicine; (4) colonial medicine. The general meeting will be held in the large amphitheater of la Sorbonne. The sections will meet in many hospitals and other public places throughout Paris, most of which are grouped about la Sorbonne. An American who has secured his membership ticket, and his railroad circular, should remember to carry out the instructions for his own good, and that of the Congress. To be able to make use of the free return ticket from Paris to any frontier, the foreigner must have his railroad circular stamped when he enters France, and also at the offices of the Congress administration, and he must return the same way he came. On arriving in Paris he should go the offices of the Congress, near the "École pratique de la Faculté," Rue de l'Ecole de Médecine, and there procure all necessary instructions, as regards program, invitations, locations of sections, etc., all of which will be given in the foreigner's own language. The French physicians have worked hard to make this medical congress an important part of the great exhibition of 1900. And they hope to show to the world that they are worthy followers of Bichat and Laennec, of Claude Bernard and Pasteur.

Obituary.—Sir William Overend Priestly, M. D. Edin., F.R.C.P. Lond., member of parliament for the Universities of Edinburgh and St. Andrews, and consulting physician (late obstetric physician) to King's College Hospital, London.—Dr. Friedrich Aub, of Munich, President of the German Medical Association. For many years he was a member of the Bavarian Parliament and was a very effective speaker.—Dr. H. Saxtorph, formerly professor of clinical surgery in Copenhagen.—Dr. A. Murillo, Dean of the Medical Faculty of the University of Santiago, Chili.—Dr. Johann Hofmokl, extraordinary professor of surgery in the University of Vienna.—Dr. Pietro Cavallo, who, in conjunction with Salvatore Tommasi, founded in 1857 *Il Morgagni*, the journal which was the pioneer of the renascence of medical science in Italy.—Dr. Maroy, General Secretary of the Société Royale de Médecine Publique et de Topographie Médicale de Belgique.—Dr. Stocherbakoff, sometime professor of physiological chemistry in the University of Kasan.—Dr. J. B. Léon de Malherbe, formerly professor of clinical medicine at Nantes and Senior Physician of the hospitals of that city, aged 80.—Dr. E. Buchheim, of Vienna, author of a work, *Ueber Versicherungsdiagnostik*, one of the first in which the subject of life assurance was handled from the point of view of medical science, aged 75.—Dr. Eugen von Farkas, Sanitary Inspector of Buda-Pesth, who had won distinction in experimental surgery as well as in sanitary science, aged 35. —Dr. Pasquale Sorosso, professor of clinical ophthalmology in the University of Naples, and author of numerous contributions to the literature of his specialty, aged 44.—Dr. Wilhelm Marcuse, of Berlin, whose name is associated with original work in physiology, aged 40.—Dr. Marchal, one of the most respected practitioners of Lorraine, author of works on medical hydrology, aged 74.—Dr. Edward Kenny, L.R.C.P. and S., Edin., L.A.H. Dub., coroner for the city of Dublin, April 9, aged 55 years.

University Appointments.—Athens: Dr. Protopoulos has been appointed professor of dermatology and syphilography.—Berlin: Dr. J. von Michel, of Würzburg, has been appointed to the chair of ophthalmology in succession to Dr. Schweigger, resigned.—Geneva: Dr. Oltramare has been promoted to be ordinary professor of clinical dermatology. —Graz: Dr. Friedrich Dimmer, of Innsbruck, has been appointed professor of ophthalmology in succession to Dr. Borysiekiewiez, deceased. Dr. Paul Strübing has been promoted to be ordinary professor of internal medicine and Director of the Medical Polyclinic.—Lausanne: Dr. A. Treyer, of Freiburg (Switzerland) has been appointed professor of internal medicine.—Lyons: Dr. J. A. Courmont has been promoted to the chair of hygiene.—Lille: Dr. Surmont, professor of hygiene, has been elected professor of internal pathology and experimental pathology to succeed Prof. Leroy, deceased. —Prague (German University): Dr. Ewald Hering has been promoted to an extraordinary professorship of general and experimental pathology. (Bohemian University): Dr. Rudolf Kimla, *privat-docent* of pathological anatomy, has been granted the rank and title of extraordinary professor.—Warsaw: Dr. P. V. Nikolski of Kieff has been appointed extraordinary professor of dermatology and syphilography.—Marburg: Dr. Ernst Romberg, extraordinary professor in the University of Leipzig, has been elected ordinary professor of internal medicine.—Florence: Dr. Luigi Guaita, professor in the faculty of medicine in Sienna, has been elected professor of clinical ophthalmology to succeed Prof. Cesare Paoli, recently resigned.—Glasgow: Dr. Hector C. Cameron has been elected professor of clinical surgery to succeed Prof. George Buchanan, recently resigned.

Society Reports.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-sixth Annual Meeting, Held at the Normandie, Washington, D. C., May 1, 2, and 3, 1900.

(Concluded from page 1007.)

SECOND DAY.

THE morning session of the second day's meeting of the American Neurological Association was marked by a spirited discussion on the neuron doctrine in its relationship to disease of the nervous system.

The first was a deferred paper from yesterday's session by DR. F. X. DERCUM, entitled, **Autopsy of a case of adiposis dolorosa with microscopic examination.** The patient was a woman, 51 years old, and a native of Ireland. There was nothing particularly striking about the family-history. She was in good health until she was 49 years old, and was probably addicted to alcoholic excess. She first noticed enlargement of the arms, accompanied with shooting pains in both shoulders, the side and chest, but most marked in the upper arms. The skin was not thickened and was not adherent to the adjacent tissues. The muscles were not involved in the swelling. There were slight quantitative and qualitative changes noticed in the muscles of the forearms. Cutaneous sensibility was diminished. There was no alteration of gait, but both kneejerks were lost. In two other cases reported by Dr. Dercum there were likewise noticed a loss in kneejerks. In the present case the face appeared pale, as was also the mucous membrane. The patient was intelligent in appearance, with well-formed features; dark and fine hair, but with dry skin. Examination of the eyes revealed little abnormal. The urine and blood were negative to examination and there was no leukocytosis. The patient was under observation for eleven years. Small nodules would make their appearance, and the enlargement involved likewise the abdomen, hips, thighs, legs below the knee. The feet and hands were not involved until the last. On several occasions the paroxysms of pain were severe, and the patient would be taken with vomiting, sometimes blood. She suffered from frequent attacks of bronchitis, accompanied by dyspnea. At various times, she exhibited cardiac trouble, which, in connection with adiposis dolorosa, led to her death. At the autopsy, the hair on the pubis was scant, and none in the axilla. The intestines were distended with gas, but disclosed nothing abnormal, except fatty infiltration. A microscopic study of the various changes did not exhibit anything significant, except the heart-muscle, which was found very friable, and of yellowish color. The microscopic examination included a study of the subcutaneous tissues, peripheral nerves, spinal cord, pituitary body, and the thyroid gland. Earlier in the case small portions of the subdermal tissue were excised and it was thought that the fat was embryonal in character, but such was not the fact; the fat revealed nothing peculiar. There was marked diminution and atrophy of nerve-fibers. The spinal cord presented a decided change in the dorsal and cervical regions. The lumbar cord failed to present any change. There was likewise no change in the brain nor in the pituitary body. The thyroid gland was very interesting. Though not weighed it was quite small, and the microscopic examination proved it to be abnormal beyond all doubt. There was complete absence of colloid material. It was believed that the derangement of the thyroid gland caused certain substances of an abnormal character to be thrown into the circulation. In discussion DR. BURR said that within the last 6 months he had had an opportunity of making an autopsy and examining a case of the same character. There was in association a new growth of the pituitary body. He thought that this was merely accidental, as he did not believe that disease of the pituitary body would cause any deposit of fat. There was distinct affection of the thyroid gland and interstitial neuritis within the muscles. There was degeneration of some of the voluntary muscle-fibers. DR. PUTNAM spoke of a case of progressive muscular dystrophy and congenital blindness occurring in the same family.

The first paper on the **neuron-theory** was by DR. L. F. BARKER, entitled **The anatomico-cytological relationship of the neuron to disease of the nervous system.** The paper dealt with the present status of the knowledge of the units in the nervous system. The history of the neuron-doctrine was traced. The conception originated with the pathologists (Ford), was supported by the embryological work of His, and by histological studies made by Golgi's method. Waldeyer, in 1891, collected the evidence in favor of the view and gave to the nerve units the name "neurons." Barker sees in the neuron-doctrine nothing more than the application of the cell-doctrine to the nervous system; until it was shown that the axis-cylinder of a nerve-fiber and its end-ramifications are integral parts of a single cell; it was impossible to apply the cell-doctrine intelligently to the nervous system. The contact theory is regarded as refutive; it is not an integral part of the doctrine of nerve-units or neurons. The retraction theory has never had any adequate basis. The studies of Apathy and Bethe are regarded as extremely important as bearing upon the intimate relations which exist between the nerve-centers; they do not interfere in any way with the retention of the units themselves.

The next paper was by DR. W. G. SPILLER entitled **The pathological changes in the neuron in nervous disease.** The doctor proposed that the most important question is, does pathology afford any support for the neuron-doctrine or the changes occur of such character that we can obtain from them the existence of the neuron? It must be shown that the neuron is affected by disease, that is, whether the cell-body may become diseased and die without the existence of the axone. It must be shown whether the disease of sensory neurons affects the motor neurons. Degeneration has a tendency to evolve groups of nerve-cells and processes. To what degree does a neuron become diseased? If we cut an axone, the cell-body in which the axone arises undergoes rapid alteration and possibly death. An axone is only partially dependent on the nerve-cells for vitality and if the blood-supply is cut off that portion deprived of circulation will die, but the cell-body is necessary to the axone. Dr. Spiller exhibited a number of radiographs, showing certain pathological changes in the brain. He said that in a Gasserian ganglion which he removed he found alteration of the nerve-cells of that ganglion, but was not able to find any change of the sensory tract. The destruction of the nerve-cells of the spinal ganglion was much less in certain experiments, and therefore it might be expected to find a slight alteration in the posterior root. There is a tendency for the entire neuron to undergo entire alteration when attacked by disease or injured. A very interesting question is the degree of limitations to one set of neurons. It is certain that a retraction exists, but this is occasionally overcome.

DR. B. SACHS read his paper under a different caption from that which was announced—**How does the doctrine affect the conception of nervous disease?** He said that the introduction of the neuron-theory promised to bring about a general revolution in the conception of nervous disease. With a single swoop the mysteries and doubts of years were to be cleared away. Granted that the structure and function of the nervous system can be interpreted much more readily in the light of this doctrine, it still remains a question whether it has been a great assistance to us in determining the causation and development of the various diseases of the nervous system. It has been shown that the nervous system is composed of a series of contiguous, not continuous, units; that in this nerve-unit, composed of the cell-body, with its dendrites, the nerve-fiber or neuraxon, and the terminal tufts, the cell-bodies exercise atrophic influence over the entire neuron; furthermore, that the nerve force, to speak in general terms, could travel from the cell-body to the periphery and from the periphery to the cell-body. This question of the trophic influence of the cell-body had to be discussed before the profession could appreciate the value of the neuron in its relation to the nervous system. The doctrine helped us very little in our understanding of the cure and inflammatory processes, for such processes do not respect the final structure of the brain or cord, and are generally so destructive that it would matter little whether this nervous system were made up of contiguous or continuous units. Tabes dorsalis is to be accepted as a disease of the direct sensory neuron; whatever the nature

of the poison circulating in the body may be, the sensory fiber is the part primarily affected. Even if the view could be maintained that the disease began in the spinal ganglion-cell, this ganglion-cell would not be diseased unless there was something wrong with the peripheral stimuli conveyed to it. It is not necessary to enter upon a discussion of the aid rendered by the neuron doctrine of the interpretation of nerve-diseases.

DR. H. H. DONALDSON then addressed the Society upon **The physiological significance of the size and shape of the neuron.** The Doctor presented interesting data concerning the study of the neuronic elements in the white rat. In these animals the examination was made of the cell-bodies from the spinal ganglion, which send their axones to form the sciatic nerve. The ganglionic cells become progresively larger. At birth the white rat is entirely devoid of medullated fibers. During the first six or eight days of life the medullated sheaths begin to appear. The appearance of the medullary sheath about the axones is a very rapid process in the first case. DR. PUTNAM thought that the notion should be greatly modified or abandoned that the cell-body is the place for the storage of anything particularly standing for the function of the nervous system as a whole. He said that the term is very often used in books on clinical medicine of the storage of memories of the cortex in the brain. DR. LANGDON said that it seemed to him that to begin at this day to criticise the neuron-doctrine and neuron discovery or hypothesis, is very much like criticising the architecture of a building of which the plans are not yet drawn. He thought that one could safely say in regard to the neuron doctrine, that anatomically it had given much help. DR. VAN GIESON did not think that the neuron-theory needed so strong a defence. DR. MILLS thought that the term neuron in this connection had done harm rather than good in the teaching of the new doctrine in this way, but he said that there could be no doubt that the neuron-theory must stand—in other words, there is a certain degree of interdependence of nerve-cells that has been demonstrated. DR. DERCUM thought that it was best to wait until the knowledge on this subject is more complete, until more is known about the details of the relation of the neurons to each other in all portions of the nervous system. DR. COLLINS said that in discussing the neuron-doctrine we were not dealing with theories but with facts. He thought that one of the most valuable points which had been brought out in the meeting was the necessity of using the term nerve-cell as represented by the neuron and not speaking of the nerve-cell as meaning the cell-body. He thought this would bear fruit in the future. DRS. THOMAS, SMITH, and ANGELL expressed their views pro and con upon the neuron-theory, its pathologic, physiologic, and anatomic relationship. In closing the discussion on his own paper, DR. SACHS said that he did not want it to be construed that he was pessimistic in his belief and that if it seemed that he was of that opinion, it was simply because he was anxious. He simply wanted to show that even in the neuron-theory there was some limitation. DR. BARKER said that his conception of the neuron is not purely morphological. It is based just as much on physiological and pathological results as on morphological. Indeed, he thought there was a tendency to distinguish too much between the morphological and physiological concepts. In reference to diseased conditions and the relation of the neuron-doctrine to the study of disease clinically, he thought that it had been of much help.

THIRD DAY.

DR. JAMES J. PUTNAM read a paper on **Clinical and anatomical analysis of cases of diffuse myelitis.** The case especially reported presented the aspect of pernicious anemia. He had seen a large number of cases belonging to that group, and will be able to analyze 25. He held this to be a distinct disease, just as much as tabes, the lesions not being the result of accidental vascular lesions. In the case described there was cachexia, numbness of the extremities, and anemic softening of the cord. The characteristic lesions are more likely to occur in the foci, the essential point being that the nerve-root zone is not affected, or even slightly so, so that the lesions are confined to the spinal cord alone. Earlier examinations of the blood were not made, but he had begun to make them in the last year or two. The indications of anemia, as evidenced by large macrocytic corpuscles, are very common and it is quite possible that they are universally present in these cases. He had another patient with pernicious anemia in whom there has been great improvement in the blood the blood-count has come up from 3,000,000 to 5,000,000, but the spinal symptoms continue. He had one case covering a period of 13 years. DR. LANGDON said there were two groups of pernicious anemia, one of which was without this spinal degeneration. He has followed to the end two cases of marked pernicious anemia, and had an opportunity to test them a few weeks before death, without the slightest evidence of spinal symptoms. He recorded a case in his own practice of a lady with a spleen extending down to Poupart's ligament and to 3 inches to the right of the umbilicus; her nervous symptoms were exceedingly vague, and the most careful examination did not reveal any appreciable functional alteration. She presents some anemic appearance. This patient with marked pernicious anemia, as shown by a thorough blood-examination, and marked evidence of degeneration in the posterior and lateral columns, had mucous colitis, and he thought it was interesting to know the connection between the bowel-condition and the hematic and degenerative states.

DR. MORTON PRINCE read a paper on **Section of the posterior spinal roots for relief of pain in a case of neuritis of the brachial plexus; cessation of pain in affected region; later development of Brown-Sequard paralysis in area, and pain in other areas as result of laminectomy.** The case related was that of a man who was struck by a train and received a Colles' fracture of the left wrist. Paralysis of the right arm supervened, rendering the arm useless from the shoulder down. The paralysis affected the muscles of the forearm and pronators. There was a diminution of sensation over the lateral areas. Pain was present in the thumb, forefinger, and back of the wrist. He presented a diagram showing the location of the intense pains to relieve which 3 operations were undertaken at different times. Finally an operation was performed which was partially successful for the purpose for which it was undertaken. Six weeks after the accident and before the operation there were areas of anesthesia and analgesia over the radial aspect of the hand, thumb, and forefinger, and extending upward over the same aspect of the arm. In time a severe pain in the back of the neck gradually developed. Even after the discharge from the hospital the man suffered severe pain around the neck and head; it was thought that this might have been caused by injury to a nerve during the operation. The arm was practically useless. His leg was spastic, and he could not support himself on it. There was anesthesia in the right leg. He has a sensation of extreme coldness in the right foot. The patient is perfectly satisfied with his condition, thinks that the operation was a great success, and the only thing he wants is to have his arm amputated, which has been promised, owing to its absolute uselessness from paralysis. DR. S. WEIR MITCHELL asked the date of the operation, which was given as October 20, and the injury 15 or 18 months before; the essayist further said that the muscles are extremely atrophied, especially the deltoid, and the muscles of the shoulder-joint and arm hang down and drag on the shoulder, and this is the cause of the present pain about the shoulder-joint. DR. MEYER said that the profession was again considerably at sea with regard to the anatomic and clinical correlation of the Brown-Sequard paralysis, since Brown-Sequard stated in his last publication on the matter that he had to change his view completely concerning this subject, since on cutting the posterior root he had obtained the Brown-Sequard symptom-complex; further by making a second hemi-section lower down, after producing the Brown-Sequard syndrome he was capable of simply reversing the whole picture in the posterior segments of the body. DR. PRINCE said that he never had seen a laminectomy performed for any purpose of this kind without thinking of the possible dangers from an ordinary blood-clot being produced.

DR. BURT G. WILDER spoke extempore on the subject of **Revised interpretation of the central fissures of the educated suicide's brain, exhibited to the Association in 1894.** The suicide was a dentist who had willed his brain to Dr. Wilder, and who shot himself twice, the first ball being deflected and producing no injury, while

the second ball penetrated the region of the temple with fatal results. Dr. Wilder emphasized the persistency of the man in trying to take his life, saying that it was a rare condition in a person not known to be a maniac which would force him to actually shoot himself again after the first shot had not taken effect. He had about 100 well-preserved human brains and has compared them all with reference to this point. DR. MEYER said we were too much inclined to speak of having taken a section out of the paracentral lobule, and that at times there is utmost failure to find Betz's cells, while in other parts of the paracentral lobule down to the corpus callosum Betz's cells are found. DR. CHARLES K. MILLS thought that the report of Dr. Wilder's case emphasized the importance of not coming too quickly to conclusions with regard to the duplication of fissures; that he had seen a great many human brains during the last 20 years, and while he could not say frequently, he could say that in a number of instances he had seen an appearance of the duplication of the central fissure, not so marked, however, as in that presented by Dr. Wilder. He thought that the conclusion should never be reached that duplication of the main fissure like the central fissure was present until other possibilities are excluded.

A case of malaria presenting the symptoms of multiple sclerosis with necropsy was the subject of a paper presented by DR. WILLIAM G. SAILLER. The case was one of malaria and disseminated sclerosis. The patient was in good health, so far as could be learned. In 1890 he had a chancre, and in the same year was exposed to malaria. In 1892 he lost power in the right side of his body, which disappeared in four weeks. In December, 1895, he had headache and vertigo, with drowsiness, and in the same year suddenly lost power in the left side of the body. He recovered the power of this side rapidly. In 1896 he stood unsteadily when resting on the right foot, and could not stand alone on the left foot. There was ankle-clonus on the right side. These conditions terminated in death September, 1899. The necropsy revealed an enlarged spleen. The diarrhea, which was severe before death, was probably malarial in character, estivoautumnal in type, resembling cholera. There was moderate sclerotic condition in the cord, not intense, but unmistakable; slightly thickened band of neuroglia-tissue. The cells of the anterior walls were normal, and there was no recent degeneration of the spinal cord. DR. CHAS. K. MILLS said that while this was undoubtedly a case of malaria, there was a question after all whether the ataxic symptoms, the unilateral symptoms which led to the diagnosis of disseminated sclerosis, were due to toxemia, or, in other words, to the unilateral intoxication of the nervous centers. While the malarial organisms were present in great number, there were also present in considerable number and in irregular location a number of hemorrhagic lesions. He would not attribute the symptoms in a case like this necessarily to toxemia, but would consider the possibility of small or large disseminated hemorrhagic foci, as the cause of the symptoms.

The next paper was by DR. CHARLES W. BURR, in connection with DR. MCCARTHY, entitled **A case of multiple sclerosis with autopsy.** The patient was an electrical engineer; the first diagnosis was that of tabes, which was persisted in for a year and a half. The case subsequently developed involvement of the cord with marked spasticity and some bladder trouble. The necropsy showed large patches of sclerotic tissue in the cord. The optic nerve was extensively degenerated. There was marked proliferation of connective tissue surrounding the bloodvessels. DR. ADOLF MEYER spoke briefly of a few **Reconstructions of parts of the nervous system.** He showed specimens of white rats, and demonstrated the durability of the plates he used to present the specimens; he believed they were less fragile. DR. CHARLES K. MILLS thought they were unusually good for the purpose of teaching the structures or parts of structures and the organs which have to be represented in different planes; by this method he thought the teacher could readily show and the student could readily see and get an idea quickly of parts he would otherwise not be able to comprehend.

DR. JOHN JENKS THOMAS reported **Two cases of tumor of the spinal cord.** The first case was that of a young woman, 21 years of age, who, during the course of 10 months, gradually became paraplegic. At the time of the admission of the patient to the hospital, the sensory and motor paralyses and the paralysis of the sphincter was practically complete and certainly so at a later period. From that time on the patient seemed to have had no pain. Gradually very marked contracture developed and the patient remained in much the same condition for 13 years, except for an outbreak of mental trouble with excitement, from which she made a good recovery. Death resulted from exhaustion, from bedsores, the diffuse nephritis and chronic cystitis. At the autopsy, besides these conditions, there was found a tumor of the dura in this middorsal region, which had completely compressed the cords beneath it. Microscopic examination of the cord and of the tumor showed the latter to be composed of a mass of cells, which in character resembled endothelial cells, among them many small circular bodies, made up of concentric rings, many of which were calcified. The growth was enclosed in the dura and Dr. Thomas considered it to belong to the endotheliomas. The cords showed at the level of greatest compression a complete destruction of nerve-structure which had been replaced by overgrowths of neuroglia. The cord was atrophied and showed the usual ascending and descending degenerations. The second case was one of intramedullary glioma in the cervical regions in a boy of 6. The symptoms developed 2 days after a slight injury, beginning with a pain in the right hand and arm, the left forearm being congenitally absent, and with pain in the shoulder and rotation of the head to the left. At this time there was no sensory changes. Later the paralysis of the arm became more marked and there was diminished electrical irritability of the muscles of this arm and slight paresis of the right leg with increased tendon-reflexes in that extremity. Two weeks later and 7 weeks after the onset of the first symptom the patient died suddenly with symptoms of interference with respiration. The autopsy showed a glioma of the whole of the cervical enlargement of the cord, into the upper part of which a large hemorrhage had taken place and with another large hemorrhage in the lower part of the growth, and in the central part of the cord extending well down into the thoracic. Microscopic examinations showed this tumor to be of cellular growth, but between these cells the characteristic fibers of neuroglia could be made out, while aside from the hemorrhage, to which he ascribed the sudden death, there was a slight secondary degeneration of the pyramidal tracts in the cord. Sudden death from hemorrhage into the tumor is much rarer in tumors of the cord than in those of the brain, where it not infrequently occurs, though small hemorrhages into the cord-tumors are frequent. The case was also unusual because of the rapid course from the time of the first development of the symptoms and because of the youth of the patient. The author thinks the extent of the tumor was too great for it to have developed entirely after the trauma, and he is inclined to ascribe the onset of symptoms after the injury to a small hemorrhage into the preexisting tumor, similar to the large one which probably caused death, and rejects the idea that the trauma could have acted in this case as a causal factor. The absence of symptoms which could have led to the formation of the diagnosis of an intramedullary growth was probably more apparent than real, and due to the short duration of the symptoms before the sudden and early fatal termination.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-second Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

(Concluded from page 1005.)

THIRD DAY.

A PAPER by ARTHUR AMES BLISS, of Philadelphia, on **Severe hemorrhage after operations on the throat and nose,** with a report of 5 cases, was read by title.

DR. F. E. HOPKINS, of Springfield, then introduced the subject of **Secondary hemorrhage after the use of suprarenal extract.** He remarked that the universal use of suprarenal extract had caused its value to be so fully recognized, and he himself had been so strongly impressed with the fact that it enabled the performing of bloodless operations on the nose, and also to cut into the septum in-

ternasally, that he was unwilling to believe anything against it. Yet he had been forced by experience to acknowledge that there was danger of secondary hemorrhages occurring, and he thought it his duty to call attention to this danger in order that it might be guarded against, and not at all from any wish to decry the merits of suprarenal extract, or to advise against its use. These secondary hemorrhages came on several hours after the operations, and were often so profuse as to alarm the patient. At first he had supposed that the hemorrhages might be due to the too early removal of the packing, or to some exertion on the part of the patient—to anything, in short, except the trusted suprarenal extract; but he had come reluctantly to the conclusion that there was a likelihood of having more profuse secondary hemorrhages after the use of cocain and suprarenal extract than after the use of cocain alone. This opinion was confirmed by the responses he had received to a circular letter he had sent out to other specialists asking their experience. Indeed, so thoroughly was the danger of these secondary hemorrhages recognized by some operators that they always packed the part carefully before dismissing their patient. DR. SWAIN said that while he had not noticed any serious increase in hemorrhages after such operations since suprarenal extract had come into use, he thought it natural that the greater contraction caused by a combination of cocain and suprarenal extract should be followed by a correspondingly greater relaxation. There must always be some after-hemorrhage whether cocain alone or combination of cocain and suprarenal extract was used. J. W. FARLOW, of Boston, said that he had heard some of his assistants complain of these secondary hemorrhages, but personally he had never had any of the trouble described. The fact that so many others encountered them made him think there must be something in the way of the preparation of the extract or in the treatment to account for the different results. A. W. WATSON, of Philadelphia, said he had found cocain just about as useful as suprarenal extract. The reason for the hemorrhages coming on later after the use of the latter was evidently that its action tended to defer the relaxation. He made it a point after administering cocain always to keep his patients with him until the natural relaxation came on. DR. HOPKINS, in his reply, repeated that he did not wish to discourage the use of suprarenal extract, but only to show the necessity of greater care in its use.

A case of **Ozena of probably sphenoidal origin** was reported by DR. J. W. FARLOW, Boston, a young lady suffered from nasal discharge and the formation of offensive crusts, and had been treated without success by several physicians. The case proved to be of a very obstinate character. Ultimately, by washing out the sphenoidal sinus, such a marked change was effected as to indicate that that was the source of the trouble. DR. LOGAN said the case just reported coincided with two he had had, in which relief was given by opening and draining the cells. DR. SAMUEL W. LANGMAID, of Boston, expressed the belief that in the near future they would hear of many more cases of sinus inflammation. No doubt influenza was the cause of much of this sinus trouble, and they would probably get cases of chronic sinus inflammation as the result of recent epidemics of the complaint referred to. They ought in all such cases to ascertain the condition of the sinuses, and not be content with the superficial work of spraying the nose.

DR. J. P. CLARK, of Boston, contributed two papers (1) **Bullous middle turbinates;** (2) **Two cases of benign growth of the larynx.** In regard to the first class of cases he said that removal of the growth was the one rational treatment. DR. A. C. THRASHER, of Cincinnati, described a case in which he had successfully removed a **fibroma of the larynx.** DR. C. C. RICE, of New York, reported two cases of **Partial paralysis of the vocal cord,** which, he suggested, were **due to over or improper use of the telephone.**

DR. A. W. DE ROALDES, of New Orleans, reported a case of the **Removal of a pin from the larynx** after it had been there two years, causing the child who had swallowed it infinite suffering, and leading it near to death's door before the parents brought it to the reader of the paper for radical treatment. Immediately after the operation the child began to improve, and soon was quite well. A conversation of some length followed on the removal of pins by other operators, and also as to the best way of removing them. The report of DR. D. B. KYLE, of Philadelphia, on **A peculiar case of migratory foreign body** with x-ray illustration was discussed in the same connection.

A paper on **Tracheal injections in the treatment of pulmonary tuberculosis** was read by DR. T. M. MURRAY, of Washington, who, in answer to criticisms, said he did not mean to convey the impression that tuberculosis could be cured by the process indicated. He did maintain, however, that it was a valuable aid to recognized methods of cure, and particularly the climatic one, while it gave the patient much immediate relief.

The other papers, several of which had to be read by title, were: **Correction of the deviations of the nasal septum,** by DR JOHN O. ROE, of Rochester; **Angioma cysticum of the nose,** by DR. H. L. WAGNER, of San Francisco; **The surgery of the turbinal bodies, with a new method of operating,** by DR. BOYLAN, of Cincinnati; **Dermoid cysts of the nose,** by DR. H. S. BIRKETT, of Montreal; **Recurrent tonsillar tumors,** by DR. R. P. LINCOLN, of New York; and **Hemorrhage from a peritonsillar abscess,** by DR. F. F. CHAPPELL, of New York.

The business of the Congress was brought to a close by the installation of the new office-bearers.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

(Concluded from page 1003.)

SECOND DAY.

IN the absence of Dr. Jacobi, Dr. Babcock, of Chicago, opened the meeting. The first paper was **The construction and management of small cottage sanatoriums for consumptives,** by DR. ARNOLD C. KLEBS, of Chicago, who was not present at the first session, when his paper was due. DR. KLEBS said that the chief purpose of small sanatoriums was to scatter institutions for consumptives throughout the country, and their chief advantages the wholesome regulated diet, arrangements for an abundance of fresh air, cheerful surroundings, and proper exercise. He advocated making the exercise of a useful but mild character, like gardening. The sanatorium should be located in the best possible spot, and near a large city, where good markets are available. The speaker then gave a sketch of how such cottage sanatoriums should be built, and showed diagrams of some already in operation. The usual plan is to have a long building forming an obtuse angle, the part within the angle forming a sheltered court with porches, and suitable as a place for outdoor exercise for the patients; or two or three cottages connected by galleries adapted to our double season, enclosed and sunny in winter, and with removable sides and roof for summer. The management should be under one skilled head, with authority over the patients, and the patients should have practical hygienic instruction.

In the discussion which followed, DR. H. P. LOOMIS called attention to the immense expense of the plan suggested, which was all right for people of means, but impracticable for the majority. He further said there was no doubt as to the advantages of the sanatorium treatment, and deplored the fact that we in this country were so far behind other countries in this respect. DR. C. F. MCGAHAN advocated very small sanatoriums, where the doctor in charge can see each patient at least twice a day, and personally supervise their habits and exercise. He said it could be done for $8 to $9 a week, per capita. DR. E O. OTIS believed that the future treatment of tuberculosis would be by sanatoriums, and stated that a year ago Massachusetts voted $175,000 for a sanatorium, and had just recently voted $150,000 more to build another. DR. EDSON also objected to the plan proposed by Dr. Klebs, on the ground of expense, and suggested that every doctor could carry out the sanatorium principle by a one or two-patient sanatorium, located in a carefully selected house under proper management. DR. BALDWIN stated that at Saranac the expense per capita was from $7 to $8 a week, but that Dr. Trudeau did not receive any compensation out of this. DR. NEWTON thought it would be a good thing for those of little means with incipient tuberculosis to go on a 4

to 6 weeks tramping tour under a competent head, as this sort of outdoor life would stimulate the vital functions. In rebuttal to the objections to his plan on the ground of expense, Dr. Klebs said the project he proposed was merely a cheap boarding house, 3 cottages connected by galleries, and built with a special view to their use.

The next paper was **Some personal observations on the effect of intrapleural injection of nitrogen gas in tubereulosis,** by Dr. H. P. Loomis, of New York. Dr. Loomis described how after numerous experiments on animals with all sorts of fluids and gases, he at last found nitrogen to be the only one that did not rapidly absorb, or cause some other trouble. Dr. Loomis claims for the method that the injection of from 50 to 200 cubic inches of the absolutely pure gas will not be absorbed for from 3 to 6 months, will rapidly diminish expectoration, improve the appetite, increase the weight, and above all stop hemorrhage, even when all other methods fail, but it seems to have no marked beneficial effect on the affected lung-substance. It arrests the further progress of the disease.

In discussion, Dr. H. L. Taylor said that he had tried the method in over a dozen cases, and had obtained exactly opposite results from those given by Dr. Loomis. Dr. R. H. Babcock expressed his surprise at Dr. Taylor's results, and said that the majority of cases treated in Chicago were fairly successful. He believed the treatment was of value in giving the patient an upward start toward health. Dr. Denison if the same results could not be attained by some other method, unattended by such a shock, and referred to the successful use of strapping-plaster to stop hemorrhage. Dr. Stubbert said the nitrogen treatment was only effective when the lung was absolutely compressed, and stated that he also had used it with advantage to stop hemorrhage.

The next paper was **Stomach conditions in early tuberculosis,** by Dr. Boardman Reed, of Philadelphia. Dr. Reed summarized his paper as follows: 1. In early tuberculosis the secretion of HCl is very frequently excessive, the peptic glands being in a condition of irritability which causes stimulating remedies of the creasote class to disagree and act injuriously. 2. Oils tend to depress the secretory function of the stomach, and in consequence codliver oil is likely to help the cases which the creasote class of drugs hurt, but on the other hand hurts the cases in which the gastric secretion is inactive and the other ones in which creasote and its congeners often do good. 3. Therefore, it ought to be the rule to ascertain the condition of the secretory function of the stomach before pushing either class of drugs. 4. When analysis of the gastric contents cannot be made it is safer to combine creasote with codliver oil so as to let one neutralize the other in its effect on the stomach. 5. The motor function is very generally depressed in tuberculosis, and must be restored before a cure can be effected. Drugs avail little in this direction, but diet, exercise, especially in the open air, faradism and abdominal massage, except when hyperchlorhydria complicates it, are the most valuable means of effecting the result.

In discussion, Dr. Anders called attention to the variability of HCl in this disease, and that gastric symptoms depended on functional disturbances.

The next paper was **Subsequent history of patients apparently cured by antituberele-serum,** by Dr. J. Edward Stubbert, of New York. Dr. Stubbert took up the cases he reported two years ago, and said there had been no relapses, and marked improvement in 78% of the cases. He then took each case in detail, and gave the history up to date. Dr. Stubbert spoke of the difficulty of treating patients climatically, on account of the varying effect of the serum in varied localities.

The phlebitis of advanced phthisis with report of cases of phthisis following abscesses of the hand was the next paper read, by Dr. R. G. Curtin, of Philadelphia. Dr. Curtin gave several instances of phlebitis following tuberculosis, and quoted numerous cases where tuberculosis followed blows and falls, noting especially the prevalence of the disease among prize-fighters.

In the discussion Dr. Newton asked for statistics as to phthisis, and denied that the percentage was at all large. Dr. Curtin, Dr. Babcock, Dr. Anders and Dr. Bridge all instanced cases of the same and similar conditions that had come under their notice.

The next paper, **The diagnostic value of tuberculin in tuberculosis,** was read by Dr. J. M. Anders, of Philadelphia. Dr. Anders said that the value of the tuberculin-test depended on the fact that it permits the recognition of the disease in its latent as well as incipient forms, and if it were used more tuberculosis would not so often go unrecognized. Out of over 2,000 suspected cases 71.8% gave positive reaction, and of the undoubted cases the percentage was even higher. The two points in its use are moderate doses and its use in incipient stages of the disease. If this were done its use would become more popular and satisfactory.

The last paper of the day, **Splenomyelogenous leukemia with pulmonary tuberculosis; report of a case,** by Dr. H. L. Elsner and Wm. A. Groat, B.S., New York, was read by title, Dr. Elsner stating that the condition was very rare, and showing charts illustrating the case.

At the business meeting which followed, the following officers were elected for the ensuing year: President, Dr. R. H. Babcock, of Chicago; first vice-president, Dr. A. C. Peale, of Washington, D. C.; second vice-president, Dr. S. W. Langmaid, of Boston; secretary and treasurer, Dr. Guy Hinsdale, of Philadelphia. Dr. Abraham Jacobi was elected a member of the Council.

Third Day.

On account of the number of papers still to be read, the meeting was called for 9 o'clock. The session opened with a discussion of Dr. Anders' paper on **The diagnostic value of tubereulin,** which closed Wednesday's session. Dr. Brannan asked what the exact reaction of tuberculin was, beside the "grippy" symptoms it produced. Dr. Charles Dennison objected to the use of tuberculin in large doses in advanced phthisis, on account of its disintegrating influence on the affected lung-area, and said that the starting dose in the Berlin hospital was $\frac{1}{2}$ mgm. Tuberculin might produce local reaction even when there was no rise in temperature, and in small doses it sometimes increased the number of rales. Dr. H. L. Taylor objected to the statement that we should not use the tuberculin as a therapeutic measure, saying that it often had some therapeutic value. Dr. A. C. Klebs emphasized the importance of a uniform preparation of tuberculin, in order that the results of different observers might be compared with some advantage. He said there was no danger to the patient in cautious use of tuberculin, and that a beginning dose could be as low as $\frac{1}{10}$ mgm. Dr. E. O. Otis said that syphilis often gave the reaction when advanced tuberculosis would not. Dr. Babcock asked why one could not always suspect syphilis if that disease gave the reaction. The dose might be from $\frac{1}{2}$ to 12 mgm., and in the average case should be large. Dr. Baldwin said that tuberculin was rarely necessary for diagnostic purposes. Larger doses are necessary for local tuberculosis in joints and other parts of the body, than in pulmonary cases. Dr. Baldwin called attention to the tuberculin-reaction in syphilis as a fruitful field for investigation.

The first paper read was **The hydriatic treatment of tubereulosis,** by Dr. J. H. Kellogg, of Michigan. Dr Kellogg urged the value of cold-water treatment, saying that he had used it for over 25 years, with good results and many recoveries. Out of 151 cases noted more than 60% were permanently benefited, and a good percentage cured. The tonic effect of cold water is due to the action of the cold on the sympathetic nerves in the skin, and increased cerebral activity. The method of use is very simple, first friction with hand or dry towel; then sponge or mohair glove wet with ice-water and rubbed briskly on neck, chest and arms, one part at a time, and quickly dried, and patient bandaged with wide 3-yard strip of cheesecloth, and over this flannel of the same size. In taking a full bath start with moderate temperature and gradually reduce to 55° or 45°. Dr. Kellogg then gave a demonstration of his method. In the discussion Dr. C. L. Minor urged necessity of simplification of methods, such that the patient could use them himself. Dr. R. H. Babcock protested against the use of the term "cured" as a result of the cold-water treatment, and Dr. Kellogg replied that water was not claimed to be a panacea, but merely a valuable adjunct to other methods.

Petroleum oil in the treatment of phthisis, by Dr. W. D. Robinson, of Philadelphia, was the next paper. Dr. Robinson said that the best preparation was a repurified oleum petrolatum of the U. S. P., which is absolutely odor-

less, colorless and tasteless. The oil passes through the intestine unchanged, but has beneficial effects on nutrition. It has also the effect of rendering the intestine unfavorable to life of microorganisms by starving and suffocating them, through cutting off the avenues through which they have their nourishment. The oil has beneficial effects in chronic bronchitis, and in phthisis, and there is more gain from its use than from codliver oil, without any tax on digestion, appetite or food-assimilation. It is valuable as solvent for many drugs and as a means for conveying intestinal germicides.

The next paper read was **Stamina: The special benefit of fat of one kind or another as a necessary article of diet to fortify the system against tubercle-baccilli,** by DR. A. N. BELL, of Brooklyn, who endeavored to show that, other conditions being equal, tuberculous diseases are prevalent in an inverse ratio to the use of fat of some kind as an article of diet. It must, however, be remembered that in persons on the verge of pulmonary consumption, inability to digest fatty food is one of the most prominent symptoms. The freedom from consumption in Iceland and other cold countries he attributed to the abundance of fat in one form or another that the inhabitants consume, and the recent increase of the disease in Norway he thought probably due to the increased consumption of farinaceous food. Fat is needful, and that kind most easily digested is best. In discussion, DR. S. E. SOLLY said he thought tuberculosis in Iceland was due to its importation from Norway. He agreed that fat was a very desirable article of food.

The next paper read was **The blood-changes in high altitudes,** by DR. S. E. SOLLY, of Colorado Springs, who took statistics of blood-counts from 25 students as a basis, and showed that in people going to Colorado the red cells and hemoglobin at once increased quite above that of the natives, but that in those who have been there for two years or more, the blood-count shows an intermediate position, which would seem to indicate that the climate soon loses its marked beneficial effects on the blood. In discussion, DR. R. C. NEWTON thought that the effect of tuberculosis on the blood was a good field for investigation.

DR. HAROLD WILLIAMS next gave a report of **A case of mural endocarditis,** in which the remarkable features were the absence of pain, absence of murmur, and peculiar grouping of pathologic lesions found at the autopsy, held by Dr. Leary. DR. BABCOCK said in discussion that a murmur was only a guidepost to point the way to the trouble, and is of comparative unimportance in functional disease in which we must rely on the secondary symptoms. The presence or absence of murmurs in any given case will depend on the size of the orifice.

The next paper was **Exercises suitable for children suffering from heart-disease,** by DR. J. MADISON TAYLOR, of Philadelphia. He said the embargo so often laid by the physician on all kinds of exercise in cases of this sort was often actually injurious, and showed how frequently when these children have been allowed increasing amounts of activity an actual benefit results. Carefully selected exercise can be made to afford a large amount of relief to many of the distressing symptoms which accompany and follow upon disordered states of the heart. He defines exercise as "the normal use of the bodily parts, not merely of the muscular system, but particularly the interrelation of the viscera, abdominal and thoracic, and their mutual cooperation." Dr. Taylor then emphasized the necessity of standing erect, and of proper attitudes, and the value of enforced breathing after an enforced system, the rules of which he gave. His experience with children has convinced him that the most remarkable results may sometimes be obtained by the simplest forms of exercise. In the discussion DR. A. JACOBI said that in both acute and chronic cases of heart-disease rest in bed was good, but that a watch must be kept that the rest was not prolonged too long. He agreed as to the value of passive movements, and that the peripheral circulation may be fortified by some form of exercise. In each individual there are from 13 to 15 square feet of skin, and if the circulation here is not attended to the heart has to suffer. Massage is a good treatment, but should only be done by a doctor or by some one who knows the courses of the blood and lymph channels.

The last paper read was **Aneurysm of heart; thrombosis of left coronary artery,** by DR. JUDSON DALAND, of Philadelphia. The speaker described a case of aneurysm of the heart, characterized by absence of angina pectoris, and marked fibroid changes of septum of heart, with endarteritis of the coronary arteries. The patient was a man over 50 years, and with a history of heart-disease for 4 years, though quite well at the time of his fatal attack, which lasted 20 hours. In discussion DR. R. C. CURTIN said patients with aneurysm of the heart die quite slowly. He had seen a case in which the sac would contain a pint of fluid. DR. J. M. TAYLOR spoke of a case in which there was a large sac, the treatment being by gold wire and electricity, which did some good, the patient finally dying slowly from exhaustion. DR. R. H. BABCOCK said that sudden death was frequent when fibroid changes of septum were present.

The following papers were read by title: **The inadequacy of the physical signs as indicating the gravity of pneumonia,** by DR. ANDREW H. SMITH, of New York; **The bath in gout,** by DR. CHARLES C. RANSON, of New York; **Prognosis in disease of the heart,** by DR. JAMES B. WALKER, of Philadelphia; **Some thoughts on the nervous system in phthisis as a basis for treatment,** by DR. THOMAS J. MAYS, of Philadelphia.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Twenty-fourth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

FIRST DAY.

THE President, DR. HENRY W. STELWAGON, of Philadelphia, read the annual address. It is well to remember that diminution of suffering and the cure of disease is not attained by the clinician alone, nor by the therapeutist alone, nor by the pathologist, nor by the bacteriologist, but by these investigators going hand in hand, each having an important and necessary share in the final result. Bacteriology especially must be persistently cultivated. At the same time, the heredity, receptivity, the family vulnerability, the environment, and the state of the general health, are factors of moment in many cases, and their removal or modification by hygienic and constitutional treatment will often render the microbic invasion less calamitous and be of aid in removing the disease.

Bullous Dermatitis (Dermatitis Herpetiformis) in Children.—DR. J. T. BOWEN, of Boston, detailed 5 cases following vaccination, and exhibited photographs. He referred to the ease and frequency with which the laity ascribe any succeeding ill to vaccination. Of these 5 cases, in 3 the eruption appeared within two weeks after vaccination, in 1 within a week, while in another it did not show itself until after the lapse of a month. In 4 of the cases there appeared to be ground for the assumption that the vaccination in some way influenced the appearance of the eruption. In attempting to classify the cases, certain characteristics that have not been emphasized as usual features of dermatitis herpetiformis force themselves upon our notice. The localization of the lesions was striking, as there was a marked tendency to grouping about the mouth, chin, nose, and ears, and upon the backs of the hands and feet. Besides this, the extensor aspects of the extremities were in general more prominently affected. In all the cases the trunk was affected but slightly as compared with the other regions of the body. The itching was not very pronounced. In the present state of our knowledge of the bullous dermatoses it is wise to go slowly and imprudent to draw deductions from any but a large number of carefully-reported cases.

DR. GEORGE T. JACKSON, of New York, read a paper on **Loss of hair,** a study of 300 private cases. Elaborate statistical tables were presented. Loss of hair is far more frequent among men than among women. Neither the unmarried nor the married state exerts any influence on the hair. Intellectual occupations and worry and strain are predisposing causes; 66% of the cases begin before 30 years of age. In women general thinning of the hair is the most common form, while the receding forehead is uncommon. In men the whole top of the head is most often affected, and

the receding temple is common. The great predisposing cause of loss of hair is heredity. Most of the women who lose their hair show a well marked history on the maternal side; the men show it on the paternal side. All disorders of the general nutrition of the body are predisposing causes. The greatest exciting cause is dandruff, a term used to include seborrhea sicca, pityriasis, seborrheal eczema, or dermatitis. As to **treatment,** the best drugs are sulphur, resorcin, and the mercurials. The only stimulant worth mentioning is massage, and this should not be employed until the dandruff is checked.

An unusual phenomenon of syphilis—othematoma, by DR. JOSEPH ZEISLER, of Chicago. Othematoma consists in a rather suddenly-appearing effusion of blood between the cartilage of the auricle and the perichondrium, separating this latter from the former. It is situated on the upper half of the anterior aspect of the organ, and the swelling is considerable. The chief occurrence of othematoma after traumatism is well established. Streinbrugge is even inclined to attribute it to long-forgotten histories. Dr. Zeisler carefully searched the authorities as to the possible connection of othematoma with syphilis, and the only reference he could find to it was by Bouvier, in 1889. See *Archives for Dermatology and Syphilis*, Vol. xx, 1890. Dr. Zeisler's attention was called to this possibility by the following case: Dr. X, about 40 years old, had a small wart-like lesion on his right thumb, which was removed by excision and cauterization with nitric acid. The glands of the axilla became much enlarged. Six weeks after the operation on the thumb a generalized, copious roseola made its appearance. Mercurial injections, inunctions, etc., were given. About a year later an othematoma appeared on the right auricle. Under a liberal administration of potassium iodid the othematoma promptly disappeared, never to return. The most natural explanation of the case is on the basis of perichondritis due to syphilis.

A case of Brocq's erythrodermie pityriasique en plaques disseminées was reported by DR. J. C. WHITE, of Boston. The patient was a healthy Irishman, with a negative family history, who, about twelve years ago, noticed red spots of considerable size on his lower leg, which disappeared in the spring and reappeared each autumn, invading more and more the general surface, until the entire surface was almost covered. They showed themselves every year at the beginning of cold weather, remained unchanged throughout the winter, and vanished in April. They had never given rise to any subjective symptoms. On inspection his face and neck were largely occupied by bright red areas of irregularly circular outline, varying in size from one-half inch to two inches in diameter. They were mostly smooth, not at all elevated even at the margin, and were not thicker than the normal skin. Another case was seen about the same time by DR. CHARLES J. WHITE, in a young German aged 26. The two cases bore a strong resemblance to each other in the general appearance, but were far from identical, the second one covering much larger individual areas uniformly and being more scaly, as in Brocq's case. It also lacked the peculiar brownish tint of the first case.

The Prophylaxis and Control of Leprosy in this Country.—DR. PRINCE A. MORROW, of New York, referred to the growing likelihood of contagion from our recently acquired possessions in the Philippines and Hawaii, and the necessity for national action in order to prevent the spread of the disease. He suggested the employment of skilled experts as quarantine inspectors. He deprecated the mediæval conception of the horror and virulence of the disease, which is now known to be no more contagious than tuberculosis. Isolation or segregation undoubtedly are the most effective means known to sanitary science for the control of this and other contagious diseases. Homes or asylums with suitable hygienic surroundings should be provided by the National Government for the care and maintenance of lepers. Such asylums should be made comfortable and attractive and arranged with special adaptation to the requirements and peculiar needs of its inmates. In view of the chronicity of the disease, lepers should not be condemned to close confinement in inactivity, but should be provided with interests, means of employment and recreation. As a large proportion of lepers are able to engage in some kind of industry, such institutions might be made partly or wholly self-sustaining from the proceeds of these industries.

The prevalence of parasitic diseases of the skin and measures necessary to limit their spread, by DR. WILLIAM THOMAS CORLETT, of Cleveland. The frequency of diseases of the skin due to animal and vegetable parasites as reported by this association, show that next to eczema, epizoic dermatoses are the most prevalent of all skin affections in this country, being met with 95 times in 1000 cases of skin disease, or 9.529%. Fever in this country is almost wholly an imported disease. The frequency as well as the severity of ringworm differs in different countries; in lowlands it thrives and is virulent. The principal sources of infection are asylums and similar institutions where children are often accepted and congregated without due regard to their contagious condition; kindergartens and schools; the poor or slum districts where children are crowded together in uncleanly tenement houses; and domestic animals, especially horses, cows, dogs and possibly poultry. The habit of using the same barbers' utensils without previous cleansing, for different persons, should not be tolerated. The hanging of roller towels in hotels is a dangerous custom. Barbershops should be under the supervision of boards of health. Treatment of parasitic dermatoses should be prolonged until the disease is wholly eradicated, and a certificate to this effect given by the medical attendant before the person is admitted in close communion with others.

A Report of two cases of persistent exfoliation of the lips, by DR. HENRY W. STELWAGON, of Philadelphia. The first case was in a young woman, about 19 years. The urine showed considerable deposit of urates. The condition was limited to the vermilion of the lips, neither overstepping the mucous portion of the mouth nor the cutaneous integument. The lips, when free from the scales or crust formation, appeared normal, at times showing scattered points of superficial abrasion. The first stage in the formation of an exfoliating film consisted of slight, but scarcely perceptible thickening. In a short time, from two to five days, the affected parts would break up into plaques, by a breaking through of the film, and the edges of the plaques would gradually become everted, and slowly loosen and detach themselves. If pulled off or forcibly detached the lips would be red, slightly abraded and somewhat tender. The exfoliative process went on unceasingly. The disease is persistent, but no longer under Dr. Stelwagon's care. The second case was in a woman aged 30 years. The patient was profoundly neurasthenic. Both lips were to a great extent involved, although the central parts most markedly affected. There was slight seborrhea capitis in both cases. He was inclined to consider the disease as allied to eczema seborrhoicum.

The Etiology and Pathology of Cutaneous Cancer.—DR. RAVOGLI, of Cincinnati, said that from the greatest antiquity the clinical conception of cancer has been an ulcer, especially of the skin and glands, with exuberant growth of granulations, which when removed has a tendency to relapse, gradually spreading and under marantic conditions causing death. The true etiology was first given by Billroth, who considered as carcinoma only those new growths which result from epithelial production, together with an infiltration in the connective tissues. It is quite natural that the masses of epithelial cells, crowding themselves into the midst of the connective tissues, must produce an irritation which causes a proliferation of the connective-tissue corpuscles. These corpuscles, which have the task of providing for the nutrition of the connective-tissue fibers, are greatly developed in the embryonic stage. In adult life they are very much smaller, but, on account of some inflammatory exudation, they return to their embryonic stage. Increasing in their volume, their nuclei proliferate, they increase in quantity, producing hypertrophy of the connective tissues, until they reach the form of papillary growths. In carcinoma the presence of sharp epithelial cells, crowding down upon the delicate structure of the connective-tissue fibers, causes the connective-tissue corpuscles to take part in the proliferation; hence carcinoma is a malignant production consisting of masses of epithelial cells imbedded in a connective-tissue structure, inflamed and infiltrated.

General Discussion: **Malignant diseases of the skin: (*a*) Their classification and clinical features,** by DR. E. B. BRONSON. The import of the epithet malignant as applied to disease varies according to the circumstances under which it is employed. As most generally used the term implies a rapid, destructive course, tending to a fatal issue. It

is thus used to designate certain forms or varieties of a disease of a severe and dangerous type, in contradistinction to other forms of the same disease that pursue a relatively milder or "benigner" course. Thus we have malignant and benign forms of syphilis and tuberculosis. Pernicious cell-growths may originate either in the epithelial structures or in the connective tissue. In the one case, the resulting disease is carcinoma, in the other, sarcoma. All known "malignant" growths pertain to one or the other of these two diseases. An epithelioma, though in the common acceptation of the term a skin cancer, is not necessarily a malignant growth; only potentially so. A promising field for the study of malignancy in diseases of the skin and of the conditions relating to it is found in those diseases that, beginning as an inflammation or simple perversion of growth, end in malignant cancer. The epitheliomas that develop on old syphilitic lesions, on lupus, or from some indifferent local irritation of the skin, are common instances.

(*b*) **Their etiology and pathology,** by DR. M. B. HARTZELL. Heredity, age, traumatism, and long-continued slight irritations have long been considered as predisposing, in greater or less degree, to the occurrence of cancer. While heredity is no longer believed to play the important role formerly attribute to it, yet it is apparently well settled that cancer is apt to occur in successive generations of some families, due as is now believed, not to the inheritance of the disease, but to an inherited susceptibility. The influence of age upon the appearance of carcinoma is so very evident that it is no longer a matter for debate; in the great majority of cases the patient with cancer is past 40 years of age, the exceptions to this rule being in most cases examples of a rodent ulcer. Ribbert produced numerous tumors in the abdomen, uterus, diaphragm, and pleura of an animal (a rabbit) by allowing free epithelial cells to diffuse through the peritoneal cavity. Cancer possesses a considerable number of features, clinical and pathological, which suggest the possibility of its being an infection, although other explanations are not absolutely precluded. We may regard it fairly well demonstrated that this neoplasm results from a profound and more or less permanent alteration of the mechanism of cell-division. This alteration may result from long-continued irritation of a mechanical or chemical kind. The immediate causes are, therefore, multiple. In cases of xeroderma pigmentosa it may be assumed that some inborn defect of the skin exists.

(*c*) **Their treatment,** by DR. F. J. SHEPHERD, of Montreal. As a surgeon who had to treat all kinds of malignant disease wherever situated, excision of the growth and the adjacent lymphatic channels and glands seemed the most scientific procedure in the majority of cases. He said that all now believed in the local origin of cancer, and also that whenever found it should be quickly and completely removed. The disease being local, only local treatment was curative. Constitutional treatment was of no avail. There are two forms of local treatment: removal by knife and removal by caustics. Surgeons favor the former and dermatologists the latter. The weak point in the treatment of malignant disease of the skin by caustics is that it postponed the removal of the neighboring lymphatic tissue and glands. Dr. Shepherd held that there may be malignant disease of the glands, and yet they cannot be always told, as in the axilla and submaxillary region. Even the microscope would fail to detect the disease in the glands, the cancer-cells in the very early stage being so few and far between. He instanced the magnificent results of the removal of mammary cancer by modern methods of very extensive operations. In Paget's disease of the nipple he advocated removal of the whole breast. In cancer of the lips, scrotum, penis, vulva, and whenever the skin was loose, removal by excision was advocated. Certain malignant ulcerations of the skin he admitted might be successfully treated by caustics, especially rodent ulcer and those slow-growing forms of epithelium situated in regions somewhat removed from glands, as the nose, forehead, temples, cheeks, hands, and where the glands are not early affected. He had successfully employed free curetting and the after-application of caustics in such cases. The best caustics were arsenic, zinc chlorid, and caustic potash. Some hold that arsenic has a selective action, that is, an inflammation may be produced which will destroy cancer-cells, but not normal tissue. Before employing arsenic the ulceration should be curetted, or the epidermis over it should be destroyed by caustic potash. Several other methods of treatment were alluded to, such as the parenchymatous injections of alcohol, silver nitrate, zinc chlorid, electrolysis, aniline dyes, and the injection of toxins. Coley's treatment is more suited to sarcoma than carcinoma. In sarcoma of the skin early and complete removal was the best treatment if the growth were local. When general, some cases have been successfully treated by the injection of a solution of arsenic. The injection of toxins had not proved successful in Dr. Shepherd's hands.

DR. S. POLITZER, of New York, read a paper on **A case of nevus-cancer; metastasis; operation; cure.** The patient was 30 years old when a small, slightly pigmented mole on the back, about an inch to the left of the eighth dorsal vertebra, began to ulcerate. During six years of treatment the ulcer never healed, and finally began to exceed the limits of the original mole. It was then excised, the skin stitched up, and the wound healed well, producing a linear scar. Six months later the skin in the neighborhood of the scar became raised, red, glistening, over an irregular area about two inches in diameter, and broke down at two points, producing small ulcers. Soon after, the patient consulted the writer. There was then, in addition to the condition described, a small, hard, round tumor clearly below the skin, and an inch and a half from the edge of the red glistening patch. The patch, including the scar and a large extent of healthy skin, was excised; the subcutaneous tumor was found within the substance of the trapezius muscle, and the latter was stripped up from its attachments to the spines of the ninth to the twelfth dorsal vertebrae and cut out to an extent that included the tumor. Microscopic examination showed the cutis throughout the red glistening area to be filled with round, oval and irregular tracts of cancer-cells, without connection with the surface-epithelium. Examination of the tumor in the muscle showed it to be made up of large nests of cancer-cells, separated by dense masses of connective tissue, which had replaced the muscle-fibers. Six years have elapsed since the operation and the patient is entirely free from any sign of a recurrence. Cases of nevus-cancer are usually of such striking malignancy that the favorable result in this case, in which a metastatic deposit had already occurred, makes it worthy of record.

Syphilitic Lesions of the "Wheal" Type.—DR. H. G. KLOTZ, of New York, described an unusual eruption observed during the early period of secondary syphilis, and quoted similar descriptions from Taylor and Langehert. The lesions resemble wheals, except for the absence of itching and other sensory symptoms, and for their long duration. Nevertheless he believes it justifiable to accept the lesions as wheals, especially as the conditions found in the wheal of urticaria by several authors would fully account for the clinical features. Dr. Klotz called attention to the want of actual knowledge in regard to angioneurosis, and mentioned a recent paper by Brillippsoro which attempts to establish the origin of the so-called angioneurosis from embolism. DR. JOSEPH ZEISSLER said he had never had his attention called to this distinct syphiloderm as an independent form, but he had seen a case much like that described by Dr. Klotz. DR. JAMES NEVINS HYDE, of Chicago, saw no reason why the introduction of a poison, such as syphilis, into the system, should not bring about a series of changes in the skin. DR. JOSEPH GRINDON, of St. Louis, said we should expect, reasoning *a priori*, to see such eruptions in syphilis. DR. KLOTZ stated that he was inclined to consider it a syphilitic eruption, different from the erythema and similar affections.

Endothelioma of the Skin Developing in the Scar-Tissue of Lupus Vulgaris; Angiosarcoma of the Skin.—DR. JOHN A. FORDYCE reported the case of a patient the subject for a number of years of a lupus vulgaris of the forearm. A nodular growth developed in the scar-tissue which followed various operative procedures on the lupus tissue. The tumor was excised and proved microscopically to be an endothelioma probably starting in the perivascular lymph-spaces surrounding the smaller vessels. From the size and appearance of the cells alone as well as from the general confirmation of the cell-collections in the connective-tissue spaces it would be impossible to differentiate the growth in question from a small-celled epithelioma. The grouping of the cells about the dilated blood-spaces together with the absence of other possible points of origin enabled a diagnosis of endothelioma to be made. Although epithe-

liomas springing from lupus tissues have not infrequently been reported he believed the case in question to be a unique one in which an endothelioma has been found in such a connection. Several instances of angiosarcoma were referred to in which single tumors had been found which were identical in structure with the so-called idiopathic pigmented sarcoma of Kaposi. These growths start from the connective-tissue covering of the vessels and are histologically to be differentiated from the true endotheliomas.

Two Cases of Rhinoscleroma.—DR. C. W. ALLEN, of New York, presented with colored drawings and photographs two cases of rhinoscleroma, one of which had been under his observation since 1889, the other for about three months. Both are already known to literature. In the first case the portion of the growth involving the center of the upper lip, gum, and inferior portions of the nose broke down in a gangrenous suppuration, and within the period of a fortnight was completely thrown off, leaving the bones denuded. These subsequently became covered over with a reproduction of the new growth, so that eating, breathing, sleeping, etc., became more natural, and life was prolonged after it had been despaired of. In the case of the man, whose affection had existed for 19 years at least, there was enormous enlargement of the external nose, dilation of the nostrils, which were also practically occluded. For 9 years a tracheotomy-tube had alone made breathing possible, and the stenosis extended the whole length of the pharynx, shutting off the posterior nares by bands and masses of fibrous tissue. Despite the severity of the condition present in both cases, there had been recent improvement in the general health.

An Unusual Form of Tumor of the Scalp.—DR. ALLEN presented a colored painting, gross specimen, and microscopic preparation. The tumor, which had been of slow growth upon the scalp of a woman advanced in years, had been widely excised after the diagnosis of probable carcinoma was made. The chief clinical feature of the tumor was its extreme hardness, almost like that of ivory. This was due to a central encapsulated mass which had undergone hyalin or colloid degeneration. Sections made by Dr. Martin Ware, to whom the reporter is indebted for a description of the appearances, showed an alveolar arrangement of polyhedral cells, growing in a very atypical manner. These cells are arranged about a central canal, indicating that the growth emanates from glandular structure, either sebaceous or sweat-gland. The cells do not take the hematoxylin and eosin stain well, because of the degeneration they have undergone.

A Case of Xanthoma Tuberculatum Diabeticorum, Showing Rapid Disappearance of Lesions Under Anti-Diabetic Regimen and Treatment.—DRS. S. SHERWELL and J. C. JOHNSTON. As long ago as 1890 Dr. Sherwell sent one of these cases to Dr. A. R. Robinson. Patient in the present case was a woman aged 40, somewhat plethoric, apparently well nourished, who was first seen on January 8, 1900. The urine was full of sugar. The lesions were first noticed between 5 and 6 years ago, most marked on the arms, elbows, knees and nates, and are less noticeable during the summer months. Last winter the symptoms became so distressing that she could obtain no relief by night or day. It would seem that from the first she had had classic symptoms of glycosuria. The appearance was such that, roughly speaking, at the distance of the width of a room the eruption might have been taken for a case of variola at the height of the puscular and confluent stage. She was put upon antidiabetic regimen and diet, together with mild laxative alkaline treatment, and rapidly improved. The papular and tuberculous masses flattened, the inflammatory halos entirely disappeared. At present there is scarcely even a pigmented spot to mark where the original lesions existed. The glycosuria is quite slight. So far only about thirty such cases have been reported. DR. JAMES CLARK WHITE inquired whether the blood had been examined. DR. JAMES NEVINS HYDE said he had seen at least two such cases. DR. SHERWELL, replying to Dr. White, stated that the blood had not been examined. The lesions were not compressible, looking almost like a pus-formation or a conical furuncle. The patient felt as if there were crumbs in the bed.

Blastomycetic Dermatitis and its Relation to Yaws.—DR. ISADORE DYER, of New Orleans, read this paper. In many particulars the case fulfilled the clinical characteristics of yaws. Dr. Dyer examined specimen and confirmed the diagnosis of blastomycetic dermatitis. Under the iodid treatment the improvement was rapid, the lesions flattened, the exudate diminished. Finally, mercurial plasters were applied to all of the lesions, successfully reducing the granulations. At the present time the face shows a smooth, glossy area, marked here and there by a fibrous tab, and with a large branching somewhat keloidal scar in the lower part of the area. Over all there is a fine linear network of scars, soft but marked.

Three Cases of Blastomycetic Infection of the Skin, one of them Producing a Tumor of the Lower Lip.—DR. H. F. MONTGOMERY and DR. H. T. RICKETS.

A Review of the Subject of Blastomycetic Infection of the Skin, with a Report of Two New Cases.—DR. J. N. HYDE, of Chicago.

The subject of blastomycetes was discussed by DR. JAMES CLARK WHITE, of Boston; DR. WILLIAM ALLEN PUSEY, of Chicago; DR. JOHN TEMPLETON BOWEN, of Boston; DR. H. G. KLOTZ, of New York; DR. SAMUEL SHERWELL, of Brooklyn; DR. M. B. HARTZELL, of Philadelphia; DR. JOSEPH ZEISSLER, of Chicago; DR. JOHN A. FORDYCE, of New York; DR. JAMES C. JOHNSTON, of New York; DR. C. T. GILCHRIST, of Baltimore; DR. FRANK HUGH MONTGOMERY, of Chicago; and DR. JAMES NEVINS HYDE, of Chicago.

A case of erythema elevatum was reported by DR. C. T. GILCHRIST, of Baltimore, who said that the case did not recall the diagnosis of lichen planus, and did not at all resemble Galloway's case of ringed eruption. DR. J. N. HYDE said he had seen a case which was almost identical with Galloway's case.

A vote of thanks was tendered to the retiring President, Dr. Henry W. Stelwagon, of Philadelphia, and Dr. Francis John Shepherd, of Montreal, the newly-elected President of the Association, was inducted into his office. This was followed by adjournment.

THE EIGHTH DECENNIAL CONVENTION FOR THE REVISION OF THE UNITED STATES PHARMACOPEIA.

Held at Washington, D. C., May 1, 2, 3, 1900.

[Specially reported for the PHILADELPHIA MEDICAL JOURNAL.]

THE eighth decennial meeting of the Convention for the Revision of the United States Pharmacopeia was one of the most successful in its history. A great deal of organizing work was disposed of, thanks to intelligent preparation, and thanks also to the admirable manner in which President Wood shut off talk on extraneous matters and expedited business. The Convention was one of the finest bodies of men that ever assembled for a like purpose, and its choice of revisers will meet with very general approval.

The Convention will hereafter be a regularly incorporated, permanent organization, a constitution and by-laws having been adopted. A charter will be secured for this purpose at an early date.

The following general principles will be followed in revising the Pharmacopeia:

1. SCOPE OF THE PHARMACOPEIA.

The Committee of Revision is authorized to admit into the Pharmacopeia any product of nature of known origin; also any synthetized product of definite composition which is in common use by the medical profession, the identity, purity, or strength of which can be determined. No compound or mixture shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controled by unlimited proprietary or patent rights.

2. DOSES.

After each pharmacopeial article (drug, chemical, or preparation) which is used or likely to be used internally or hypodermically, the committee is instructed to state the average approximate (but neither a minimum nor a maximum) dose for adults, and, when deemed advisable, also for children. Such doses shall be given in metric system, the approximate equivalents being given parenthetically in apothecary's weight. It is to be distinctly understood that neither this

Convention nor the Committee of Revision created by it intends to have these doses regarded as obligatory on the physician or as forbidding him to exceed them whenever in his judgment this seems advisable. The committee is directed to make a distinct declaration to this effect in some prominent place in the new Pharmacopeia.

3. Nomenclature.

It is recommended that changes in the titles of articles at present official be made only for the purpose of insuring greater accuracy or safety in dispensing. In the case of newly admitted articles, it is recommended that such titles be chosen as are in harmony with general usage and convenient for prescribing; but in the case of chemicals of a definite composition a scientific name should be given at least as a synonym.

4. Assay Processes.

The committee is instructed to append assay processes to as many of the potent drugs and preparations made therefrom as may be found possible, provided that the processes of assay are reasonably simple (both as to methods and apparatus required) and lead to fairly uniform results in different hands. As regards the products of such assays, tests of identity and purity should be added wherever feasible. Physiologic tests for determining strength should not be introduced by the committee.

5. Purity and Strength of Pharmacopeial Articles.

The committee is instructed to revise as carefully as possible the limits of purity and strength of the pharmacopeial chemicals and preparations for which limiting tests are given. While no concession should be made towards a diminution of medicinal value, allowance should be made for unavoidable, innocuous impurities or variations due to the particular source or mode of preparation, or to the keeping qualities of the several articles. In the case of natural products the limits of admissible impurities should be placed high enough to exclude any that would not be accepted by other countries.

Regarding the strength of diluted acids, tinctures, and galenical preparations in general, it is recommended that the committee keep in view the desirability of at least a gradual approach upon mutual concessions towards uniformity with similar preparations of other pharmacopeias, particularly in the case of potent remedies which are in general use among civilized nations.

6. General Formulas.

It is recommended that general formulas be introduced, as far as the particular nature of the several drugs will permit, for fluid extracts, tinctures, and such other preparations as are made by identical processes, and that the general formula to be followed in each case be merely indicated by reference.

7. Weights and Measures.

The committee is instructed to retain the metric system of weights and measures adopted in the Seventh Decennial Revision.

8. Precedents.

In all matters not specially provided for in these "General Principles" the rules established for previous revision, if there are any, should be followed.

The officers chosen were: President, H. C. Wood, Philadelphia; vice-presidents, Prof. A. B. Prescott, Ann Arbor, Mich.; Prof. O. A. Wall, St. Louis; Dr. R. W. Wilcox, New York; Dr. N. S. Davis, Jr.; and Dr. A. L. Lengfeld, San Francisco; secretary, Prof. H. M. Whelpley, St. Louis; treasurer, Dr. W. M. Mew, Washington; trustees, Dr. A. E. Ebert, Chicago; Mr. S. A. D. Shepphard, Boston; Wm. S. Thompson, Washington; Chas. E. Dohme, Baltimore; Mr. Geo. W. Sloan, Indianapolis.

Members Committee of Revision: Dr. Chas. Rice, N. Y.; E. H. Squibb, Brooklyn; J. P. Remington, Phila.; Chas. Caspari, Baltimore; W. G. Gregory, Buffalo; N. S. Davis, Jr., Chicago; James M. Good, St. Louis; Geo. I. Payne, Atlanta; Edward Kremers, Madison, Wis.; S. P. Sadtler, Phila.; Henry Kraemer, Phila.; H. A. Hare, Phila., L. E. Sayre, Lawrence, Kan.; A. B. Stevens, Ann Arbor; A. B. Lyons, Detroit; C. Lewis Diehl, Louisville; Oscar Oldberg, Chicago; John Marshall, Phila.; W. S. Haines, Chicago; J. J. Abel, Baltimore; Virgil Coblentz, New York; W. L. Scoville, Boston; C. A. N. Hallberg, Chicago; A. R. L. Dohme, Baltimore; R. W. Wilcox, New York.

Glycerin for Nephrolithiasis.—A. Hermann (*Medical Chronicle*, January, 1900) reports the treatment of 115 cases of nephrolithiasis with glycerin. The reason for the use of glycerin is based on the fact that it is eliminated in great part by the kidneys, and when in the urine is a solvent for uric acid. In 15 cases concretions were passed and improvement noticed; in 29 cases concretions were passed and no improvement noticed; in 25 cases there was improvement, but no concretions passed; in 46 cases there was no noticeable effect whatever. Thus glycerin was efficacious in 60% of cases, either by removing concretions or relieving pain. The size of the concretions passed varied from a lentil to a pea in one-fourth of the cases; in the remainder they were smaller. Hermann thinks that while glycerin has not proved as efficacious as hoped, the results abundantly justify its use in this disease. He varies the dose from 1 to 4 ounces, dissolved in an equal amount of water. Two or three doses are given between meals, then it is omitted for several days. [M.B.T.]

Mongolian Imbecility in Infants.—G. A. Sutherland (*Practitioner*, December, 1899) says that the name **Mongolian or Calmuck type of imbecility** was first suggested by Langdon Down for a condition of imbecility which is quite common and is characterized by a peculiar physiognomy. The present article is based upon the study of 25 cases. At birth the infants are small, and growth proceeds at a much slower rate than normally. The skull is usually small and shortened in its anteroposterior diameter at the base, globular and smooth in the convex region. The fontanel is large and late in closing. The face as a whole is small and rounded—sometimes described as "full-moon," but often the features are blurred and swollen. The bridge of the nose is flat or sunken, and the overlying skin lax and frequently extends over the eyes for some distance as epicanthic folds. The eyes are small and oblique in position. The abdomen is large, and is frequently the seat of umbilical or ventral hernia. There is a marked laxity of the joints, partly due to looseness of the ligaments, and partly to a muscular hypotonia. Congenital heart disease is common, and was present in five of Sutherland's cases. The mental characteristics are not manifested by any special perversion or defect, save that in every way the development of intelligence lags behind that of normal infants. The children are preternaturally good, and will lie for hours, placidly playing with their toes or fingers, until they are well-nigh 12 months old. The expression of their faces is, however, from the first, fatuous, although there is not the dulness and lethargy of some forms of imbecility; for the children smile, and in time imitate readily, recognize the people about them, but are frequently abnormally shy with strangers, although at the same time curiously inquisitive about them. Their growth and development proceed slowly. Dentition is much delayed. They are capable of education up to a certain point, and are generally pleasant and affectionate imbeciles. As they are not capable of earning their own living or taking care of themselves, they drift into asylums, where they form from 5 to 10% of the inmates. They are predisposed to disease and early death. Apart from the developmental lesions of the cerebrum, there are no marked characteristic structural changes in the body. The shape of the skull is apparently not due to premature synostosis of the sutures. The primary fault seems to be in the brain, and probably consists in a smallness of the pons and medulla, as pointed out by Wilmarth. As to the **etiology,** hereditary syphilis seems to be a factor. It was present in 11 of the author's 25 cases, and probable in 3 others. The imbecility is not an active manifestation of hereditary syphilis, but is due to an arrest of development of certain parts of the brain from disease in the germinal cell. In the **treatment,** thyroid gland, recommended by some, has been valueless in Sutherland's hands. There is no cure for the disease, and the treatment is symptomatic. The patients must be guarded against cold, to which they are very sensitive, and the onset of any acute illness requires especial precautions. [D.R.]

The Latest Literature.

British Medical Journal.

April 14, 1900. [No. 2050.]

1. Non-Diabetic Glycosuria. Robert Saundby.
2. On Some Cirrhoses of the Liver. W. B. Cheadle.
3. Diphtherial Stomatitis. E. F. Trevelyan.
4. Swelling of the Eyelids with Intermittent Albuminuria in Children. Theodore Fisher.
5. The Seat of Pain in Biliary Colic. J. H. Keay.
6. Notes on a Case of Bright's Disease Complicated with Gangrene. Alex. D. H. Leadman.
7. A Case of Glandular Fever Associated with Erythema Nodosum. Bertram Thornton.
8. Amputation Without Anesthesia. D. MacKinder and J. Campbell Hall.
9. Excision of Knee-Joint in a Man 51 Years Old; Recovery with a Useful Straight Limb. E. A. Gaynes Doyle.

1.—Saundby states that in spite of the fact that for years he has devoted special attention to urinary diseases, and has had many diabetics under his care, he has seen only 69 specimens of **nondiabetic urine which reduced copper,** and in 11 cases the reduction was not due to sugar. He considers any change, even when from blue to green, suspicious and always investigates such cases further, using Sir William Roberts' method of filtering the urine repeatedly through animal charcoal. This removes all reducing substances except sugar, while the sugar-reaction becomes better marked than before. **Pseudoglycosuria** is not an uncommon condition. Concerning alimentary or physiologic glycosuria he states that it is certain that some persons become glycosuric after eating an unusual, though often not very excessive quantity of sugar, as well as after being given large doses of grape sugar. He mentions a number of cases in which glycosuria occurred repeatedly after excess in sugar-ingestion, but disappeared entirely, and the patients had no other symptoms of diabetes. In one case glycosuria was seen repeatedly from 1887 to 1895, and yet the man remained in good health. At times the sugar reached 1.2%. Of pathologic glycosurias of nondiabetic origin the largest number were due to disorders of the alimentary system, the commonest causes being chronic gastritis, 9; alcoholism, 7; and chronic hepatitis, 5. One case occurred with biliary colic. Saundby especially emphasizes the fact that alcohol causes glycosuria in many cases and that many in which the origin is thought to be in a disorder of the liver, there is little question that alcohol is really the exciting cause of the glycosuria. Following the alimentary cases the most numerous are due to diathetic conditions, gout and muscular rheumatism being the most common causes. Among nervous causes 2 cases were observed after cerebral hemorrhage, and 5 with neurasthenia; infectious diseases caused 8 cases, 2 of which followed influenza. Two cases followed falls or injuries, senility was considered the cause of 2, carcinoma of the rectum 1, and lactation 1. He reports a number of cases of glycosuria which followed hepatic disturbance (chronic cirrhosis) in which alcoholism seemed to be entirely excluded. The cases which followed gastric disturbance occurred with various forms of diseases of the stomach; in none of those classed under this head was there any reason to suspect alcoholism. Some of them had persisted for years. In one case the sugar was as high as 5%, yet it disappeared and the man became entirely well. In the cases classed as neurasthenic no other cause could be discovered. In the senile cases there were no symptoms of diabetes, but there was more or less marked glycosuria. Saundby does not advocate treatment of these cases by diabetic diet, particularly in old people; in the people it is necessary to have especial care in the reduction of their foods. [D.L.E.]

2.—Cheadle states that the prevention of the increase of the difficulty in **cirrhosis** is the primary indication, and it is to be met first by absolutely excluding all alcohol and other stimulants. Foods which tax the liver, such as fats and sugar, should be given in small quantities. He states that it is altogether too common to consider cirrhosis merely an obstructive disease; it is one which interferes largely with the functions of the liver which aid in absorption, assimilation, and elimination, therefore predigested foods are in place. Mild laxatives may be used and even in cases not syphilitic potassium iodid and perhaps mercury should be tried. Syphilis is often present when unsuspected, and even when not present these drugs may do good. In many cases the feebleness of the heart is an important matter, and then the use of heart stimulants is of course strongly indicated, digitalis being the best. As to the treatment of ascites he considers diuretics usually useless, active purges commonly dangerous, restriction of fluids of some value, but paracentesis the only treatment which may be depended upon. It should be undertaken early before the patient is much depressed, and then much may be hoped for from it. He mentions a number of cases in which a long series of years passed after severe ascites that had been removed by trocar and canula, the patients remaining in fairly good or almost complete health. The most interesting is one first operated upon for ascites in 1888. The woman is still living, and in apparently good health. An interesting point is that Cheadle insists upon the importance of cardiac insufficiency in the causation of ascites in cirrhoses, and states that the existence of cardiac debility usually renders the prognosis better, because the cardiac debility can be materially influenced by treatment. He thinks this may also help to explain why in some cases the liver remains large, and in others it atrophies. In cases of hypertrophic cirrhosis it is possible that cardiac debility leads to stagnation in the liver which affects the small branches of the vessels, thus determining the fibrosis of the fine branches instead of the large trunks as given in atrophic cirrhosis. Pure cardiac cirrhosis closely resembles alcoholic cirrhoses, so it is possible that in alcoholic cirrhosis with cardiac debility, the poisonous effects of alcohol will be felt in the small vessels and produce a fibrosis in this region, and that in cirrhosis without any complicating heart factor the cirrhosis would not tend to occur in this region. At any rate cardiac debility seems to be a factor in the causation of acute cirrhosis. [D L.E.]

3.—A number of cases of stomatitis with the presence of bacilli which had the morphologic and cultural characteristics of **diphtherial stomatitis** are recorded. In one case it was found that the child constantly wiped the mouth with a handkerchief, and this handkerchief at the end of 7 weeks, when kept in a sterilized bottle, still gave cultures of diphtheria bacilli. A diagnosis of diphtherial stomatitis was made. Stomatitis of membranous character may be caused by the staphylococcus, but it is usually due to the diphtheria bacillus. [D.L.E.]

4.—A number of cases are reported in which there was **swelling of the eyelids with intermittent albuminuria;** also some cases in which there was swelling of the eyelids with a somewhat lethargic condition, but in which albumin was absent from the urine. Another case was recorded in which there was occasional swelling of the eyelids and albumin was always present, but the condition of the child was not worse than in the other cases. In the latter case the swelling usually came on after exertion or excitement. He considers it difficult in such cases to state whether the cases are subjects of chronic disease, or whether they have a constitution fitted only for a quiet life. The swelling of the eyelids is suggestive of nephritis, but since it occurs without albuminuria it cannot be considered to be a symptom of pathognomonic importance. [D.L.E.]

5.—Keay's experience in his own case has been that the pain in **biliary colic,** if the attack is a severe one, begins in the back, and may often be mistaken for lumbago or spinal pain. The pains sometimes persist in mild degree for a long time before the attack begins. When the calculus becomes lodged in the duct and tries to force itself through the pain is situated about the tenth or eleventh dorsal vertebrae, and gradually passes around to the front; then there is excruciating pain in the right and often in the left hypochondrium, which may be felt in the middle and lower abdomen and above the right nipple, but practically never in the right shoulder. This experience is also that of many patients whom he has questioned carefully. Keay has repeatedly felt a peculiar gliding sensation in the back to the right of the tenth to twelfth dorsal vertebrae when the stone enters the duodenum. The pain that begins in the right hypochondrium is due, he believes, to distention of the gallbladder. He has found that the pain is often greatly relieved by a few whiffs of chloroform. [D.L.E.]

6.—The patient was a man of 46 who had no obvious evidence of **atheroma,** but his urine was scanty and highly albuminous. He had a weak heart and much dyspnea. Suddenly violent pain came on in both legs, the legs became helpless and cold, and gangrene set in on the next day, involving both legs and spreading up both thighs. Death occurred about a month after its onset. Postmortem examination was not obtained, but the diagnosis was **occlusion of the abdominal aorta.** [D.L.E.]

7.—The patient was a girl of 5 without any rheumatic history, but who had a mitral systolic murmur, and had had vague indisposition previously. At the time of the attack she had enlargement of the cervical glands without any throat symptoms, but with marked fever. Four days later erythematous papules appeared on the legs, which soon showed the characteristic appearance of **erythema nodosum.** There was free perspiration of rheumatic character. Sodium salicylate did not appear to do good. It is believed, however, that in this case the probable cause of the glandular fever was rheumatism. [D.L.E.]

9.—This patient was a man 51 years of age and had had for some time a chronic swelling of the right knee. As it was growing worse, excision was done and the joint was found to be completely disorganized and infiltrated with a pulpy material (probably tuberculous). A number of abscesses developed in the wound after the operation, but the patient finally had a very useful leg, though with a stiff joint. [G.B.W.]

April 21, 1900. [No. 2051.]

1. The "Riding Fragment" in Fractured Leg. C. H. GOLDING BIRD.
2. Calculi Impacted in the Ureters; Pathology, Symptoms, and Surgical Treatment. DAVID NEWMAN.
3. Large Sarcomatous Neuroma of the Internal Popliteal Nerve. GEORGE BUCHANAN.
4. A Case of Enterectomy by End-to-end Suture in a Boy Aged Seven. F. C. WALLIS.
5. On Double Castration for Tuberculous Testes. F. A. SOUTHAM.
6. Lengthening of Hamstrings by Operation for Contracture after Burn. W. F. BROOK.
7. Five Cases of Complete Forward Dislocation of the Knee-joint Occurring Simultaneously. ERNEST V. EAMES.
8. Twelve Cases of Mauser Bullet Wounds. GEORGE ASHTON.
9. Twin Pregnancy with Central Placenta Prævia. DAVID P. GAUSSEN.
10. A Case of Uremia Closely Simulating Cerebral Hemorrhage. CECIL FIRMIN LILLIE.
11. Sclerema Neonatorum. JOHN WM. TAYLOR.
12. Arsenical Poisoning in a Case of Chorea. PERCY D. BARKER.

1.—Golding-Bird speaks of the difficulty often experienced in treating fractures of the leg because of the apparent impossibility of reducing and keeping reduced the **"riding fragment."** This difficulty is chiefly experienced in the spiral fractures which are much more frequent than is commonly supposed. If the bones in a spiral fracture are examined, it will be seen that as long as the axes of the two fragments hold their proper relation to each other there is no tendency towards displacement, but the least torsion will cause the appearance of the "riding fragment" and some slight shortening. When this spiral fracture takes place as the result of accident there is almost always an accompanying fracture of the fibula and the end of one of the fragments is most apt to become entangled in the soft tissues so as to prevent the proper amount of rotation of the limb to untwist the tibial fragments back to their normal position. The traumatic torsion sometimes persists to such an extent that it is necessary to operate, and even then it seems almost impossible to prevent the fragments springing back to their original twisted position until the fibula is also cut down upon and the ends put in their proper relations. Operation is called for when, after external manipulations, a marked deformity persists. [G.B.W.]

2.—In speaking of the **impacted calculi of the ureters,** Newman says that the stones are most frequently found where the pelves become narrowed to form the ureters, and where the ureters become constricted in their passages through the wall of the bladder, and this view is supported by the statistics of Morris. When the calculus completely and suddenly blocks the ureter a rapid atrophy of the kidney on the affected side occurs with a compensatory hypertrophy in the kidney on the opposite side, provided the latter is a healthy organ. If the blockage is only partial or is intermittent, a hydronephrosis of the affected side is produced. Complete urinary suppression from the simultaneous impaction of symmetrical calculi is most rare, but it may be produced by reflex inhibition of a disorganized kidney. As to the symptoms of impacted ureteral calculi, a sudden stoppage in the passing of blood and an increase in the amount of pain is very characteristic of complete blockage. Complete suppression of urine takes place very soon after occlusion of one ureter when there is disease of the other organ because the already crippled kidney is unable to carry on the work of two, and quickly succumbs. In calculous anuria the symptoms of toxic poisoning come on anywhere from a few hours to several days, and death generally occurs in about 11 days. The diagnosis of impacted calculus is to be made by the presence of urinary suppression, by abdominal palpation revealing a point of tenderness or the sensation of a hard lump along the line of the ureter, by vaginal palpation, by cystoscopic examination, by catheterizing the ureters, by the use of x-rays, and, finally, by passing a sound from above downward into the ureter through a lumbar incision. As to the treatment, if there is good reason to believe that the kidney of the unaffected side is healthy, conservatism may be practised, but if the ureter blockage comes from the only normal organ it is essential that relief from the stoppage be obtained. The operation for this purpose depends on the position of the stone, and the surgeon must be guided by the findings of the individual case. As a general rule, if the stone cannot be felt at the mouth of the ureter an incision through the abdominal parietes is demanded. [G.B.W.]

3.—This patient had suffered for the past six months from a rapidly growing **sarcomatous neuroma** of the internal popliteal nerve. At the first operation a portion of the growth was removed for microscopical examination and its malignant nature was detected. Amputation was consequently done at a second operation. Examination of the specimen showed that the nerve-fibers ran through the growth and the nerve-sheath formed its capsule. [G.B.W.]

4.—Wallis reports a case of **resection of the small intestine** for fecal fistula in a child 7 years of age. The fistula had been formed at a previous operation for acute intestinal obstruction and one attempt had already been made to close it. After the resection the patient made a good recovery and regained the best of health. [G.B.W.]

5.—Southam reports four cases of **double castration** for tuberculosis of the testes. All the cases were greatly improved by the operation, not only was there no local extension of the disease but the general health and other tuberculous deposits seemed to be markedly helped by the removal of the diseased testes. [G.B.W.]

6.—This patient was 14 years of age, and had been burned when 3 years old. There was a **cicatricial web** which prevented the leg being straightened beyond a right angle. The web was dissected out and the hamstring tendons lengthened by splitting that of the biceps, and by making a common tendon for the semitendinosis and semimembranosis. With weight-extension as an after-treatment the patient finally had a straight limb capable of full range of motion both in flexion and extension. [G.B.W.]

7.—The dislocation in all 5 of these cases was due to the same cause, the men all being in the same cage when it was being lowered into a mine. When within 60 yards of the bottom of the shaft it ran away, and only stopped when it struck the bottom. In all the cases there was complete forward **dislocation of the knee** with great deformity and extravasation of blood. In one case, besides the dislocation, there was also an oblique fracture of the tibia. The final results were very good, the men all being able to go on with their work as miners. [G.B.W.]

9.—Gaussen reports a case of **placenta prævia in a twin-pregnancy,** the interesting point of which was that the placenta was single and central in position, the large size making it very difficult, if not almost impossible, to separate it, so as to rupture the membranes and perform version; hence the placenta was perforated with ease and rapidity,

and the two well-developed children delivered through the torn placenta which was expressed about ten minutes later with complete membranes. The mother, though very weak from the severe hemorrhage, quickly rallied under treatment, and made an uninterrupted recovery. [W.K.]

11.—Taylor was called, on February 17, to see a male child, 3 days old, who presented the following appearances: The skin of the body was very dry and hard—quite **hide-bound**; the scalp was very thick and encrusted with muddy-looking scales with fissures between. The eyelids were tense and thick, the skin of the face almost immobile, but without crusts or scales. The tongue was thick, dry and red. The skin was especially thick at the back of the neck. The hands and feet from just above the wrists and ankles were quite black and cold, glistening, and seemed asphyxiated and about to become gangrenous, though no sores had appeared. The general temperature was 97°. No abnormal heart-sounds were heard, but the heart's action was slow, 60 a minute. The child cried, though feebly. It could only with difficulty be fed with a spoon, and was anointed with olive oil. Death occurred on February 19, from asthenia. A necropsy could not be obtained. [W.K.]

Lancet.

April 14, 1900. [No. 3998.]

1. Some Cirrhoses of the Liver. W. B. Cheadle.
2. The Typhoid Bacillus and Typhoid Fever. P. Horton-Smith.
3. Plague Viewed from Several Aspects. W. J. Simpson.
4. A Case of Spontaneous Rupture of the Heart and Hemorrhage into the Pons Varolii. Percy T. Goodman.
5. Experiments on Intestinal Suture. Walter Edmunds and Ewen C. Stabb.
6. Gunshot Wound of the Head; Perforation of the Brain; Recovery. David Durran.
7. Intestinal Obstruction Caused by Meckel's Diverticulum and Relieved by Operation. Henry John Mackay.
8. Two Cases of Mediastinal Growths with Secondary Deposits in the Spinal Canal Causing Paraplegia. H. J. Campbell and H. C. Major.

1.—See *British Medical Journal.*

2.—Horton-Smith in his final lecture refers first to the agglutinating power of blood-serum and discusses the method of carrying out the **Widal test.** He decides that dead bacilli are satisfactory as a rule, but are not wholly so in doubtful cases. He thinks that for practical purposes a 1 : 20 dilution with a one-hour time-limit gives admirable results. In doubtful cases a dilution of 1 : 100 with the same time-limit should be employed. But such a dilution should not be used in ordinary cases because about 20% of typhoid fever cases will not react in a dilution of 1 : 20. The possibility of the Gärtner bacillus infection causing a reaction in 1 : 20 dilution seems theoretical rather than real. After immunizing a guineapig against Gärtner's bacillus the serum gave a reaction as high as 1 : 2000 with the Gärtner bacillus, and only the faintest trace of a reaction at 1 : 20 with the typhoid bacillus. At St. Bartholomew's Hospital in the past three years 546 Widal reactions have been carried out. In over 200 the subsequent course proved that the cases were not typhoid fever and in only one of these was the reaction obtained, and it was discovered after this patient's death that she had had typhoid fever four months before admission to the hospital. In certain cases, perhaps 3% of typhoid fever, the reaction never appears. Two cases are recorded in this paper in which the disease seemed unquestionably typhoid, and in one it was proved to be present at autopsy, and yet the reaction was absent—in the second case even far into convalescence. The duration of the reaction in cases which he investigated varied greatly. It sometimes disappeared immediately after defervescence, and it usually disappeared within a year. Horton-Smith suggests that long persistence of the reaction may be connected with persistence of the bacilli in the body. No prognosis can be based upon the intensity of the reaction. As to the nature and origin of the agglutinating substance he decides that it is probably a ferment produced by the cells of the body, particularly the spleen, lymph-glands, and bone marrow. Agglutination is a reaction of infection undoubtedly, but it is probable that it is connected with the production of immunity. Concerning treatment he states that there is reasonable hope of success from Wright's method of preventive inoculation. He confirms the work of Richardson on the value of urotropin in typhoid fever, and describes 10 interesting cases in which this drug was used with success to overcome the typhoid bacilluria, and from his results and those of Richardson he concludes that the routine use of the drug is strongly indicated, particularly amongst the poor, where the danger of spreading the infection is so great. He considers it indicated, however, even in hospital work, to prevent infection by means of the urine. He describes the immediate effects of the drug as extraordinary, and presents some interesting illustrations to show the difference between cultures of urine before the use of the drug and attempts at cultures afterwards. [D.L.E.]

3.—Simpson gives a brief historical review of **plague.** In speaking of the causes of obscurity concerning extension he directs attention to the obscure forms of the disease, which are often unrecognized, and of the danger in such cases of spreading the disease to other countries. He particularly speaks of the importance of the outbreak at Asunçion, and the danger to the American continent from this outbreak. Concerning diagnosis, he says that when the patient has fever, and the peculiar expression of the face seen in plague, together with the hesitating speech and staggering gait, with whitish fur over the tongue, with red tip and edges, one should always look at once for buboes or disease of the lungs, and for plague-bacilli. [D.L.E.]

5.—Stabb reports a series of experiments made to help in determining the best method of **intestinal anastomosis.** The methods contrasted were by use of Halsted's inflated rubber cylinders, Murphy's button, and Laplace's intestinal forceps. Seven experiments by each method were made on dogs, with the result that all the dogs operated upon by Halsted's method recovered; of the experiments with Murphy's button, 5 were successful; and of the 7 with Laplace's forceps only 4 were successful. The failures were all due to non-union. These results are entirely in favor of the use of Halsted's cylinders. Murphy's button was not found trustworthy without the use of external sutures. Stabb was not favorably impressed with Laplace's forceps, and did not find them of any aid in suturing. [M.B.T.]

6.—A case of **gunshot wound of the brain** is reported in which the bullet penetrated the skull through the left parietal bone, and, passing through the brain, pierced the right parietal bone about 2 inches above and slightly behind the external auditory meatus. The bullet was extracted by incision through the scalp. It evidently passed through the ascending parietal convolution on the left side and through the angular gyrus on the right side. There was gradual return of consciousness and recovery in 2 months. Blindness of both eyes persisted longest. The patient remains well, 3 years after the injury. [M.B.T.]

7.—A young woman was admitted to the hospital with symptoms of **intestinal obstruction** of 2 days' duration. Operation was performed and the obstruction was found to be caused by a coil of intestine being bound down by a **Meckel's diverticulum** which originated from the wall of the ileum, a short distance above the ileocecal valve. It was divided between the ligatures, relieving the constriction, and recovery followed without further symptoms. [M.B.T.]

8.—The first case reported occurred in a man of 23, who had had pains in the chest, and also irregular pains almost everywhere. His **hemiplegia** developed before it was known what was the matter with him. The pain was not such as to direct attention to the spine, and the hemiplegia was thought to be hysteric, but examination of the chest showed signs of intrathoracic growth. After his death a **lymphosarcoma** was found in the thorax which involved the spinal column at the third to the sixth dorsal and at the eleventh and twelfth dorsal, and the canal was choked with growth at both levels. The second case appeared in a man of 32, who at once was seen to have intrathoracic growth, so that the diagnosis was readily made in this case. Postmortem showed a lymphosarcoma, enlarged growths in the mediastinum and liver, and there was a growth about the spine at the upper dorsal region which compressed the cord and had resulted in softening. [D.L.E.]

April 21, 1900. [No. 3999.]

1. The Modern Treatment of Uterine Fibroids, with Table of 68 Consecutive Cases of Hysterectomy. WILLIAM DUNCAN.
2. Coxa Vara. C. B. KEETLEY.
3. Epileptic Attacks Preceded by Subjective Auditory and Taste Sensations, Probably Due to a Tumor of the Left Temporo-Sphenoidal Lobe. J. MICHELL CLARKE.
4. The Causation of Nervous Symptoms in Typhoid Fever, with an Experimental Study of the Action of Typhoid Toxins on the Ganglion Cells of the Central Nervous System. ALEXANDER G. R. FOULERTON and H. CAMPBELL THOMPSON.
5. The Production of Local Anesthesia in the Ear. ALBERT A. GRAY.
6. Backache as a Symptom of Rectal Disorder. E. HARDING FREELAND.
7. Note on the Influence of the Temperature of Liquid Air on Bacteria. ALLAN MACFADYEN and S. ROWLAND.
8. A New Method of Treating Femoral Fractures in the Infant. JOHN D. RICE.
9. Dislocation of the Epiphysis of a Metacarpal Bone. E. KEN HERRING.
10. A Case of Pyonephrosis with Imperforate Right Ureter (Congenital). A. MARMADUKE SHIELD.
11. A Case of Ovarian Cyst Communicating with Thickened Gallbladder Containing a Solitary Calculus. R. H. LUCY.

1.—Of the 68 cases of **uterine fibroids** reported by Duncan only 2 were under 30 years of age. The usual symptoms of uterine fibroids are hemorrhage, pain in the tumor, and pain from pressure. For moderate hemorrhage the effect of drugs may first be tried, and he recommends half a dram of liquid extract of ergot and the same of hydrastis three times a day with an injection of 3 grains of ergotin into the gluteus muscle, once or twice daily, while the loss continues. Duncan considers the intrauterine application of electricity as dangerous and not to be attempted. If the drugs and rest fail to bring the desired result, surgical measures are the next resort, and these are, curetage of the endometrium; removal of the tubes and ovaries, a treatment now happily little used; vaginal enucleation and morcellement, which Duncan deems dangerous for submucous fibroids unless very small; myomectomy which is indicated when the tumor is subperitoneal and attached to the uterus by a pedicle; and, lastly, hysterectomy. While he thinks the extraperitoneal method of hysterectomy is, or ought to be, a relic of barbarism, he considers the intraperitoneal method the best of all and gives a full description of the procedure. This operation was the one used in the 68 cases reported with a mortality of 4½%; but in cases uncomplicated with other troubles the deaths are not more than 2%. [W.K.]

2.—Keetley discusses **coxa vara** without adding anything specially new to the subject. In his own experience he finds better results from the removal of a wedge than from linear osteotomy, in the treatment of these cases. He enters an extensive claim for priority in the description and treatment of this affection. [M.B.T.]

3.—The woman was 40 years old, had a neurotic family history, but had no previous personal history of note until the symptoms of the illness reported began in 1897 with headache and giddiness, and some uncertainty of gait. Optic neuritis followed, and when she was admitted to the hospital beside these conditions she had some dulness of intellect, weakness of the right arm and leg, slight deafness in the right ear, and had had some slight left-sided hemianesthesia, and a tendency to stagger when walking. She had peculiar attacks which were accompanied by salivation, by unconsciousness, and by a peculiar semiarticulate talking through her closed teeth. She always insisted that she heard a definite tune each time that an attack came on; after the sound had passed away the patient felt confused and had an unpleasant taste in her mouth. It was thought that the cause was a **tumor of the left temporosphenoidal lobe.** The patient ultimately died, but no postmortem was obtained. In the latter course of the case the musical sounds were not heard, and she had a sense of peculiar dread and had smacking movements of the lips. At times the right side of the mouth twitched. Her speech was very much affected during the attacks, and after the fits it was slurred indistinct, and improper words were used. [D.L.E.]

4.—The authors discuss in the first place the method of causation of the **nervous symptoms in typhoid fever.** The two possible explanations of the symptoms are that they are due to the action of a specific bacillus, or to the action of other bacteria which cause a secondary infection. It is difficult to tell clinically just how far each of these is active. In case the typhoid-bacillus causes the symptoms it may be due to the direct infection of the nervous system or to a toxemia. The symptoms of cerebral irritation are at times apparently due to direct infection, and a more or less severe grade of meningitis; at times they are due to toxemia only. Two cases illustrating these two forms of disturbance are reported. The first was a toxemia which occurred in a girl of 9 years, who had evident typhoid fever, with retraction of the abdomen. She was noisy and restless and often screamed, and finally passed into a low, muttering state. There were no changes in the brain, and cultures from the brain were negative. The second case was a rare one of typhoid meningitis in a boy of 12 years, who had in the early part of the attack incoherency of speech, and vomiting. He was almost unconscious when admitted to the hospital, and paid no attention to his surroundings or to most questions. He had a great deal of rolling of the eyes, and subsequently some retraction of the head, before he died. The case was thought to be tuberculous meningitis until the Widal reaction was obtained. The postmortem examination showed marked congestion of the meninges and the presence of the typhoid-bacillus. The authors have injected rabbits with living cultures of the typhoid-bacillus and with toxins and have then examined their central nervous systems. They saw practically no changes in the ganglion cells when hardened in formalin and stained in methylene-blue. There was at times some swelling of the cells and indistinctness of the details, but these were not constant and were even rather rare, and they do not believe that there is any evidence that typhoid infection or typhoid toxemia causes discoverable changes in the ganglion-cells of the nervous system. Both the cases reported were examined in the same way, and in neither instance did they find distinct changes in the ganglion cells. [D.L.E.]

5.—Gray recommends the following solution for the production of **local anesthesia** in operative work in the **ear:** 5 or 10 parts of cocain hydrochlorate, 50 parts of dilute alcohol, and 50 parts of anilin oil. This solution is equally suitable for operations on the tympanic membrane, on granulations, or for the removal of ossicles. Alcohol and anilin oil dehydrate the tissues and favor penetration of the cocain to the nerve-terminations of the inner layer. The anilin oil also has a favorable influence on the suppurative process. The solution may be used on any mucous membrane for local anesthesia. [M.B.T.]

7.—The authors have continued their experiments (the report was recently abstracted from the same journal). Previously they exposed bacteria to the effects of liquid air for 20 hours, but in this experiment they were exposed for 7 days by putting broth emulsions in hermetically sealed quill tubings and immersing them completely in liquid air. The mechanical strain to which the bacteria were subjected was enormous, and the temperature was about—190° C. Nevertheless there was no alteration seen in the structure of the microorganisms, and the growth of the bacteria was altered only in that it was slightly delayed. [D.L.E.]

8.—Rice reports treating a **fracture** in the upper third of the right **femur** in a newly-born **infant** by flexing the thigh on the abdomen (the position assumed in utero). Extension was applied in this position. An excellent result followed. [M.B.T.]

9.—Herring reports a case of **dislocation** of the **epiphysis** of the first right **metacarpal** bone in a boy of 10 as the result of a fall from a tree. X-ray diagnosis was made 7 weeks after the injury, and a successful result followed, freeing the fragment by incision, and fixing it with a pad and splint. [M.B.T.]

10.—A case of **pyonephrosis** of the right kidney, which was distended to the size of a cocoanut, and congenital **occlusion** of the **ureter** of the same side, was found at the necropsy on a male **infant** of 7 months. The cause of suppuration was not evident. The condition is said to be extremely rare. [M.B.T.]

11.—Lucy reports a case of an **ovarian cyst communicating with the gallbladder.** The patient, a woman aged 60, was first operated upon for the ovarian cyst which was fusiform and bilocular; the anterior larger portion alone communicated with the gallbladder which was tied down by vascular adhesions both to the under surface of the diaphragm and to the great omentum; the posterior and smaller cyst contained clear mucous fluid; both had smooth linings. No trace of an ovary other than these cysts could be found on the right side. The left ovary and tube were shrunken, but were returned into the abdominal cavity. The patient left the hospital on the forty-ninth day, June 22, and returned on July 17 for the second operation. The peritoneal cavity was entered through an elliptical incision around the fistula. The gallbladder after being separated from the under surface of the liver was drawn well up into the wound when a hard, rounded body could be felt deep down; and, on cutting off about an inch of the much thickened viscus, a rounded, dark brown calculus, an inch in diameter, was squeezed forward and removed, followed by a gush of bile. The lower half of the wound was then closed in two layers, while the cut edges of the gallbladder were attached by a purse-string suture of fine silk to the transversalis fascia and the peritoneum; a stout drain-tube was placed in the gallbladder and water poured in was found to sink rapidly away. The tube was removed on the seventh day, all the sutures on the fourteenth, and the patient left the hospital on the sixtieth day after the second operation and has since been in good health. The calculus had evidently acted as a ball-valve, for the patient gave a definite history of fluctuation in the size of her abdomen previously to the first operation. The ovarian fluid used to drain away via the gallbladder, cystic and common ducts, giving rise to what was regarded as an "attack of diarrhea." Then the abdominal swelling would increase in bulk, from bile flowing into the ovarian cyst, but never at any time (while under observation) was there absence of bile from the stools, nor was there anything more than slight jaundice. The connection between the cyst of the ovary and the gallbladder was in all probability due to a localized peritonitis set up by the gallstone. These adhesions are rarely met, especially at the present time, when most ovarian cysts are operated on long before they become so large as to reach the gallbladder. Further, for the production of a communication between this cyst and the gallbladder, it is necessary that a gallstone should be present capable of giving rise to an adhesive peritonitis. Lucy considers the above conditions very rare, judging from the absence of any record that he could trace. [W.K.]

New York Medical Journal.

April 28, 1900. [Vol. lxxi, No. 17.]

1. A Contribution to the Histopathology of Epidermolysis Bullosa (Hereditaria). GEORGE T. ELLIOTT.
2. Nitrous Oxid; Ether; Chloroform. S. ORMOND GOLDAN.
3. A Reply to an Attempted Defense of Antitoxin. EDWARD HERMAN.
4. The Relation of Hydrochloric acid Secretion to Indicanuria. ALLEN A. JONES.
5. Ethylic Bromid (C_2H_5Br) Anesthesia Preliminarily to the Use of Sulphuric Ether. GEORGE RYERSON FOWLER.
6. The Diagnosis of Hysteria. CHARLES W. BURR.

1.—The histological examination showed little change in the stratum spinosum excepting in the deeper parts. The stratum basale was the special seat of the changes observed, the cells showing all grades of degeneration and giving rise to a broad zone of degenerated cells which stood out sharply from the healthy portion. They stained faintly. The nucleus was pale, and often showed kariolysis, and ultimately after degeneration of the protoplasm the cells gradually disappeared. The cell-changes seemed to be coagulation necrosis. These cellular changes were found in all parts of the skin, even those entirely unaffected by the bullous eruption, and were seen at all times of the year. The discovery of this widespread change in the skin leads Elliott to decide that the subject of the disease is born with a congenital **irritability of the blood-supply of the skin** which responds to any irritant, and the result is that the basal portion of the rete is constantly bathed in **serous transudate,** and the degenerative changes described result. [D.L.E.]

4.—Jones records a series of cases showing various conditions of the **stomach-contents** in which **indicanuria** was looked for. In the first group free HCl was present, indicanuria absent. There were 85 such cases in the second group. He reports 36 cases in which free HCl was present and indicanuria present. The indican was inconstant in this group. In the third group there were 25 cases in which free HCl was absent and indicanuria also absent. In the fourth group there were 16 cases in which free HCl was absent and indican present. The whole series of cases shows that there is no distinct and constant relation between indicanuria and the secretion of HCl in the stomach. Jones goes over the recent work on indicanuria, and concludes that as far as indicanuria is related to the stomach one must take into account the amount of combined chlorids present and the degree of gastric digestion of proteids. The presence of combined free HCl is important in preventing indicanuria. But the gastric secretion is not alone an important matter. One must always consider the condition of the intestines, particularly the amount of bile and pancreatic secretion. [D.L.E.]

5.—Fowler reports an exceedingly favorable experience in the use of **ethylic bromid for anesthesia** in upward of 100 cases, this including, with but three exceptions, all the cases operated upon in his hospital services since he began its use. From 1 to 2 drams of ethylic bromid are placed upon the inhaler, and, in from 30 to 45 seconds, according to the freedom with which the patient breathes, the administration of the sulphuric ether is begun, without changing the inhaler, and proceeded with as in ordinary ether anesthetization. [M.B.T.]

6.—Burr gives an interesting review of the **method of diagnosing hysteria,** directing attention to the fact that the important matter is the exclusion of organic disease, and that hysteria is diagnosed by establishing such a fact and by developing the conditions peculiar to hysteria. The mode of onset, as for instance the rapid occurrence of contractures, the curious grouping of the symptoms not corresponding to any organic lesion, the onset of symptoms after emotional shock or excitement, the curious geographical character of the anesthesia not affecting the distribution of any one spinal nerve, the shifting tendency of the anesthesia, as well as the fact that it is unknown to the patient, the occurrence of tender spots over the ovary, along the spine, on the breasts, below the ribs, and at the vertex, are some of the main indications of hysteria. In Philadelphia the typical hysterical convulsion as described by the French in particular is not often seen, but abortive types are not uncommon. It is always to be remembered that hysteria may be combined with organic disease, and particularly in brain-tumor are hysterical symptoms common. They are likewise not infrequently seen in general diseases such as typhoid fever. Burr particularly insists that it should be recognized that hysteria is not mere wilfulness. [D.L.E.]

May 5, 1900. [Vol. lxxi, No. 18.]

1. General Remarks on the Pathology and Treatment of Stricture of the Urethra. CHARLES GREENE CUMSTON.
2. Nitrous Oxid; Ether; Chloroform. S. ORMOND GOLDAN.
3. What is the Basis of Modern Medical Conceptions? J. HOMER COULTER.
4. An Appeal for Systematic Treatment of the Consumptive Poor. JOHN F. RUSSELL.
5. Management of the Hair During and After Fevers. GEORGE THOMAS JACKSON.
6. Effeminate Men and Masculine Women. WILLIAM LEE HOWARD.
7. Practical Points in Ether-Anesthesia. C. FLOYD BURROWS.

2.—In concluding his paper Goldan expresses the belief that it is more the method employed and skill in administering anesthetics than the particular anesthetic used that in most cases leads to the favorable termination of and rapid recovery from the operative procedure, whether long or short, in which the anesthetic is more or less a factor. [M.B.T.]

4.—Russell presents a very suggestive report of the effects of the recent system of **treating consumptives** in the Dispensary of the Post-Graduate Hospital, of New York.

From March 14, 1898, to July 21, 1899, they were able to report 10 cases in which apparent cure of consumption had been secured in walking cases. All these were in poor people who could afford no other treatment, who could not be sent away, who were obliged to work and did continue their work while continuing the treatment. The plan was to have the patients report every morning and evening, the only requirements being bi-daily reports and the ability to secure reasonable food at home. They were required to come twice daily without regard to the weather, to eat as regularly and freely as they were able, tea and coffee were allowed once a day, and alcohol was excluded. They were required to keep their feet dry and warm, and to avoid overclothing. Corsets were forbidden. It was insisted that they must sleep with windows widely open in all weather, and to keep in the open air as much as possible. They were not allowed to go to places of amusement or to keep late hours. Some hygienic directions were furnished them which they were required to follow. When they came to the dispensary they were given a preparation of predigested fats to drink. It is particularly emphasized that by having them come twice a day not only did they get more food but were kept under better control, and were taught proper hygiene and proper management of their lives. The results have been satisfactory, and Russell insists upon the importance of making similar attempts in treating dispensary cases of phthisis, since such cases usually run an unfavorable course. [D.L.E.]

5.—Jackson recommends care in **combing the hair daily during the course of fevers,** even though it comes out, and once or twice a week a little oil or vaselin should be rubbed into the scalp. During convalescence the hair should not be cut off, as this does no good. The hair should be brushed and combed daily, even though a good deal is pulled out. Once or twice a week pomade containing a dram of precipitated sulfur to the ounce of cold cream should be well rubbed into the scalp, or a liquid preparation of resorcin in oil and alcohol should be used. The hair and scalp should be washed once in two or three weeks, using a good soap, and thoroughly washing the soap out. [D.L.E.]

Medical Record.

April 28, 1900. [Vol. 57, No. 17.]

1. Bottini's Operation for the Cure of Prostatic Hypertrophy. WILLY MEYER.
2. The Past and Present of Refraction. FRANCIS VALK.
3. Progressive Pernicious Anemia and Malignant Disease of the Stomach. ALBERT ABRAMS.

3.—Abrams reports 2 cases which were apparently **progressive pernicious anemia,** in which the gastric symptoms were so marked as to make carcinoma of the stomach seem very probable. In 1 case the blood-count was reduced to 1,000,000 reds with a hemoglobin percentage of 40; the other case was reduced to 800,000 reds and 35% hemoglobin. Both cases improved immediately and progressively on arsenic. Abrams believes that arsenic is a true specific in pernicious anemia. He thinks there is no reason to use intestinal antiseptics in this disease; iron is useless, and bone-marrow, in his experience, has only caused gastro-intestinal disturbance. Weak saline solutions administered by the bowel or under the skin may be useful. [D.L.E.]

May 5, 1900. [Vol. 57, No. 18.]

1. Perforating Duodenal Ulcers. ROBERT F. WEIR.
2. Preliminary Report on a New and Simple Method of Sterilizing Catgut. CHARLES L. ELSBERG.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 984.

2.—Elsberg recommends the following method of sterilizing catgut and states that bacteriologic examinations have shown conclusively its reliability. It is first freed from fat by immersing in 1 part chloroform and 2 parts ether for 24 hours, then it is tightly wound in single layers on suitable spools. The spools are boiled for from 10 to 30 minutes in a hot saturated solution of ammonium sulfate in water, made by adding chemically pure ammonium sulfate to boiling water until no more will dissolve. Two per cent. carbolic acid solution may be substituted for the water if a quicker sterilization is desired; or 1:1000 chromic-acid solution, if the catgut is to be chromicized. The spools are thoroughly washed by agitation for from 1 to 2 minutes in cold or warm sterile water, carbolic acid, or bichlorid solution of any strength. The catgut spools are preserved in strong alcohol. For resterilization the catgut spools are boiled for from 5 to 15 minutes in any of the solutions, and washed. [M.B.T.]

Medical News.

April 28, 1900. [Vol. lxxvi, No. 17.]

1. Some of the Reasons Why the Surgical Treatment of Nasal Disease Has Been Placed on a Conservative Basis. CLARENCE C. RICE.
2. Statistics of 100 Cases of Cancer of the Breast, and the Results of Operation. CLARENCE A. MCWILLIAMS.
3. Cancer Occurring in Acid Parts of the Body. A. L. BENEDICT.
4. After-Treatment of Tenotomy. ALEXANDER DUANE.
5. Interesting Case of Syphilis; Epithelioma. L. BLAKE BALDWIN.
6. A New Traction Hip-Splint. JAMES K. YOUNG.

1.—Rice says that the reason why so much harm was done by the older methods of **intranasal surgery** was chiefly because the rhinologist of those days did not recognize the real pathological conditions present. For instance, when a child was seen with the vault filled with adenoids, the true condition not being recognized, an attempt was made to restore the patulency of the nasal passages by removing the turbinals, thereby not only failing to remove the obstruction, but also making the condition of the patient much worse in predisposing the nasal tissues to the development of atrophic disease. As for the present time, a better knowledge of the pathology and improved instruments and technic make it possible for the rhinologist when operating always to benefit his patient. If benefit is not obtainable, operation should not be performed. [G.B.W.]

2.—McWilliams reports the results of a study of 100 cases of **cancer of the breast.** As regards the etiology none of the cases developed during pregnancy or lactation. Out of 65 patients who were questioned as to trauma 44.6% gave a distinct history of antecedent injury. Seventy-four per cent. of the whole number were married women. The pain of cancer of the breast does not amount to much until ulceration sets in, though sensations of discomfort in the breast may be present very early. Forty-three and two-tenths per cent. of 73 cases had retracted nipples. Palpable lymphatic enlargement of the axillary glands took place in 48.9%, though in 78.6% the microscope revealed cancerous infection of the glands. The average age of the patients was 49 years. The operation used in these cases was to incise the skin wide of all disease, then cut through the pectoralis major and minor near their insertions so as to give free access to the axilla. Beginning with a dissection of the axilla the whole mass of glands, fascia, muscle and tumor is removed in one piece from above downward. (This is the method of procedure suggested by Kocher and is an easy operation compared with that of Halstead.) The mortality following the operation was only 4%. Out of 66 cases 34% had had no return of the disease within 3 years after the operation. Of the cases in which recurrence took place the cancer reappeared within 2 years after the removal of the growth. The recurrence generally occurred in the scar or the skin near it. [G.B.W.]

3.—Benedict calls attention to the fact that the great majority of carcinomas occur in situations where the tissues are exposed to acids, or to products of an acid fermentation, as in the mouth, the stomach, the ileocecal valve, the rectum, and the skin. He quotes numerous statistics in support of this view. [J.S.]

4.—Duane, in speaking of the **treatment of eye-squint,** says: First, the patient is prepared for the operation by repeated exercise of the eye-muscles and attempts to secure binocular vision. Second, the operation should be limited to careful tests, to show the amount of deviation required. Third, immediately after the operation the patient is allowed to go about as usual, is encouraged to use his eyes for distant vision, and is urged to practise both eyes together for all ordinary looking. If at one of the daily examinations after the operation the correction is found not all that is

required, special exercises should be instituted for stretching the divided tendon. [G B.W.]

5.—Baldwin reports 2 interesting cases; the first occurring in a man 37 years of age who had had **luetic** infection 7 years previously with very incomplete treatment. His weight had decreased from 178 to 90 pounds. His body was covered with ulcers and the scars of old ulcerations. There was necrosis in the soft palate and loss of nose. He was treated with wet bichlorid dressing, large doses of potassium iodid, and the pure juice of beef, and in 2 months gained 100 pounds. The second patient was a woman of 41 years of age who had a series of infiltrating lesions upon the face, neck, right breast and thigh. The lesions had commenced at irregular times as small pimples which broke down with slight discharge. They have the appearance of fungoid excrescences and are raised above the surrounding tissues looking something like a cauliflower mass. They were quite firm and sometimes itched. There was no enlargement of the glands. There was a history of repeated child-birth, 15 children in all, most of them dead from various causes. Microscopical examination showed an **epithelioma** containing some protozoa-like bodies. [J S.]

6.—The **new traction hip-joint** splint as suggested by Young has the advantage of cheapness and is equally efficient with the more expensive ones. [G.B.W.]

May 5, 1900. [Vol. lxxvi, No. 18.]

1. The Medical School of the Future. H. P. BOWDITCH.
2. Truth in Medicine. E. G. JANEWAY.
3. Perforating Duodenal Ulcers. ROBERT F. WEIR.
4. The Present Status of Rectal Surgery. JOSEPH M. MATHEWS.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1011.
2.— " " " " " " " 988.
3.— " " " " " " " 984.

4.—Mathews, in speaking of the present status of **rectal surgery,** says that gradually the surgeon is becoming more careful in his treatment of this class of cases in order to obtain better results, and the general practitioner is beginning to realize the importance of a condition which is not only painful but also often dangerous to life. Specialists of ability are springing up, and he says that these men should be better recognized by the regular profession. Attention is also called to the neglectful way in which many of the prominent textbooks on surgery treat this subject. [G.B.W.]

Boston Medical and Surgical Journal.

April 26, 1900. [Vol. cxlii, No. 17.]

1. Splenic Pseudoleukemia: An Historical Sketch. R. C. CABOT.
2. Splenic Anemia. JOHN LOVETT MORSE.
3. Splenic Anemia. HENRY JACKSON.
4. A Case of Splenic Anemia. JAMES MARSH JACKSON and GEORGE SUMNER HILL.

1.—Cabot gives a brief description of **splenic pseudoleukemia.** The characteristic is, of course, the considerable enlargement of the spleen, usually with slight enlargement of the liver, although this is not invariably the case. The condition of the blood usually resembles that found in chlorosis. The disease must be differentiated from idiopathic splenic enlargement, from pernicious anemia with slight or considerable enlargement of the spleen, and from cirrhosis of the liver. In some cases, it may also be difficult to exclude chronic malarial splenic tumor, but from leukemia the diagnosis can readily be made. There are certain cases, however, that occur in children, in which there is marked anemia and enlargement of the spleen, whose classification has not yet been definitely determined. The prognosis is favorable, but hemorrhage frequently occurs, ascribed by Osler to mechanical factors. Splenectomy has occasionally been performed with apparently favorable results. [J.S.]

2.—Morse reports a case of **splenic anemia** that he examined for a series of years. At the age of 7 the liver was markedly enlarged, the spleen was enormous, but aside from a moderate reduction in the red blood-cells and hemoglobin, the blood was normal. Four years later, the condition was very much the same. The patient has been occasionally jaundiced, and had had epistaxis. There was some dyspnea upon exertion. Signs of rickets were present and Morse is unable to exclude the possibility of a splenic tumor persisting after the subsidence of some infantile condition that caused it. The course of the case, that is practically no progress in a period of 4 years, excludes pernicious anemia, leukemia, and Hodgkin's disease. There is possibly some hepatic trouble. He reports a case of a woman of 37 years who had had luetic infection and was much exhausted by prolonged nursing. A large spleen was accidentally discovered, and it was then found to be slightly tender, and there were several attacks of pain in the splenic region. The blood was practically normal, although the proportion of eosinophiles was rather high (4%). There was moderate deduction in the hemoglobin. Morse believes that the splenic enlargement and the anemia are more or less independent of each other in this case. [J.S.]

3.—Jackson reports the case of a man, 20 years of age, who had been in ill health from the time when a tooth had been drawn, which was followed by profuse hemorrhage. The spleen was greatly enlarged; there was slight reduction in the polymorphonuclear cells, but later the blood was practically normal; that is to say, the anemia disappeared although the spleen remained large. Jackson has examined the records of the Boston City Hospital and has found 10 cases of **pernicious anemia** in which the spleen is recorded as having been enlarged. In only one of these cases, however, was this enlargement considerable. [J S]

4.—Jackson and Hill record the case of an American woman, 28 years of age, who at the age of 18 had had some convulsions, apparently epileptic in character. At the age of 25 she had had a sharp pain in the splenic region and then noticed that the **spleen was enlarged.** When examined the spleen was enormously enlarged. Examination of the blood showed a very considerable portion of myelocytes (4.5%) and some nucleated red cells. Subsequently the myelocytes decreased in number, but a marked lymphocytosis persisted. [J S]

May 3, 1900. [Vol. cxlii, No. 18.]

1. The Medical School of the Future. H. P. BOWDITCH.
2. Perforating Ulcer of the Duodenum. ROBERT F. WEIR.
3. The Ideal Ration for an Army in the Tropics. EDWARD L. MUNSON.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1011.
2.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 984.

3.—Munson, in discussing the **proper military ration for tropical duty,** calls attention to the following physiological facts: In hot climates the body-temperature is slightly increased; there is loss of body-weight, diminution of pulse-rate, slowing of the respiration which is apparently produced by an increase of the respiratory capacity, diminution of the secretion of the salivary glands, and of the excretion of urine, and particularly of the excretion of urea; probably increased secretory action of the liver associated with congestion; dryness of the throat and fauces; exaggeration of thirst, and impaired appetite. [J.S.]

Journal American Medical Association.

April 28, 1900. [VOL. xxxiv, No. 17.]

1. Peripheral Resection of Fifth Nerve. Three Cases with Microscopic Examination of Portions of Nerve Removed and Report on Later Conditions of Patients. W. W. KEEN and W. G. SPILLER.
2. Endothelioma of Gasserian Ganglion: Two Successive Resections of Ganglion; First, by Extradural (Hartley-Krause) Operation, and Secondly, by Intradural Operation. F. W. DERCUM, W. W. KEEN, and W. G. SPILLER.
3. Method of Exposing Gasserian Ganglion; Removal of Superior Maxillary Nerve. GWILYM G. DAVIS.
4. Method of Total Extirpation of Gasserian Ganglion for Trigeminal Neuralgia, by a Route Through the Temporal Fossa and Beneath the Middle Meningeal Artery. HARVEY CUSHING.
5. Medical Ethics and Medical Journals. P. MAXWELL FOSHAY.

6. Congenital Aphakia and Irideremia. FLAVEL B. TIFFANY.
7. Treatment of Variola by Bichlorid Baths. H. A. INGALLS.
8. The Smegma Bacillus. OSCAR A. DAHMS.
9. Clinical Report. Double Inguinal Hernia on Same Side; Illustration. CHAS. C. ALLISON.

1.—Keen reports cases of **peripheral resection of the fifth nerve for trifacial neuralgia.** A woman of 50 had suffered from pain in the right side of the face and scalp for 3½ years, though there was an interval of a year in which the pain was comparatively slight. Resection of the supraorbital and infraorbital nerves was performed, followed by an interval of 3 months in which the patient was free from pain. Later there was recurrence, but the pain was not severe or constant. In a second case, resection of the infraorbital and inferior dental nerves was performed for the relief of characteristic douloureux of the right side, occurring in a woman of 62. The patient had been treated by massive doses of strychnin (7.20 grains per day) without avail. Two slight recurrences followed. In a third case, a young woman of 28 had been treated with large doses of strychnin without avail for neuralgia of the right inferior dental and infraorbital nerves. Resection was followed by recurrence of pain 2 months later, but it was much less severe. As the result of experience from many operations, Keen states that the relief is scarcely ever permanent after such operations, but at the same time is so great that patients do not hesitate to accept a second operation in view of the great relief. In spite of only the transitory relief, it is wise to do these peripheral operations until the mortality of Gasserian operations has been materially lessened. Peripheral operations ought to be done early before the disease has had time to invade the ganglion. Very early operations, say after a month or two of ineffectual medication, might even cure permanently. A protest is entered against the useless extraction of the teeth in such cases. Spiller found on pathologic examination that when some of the fibers of the infraorbital nerve were teased and stained by a 1 per cent. solution of osmic acid, they were seen to contain numerous black balls, approximately of the same size. These are nearly equidistant from one another, located along the edges of the fibers, leaving, as a rule, the centers free from such accumulations. There was also decided thickening of the walls of even the smallest vessels. In the third case, the axones of a number of nerve fibers were absent, and in other fibers they were tumefied. [M B T.]

2.—A man, aged 32, of extremely nervous temperament came under observation suffering from severe trigeminal neuralgia involving the entire distribution of the left fifth nerve. The nonparoxysmal character of the neuralgia, its frightful severity and unvarying intensity, the deep seated temporal pain, the nearly simultaneous involvement of all branches of the trifacial, the hyperesthesia in the distribution of the fifth nerve, and somnolency suggested an organic cause and the **Gasserian ganglion** as the seat of the disease. The Hartley-Krause operation was performed according to the usual method. The dura was unusually tense and adherent and tumor was felt beneath it. The growth was removed except a portion near the cavernous sinus. A good surgical recovery followed, but the patient suffered from traumatic insanity during recovery and found no relief from his pain. About a month later a second operation was undertaken. The flap of the previous operation was turned down and a gelatinous mass the size of the end of the thumb was removed from the site of the Gasserian ganglion. The postoperative results were practically the same as after the first operation. Pathologic examination by Spiller showed the growth to be a miliary endothelioma. The patient returned to his home still suffering constantly from pain which it required morphin to alleviate. This case is the first of tumor of the Gasserian ganglion that has been reported in the United States and the third that has ever been reported. [M.B.T.]

3.—A man of 60 was suffering from neuralgia almost entirely confined to the superior maxillary nerve, for which several operations had been performed, but recurrence had followed in each case. After ligation of the external carotid artery above the digastric muscle, a flap the shape of a truncated cone was cut with its base upward in the temporal region in order to avoid sloughing. The flap embraced the skin and superficial fascia. The temporal muscle and aponeurosis was then cut in the lines of the two lateral incisions, but the transverse cut was made high up near the temporal ridge. This muscle, having been thus loosened above, was pushed down beneath the zygoma. The skull was opened by a trephine and the opening enlarged by the rongeur forceps. The middle meningeal artery was torn, but gave rise to no troublesome bleeding. The superior maxillary nerve was divided near the foramen rotundum and was then twisted loose from the **Gasserian ganglion**. Primary union followed the **operation** and the pain has disappeared. [M.B.T.]

4.—Cushing believes that the probability of nonrecurrence of pain after operations on the **Gasserian ganglion** bears a direct relation to the degree of entirety with which the ganglion has been removed. The satisfactoriness of the operation is commensurate with the degree of preservation of the ganglion during its removal and the consequent possibilities of a histologic identification of its elements, and the evolution of the operation must be in the direction of avoidance of hemorrhage, which will interfere with the manipulations necessary to successfully liberate the ganglion. He describes a modified form of the Hartley-Krause operation, in which the trephine opening through the fossa temporalis is sufficiently low so that the extradural manipulations may be conducted *underneath the arch made by the middle meningeal vessel*, which is retracted with the dura and remains uninjured at its two fixed points—namely, at the foramen spinosum of the temporal bone, and at the sulcus arteriosus of the parietal. Under this arch, with but slight elevation of the temporal lobe, the entire ganglion with its sensory root may be exposed. The method gives the maximum of exposure with the minimum of cerebral compression and injury of bloodvessels. The steps of the operation are carefully described and discussed. Four cases are reported in which this operation was performed. A man of 63 had suffered from rightsided neuralgia for 10 years, and had undergone a peripheral operation, with the evulsion of the second and third brachus, but had failed to gain but a few weeks' respite. In this case, as in all those following, there was complete anesthesia over the entire area of distribution of the nerve. The second patient, a man of 55, suffered more or less pain for 12 years, beginning in the infraorbital branch. Evulsion of this branch had given several months' relief, but the pain returned and made the patient almost maniacal, until relieved by operation. In a third case, a man of 38 had suffered from trifacial neuralgia for 2 years, first limited to the supraorbital nerve; then the infraorbital area became affected. In the fourth case a woman of 60 had suffered for 7 years with leftsided tic douloureux, which originated in the superior maxillary division. The infraorbital nerve was evulsed, with 16 months' relief, and later the regenerated nerve was evulsed, with 4 months' relief. Cuts are given of all four specimens of the ganglions, which leave no question that they were completely removed. The results of the pathologic study of the specimens will be given in later papers by Drs. Barker and Spiller. [M B.T]

5.—Foshay states that there are 250 **medical journals** published in the United States; many of them are owned by great publishing houses and are used directly or indirectly to advertise their wares; others are owned openly or covertly by proprietary medicine makers; still others are conducted by men simply for self-exploitation. Such is the multiplicity of journals that few could live without their advertising receipts from pharmaceutic concerns. Physicians are so flooded with cheap journals that many careless men feel that there is no need to subscribe for journals. The proper objects for which medical journals should be conducted are: The prompt diffusion of medical knowledge; the furnishing of a ready means for the intercommunication of professional thought, the elevation of professional morals, the binding together of the medical profession into one harmonious organism, the representation of the best medical thought with the effort to raise the intellectual and moral qualifications of the entire profession to that level, and the extinction of sects and of all unreason in the art or science of medicine. Physicians should eschew journals that mix original matter with advertisements, they should beware of the journal that repeatedly publishes cheap reports of limited experience by unknown authorities with remedies rightly regarded by reputable physicians with more or less suspicion. Preference should be given to journals owned and entirely controled by medical men. Know something about the character and reputation

of the editor of the journal for which you subscribe. It is not in reason to expect a clean journal from the hands of a self-advertiser or of a man of doubtful reputation. The remedy for the existing disgraceful state of the ethics of medical journalism lies in the hands of the great body of the profession. Just so soon as they refuse to countenance indecent journals, just so soon will they die for want of pabulum. [M.B.T.]

6.—Tiffany reports 2 cases of **congenital aphakia** occurring in 2 brothers, aged 21 and 10 years. Three out of the 7 children of their family had some trouble with their eyes. [M.B.T.]

7.—Ingalls states that he and Yeager have treated 36 cases of **variola** by bichlorid baths without any mortality. One case was hemorrhagic and 13 were confluent. From his experience he believes that with this treatment there need be practically no mortality. The suppurative fever can be shortened 4 to 6 days if patient is treated from the onset. A minimum of pitting is secured and an almost entire absence of the characteristic, disagreeable odor. The period of desquamation is materially lessened owing to the thinness of the scab formation. Pain is much reduced; morphia being rarely indicated. The great distortion of features, which gives us such repulsive-looking patients, is eliminated to a great extent. [M.B T.]

9.—Allison reports **double inguinal hernia** of the **same side** occurring in a man of 56. A hernial protrusion of the oblique variety was first reduced and the sac was excised and sutured. It was then found that the larger part of the hernial protrusion remained. A direct inguinal hernia was replaced and the sac was excised and sutured; the cord was transplanted by Bassini's method and uneventful convalescence followed. It is believed that this form of hernia has not been previously described. [M.B T.]

May 5, 1900. [Vol. xxxiv, No. 18.]

1. Further Observations on Treatment of Abdominal Viscera Through Colon. Fenton B. Turck.
2. Protocols of Microscopic Examination of Several Gasserian Ganglia. Lewellys F. Barker.
3. Pathologic Report on Two Gasserian Ganglia Removed by Cushing. Wm. G. Spiller.
4. Surgery of Fifth Nerve. Robert Abbe.
5. Natural History of Tic-Douloureux, with Remarks on Treatment. Charles L. Dana.
6. Operation for Exstrophy of Bladder by Sonnenberg's Method. J. Rilus Eastman.
7. Vision and Color Perception for Railway Service. Wm. C. Bane.
8. Early Diagnosis of Pulmonary Tuberculosis. Edward F. Wells.
9. The Sight and Hearing of School-children. H. V. Würdemann and Frank Allport.

1.—In concluding his paper on the **treatment of abdominal viscera through the colon** Turck states that massage and systemic or abdominal electrization, while not destitute of good effects, achieve but partial success. The facts already cited as to the benefit of massage applied to the bowel's mucous membrane are peculiarly applicable to electrization, which can be applied to the mucous membrane of the bowel, as far as the colon is concerned. A large area can be reached through a cable and irrigator described in the paper, by the method described. [M.B.T.]

2.—Barker gives a detailed, thorough report of the conditions found on **microscopic examination** of 2 **Gasserian ganglia** removed by Dr. Cushing for tic douloureux and of 3 control ganglia removed at necropsies, also 1 removed from a patient who has suffered from cerebrospinal meningitis, and one removed experimentally from a dog. He expresses the following convictions as to **operation in tic douloureux.** If a ganglion be entirely removed there need be no fear of a return of pain from irritation of the stump of the N. trigeminus left behind, for all of the axons of this stump will degenerate to their terminations in the pons and medulla, down as far as the cervical cord. The end of a nerve in an amputation stump is not analogous. Complete removal of a Gasserian ganglion utterly abolishes the possibility of calling forth sensations in consciousness by applying stimuli to the domain of peripheral distribution of the nerves connected with the ganglion of the corresponding side; retention of sensation on peripheral stimulation after operation indicates incomplete removal. If pain persists, paroxysmally or continuously, after complete removal of the ganglion, or after evulsion of the N. trigeminus from the pons, the ganglion being left *in situ*, a lesion of the central neurons—of the second or of higher orders—of the trigeminal afferent conduction path is indicated. In *tic douloureux* due to disease of the peripheral set of trigeminal sensory neurons, relief should be as complete and permanent by cutting the N. trigeminus between the ganglion and the pons and evulsing the central end without removal of the ganglion, as when the ganglion itself is excised. [M.B T.]

3.—Spiller reports the results of a careful **pathologic study of two Gasserian ganglia** removed by Dr. Cushing for **tic douloureux.** He gives the following summary of the changes found: Tumefaction of medullary sheaths and axis-cylinders in certain bundles only, in all 3 divisions of the ganglion. Tumefaction of axis-cylinders in a portion of the sensory root. Numerous spaces in a portion of the sensory root, possibly resulting in part from degeneration of nerve-fibers. The sensory root, therefore, is not normal, and the condition in this root renders a return of the pain possible. Quite intense degeneration by the Marchi method in the center and peripheral end of the ganglion and its peripheral divisions—a questionable change by this method in the sensory root. The bloodvessels are not distinctly diseased, and no evidence is offered that the diseased condition of the nerve-fibers resulted from vascular degeneration. Neither do the nerve-cells, by the stains suitable to the method of hardening employed, offer the slightest foundation for the theory of a cellular origin of tic douloureux. [M.B T.]

4.—Abbe discusses the **results** of 20 **operations** which he has performed for the relief of **trifacial neuralgia.** In 5 cases he operated by Hartley's intracranial method; 3 patients remain well, 3, 4, and 5 years, respectively, after operation; 1 patient died under anesthesia from fatty heart or shock. Four patients were operated upon by Salzer's method, resecting portions of the second and third branches at the foramina rotundum and ovale, with permanent relief in 2 cases, partial relief in another, and recurrence for which the intracranial operation was performed in the fourth case. Carnochan's operation resecting the nerve from the foramen rotundum to the cheek was done in 11 cases. Abbe has been able to follow 8 of the 11 cases; 1 remains cured after 12 years; 1 after 10 years; 1 died after 6 years, cured; 1 remains cured at 5 years; 2 remain well after 1 year; 1 was not relieved even by subsequent operation by Dr. Keen (removal of the Gasserian ganglion); 1 remained well at 2 years, when he was lost sight of; 3 were relieved and lost to view. The thoroughly done Carnochian operation is advocated for most cases. The Salzer method is more thorough but less severe than the intracranial operation. If the intracranial method is adopted, as it must be in many grave cases, Abbe advocates simple section and limited excision of the second and third branches from the ganglion to the foramina, and interposition of a piece of sterile rubber tissue, adequate to cover both openings. He sees no reason for believing that the resection of the Gasserian ganglion is necessary to the thorough severance of nerve-connection with the brain. This step may be the greatest element of danger and, unless a tumor of the ganglion exists, is uncalled for. If a tumor exists it seems useless. In most cases of inveterate tic a chronic neuritis exists, usually of the middle branch. Hence the quick and permanent cures which we are able to record by excisions anterior to the Gasserian ganglion. [M.B T.]

5.—In concluding, Dana states that the early forms of **tic douloureux,** so called "migrainous tic," occurring usually in women, should not be operated on. There are some exceptions, however, in which tic douloureux occurs in early life, due to distinct local disease, such as an inflammation of the nerve, antrum, or jaws. In true tic of the degenerative period of life, prompt medical treatment will usually control the disease and operation is rarely indicated at first. In tic which has lasted 3 or more years, it may be safely said to the patient that medical treatment may produce remission, and that this remission may be repeated and that eventually the disease may be controled by repeated treatments, but this is not at all sure. It may be said here too that a minor operation may give more relief than medical treatment. The question of prescribing major operations must be de-

cided in each individual case, on its special merits. For some years he has advocated systemic treatment for tic douloureux, by means of heroic doses of strychnin. After experimenting with this method of treatment for over 6 years, in about 15 cases, he has found that in early cases, that is to say, in the first and second years, the strychnin treatment will almost invariably arrest or control the disease in anemic and exhausted patients. In cases that have lasted over 6 or 7 years, and in those with neuritis and sclerosis, the result is doubtful, and there may be a failure to secure even a remission. [M.B.T.]

6.—A boy of 13 came under observation with **exstrophy of the bladder.** As there were evidences of irritation of the kidneys operation was performed by detachment of the ureters from the extroverted bladder mucosa, and implantation into a groove made by a median sagittal incision on the dorsum of the dwarfed and clubbed epispadic penis. The raw and exquisitely sensitive bladder mucosa was cut away and the margin of the defect drawn snugly together and sutured about the two ureters as they coursed over the cartilaginous symphysis pubis. The left ureter became gangrenous and the kidney on that side was removed. The patient is living and in good health a year after the operation. His urine is collected by a specially-constructed apparatus which he wears without discomfort. [M.B T.]

7.—Bane emphasizes the necessity for the adoption by railway companies of a uniformly high standard of vision for men entering their service. Uniformity of tests with colored flags, yarns and lights. The reexamination of employes at regular intervals and after serious illness or accident. [M.B.T.]

Centralblatt für Gynäkologie.

January 27, 1900. [24. Jahrg., No. 4.]

1. Total Extirpation of the Vagina and Uterus on Account of Carcinoma. A. SIPPEL.
2. A Case of Multiple Myoma of the Gravid Uterus. PAGENSTECHER.
3. Forceps on the Dead. Living Child. HUGO FLEISCHMANN.
4. A Case of Compress, Left Behind in Laparotomy, Wandering into the Small Intestines. J. MERTTENS.

1.—As **primary cancer of the vagina** is a very rare form, Sipple considers it well to describe fully the technic used in operating for its removal. The vagina was constricted with a hard cylindrical tumor extending into the uterus, but not involving the parametrium. After disinfecting the vagina, he made the incision on the left side of introitis vaginae, beginning in front of the middle, passing backward in the middle between the anus and the tuber ischii, and about 3 or 4 cm. above the anal opening. Dividing the skin and underlying tissue, the left ischio-rectal cavity is widely opened. He loosens with his fingers the left and posterior vaginal wall from the neighboring tissues, and so continues until the lower end of the vaginal tube is free, and he has a full view of the condition of the small pelvis; then completes the operation by removing the uterus and the vagina. He claims that there is less danger of hemorrhage by this method than by that known as the sacral way, or Olshausen's transverse incision, or Schuchardt's paravaginal method. Other advantages of this method are the complete visibility and accessibility of the parts, and the possibility of finishing the entire operation without coming in contact with the carcinoma and the vaginal contents. [W.K.]

2.—Pagenstecher reports a case of successful **removal of the gravid uterus for multiple myoma** from a woman aged 29. The case was remarkable because the woman was so young, since Olshausen holds that for myoma to occur in the twenties is the exception. The tumors being partly interstitial and partly subserous and involving the entire posterior uterine wall, enucleation or excision was impossible; hence the uterus was removed, and upon examination was found to contain a six weeks' old fetus, and was the seat of four tumors. [W.K.]

3.—Fleischmann reports the case of a **living child** extracted with forceps from the body of the **mother who had died** during labor from dyspnea. He says only 2 such cases are known to him in literature—one published by Heinricus in 1883, and the other by Piskacek in 1888. [W.K.]

4.—Merttens says that when a **foreign body,** as a gauze sponge, is left **in the abdominal cavity after a laparotomy,** that it should pass into the intestine or bladder is not unprecedented. He relates a case in his own experience when such a foreign body, upon a subsequent abdominal section, was found in the small intestine. He thinks that a suppurating capsule was formed about the foreign body through which communication was made with the intestine and by the peristaltic action it was drawn into the intestine and formed an obstructive mass, causing the painful condition which led to the second operation. The patient ultimately recovered. Merttens recites similar cases from literature. [W.K.]

February 3, 1900. [24. Jahrg., No. 5.]

1. The Choice of Nutritive Material for the Culture Demonstration of the Smaller Streptococcus Crowd. MENGE and KRONIG.
2. Upon the Technic of Vaporization. A. DUHRSSEN.
3. Upon Narcosis. CZEMPIN.
4. Upon the Causation of Rupture of Vagina in Delivery. BELITZ-HERMANN.

1.—Menge and Kronig, after an extended discussion of the relative merits of agar and bouillon as **culture-media,** with tabulated statements of their comparative action, reach the conclusion that the fluid bouillon has no advantages over the solid agar. Their experiments were conducted chiefly with reference to the culture of the Streptococcus pyogenes of puerperal fever, and the question whether this infection could be derived from the saprophytes existing in the vaginal secretion of the pregnant woman. While they now admit the existence of the saprophytes, their experiments have confirmed their opinion that it is impossible for the puerperal infection through the Streptococcus pyogenes of puerperal fever to be derived from the antepartum saprophytes of the vaginal secretion. They believe that the assertion of Bumm and Hoffmeier as to the unity of all streptococci is not sustained by the facts. [W.K.]

2.—Duhrssen prefers a large rather than a small tube in the apparatus for **vaporizing the uterus,** because there is less danger of its misuse. The small tube makes vaporization practicable without any dilation of the cervix and therefore without that exact diagnosis so necessary to determine whether or not vaporization is the proper treatment. He considers dilation, digital palpation of the uterus, and often curettement, as essential to decide whether the vaporization is suitable or unsuitable to the case. In reference to the results of vaporization, he thinks them especially satisfactory in persistent climacteric hemorrhages. In severe cases he vaporizes the uterine cavity 8 minutes with vapor at 100° C., and where there are no other complications, aims at the obliteration of the uterine cavity. This procedure is also valuable in cases of inflamed uterus. He had seen a uterus greatly enlarged through metritis reduced from 12 cm. in length to 6 cm., with, in course of time, some return of menstruation. [W.K.]

3.—Czempin discusses briefly the effects of **narcosis** upon muscular movements and upon respiration, the dangers attending it, and methods of avoiding them. [W.K.]

4.—Belitz-Hermann considers **rupture of the vagina** a rare complication in labor, and reports a case which occurred in the Hospital of Moscow in a secundipara, aged 23. The vagina ruptured before delivery, examination showing an empty and contracted uterus with the fetus immediately next the abdominal wall, and a great tear in the left vaginal tissues. Although the tear did not heal per primam, yet the patient finally recovered and was able to leave the hospital 31 days after delivery. [W.K.]

An International Temperance Congress.—The next International Anti-alcohol Congress will be held in Vienna in 1901. An organizing Committee has been formed, with Professor Max Gruber as Chairman. Among the members are representatives of the State and local authorities, the professors of the universities, and the Austrian temperance and abstinence societies. Dr. von Hartel, Minister of Worship and Public Instruction, is to be the Honorary President of the Congress. All communications should be addressed to Dr. Daum, I. Bezirk, Verein gegen Trunksucht, Plankengasse No. 5, Vienna.

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

The Use of Local Hot-Baths in Poisoned Wounds. — Fraser (*The Therapist*, March 15, 1900) calls attention to a treatment that he got from the lectures of a university professor, but has never seen mentioned in text-books, which has proved so effectual that he has been surprised to find how few men of his acquaintance practise it, and which he has always wanted the opportunity of making more widely known. This is the treatment of infective wound-poisoning, and its resultant lymphangitis and lymphadenitis, by the prolonged use of local hot-baths. Poisoned wounds are generally on the extremities, and, except in the very severest forms of blood-poisoning, the infective inflammation is worst in the immediate neighborhood of the wound, at any rate at an early period, so that in far the greatest number of cases the treatment is easy of application. The effect of local hot-water baths is marvelous in almost immediately calling a halt in the onward march of the inflammation, in soothing the pain, and causing speedy resolution, except where suppuration has begun, and in limiting the suppuration when it has commenced. The writer concludes that when the case is seen in time, the effects of the poison being still fairly localized, this treatment, thoroughly carried out and patiently persevered in, will speedily cut short the attack, preventing any further spread of the inflammation, unless it has already passed the axillary or inguinal glands.

Bromoform in Whooping-Cough.—Marfan recommends the following combination:

℞.—Bromoform	48 drops.
Almond oil	5 drams.
Tragacanth	½ dram.
Acacia	1 dram.
Cherry laurel water	1 dram.
Distilled water to make 3 ounces.	

Each teaspoonful contains 2 drops of bromoform.

Chronic Ulcers of the Leg.—Couper (*Treatment*' March, 1900) states that the treatment of such cases is, in the first place, *rest*—rest in bed with elevation of the limb—but it is in such cases that we have the greatest difficulty in securing rest. The patients cannot afford to take it; they have their work to consider, as also the well-being of their families, and we are consequently handicapped. Couper's course in such cases is to follow Hebra's practice. The limb is thoroughly well washed once a day at least, and when possible twice a day, with hot water. A piece of soft soap, the sapo mollis of the Pharmacopeia, or when this is unavailable the ordinary domestic black soap, is then taken, and with a piece of clean flannel rubbed well into the skin, the friction being continued so long as to make blood appear *in puncta*. Clean, cold water is then employed to wash off all that remains of soap and sud, the limb is dried, diachylon-ointment applied on strips of lint, and the part bandaged from toe to knee with a roller-bandage. The circulation is stimulated; the thickening in the skin is reduced by the caustic action of the soap; antisepsis is secured. Continued from day to day intelligently and thoroughly, a great deal of improvement is effected, and it is marvelous how the ulcers begin to "creep in," as the saying is, whenever the process of repair has been set up. The many preparations said to require only dusting on the sore to set up repair are in the author's opinion quite useless without preparing a proper foundation. He has tried europhen, airol, aristol, iodoform, and boric acid in cases of foul ulcer with no good effect. The first essential is to get the surface and surroundings clean when almost any of the above powders may complete the cure combined with bandaging, but without cleansing and bandaging they are useless. In ulcers failing to heal owing to exuberance of action, astringents, such as copper sulfate, are indicated, but usually the pressure of a well-fitting bandage is enough. In callous ulcers Couper recommends a crucial incision across the ulcer and its borders. This is dressed and a bandage applied. Rubbing the part with strong carbolic acid may also be tried. Couper has recently discarded iodoform in favor of xeroform, which is free from objectionable odor, and does not set up a dermatitis round the sore, which sometimes occurs with iodoform. In the last place grafting may be used to cause healing of the ulcer.

Freckles. — The *New England Druggist* (April, 1900) recommends the following formulas:

℞.—Corrosive sublimate	4 grains.
Hydrochloric acid	1 dram.
Sweet almonds	4 drams.
Glycerin	3 drams.
Tincture of benzoin	15 minims.
Bitter almond water to make 4 fluidounces.	

Bleach the almond and beat to a paste with the glycerin, to which add gradually 3 fluidounces of the water. Add the tincture slowly to this, constantly stirring, and finally add the acid and corrosive sublimate previously dissolved in the remainder of the water. Or,

℞.—Zinc sulfocarbolate	15 grains.
Glycerin	3 drams.
Rose water	3 ounces.
Cologne water	5 drams.

Ichthyol in Phthisis.—The following statement concerning the use of ichthyol in phthisis, during the year ending November 1, 1899, is contained in the Annual Report of the Loomis Sanitarium, at Liberty, N. Y. (*Merck's Archives*, April, 1900). We have continued throughout the year to use ichthyol in a number of cases showing sepsis and more or less expectoration. The greatest objection to the use of this drug is that the immense daily doses, averaging from 20 to 30 grains, 3 times a day, preclude its employment among patients whose financial means are limited. Its effect in the way of changing purulent sputum is so certain as to be almost specific, and for that reason, together with the percentages of good results attained, it has been used, so far as possible, in cases advanced beyond the incipient stage. Of 64 cases treated 17 were in the incipient stage, 39 moderately advanced, 8 far advanced. Of this number, 17% were cured, 63% improved, 8% remained stationary, and 12% grew worse.

Acute Cystitis.—Horwitz (*College and Clinical Record*) recommends:

℞.—Fluid extract of belladonna leaves	20 drops.
Borax	2 drams.
Benzoic acid	20 grains.
Paregoric	12 drams.
Oil of gaultheria	12 drops.
Sirup	2 ounces.
Water	4 ounces.

A dessertspoonful in water four times a day.

Indications for the Use of Alcohol in Typhoid Fever.—Musser (*Therapeut. Gazette*, April 15, 1900) writes that it is somewhat of a paradox to say that the best indication for the use of stimulants in typhoid is to prevent their use; that is, prevent by proper treatment the patient falling into that state which requires stimulation. The states which must be combated by stimulants are: toxemia, exhaustion, and the accidents—perforation and hemorrhage. Water internally and externally lessens or mitigates the effects of toxemia, to a far greater degree than any form of treatment thus far employed. The necessity for stimulants is also lessened in a degree by prompt treatment of diarrhea which contributes to exhaustion. When toxemia is manifest by excitement—active delirium, flushed face, injected eye, restlessness, twitchings, delusions, etc., stimulants are to be avoided and applications of cold are of utmost service. The only drug of service is opium. Five or 10 minims of the deodorized tincture of opium every 3 or 4 hours has acted happily in most cases under the circumstances. When, however, the toxemia is manifest by adynamia—dulness, stupor, subsultus, frequent dicrotic pulse, hot dry skin, dry brown tongue, scanty secretions and muscular weakness—the employment of stimulants is imperative. They should be used in small doses at long intervals, but should be increased or decreased in amount and in frequency with the symptoms. If the tongue becomes moist, the delirium lessens, peaceful sleep ensues and the kidneys become more active, our stimulation is successful. If the symptoms are aggravated, notably the delirium increased and renal secretion lessened, we must

proceed more cautiously and employ other than alcoholic stimulants. It is better at first to err with too little than with too much stimulation. If alcohol is noticed on the breath one hour after its imbibition the patient is getting too much. The best guide as to the good effects of stimulation is seen in the renal secretion. If this keeps above 50 ounces in 24 hours, plenty of water being used internally, the writer is not anxious, and if 60 too 100 ounces is secreted he feels safe as to prognosis. In typhoid septicemia alcohol may be used very freely. In this condition the temperature is not high, delirium appears early without the typhoid state, there is tendency to incontinence of urine and feces. The writer has seen a patient require a quart of champagne, and 24 ounces of whisky a day in typhoid septicemia. Exhaustion is chiefly the result of the diarrhea and fever. All degrees of stimulation are required, from the use of a few ounces of wine to many ounces of whisky or pints of champagne. Perforation requires the same stimulation needed in surgical shock. In convalescence, stimulation—partly to overcome exhaustion, more frequently to aid digestion—must be resorted to often.

Treatment of a Common Cold.—Woodbury (*Journal of the American Medical Association*, March 10, 1900) says when the local symptoms are not severe, and in the absence of any special reason for such treatment, he does not devote any attention to the nasal chambers, but leaves the nose alone. When the patient, upon rising in the morning, finds that he has a cold, it often happens that 5 or 6 grains of quinin, some cathartic medicine, will cause a cessation of the symptoms, especially if the patient takes exercise in the open air. With the view of acting directly on the neurotic element of the cold he recommends a combination of compound morphin powder (U. S. P.), acetanilid, and sodium bromid. When neuralgia or muscular pain is present, at the beginning of a cold, he gives the grains of sodium bromid, 2½ grains of compound morphin powder, and 2 grains of acetanilid, every half hour until four doses are taken, and then every hour or two until the desired effect is obtained. When the local symptoms are severe and secretion from the nose is excessive, he advises the following:

Compound morphin powder	20 grains.
Acetanilid	6 grains.
Sodium bromid	10 grains.

Make into 12 capsules; one to be taken every half hour until four are taken, then every two hours.

This usually breaks up an ordinary cold in a few hours.

Hydrochloric Acid and Pepsin Medication.—According to *Merck's Archives* (April, 1900), this subject was discussed at a recent meeting of the Paris Academy. Robin stated that since Corvisart introduced pepsin, its initial popularity, expressed in the phrase, "with pepsin we can now do without a stomach," has given place to a perpetual decrease in its use—60% of its former sale. The theory that the secretion of pepsin goes on parallel with that of other essential principles of the gastric juice has not been sustained. In fevers HCl alone disappears. In hyperacidity there is no increase of pepsin, which there should be if the two secretions went on parallel. The use of pepsin has been neglected on this account. In dyspepsia with hyperacidity, it makes a great difference whether or not pepsin is given, the latter being all the more necessary because the activity of a relatively small quantity of pepsin is inhibited by the excess of acid. In infantile dyspepsia lactic acid gives different results according to whether or not we associate pepsin with it.

In the healthy individual, taking 3 meals a day, a normal pepsinuria exists, at its highest before each meal and at its lowest 2 hours after each meal. The production of pepsin is therefore continuous, its disappearance from the urine occurring at the time when it is being used in the stomach. But, in certain pathologic conditions there is diminution or suspension of this normal pepsinuria. First, cases of paroxysmal gastric hypersthenia have pepsinuria at no time during the day, showing that here there is retardation or arrest of secretion of pepsin, yet these cases secrete large quantities of HCl. Another class of hypersthenic cases presents a continuous pepsinuria as well before as after meals, the pepsin being lost by the urine and not utilized in the digestion which is defective. Eight grains of pepsin given to such patients during a meal causes either diminished or increased pepsinuria—useful in the former event, painful in the latter. Substhenic cases show no change in pepsinuria on giving pepsin; the inference is that the pepsin is utilized. From these data the indications for giving pepsin are as follows: 1. In infantile dyspepsias. 2. In hypersecretion of HCl, this being out of proportion to the pepsin and inhibiting its action. 3. In hypersecretion of HCl, with continuous pepsinuria, when giving pepsin after the meal does not increase pepsinuria during the digestive period. 4. In substhenic cases, where the pepsin given does not pass into the urine during the digestive period. 5. In chronic catarrh of the stomach and in cases where chemical examination shows absence of or insufficiency of the pepsin. For inexperienced clinicians the author's rule is, *give pepsin in all cases of dyspepsia and withhold it only when it does no good or acts badly.*

It is better to use pepsinogenous substances than to introduce pepsin directly into the stomach. Bouillon is one of the best, half a cupful before the meal. Peas, beans, gelatin, dextrin, toast and dry cheeses are good pepsinogens. But starches, untoasted bread, glucoses, gummy preparations, and concentrated coffee are antipepsinogens. Amylaceous powders of pepsin should be done away with. Pepsin extracts should be given in liquid prescriptions, pepsin scales in powders. Elixirs are uncertain. A powder should contain 15 to 30 grains of pepsin, with about $\frac{1}{10}$ its weight of maltine or diastase, and should be taken in the middle of the meal. It is proper to associate pancreatin with pepsin and diastase in doses of 2½ to 5 grains, but in so doing the powders must be protected by a keratin coating from the acid of the stomach. Mixtures of pepsin and lactate of soda, pepsin and iron, etc., are bad, as they rob the pepsin of its activity. So also do creasote, sublimate, tannin, soluble salts of iron, phenols, atropin, quinin, bromids and iodids.

Excess of Wax in the External Ear.—Stout (*Proceedings of the Philadelphia County Medical Society*, March, 1900) states that excess of wax in the external meatus may be caused by (*a*) frequent hyperemia of this region; (*b*) contraction of the meatus; (*c*) improper cleaning of the external meatus by inserting the twisted corner of a washrag or towel or similar contrivance into the ear. Parents and nurses should be especially warned against mechanically irritating the lining of the canal by undue cleanliness, and it should be pointed out to them that if the concha be wiped out with a soft, moist rag the canal will take care of itself, and that anything introduced into the meatus is likely to do harm and result in anything but the desired cleanliness. The following directions are given for removing impacted wax: The canal should be straightened and opened by tension on the auricle and a stream of hot water from a syringe should be directed around the edge of the plug, parallel to the direction of the canal and chiefly along its upper wall. A few syringefuls carefully directed will bring out the plug without further manipulation. Should the mass be too hard, however, it may be softened by a few drops of water and bicarbonate of soda, added at intervals of 24 hours, after which it may easily be removed by syringing. Instruments should not be used forcibly for the removal of wax. After the removal of the wax the canal should be gently wiped out with cotton soaked in equal parts of hydrogen peroxid and alcohol, then loosely plugged with aseptic cotton and the directions given that it should be removed at bedtime and left out.

Animal Gastric Juice in Hypopepsia.—The Paris correspondent of the *Therapeutic Gazette* (March 15, 1900) states that Frémont, of Vichy, has been at work during the last year on a treatment of hypopepsia by the use of animal gastric juice. He uses the gastric juice of the dog, and recent results are very favorable to this treatment. Lannois speaks of a man who suffered from almost complete apepsia. Two examinations of the gastric juice were made and hydrochloric acid was found. Only 3.60 cc. was secreted in 24 hours. Various kinds of treatment were tried, but without result. The patient was sent to Frémont, who gave him 500 grams of gastric juice daily. A complete recovery was obtained in 6 months. Barth described a similar case in a young woman who was in her second month of gestation. Gastric juice prepared by Frémont was administered in doses of 60 grams thrice daily. Three months afterwards the condition of the patient was excellent and the child was born at the end of the ninth month.

Original Articles.

SCARLATINA MILIARIS.*

By J. P. CROZER GRIFFITH, M.D.,
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That an eruption of miliarial vesicles may attend the ordinary of rash scarlatina is well known, and is referred to by very many textbooks. Yet considerable contradiction exists between the statements regarding the subject, although the majority appear to agree in certain points which seem to me open to question. It is for this reason that I am led to detail the histories of a few cases, which illustrate certain matters to which attention may well be drawn. What is said refers chiefly not to a very slight or indistinct development of vesicles in scarlatina, which is a symptom of great frequency, but to the great development of the symptom constituting the *scarlatina miliaris* of older writers.

Both the general trend of opinion and the variance in the statements of writers are illustrated by the following extracts from a few textbooks at hand:

Atkinson[1] speaks of an eruption of sudamina, which is especially liable to develop in warm weather, or in children too warmly covered with bedclothes. He is in entire lack of accord with Gee[2], who speaks of the occasional widespread development of miliaria, which is, he thinks, not connected with sweating, but rather with the age of the child and the amount of eruptive swelling of the cutis. He associates it with the intensity of the scarlatinal rash. Squire[3] likewise denies any causative influence of perspiration, and states that the vesicles appear where the scarlatinal rash is most intense. Bohn[4] regards the development of miliaria as accompanying only an intense scarlatinal eruption with considerable serous exudate in the skin.

Rilliet and Barthez (Sanné)[5] speak of miliaria being rare in young children, but common in adults. They associate it with intensity of the scarlatinal rash, and state that where there have been numerous vesicles the skin becomes detached in large leathery plaques. D'Espine and Picot[6] refer to the occurrence of vesicles, due, probably, to an especially active hyperemia of the skin. Moizard[7] also associates vesicles with an intense ordinary eruption, and clearly holds the view that an abundant peeling will take place where the vesicles were most abundant. He says that miliaria occurs frequently. On the other hand, Baginsky[8] says that the eruption is seen but seldom and only in severe cases, thus differing from Moizard, as he does from Ashby and Wright,[9] who regard "sudamina" as not uncommon. Vogel (Biedert)[10] writes of the presence of innumerable vesicles over the surface of the body, occurring generally only in well-developed, severe cases. West[11] says that now and then sudamina are mingled with the eruption. Henoch[12] states that a miliarial eruption may develop in certain areas, or over nearly the whole body, but he makes no reference to the relation of this to the intensity of the scarlatinal eruption. He has seen widespread miliary scarlatina in all the members of one family.

There are certain other writers who refer to the matter either not at all or very briefly, and without comment upon its significance. Thus Forchheimer[13] merely speaks of *scarlatina miliaris*, characterized by the development of small vesicles; Hatfield[14] does the same; Guinon[15] states that vesicles sometimes appear on the neck, waist and abdomen; Eustace Smith[16] merely refers to the fact that miliaria may occur; and Holt[17] says only that an eruption of miliaria has been observed. Whittaker,[18] Rotch[19] and J. Lewis Smith[20] do not mention the symptom at all.

A review of the points of agreement and of difference of these writers shows that a number either have not observed miliaria in scarlet fever, or have not thought its presence deserving of mention. The majority, however, refer to it, although in different ways. The view that the eruption has anything to do with perspiration is not held by most. The greater number clearly believe that the vesicles develop only when the ordinary scarlatinal eruption is very intense. Some make it a symptom of unusual degree of serous infiltration of the skin. Some believe that it is seen in severe cases only. Some claim that it is followed by an abundant peeling desquamation.

One opinion I have still reserved, partly because of the importance which its source gives it, partly because it is at variance with most, and, in some respects, with all, of those quoted. I refer to that of Thomas.[21] This writer states that a miliarial eruption, *scarlatina miliaris*, is sometimes seen, and may appear in all parts of the body. In some epidemics it has been noted so often, and in such abundance, that the normal eruption was observed only in the minority of cases. He regards its presence as depending solely on a peculiar disposition of the skin of the patients. Usually only a few vesicles can be found.

The following are the case-histories I wish to detail:

Case 1.—Philip Smith, 6 years old, entered the Children's Hospital, May 2, 1899, suffering with malarial fever. Under the influenee of quinin he recovered promptly. On the 14th his temperature rose; he was ehilly, and soon developed a searlatinal rash, with sore throat and headache. On the 17th, a miliarial eruption was present in abundanee on the neck and head. On the 18th, there was slight branny desquamation. On June 3, typieal scarlatinal peeling appeared on the hands and legs.

This case is an ordinary one of miliarial eruption attending scarlet fever. It is given here merely as an illustrative example. The redness of the scarlatinal efflorescence was decided, the branny desquamation appeared early on the seat of the miliaria, and no peeling was seen until much later. It is to be observed, however, that the rash was no more intense than in hundreds of other cases which do not exhibit miliaria; that the attack was not at all a severe one; and that the characteristic peeling appeared not in regions where there had been miliaria, but elsewhere.

Case 2.—Elmer Pritehett, 7 years old. *May 11, 1897:* On the 9th the father noticed a red, itching vesicular eruption, diffuse over the body, most marked on the back and abdomen. The ehild seemed well otherwise, the appetite good, the bowels regular. The father thinks that there has been no fever. *Examination:* Over the trunk and extremities there is a most extensive development of small vesicles, closely crowded on a base which, on closer inspeetion, appears to be red and punctate, resembling the rash of searlet fever. The temperature is 101°; the pulse 120. The throat is normal in appearance. *May 12th:* The rash on the hands is typically vesicular, with but little redness. The temperature is 99.8°. The case appears to be one of unusually extensive miliaria *May 14th:* The child has been sent to Dr. Arthur Van Harlingen for an opinion, who confirms the diagnosis of miliaria, and says that he has but once before seen so diffuse a case. The eondition is now improving, and the rash drying. *Later in the month:* The skin is now scal-.

* Contributed to *Festschrift*, published in honor of Abraham Jacobi, M.D., LL.D.

ing profusely in a manner entirely characteristic of scarlatina. Over the nates the dried vesicles form almost crusts of desquamating skin.

I believe that I erred entirely in the diagnosis of this case, and that it was undoubtedly scarlatina with unusually abundant miliaria. It is to be noted that the innummerable vesicles obscured the character of the scarlatinal eruption beneath; that this latter eruption was not more intense than in an average case, and in some places, as on the hands, much less red than usual; that the whole attack was clearly a very mild one, as the boy did not feel ill, there was very little fever, and no involvement of the throat.

CASE 3.—Katie Carey, 4 years old. *May 27, 1897:* On the night of the 25th, she had fever, vomiting, and a croupy cough, and on the morning of the 26th, is said to have been covered with a red rash. Today it is said to have faded slightly. *Examination:* Over the body there is a rather indistinct rash resembling that of scarlatina, while on the hands and arms there is also an extensive vesicular eruption. The temperature is 101° (P.M.); the tongue bright red over the anterior portion; the tonsils rather red and swollen. *May 28:* The temperature is 100.8° (P.M.); the tongue bright red; there is no glandular involvement; the throat is only slightly red; there are no spots on the tonsils; the general condition is excellent. The rash has now a more characteristically scarlatinal appearance; yet about the waist and nates it is very much mottled, like a fading eruption of measles, with slight pigmentation of the skin. Then, too, the hands are covered so thickly with minute vesicles on a red base, that the condition presents a strong resemblance to the dermatitis of rhus poisoning.

This case shows a good development of miliaria without this seeming to depend in the slightest on the intensity of the scarlatinal eruption. The diagnosis on the 27th was most uncertain.

CASE 4.—Frank Matteaei, 3 years old, entered the Children's Hospital, March 22, 1899, suffering with an attack of typhoid fever. The typhoid roseola was present. His temperature ranged from 101° to 103° until the 27th, when it began to grow less. From March 30 to April 1, the temperature was 100° or less. On the morning of April 3, a rash appeared over the body, especially marked on the face, trunk and thighs. It was typically scarlatinal, but not very red, and there was in addition an almost universal development of closely crowded minute vesicles which made the whole resemble an aggravated attack of miliaria. The throat was sore and red, with a white patch on the tonsil; the tongue was red. On April 5, the rash was still red, but the vesicles were beginning to dry, leaving the skin rough. The vesicles were especially marked on the forehead, chest and abdomen. On April 8, a profuse branny desquamation was present, but no peeling. On April 11, this desquamation was still present in abundance, with very slight peeling on the abdomen and back; so slight that it could have been overlooked easily. The temperature-range of the attack was as follows:

April 2,	A.M.,	97.°	P.M.,	99.6°
" 3,	"	99 8	"	99 8
" 4,	"	100.	"	99.
" 5,	"	99.	"	99.2
" 6,	"	100.2	"	100.
" 7,	"	98.8	"	99.

With such a temperature-range as the above, and with an eruption as varying from the ordinary type as this, it is safe to say that the diagnosis of scarlatina would hardly have been made by us had there not been an epidemic of the disease prevalent in the house at this time. The case is interesting apart from the almost afebrile condition and great mildness of the attack, both because the development of vesicles was out of all proportion to the intensity of the redness of the skin, and because the abundant miliarial eruption was without any extensive characteristic peeling, as in the other three cases.

It is impossible to use but a few cases as positive evidence in drawing conclusions; but for negative evidence even a single case is valuable, and may disprove statements which are made in the form of generalizations. That is to say, while it may take a great number of instances of association of two symptoms in a certain disease to prove that they bear some relation to each other, a very few cases of the occurrence of one of these symptoms in a well-marked state, while the other is entirely absent, compel the suspicion that they are in no way related. Consequently, the cases I have reported suggest the following thoughts:

1. However frequently miliaria may attend severe cases of scarlatina, the oft-expressed view seems untenable, that its presence is an indication that the case is severe. In none of these four cases was the attack severe, and it was lighter in the two (Cases 2 and 4) with the greatest development of vesicles.

2. The same statement applies to the intensity of the scarlatinal eruption and its relation to miliaria. There appears to be no connection between the two. In Case 4, with an enormous number of miliarial vesicles, the scarlatinal redness was poorly developed. There seem to be different causes acting to produce the efflorescence and the vesiculation, although these causes are undoubtedly frequently associated.

3. Contrary to the opinion of certain writers, there appears to be no necessary relation between the amount of scarlatinal peeling and the degree of miliarial eruption. In Case 4, with numerous vesicles, peeling was scarcely discoverable, while in Case 2, with an equal development of miliaria, peeling was abundant.

4. The view of Thomas is very probably correct (and, in so far as they differ, those of the other writers quoted are incorrect), viz.: that the development of miliaria in scarlatina depends largely on some peculiarity in the skin of the patients, rather than on any special intensity of the scarlatinal rash or other factor. The observation of Henoch upon a family tendency to miliary scarlet fever seems to support this view.

5. It is perfectly possible in occasional cases to have the presence of abundant miliarial eruption cause decided difficulty in diagnosis, and even lead into error. In Case 2, a mistake was made, in spite of careful examination, and in Case 4 the fact of the existence of a house-epidemic was the deciding factor in determining the diagnosis.

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3 *Quain's Dictionary of Medicine.*
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5 *Maladies des Enfants*, 1891, 78, 79. 92, 100.
6 *Maladies de l'Enfance*, 5th ed., 26.
7 *Traité des Maladies de l'Enfance* (Grancher, etc.), i, 124, 125,
8 *Lehrbuch der Kinderkrankheiten*, 5. Aufl., 126, 128.
9 *Diseases of Children*, 2d ed., 241.
10 *Lehrbuch der Kinderkrankheiten*, 10. Aufl., 485.
11 *Diseases of Infancy and Childhood*, 6th ed., 813.
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13 *Twentieth Century Practice of Medicine*, xiv, 40.
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15 *Traité de Médicine* (Charcot), i, 50.
16 *Disease in Children*, 2d ed., 36.
17 *Diseases of Infancy and Childhood*, 892.
18 *American Text-Book of Medicine* (Pepper).
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20 *Diseases of Children.*
21 *Ziemssen's Cyclopedia of Practical Medicine*, Eng. trans., ii, 208.

The Thirteenth International Congress of Medicine will be held this year in Paris during the first week in August. This is very inconvenient for British medical men, many of whom make a point of being present at the annual meeting of the British Medical Association, which will be held practically upon the same dates at Ipswich.

PRURITUS ANI, WITH ESPECIAL REFERENCE TO ITS LOCAL TREATMENT.*

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MOST general practitioners and all proctologists will agree with the statement that of all the affections of the rectum and the anus the most intractable to treatment is the disease under consideration. To one who has read the various articles devoted to a special consideration of this subject—both in the textbooks and the journals—the assertion will not be disputed or denied, that no matter how old or how recent the work be that is consulted, the etiology and pathology are given with a uniformity and sameness that in the light of the later unsatisfactory directions for the treatment of the affection, must prove anything but a solace to the mind of the practitioner seeking advice.

The etiology of the disease is usually classified under two heads, local and constitutional. All authors agree, however, that there are many persons affected with pruritus ani for which we are unable to discover any assignable cause. Under such circumstances it may be considered a pure neurosis. The Messrs. Allingham[1] state in this connection that the disease is greatly aggravated, if not occasioned, by mental worry or overwork.

Of the local causes enumerated by various authorities, I would briefly mention the following: Leukorrhea, oxyuris vermicularis, especially in children; pediculi, or the presence of a vegetable parasite; improper diet and highly seasoned food; hemorrhoids, polypoid growths, fissure and fistula; chronic diarrhea or dysentery; erythema, herpes, and any form of eczema; constipation; ulceration of the rectum or the anus; stricture and inflammation of the upper portion of the urethra, stone in the bladder; varicose veins in the rectum; uterine disorders and displacements; lack of cleanliness and insufficient ablutions of the anus; and, finally, the use of hard or printed substances for cleansing purposes.

All of these various causes may and undoubtedly do occasion a pruritus, but, in my experience, they have not been the cause of the condition to which I have been in the habit of applying the term pruritus ani. I have seen the disease in all walks of life; in thin persons as well as the stout; in the rich as well the very poor; in those who perspired freely and in those whose anal region was perfectly dry. The ages affected were never below 30 and usually above 35. In the large majority of cases of hemorrhoids, fistulas, ulcerations, and other rectal lesions, which I have examined, a pruritus has not even existed,—showing, I think, very clearly, that it is not essentially a symptom of such affections.

Regarding the constitutional causes of pruritus, I am inclined to believe that gouty subjects, and persons with a more or less marked lithic-acid diathesis, are predisposed to attacks of pruritus ani. Another not infrequent cause of pruritus is derangement of the liver, which may or may not be associated with constipation. Diabetes will often give rise to this disease. Excesses in eating, drinking, and in the use of tobacco may induce an attack of this malady. Pruritus ani has been ascribed to diseases of the spinal cord and the brain. I have had no opportunity of confirming such an opinion.

From an experience gained in the examination and the treatment of over 200 cases of pruritus ani, I would state that I have found the male sex to be more frequently affected than the female, in the proportion of 9 out of 10 cases. Stout persons and those who perspire freely about the anal region are especially liable to this disease. In most cases of this affection, the hemorrhoidal veins were inclined to varicosity, but it was unusual to obtain a history of the loss of blood or of a protrusion occurring from the bowel at stool; at least, as having been associated with the pruritus. In nearly all the cases the patients were more or less neurotic, and in the major portion of cases were of a decidedly bilious temperament. Sedentary occupations, whilst forming the pursuits of the largest number of these patients, did not seem to exert any influence upon the etiology of this disease. In but few instances did patients complain of a pruritus during the daytime. The itching, which is the most prominent, as well as the only essential symptom of this disease, came on after the patient was in bed and was about to fall asleep. Sound sleep is almost next to an impossibility, as when the sufferer falls off into a fitful slumber, he frequently awakes himself by scratching. The itching is so intense that it is hard to restrain from scratching, which, if indulged in, instead of giving relief, only seems to add fuel to the fire. This fact, of the intensity of the itching and the almost irresistible desire to scratch, is best demonstrated by a tale told of one of the captains of one of the large transatlantic steamers, who, while attending to his duties at the dining-table, in carving some meat, was suddenly noticed to drop the knife and fork and to rub his hindermost parts most vigorously. In this instance the itching was so great that the individual forgot everything else in his one desire for relief.

The season of the year seems to exert no very noticeable effect upon this disease, though I am inclined to think that in cold weather the itching is more marked. Very nervous persons are said to be prone to attacks of this malady during the daytime as well as at night; especially is this the case after exercise or on leaving the cold air and coming into a warm room.

One of the principal conditions associated with this malady, aside from the itching, is the appearance of the skin around the anus. The natural pigment of the skin is lost and the cutaneous surface is not supple, but has a peculiar, harsh and rough feel, resembling somewhat the sensation obtained in handling a piece of parchment paper. The appearance of the skin resembles a cutaneous surface after an application of a somewhat strong carbolic-acid lotion. In some cases, this appearance of the skin around the anus is seen when no itching exists, and in all such cases I have been able to obtain a history of the use of some pile lotion, or of a salve employed for the relief of hemorrhoids, which, upon investigation, smelled of carbolic acid.

In an article published in the Philadelphia *Polyclinic*, Vol. 4, for September 28, October 26, and December 14, 1895, I have discussed at some length the constitutional treatment of this affection. In the present article I only wish to describe a plan of local treatment which, in my hands, has proved so uniformly successful, that while I lay no special claim for originality in

* Read before the American Proctologic Society at the Second Annual Meeting, held in Washington, D. C., May 2 and 3, 1900.

[1] Diseases of the Rectum, fifth edition, London, 1888, p. 199.

its adoption or employment, and cannot offer any very satisfactory explanation, based upon the known pathology of the disease, for its use, yet I would like to have the members of this society investigate the merits of the treatment, and, at our next annual meeting, to hear the results obtained therefrom.

Taking it for granted that we have a case of pruritus ani, *per se*, or, if we deny the existence of this disease, other than as a symptom, as does my friend, J. P. Tuttle, M.D., of New York City,[2] then the removal or proper attention to the factors complicating the pruritus if it be possible to determine that any such exist, will permit us to attend to the local treatment of the itching. It is important to see that the patient has a daily evacuation of the bowels, and, if necessary, medicines are to be used for this purpose.

In all cases, more or less varicosity of the hemorrhoidal vessels exists; at all events, I am in the habit of seeing the patient daily for a time, and I employ an injection into the cavity of the rectum of 1 to 2 or 2½ drams, of the following prescription :

℞.—Fluid extract of hamamelis ..... 1 fluidounce.
Fluid extract of ergot..... 2 fluidrams.
Fluid extract of hydrastis ..... 2 fluidrams.
Compound tincture of benzoin..... 2 fluidrams.
Carbolized olive or linseed oil ..... 1 fluidounce.
(Carbolic acid, 5%.) Mix.
Sig. Shake well before using.

The patient is advised, prior to using this injection, that a desire to have the bowels evacuated will occur as a result of its employment, but that if he will remain quiet upon the examining table, the sensation will quickly pass away. This uncomfortable feeling is probably due to the alcohol in the fluid-extracts as much as to the action of the other ingredients of the formula.

Upon the first visit, if the skin has a very harsh and dry appearance, I paint the entire surface around the anus for several inches outwards, with a strong solution of silver nitrate (a saturated solution). If any break in the continuity of the skin exists as a result of previous scratching, a little of a 2% cocain solution, applied to the abrasion or abrasions, will prevent the suffering incident to the use of the silver salt. In my experience the use of a strong silver solution is not nearly so painful, under the circumstances surrounding its use in the class of cases under consideration, as the weaker solutions.

The application of the silver may have to be repeated two to three times, before the desired effect is obtained, not oftener, however, than every third day. By its use I desire to have the skin become supple and healthy looking. So soon as the silver has dried and from the first visit and thereafter, I smear over the anus and the cutaneous surface of the parts for a distance of about 2 inches around the orifice, the officinal citrine ointment or unguentum hydrargyri nitratis. The ointment I use in its full strength. Over the salve I place a wad of absorbent cotton, the quantity of cotton varying with the patient's wishes and comfort. The dressing is kept in place with a T-bandage. The patient usually comes in the morning for his treatment and he is advised to wear the dressing all day and over night. If the itching should annoy him during the night he is directed to bathe the anus with hot water, as hot as can be borne with comfort, but under no circumstances is he to rub the parts. He is also told that the application of the hot water will momentarily increase th itching, but that he is not to scratch. After he ha used the water he is directed to use either a solutio of black wash (lotio nigra), or, what is better in som cases, calomel ointment, either of which is to be applie locally to the affected parts.

Prior to coming to the office for the next treatmen he may wash the parts with castile soap and hot wate but this is not essential as a routine practice. In bath ing the parts, no rubbing is to be permitted.

For the first two or three weeks, the patient is see every day; then every other day for a like period o longer time, frequently for 6 weeks, after which tim once or twice a week will suffice until such time as am satisfied that the disease is conquered. Usuall this treatment consumes, in its entirety, not over six months. In no case should a definite promise be mad to a patient as to the length of time the treatment wil consume. Such a course, as a rule, leads to disappointment and dissatisfaction. It is perfectly proper to cit the experiences had with other patients with like affection as examples of what may reasonably be expected by the patient about undergoing treatment.

I am also in the habit of warning patients, that a any time during the course of treatment, the itching may return suddenly and be as severe as any time prior to coming under observation, but that this must not be deemed a bad omen, as such occurrences were often experienced, but that they had no special significance.

Sometimes, during the use of the nitrate of mercury ointment, the anus and adjacent parts become sore, presumably from the patient scratching, frequently while asleep. Under these circumstances, the ointment will have to be discontinued for a few days; during the interim I employ the calomel ointment, in the same manner as directed for the use of the other mercurial salve, I have never witnessed any bad effects from the use of mercury, such as salivation, etc.

To conclude, I will simply add that I have treated quite a large number of patients with this disease and by this method and that I have yet to experience a single failure to effect, what thus far has seemed a radical cure. Some of the patients have been treated as long ago as five years, but in no instance, so far as I have had knowledge, has there been any marked return of the trouble. In some few of the cases a patient has returned, a year after discharge, for three or four treatments, owing to some slight sensations experienced about the parts, which they were afraid might portend a return of the old trouble, and wisely deeming that a stitch in time saves nine, sought advice before the much dreaded affection had an opportunity to obtain another foothold. Otherwise, I have presented the subject in a fair, full and impartial manner, and trust that the experience of my colleagues in this society will be equally favorable.

[2] Article entitled : "Pruritus Ani," published in Vol. 1, of the "Transactions of the American Proctologic Society," 1899, pps. 10 to 19 inclusive.

Queen Victoria's visit to Dublin has been an unmitigated success, and she returned to Windsor Castle on the evening of April 27 in the best of health and spirits, the change of air and scene having done her good despite the demands upon her strength made by the journey as well as the inevitable excitement of the occasion. Among the many protestations of loyalty which Her Majesty received none were more eloquently worded than the addresses presented respectively by the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland, which, to the gratification of the corporations, were received by Her Majesty in person.

ÜTTER LECTURES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

he Surgical Treatment of Congenital and Pathological Disfigurements of the Face.

BY JOHN B. ROBERTS, M.D.

ECTURE I.—*A Brief Review of the Development of Reparative or Plastic Surgery.*

[Abstract.]

IT is often forgotten that, until the revival of plastic perations upon the face about the year 1800, reconstructions of lost areas of tissue and readjustments of extural relations by operation had been practically nknown to the scientific world for a couple of centuries. The operative methods of Tagliacozzi at Bologna etailed in his book, published in 1597, and the ethods employed for many centuries in India for estoring mutilations of the nose had been forgotten or isbelieved. Carpue in England and Graefe in Germany aroused surgical attention to plastic surgery in he second decade of the nineteenth century. It was hinoplastic operations that were particularly advocated y these surgeons and their colleagues, and which gave irth to a knowledge of the physiological possibilities of eparative surgery.

About this time public attention was called to rhinolastic operations by a number of writers on non-medical ubjects. Dr. Ferriar in his "Illustrations of Sterne ith other Essays and Verses," published in 1798, said uly that Sterne in his novel "Tristram Shandy" hould have included among his allusions to the nose, aken from literature, the operations of Tagliacozzi. 'errior says that the Italian surgeon was the more ntitled to notice because his fame had been unjustly nd unaccountably eclipsed. Ferriar in his enthusiasm lescribes in detail the operation of rhinoplasty and ompares the physiological deductions of the Italian urgeon with those of John Hunter. Hunter had died nly five years before the publication of the "Illustrations of Sterne" and his experiments on grafting tissues ere evidently known to Ferriar. The latter lays much tress upon the fact that in Tagliacozzi's time the arteries ere supposed to be full of air and that the circulation f the blood was unknown to him; and that the Italian nvestigator's views on the method of union of living arts are exceedingly interesting and remarkably ccurate. The *Gentlemen's Magazine* of 1794 and *Penant's Views of Hindoostan*, published about the same ime, give accounts of the reconstruction of noses from he forehead performed in India to relieve the horrid acial disfigurements so common in that country. Amputation of the nose was there frequently performed s a punishment to prisoners and as retribution for upposed marital unfaithfulness.

It is curious to read at the present time the doubt elt by Hiester, Coote, and other surgical writers of nore or less recent date, as to the possibility of rhinoplastic operations. This doubt of the professional mind s a little difficult to understand, when it is recollected hat there was even then a considerable amount of iterature showing the possibility of the adhesion of arts, entirely separated from the body, if they were eapplied and sutured within a reasonable time.

In 1823 Bünger, of Marburg, made a new nose for a woman from the tissue of her thigh. In Europe, Diefenbach, Graefe, Blandin, Serre, Jobert and Zeis were earnest advocates of reparative surgery. In America, Warren, Mütter and Pancoast were the early advocates of plastic operations. Thomas D. Mütter, the founder of the Mütter Museum and the Mütter Lectureship, published articles on plastic surgery a very few years after his graduation in 1831. They were followed by other American surgeons, among whom may be mentioned as conspicuous operators Post, Buck, Andrews and Prince.

Szymanowski, of Russia, published in 1867 an elaborate attempt to systematize the various operative procedures for the relief of deformities requiring plastic surgery. He devoted many pages of his operative surgery to illustrations showing the principles upon which the integuments can be satisfactorily displaced. His experiments on the cadaver aided him very much in the preparation of this part of his book, which has become a classic. A decided advance was made in 1871 by Reverdin, who proposed epidermic grafting, often called skin-grafting, for covering ulcers and granulating wounds. Other steps in the progress of reparative surgery were the announcement by Thiersch, in 1886, of his method of transplanting large shavings of the upper layers of the skin. Previous to this time, however, Wolfe, of Glasgow, had shown that moderate-size pieces of skin could be transplanted without a pedicle with comparative certainty of union. Krause has greatly improved the method of transplanting skin without pedicles.

Other steps in reparative surgery are the substitution of muscles for those torn away by accident or paralyzed, the transference of nerve-trunks, and similar procedures. Among the most interesting are the substitution by Czerny of a fatty tumor from the thigh for a portion of the mammary gland which had been excised for malignant tumor. Gluck has succeeded experimentally in repairing a defect of the carotid artery by patching that vessel with a piece of jugular vein. Van Lair has suggested the possibility of taking portions of organs, or possibly whole organs, at the moment of death and using them for the restoration of internal parts. The thyroid gland of the sheep has been implanted in the abdomen of man to act as a substitute for his diseased or extirpated thyroid gland. The ovary has been transplanted successfully, from one animal to another and from one region to another of the same animal. It is said that such ovaries have carried on their function and even made pregnancy possible.

Nicoladoni has recommended, for the loss of the thumb, the grafting of a toe upon the hand. Glass balls have been introduced into the eye to represent the vitreous humor and maintain the globular shape of the organ. Celluloid and metal supports are worn within the tissues of the nose to give them a proper shape. The mental distress of despondent men has been relieved by the substitution of similar materials for extirpated testicles. This "implantation-therapy" is susceptible of far greater use than is yet realized.

Mr. J. M. Barrie, the well-known author of "The Little Minister," and one of the creators of what has been termed by different critics "The Kailyard School" of fiction, is reported to be going to oppose in the Liberal interest the return of Sir John Batty Tuke as Conservative Member of Parliament for the Universities of Edinburgh and St. Andrews. Mr. Barrie is a young man of talent, but it does not need to be a medical man to see which candidate, the layman or the physician, is likely to be the fitter representative in Parliament of the ancient Scottish universities.

THE RELATION OF DISEASES OF THE NOSE AND THROAT TO LIFE-EXPECTANCY.[1]

BY E. FLETCHER INGALS, M.D.,
of Chicago, Ill.

IN discussing the relation of diseases of the nose and throat to life-expectancy, I recollect that very few companies in their physicians' certificates ask any questions referring to these diseases, and I presume that less than 3% of all persons examined for life insurance are subjected to any examination of the upper air-passages. As a general rule, I doubt whether the companies lose anything by this neglect, for it must be admitted that in a large percentage of cases, supposed by the solicitor to be normal, no evidence of defect would be obtained from such an examination; however, there can be no question, among those who have given this subject due consideration, that diseases of the upper air-passages have an important relation to various other diseases of the human economy and that frequently they hold a very close connection to pulmonary affections.

The secondary or tertiary manifestations of syphilis are, in many cases, most easily detected in the fauces. It has been demonstrated that the follicles of enlarged tonsils, in some instances, offer an open door for the introduction of the Koch bacillus, and that endocarditis occasionally results from infection occurring at the same port; and it is generally believed that diphtheria or scarlet fever occurring in a person with enlarged tonsils is more likely to be fatal than under other conditions; therefore, hypertrophy of these glands, aside from indicating certain dyscrasia, may be a predisposing cause to the diseases referred to.

In persons during the prodromal stage of pulmonary or general tuberculosis an almost characteristic anemia is often noticed in the palate, and in the larynx there is frequently an association of some anemia with a uniform though moderate atrophy of the laryngeal walls which is almost pathognomonic. These changes are not sufficient by themselves to justify a positive diagnosis, but they become so impressed upon the physician who is making frequent examinations of the parts that they become a very important sign in the diagnosis of tuberculosis. A somewhat similar atrophy may be noted also in the nasal cavities, during the early stages of pulmonary tuberculosis, though it is not likely to be detected in what we have termed the prodromal stage.

Chronic laryngitis and tracheitis may be readily discovered by laryngoscopic inspection, and these taken in connection with other conditions have an important bearing, for better or for worse, on the applicant's expectancy. In many cases these chronic catarrhal inflammations are the sole cause of hacking cough or hoarseness which may have no relation to lethal diseases; whereas, in other instances, similar conditions are the precursors of serious affections of the lungs or circulatory organs. Although the examiner, in many instances, could not differentiate accurately between these two classes, yet the discovery of the catarrhal condition would lead to a more careful examination of the chest which would occasionally disclose an incipient pulmonary lesion or cardiac disease. Paralysis of one vocal cord would cause the examiner to inquire critically into the symptoms and to search carefully for the physical signs of aneurysm of the aorta or other causes of pressure on the recurrent laryngeal nerve.

[1] Read before the Society of Life Insurance Examiners, Chicago, April, 1900.

Hypertrophic rhinitis is found, associated with, c as a cause of deterioration in the vitality which reduce very considerably the individual resisting power, and therefore, to some extent militates against his chance for long life. This same condition and nasal mucou polypi have frequently been found to be the causes o spasmodic asthma, an affection which conservativ companies put down as one of the personal reasons fo rejection. In rare instances prominent, sharp deflec tions of the septum have been sho- n to be the caus of epilepsy, another disease which would make it im possible to obtain insurance in a safe company.

In a paper presented to the British Medical Associa tion in 1897, I showed that the great majority of th so-called catarrhal affections of the nose can have n possible relation to pulmonary tuberculosis, but tha on the contrary there was some reason for suspectin that persons subject to a catarrhal condition of th mucous membranes of the upper air-passages were les likely to have pulmonary tuberculosis than others. A exception, however, obtains to this statement in person suffering from atrophic rhinitis; which affection in it decided manifestations has been found in quite a large percentage of cases associated with pulmonary tuberculosis. Quoting from the paper referred to: "Out o 830 private cases of pulmonary tuberculosis in which the records were complete, 237 suffered also from nasa disease, amounting to only a trifle over 28%, although about 75% of the human family suffer from nasal disease. It is also shown that in about 71% of the phthisical patients who were credited with having nasal catarrh, or in about 20% of the whole number of cases studied, the affection consisted of exostosis of deflection of the septum, a condition that exists so often in healthy people (50%) that we cannot count it of any importance in the causation of consumption. In other words, while 50% of the Caucasian race have these diseases of the septum they are found in only a little over 20% of the persons who have pulmonary tuberculosis.

"If the claim is to be admitted which is made by some authors, that in these 20%, the exostosis caused the tuberculosis, then it must also be admitted that in the remainder of the 50% the exostosis was responsible for various other conditions; for example, in 8% the exostosis may have caused malaria; in 12% typhoid fever and in 10% it may have made the person bald. Of the remainder, 29% were subjects of atrophic rhinitis which, considering the comparative infrequency of this disease, would lead us to suppose that there might be at least a similarity of causes for this and for tuberculosis."

In many cases of well-marked pulmonary tuberculosis, we may find very distinct atrophy of the soft tissues in the nasal passages, and in a considerable number we will find atrophy of the laryngeal tissues, though in the majority we will have more or less characteristic swelling or ulceration of the larynx.

From these considerations it appears to me that usually examinations of the nose and throat would not aid the life-insurance examiner, but that in a limited number of applicants a thorough examination of these parts would enable him to reject persons otherwise acceptable, who within one or two years will develop diseases that very greatly shorten their expectancy; therefore, such examinations should be made whenever the hereditary or personal history, the general appearance or a quick pulse, lead the examiner to suspect the begining of pulmonary or cardiac disease.

LARMING HEMORRHAGE CONTROLED BY HEMOSTATIC FORCEPS LEFT ON THE VESSEL.—WOUND OF THE FEMORAL VEIN CONTROLED BY MEANS OF HEMOSTATIC FORCEPS.—GANGRENOUS OMENTAL HERNIA WITH PRACTICALLY NO CONSTITUTIONAL SYMPTOMS.—AMPUTATION OF ALL THE TOES OF BOTH FEET FOR DRY GANGRENE.—REMOVAL OF 280 GRAINS OF WHITE WAX FROM THE MALE URINARY BLADDER.

By ORVILLE HORWITZ, M.D.,

inical Professor of Genitourinary Diseases, Jefferson Medical College; Surgeon to the Philadelphia Hospital and State Hospital for the Insane.

By the courtesy of my colleague, Dr. Frederick A. Packard, was asked to see in the medical wards of the Philadelphia ospital a patient under his care suffering from appendici-s. I found a man about 40 years of age, who had been lmitted to the institution the night before. He stated that e had been sick for two days previous to his admission, and ie case presented all the symptoms of beginning suppura-ve appendicitis. I advised immediate operation. On pening the abdomen the viscera were found to be thor-ughly adherent. The omentum was loosened by dissection id the adhesions separated until the appendix was exposed. was firmly adherent to surrounding structures, especially ie tip of the organ, which was bound down to the floor of ie pelvis. On separating the appendix a small abscess was iptured, which discharged about a tablespoonful of fetid is. The appendix was then freed, with the exception of hat seemed to be a slight adhesion of the tip of the organ i the depths of the pelvis; on breaking up this attachment iere was a gush of venous blood which instantly filled the ound. A large piece of iodoform gauze was packed firmly i the wound and controled the bleeding temporarily; as on as it was disturbed, however, free hemorrhage immedi-ely followed. Being uncertain what vein had been torn, id suspecting that it was either the internal iliac or one of s large branches, it was deemed safest to attempt to ligate ie vessel. I directed the assistant to very slowly turn the auze packing which was in contact with the pelvic wall ackward toward the abdominal cavity; as he did this I fol-wed the opening with a pair of hemostatic forceps until ie bottom of the wound was reached, when I observed that ood began to ooze from beneath the gauze. The forceps ere quickly passed beneath the packing and the bleeding essel secured. The gauze was then removed and I observed iat a large vein had been clamped, but its depth in the elvis was so great, and the surrounding adhesions were so mplete, it was impossible to apply a ligature, and it became ecessary to leave the forceps *in situ*, allowing the handle of ie instrument to protrude just above the incision in the in. A small amount of iodoform gauze was packed around ie forceps and the wound closed in the usual manner. The rceps were not removed until the seventh day. No further emorrhage occurred and the patient made an uninterrupted ecovery.

The patient in the second case was a laborer, 41 years of ge, admitted to Jefferson Hospital during the month of ebruary last. He was suffering with multiple sinuses in ie right groin leading to broken-down and diseased gland-lar structures. The original cause of the trouble was a ancroidal infection incurred 4 years previous to his admis-on. He had undergone several operations without benefit. he groin and Scarpa's space were found to be full of sinuses ischarging pus. The overlying skin was thick, nodular, catricial tissue. The sinuses were laid open; the diseased in and all diseased glands were removed except where the ternal saphenous joined the femoral vein. On dissecting ut a large gland in this neighborhood which was adherent the vessels the long saphenous was torn just as it enters ie femoral vein. The assistant immediately placed his dex-finger on the wounded vein and controled the hemor-age until the gland could be dissected out. It was then und that the saphenous vein had been torn off so close to s junction with the femoral that it was practically a wound the latter vessel, so that it was impossible to apply a liga-ire, owing to the nodular and cicatricial tissue in which the essel was imbedded. The proximal end of the saphenous ein was ligated and hemostatic forceps were placed above and below the wound in the femoral vein and were not removed until the twelfth day. No further hemorrhage occurred. The patient made a slow but uninterrupted recovery.

A similar case is reported by Dr. John B. Roberts in *The Annals of Surgery* for January, 1898, in which hemorrhage from the subclavian vein was controled in the manner just described. I have been in the habit of controling hemorrhage in this manner for some time past in cases where a ligature could not be readily applied, and have always found the procedure most satisfactory. In profuse hemorrhage in deep-seated wounds of the male perineum it has been my custom for several years past to clamp the vessel by means of the hemostatic forceps, to be removed on the fourth or fifth day.

In January last I was called in consultation by Dr. Stillwell to see a man suffering from strangulated hernia. The patient stated he was 40 years of age, and had suffered for the past two years from a reducible indirect inguinal hernia, for which he had worn a truss. Three days before I saw him the hernia became distended, and he found reduction impossible. As it gave him no pain, he paid no further attention to it until the following day, when it began to be more or less tender. He sent for his family physician, who made several unsuccessful efforts at reduction. The following day the tumor was somewhat increased in size, the overlying skin had become reddened, the parts were very tender to the touch, and the temperature went up to 102°; there was slight nausea and vomiting, but no symptoms of obstruction, as the bowels moved freely. On examination the hernia was found to be about the size of a lemon in the left inguinal region, and was very tender to the touch. The temperature was 99° and the pulse 120. Immediate operation was advised. On opening the sac a mass of gangrenous omentum was exposed to view, which was ligated and removed. The patient recovered without any untoward symptoms.

The interesting feature of this case is the fact that with the partly gangrenous omentum there should have been little or no constitutional symptoms. Before the operation the temperature had fallen from 102° to 99°; the tumor was tender on pressure, but there was less pain than there had been previously; the most significant point being the pulse, which was 120, and which was quite out of proportion to a temperature of 99°. Experience has taught me in cases of suppurative appendicitis with probable gangrenous appendix that the temperature is not always reliable; with a condition of this kind the temperature may drop, while the pulse increases in frequency. A rapid, full pulse, with a low temperature and well-marked local symptoms, are usually indications for surgical interference; it was for this reason that I inferred that some serious changes were taking place within the hernial sac, and advised an operation.

The following case is of interest as demonstrating what may be accomplished by conservative surgery. The patient was admitted to the wards of the Philadelphia Hospital suffering from gangrene of all the toes of both feet, the line of demarcation having formed at the metatarso-phalangeal articulation.

On examining the patient it looked as if, in order to get a healthy flap, that amputation would have to be performed about the middle of the metatarsal bones, thus destroying the metatarsal arch and interfering with the usefulness of the feet. Had the amputation been performed at the point of election it would have probably prevented the man from doing any further work as a day laborer. It was, therefore, decided to endeavor to cover the ends of the bones at the line of demarcation. The granulation tissue was

pushed away from the articular surfaces of the joint by means of a blunt periosteal separator. The ligaments were severed and the phalanges removed in the usual manner. No ligatures were required.

The flaps thus obtained, covered with granulation tissue, were then freshened by means of the scissors and approximated with interrupted silkworm-gut sutures, and to my surprise union took place by first intention, the man being practically well on the eighth day; this patient recovered with thoroughly useful feet.

G. L., 25 years of age, was admitted to the wards of the Jefferson Hospital during last September. He complained of a frequent desire to urinate, followed by hemorrhage at the termination of the act. Pain, referred to the neck of the bladder and to the meatus of the penis, was experienced at the end of micturition. He stated that 24 hours previous to his admission he indulged in sexual intercourse, and in order to prevent his mistress from becoming impregnated, he inserted into the urethra a roll of white wax, 8 inches long and about 26 millimeters in circumference. This was passed into the urethra until its end was just within the meatus. Almost immediately after intercourse had begun he felt the wax bougie slip into the bladder, and the sensation was associated with a good deal of pain. On completing the act he discovered blood oozing from the meatus and felt a burning, stinging pain in the vicinity of the neck of the bladder. The introduction of a stone searcher readily detected the foreign body. Suprapubic cystotomy was performed, and, on opening the bladder, it was found that the wax had become rolled up in the shape of a large ball. On attempting to deliver it by means of the lithotritic forceps the blades of the instrument became buried in the soft mass and when traction was made the wax was pulled out in a long thin strip, which could be stretched several inches beyond the abdominal incision. In order to remove the mass it became necessary to insert into the bladder the index fingers of both the right and left hand, to grasp the mass and mould it into the shape of a sausage. By this means it was brought to the outer edge of the abdominal incision, where it was grasped by hemostatic forceps and held until it was caught at a point below by means of a second pair of forceps, thus gradually, hand-over-hand, it was finally removed.

It was deemed fortunate that the suprapubic route was chosen in preference to the perineal, for, had the latter operation been selected, it would have been impossible to have removed the wax, and the bladder would probably have been a good deal damaged by the attempt. The wax had to be grasped with the forceps while in sight, the touch being deceptive, the soft wax feeling exactly like the wall of the bladder. Many strange foreign bodies have been removed from the bladder, but, so far as I know, the history of this case is unique.

REMARKS TO THE GENERAL PRACTITIONER REGARDING THE PESSARY.

BY FRANK C. HAMMOND, M.D.,
of Philadelphia.
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THIS article is written, trusting it may be read to advantage by some who unconsciously err in the employment of this mechanical means of correcting uterine displacements.

Notwithstanding all that has been written regarding the abuse of the pessary, it continues.

It is essential, first, to recognize that a displacement does exist, its kind, and if there is an associated inflammatory disease of the uterus and appendages. A mass anterior or posterior to the uterus, and a fibroid in the anterior or posterior uterine walls, have often been mistaken for the displaced fundus. If, upon bimanual manipulation, one cannot satisfactorily ascertain the true pelvic condition, then an anesthetic should be administered, preferably ethyl bromid.[1] What is gained by anesthesia?

1. The abdominal walls are thoroughly relaxed, there is no straining on the part of the patient, and the pelvic contents can be readily palpated.

2. The exact relationship of inflammatory masses, fundus uteri, neoplasms, etc., can be definitely ascertained.

3. If the fundus is slightly adherent, the adhesions can be readily "broken up," and the organ replaced to its normal position.

The following history of a patient, under my care some few months ago, will serve as an illustration:

M. W., aged 35, married 17 years, never been pregnant, puberty at 11, had her menses regular and until about a year ago very painful. Two months after her marriage she was confined to bed for several weeks with "womb trouble," since which time she has been a constant sufferer. Has an acrid discharge, which is markedly irritating. For the past seven years she has had bearing down pains referable to the vagina, and complains of occipitocoronal headache, lumbar pains, dysuria and dyspareunia. During menstruation the pelvic symptoms are all relieved. Her bowels are slightly constipated.

She had been under the care of three physicians as follows:

No. 1 told her that the womb "had fallen forward." Tampons were employed for two weeks, then a pessary was tried for a couple of weeks.

No. 2 said "You have falling of the womb." He tried tampons for over a week, and then resorted to the pessary for several days.

No. 3 tabooed the previous diagnoses, and said "Your womb is turned back on itself." Tampons were resorted to for a week, and the pessary for two weeks.

In each instance the presence of the tampon was so painful, that she was compelled to remove it within a few hours. The pessary also proved to be exceedingly painful, and could not be worn, although each physician urged her to continue its use, as uring her that she would gradually become accustomed to it

By making a simple vaginal examination a mass could be felt in the anterior fornix, and one in the posterior. I could not make a satisfactory bimanual examination, on account of the pain, the straining incident thereto, and a thick addominal wall.

Under anesthesia the masses were diagnosed as fibroids (subperitoneal sessile); the fundus was midway between the two.

One physician had evidently mistaken the fibroid anteriorly for the fundus, and treated her for an anteflexion. Another had made the same mistake posterior to the uterus, treating her for a retroflexion,—the one overlooking the neoplasm posteriorly, the other the one anteriorly, or mistaking it for an inflammatory exudate. The third physician thought that a simple prolapsus was present.

This case serves well to illustrate that a careful bimanual examination should always be made, under anesthesia, if necessary, to ascertain the nature of the pelvic contents.

Having ascertained that a displacement does exist, when is a pessary indicated and contraindicated?

1. All inflammation must be allayed. If there be a metritis, parametritis, perimetritis, vaginitis, salpingitis, or ovaritis, the presence of a pessary would be so painful as to contraindicate its employment. This

[1] The Value of Ethyl Bromid in Gynecology and Obstetrics, *American Gynecological and Obstetrical Journal*, March, 1899.

should be accomplished by local tamponade, and the consistent use of the hot douche.

2. All adhesions must be "broken up" to enable the fundus to be replaced to its normal position.

3. If a tumor is the cause of the displacement the downward force will be greater than any pessary can counteract, hence the neoplasm must be removed.

4. By laceration, subinvolution, or other cause, the pelvic floor may be so relaxed that it will fail to give a pessary the necessary support. This is a very important point, as, too often, patients wearing a pessary are seen with the pelvic floor so badly lacerated that it failed to support the instrument, hence receiving no results from its employment. The pessary, when so strongly condemned, often has been used in those cases which distinctly contraindicate its employment.

Dudley, in his "Diseases of Women," says: "The pessary must be restricted to those cases in which the displaced organs are reducible, in which the pessary is capable of holding them in place, and can be worn without discomfort. Failure to recognize and appreciate the contraindication accounts not only for the failures and disappointments, but also for the many evil results which have followed the indiscriminate attempts to treat all displacements by mechanical support. The exclusion of unsuitable cases and the recognition of the necessity for accurate diagnosis are apparent. The pessary, according to the knowledge, judgment, and mechanical skill of the practitioner, will be useful, useless or injurious."

The function of a pessary is to maintain the replaced organ in its normal position. Under no consideration would a truss be applied before a hernia was reduced. Neither would the hernia be reduced with the truss, but the hernia would first be reduced, and then the truss applied. Just so regarding the pessary and displacements.

As before mentioned, a properly adjusted pessary should occasion no discomfort. After its introduction the patient should be allowed to walk around the office and sit down. If it still remains comfortable then she may be permitted to go home after instructing her how to remove it should it give rise to pain.

A pessary which is comfortable with the patient in the dorsal position, may be painful when she assumes the upright posture. If a pessary cannot be made comfortable abandon its use.

Vaginal douches should be given about three times a week, the instrument removed at least once a month, cleansed and replaced. The intrauterine or stem-pessary should be condemned. For retrodisplacements the Thomas-Munde broad posterior bar-pessary is to be preferred.

INTESTINAL INDIGESTION AND ITS CONSEQUENCES.*

By WILLIAM HENRY PORTER, M.D.,
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Professor of General Medicine and Pathology at the New York Post-Graduate Medical School and Hospital, etc., etc.

INTESTINAL indigestion is a comparatively new term in medical literature. In Gould's Medical Dictionary no such term is recognized, but we do find under the head of dyspepsia a type designated as intestinal. Dyspepsia has so long been associated with the gastric cavity, that the term intestinal indigestion, expressing, as it does, an imperfect digestion of the foodstuffs in the intestinal canal, appears by far the better and more expressive term, striking as it does directly at the seat of the difficulty.

Very little attention is paid to this important question of intestinal indigestion in our modern works on medicine, nor is the malnutrition consequent upon a disturbance of the digestive functions, as carried on in the intestinal canal, as clearly traced as it should be. That this imperfection of digestion in the intestinal canal, together with the action of the various micro-organisms which infest this tract, is largely responsible for the development of many if not all the chronic diseases that afflict humanity, is becoming more apparent the more closely the subject is analyzed. Strange to say, in many of the textbooks in common use this important subject is entirely ignored. When it is recognized, it is given only a passing notice. In one work only eleven lines are devoted to this important problem.

To fully understand intestinal indigestion, it is necessary to have a complete and accurate knowledge of the composition of the foodstuffs, also the transmutation process that they must undergo normally before they can be absorbed and utilized by the system. It is also essential to know how and where these changes are effected. With these facts fully understood, it is much easier to appreciate the abnormal conditions and determine their damaging effects upon the system.

Briefly stated, all foodstuffs when minutely studied chemically are found to be composed of four distinct classes of compounds.

First, the inorganic substances, or those which enter the system under their own form, pass through unchanged, and come out in the same shape that they entered. They assist the economy physically rather than by chemical activity.

Second, the carbohydrate and hydrocarbon compounds, such as the starches, sugars, and fats. All of this group act primarily through chemical action, being oxidized into carbon dioxid and water, with the production of heat.

Third, the proteids, of which there are two grand classes: the vegetable proteids, or those existing in a polymeric state, and the animal proteids, which are in the form of single molecules. Out of this class only can all proteid structures of the body be formed, either by a process of oxidation reduction, isomeric transmutation, or by physical anabolism.

Fourth, the iron and phosphorus-bearing compound named nucleo-albumin. This substance is the one out of which Nature produces the hemoglobin of the blood and maintains the daily loss of the hemoglobin.

This iron and phosphorus-bearing compound has been found to exist in connection with the nuclei of the cells, as found in both animal and vegetable life, in the form of a substance that has received the name nucleoalbumin. It was so named because it was first discovered in connection with the nuclei of cell-life, and also because it was found to be composed largely of albuminous material. Yet nucleoalbumin differs from the proteid bodies in general, in that it contains an atom of iron and phosphorus in its composition. Nucleoalbumin is found as a common constituent of all cells, both in the vegetable and animal kingdoms. It is far more abundant, however, in the former than it is in the latter class, and it is especially abundant in the green vegetables and in the legumins.

* Read before the Jenkins Medical Association, of Yonkers. Regular Meeting, November 9, 1899.

Nucleoalbumin, like many other of the complex proteid class, is variously described by the different investigators. A careful analysis of all these observations, however, indicates that nucleoalbumin is a very complex and often polymeric substance, which, in its essential characteristics, more closely resembles the globulin series of the proteid bodies than any of the other proteids. It differs absolutely from the globulins, however, in this, that it contains in its complex composition both iron and phosphorus, neither of which is found to be present in a pure globulin.

The nucleoalbumin formed in the cells of the vegetable kingdom is unquestionably the direct anabolic product of the synthetic process that constitutes chemical action as it is observed in plant-life. It, like the proteid of the vegetable kingdom, is a highly complex polymeric compound; while the nucleoalbumin derived from the animal kingdom, like the proteid of animal origin, is always less complex or monomeric in its construction.

It matters little how complex the meal, the starches and sugars of all kinds have to be transformed in part by the ferment ptyalin, but chiefly by the amylopsin, in the intestinal canal into a definite molecular form called glucose. This accomplished, certain epithelial cells lining the small intestines have for their special function the absorption of this special particular molecular form, which we call glucose, into their protoplasmic structure. In the substance of the cell, the molecule is isomerically transformed, so that when it is discharged, as it is eventually, into the entrohepatic circulation, it no longer responds to the common test for glucose. From the entero-hepatic blood this carbohydrate compound passes into the substance of the hepatic cells, together with active oxygen brought to the liver by the oxyhemoglobin. Within the hepatic cells the oxygen attacks this compound and oxidizes it into carbon dioxid and water—as illustrated in the diagram, Fig. I—with the production of heat equivalent to 1,657 kilogrammeters of work for each gramme of the carbohydrate thus consumed.

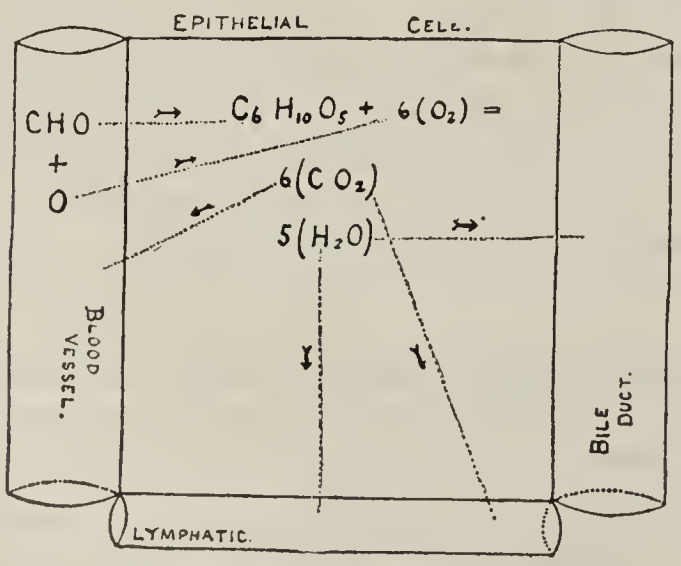


FIG. I.—CHO OXIDATION.

Schematic drawing illustrating the oxidation process in the protoplasm of the epithelial cells.

Thus this oxidation process with its heat-production becomes one of the prime factors in maintaining nerve action, and, by being applied to the peripheral nerve-endings, is, through the centripetal nerves, brought into direct relation with the central nervous system. It is by this constant heat-production in the glandular organs of the body that nerve action is set in motion and maintained in action. Through this reflected nerve impulse from the periphery to the cerebral nervous system, and from the center back to all parts of the animal economy, a harmonious balance of activity is developed and sustained throughout the whole system. All nerve action, therefore, takes its origin in the oxidation processes which are constantly occurring in the epithelial cells which constitute the coating of the body. These surface cells, when bunched together, as they are in the liver and the salivary, pancreatic, and renal glands, etc., are found to be the chief oxidizing zones of the body.

The animal and vegetable fats, like the starches and sugars, are transmuted chiefly in the alimentary canal by the action of the ferment bodies found in the pancreatic, biliary, and intestinal secretions. The animal fat is transmuted in part into a fine emulsion, and in part into its component parts, a fatty acid and glycerin, the former joining with a soda compound to form a soap. The emulsified fat is drawn into the protoplasm of those epithelial cells which have for their particular function the taking up of fat. From the substance of these cells the fat-globules are discharged into the underlying lymphatic villi that support the epithelial cells. From this terminal lymphatic, which is a slight bulbous expansion ensheathed with muscular fibers, the fat is driven on to the deeper lymphatics, on through the thoracic duct, and finally enters the blood-stream at the point of origin of the left brachio-cephalic vein. Having gained access to the blood-stream at this point, the fat passes on with the blood to the right heart, through this organ to the lungs. From the pulmonary capillaries the fat appears to be taken up, together with active oxygen, into the epithelial cells that line the air-sacs, and, by a process of oxidation, the fat is here converted into carbon dioxid and water, with the production of heat. Thus, for each gramme of fat consumed in this manner in the lungs, the heat equivalent to 3,841 kilogrammeters of heat is produced. This heat stimulates the peripheral nerve-endings in the lungs with the same concomitant phenomena as were described in connection with the heat-production in the liver by the oxidation of the carbohydrate compound.

The soap and glycerin produced by the action of the ferment steapsin are a part of the laxative mixture which the system must produce each day to keep the bowels in motion and prevent constipation. The vegetable fats, being less perfectly emulsified and more easily decomposed, are more likely to be cathartic in action and poor heat-producers. Thus, it is readily apparent that, for the most perfect working of the alimentary canal, the system must each day produce in the upper portion of the alimentary canal a laxative mixture, composed of bile, glycerin, and soap. When for any reason nature fails to produce this dose of physic, there is, in consequence, the condition so common and so well known under the name constipation. This is a point that should be kept clearly in mind in the management of every case of intestinal indigestion if the best results are to be secured.

[To be continued.]

A mysterious malady broke out among the crawfish in the Rhine. Energetic bacteriologists set to work and soon found the mischievous microbe. A serum-cure followed and the sick crustaceans were vaccinated; so now the German singers can eat their crawfish and wash their hands in the wine of the Rhine.

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Scientific Articles, Clinical Memoranda, News Items, etc., of interest to the profession are solicited for publication. Reprints (250) of Original Articles will be furnished gratis to Authors making the request.

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Self-Seeking Office-Seekers.—The most unfit man for office in medical societies is he who plays politics to get office. The value of the position is that it is an honor spontaneously offered by one's colleagues. To put oneself up for the office and pursue the getting by the arts of ward politics is a silly attempt to deceive the world into a belief that what has been filched was given by the love of one's friends. What an exhibition of character is shown in wire-pulling to secure the evidences of respect and honor when these offerings do not come as spontaneous gifts. By putting himself up for office a man unblushingly says to his fellows, I am the best among you; I have the best scientific ability, the noblest character, and the profession respects me the most. But men with intellect, with virtues, and beloved, do not thus brag of these things. The politician, of course, also shows by his amazing hunger that he wishes the office for selfish reasons, or to flatter his childish vanity. Professional good is not the uppermost motive in his mind. He wishes office as a stepping-stone to other ends, for selfish aggrandizement, etc.—if not he would not go to the astonishing lengths he does in getting it. No man who by political intrigue seeks the chief offices of our societies should for an instant be considered as a candidate. Such an attempt to trick us is proof *per se* of the candidate's characterlessness, and an insult to the electors' shrewdness. If it succeeds it is a ludicrous proof of the electors' stupidity—upon which the politicians always count!

"Influence."—The following is an extract from a letter concerning the election of two candidates:

"The gentlemen elected had the least amount of influence of the candidates—a fact worth noting, as it tends to show that the Board acted with indifference to influence, and according to their ideas of what was for the best interests of the institution."

This sounds like a voice from another world! One wonders if it will finally come about that all the recommendations of all the powerfuls will be ignored by those entrusted with appointing powers, and that the actual capacities and fitness of candidates will be inquired into with an eye single to "the best interests of the institution." The most capable man will always shrink from loading the mails with forced testimonials as to his transcendant qualities from a hundred unwilling or reckless signers. It is a sad fact that the most unfit can secure the greatest number of magnificent and eulogistic letters. "Influence" should, therefore, be utterly disregarded in making appointments. Reliance upon it is a poor way for trustees and boards to shirk doing their duty. Merit, character, length of previous service in the institution, etc., should also be taken into the count.

An excellent method of teaching diagnosis, at least of supplementing actual bedside work, is shown by some sheets lying before us issued to fourth-year students by one of our leading medical colleges. The summaries of a case are made, giving the family and personal histories and present condition of the supposed patient, leaving one-half of the sheet blank for the student to fill in with the diagnosis, remarks, etc. Reliance upon this method to the exclusion of actual clinical experience with patients, would, of course, be absurd, but as an aid in fourth-year studies it should prove commendable. In the present instance the literary sins of the teacher almost outweigh the pedagogic virtues. Hardly a sentence is English, nearly everyone wanting subjects, predicates, articles, etc., as if the compiler were afflicted with spastic paraplegia, writer's cramp, or some strange choreic affection of the larynx. One patient, *e.g.*, was afflicted with "nocturnal frequency;" one had "Argyle-Robertson pupils;" one ".personal history gives a history of injury to right knee;" one "operation had no return," etc. "Sum Rex Romanorum et super grammaticum."

Nepotism in medical college appointments is a sure way of ruining the institution and of injuring the local and general profession. It is strange that men of ordinary business shrewdness should not see this. One cannot perhaps demand the higher standard of honor and dignity on the part of men entrusted with power, because there is no such motive to which to appeal. It is useless to talk to a man born blind about color-sensation. When men are so blinded by ambition, selfishness, and politics that higher motives cannot be appealed to, then the disastrous effects on college-reputation and ordinary commercial success must be foretold and a wiser foresight demanded. If there is no duty or gratitude to older and better teachers the alumni will sometimes ask why business prudence has been thrown to the dogs. The fate of an institution of learn-

ing lies, in the long run, in the hands and with the loyalty of the alumni. What better method is there of turning that loyalty into shame and disgust than by favoritism and the ring-methods of politics? The success of an institution, it may also be said, sometimes depends upon the relative poverty of intellect and ability in rival schools. What better method of encouraging rivals than voluntarily to drop below them in the choice of teachers. When rivals chuckle over the blunders of others, then these others are certainly in a bad way. The past is filled with examples of the ruin that has overtaken socalled statesmen, and once great institutions, because of the abuse of the appointing-power. The examples are hardly less striking in the history of medical colleges. *La carrière ouverte aux talents* is the primary condition of success. Great teachers are not made by any human power, are far from being the product of family pride or wealth, and they are infinitely unlikely to be created by a fatuous nepotism. The introduction of the methods of political bosses into medical colleges will prove a calamity to the appointers and appointees, to the institution and to the profession. Sooner or later an accounting will be sternly demanded. Simple honesty would be a far better policy. At the present rate of devolution it will not take endowers long to learn that at least some trustees cannot be trusted. Hence distrust will finally lessen the endowments of all institutions, good and bad alike. Thus, as always, one sin has far-reaching and long-reaching results. Hence the city and the whole profession is vitally interested in punishing the one sinner, and in maintaining the purity and honor of professional appointments.

Unprogressive Ophthalmology.—"The most exact and the most progressive of the special departments of medicine"—such, by universal consent, was once the praise of ophthalmology. Is it so now? We fear not. It may even be questioned if it is not the most unprogressive and inexact. It is hardly to be questioned that, taking American ophthalmologists as a whole, from 80 to 90% of their professional income is derived from what may be called refraction-work, and yet not a single paper out of 36 on the last program of the leading American Ophthalmologic Society referred to the subject. All related to inflammatory diseases, neoplasms, and operations. In these subjects there is, comparatively speaking, little of novelty or of scientific progress possible. But in refraction there are a thousand mysteries and unsolved problems, and in the relief of eye-strain by refraction there are a multitude of connections with general pathology and pathogenesis, with resultant possibilities of beneficence beyond calculation. The worst of it is that by this indifference to the most valuable and most progressive part of ophthalmology there is given a pernicious encouragement to the impertinent and unscientific claims of the "eyes-examined-free" optician.

The County Care of the Insane.—The State of Pennsylvania has been making a radical change in its lunacy policy in adopting the socalled "Wisconsin system," according to which each county in the State is encouraged to care for its own insane. Those of us who recall the days of the old-fashioned rural almshouses, in which the insane were immuned like creatures *ferae naturae*, are somewhat anxiously awaiting results. The suspicious feature about the new plan is its cheapness. We doubt whether this great State of Pennsylvania really wants to invest in cheap insane asylums, in which the expense of a competent medical service could be done away with—a medical service which, according to a prominent lunacy official in this State, is not needed in these small county workhouses for lunatics. Another feature which strikes us as incongruous, is the plan whereby the State treasury pays $1.50 per week to the county for the care of these county lunatics, and thus relieves the county of the expense. As the State treasury raises all its funds by taxing honest citizens, we fail to see wherein the taxpayers are economizing in this scheme. The money all comes ultimately from one and the same source; but we can readily understand how this bonus from the State will act as a stimulus on the average county commissioner to induce him to build a little insane asylum and reap the apparent benefit.

The fear for these small institutions is that they will sink to the level of the county almshouse; and the committee on lunacy has a grave responsibility before it to see that they do not do so. Fortunately this committee is empowered to withhold a permit for the erection of any county asylum which does not measure up to a certain standard; it has also ample authority to see to it that an efficient administration is maintained. In spite of all this, we see the possibilities of grave abuses in this plan, and the danger of retrogression. Large cities, like Philadelphia and Pittsburg, and large counties, like Chester, Lancaster, and Allegheny, can doubtless maintain an admirable system, just as some of them have been doing for years—but small rural counties (say those with a population of less than 50,000) could not and would not support an asylum which would meet the requirements of the times. Another evil to be feared from this policy is a large increase in the insane population of the State. These county asylums, at $1.50 a head, would have to be filled—and filled they would be. As to that feature in the Wisconsin plan which designs these county asylums for the chronic and able-bodied lunatics only, and thus leaves the State hospitals free to receive acute cases which require skilled treatment, we do not believe it could be maintained in practice. Many acute cases will inevitably go into these county asylums, and will suffer accordingly if these institutions, like those out in Wisconsin, are to have no resident expert physicians, but only the services of a neighboring doctor

in general practice. The Committee on Lunacy in this State is composed of able, experienced, and conscientious men, who, we doubt not, have given this subject earnest thought. To them we appeal for the exercise of the highest discrimination in conducting this new and somewhat dubious plan.

The Choice of Officers of Medical Societies.—Beyond the most obvious fact that no man should be chosen for office who chicanes for it himself, there are positive reasons which should guide us in our voting. The first of the conditions as to a candidate should be his scientific ability. As ours is primarily a scientific profession, those whom we choose to honor and to represent us before the world must be scientific leaders. Their professional ability and erudition should not only be average, or good, it should be the best we have. It is self-evident that those whom scientific men honor should be their best scientific minds. The larger or more national the society the more should this demand be considered. The reputation of American medicine depends largely upon the kind of men we choose to represent us. After this, and but little if any less important, is the qualification of moral and professional character. Has a man been a self-seeker, a secret advertiser, a politician, or has he been modest, unselfish, and generous? Is he a gentleman or is he "one of the boys?" Is he using the profession as a tool and will he use office as such, or is he devoted to professional progress and elevation, using both self and office for larger and nobler purposes than self-seeking and power? Science and character—these are the conditions of our honoring. One with these qualities will not truckle for votes, and we doubly stultify ourselves if blunderingly we choose unscientific and characterless representatives.

The Internal Secretion of the Kidney.—Since the discovery of the internal secretion of the thyroid gland and the brilliant therapeutic results that have been derived from it, experimenter in all parts of the world have been studying the various tissues of the body, particularly those of the glands, whether with or without ducts, in the hope of discovering other valuable products which may be used in the treatment of disease. One of the pioneers in this field was Séquard, who perhaps in his later years was a trifle too eager to obtain results, and therefore neglected the proper precautions to be observed for the purpose of determining scientifically the value of his experiments. That an internal secretion exists from any of the glands with ducts has never positively been determined, although the hypodermic injection of certain of their products has, according to some clinicians, been followed by definite results. The kidneys were early the subject of these investigations, as far back as '93, by Meyer, and subsequently by numerous other investigators. Recently, Chatin and Guinard (*Archiv de Med. exper. et d'Anat. path.*, Vol. xii, No. 2, March, 1900) have undertaken a series of experiments for the purpose of deciding this question one way or the other. Their technic was not particularly original, but the experiments were carried out apparently with great care and exactitude. Dogs were the animals employed; double nephrectomies were performed, and then the animals were injected with blood-serum obtained from the renal veins of healthy animals. Certain dogs were always retained as controls, and varying quantities of serum were injected into the others; the maximum dose being apparently 10 ccm. two or three times a day. Altogether 16 animals were sacrificed, in five groups, the results being so absolutely uniform that there could be no doubt as to their significance. None of the animals into whom the blood-serum from the renal veins of healthy animals was injected lived any longer; in fact, several of them died more rapidly than the control-animals. In none did any of the symptoms ameliorate—in fact, in several they were more severe—and in general it can be said that the blood from the renal vein of healthy dogs contains no substances that in any way counteract the effects of double nephrectomy. We are not altogether certain that these experiments can be accepted as conclusive; in fact, the authors admit that clinical experience is so entirely contrary that they are not satisfied to consider the matter closed. In the first place, the dose of blood injected appears to us to have been entirely too small. When one considers the enormous amount of blood that passes into the general circulation every day from the two kidneys, 20 to 30 ccm. of the serum of this blood cannot be regarded as even an ordinary dose for an adult animal. It is probable that if there is internal secretion from the kidneys, the amount of material secreted in a brief period is so slight as to be practically negligible. It is possible that more satisfactory results would be obtained by the employment of macerated kidney, otherwise, until some method has been devised of concentrating these substances, very little is likely to be gained by the mere injection of venous renal blood. Nevertheless, so far as they go, the experiments can at least be said to settle definitely that small quantities of blood coming from the kidney are of no value in uremia.

The Brown-Sequard Syndrome.—The Brown-Sequard syndrome is always an interesting subject for the reason that it gives us more information concerning the physiology of the various tracts of the cord than any other single lesion of the nervous system. Naturally, it is a rare phenomenon. When it occurs in syringomyelia, it is usually complicated by other conditions. Tumors produce considerable pressure upon the portion of the cord that they do not destroy. Occasionally, however, as a result of injury, a lesion is produced that is practically as valuable as an experimental lesion would be, and if under these

conditions the opportunity has been afforded for a careful study of the symptoms, the value of the case is considerably enhanced. Lloyd (*Jour. Nervous and Mental Disease*, February, 1900) has already done considerable work upon the subject of traumatic injuries of the spinal cord, and has recently made a final report on a case of this nature that is exceedingly valuable, because, although it does not teach us any essentially new facts concerning the functions of the spinal cord, it is confirmatory of some knowledge that we possess. The patient, a man of 55, had fallen from a scaffolding in 1876 and sustained a fracture in the cervical portion of the spinal column. There was complete paralysis of the body, some difficulty in respiration, and yet, strange to say, at the end of two years he returned to severe manual labor. In 1884 he had a second fall and again fractured the spinal column. There was again paralysis of the arms and legs, and loss of control of the bladder. Some improvement occurred, but the patient was never able to return to work. For five years he was under Lloyd's care in the Philadelphia Hospital until he died. There was atrophy of the shoulder muscles on both sides, of the muscles of the arms; the legs were moderately paretic and contracted; the kneejerks were exaggerated and ankle-clonus was present. There were, however, no atrophic lesions in the lower part of the body. The interesting features were the sensory symptoms, which may be summarized as complete thermoanesthesia and analgesia of the right side of the body, tactile anesthesia on a small area in the upper part of the left leg externally. The thermoanesthesia was somewhat more extensive than the analgesia, indicating that there was probably a separation of the fibers conveying these two forms of sensation. Death occurred as a result of exhaustion, and at the autopsy the fourth to the seventh cervical vertebrae were found deformed and ankylosed as a result of cervical injury. Beneath this, the cord was flattened and sclerotic. Microscopically, the essential changes consisted in the descending degeneration of the pyramidal columns, ascending degeneration of the cerebellar tract, almost complete degeneration of the gray matter, but the posterior columns remained practically intact, with the exception of slight sclerosis in the column of Goll, below the seat of injury. As there was practically no tactile anesthesia in this case it seems reasonable to conclude that the fibers of tactile sense must pass upward in the posterior columns, whereas the fibers of pain and tactile sense must pass through some of the destroyed tissue, probably the central gray matter. As Lloyd points out, these conclusions accord with those of van Gehuchten and Brissaud, but the former has lately reached the conclusion that pain and temperature sense is transmitted by Gower's tracts. Lloyd does not exclude the possibility of this in his own case, the lesion being so extensive that it is impossible to exclude it with certainty.

Some New Facts about Secondary Degeneration in the Spinal Cord.—The phenomena of secondary degeneration in the spinal cord still present from time to time certain aspects which require either more careful study or remodeling of our theories. Thus Bikeles (*Neurologisches Centrbl.*, xix. Jahrg., p. 146) has recently described a most interesting specimen that he obtained from a case that died of acute myelitis in the upper portion of the dorsal cord. In addition to the ascending and descending degeneration which was satisfactorily shown by the Marchi method, he found in sections stained by the Weigert-Pal method that for some distance above and below the interruption no degeneration could be detected. Curiously enough, however, at a considerable distance from the lesion, the degeneration reappeared; thus, below the left of the first lumbar segment, the pyramidal tracts were very distinctly degenerated, and the degeneration in Goll's columns only appeared at about the level of the first dorsal segment. As the disease was relatively acute, the whole course occupying barely a month, and as the lesion probably produced complete solution of continuity in the tracts of the spinal cord, Bikeles is forced to conclude that the degeneration probably involves earliest those fibers that have the longest course to run from the point of interruption. Of course, this explanation may not be correct, and it may be possible that under certain circumstances the fibers degenerate from their peripheral terminations, although this suggestion does not apparently explain the very sharp and complete degeneration of Goll's columns in the upper cervical region. At any rate, whatever explanation we accept, a certain amount of reconstruction of our concept of this subject will be necessary.

Medical Sermonets, No. 15. The Getting and Value of Fame.—The New York University has proposed to construct a Hall of Fame, and the *Brooklyn Eagle* has received 750 lists from contributors as prize-guesses at what names the roll will contain. The fact that the names of no physicians are among those suggested by the 750 is a somewhat startling proof of the feeling entertained for us and for our calling by our fellow-citizens. It is perfectly evident that if we wish for fame we would be far wiser to choose politics, the law, editing a daily paper, soldiering, novel-writing, or even verse-making. The world, it is certain, is not grateful for regained health or forefended disease, and yet not one of the fame-enrollers would assert that any good is greater than health, any evil worse than disease, any work nobler than that of the physician. This is the irony of popular logic. Of all the hundreds of guesses there was hardly one famed person that did a greater service to the American people than any one of the dozens of physicians that might be mentioned. There are hundreds and thousands of physicians now living who have saved more lives and prevented more suffering than many on the fame-lists. The fact gives us our justification of thorough contempt of the judgment and gratitude of the people. Looking at the matter from another standpoint, no one would deny that greater intellect and nobler manhood generally are required to be a great physician

than to be a great novelist or a great soldier. Hence popular psychology is as ridiculous as popular judgment and gratitude. Make a fortune by quackery or stock-jobbery and endow a fashionable charity and your fame will outlive that of any medical benefactor. Famous and infamous are sometimes synonymous. Thus by an easy generalization we reach an accurate estimate of the value of what the world calls fame. If one would pay the price for it how pitiable the ability that could not win it! Suppose even that it has not a post-mortem bitterness, how one must still scorn oneself for its attainment by direct pursuit. How much more contemptible the majority's failure to secure the eagerly sought gewgaw. How inevitable that you and I, however cunningly we pursue, shall be of this majority!

Let us do our duty quietly and well. Let us do the deed and be of the service, disdainfully indifferent to fame and popular approval. If love be our motive instead of fame the assured honor and gratitude of a few is worth more than all the fame of all the Halls of Fame.

Correspondence.

HOMEOPATHY AND SCIENCE.

By EDWARD CRANCH, M.D.,
of Erie, Pa.

To the Editor of The Philadelphia Medical Journal:—

In yours of April 28 I find a well-deserved stricture on the tendency of certain writers in homeopathic journals to oppose some aspects of modern science, such as vivisection, virulence of germs, etc. Pray do not set us all down as fools because some such articles appear. Similar lunacies crop out in all sorts of journals of all schools. Rather inquire what is taught in homeopathic colleges—you will not find bacteriology, etc., neglected, while yet we do not base our therapeutics on the hope of destroying germs, but only on preventive measures.

MEDICAL ADVERTISING IN RELIGIOUS JOURNALS.

By ARTHUR BALLINGSTRODE HARVEY, M.D.,
of Chicago, Ill.

To the Editor of The Philadelphia Medical Journal:—

Somewhat more than a year ago a notice appeared in your journal to the effect that the *Evangelical Episcopalian*, a small religious sheet published in this city, was clean from the advertisements of charlatans and proprietary medicines, and that you personally had as a consequence subscribed for it.

I wish to state that I do not know who lives at 6623 Perry Avenue, Chicago, and have no pennyworth's interest in this publication; but, following your example, I subscribed for the periodical and have watched it now carefully for one year. In the face of the money-offers of the horde of advertisers of impossible and even indecent projects, I can certify that this little periodical has been from the first independent and absolutely unpolluted in its pages; and I desire through your columns, which first set the ball in motion, to ask every physician in the United States, whether religiously inclined or not, to subscribe one dollar each year for this paper, which is a model in the matter to which I refer.

If the medical profession can once give the press clearly to understand that with their unclean burden off their shoulders they will receive a patronage that is worth bidding for, we may possibly live to witness a reform in the serious matter of supporting a secular and a religious press on a diet of lies!

REFLEX NEUROSES FROM PHIMOSIS.

By GERALD B. WEBB, M.D.,
of Colorado Springs, Colo.

To the Editor of The Philadelphia Medical Journal:—

Dr. Edie's article on the above subject (March 24) was of great interest to me, inasmuch as on February 11, of this year, I removed an elongated and constricted prepuce of a patient suffering with melancholia. The history follows:

F. D. R., aged 24 years, says there has been no insanity in his family. At 17, he overworked at school, at 20, went to Harvard, and at end of the year it was noticed that he was "peculiar." Since then he has imagined he was persecuted, that people were laughing at him. In consequence he was suspicious of the people, especially of doctors. He had been treated in the East unsuccessfully by well-known specialists. On examination I found an elongated and tight foreskin which never in his life had been retracted. Beneath could be felt hard lumps of smegma. The meatus was very inflamed. The patient had never known anything to be wrong with those parts. Testicles seemed a trifle small. On excision a teaspoonful of smegma was removed.

He has greatly improved already in his mental condition, and I look forward to a perfect recovery. In no textbook have I found much account of these conditions.

PRACTICAL TESTS BY STATE BOARDS.

By S. WEIR MITCHELL, M.D.,
of Philadelphia.

To the Editor of The Philadelphia Medical Journal:—

I have had requests, written or verbal, that I would say how the present State examinations in medicine could be improved. But one such request has come from a member of the Board. I shall doubtless be told that although the examinations in course and at the close of the fourth year of work in the great schools are more rigid by far than the tests made by the Board, yet, nevertheless, men who have passed the great school-examinations sometimes fail before the Board. I reply that to subject men practically trained to nothing but written examinations is unfair.

The examinations by the State Board should continually tend to lift the educational standards of our schools. At present these examinations are merely written, but the examinations *in course* at our two great schools are of three kinds, written, oral (conferences), and practical. I propose to the State Board most seriously to reconsider its methods. I should like to see its written examinations bettered by the addition of *real* cases stated on paper. Any hospital will furnish these. Such cases are now actually in use as part of the third year clinical work in the University of Pennsylvania.

I am also strongly in favor of oral examination as an added test. I am told that it requires too much time. Well, if so, that is a pity, and it does seem to many that either our friends in the Board should find time for examinations as competent as those in use in England, or should ask for additional help. I have enough urged the reasons for my belief that oral examinations are of essential value. But what as to practical examinations? We are told that no hospital will permit the use of its patients for such purposes. Have any hospitals been asked? Our great city hospital, for instance? And again as to practical examination; at least it would seem easy to ask a few oral questions on ready-made dissections, which already exist at the schools, and would be willingly lent. One brain, or leg, or arm, answers for any number of persons. This is easy and inexpensive and takes little time.

Finally, a few borrowed microscopes with slides afford material for questions or written statements of what is seen. Lastly, a single urinary examination might be added—and this need not be elaborate.

I have said here my brief say after consultation with many physicians who feel with me, either that the Board must by degrees improve its tests or, as would be undesirable, will subject itself to destructive attacks in our County and State societies.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Calendar of Meetings of Philadelphia Medical Societies for the week ending May 26:

Wednesday, May 23—County Medical Society. DR. HENRY W. CATTELL will give a **Kromoscopic exhibition of various pathologic and other specimens;** DR. J. P. C. GRIFFITH will read a paper on **Laboratory feeding of infants in health and disease;** and DR. LEWIS S. SOMERS will read a paper on **The use of adrenal extract in hay fever.**

Thursday, May 24—Pathological Society.

Dr. James Thorington has been elected professor of ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine.

The Camden District (N. J.) Medical Society held their annual meeting last week, at which the following officers were elected: President, Dr. J. T. Leavitt; vice-president, Dr. W. R. Powell; secretary, Dr. P. M. Macray; treasurer, Dr. E. R. Ramsdell; historian, Dr. H. H. Sherk; reporter, Dr. J. G. Doron; standing committee: Dr. J. E. Baer, Dr. J. E. Hurff, Dr. J. W. Marcy, Dr. W. A. Jennings, Dr. W. A. Wescott; censors: Dr. Alexander Marcy and Dr. Blake; trustee, Dr. O. B. Gross.

The Philadelphia Obstetrical Society.—At a meeting held May 3, DR. J. M. FISHER read a paper on two very interesting operative cases: (1) **Retrohymenial atresia, vagina duplex et uterus septus.** (2) **Hematometra et hematocolpos.** The rarity of these conditions renders this report a valuable addition to the literature of the subject. DR. WILMER KRUSEN read a paper on **Polyuria of pregnancy,** in which he reported the case of a twin pregnancy, in which the woman, without any ascertainable cause, voided over 200 ounces of urine for several successive days. DR. W. E. PARKE read the **Report of a case of ectopic gestation** with the presentation of the specimen.

Philadelphia County Medical Society.—At a meeting held May 9, DR. WILLIAM SYDNEY THAYER read a paper entitled, **Recent additions to our knowledge concerning the life-history of the malarial parasites.** (See the JOURNAL, May 5, page 1046). DR. ALFRED STENGEL read a paper entitled **The diagnosis of malaria,** in which he spoke of the various clinical manifestations of the different malarial parasites, of the value of a careful examination of the blood, and of the extreme care and diligence sometimes required that any organisms be discovered. He also spoke of the variations of malaria in different climates. In the discussion DR. F. P. HENRY spoke of the treatment of malaria and of some features in connection with the life-history of the parasite, and DR. JUDSON DALAND made some remarks upon the diagnosis of the condition.

Philadelphia Pediatric Society.—At a meeting held Tuesday, May 8, DR. D. J. M. MILLER reported a case of **acute leukemia in an infant 8 months old,** a male of Russian parentage, brought to the Children's Hospital dispensary with a purpuric eruption and epistaxis. The liver was enlarged and palpable and the spleen extended to the iliac crest and to the middle line. A blood-count gave 1,652,000 erythrocytes and 326,500 leukocytes. On visiting the patient the next day to obtain a differential count, it was found that the child had died. DR. L. C. PETER reported a case of **facial diplegia from middle-ear disease** occurring in the course of scarlet fever, and discussed the other causes of the condition. DR. ALFRED HAND, JR., reported a case of **intussusception in an infant 4 months old,** relieved by injection, the bag of the fountain syringe being elevated but two feet; the tumor could be felt in the line of the descending colon; with the injection the patient was inverted and the tumor manipulated. A subsequent enteritis delayed recovery for 10 days.

Jefferson Medical College Commencement was held at the Academy of Medicine at 12 o'clock on Tuesday, May 15, 1900. Prayer was offered by Rev. Kerr Boyce Tupper. Addresses were given by Hon. William Potter, the President of the Board of Trustees, and by President Moffatt, of Washington and Jefferson College, who spoke on the relations of the literary college to medical colleges. There were 106 graduates, of whom 40 were from Pennsylvania, the remainder coming from 29 States and 3 foreign countries. After the graduating exercises a luncheon was given to the Faculty and Board of Trustees by President Potter. Class Day exercises were held at the Walnut Street Theater on Monday afternoon and the Alumni dinner was on Monday evening. J. K. Weaver acted as toastmaster, and there were speeches by C. C. Townsend, Esq., of the Board of Trustees; Hampton L. Carson, Esq., of the Philadelphia Bar; the newly appointed professors, J. Chalmers Da Costa and F. X. Dercum and by Dr. Hunt, of Utica, N. Y. The graduating class has published a finely illustrated classbook, "The Sesamoid," containing much interesting information with regard to class and college matters.

The Woman's Medical College of Pennsylvania graduated a class of 26 young women, May 16. Although the commencement of the forty-eighth class of the college, it was at the same time the fiftieth anniversary of the founding of the first college devoted exclusively to the training of women for the medical profession, and it was fittingly celebrated. Alumnae from all parts of the world returned to attend the celebration, which lasted throughout the week. The graduating class was addressed by Wu Ting Fang, the Chinese Minister, who said among other things, that "there are medical works in the Chinese language, containing knowledge gained from the experience and practice of long ages. It is a great pity that this contribution of knowledge can not be available to the whole world because of the great difference in language. The Chinese attach high value to the practice of medicine. If Europe and America had sent only medical missionaries to China, missionary troubles would happen rarely." Dr. Clara Marshall, dean, for the alumnae, presented to the college a portrait of Dr. Ann Preston, the first dean. The degrees were conferred by the President, Mary E. Mumford. Dr. Mary Putnam-Jacobi, of New York City, made the address to the graduates, and Rev. Dr. J. S. Jones the opening prayer.

Vital Statistics of Philadelphia for the week ended May 12, 1900:

Disease.	Cases.	Deaths.
Total mortality		494
Pneumonia 69, congestion of the lungs 1		70
Pulmonary tuberculosis 56, intestinal tuberculosis		57
Marasmus 12, inanition 12, debility 9		33
Heart disease 28, fatty degeneration of the heart 2, neuralgia of the heart 2		32
Inflammation of the brain 25, congestion of the brain 1		26
Nephritis 18, uremia 8		26
Diphtheria 18, membranous croup 6	90	24
Measles		23
Apoplexy 7, paralysis 8, softening of the brain 7		22
Gastroenteritis		17
Convulsions		16
Typhoid fever	60	15
Senility		14
Casualties 8, burns and scalds 3		11
Scarlet fever	70	6
Cerebrospinal meningitis		1
Bronchitis 8, carcinoma 7, cirrhosis of the liver 7, suicide 6, influenza 5, peritonitis 5, pulmonary edema 5, erysipelas 4, appendicitis 4, septecemia 4, cyanosis 3, asthma 2, atheroma 2, drowned 2, cystitis 2, pleuritis 2, intussusception 2, syphilis 2, brain-tumor 2, tonsillar abscess 1, aneurysm of the aorta 1, anemia 1, carbuncle 1, diabetes 1, disease of the liver 1, dysentery 1, catarrhal fever 1, malarial fever 1, urethral fever 1, gangrene 1, hernia 1, laryngitis 1, adenitis 1, spondylitis 1, jaundice 1, intestinal obstruction 1, cerebral sclerosis 1, sore mouth 1, suffocation 1, sarcoma of the liver 1, tabes mesenterica 1, teething 1, tetanus 1, ulceration of the stomach 1, unknown 1.		

Bureau of Information for Members of the American Medical Association Passing Through Philadelphia.—The Directors of the Philadelphia County Medical Society, aware of the large number of physicians who will pass through Philadelphia on their way to and from the meeting of the American Medical Association, to be held at Atlantic City, N. J., June 5 to 8, and desirous of affording them an opportunity to visit the various hospitals and other

scientific institutions of Philadelphia, and to witness operations, will establish a Bureau of Information for the furtherance of these objects. This Bureau of Information will be located at the College of Physicians of Philadelphia, northeast corner of Thirteenth and Locust Streets, the College having kindly placed a room in its Hall at the disposal of the Philadelphia County Medical Society. This room will be in charge of a competent physician, and will be open from 10 A.M. until 5 P.M., daily, except Sunday, from Monday, June 4, to Monday, June 11. Physicians are invited to make free use of the Bureau, where they may obtain full information relative to the situation of the various hospitals, medical colleges, and other scientific institutions of Philadelphia, and the time of operations and clinics at the various hospitals throughout the city. Information will be secured and tabulated daily, showing the various attractions for that day throughout the city. The College of Physicians of Philadelphia has also voted to extend to the members of the American Medical Association the courtesies of the Library and of the Mütter Museum. The Library, which was founded in 1788, is, with the single exception of that of the Surgeon-General's Office in Washington, the largest collection of medical books in this country. The Mütter Museum, which was endowed in 1856 by the late Professor Thomas D. Mütter, contains about 4,000 specimens of normal and pathologic anatomy, besides valuable models, casts, and illustrated anatomic works. Both the Library and the Mütter Museum will also be open from 10 A.M. to 5 P.M., daily, except Sunday. Additional information may be secured by addressing the Bureau of Information, northeast corner of Thirteenth and Locust Streets, Philadelphia, from June 4 to 11, and prior to that time by addressing any of the Directors of the Philadelphia County Medical Society, as follows: Dr. A. O. J. Kelly, chairman, 1911 Pine Street; Dr. Chas. A. Oliver, Dr. John G. Clark, Dr. Addinell Hewson, and Dr. Emma Musson.

Weltmerism in Pennsylvania.—The following correspondence is self-explanatory:

H—town, Bucks Co., Pa., April 24, 1900.

To the Secretary of State, Harrisburg, Pa.

Dear Sir:—Enclosed you will find Prof. S. A. Weltmer's ad. concerning magnetic healing. I have completed the full course as outlined in the circular I send you (please return circular), and can truthfully say that his methods are *all right* in the healing line because I have tested them to my own satisfaction. The healing power is wonderful. At the Weltmer Institute have been treated by the *absent method* 53,000 people and out of this enormous number only 12 have not been cured.

My object in writing you this letter is to know the *law* regarding these treatments in the State of Pennsylvania. I desire you to answer this and let me know as I wish to have authority in this matter from headquarters before I proceed to full practice. I desire to practise if the *law* will permit. No medicine is used at all. The treatments are mostly employed in chronic cases; and in serious cases in conjunction only with a regular drug physician. I judge the law does not interfere since no drugs are used and also because I notice advertisements in papers of students from the Weltmer Institute who are practicing in Pa., and who are not regular drug physicians. *My* regular occupation is public school teaching.

Enclosed find 4-c. postage for reply. I thank you heartily in advance for the information if this is sufficient.

Yours very truly,

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MEDICAL COUNCIL OF PENNSYLVANIA.

Office in the Department of Internal Affairs, Harrisburg, May 1, 1900.

Dear Sir:—Your communication to the Secretary of the Commonwealth concerning the practice of the so-called science of magnetic healing, has been referred to me as Secretary of the Medical Council for reply,

The Medical and Dental Councils (I notice that dentistry is also included as a part of Mr. Weltmer's teaching) have certain well-defined duties under the law which created them. To counsel or advise those who may seek to treat disease other than by the methods recognized by the laws of Pennsylvania is not among these defined duties. I might incidentally mention, however, that both the Councils are clearly of the opinion that the acts which created them, together with the Fourth Section of the Act of 1877, amended in 1897, (Pamphlet Laws, page 257), providing for a special per diem ten-dollar license for those who seek to cure the sick or afflicted by itinerating from house to house or by the use of any medicine, means or agency whatever, prohibit the practice of medicine or any healing art, except as provided by the law.

Very truly yours,

James W. Latta, Secretary.

Pittsburg (Pa.) Academy of Medicine.—At a meeting held April 23, Dr. I. J. Elterich reported a case of **fracture of the femur** in a boy of 7 years with congenital syphilis. Dr. R. W. Stewart reported a case of **rupture of the gallbladder,** which recovered after the evacuation of bile and drainage; also a case in which he had removed about **200 small stones from the gallbladder 2 years ago.** Acute attacks of biliary colic came on later but no jaundice followed. At a second operation a stone was found in the common duct. Dr. Elterich asked for the indications for operation for gallstones, and said that he had some good results with sodium succinate. Dr. J. W. Macfarlane reported a case of **cyst of the gallbladder.** Dr. Stewart stated that the relief of pain was the chief indication for operation. Many autopsies show the presence of the stones that had given rise to no symptoms. Medicinal remedies are of very doubtful value. He referred to two long-standing cases of empyema of gallbladder in which the bladder was sutured to the edges of the wound to be emptied at a second operation. The following day the bladder was found to be empty, no further symptoms developing. Dr. E. B. Haworth asked if cases of chronic obstruction without pain did not demand operation as well as those suffering pain. Dr. J. I. Johnston asked if operation was not indicated in the condition known as choleuria. Dr. Stewart said both these conditions require operation, and he had intended to include them as they are commonly associated with pain of greater or less severity. Dr. F. F. Simpson reported the pathologic findings in a kidney previously presented,—a **large spindle-celled sarcoma.** Dr. J. W. Macfarlane presented a photograph of a child with **talipes-equino-varus** and a deep constriction of the leg produced in all probability by the cord in utero. Dr. J. C. Dunn read a paper on the **treatment of burns and scalds,** in which he gave in detail the method carried out in his hospital work. If the surface is intact, it is cleansed with a 2% creolin solution and covered with sterile cotton or gauze, which is kept saturated with the same solution. If the surface is broken perforated gutta-percha tissue is placed on the wound over which the cotton or gauze is placed and kept saturated with the creolin solution. This method has been in daily use for over 2 years with most satisfactory results, and no toxic symptoms. The relative merits of the various methods of skin-grafting were pointed out. The lining membrane of the egg was used in 18 cases, but in only one-third of these was it found to be of any value. The necessity for skin-grafting does not depend so much upon the extent as upon the depth of the lesion for the reason that if the hair-follicles and sebaceous glands are not destroyed proliferation of epithelium takes place from these structures. In discussion by Drs. Ewing, Boyce, Simpson, Eaton, and Johnston, the use of dried and powdered epithelium for grafting, the preservation of grafts dry and in sterile serum, and the use of the skin of the frog were referred to. Dr. Miller said that white skin grafted on a negro became black in time. Closing, Dr. Dunn said he had also used epithelium obtained from corns successfully. Dr. J. W. Macfarlane read a paper on **Tuberculous arthritis of the knee-joint** and reported a number of cases of which photographs were shown. Excision of the joint is the most satisfactory operative treatment, but it is often done too soon without trying more conservative methods, such as fixation and extension, pressure, iodoform injections, etc. The method of performing excision and the dressing used were described at length. In discussion Dr. R. W. Stewart spoke forcibly of conservative treatment before proceeding to a radical operation. Iodoform injections had not proved permanently satisfactory. Success in technic is obtained only by the removal of all tubercular foci. Dr. E. B. Haworth asked if arthrectomy was always preferred to erasion. Dr. J. W. Boyce said in doing an erasion of the knee on the cadaver he had found it to be impossible to get at all the recesses of the synovial sac. Dr. F. F. Simpson inquired as to the frequency of metastatic tuberculosis following such operations and as to the value of the hot-air treatment. Dr. Stewart stated that erasion of the kneejoint is unsound and unsurgical. There is considerable danger of exciting metastatic foci of disease. Dr. Haworth defended the operation of erasion. The disease may involve only a portion of the joint. Closing Dr. Macfarlane said he did not consider iodoform injections alone of any value, but coupled with drainage, pressure, and

rest give good results in some cases. We always do a modified erasion after excision. The hot-air treatment has proved valuable in a number of cases.

NEW YORK.

A Commission on Tuberculosis.—Dr. S. Case Jones, of Rochester, and Dr. Fred. W. Smith, of Syracuse, of the State Board of Health, have been appointed a commission on tuberculosis.

New Building for Beth Israel Hospital.—Plans have been filed within the past few days for the erection of a five-story building of brick and limestone on the corner of Jefferson and Cherry Streets. The new edifice will cost about $120,000.

Births in New York City.—F. Delano Weekes, Secretary of the Society of the Lying-in Hospital, is responsible for the statement that 48,283 birth-certificates are issued every year, *i. e.*, that in the Borough of Manhattan a baby is born every ten minutes. He adds that 21,516 of these certificates are filed by midwives.

Bellevue's Old Drug Mixer.—For 30 years or more John Borean has worked steadily in the drug department of Bellevue Hospital. Though an ordinary laborer, having no theoretic knowledge of chemistry or pharmacy, he had become very expert in the routine practical work of extracting drugs and making tinctures. He seemed to be entirely alone in the world, and lived the life of a recluse. He died May 7.

Gifts to St. John's Guild.—Mrs. Augustus D. Juilliard, who paid for the new floating hospital "Helen C. Juilliard," has now given $50,000, the interest to be used to defray the cost of maintenance. The Guild is also fortunate in having received the sum of $9,046.89 for the erection of a new cottage on its grounds at New Dorp, Staten Island. This sum was given by Mrs. Frederic Elliott Lewis as a memorial to her little son.

Pneumonia Prevalent.—According to the quarterly report submitted to President Murphy of the Health Department, pneumonia is unusually prevalent. For the first three months of this year there were 221 deaths from grip as compared with 263 deaths for the same period in 1899. The report also shows that there were 2,486 deaths from pneumonia as compared with 1,654 deaths from this disease in the corresponding period last year. In the week ended May 5, there were 13 deaths from grip, as compared with one in 1899, and 179 deaths from pneumonia as against 131 deaths last year.

New York Institution for the Blind.—On May 10 this institution had its anniversary exercises, and they proved most interesting to the large audience. The blind children gave some excellent music, both vocal and instrumental, after which came some interesting exercises to show the instruction that these unfortunate pupils had received. Two children showed how well they could operate an ordinary typewriter; others operated the kleidograph, a machine for producing embossed writing for the use of the blind; while still other pupils wrote with stylusses, using the embossing or point system. As if this were not enough, the classes gave some remarkable demonstrations in mental arithmetic.

A Silver Tankard for Dr. Jacobi.—The Medical Board of the Mount Sinai Hospital did not wish the occasion of Dr. Jacobi's seventieth birthday to go by without some special token of their esteem, so they gathered in the Directors' room of the hospital and presented to him a silver tankard, nearly two feet high, on which was this inscription: "To Dr. Abraham Jacobi, on the seventieth anniversary of his birthday, from the Mount Sinai Hospital, in grateful recognition of 40 years of devotion and fidelity, May 6, 1900." The tankard is engraved with scenes emblematical of Dr. Jacobi's lifework among sick children. The children's department of this hospital was specially created for him in 1879, and this was the first hospital in the city to separate children's diseases from the general medical service.

A State Hospital and a Railroad at War.—The Hudson River State Hospital for the Insane, goaded on by the high freight-rates they are required to pay to have provisions and fuel delivered to the hospital by the little Poughkeepsie and Eastern Railroad, has appealed to the State Railroad Commissioners to fix proper rates. It is said that the railroad has previously been a losing investment, but when Russell Sage bought it last year, such glowing promises were made to the hospital managers regarding cheaper freight-rates that the hospital spent about $40,000 in building a small piece of railroad in order that freight might be delivered directly into the hospital grounds. Recently the hospital has been notified of an increase of freight-charges—a change so great that instead of paying about $5 a carload for coal, it will cost nearly $14.

New York State Medical Association. Fourth District Branch.—At the 16th annual meeting held at the Buffalo Club May 8, the following program was presented: **Report of Epidemic of Variola and Varicella at Mount Morris (N. Y.) during 1898** by DR. M. HAZEY; **Cases of injuries of the eye,** by DR. A. A. HUBBELL; **Goiter,** by DR. E. J. MEYER; **Intestinal adhesions, with report of cases,** by DR. C. E. CONGDON; **Hepatic sclerosis in nonalcoholics,** by DR. A. L. BENEDICT; **Dislocations of tendons and treatment,** by DR. W. M. BEMUS; **Cyclic vomiting,** by DR. C. G. STOCKTON; **Three interesting cases of ectopic pregnancy with subperitoneal rupture,** by DR. C. C. FREDERICK; **Treatment of typhoid fever,** by DR. J. H. SACKRIDER; **Common but generally unrecognized eyestrain,** by DR. ELMER G. STARR; **A case of perforating gastric ulcer,** by DR. A. A. JONES; **Hemorrhage after confinement and its treatment,** by DR. H. E. HAYD; **Review of the present status of Jonnesco's operation,** by DR. M. HARTWIG; **Rupture of symphisis pubis during parturition, with report of case,** by DR. G. A. HIMMELSBACH; **Diseases of the antrum,** by DR. F. H. MILLENER.

Inefficiency of the New Dispensary Law.—According to a recent interview with the house-surgeon of a prominent hospital in this city, the new dispensary law is not enforced as it should be. It is asserted that the chief change observed has been in the patients donning the garb of poverty, and that the number of applicants has not been materially diminished. This same gentleman also gives the reason for this state of affairs, when he adds: "We can't investigate the truth of the statement made to us—we haven't the time or means to verify. . . . It would require a large staff of inspectors, and cost much money to run down every case. The Charity Organization Society has offered to make investigations for us, but thoroughly, or even superficially, to investigate the thousands of cases daily presenting themselves in all the hospitals in the city is clearly a task quite beyond that society. As a matter of fact, the hopelessness of it is such that, so far as I know, the society is not called upon at all." While we understand that the State Board of Charities has wisely adopted the policy this year of going slowly in the matter of the enforcement of the dispensary law, in order to fully grasp all the phases of this important though complex question, we commend this matter to their attention, believing that when they have mastered the situation, and are in possession of all the necessary facts, they will not be derelict in the performance of the duty imposed upon them.

Conference on Charities.—During the past week an informal conference on charities has been held at the United Charities Building. The topic for discussion at the first session was, "Are public institutions adequate to public needs?" Dr. George G. Wheelock prepared a careful paper as a contribution to this discussion. He pointed out that a faulty system of record-keeping gave data which were unreliable for the deductions desired, and expressed the wish that a sort of clearing-house might be established in the city, from which the distribution of free patients could be made. There had been a decided decrease in the number of inmates in the almshouse. Among the more important public needs were a new hospital in Harlem, a convalescent hospital, State and city hospitals for pulmonary tuberculosis, suitable quarters for hospital employes, and a municipal lodging-house for women and children. Fordham Hospital, he said, was a lamentable instance of an unwise, if not culpable, expenditure of the city's money. The afternoon session was taken

up with a discussion on the "Supervision of children placed in families." Miss Mary Vida Clark, Assistant Secretary of the State Charities Aid Association, described the system which that association was trying to perfect, by which even greater care might be exercised not only in the placing out of the children, but in the supervision to be maintained over them afterward. The greatest care was taken to send children to families of the same religious faith as that in which the children had beed brought up. At the evening session, Moses Oppenheimer, of the Finance Department, stirred up a hornet's nest by declaring that half of the children in reformatories were nothing more than "sprouting" criminals. Frank Tucker, General Agent of the Association for Improving the Condition of the Poor, deprecated the custom of having entertainments for the purpose of raising money for charitable purposes. Commissioner John Keller, speaking of the needs of the Department of Charities, said that of first importance was a new building to take the place of the disgraceful ramshackle now dignified with the title of the Harlem Hospital. A second need was a municipal lodging-house for women and children, for surely they needed as good provision as the homeless men. He declared it to be his intention next summer to gain possession of the present building of the Cornell Medical School, in the grounds of the Bellevue Hospital, and turn it into a modernly equipped maternity hospital. Adolph Simis, Charities Commissioner for the Borough of Brooklyn, promulgated the opinion that the proper punishment for men who desert or beat their wives and children is a flogging at the whipping-post, as in days of old. Although this proposition quite startled the audience, and was looked upon by many as somewhat in the nature of a joke, the Commissioner is not alone in his belief in the deterrent effect of this mode of punishment. The Rev. T. L. Kinkead, of the St. Joseph's Home at Peekskill, took part in the discussion on the "Educational curriculum of children's institutions." He addressed particularly the ladies present on that topic of ever-increasing importance, the servant question, and told them that while he did not believe in placing young girls in families where the sole requisite was their capacity for work, he did firmly believe that more of our native girls should receive in institutions such training as would enable them to be self-sustaining. They should be fitted for domestic service. A general education for children in institutions seemed to him much better than training in special branches. The importance of the whole subject was emphasized by the statement of the chairman, that there were 20,000 children in New York's institutions alone. The special topic for the day's discussions was "Inspection of private charities," and, of course, a great deal of attention was given to the special need for inspection in children's institutions—just that class that has been excluded from State inspection by the recent decision of the Appellate Court, and the pernicious activity of Elbridge T. Gerry.

CHICAGO AND WESTERN STATES.

Hospital for Consumption in Chicago.—At this writing a little over $18,000 has been subscribed to the consumptives' hospital fund, and as soon as the labor trouble is over, the authorities will begin the erection of this hospital.

Chicago Medical Society.—At a meeting held May 9, Dr. Albert B. Hale read a paper on **Iritis senum,** in which he called attention to the fact that the dictum concerning the use of atropin (or a strong mydriatic) after the age of 40, should not always be observed. He instanced cases of conjunctivitis in women over 80 years, where the simple signs of inflammation of the mucous membrane did not disappear at once on treatment. A careful study of the existing conditions convinced him that the iris was probably not infected, but severely irritated by the overlying disease. To convince himself of this, even at the risk of provoking a glaucoma, he resorted to atropin, with the happiest result. His explanation was that iritis in old age was perhaps like pneumonia in old age, a much less expressive irritation than in the young, and that, if not soon recognized, it might leave the eye and vision much impaired.

Dr. Ludvig Hektoen read a paper on **The ray fungi and the actinomyceal processes,** which was accompanied by a lantern-slide demonstration. The following is a synopsis of the paper: Classification and nomenclature; general characteristics of ray fungi and their relation to certain bacteria; the saprophytic ray fungi; the pathogenic ray fungi and actinomyceal processes. First, the atypical acid-proof ray fungi and atypical actinomycosis. Second, typical actinomycosis. (*a*) The typical pathogenic ray fungi; (*b*) the polymorphous pathogenic ray fungi; (*c*) the granules of typical actinomycosis; (*d*) general etiology of typical actinomycosis; (*e*) the general histology and anatomical varieties of typical actinomycosis; (*f*) clinical and anatomical varieties of typical actinomycosis. Third, actinomyces madurae and the actinomyceal variety of mycetoma.

Dr. Albert H. Burr read a paper on **Internal antisepsis,** an experimental study. He said that experiments, not yet published, prove that hypodermic injections of a $\frac{1}{1000}$ solution of formalin do not produce abscesses or indurations in the human subject. For the past 6 months he has been using aminoform in typhoid fever and scarlet fever, mainly with the view of sterilizing the urine and thus limiting their poisons in the urinary system, with apparently marked results. In 6 cases of typhoid fever and 2 of scarlet fever reduction in temperature and mitigated symptoms, in what were clinically severe types previous to administering the drug, where decidedly apparent. Four of the typhoid cases were verified by the Widal reaction. The writer then detailed tests that were made on his own person.

Dr. I. A. Abt read a paper on **The treatment of pneumonias of infancy and childhood.** The hygienic treatment is not the least important element in the intelligent and successful management of these cases. The patient should be placed in bed; the temperature of the room maintained at about 70° F., and there should be not less than 1,000 or 1,200 cubic feet of air space for each individual occupying the sick-room. The room should be well ventilated and frequently aired. In order to prevent atelectasis and hypostasis in older children as well as in infants, the position of the patient in bed should be frequently changed. Infants may be picked up and held upright in the nurse's arms. The feeding should be supervised. The regular hours for feeding are to be maintained; if necessary, the food may be diluted. Milk is the main article of food, and in cases where it is difficult of digestion, it may be peptonized. Water is to be given freely and between feedings. It is well to begin the treatment by the administration of small and frequently repeated doses of calomel. This is particularly indicated if there be gastric irritation, constipation or tympanitic abdomen at the onset. In this way free action of the diaphragm is permitted and frequently the patient rendered more comfortable. The various plans in vogue for the reduction of temperature were mentioned. Medicinal measures of treatment were also detailed.

Cleveland (Ohio) Medical Society.—At a meeting held April 13, Dr. William E. Wirt presented a case of **synovitis of the knee-joint,** due to traumatism, that had lasted nearly 3 years. He had been applying hot air, with rest, fixation and protection. He had also used electricity and massage. The joint had improved very greatly under this treatment. Under the use of hot air the amount of fluid in the joint in this case was very promptly diminished, so that tapping was unnecessary. He presented another case in which there had been **contracture of the tendo-Achillis following infantile paralysis.** He secured a satisfactory result by cutting the contracted tendon, extending the joint, and putting it up in plaster of paris. He also presented a case in which there had been **knock-knee** on one side and **bow-leg** on the other. The bow-leg was operated upon by doing a simple osteotomy with fracture, and the bone was found to be very hard, as it often is in rickets. On the other leg he did a supracondyloid osteotomy and put it up in plaster. Dr. William Lincoln presented a case of **paralysis of one vocal cord.** The condition, he thought, was due to an **aneurysm of the arch of the aorta.**

Dr. A. R. Baker read a paper upon **The use of the x-ray and electro-magnet in locating and removing foreign bodies from the vitreous humor.** He presented several specimens which were removed from the vitreous humor with the electromagnet and which were located by radiographs. The photographs exhibited showed distinctly the presence of the foreign bodies, which were

located by needles placed at right angles in front of and alongside of the eye. In one case reported at length, a very small piece of steel penetrated the cornea, iris and lens, and was located with the radiograph by the back lower, outer part of the vitreous, and was successfully removed with preservation of good, useful vision. The author expressed the opinion that there was danger in using the strong Haab magnet in all cases of suspected foreign bodies in the vitreous for diagnostic purposes. The safer way is to first take a radiograph, then make a counter-opening through the sclerotic and remove with the magnet, and not attempt removal through the original wound. DR. S. E. LAUDER said he had used an electromagnet that was operated by the 110-volt current and which was capable of lifting about 20 pounds. He had been successful in removing a piece of steel through the wound of entrance, and in one case the eye was saved because the piece of steel, having come from the center of a large bar, was sterile. In another case, although the foreign body was removed, it infected the eye, which was lost. He had not been successful in the use of the x-ray. He preferred removing the foreign body through the original opening if the case was seen early enough. DR. S. H. LARGE said the difficulty in removal of foreign bodies arose from the fact that they tended to go into the center of the vitreous.

DR. HUNTER ROBB read a paper upon **Suppuration of the wound after abdominal section, based upon an analysis of 114 unselected abdominal sections.** He concluded that infection is the chief cause of ill-success or death following an operation. To avoid this he sterilized the skin of the patient about the field of operation, the hands of the operator and assistants, ligatures and all other materials used. He uses catgut to suture the peritoneum, silver-wire mattress-sutures for the fascia, and subcuticular catgut sutures for the skin. He then cleanses the incision and field of operation with sterile salt-solution, followed by alcohol, after which the skin is gently dried with a sterile towel. Dry sterilized iodoform is then sprinkled over the wound and 2 thicknesses of sterilized gauze, followed by large enough pieces of sterile cotton to cover the abdomen from flank to flank, and from umbilicus to pubes. This dressing is held in place by adhesive strips. In the 114 cases only 8 (7.2%) suppurated, though 29 were pus cases and drainage was used but once and in these suppuration was confined to the skin and subcutaneous tissue. DR. M. ROSENWASSER said that the essayist had not mentioned the fact that infection of the abdominal wound may occur from the fact that in some cases the Staphylococcus pyogenes albus is located beneath the epidermis, so that scrubbing and disinfection will not remove it. If a stitch has been tied a little too tightly so as to cause compression-neurossis, the presence of this organism is sufficient to cause infection which cannot rightly be attributed to any fault in the technic. As showing the difference between the epidermis, which is often inhabited by germs, and the mucous membrane, which is not usually so, he had noted that stitch-abscesses were not liable to occur in operations upon the pelvis by the vaginal method.

DR. R. J. WENNER reported a case of **adenocystoma of the kidney.** He had removed three large uterine fibroids from the case, a woman of 40, the urine before operation being normal in amount and character. On the third day after the operation she suddenly became comatose and died. At postmortem there was found no evidence of infection or obstruction, but the kidneys were large and filled with multiple cysts, little normal secreting-tissue remaining. After section, Dr. Howard pronounced the disease to be adenocystoma. Parker, of Bristol, studied 88 cases occurring more frequently in males. Less than half had albuminuria, but the urine was usually of low specific gravity, light color and rather increased quantity. Dr. Howard had seen 4 of these cases in the last 2 years. The kidneys in Dr. Wenner's case were enlarged and the cysts, varying in size from a pin's head to a small walnut, were rather regularly distributed throughout the organs. The ureters were patulous and the pelves were normal, while the capsules were not adherent. There were in this case also multiple cysts of the liver. He showed a **cystic kidney** from a case of Dr. C. F. Hoover's, that had been diagnosed antemortem by palpation, which he thought was probably the largest kidney ever observed. In this specimen also the ureters were patulous and the pelves enlarged, not obliterated. He showed also a very rare specimen of **adenocystomixoangiorhabdomyosarcoma,** removed from a case operated on by Dr. G. W. Crile. It was one of the most extraordinary mixed tumors ever reported.

SOUTHERN STATES.

Government Hospital for the Insane.—Congress has appropriated $1,210,000 for the purchase of land and the erection of new buildings to meet the increased demand on the hospital.

Smallpox in Washington, D. C.—Since the outbreak of this disease last fall only three cases have died, and these all members of the same family. There are 5 cases remaining in the hospital now.

Garbage Disposal in Washington.—The District Health Officer and Superintendent of Street Cleaning has submitted a report to the District Commissioners favoring the adoption of the Dixon crematories for the disposal of garbage in the city.

Hospital Dedicated in Washington.—The Sibley Memorial Hospital with its new additions was formally opened for the reception of patients on May 12, after being dedicated according to the ritual of the Methodist Church. The hospital now has 65 beds, 40 of which are free, and one of the finest operating rooms in the city.

Pure Food Bill in Congress.—The House Committee recently submitted a favorable report on the Brosius Pure Food Bill, which is intended to prevent the adulteration, misbranding and imitation of drugs, beverages and foods. The bill proposes to create a chemical bureau in the agricultural department to be charged with the inspection of foods and drug products. It requires that every product offered for sale shall be branded true to nature.

Honors for Professor Welch.—On the evening of May 4, the students and co-workers of Dr. W. H. Welch, at a complimentary dinner held at the Maryland Club, Baltimore, presented him, in honor of the twenty-fifth anniversary of his doctorate, a volume of contributions to the science of medicine, containing 38 papers, all embodying original research, of which the following are the titles:

1. A Contribution to the Study of the Pathology of Early Human Embryos, Franklin P. Mall.
2. On Urea in Some of Its Physiological and Pathological Relations, C. A. Herter.
3. The Direct Action of Nicotin upon the Mammalian Heart, Henry G. Beyer.
4. The Effects of Shaking upon the Red Blood-Cells, S. J. Meltzer.
5. The Bloodvessels, Angiogenesis, Organogenesis, Reticulum and Histology of the Adrenal.
6. Specific Degenerations of the Cortical Arteries, Henry J. Berkley.
7. The Regeneration of the Crystalline Lens, Robert L. Randolph.
8. The Histology of Acute Lobar Pneumonia, Joseph H. Pratt.
9. Bilateral Choleastomatous Endotheliomata of the Choroid Plexus, George Blumer.
10. Concerning the New Formation of Elastic Fibers, Especially in the Stroma of Carcinomata, Herbert U. Williams.
11. Cirrhosis of the Liver of the Guineapig Produced by a Bacterium (Bacillus coli communis) and its Products, George H. Weaver.
12. On the Muscular Architecture and Growth of the Ventricles of the Heart, John Bruce McCallum.
13. Some Observations upon the Surgical Anatomy of the Gall-Bladder and Ducts, George Emerson Brewer.
14. A Case of Plexiform Neuroma of the Eyelid (Rankenneurom), Harry Friedenwald.
15. A Case of Multiple Myeloma, James H. Wright.
16. The Development of the Musculature of the Body Wall in the Pig, Including Its Histogenesis and Its Relations to the Myotomes and to the Skeletal and Nervous Apparatus, Charles Russel Bardeen.
17. A Variety of Adenocarcinoma of the Uterus, Thomas S. Cullen.
18. A Bacteriological and Microscopical Study of Over 300 Vesicular and Pustular Lesions of the Skin, with a Research upon the Etiology of Acne Vulgaris, T. Caspar Gilchrist.
19. The Frequency and Significance of Infarcts of the Placenta, Based upon the Microscopic Examination of 500 Consecutive Placentae, J. Whitridge Williams.
20. A Contribution to the Knowledge of the Bacillus aerogenes capsulatus, W. T. Howard.

21. On the Intravascular Growth of Certain Endothelioma, W. G. MacCallum.
22. The Cultivation of Amebae, by Casper O. Miller.
23. The Bacillus Pseudo-Tuberculosis Murium; Its Streptothrix Forms and Pathogenic Action, Dorothy M. Reed.
24. Experimental and Surgical Notes upon the Bacteriology of the Upper Portion of the Alimentary Canal, with Observations on the Establishment There of an Amicrobic State as a Preliminary to Operative Procedures on the Stomach and Small Intestine. Harvy W. Cushing and Louis E. Livengood.
25. The Origin, Development and Degeneration of the Blood-vessels of the Human Ovary, John G. Clark.
26. The Gonococcus. A Report of Successful Cultivations from Cases of Arthritis, Subcutaneous Abscess, Acute and Chronic Cystitis, Pyonephrosis, and Peritonitis, Hugh H. Young.
27. The Histogenesis of the Cellular Elements of the Cerebral Cortex. Stewart Paton.
28. Experimental Pancreatitis, Simon Flexner.
29. Chronic Hypertrophic Gastritis of Syphilitic Origin, Associated with Hyperplastic Stenosis of the Pylorus, John C. Hemmeter and Wm. Royal Stokes.
30. A Case of Adenocarcinoma Which Originated in the Submucous Glands of a Trachea-like Formation Found in a Sacral Teratoma, Wm. H. Hudson.
31. On Hydromyelia, in Its Relations to Spina Bifida and Cranioschisis, E. Bates Block.
32. Experimental Disseminated Fat Necrosis, Eugene L. Opie.
33. Multiple Hyperplastic Gastric Nodules Associated with Nodular Gastric Tuberculosis, Claribel Cone.
34. On Serum Substitutes with Special Reference to Asiatic Cholera, Arthur Blachstein.
35. Endocarditis Due to a Minute Organism, Probably the Bacillus Influenzae, Mabel F. Austin.
36. On the Microscopic Alterations Met with in the Tissues from a Case of Chronic Diffuse Nephritis, Terminating with Symptoms of Landry's Paralysis, Lewellys F. Barker.
37. Model of the Medulla, Pons and Midbrain of a Newborn Babe, Florence R. Sabin.
38. A Contribution to the Surgery of Foreign Bodies, W. S. Halsted.

The presentation was made by Professor W. T. Councilman, who, in part, said:

On this occasion, 25 years after your entrance into the medical profession, we, your students, present to you this volume. It contains a number of articles written by us, each of which contributes to the advancement of medical knowledge. We have chosen this method to tell you of our esteem and affection, for we feel that it is the highest and most enduring tribute we could lay before you. For, unlike any tribute wrought in stone or metal, it has the quality of increase. The results of the investigations here set forth will stimulate further investigations and lead to still greater increase of knowledge. It is the work of men you have taught, who have come under your influence and who have received from you the inspiration which has enabled them, often amid great difficulties, to continue in the path along which you first led them.

It is one thing to tell a man what is the right way; it is better still to show him; but it is quite another thing to take him by the hand and lead him along it. This you have done, and it is this which has made you the great teacher which you are, for a teacher to be great must be a leader among men. You have taught us what is known. In your lectures you have presented to us, with a clearness that has never been surpassed, the known facts of medical science and the deductions to be drawn from those facts. We have learned from you the importance not of theory, but of definite knowledge. You have further showed to us that merely to acquire what is known is not the true aim, but that he who would himself advance and contribute to the advancement of his fellows must seek to enlarge the bounds of knowledge. By your own work you have led us. The importance of the work you yourself have done is recognized by the world. It has been marked by your characteristic clearness, thoroughness and fairness. In the work which you have inspired, there has been absolute freedom in the worker. You have always sought to turn their investigations into the development of truth.

The work has been in a broad field, and the workers have had a clear sky above and fresh breezes around them. All branches of medical science have been enriched by this work. The breadth of the work is shown in the subjects treated in this volume. We feel that you are a part of it, that our work is due to your inspiration. But your work as a teacher and leader has not been confined to those who have felt your presence; it has been far wider. Your influence has been felt in every part of the country, because each man who has gone from you has been a missionary burning to lead others into the light.

One year after your graduation, the Johns Hopkins University opened its doors. The central idea of the university, the idea with which it started, which distinguished it from other institutions of learning in this country at that time and gave it at once its high position in the world, is that it is the duty of a university both to impart knowledge and to increase knowledge by original research. In the medical education at that time there were no high ideals. There were numerous schools in which the medical art was taught, but in no place had the university ideal, which aims at the advance of knowledge, entered into medical education. Not that there were not a few great teachers, but the principle was not there.

The creation of the Medical School of the University was slow. First physiology and then pathology were established as departments of the university. Sixteen years ago, Dr. Welch, you were called to the chair of pathology in the university. There was no hospital to furnish material, no students to teach. You began your work, and before the hospital was opened you had grouped around you an earnest band of workers. Those of us whose fortune it was to have been with you in those early days can never forget them.

When the Medical School was opened, the ideals of the university had been established in its most important departments and were a controling power. There sprang up at once that close union between the university and the medical school to which, more than anything else, the marvelous growth and influence of the medical school has been due. The medical school was founded in the laboratories of physiology and pathology. There has been in the medical school and in the hospital a close union between art and science, an appreciation of their mutual dependence, which in its fulness was new to America.

We have ourselves tried to do what we could to advance knowledge and to extend to others the ideals which we learned from you. Your spirit lives in us, and we extend to you in this work the best expression of our affection, our esteem and our gratitude.

On accepting the volume, Dr. Welch replied as follows:

My Friends and Fellow-students: I have no words adequate to express my appreciation of this demonstration of your affection and loyalty. With a heart full of thanks I accept this magnificent volume of contributions to medical science by my pupils and co-workers, now and in the past.

I thank you, Dr. Councilman, for your generous words in presenting this volume, even if I must believe that your estimate has far exceeded my merits. Although I have been kept in ignorance of the details of this undertaking, I know that my especial thanks are due to Dr. Mall and Dr. Flexner for its inception and conduct, as well as for the incentive to several of the contributions. Turning the pages I see how much is due to the marvellous artistic skill of Mr. Broedel, and I am not surprised to hear of the unselfish devotion of Dr. Hurd in the editorial work, nor that my old friend and colleague, Dr. Halsted, has been active in arranging for this occasion. To all who have honored me by their contributions to this volume I am deeply grateful, and the kind messages from many other pupils and associates have gladdened me.

Nothing could afford me livelier pleasure and satisfaction than to have my name associated in this way with a volume of contributions, which cannot fail to interest all workers in scientific medicine. I recognize among the contributors not only the names of those who have gained distinction as investigators, but also of those who are beginning their careers and will now win their first spurs. To me the most significant feature of this occasion is that the time has come in America when a group of investigators, more or less closely connected through common teachers, can bring together so large a number of important, original contributions to medical science. Twenty-five years ago this would not have been possible. That I should have been permitted to participate with others in bringing about this advance is to me a source of much gratification.

When Dr. Prudden and I first started our small laboratories in New York, he at the College of Physicians and Surgeons, and I at the Bellevue Hospital Medical College, the outlook was not encouraging for a young man to select pathology for his career. The contrast between then and now in

this respect is indeed a striking one. Today, pathology is everywhere recognized as a subject of fundamental importance in medical education and is represented in our best medical schools by a full professorship; at least a dozen good pathological laboratories, equipped not only for teaching but also for research, have been founded; many of our best hospitals have established clinical and pathological laboratories; fellowships and assistantships afford opportunity for the thorough training and advancement of those who wish to follow pathology as their career; special workers with suitable preliminary education are attracted to undertake original studies in our pathological laboratories; students are beginning to realize the benefits of a year or more spent in pathological work after their graduation, as a foundation for future success in practical medicine, surgery, or the specialities, and as a result of all these activities the contributions to pathology from our American laboratories take rank with those from the best European laboratories. While we realize that we are only at the beginning of better things and that far more remains to be accomplished than has been attained, nevertheless the progress of pathology in America during these twenty-five years has surely been most encouraging.

When I look back over this quarter of a century I realize how favored I have been by my opportunities, and here you will permit me to be somewhat personal. My interest in pathologic anatomy was awakened in my student and hospital days by Delafield and Janeway, who are among the best pathologic anatomists whom I have ever known. I received also a strong stimulus toward scientific work from Jacobi, whose seventieth birthday will be celebrated tomorrow night in New York by well-earned honors. I owe more than I can tell you to my teachers in Germany, to Cohnheim, Weigert, von Recklinghausen and Wagner, and through them to the great master, Rudolph Virchow. Upon my return to this country, my association with Dr. Austin Flint, the elder, was to me an inspiration, and in many ways of the greatest advantage.

While the prospects for earning a livelihood and for advancement in a pathologic career may not have seemed encouraging in New York 22 years ago, in reality the circumstances were fortunate. About that time there were introduced great improvements in histologic technic, which led to a deeper insight into the structure and activities of cells and opened the way for new directions of development. Above all, it was the beginning of the bacteriologic era marked by the great discoveries of Koch, of whose earliest work I saw something while studying in Cohnheim's Laboratory in Breslau, and whose personal teaching I later enjoyed. To have begun one's work as a teacher of pathology at such a period and after intercourse with such masters of the science, and to have been permitted to continue it during these years of unparalleled progress, must be considered a circumstance fortunate for the teacher.

The time was fully ripe in this country for the introduction of laboratory teaching and investigation in pathology, and it is certain that if one had not appeared to undertake it, another would have done so. It was an easy matter under such circumstances to demonstrate the value of the pathologic laboratory in medical education. I have every reason to feel grateful for the encouragement and support accorded the little laboratory at Bellevue College and the opportunities there afforded to me. Prudden's Laboratory, founded about the same time at the College of Physicians and Surgeons, has developed under his masterly direction into a large and splendidly equipped laboratory, surpassed by none in its influence upon the advancement of pathology in this country. I need not speak here of the wider opportunities, so well known to you, which I found in Baltimore, of the liberal policy of the Trustees of the Johns Hopkins University and Hospital in the establishment and support of the Pathological Laboratory, of the advantages derived from the intimate association of the Medical School with this great University and Hospital, of the stimulus received from my colleagues, and of the attraction of our high standards of education in drawing to us highly trained students.

Above all, most fortunate have I been in those who have worked with me as pupils and associates, and to these coworkers is due in the first instance whatever of success has attended my efforts as a teacher and student of pathology. I am delighted to see here to-night my old friend and co worker in the New York Laboratory, Dr. Meltzer, and also Dr. Beyer. To have had such a coadjutor in the early organization and conduct of the Baltimore Laboratory as Dr. Councilman, such an original investigator as Dr. Mall for the first fellow in pathology, such special workers in the early days of the laboratory as Sternberg, Halsted, Herter, Abbott, Bolton, Nuttall, Booker, Miller, Barkley, Clement, Howard, Russell, Blackstein, Thomas, Williams, Randolph, Gilchrist, and others, all of this I count as the best of good fortune. I call to mind on this occasion with affectionate regard many others who eave followed these earlier workers, but the list is too long to enumerate. I must, however, give expression of my indebtedness to Dr. Flexner, who since the opening of the Medical School until the end of the last academic year has been my closest associate in the work of teaching and in the supervision of the laboratory.

While it has been hard to part with such associates, it is a matter of pardonable pride that so many have been called to important chairs in other institutions,—Councilman to Harvard, Abbott, Flexner and Clark to the University of Pennsylvania, Wright to the Laboratory of the Massachusetts General Hospital, H. U. Williams to the University of Buffalo, Blumer to the Bender Hygienic Laboratory in Albany, Bolton to the Hoagland Laboratory and subsequently to other institutions, Howard to the Western Reserve University, Nuttall to the University of Cambridge, England, Russell to the University of Wisconsin, and now we are to lose Barker, most scholarly, versatile, inspiring of teachers and profound in his studies, who has been called to an important position in the University of Chicago. That we shall retain with us young men of great promise is evidenced by such contributions as those of Cullen, Cushing, Young, Bardeen, the MacCallums and Opie in this memorial volume. I rejoice to see in this book in connection with Cushing's, the name of our much-loved Livingood, whose career of unusual promise was cut short by an ill-timed fate.

I should like to be able to speak of the value of the contents of this volume which you have dedicated to me, but I see it for the first time tonight. A glance through the pages assures me that here are gathered together papers with which any medical teacher in the world would be proud to have his name associated. I may be permitted to call attention to the importance of the contributions from our women students, and it will not, I trust, be invidious if I mention the superb work of Miss Florence Sabin, done under Dr. Mall's and Dr. Barker's direction, and so beautifully illustrated by Mr. Broedel.

As I have already said, I see in this volume of studies an index of the great advance during the last quarter of a century in the material conditions surrounding pathological teaching and investigation in this country, brought about especially through the establishment of laboratories. It is also a significant token of the greater things which we may assuredly expect in the future, when America will take her place in the front rank with those countries which contribute most to the progress of the medical and biological sciences. If my name shall ever be mentioned among those who in those earlier days have helped to promote our science in this country, I shall owe it above all to you, my pupils, colleagues, and fellow workers.

MISCELLANY.

Success to "Success!"—The present proprietors of the periodical, *Success*, have determined to exclude "all medical advertisements" henceforth from their journal. One or two contracts made by the previous owners have yet some time to run.

State and Provincial Boards of Health of North America.—The fifteenth annual meeting will be held in Atlantic City, N. J., June 1 and 2, with headquarters at the Hotel Dennis. The following is the program:

SYMPOSIUM ON SCHOOL HYGIENE.

"Construction and Ventilation of School Buildings," J. Horace Cook, Architect and Supervisor Philadelphia Public Schools; "An Economic Estimate of the Value of Perfect Ventilation in Schools," Dr. Bryce, Toronto; "Legislation for the Protection of School Children in Pennsylvania," Dr. Lee, Pa.; "Age at which Children Should be Set to Work in School; Character of the Work; Hours of School Attendance Consecutively per diem," Dr. McCutcheon, La.; "Air Space in Schools; Its Influence on General Health; Its Influence in the Transmission of Disease; Its Influence in the Progress in Studies," Dr. Smith, Me.

OTHER PHASES OF SCHOOL HYGIENE.

For discussion: "Use of Types, Prints and Blackboards in their Relation to Preservation of Eyesight," "Principles of Lighting School Houses and Regulating Seating at Proper Distance from Charts and Blackboards; "Ventilation of School Buildings: (1) Amount of Air Hourly Required; (2) Natural Ventilation of School-room; (3) Artificial Ventilation; (4) Mechanical Appliances;" "Best Materials for Walls, Ceilings, Floors, etc., Cheapness and Sanitary Qualities Combined;" "Methods of School Heating, Separate, and also Combined with Ventilation; Humidity of School-room Air; Its Influence on the Health, and the Part Played by It in the Spread of Contagious Disease; Mechanical Means of Maintaining the Normal Humidity;" "Disposal of Excreta at Schools; Smead-Dowd System vs. Water Carriage: Mott Latrines; Privies;" "School Water Supplies; Wells, Public Water Supplies; Relation of School Water to Spread of Contagious Disease;" "School Inspection from a Sanitary Standpoint; Objects, Methods, by Whom Performed and How; Its Cost; How Met; Results;" "Contagious Disease Outbreaks Among School Children; How Best Dealt With; Detail Methods Adopted; Results;" "Discuss Wisdom of Closing Schools During Outbreaks of Endemic Diseases;" "Vaccination of School Children; Its Use, Practice, Cost, Results; Legal Phases;" "What Normal Time Must Children Suffering from the Several Contagious Diseases be Prevented from Returning to School after Convalescence;" "The Relation of State and Local Boards of Health to Outbreaks of Diphtheria," Dr. Tyler, Col.; "What Practical Steps Can be Taken to Secure General Vaccination in our Rural Population?" Dr. McCormack, Ky.; "Is it Advisable for a State to Provide Vaccine Virus?" Dr. Swartz, R. I.; "Should State Boards of Health be Given a Controling Voice as Regards Plans for Public Water Supplies and Sewerage Systems?" Dr. Probst, Ohio; "If the Plague Should Pass the Quarantine and Enter Your State?" Dr. Baker, Michigan; "The Placarding of Houses for Contagious Disease," Dr. Kennedy, Iowa; "What are the Most Practical and Successful Ways of Educating the Public in the Principles and Practice of Sanitary Science?" Dr. Lindsley, Conn.

Health-Reports. — The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 12, 1900:

Smallpox—United States.

			Cases.	Deaths.
Alabama:	Mobile	April 26–May 5	4	
District of Columbia:	Washington	April 26–May 5	1	1
Florida:	Jacksonville	April 26–May 5	1	
Indiana:	Evansville	April 26–May 5	5	
"	Indianapolis	April 26–May 5	6	
Iowa:	Des Moines	April 1–30	16	
"	Ottumwa	April 14–21	2	
Kansas:	Wichita	April 26–May 5	4	
Kentucky:	Covington	April 26–May 5	6	
"	Lexington	April 26–May 5	1	
Louisiana:	New Orleans	April 26–May 5	50	18
Maryland:	Baltimore	April 26–May 5	5	
Massachusetts:	Chicopee	April 26–May 5	1	
Michigan:	Grand Rapids	April 26–May 5	3	
Nebraska:	Omaha	April 21–28	2	
New York:	New York	April 26–May 5	2	
Ohio:	Cleveland	April 26–May 5	7	1
Tennessee:	Nashville	April 26–May 5	2	
Utah:	Ogden	April 1–30	2	
"	Salt Lake City	April 26–May 5	5	
Philippines:	Manila	March 3–24	9	1

Smallpox—Foreign.

Austria:	Prague	April 7–21	9	
Belgium:	Ghent	April 14–21		1
Brazil:	Rio de Janeiro	March 23–30	6	12
Canada:	New Brunswick, Grand Falls & St. Leonards	April 28	Present.	
"	Prov. of Ontario	April 18–May 1	3	
"	Quebec, Bonaventure Co.	May 4	26	
England:	Liverpool	April 14–21	18	3
"	London	April 14–21	4	
"	Southampton	April 14–21	2	
France:	Lyons	April 1–14		3
Gibraltar:	Gibraltar	April 15–22	2	1
Greece:	Athens	April 14–21		1
India:	Bombay	April 3–10		111
"	Calcutta	March 10–17		28
"	Kurrachee	April 1–8	20	14
Italy:	Milan	April 21–28	1	
Mexico:	Vera Cruz	April 21–28		4
Russia:	Moscow	April 1–7	7	
"	Odessa	April 7–21	24	8
	Warsaw	April 1–4		5
Scotland:	Glasgow	April 14–21	6	1
Spain:	Corunna	April 14–21		1
Straits Settlements:	Singapore	March 10–17		3
Venezuela:	Maracaibo	April 7–14	1	

Yellow Fever.

			Cases.	Deaths.
Brazil:	Rio de Janeiro	March 23–30	7	23
"	Santos	Feb. 18–April 8		125
Mexico:	Vera Cruz	April 21–28		1

Cholera.

India:	Bombay	April 3–10		15
"	Calcutta	March 10–17		77

Plague—U. S. Insular.

Philippines:	Manila	March 3–24	15	12

Plague—Foreign.

Arabia:	Aden	Feb. 24–April 14	119	81
Egypt:	Port Said	May 4	Reported.	
India:	Bombay	April 3–10		698
"	Calcutta	March 10–17		744
"	Kurrachee	April 1–8	471	333

Changes in the Medical Corps of the U. S. Army for the week ended May 12, 1900:

Higgins, Aubray F., acting assistant surgeon, now at the U. S. General Hospital, Presidio, will proceed to Alcatraz Island, Cal., for temporary duty.

May, James V., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Warren," to sail for the Philippine Islands about May 1.

Simpson, Maxwell S., acting assistant surgeon, is granted leave for 30 days.

Shepard, John L., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Warren," to sail for the Philippine Islands about May 1.

Shortlidge, Edmund D., acting assistant surgeon, is assigned to temporary duty with troops on the U. S. transport "Warren," to sail for the Philippine Islands about May 1.

Heizmann, Lieutenant-Colonel Chas. L., deputy surgeon-general, now on temporary duty awaiting transportation, is directed to proceed to Manila, P. I., on the U. S. Army transport "Warren" to sail May 1.

Gardner, Major Edwin F., surgeon, now on temporary duty awaiting transportation, is directed to proceed to Manila, P. I., on the U. S. Army transport "Warren" to sail May 1,

Allen, H. Eugene, acting assistant surgeon, is assigned to duty at Fort Sam Houston.

Boyer, A. I., acting assistant surgeon, is granted leave for 30 days.

Ramsay, George D., acting assistant surgeon, will proceed to Fort Terry and report for duty during the absence of A. L. Boyer, acting assistant surgeon, upon whose return he will rejoin his station, Fort Adams.

Johnson, Loren B. T., acting assistant surgeon, will proceed from Washington, D. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

McCown, Thomas B., acting assistant surgeon, will proceed from Windsor, Mo., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Bailey, Francis J., acting assistant surgeons, will proceed from Hillsboro, Oreg., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Enders, William J., acting assistant surgeon, will proceed from Philadelphia, Pa., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Repetti, John J., acting aisistant surgeon, will proceed from Washington, D. C., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Bonar, Reuben M., acting assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will report to the commanding general, department of California, for assignment to duty.

Wilson, Nelson W., acting assistant surgeon, having completed duty at Fort Columbus, as witness before the general court-martial, will return to his station at Fort Porter.

Griffith, Lewis T., acting assistant surgeon, is granted leave for 5 days from May 23.

Stiles, Captain Henry R., assistant surgeon, is granted leave for 21 days from about May 15.

A board of medical officers to consist of Major John M. Banister, surgeon; Major George E. Bushnell, surgeon, and Captain John L. Philips, assistant surgeon, is appointed to meet at West Point, N. Y., June 1, for the physical examination of the cadets of the graduating class at the U. S. Military Academy, and such other cadets and candidates for admission as may be ordered before it.

Hendrickson, William M., acting assistant surgeon, is relieved from further duty in the department of Alaska and will proceed from Skaguay, Alaska, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

WEIBER, First Lieutenant HENRY A., assistant surgeon, is relieved from duty at Nuevitas and will proceed to Baracoa, Cuba, for duty.

VAUGHAN, MILTON, acting assistant surgeon, is relieved from duty at Baracoa, Cuba, who will proceed to Santiago de Cuba for duty in that city.

MENDOZ, F. F., acting assistant surgeon, is relieved from duty at Puerto Padre, Cuba, and will proceed to Nuevitas, Cuba, and take station.

FOGG, JOHN S., acting assistant surgeon, is granted leave for one month with permission to apply for an extension of one month.

KELLER, WILLIAM L., acting assistant surgeon, will proceed from Chicago, Ill., to Fort Logan for temporary duty.

Changes in the Medical Corps of the U. S. Navy for the week ending May 12, 1900:

LUMSDEN, G. P., surgeon, ordered to the "Kentucky" May 15.

FREEMAN, G. F., assistant surgeon, detached from the Naval Hospital, Washington, D. C., May 10, and ordered to the "Essex,"

DELANCY, C. N., assistant surgeon, detached from the "Essex," when relieved, and ordered to the Naval Hospital, Washington, D. C.

EVANS, S. G., passed assistant surgeon, ordered to the "Kentucky" May 15.

BRAISTED, W. C., passed assistant surgeon, detached from the "Detroit," when put out of commission, ordered home and to be ready for orders to sea.

Changes in the U. S. Marine-Hospital Service, for the 7 days ending May 10, 1900:

BAILHACHE, PRESTON H., surgeon, granted leave of absence for 10 days from May 25, 1900. May 8.

COBB, J. O , passed assistant surgeon, directed to rejoin station at Fort Stanton, N. M., visiting Liberty and Saranac Lake, N. Y., and Rutland, Mass., en route. May 7.

KERR, JOHN W., assistant surgeon, relieved from duty at San Francisco Quarantine, and directed to proceed to Hong Kong, China, for duty. May 7.

VOGEL, C. W., assistant surgeon, relieved from duty at Immigration Depot, N. Y., and directed to proceed to San Francisco Quarantine, Cal., and report to the medical officer in command for duty and assignment to quarters. May 7.

AMESSE, J. W., assistant surgeon, relieved from duty at Detroit, Mich , and directed to proceed to Honolulu, H. I., and report to Surgeon D. A. Carmichael for duty. May 7.

MCLAUGHLIN, A. J., assistant surgeon, relieved from duty at Stapleton, N. Y., and directed to report to the medical officer in command, Immigration Depot, for duty. May 7.

EARLE, B. H., assistant surgeon, relieved from duty at Chicago, Ill., and directed to proceed to Detroit, Mich., and report to the medical officer in command for duty and assignment to quarters. May 7.

LLOYD, B. J., assistant surgeon, relieved from duty at Mobile, Ala., and directed to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters. May 7.

LONG, JOHN D., assistant surgeon, relieved from duty at Boston, Mass., and directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters. May 7.

FIELD, E. E., acting assistant surgeon, granted extension leave of absence for two days. May 8.

STEPHENSON, CHARLES W., hospital steward, relieved from duty at Chicago, Ill., and directed to proceed to Evansville, Ind., and report to the medical officer in command for duty and assignment to quarters. May 9.

Foreign News and Notes.

GREAT BRITAIN.

A dinner has been given by the London Reform Club to Sir William MaCormac and Mr. Treves, upon their return from South Africa.

The Total British Casualties in the South African War, according to the latest war office report are as follows: Killed in action, 213 officers and 2,015 men; died of wounds, 50 officers and 483 men; missing and prisoners (excluding those found at Bloemfoentein, but including missing men of Royal Irish Fusiliers, now reported as 496), 173 officers and 3,785 men; died of disease, 56 officers and 1,853 men; accidental deaths, 3 officers and 44 men; sent home as invalids, 347 officers and 5,802 men; total, 842 officers and 13,982 men. Total losses (exclusive of sick and wounded men now in British hospitals in South Africa), 14,824.

The Biter Bit.—Mr. Charles Adams, the editor of the *Verulam Review*, started an action as long ago as 1898 for libel against the *British Medical Journal*. The case has been adjourned several times to suit his convenience, and at last has been heard by Mr. Justice Lawrance and a special jury with the result that the *British Medical Journal* has been held to have said nothing about Mr. Adams which was not true and justifiable. Mr. Adams, in his paper, was a doughty champion of antivivisection. He made a mistake with regard to the certificates under which, and under which only, experiments may be made in England upon living animals. And inspired by his error he wrote a circular letter to various well-known scientific men saying that he had been informed by the Home Secretary that they, having applied for leave to perform experiments *without* anesthetics had then performed them *with* anesthetics, which "certainly appears to cast a serious slur either upon your good faith or your professional competence." Mr. Adams concluded by saying that if was not contradicted he should assume that he was right. The *British Medical Journal* said that such a letter showed "the irresponsible editor of the periodical in question to be either ignorant of the terms of the license or too careless to ascertain them." Mr. Adams objected to this description of himself, but Mr. Justice Lawrance thought that it was a very suitable one and the jury took the same view. For Mr. Adams's ignorance was indicated by his misunderstanding the certificates and the terms under which they were issued; his carelessness was shown by his having addressed his circular letter to scientific men whom it could not possibly concern; while the fact that he had no proper sense of the responsibilities of an editor was proved by his calm proposal to brand any of the gentlemen whom he had insulted through the post as dishonest or incompetent unless they contradicted him. The attacks of the antivivisectionists upon men of science have grown in virulence in England lately; and we admit it is with some pleasure that we have read the story of how one antivivisectionist has been told to his face in a medical journal what sort of man he is, and has failed to obtain legal redress for the smarts inflicted by the truth.

A Conference on medical organization was opened at Manchester on May 1, and lasted for three days. Delegates from over 50 medical associations and societies, representing 4,000 members, met, listened to addresses from the three direct representatives of the medical profession upon the General Medical Council and to certain other speakers, and passed sundry resolutions. Mr. Victor Horsley, who must find 24 hours a very short day, spoke on the Medical Act with clearness and cogency, and described the General Medical Council as "an honorable retreat for members of the profession who have practically given up their work and who have lost all touch with the centers of education in the medical schools." His remedy for this state of affairs is an increase in the number of direct representatives, or of representatives chosen by the general vote of the medical corporations, upon the General Medical Council, a reform which he and many others believe would enhance the practical value of the Council's work. A resolution to this effect was adopted. Next a resolution was adopted protesting "against any legislation that will have the effect of giving legal status to midwives as a class." This resolution was belated in that the Midwives Bill is certain to become law soon, but previous in that Dr. Glover was down to address the conference upon the subject of the Midwives Bill on the next day of the meeting. Mr. George Brown read a paper upon the relation of the public and the profession to medical charities, in which he told the exceedingly threadbare story of hospital abuse and avowed himself to be "inclined though somewhat reluctantly to favor State control." Dr. Glover gave in a careful address his reason for holding the opinion that a good midwives bill is a good thing. He said that he would support no bill in which medical interests were not properly safeguarded, but that he could not honestly adopt the view that all legislation to regulate the practice of midwives must be wrong. Dr. Glover has the courage of his opinions, and no one has shown himself more jealous than he is in the interest of the medical profession. So that his deliberate view that legislation in this matter, which is now most thoughtful people believe, inevitable, may also be beneficial, will have weight in reconciling many to an innovation which they have hitherto contemplated with suspicion.

Society Reports.

THE AMERICAN GASTROENTEROLOGICAL ASSOCIATION.

Third Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

THE American Gastroenterological Association, which was organized in 1897 at Philadelphia, at the initiative of Dr. C. D. Aaron, of Detroit, Dr. A. P. Buchman, of Fort Wayne, and Dr. A. L. Benedict, of Buffalo, held its third annual session at Washington on May 1, 2, and 3. A number of new members were elected in spite of the policy to use the utmost conservatism in admission to membership. The following officers were elected: President, Max Einhorn, New York; first vice-president, John C. Hemmeter, Baltimore; second vice-president, W. D. Booker, Baltimore; secretary and treasurer, C. D. Aaron, Detroit; council, D. D. Stewart, Philadelphia; A. L. Benedict, Buffalo; S. Meltzer, New York.

The papers and discussions were, in brief, as follows:

Experimental Study of the Splanchnic Circulation and its Relation to the Stomach and Intestine.—DR. FENTON B. TURCK, of Chicago. This circulation is not only provided for the nutrition of the abdominal viscera, but as a reservoir for the surplus of blood caused by general contraction of peripheral arterioles. It is sensitive to all sorts of stimuli and is prompt in its response. Hyperemia of the splanchnic circulation, due to the reflex stimulation of food, is a requisite to muscular contraction and glandular secretion in the stomach and intestine. The stimuli may be classified as chemic, mechanic, thermic, and psychic. Hyperemia may be produced in about 3 minutes experimentally, by almost any of these stimuli, such as a 1:500 solution of mustard, the contact of the revolving sound, or the douche of varying temperature. At 37° C., the douche produces local hyperemia, at 45° the hyperemia is more marked, at 15° there is still moderate hyperemia, all these results being observed through a fistula. Contraction of the splanchnic circulation corresponds to dilation of the peripheral. Thus, exercise, just before or after meals, putting the feet into hot water, etc., checks digestion by calling blood from the internal organs. Hot colonic lavage, at 55° C., produces nausea and vomiting, especially if given during the period of digestion, because it produces contraction of the splanchnic vessels. In shock, the chief pathologic feature is passive splanchnic congestion, and consequently both secretion and motility are reduced. The problem of the relation of autointoxication to dilation and atony of the stomach and intestine had been studied experimentally, but the lack of exact knowledge of the toxins formed had been an obstacle. The symptoms of splanchnic dilation are the same as of hemorrhage, and the former may be considered as bleeding within one's own vessels. Various experiments were reported, all showing the practical value of local heat, hot injections into the colon, and protection of viscera in lessening shock of abdominal operations. In some cases the animal experienced so little shock that it was fed meat the morning after the operation, and it recovered without accident.

DR. MCCASKEY spoke of the almost magic effect of drinking large quantities of hot water for the relief of pharyngitis, etc., on account of the rapid withdrawal of blood from the part. DR. BENEDICT alluded to the dendritic venous forms which he had reported as a sign of hepatic sclerosis. These occurred at about the diaphragmatic level, and evidently indicated a connection between the veins penetrating from the chest-wall to the diaphragm and the portal circulation. This connection he had been unable to find explained in anatomies. DR. KELLER states that this omission had been corrected in a footnote of the latest edition of Gray. He said that there were four gateways between the portal and the systemic veins, gastric, esophageal, phrenic, and hemorrhoidal. On this account he thought that the external use of heat was of as great practical value in combating shock as the use of hot water in the bowel or about the incision. The same anatomic fact might explain scientifically some of the uses of hydrotherapy, thus far on a purely empiric basis. He made it a routine to give a large, hot enema after a long operation, both to stimulate the splanchnic circulation and to help remove ether through the kidneys. For the alternate hot and cold douche, he preferred the colon to the stomach.

The Occurrence of Mold in the Stomach and its Probable Significance.—DR. MAX EINHORN, of New York. Most writers had assigned very little importance to fungi, or even bacteria, in the stomach. Leube mentioned the possibility of gastritis mycotica. De Bary, in 17 patients with various gastric troubles, found oidium lactis, mucormycelia, leptothrix buccalis, and undetermined forms, each twice. Naunyn reported only 2 cases of mold in the stomach, both patients recovering from this condition after one lavage. Boas stated that yeast was normally present, and that oidium from the mouth or mucor forms might be introduced without having any pathognomonic significance. v. Wahl and Recklinghausen, each, reported a case of colonization of leptothrix with local necrosis, in mycotic gastritis. Grawitz succeeded in producing mycotic disease of the kidney and liver by injecting aspergillus, but made no mention of the stomach. All these and other similar references to the finding of mold in the stomach, were based on microscopic findings. Dr. Einhorn then reported in detail 4 cases in which mold was found macroscopically, in a living state, in the wash-water. Three cases were of hyperchlorhydria, 1 of chronic glandular gastritis with erosions. In 2 other cases, not thoroughly studied, mold was present. One of these cases was of hyperchlorhydria, in the other the chemic condition was normal. In all 6 cases HCl was present. The fungus was not identified. Treatment consisted of lavage and spray with silver nitrate, etc.

DR. TURCK alluded to his study of this condition, published in 1897 and previously, which showed that microorganisms might readily grow in a medium of mucus and food debris, the former protecting against the HCl. Certain molds are habitually taken into the stomach, but cannot develop on account of the high temperature. Pencillium glaucum is one of these. Aspergillus flavescens, A. fumigatus and Mucor mycedo have been shown by Lichtenheim to be pathogenic. The revolving sound would remove fungi when ordinary lavage would fail. He cited a case in which penicillium persisted in the stomach six months after the removal of tonsils in which it had originally developed. DR. MCCASKEY reported a case in which the fungus looked like actinomycosis. The case presented nearly complete achlorhydria, and was apparently alcoholic, but later bile was demonstrated. The case progressed favorably. DR. KELLOGG stated that he had found 750 cases of mold in about 4,000 cases examined, and about equally distributed between those with increased and diminished acidity. In one case, he obtained 800 colonies from 1 c.c. Ordinary baking of bread does not destroy molds. The principal item of treatment is not to get the mold out of the stomach, but to render the stomach inhospitable to the mold. Dujardin Beaumetz's mixture of 3 parts of charcoal to 1 of sulphur, he had found efficient. DR. HEMMETER stated that in plating the stomach-contents, mold developed in almost every instance. Thus, it is only cases of excessive mold-formation that have any practical significance. DR. HUHN stated that two of Boas' pupils had recently performed experiments showing that stomach-contents do not decompose even if not protected by cotton. A number of members disagreed with this as an unqualified statement. DR. EINHORN emphasized his position as referring to molds demonstrable by the naked eye. Regarding the action of HCl, he said that the molds continued to grow in the superacid filtrate.

Sugar as Such, in the Dietary of Dyspeptics.—DR. WILLIAM GERRY MORGAN, of Washington. The reports of Vaughan Harley, Mosso and Schumberg on the value of cane sugar as a food and especially the increase of power under its use as shown by the ergograph, aroused the writer's attention as apparently indicating the benefit of sugar in amounts previously considered harmful and as lacking in investigation of the direct effect on the digestive organs, although Harley casually mentioned that, after being upon 500 grains of sugar daily for some time, his digestion was somewhat impaired. Dr. Morgan, accordingly, undertook several series of investigations. Series 1, was upon a vigorous male laborer, accustomed to using only small amounts of sugar. After 5 days with 90 g. of cane sugar and 180 g. of

maple syrup added to the usual diet, free HCl (in all cases 1 hour after Ewald test-breakfast) was reduced from 40° to 12.5°, total acidity from 50 to 25. Lactic acid and mucus were absent both times. He volunteers the statement that he had not been so tired after his day's work as usual. After returning to ordinary diet, the acidity again increased. Series 2 was upon a hyperchlorhydric. Several tests made with ordinary diet agreed in showing a total acidity of about 115, free HCl 100. For a week, he was given with each meal 12 grains of cane sugar, disguised with aromatic powder. After a week, the total acidity was 100, free HCl 90. For the next ten days the sugar was doubled and a small saucerful of maple syrup was added to two meals daily. At the end of this period the total acidity was 65, free HCl 60, and the subjective symptoms had abated. The same diet was continued ten days longer, when the total acidity was 60 and free HCl 40. Peptone was absent, propeptone present in large amount. The bowels had been loose, there had been flatulence, throbbing in pit of stomach and inclination to belch without power to do so. To determine whether the sugar was responsible for the symptoms, it was stopped for a week, but the symptoms continued. The total acidity had then increased to 100, the free HCl to 90. These experiments were repeated with a second hyperchlorhydric with similar results and, in both, it was found that the addition of brandy to the dietary stimulated the secretion of acid, so that the sugar failed to have its characteristic action of reducing total and free acidity. Series 3 of experiments were upon a patient with chronic mucous gastritis, with an initial total acidity of 20 and no free HCl. A gain in strength and improvement of symptoms was noted and free HCl appeared under sugar diet, but glycosuria developed. The third series was upon a patient with achylia gastrica. The sugar produced little modification, though the total acidity was slightly reduced, namely from 7.5 to 5. In the normal case and those with hyperchlorhydria, sugar caused a lessening of peptone and an increase of propeptone, enzymes being present throughout. In the case of gastritis of series 3, peptone and enzymes were absent in the trial test, but appeared under the use of sugar. The subjective sensations in all cases seemed to show that sugar, in sufficient amount, is an antifermentative. An increase in feces was observed in all cases. The urine was increased in bulk and urea was increased in every instance—a verification of the accepted dictum that persons with the uric-acid diathesis should not eat sweet foods.

DR. HEMMETER said that Pawlow demonstrates that the digestive glands respond only to specific stimuli, those foods which require certain digestants stimulating corresponding glands while the secretion of other glands tends to be depressed. Thus, fats decrease the secretion of HCl. He detailed an experiment in which he separated a litter of six fox terriers shortly after birth, rearing three on bread and vegetables while the others received an abundant meat diet. He found that the HCl secretion of the latter was about double that of the former. DR. BENEDICT quoted statistics kindly furnished by H. W. Wiley, of the U. S. Department of Agriculture, showing that in the United States the annual per capita consumption of sugar, aside from that taken in fruit, is 66 pounds, while for Great Britain it is 86 pounds. In other words, about a fifth of the total carbohydrate food is taken in the form of sugar. He had long been convinced of the harmlessness of sugar and in cases so bad that complate rest of the stomach was needed, with rectal alimentation, he resumed gastric alimentation with a diet of sandwiches containing chopped pancreas and homemade chocolate candy. Persons who have a hearty appetite for undigested starch, as in potatoes, rarely crave sweets, and vice versa. Sugar was, practically, a partially digested food, and it might well be that those persons who have a marked appetite for sweets have shorter intestinal tracts or less active pancreatic digestion than those who prefer starches. There are three double hexoses—lactose, which is the sole normal carbohydrate food of the infant, maltose, which is the normal result of ptyalin and amylopsin digestion of starch, on the way to the formation of glucose and cane sugar. He considered the irritating effects of sugar on mucous membrane to be entirely due to osmotic phenomena and that proper dilution would prevent harm unless unreasonably large quantities of sugar were taken. DR. EINHORN mentioned certain foreign experimenters who had reached the same conclusion as Dr. Morgan.

Concerning the Nature of the Biologic Cell-Processes in Malignant Neoplasms, and their Significance for the Early Diagnosis of Cancer of the Stomach.—DR. J. C. HEMMETER, of Baltimore. After mentioning Cohnheim's inclusion-theory and that of irritation of cells, spoke of Ribbert's theory, which is similar to Cohnheim's, except that the cells are supposed to be normal titsue-cells save that they have become disconnected from their tissue and thus freed from their physiologic duties and restrictions. The protozoa which have been described have proved to be degeneration-products, while the vegetable parasites described as causes of cancer have, on inoculation, produced inflammatory foci not at all comparable to true tumor-formation. It is conceivable that microorganisms are responsible for the inflammatory processes which are of importance for many tumors, and especially for cancer. Ribbert's theory is supported by genital tumors due to split-off cells from the Wolffian or Müllerian bodies, by cholesteatomatous tumors of the skull from dislodged portions of epidermis, by embryonic glandular tumors of the kidney, and by tumors of the kidney due to germinal cells of the suprarenal glands. The true origin of a tumor is probably a deepseated disturbance of the metabolic processes of the cell itself. Structures simulating mitotic forms of malignant tumor-cells can be produced experimentally by injecting poisons into the tissues, while the injection of certain toxins has also checked the growth of genuine tumors. Hanseman, of Berlin, has coined the term anaplasia to represent the atypic growth of cells. Inflamed human tissues and those produced experimentally in animals, have failed to show the atypic mitosis characteristic of neoplasms. Martius and Lubarsch, however, in one case, ventured the diagnosis of gastric carcinoma on the finding of anaplasia and invasion with leukocytes—mainly eosinophiles—in a fragment of mucosa found in the wash-water, and the necropsy proved that they were mistaken. This is the only case in literature in which an authority has claimed atypic mitosis in a non-malignant case. However, there are, at present, practical difficulties in the way of using this method diagnostically. In these cases, careful curetment of the stomach failed to demonstrate cancer-cells, though the tumor subsequently developed, and in only 3 cases has the speaker been able to establish a diagnosis on this principle alone.

DR. BETTMAN corroborated the last statement, having failed to demonstrate cancer microscopically, even after using the beveled-eye stomach-tube, except in a few cases. DR. JUNG vouched for the high standard of Lubarsch's work. DR. EINHORN mentioned a case in which the large number of atypic cells made the diagnosis plain, but, in other cases, very similar cells were found without there being cancer. He thought the beveled-eye tube might not be safe for all cases, but urged the routine use of microscopic examination.

The Appendix and Cecum from the Standpoint of the Gastroenterologist.—DR. A. L. BENEDICT, of Buffalo, believed that a practical distinction should be made between fulminating, essentially septic, gangrenous and calculous cases on the one hand and the ordinary catarrhal subacute and chronic forms on the other. The former belong to the surgeon, the latter to the internist. At present, statistics show about equally well for surgery and medicine, though the surgical statistics are mainly due to skilled operators, while medical statistics include all sorts of treatment, good and bad, including the opium treatment which is no treatment at all. A comparison of statistics was of little value, however, as extremists of either side would include very mild or falsely diagnosed cases. The routine treatment by operation of every case diagnosed as appendicitis would certainly improve the surgical statistics, just as amputation of a leg for all cases of injury, including sprained ankle, would improve corresponding statistics. In the discriminating diagnosis, he relied largely on blood-examinations, but considered other symptoms, such as temperature, pulse, vomiting, pain, and general consistency of symptoms. The principal etiologic factor he considers to be virulent activity of the colon-bacillus, often induced by chronic constipation and favored by an excessive meat diet. He considered traumatism as of little importance, except as an exciting cause of exacerbations. The relation of movable right kidney to scolecitis he believed to be merely coincidental, having found only two associated cases among some 300 of movable kidney and 40 of scolecitis, and in these the movability was slight and

dietetic, and other explanation of the latter condition was sufficient. He emphasized the value of internal antisepsis, praising calomel and salacetol, not with the hope of making the intestinal contents germ-free, but of reducing the virulence of the colon-bacillus. With the same object, large quantities of water and little or no nourishment should be given for the first two or three days of an acute attack, while chronic conditions demanded nearly vegetarian diet. In chronic conditions, with thickened appendix, he had no objection to operation, and even advised it for patients not within easy call of the surgeon; but he had felt appendixes as large as a finger gradually melt away under proper treatment. In these cases he treated the typhlitis, relying on the extension of effect by continuity of tissue to reach the appendix. Treatment consisted mainly in diet and in the use of menthol dissolved and bismuth suspended in pure mineral oil. Purpetrol—a trade-name, but neither patented nor copyrighted—he had found the purest.

Dr. Einhorn agreed with the lack of etiologic connection between scolecitis and movable right kidney. He cited a case of hyperchlorhydria and movable kidney of the fourth degree. A year later the pains returned and a gynecologist made the diagnosis of appendicitis and operated, finding a normal appendix, which he was honest enough to admit. He believed the diagnosis of appendicitis to be made erroneously in many instances. He himself had had 6 or 8 attacks of abdominal pain for which his appendix was removed, though no striking abnormity was present. Two or three years later similar pains occurred and the diagnosis of an adhesion was made, but a little later he passed a renal calculus. A similar case was also mentioned, occurring in a woman. He saw no objection to the opium treatment if applied logically. Dr. Turck said that the majority of so-called cases of appendicitis were associated with fecal accumulation in the colon, and that there was congestion in this area which could be reduced. The hot-water bag on the abdomen was an attempt in this direction. He advocated continuous lavage of the colon. The use of water of gradually increasing temperature is excellent to alleviate pain, it does not mask diagnostic points and physical examination is facilitated on account of relaxation. After adhesions have formed only small quantities of water must be used, say 300 cc. or 400 cc. Dr. Benedict considered the use of morphin very seldom justified, as a degree of pain which would call for more than relaxing doses of atropin or the application of heat, externally or by the bowel, indicated operation. Still, just as one might occasionally be justified in using acetanilid in typhoid, he would not say that a skilled physician should never employ morphin in scolecitis. The typic opium treatment, however, placed the patient beyond observation for developing trouble and staked the whole result on the opinion first formed of the case.

Starvation versus Feeding in Diseases of the Stomach.—Dr. Frank H. Murdoch, of Pittsburg, mentioned the case of a young man who had had dyspepsia for 3 years. Physical examination showed the heart, liver and lungs to be normal. The stomach extended 3 inches below the navel, and the right kidney was movable to the third degree. The urine was normal. There was hyperchlorhydria, varying from 40° to 60°. He had been treated with as little food as possible. Though 5½ feet tall, he weighed only 70 pounds. Free feeding was advised and the patient soon gained to 100, and is now quite well.

Dr. Einhorn stated that in such cases a fear of food develops. He mentioned a case in which albuminuria and marked emaciation existed, in which a cure resulted from forced feeding to which the patient at first objected. Dr. Bettman mentioned the difficulty of combating pain due to taking food in such cases. He could not explain this pain. It was not due to dragging because it was present in the recumbent posture, nor was it due to distention because it occurred after minute quantities of food. Extreme cases were readily recognized, but milder cases escaped notice, though the patient might be 20 or 30 pounds below his normal weight.

A Case of Cancer of the Esophagus, Perforation into the Left Pleura; Death from Pyopneumothorax. Exhibition of Specimen.—Dr. Julius Friedenwald, of Baltimore. Gastrotomy with sawing of the stricture with cords and reverse passage of bougies had been done to prevent starvation, and the patient did well for two weeks, till perforation occurred. The tumor measured ½ by 5 cm., and proved to be an adenocarcinoma. It was preserved in the Kaiserling solution of potassium acetate which reserved its normal color.

Clinical Demonstration of the Position of the Cardia.—Dr. G. W. McCaskey, of Pittsburg. The various methods in vogue were confined to the determination of the position of the greater curvature of the stomach, and he urged the importance of knowing the position of the entire organ. Various anatomic authorities placed the cardia at the ninth to the twelfth dorsal spinous level and the esophagus was variously stated to open into the stomach either immediately or at a distance of two or three cm. below the diaphragm. The sole clinical statement as to the depth of the cardia was that it was 40 cm. below the incisors. The instrument which he had devised for locating the cardia consists of a Goodrich colon tube, minus the eye, into the distal end of which is fitted a metal tube from which projects a bag of rubber dam. The proximal end is fitted into a closed rubber bulb. A centimeter scale is marked on the tube. Pressure on the bulb meets with resistance so long as the instrument is within the esophagus, which is suddenly lessened as the cardia is passed. In an average of 12 cases, all pathologic, however, the average height of the patient was 169 cm., the depth of the cardia 44 cm. On deep inspiration the cardia sinks 2 cm., while on forced expiration it rises 1 cm. above its usual site. In one instance, the instrument had apparently demonstrated the existence of an hourglass stomach. He exhibited radiograms showing the tip of the instrument at the cardia.

Dr. Benedict spoke of the valueof the x-rays and of auscultatory percussion for locating the entire stomach. In February, 1898, he in America, and Boas and Dorn in Germany, had independently reported the use of the x-rays for locating the stomach, bismuth capsules being previously swallowed, to obviate the passage of an instrument. Williams, of Boston, however, had informed him that the method had previously been used in that city. For almost all cases he relied on auscultatory percussion to locate the entire gastric area, thus distinguishing between dilation and ptosis. He commended Dr. McCaskey's ingenious instrument and cited a case of esophageal dilation recently seen, in which a similar instrument would be of value. Dr. Bettman spoke of the impossibility of distinguishing between dilation and ptosis by the position of the cardia, considering the stomach to be in a state of ptosis if vertical and low, and to be dilated if horizontal and low. Histologically it is sometimes impossible to demarcate exactly between the esophagus and the stomach, the stratified epithelium forming an irregular line with the columnar. Dr. McCaskey, in closing, spoke of the difficulty in locating the upper part of the stomach by auscultatory percussion and stated the paradox that the cardia might be a comparatively small distance from the incisors—say 41 cm.—and yet be low as compared with the gladiolus.

Remarks on Stenosis of the Pylorus.—Dr. Henry W. Bettman, of Cincinnati. Gastric surgery centers mainly about the pylorus, and the surgeon has declared that practically all cases of gastric dilation are due to stenosis of the pylorus (W. H. Bennett). Doyen says that the pylorus is the archenemy. These and similar expressions, if unchallenged, will lead to unnecessary operating. Beaumont taught that the pyloric valve possessed a selective action, allowing digested chyme to pass, yet often pennies and similar hard objects pass it without much difficulty. It is supposed to close whenever undigested food attempts to pass, yet in achylia the stomach may empty itself with normal rapidity. How wide must the pylorus be in order not to be considered surgically stenosed? Bennett says that normally it readily admits 2 to 4 finger tips, and relates a case of spasmodic closure in which it admitted only one finger tip, citing this as a case which would have been considered idiopathic dilation if it had reached necropsy. In the postmortem room, the writer has found that the pylorus usually admits his index finger to its base, 8 cm. in circumference. It is rare to find a pylorus that admits readily the tips of two fingers, although two to four may usually be passed forcibly by lacerating the mucous membrane. Three years ago he had removed from the stomach of a man who died of some nongastric disease, a pylorus which was occluded by a fold of membrane so that there remained an aperture of

only 7.4 mm. in diameter. In the literature, several fairly patulous pylori have been operated upon. Reflex spasm doubtless occurs as the result of a variety of conditions. Cohnheim takes a decided stand against operative interference, based on an experience of 74 cases. The writer's limited experience is in agreement. Cohnheim advises the use of several hundred cc. of linseed oil. Hayem uses lavage followed by an emulsion of bismuth and milk diet, in cases of gastric ulcer. Doyen has operated on 61 cases of benign pyloric stenosis and has noted spasmodic stricture in 46. The medical treatment must have been sadly deficient to have allowed these cases to come to operation. In the writer's experience in the last 3 years, only 3 cases of undoubted nonmalignant pyloric stenosis have been encountered. One was operated on and died. The other two recovered under medical treatment. Many cases of dilation occur without stenosis and vice versa.

DR. TURCK said that he had carefully questioned surgeons as to their results after operating for dilation and criticised diagnostic methods as insufficient. He also considered that the idea of drainage involved in gastroenterostomy failed to take into consideration the pathology of the various parts concerned in gastric stagnation and dilation. Operation does not necessarily relieve the patient, as the myosthenia is the underlying condition. Rest in bed after an operation may be a considerable factor in the successful cases. The present enormous mortality is also against operation. The lowest mortality of the best operators is 8% and the usual good statistics show a mortality of 18%. Sometimes small and frequent meals, at other times large and infrequent meals are indicated. Air massage of the stomach may be neccessary to stimulate the stomach before giving a meal, and, in short, the treatment must be adapted to the exact condition present.

Epigea.—DR. CHARLES D. AARON, of Detroit. He mentioned a case in which epigea had been given for bladder irritability complicating a case of gastric fermentation and subacidity, and he had found that the belching and similar symptoms had also abated. He had used it in other cases for the latter symptoms with happy results, prescribing a teaspoonful t.i.d., immediately P.C. He was not able to explain the action fully. It might be supposed that the aromatic oil acted as an antiferment, but the drug is equally effective in cases of nervous eructation, as of swallowed air.

AMERICAN ORTHOPEDIC ASSOCIATION.

Fourteenth Annual Meeting, Held in Washington, D. C., May 1, 2, and 3, 1900.

FIRST DAY.

The Simple and Efficient Treatment of Calcaneus Paralyticus in Young Children.—DR. V. P. GIBNEY presented a brief paper on this subject, in which he advocated treatment by means of plaster of paris in complete extension, changing the plaster every 3 or 4 months. DR. L. A. WEIGEL, of Rochester, spoke of the danger of excoriation, and referred to a case in which the foot was still in the calcaneus position because there was no form of dressing which could be applied to such a case without risk of producing gangrenous ulceration. DR. JOHN RIDLON, of Chicago, remarked that the idea of improving the function by prolonged and constant retention in an appropriate position was not new, for Mr. Hugh Owen Thomas had practised this method systematically in a large number of cases. The object was to keep up a state of tension, and for this purpose he used a shoe with a wedge-sole, 2½ inches thick at the heel and thin in front, reinforced by a bar extending two-thirds of the length of the shoe and up the back of the leg to the calf. DR. H. P. GALLOWAY, of Toronto, referred to a class of cases in which, he said, the shortening of the tendo-Achillis caused either supination or pronation according to the direction the foot happens to be given. DR. A. B. JUDSON, of New York, said he had abolished the joint at the ankle. The first effect of the apparatus was to transfer the weight of the body from the anterior part of the foot to the anterior side of the upper part of the skin. In cases of extreme calcaneus the gait could be made absolutely perfect if managed in this way.

A Final Report on the Use of Pure Carbolic Acid in the Treatment of Tuberculous and Purulent Diseases of Joints and Bones.—DR. A. M. PHELPS, of New York, read this report. His plan is to lay open the capsule for about two-thirds of its extent, irrigate the joint cavity with 1:1000 mercuric-chlorid solution; then fill it with pure carbolic acid, and after this had been allowed to remain for just 1 minute, wash it out first with strong alcohol, and afterward with a 2% solution of carbolic acid. In the last 18 months he had operated upon 70 cases. The results had been very satisfactory, and, on an average, the cases of excision had been discharged from the hospital at the end of 3 weeks. DR. ROBERT W. LOVETT, of Boston, said that at the Children's Hospital in this city they had endeavored to prevent abscesses by putting the patients to bed whenever there was irritative muscular action about the joints. When an abscess had formed the joint was freely opened, irrigated with bichlorid and drained.

The Movements of the Normal Spine in Relation to Scoliosis.—DR. ROBERT W. LOVETT, of Boston, gave in this paper the results of studies on the cadaver and of models in regard to the mechanics of the vertebral column. He stated that in side bending in the flexed position the bodies of the vertebra rotate towards the convexity of the lateral curve, and that in the extended position the rotation is just the reverse. The vertebral column apparently follows the behavior of what is known to mechanics as a flexible rod. The following were his conclusions: (1) Scoliosis is a deformity that must always be acquired in the flexed position; (2) reverse rotation is possible on the ground of side-flexion occurring in the extended position; (3) extension exercises should be cultivated in the treatment of lateral curvature; (4) symmetrical exercises seem much safer than the complex unilateral ones; (5) a safe and efficient treatment would consist in throwing the spine into such a position as would bring the articular processes into play, and reversing the rotation acquired in the flexed position.

Some of the Problems Involved in the Treatment of Lateral Curvature of the Spine.—DR. NEWTON M. SHAFFER, of New York, described, by means of diagrams, his conception of the mechanical principles involved, and stated that he had arrived at practically the same conclusion as had Dr. Lovett.

The Relation of Deformity of the Pelvis to Lateral Curvature of the Spine.—H. P. H. GALLOWAY, of Toronto, said that many writers had considered pelvic distortion to be the effect of the lateral curvature, but personally he was inclined to believe it was the cause. It seemed more logical to look for the faulty construction in the foundation than in the superstructure.

Spasmodic Lateral Curvature of the Spine.—DR. ARTHUR J. GILLETTE, of St. Paul, presented in this communication a report of several cases of hysteric curvature.

The Results of My Observations in Lateral Curvature of the Spine, Clinically, Mechanically, and Pathologically.—DR. A. M. PHELPS, of New York, gave in this paper a description of a postmortem study on a severe case of rotary lateral curvature. The subject was 45 years of age. Throughout the whole region of curvature he had found extensive degeneration of muscles, more marked on the convex side. The intervertebral cartilages on the concave side were totally destroyed. He concluded from this study that it was futile to expect to cure lateral curvature of the spine after changes in the bone had taken place. He was of the opinion that all the machines for forcible correction now in use are of but little value. DR. E. H. BRADFORD, of Boston, insisted that there were certainly some cases in growing children that were benefited by treatment. DR. L. A. WEIGEL said that he had frequently seen the most rigid muscles relax thoroughly after forcible correction, and even this degree of improvement was worth striving after. DR. SHAFFER said that he felt firmly convinced that lateral curvature of the spine is dependent primarily on changes in the muscles, though quite probably an underlying cause was to be found in the nervous system. DR. H. AUGUSTUS WILSON, of Philadelphia, suggested that lateral curvature might sometimes result from an asymmetrical hip-action in apparently normal subjects. DR. PHELPS replied that only the physiologic curve could be cured. It was not necessary to do myotomy in mild cases in young children, yet at the present time he was cutting more than one-third of his cases of lat-

eral curvature. Dr. A. B. Judson spoke in admiration of Dr. Lovett's ingenious and convincing model, and added that in 1876 he had himself advocated, and in one case practised, the application of a spinal brace for production of extreme lordosis in cases of lateral curvature, on the ground that as in rotation the anterior part of the column was affected by deviation from the median line, it was good practice to shift the weight of the body from the anterior to the posterior part of the column. Had he then looked as far ahead as Dr. Lovett had done, he would, in all probability, have thought even more favorably of the method. He now believed that it promised many advantages.

Anterior Support Supplementing the Taylor Brace in Pott's Disease.—Dr. George B. Packard, of Denver, spoke of the advantages of anterior support, and the carrying forward of the ribs which resulted from the sinking forward of the upper dorsal spine.

A Suspension Pressure Chair for Scoliosis.—Dr. Philip Hoffman, of St. Louis, described this inexpensive apparatus. It is the pressure chair described by Dr. Bradford, to which has been added lateral steel bars, four feet and a half high, which meet in an arch overhead. To the arch is attached an apparatus consisting of a system of compound pulleys. It is intended as an accessory gymnastic apparatus.

Results of Treatment of Congenital Dislocation of the Hip.—Dr. E. H. Bradford, of Boston, made some remarks on this subject, and presented a pathological specimen illustrating both the operative and the bloodless method of effecting reduction. He advocated exposing and incising the portion of the capsule which covers the acetabulum, and thus constitutes one of the obstacles to successful treatment. By suture of the capsule after reduction one could, in large measure, prevent relapse. Dr. Gibney heartily commended this suggestion. Dr. Ridlon thought it was possible in young patients in whom the head and neck of the femur were fairly developed, to replace the bone by the bloodless method, but in order to get a permanently good result it was necessary to make and maintain considerable abduction. Failure was not infrequently due to a neglect to prevent flexion of the leg. Dr. Harry Sherman, of San Francisco, said that he had tried, in one or two instances, Dr. Bradford's method of suturing, but had become convinced that if the head were placed in between the two lateral halves of the pocket it would be quite as stable as if had been sutured. This pocket was a very definite obstacle which could be appreciated in on open operation. Dr. Bradford said that he had seen a few cases that had relapsed after a year. He characterized the bloodless method as one which sacrificed precision to the timidity of the patient. Before operating by the cutting operation all the contractions of the soft parts should be overcome, either by stretching or by open incision and myotomy. He did not feel that he could operate successfully on patients over six years old.

A New Back Brace for Pott's Disease.—Dr. John Dane, of Boston, exhibited this brace, the object of which was to combine the advantages of a plaster-of-paris jacket with those of an anteroposterior brace. The usual apron is dispensed with, and there is a high cross piece with straps passing around under the arms.

Tendon-Transplantation in the Treatment of Paralytic Deformities.—Dr. W. R. Townsend, of New York, declared that in many patients suffering from drop-wrist the function could be more or less restored by tendon-transplantation. Among the cases cited was one of his own, a case of right hemiplegia, pes equinus, and drop-wrist. Here the tendon had been shortened by lapping one portion over the other, fastening it by the method previously described by Dr. Joel Goldthwait.

A Case of Congenital Dislocation of the Shoulder with Radiograph.—Dr. John L. Porter, of Chicago, present by invitation, reported this case. Dr. Joel E. Goldthwait approved of the method pursued by Dr. Townsend in his case, *i.e.*, going directly through the interosseous membrane, because in the foot where the anterior tendons had been made posterior tendons and carried around the leg, the results had not been very satisfactory. In some of his own cases of tendon-transplantation the results had been surprisingly good. Dr. Weigel thought it was absolutely essential, in certain cases, to completely divide the tendon, and cited a case in illustration. Dr. Bradford said that in some cases he had taken special pains not to completely divide the tendon, believing that this secured a more powerful muscle. He had operated on one hand by the method described by Dr. Townsend, and when last seen the child seemed to have gained.

A Case of Tuberculosis of the Astragalus with Ankylosis and Subsequent Amputation.—Dr. V. P. Gibney, of New York, reported this case, occurring in a girl of 16 years, who had sprained her ankle. At first, the case had seemed to be one of synovial tuberculosis. She had been treated by braces for about 12 years, but had recently returned with extensive tuberculous disease of the astragalus. Removal of the astragalus had not proved sufficient, and, after consultation, the foot had been amputated. The specimens were exhibited. Dr. Goldthwait showed in this connection a water-color drawing of a case of excision of the knee, in which the tissues about this joint had been found infiltrated with tuberculous material, and some of the fringes hanging down two inches or more. No central tuberculosis could be detected.

Second Day.

The Recumbent Kyphotone, and a Simple Device for Applying Plaster-Jackets for the Correction of the Deformity of Pott's Disease.—Dr. R. Tunstall Taylor, of Baltimore, exhibited both of these devices.

Forcible Correction of Spinal Curvature followed by Paralysis.—Dr. H. Augustus Wilson, of Philadelphia, reported this case. The kyphosis had been noted only a few weeks before coming under observation, and there was good reason for believing that it was of very recent development. Two attempts to reduce the deformity forcibly under profound anesthesia had resulted in an audible snap but in only slight improvement in the deformity. The operation had been followed by fever, lasting 2 weeks, and by sloughing of the soft parts. At the end of 9 weeks the patient had been able to move around feebly, but had returned in 40 days with an almost complete spastic paraplegia. Dr. A. M. Phelps remarked that this case seemed to be a typical one of pressure myelitis from invasion of the cord, the forcible correction having nothing to do with the paralysis. Dr. Ridlon concurred in this opinion. Dr. R. W. Lovett, commenting upon the brace presented by Dr. Dane, said that this apparatus was interesting in that it aimed to produce torsion. His own studies in lateral curvature had taught him that it was important to throw the weight backward on the articular processes, though not necessarily by producing lordosis. The problem was to determine in just what position of the spine the weight could be thus thrown on the articular processes to the best advantage. Dr. Phelps said that it was only when the spine was bent backward considerably that any pressure is made on the articular processes, and that if there were any lateral deviation present, the application of an anteroposterior brace would aggravate this. Dr. Lovett contended that this statement was erroneous, because experiment had shown that the articular processes come in contact at a point about 15° in front of the erect position.

A Case of Scorbutic Spine.—Dr. John Ridlon, of Chicago, reported an interesting case of this kind in an infant of 1 year. The symptoms had developed so suddenly as to lead to the belief that the knee had been injured. The child was large and fat, with a rough and muddy skin. The spine was arched forward and rigid. The gums were dusky. Dr. Ridlon had ordered the child fed on unsterilized milk, raw meat and orange juice, and in two weeks the boy was well. In making the diagnosis one was called upon to differentiate scorbutus from rheumatism of the acute articular variety, infantile paralysis, and rickets. In rickets, the onset was gradual, and the spine was bent backward or laterally, and did not become stiff and painful without evidence of the disease. Dr R. H. Sayre said that he had put these children on a pillow with a shirt-board inside of it, and had then bandaged the child to the pillow. In addition, the diet had been appropriately regulated. All these scorbutic children that he had seen had been fed on sterilized milk, or on some patent infant-food. Dr. Hoffmann spoke of a case of scorbutic spine that he had seen in a child of 14 months. The kyphosis had been sharper than ordinarily seen in rickets.

The infant had made a satisfactory recovery on a recumbency-splint, being wet-nursed and fed with orange-juice. DR. HENRY LING TAYLOR, of New York, said that he had reported to this Association one of the earliest cases noted in this country. In these cases there was not true paralysis, but the limbs were kept quiet because motion caused extreme pain. DR. STEWART L. MCCURDY, of Pittsburg, said that he had seen and reported several such cases. In none of them had there been bleeding from the gums. The absence of pain, fever, and fretfulness enabled one to differentiate between scorbutus and rickets. DR. R. H. SAYRE did not see how the paralysis in his case could be looked upon as only apparent, for when pins had been stuck into the feet, the child had made no effort to retract the part, and when the limbs had been lifted, they had fallen as though lifeless. He was inclined to believe that acute rickets was as good a term as scurvy. DR. TAYLOR thought it unfortunate to confuse rickets and scurvy. Several causes had been recently reported in which there had been absolutely no rickets.

Knee-Joint Surgery for Other Than Tuberculous Processes.—DR. JOEL E. GOLDTHWAIT, of Boston, read a paper with this title. The paper was based on a study of 27 patients and 33 operations. One of these operations had been for the removal of loose pieces of cartilage from the knee-joint in a woman of 65. Another case was an irreducible dislocation of the patella of many years' duration. Eight of the operations had been because of the presence of loose cartilages. Apparently a relaxed condition of the joint had favored the crushing and tearing of the inner edge of the cartilage. The point usually contused was the inner thin edge. The best treatment was the removal of the cartilage, and this method had the advantage of extending only over a period of three weeks. There was danger of overtreatment. Where there were marked fringes, they should be removed, as they usually act as foreign bodies, excite frequent attacks of synovitis, and in course of time large coagula form in the joint. DR. W. R. TOWNSEND cited as an instance of the importance of early exploratory incision, a case in which two well-known surgeons had confirmed his diagnosis of tuberculous disease of the knee, and yet exploratory incision had proved the true condition to be sarcoma. DR. GOLDTHWAIT said that the object of his paper was to remove the dread which many surgeons have of invading the knee joint. He believed it was just as safe to enter the knee as the peritoneal cavity. In the cartilage cases he had made use of a straight incision, about one inch and a half long, inside of the patellar tendon. For exploration of the joint he made an incision, three inches long, on either side of the knee, and about one inch outside of the patella. He sutured the capsule separately when closing the wound.

Discussion: The Treatment of Vertebral Tuberculosis with Reference to the Forcible Correction of the Deformity.—DR. JOHN RIDLON opened the discussion. In the past three years he had straightened 2 cases of rheumatoid stiffening of the spine, and had operated upon 8 lateral curvatures under ether, and more than 35 cases of Pott's disease. In the worse cases that he had treated he had gained at first 1¼ inches in height, and at the second attempt, three-fourths of an inch. In all of the cases of lateral curvature almost all that had been gained had been subsequently lost; hence he no longer favored straightening such cases under ether. In a case of rachitic curvature he had gained nothing by the method. He had operated upon both old and recent cases of Pott's disease, and those with and without abscess. There had been two fatalities. One of these, a patient whose previous and personal history had not been sufficiently studied, died of tuberculosis two months after operation. The other fatal case was a child having an abscess at the time of operation. The child had done well for 6 or 8 months; then two or three abscesses had developed, and death had finally taken place as a result of the exhaustion consequent upon the prolonged suppuration. The operation seemed to him a reasonably safe one if done with proper care. In many cases he had used almost no pressure with his hands; in other cases the force had been very considerable, and exceptionally he had made use of as much force as he could exert with both hands. There had always been some crunching of the bones. In none had paralysis subsequently developed, while in some, paraplegic at the time of the forcible correction, had improved as regards the paralysis. In the earlier cases he had hung his patients up by the heels; later he had tried supporting the head and pelvis, with the face down, while the plaster was applied. More recently he had made use of the Goldthwait frame, and had since then never included the head in the plaster. The shortest case had been four weeks in bed; the longest case had been in bed for about one year. His aim had been to keep them in bed for 6 or 8 months, allowing them to lie on the face, back or side. In a few instances there had been no return of the deformity; about half a dozen had gone for a year without support or return of the deformity. In the majority of cases he had succeeded in keeping the deformity reduced to about half of what it had been before the operation. DR. GOLDTHWAIT said that in the past two years or more it had been a common practice at the Children's Hospital in Boston to apply an apparatus in the hyperextended position, for the most part, without ether. He then exhibited a number of tracings that had been taken during the period in which the hyperextension treatment had been in use. They showed, in general, that the deformity had not increased, though, in some instances, there had been an increase in the compensatory curve. As a result of the work of the last two years he would hesitate to forcibly correct any spinal deformity resulting from tuberculosis unless it was associated with a paraplegia that had resisted other methods of treatment. He did not think the mortality had been materially increased by the use of forcible correction. DR. W. R. TOWNSEND said that he had predicted that this treatment would ordinarily be followed by a recurrence of the deformity. There had been no deaths from forcible correction in the Hospital for Ruptured and Crippled. There the Goldthwait frame was employed without anesthesia. DR. DE FORREST WILLARD, of Philadelphia, said that this treatment had always seemed to him illogical and unsurgical, and consequently he had only made use of it in one case of total paralysis which was at the time in a desperate state. The child had been able to walk about quite well at the end of six months. In a few selected old paraplegics this operation seemed to him justifiable. DR. R. H. SAYRE said he believed many cases of severe lateral curvature could be benefited by great force applied under anesthesia. DR. T. HALSTED MYERS, of New York, said that his experience with forcible correction had been limited to four cases, but in all these it had been unfortunate. DR. GALLOWAY said that while he had always regarded forcible correction as unscientific, he had held it in reserve for the first case of Pott's paraplegia incurable by other methods. Such a case had not yet presented itself. DR. MCCURDY said he was accustomed to classify these cases in three groups, viz.: (1) Old cases which require an anesthetic and considerable force for correction; (2) cases of paraplegia in which forcible correction may be beneficial, and (3) cases under active treatment in which there is a beginning kyphosis which gradual but forcible correction seems to improve. DR. WEIGEL thought the reports just presented indicated that the mechanical support used after the forcible correction had been inefficient. DR. R. TUNSTALL TAYLOR, of Baltimore, had not been favorably impressed with his trial of the method, and he was of the opinion that the older mechanical methods were safer and more accurate. DR. HOFFMANN said that great stress had been laid upon the use of forcible correction in cases of Pott's paralysis, yet he had never seen a case of this kind that had not recovered if the spine had been rigidly immobilized and the patient kept on the back. DR. JOHN L. PORTER, of Chicago, said that from his observation of Dr. Ridlon's cases he felt positive that fully 50% of those straightened under anesthesia continued to show an improvement in the deformity. DR. RIDLON said that he would certainly try to straighten every paraplegic case. Since seeing Dr. Goldthwait's tracings he had formed a better opinion of the value of correction method with the aid of anesthetics. DR. GOLDTHWAIT remarked that he had purposely not brought tracings of the cases treated under anesthesia because they were not better than those already exhibited. He was not in favor of using much traction or other force in securing correction.

THIRD DAY.

Brace for Lateral Curvature of the Spine.—DR. GWILYM G. DAVIS, of Philadelphia, exhibited a new lateral curvature brace having a hip band, and both anterior and

rior uprights. A shoulder-piece encircles the high der. From the posterior upright a band passes over mp and underneath the arm of the affected side. The s of support are on the arm above, and the hip below. R. H. Sayre was of the opinion that if the pressure made on the large side, as it would be with this brace, eak of the arch would become more arched. Dr. EL remarked that simply keeping the high shoulder could have no special corrective influence on the de ty. Dr. Davis replied that he believed that the brace ed a twisting force as well as a direct pressure.

tardation of Growth as a Cause of Shortening r Coxitis.—Dr. Henry Ling Taylor, of New York, that measurements of some 30 cases of long-standing is in children had shown that the tibia and foot of the ed side, as well as the femur, were considerably shorter on the sound side. A comparison of a group of ten of old unilateral poliomyelitis with a similar group of ases showed about the same amount of bone-shortening. dation of growth was also found in the affections of nood which disable one limb, and somewhat in propor- o the amount and duration of the disability and re- it imposed.

velopmental Shortening in Tuberculous Bone ase.—Dr. Stewart L. McCurdy, of Pittsburg, pre- d in this paper several cases going to confirm some of tatements made in the paper just preceding. Dr. R. AYRE said that in cases in which apparatus had been ved from one limb a considerable time before removal the other he had noted the greater growth in the limb e first liberated. Dr. Goldthwait said that by measure- s and skiagraphs he had demonstrated in a series of oint cases under treatment that the shortening took below the knee. Dr. Gibney said that in tuberculous se of the knee the limb actually lengthens. Some of the ases which go on so well at first sometimes show after a ears a sudden and alarming degree of shortening. Dr. UGUSTUS Wilson, of Philadelphia, said that according . Hurd's observations in China, after the use of the les of the feet in Chinese women had been partially ed there is evidence of increase in the diameter and h of the bones. Dr. Phelps thought the shrinkage of muscles was largely owing to a neurotic influence. Dr. ON M. Shaffer, of New York, said that where the us phenomena are most marked the shortening is apt proportionately great.

port of Some Studies upon the Articulations e Foot.—Dr. John Dane, of Boston, presented this t, illustrating, by means of anatomical specimens, the common anomalies of articulation.

servations on Certain Painful Affections of the .—Dr. Louis A. Weigel, of Rochester, made some rks on this subject, illustrating them freely with skia- ns.

vestigations as to the Treatment of Flatfoot.—. H. Bradford, of Boston, sent a communication on ubject, but was unable to be present to read it.

Case of Congenital Dislocation of the Wrist.—Phil. Hoffmann, of St. Louis, reported this case, and Gibney then showed a second example of this dislocation, ring in the person of one of the audience.

Case of Congenital Dislocation of the Shoulder. John L. Porter, of Chicago, read the report of this case vitation. Dr. Phelps said that he had had eight cases is dislocation, and had operated on four of them. In tter he had invariably found fracture of the posterior r of the glenoid cavity. He now believed that the cause e condition was always trauma. Dr. Gibney remarked nany of these cases were classified in the neurological s as examples of Erb's paralysis.

pid Osteoclasis for the Correction of Rachitic rmities of the Legs.—Dr. Wallace Blanchard, of go, advocated in this paper a method of osteoclasis ying not over 8 seconds. The advantage claimed was when operating so rapidly the circulation of the part not impaired, and, as compared with supracondyloid omy, the limb was increased in length instead of ened. After the osteoclasis he exaggerates the correc- of the curve. A long experience with the Grattan last in its original form had led him to think very of this instrument, which did not slip or cause splintering. Dr. T. Halsted Myers said that he had employed osteoclasis a good deal in the New York Foundling Hospital, and had found that if the pressure-bar were applied on the inner side the bone could be fractured much more easily than if applied on the outer side.

An Operation for Ununited Intracapsular Fracture of the Hip.—Dr. Gwilym G. Davis, of Philadelphia, described in this paper a method of uniting the fracture by the insertion of ivory pins through an interior incision, after having freshened the edges of the fragments.

Officers Elected.—President, Dr. Arthur J. Gillette, of St. Paul; first vice-president, Dr. B. McKenzie, of Toronto; second vice-president, Dr. Louis A. Weigel, of Rochester; treasurer, Dr. E. G. Brackett, of Boston; secretary, Dr. John Ridlon, of Chicago.

Place of Meeting.—The next annual meeting will be held at Niagara Falls, in May, 1901.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Thirty-sixth Annual Meeting, Held in Washington, D. C., May 2 and 3, 1900.

The meeting was called to order by the President, Dr. Wadsworth.

Dr. A. E. Ewing read a paper describing **A new operation for atrophic entropion,** especially of the lower lid. The operation is a modification of Green's method, and in the course of discussion Dr. Green explained the stages of development through which his operation had passed.

Dr. J. E. Weeks presented a paper on the **Operative treatment of entropion by the transplantation of a flap of mucous membrane.** Drs. Knapp, Lippincott and Wilder all endorsed this method of operating, but all agreed that in their experience flaps of mucous membrane presented no advantages over skin-flaps, provided the latter be taken from some hairless region of the body, such as the area behind the ear, back of the hand, etc.

Dr. J. A. Spalding reported a number of cases of **Optic atrophy from blows on the forehead and temple.** These cases, together with others reported in the course of discussion by Drs. Lippincott, Harlan, and Risley, tended to show that we should not be hasty in prognosis in such cases of injury, as the optic atrophy may not follow for a number of weeks.

Dr. C. A. Oliver gave a carefully detailed history of a case of **Removal of an orbital lymphosarcoma with preservation of normal vision.** (To be published in a future number of the Journal.)

Dr. G. C. Harlan, in a paper on **Distension of the accessory nasal sinuses involving the orbit,** referred to the difficulty often met with in the diagnosis of these conditions and claimed that in a large proportion of cases they can be treated more successfully through the orbital walls than by way of the nasal fossa. Two cases were reported, one of a tumor of the orbital wall exactly resembling an ivory exostosis, due to empyema of the anterior ethmoidal cells, the result of an old fracture of the nose and occurring in a healthy boy, 9 years of age; no necrosis or caries. The other of extensive exophthalmos resulting from empyema of the frontal sinus and ethmoidal cells, with necrosis of the inner orbital wall, but no communication with the orbital cavity. In each case the tumor was exposed by an incision curved along the margin of the orbit and side of the nose, and the cavity was freely opened through the orbital wall and drained and irrigated through the nose with a tube. The second case required extensive cureting of the diseased bone. Both made good recoveries without fistulae and with scarcely perceptible scars. The different methods of opening the frontal sinus were discussed and preference given to making the incision beneath the eyebrow (Jansen), and attacking the bone at the inner upper angle of the orbit.

Dr. Robert Sattler described the **Different anatomical conditions of the frontal sinus and anterior ethmoidal cells in infancy and old age,** and reported a number of cases in detail showing uncommon expressions of the frontal sinus lesions.

Dr. H. Knapp related the clinical history of a **Case of primary traumatic noninfective thrombosis of the**

cavernous sinus, and DR. F. HARTLEY described the operation he performed upon this case for Dr. Knapp.

SECOND DAY.

The meeting was called to order by the President at 9 A.M.

DR. LUCIEN HOWE described an **Improved method of measuring relative convergence and accommodation,** and exhibited a new instrument which he had devised for this purpose.

DR. C. W. KOLLOCK read **Some notes upon the surgical treatment of high myopia.** The patient, a lad 16 years of age, had a myopia of 13 diopters which, when corrected, gave him vision of $\frac{15}{50}$. The fundus was apparently healthy. Three years later his myopia had increased three diopters, but vision remained the same. Discission was performed upon both eyes, and the results were very satisfactory, as with 1.50, 2.50 cyl. ax. 90, vision was $\frac{15}{40}$ and he could read Jaeger No. 1 easily with 3.50 Ds. added.

DR. C. A. VEASEY read a paper on **Excision of the lachrymal sac and gland followed by an unusual variety of neuroparalytic keratitis.** The patient, a woman aged 58, was first seen with an attack of acute dacryocystitis which improved rapidly under treatment. A few months later, however, another attack occurred which was more severe than the first and proved resistant to treatment so that, as the patient lived some distance from any physician, an operation was decided upon for extirpation of the lachrymal sac. The operation was smooth and the patient rapidly recovered from its effects, but eight days later a severe conjunctivitis set in which was rapidly followed by keratitis. The cornea was quite anesthetic and resisted all treatment until thyroid extract was used, when improvement rapidly followed.

DR. A. G. THOMSON reported a case showing an interesting congenital anomaly. It consisted in **An opacity of the posterior capsule of the lens due to the remains of the membrana vasculosa lentis.** Colored sketches were exhibited to show the nature and location of the opacity.

DR. EDWARD JACKSON exhibited a **New knife for cataract extraction.** The knife has a straight back, the cutting edge being 20 mm. long and the maximum width of the blade at that distance from the point. Two-thirds of the maximum width was reached at 10 mm. from the point, the edge being straight this far and then continuing in a convex curve with maximum width where the edge was parallel to the back. The greatest width would vary from 3 to 5 mm. according to the corneal incision desired.

DR. J. A. LIPPINCOTT spoke of the **Advantages of strong, portable magnets in eye-surgery,** and exhibited an instrument which he had made for the purpose and which could be readily manipulated when suspended from the ceiling of the operating-room. The instrument weighs nearly 9 pounds and is therefore too heavy to be easily handled without other support than the hands. The pulling strength of this magnet at the end of the short tip is four pounds, and at the end of the long tip one-half pound; the tips used are those devised for the Hirschberg magnet. Dr. Lippincott then related the history of 14 cases in which his magnet had been used for diagnostic and operative cases during the past year. In 10 of the cases the metallic particle was situated in the anterior part of the globe and the results were good. Of the 4 cases in which the metal had lodged in the vitreous chamber the only one that could be expected to end very favorably was of too recent date to give the result. In answer to a question by DR. JACKSON, DR. LIPPINCOTT stated that his magnet was intended for use with the continuous current, and that the alternating current was not available for magnet use unless a transformer be used, as has been suggested by Dr. Johnson.

DR. S. C. AYRES presented some **Observations on some blind but quiet and apparently inoffensive eyes. Do they produce a pseudosympathetic inflammation?** He related the history of 6 cases in which after a long period of quiet, trouble had begun in the good eye. The trouble bore no resemblance, however, to true sympathetic iridocyclitis as the attack involved the posterior and not the anterior portion of the globe. In 5 of these cases enucleation of the blind eye was promptly followed by improvement in the other.

DR. SAMUEL THEOBALD reported **A case of spastic convergent strabismus following influenza in a c 7 years of age.** Though a recognized complicatio hysteria spastic squint, apart from this, is a rare anoma which the textbooks, as a rule, devote but scant atten the attack of influenza during convalescence from whic squint manifested itself, was characterized by severe persistent headache, and was complicated by an otitis m The squint developed suddenly and was attended by an ing diplopia. Paralysis of the abducens was excluded. persisting for nearly two weeks the deformity disappe as suddenly as it had shown itself, the muscle-balance coming at once almost normal. Dr. Theobald attrib the squint to an irritation, consequent upon influenza, o innervation-center which controls the associated actio the internal recti muscles. Reference was made to a sin case reported by Dr. F. S. Adams, of Washington, in w the squint followed an attack of diphtheria.

DR. W. H. WILDER reported **Two unusual case choroidal disease.** The first was a healthy country who had first noticed a defect in his vision while out gun Ophthalmoscopic examination showed a small swe below and external to the optic disc, seemingly in choroid and about the size of the disc. It was grayis color and deeply shaded with pigment on its lower s The swelling amounted to about 5 diopters. Several mi hemorrhages were found in the vicinity of the disc, later on changes were noticed about the macula. appearance suggested melanotic sarcoma, but no mel could be found at any time in the urine and gradually tumor shrank in size and vision improved. Case 2 a young man of 23 who complained that his vision had failing for three years and during that time he had suf with severe headaches. Scattered around the mac region in both eyes were seen yellowish spots with a pec greenish tinge, apparently about 2 or 3 mm. in diameter situated in the choroid. In the right eye the spots bunched like grapes. The visual fields in both patients sented some unusual features.

DR. H. S. HANSELL reported a **case of acute dou retrobulbar neuritis hereditary in origin.** patient, a man of 56, discovered one morning on attemp to leave his bed that he was nearly blind and could offer n planation of the disaster that had overtaken him. The thalmoscope revealed a low grade of optic neuritis, the v tortuous and distended and the arteries slightly contra The fields were not contracted, except at the center w each eye had a positive absolute scotoma. The heredi origin was based upon the following family history: Se of his aunts and uncles on his mother's side became ne blind in adult life. His oldest brother had sunstroke years of age and in 2 years was almost blind. Anc brother, a farmer, lost his sight suddenly at the age while working in the field. Dr. Hansell believed that al members of the family had the same affection as his pat

DR. H. FRIEDENWALD recommended **the use of tinct of iodin in keratitis dendritica and in marg ulcer of the cornea.** After anesthetizing with cocai tincture is to be rubbed in thoroughly until the corn stained brown. The results are most satisfactory.

DR. FRIEDENWALD also reported a case of **round-ce sarcoma** which had developed rapidly in the upper lid girl aged 15. The diseased lid, the healthy eye-ball and contents of the orbit were removed en masse. The wo was closed by attaching the lower lid, denuded of conjunc to the skin of the forehead. Nine months later there w return of growth.

DR. WILLIAM THOMSON exhibited a **lantern for the tection of color-blindness.** "By an evolution o lan'ern of Donders, which has for years formed a part of examination of the ophthalmic surgeon to the Pennsylv Railroad, I have produced an instrument which like 'color stick' of Wool's can be used in all testings o road. While the Wool test has been accepted universal requisite for the detection of color-defects the employes their friends have always objected that they have no rel to their daily duties and have demanded such colors a employed as signals. The lantern also has an advan over the Wool's in detecting the central amblyopias bacco, alcohol, etc. The lantern consists of an asb chimney which can be placed on the kerosene lamp in

use on railways or over an argand burner, electric or spring candlestick for office use. Two discs, 4 s in diameter, are so placed upon the chimney as to t their being partly superimposed. The lower disc ins 10 glasses 10 mm. in diameter, having the white, reen, and blue colors in general use. The upper disc apertures ranging from from 1 to 10 mm. in diameter ontaining ground or smoked glasses. By combination se with the colored lights of lower discs the varying ications of the colors, as seen under changing atmos- conditions, are imitated."

C. W. Williams also exhibited a new lantern to be for the same purpose and which is an improved and leted form of the lantern described by him at last meeting.

THE GERMAN SURGICAL CONGRESS.

Twenty-ninth Annual Session, Held at Berlin, April 18, 19, 20, and 21, 1900.

(Specially reported for The Philadelphia Medical Journal.)

e twenty-ninth Congress of the Deutsche Gasellschaft irurgie was held at Langenbeck Haus, April 18, 19, 20, 1, 1900. The President, Professor Ernst von Berg-, gave an address of greeting, in which he sketched y the development of surgery during the past century, asizing specially the investigations and progress in the ment of malignant growths. Czerny (Heidelberg) the first paper on the **Treatment of inoperable noma.** According to his statistics 75% of all surgical of carcinoma are inoperable. The treatment of in- ble carcinoma has not received sufficient attention; physicians immediately lose interest in the case as as they feel that it is incurable. As far as possible case should be operated upon, carrying the extirpation to sound tissue; in this way many cases will be cured. e management of inoperable cases 3 things are of great tance: The prevention of bleeding, the relief of pain, he treatment of foul discharge. As a palliative measure on of a main artery may be considered; good results followed this measure, specially in the treatment of car- ma of the tongue. Cureting and the use of the actual cau- will many times bring much relief and possibly a cure; cureting a chemical caustic may often be used with ad- ge. The best preparation is probably a 20% to 50% solu- f zinc chlorid. Gauze strips are moistened with such a on and the cavity is tamponed. On flat surfaces a ic plaster may be used and in the treatment of carci- , of the cervix uteri, the thermocautery or hot-air treat- with later use of chemical caustics had often given good s. One should not forget to apply some fatty preparation ughly in the vagina and later to tampon it with gauze s saturated in a 5% common salt-solution. In a case of noma of the rectum, which Czerny considered inoperable treated with zinc chlorid, it was afterward possible to rm extirpation; in recurrent carcinoma of the clavicle, face, etc., 10 to 50% of zinc chlorid may be used almost s with good results. In 48 cases of carcinoma of the s no result was obtained by curetment and the tampon, ecovery followed after cauterization with zinc chlorid. y cited numerous cases in which, after curetment and ion, the use of 30% zinc chlorid solution had resulted in e in cases which had been considered, by good authori- as inoperable. The use of compresses of 10% to 30% alin, arsenic paste, and injection of Fowler's solution tried, but these measures cause inflammation and pain not seldom also poisoning. With the other prepara- of arsenic, potassium iodid, Adamkiewiscz cancroin, vith electric treatment and numerous other means of ion, Czerny has seen few good results. The use of means and of vegetable preparations should not be ely thrown aside if it is seen that the usual treatment not bring about recovery, particularly if the patient has l of the value of these preparations and desires to try . The erysipelas toxins which have proved so advan- us in the treatment of sarcoma have not met the expec- ns with regard to them in the treatment of carcinoma. ed, we can only expect a rational treatment for carci- t when the cause is discovered, hence the measures taken by the authorities for the investigation of carcinoma should be greeted with great satisfaction. Statistics show that carcinoma is on the increase, it is more frequent in large cities than in the country, and more frequent in sections of country which are thickly populated. Czerny favors the erection of special hospitals such as are found in New York and London. Positions in these hospitals should not be awarded for political reasons, but should be filled by young and progressive physicians, and they should be equipped with every means for modern investigation.

In the discussion, Friederich (Leipzig) emphasized the fact that Thiersch, during the last 20 years of his life, had been inclined to hold to the parasitic nature of the disease; Helferich (Kiel) spoke favorably of treatment with chlorid of zinc; Steinthal (Stuttgart) has seen severe hemorrhage follow the separation of the slough after cauterization with zinc.

Kronlein (Zurich) read a paper on **carcinoma of the intestine.** The German standpoint with regard to the treatment of carcinoma of the rectum, as with all other carcinomas, is represented only in Germany itself. Three factors oppose this method; the unfavorable permanent results, the mortality of the operation, and the bad functional results. Kronlein has collected statistics from 11 clinics in order to obtain a general view of the results; of 881 cases which he has collected, and which were operated upon during the past 2 years, 19.4%, or about one-fifth of all the cases, have died from operation; the mortality, of course, varies with different operators. Six operators, with 444 operations, have a mortality of 12.6%, while 5 other operators, with 437 cases, have a mortality of 26.7%. Sepsis was the cause of death in 51.8%, or more than one-half the cases; shock in 18%; pneumonia, embolus, etc., in 13 1%; and 15% died from causes not related to the operation. Two main methods have been followed: the perineal and the sacral; the first is known as Kocher's method, and has been chosen mainly by the French surgeons, while Kraske introduced osteoplastic resection of the sacrum. As to the choice of operation, most surgeons are governed by the condition of each individual case. The permanent results thus far have been very discouraging. What may be considered a permanent cure? Taking three years as a limit, permanent cures have resulted in one-seventh of all cases. However, he has found 13 late recurrences. The indications for the operation should not be extended, indeed no doubt operation has been performed in many cases in which it was not justifiable. It is contraindicated in case neighboring organs are affected; the resection of the bladder and the urethra have always given bad results. We should rather limit more closely the indications for operation. The question of retaining the feces is of almost as much importance in the opinion of the patients as that of cure, hence it is wise to be conservative in our extirpation; either the entire or partial normal anus should be preserved and connected with the intestine. Kronlein has never favored the formation of an artificial anus in the sacral region. In 39 cases, or 30%, there has been complete continence of feces, relative continence in 60%, and absolute incontinence in 10%.

Rehn (Frankfurt), discussing **Improvement in the technic of amputation and resection of the rectum,** believes it questionable if farther improvement in operative results will result from earlier diagnosis. We must look mainly to improvements in technic. Surgeons at the present are not as enthusiastic with regard to Kraske's operation as at first. The dangers of the operation are mainly from infection and hemorrhage. Rehn recommends a method similar to Dieffenbach's, with incision in the anterior perineal raphe; this wound is then tamponed and posterior incision is made over the sacrum; after splitting the sphincter the mucous membrane of the lower segment of the rectum is removed and then the resection of the upper end is carried out as thoroughly as possible. Removal of the glands should be included. The after-treatment is much simpler than by the sacral method, and in women the operation is specially easy. The indications for the combined method with opening of the abdomen are theoretically clear but difficult in practice. Ligation of the arteries is not without danger. Gangrene may follow too severe a pull on the inferior mesentery artery. The peritoneum should be closed if possible, but it is not of so great importance as many believe.

HOCHENEGG (Vienna) made a **report of 120 operations by the sacral route for carcinoma of the rectum.** He considers the sacral method preferable in all cases, except those in which the carcinoma is but a short distance from the sphincter. The mortality of operation is not great; in 121 cases operated on during 13 years he has had but 18 deaths, not quite 10%. The advantages of the method are in its rapidity, the exact control of hemorrhage, and the possibilities of perfect drainage; the only contraindication is involvement of the tissues of the pelvis. Formerly he took 10 to 14 days to clean the bowel of feces, but he now believes this unnecessary. As to the technic of operation he makes a curved incision with its convexity left from the sacrum; the tumor is dissected out extrafascially; in most cases the peritoneum is opened but is closed after excision of the intestine, the anal portion of the intestine is, according to his opinion, far too frequently retained; recurrence often occurs in it. Thorough drainage is provided in front and behind, the first stool usually occurs spontaneously on the fourth or fifth day and then the first change of dressing is made. Hochenegg has had a mortality of 8%; he has lost 4 cases from sepsis, and 2 from hemorrhage; 1 patient died from embolus, and 1 from incarceration.

SCHUCHARD (Stettin) discussed **The technic of extirpation of the rectum and the sigmoid flexure.** After resection of the coccyx the intestine is left closed until the last. In case of high carcinoma, the mesocolon is divided; in this way it is possible to remove 45 cm. of intestine. It can be drawn down as far as the sigmoid flexure. In actual practice this may be many times impossible because of changes in the pelvic organs, due to the growth and adhesions.

KÖRTE (Berlin) in an article on **The operative treatment of malignant tumors of the large intestine,** presented a number of patients and demonstrated specimens of carcinoma of the large intestine which he had removed. He has operated in all in 54 cases, the oldest patient was 84 and 9 patients were in the thirties. The site of tumor was the sigmoid flexure in 19 cases; it was ileocecal in 15 cases. The most important symptom is passage of blood and mucus in the stools and the early occurrence of intestinal stenosis from annular tumors. It was possible to perform the radical operation in 19 of his 54 patients. Five of the patients which were presented remained well from 3 to 8½ years after the operation. As a palliative operation enterostomy is preferable to enteroanastomosis.

Discussion.—KRASKE (Freiburg) considers the results of the sacral method all that could be expected, particularly the functional results. He has seen recurrence after 5 or more years. In order to perform the operation more thoroughly he recommends the combined route through the sacrum with abdominal incision. In this way thorough extirpation is easier and one can determine exactly the extent of the growth, and the operation may be performed without loss of blood. HENLE (Breslau) has found better results in the Breslau clinic with the sacral than with the perineal method. STEINTHAL has performed amputation in one case in which the growth was in the anus. Rapid recovery with perfect function followed, recurrence resulting 2½ years later which was cured by cauterization. GUSSENBAUER (Vienna) is in favor of extending the indications for operation. In women sacral resection is unnecessary; in man it is the preferable operation. Three years is a short limit for permanent results; recurrence may follow as long as 7 years after operation.

VON MANGOLDT (Dresden) presented a patient in which he had successfully treated **steuosis of the larynx** following typhoid fever by **transplantation** of costal **cartilage.** Also a case of saddle nose which he had treated in a similar manner. In all he had made 5 such transplantations, 3 on the larynx and 2 on the nose.

VON STUBENRAUCH (Munich) considered **The changes in growing bone under the influence of phosphorus,** and reported experiments on chickens, doves, and guinea-pigs. In the epiphyseal cartilage a somewhat denser growth results, depending upon the dose and the length of administration and the period of development. Closure of the medullary cavity was not produced. Statements that children working in match or phosphorus factories develop normally demands further investigation. Stubenrauch showed photographs of workers in such factories in which there were definite bony deposits.

KÖNIG (Berlin) detailed his **Technic in joint operations.** In aseptic operations about the joints he oper without touching the joint-cavity with the fingers; he n operates without first using the Esmarch bandage and av drainage as far as possible. In case of suppurative proce in the joints an extensive incision is made and in this w especially in gonorrheal affections, excellent results have lowed. In bad cases of arthritis deformans, particularl the hip-joint, König considers it best to remove the hea the bone.

FRANKE (Braunschweig) states that he suggested practised the treatment of arthritis deformans suggested König in 1894. Irrigation of the joint-cavity he conside of value.

VON EISELBERG (Königsberg) presented a patient who **lost** the right index **finger** and he had **transplanted** second **toe** in its place.

BUNGE (Königsberg) presented a patient upon whom had performed an amputation according to Bier's meth HIRSCH (Cologne) demonstrated a new form of artificial

REISCHEL (Chemnitz) read a paper on **Chondromato of the knee-joint,** reporting a case of cartilaginous tur of the synovia of the knee-joint in a patient of 35. Wit 5 years it had developed to almost the size of a fist; it located externally and above the patella and was qu movable; the function of the joint was not disturbed. Mi scopic examination proved it to be a simple enchondrom

IMMELMAN (Berlin) demonstrated **x-ray photograph** various tumors of bone: tuberculosis, syphilis, echinoc cus, etc. JOACHIMSTHAL (Berlin) demonstrated a numbe x-ray photographs, showing their value in the diagnosis congenital deformities; he also demonstrated photograph rare forms of fractures, bullets in the brain, syphilitic formities, and the results of improper shoes. LAUENST (Hamburg) showed an x-ray photograph from a case of sp taneous fracture of the femur. SUDECK (Hamburg) sho an x-ray photograph demonstrating bone-atrophy. Po CHIN (Zeitz) showed an x-ray photograph of a case of div ticulum of the esophagus in which he had operated. H LÄNDER (Berlin) spoke of the results of the hot-air treatm of lupus and angiosarcoma and showed cases in which p manent favorable results had been obtained by this tr ment.

(To be continued.)

Surgical Interference in Hematemesis.—G. Armstrong (*The Montreal Medical Journal*, December, 18 in 2 separate articles, reports 3 cases of surgical operat for hematemesis. The first case occurred in a woman, years old, who had repeated and copious hemorrhages fr the stomach for 7 days. There were no previous sympto of gastric ulcer. Medical remedies having failed, an ope tion was performed. The stomach was drawn parti through the abdominal wound and opened. No ulcer found, but blood oozed from three places which were fissu like in appearance. The bleeding was stopped by Paquelin cautery, the stomach closed and returned with drainage. The patient recovered. The second case occur in a woman, 42 years old, who suddenly vomited a la quantity of blood. This was repeated at intervals. Lo measures failing, operation was performed some 50 ho after the first hemorrhage. A deeply excavated ul was found, and several sutures applied to control hemorrhage. The woman died on the following of anemia. The necropsy showed that no hemorrh followed the operation. Armstrong is of opinion t an earlier operation would have saved the patient's The third case was that of a woman, 46 years of age, had complained of indigestion for several years, and several months had had pain in the right epigastric regi radiating to the back. It was severer 2 or 3 hours after ing. Suddenly there was vomiting of blood. This was peated 3 days later, and still again on the following d The stomach was exposed through the median line of abdominal wall. It was thought from some of the sy toms that the lesion might be in the duodenum, so an i sion was made through the anterior wall of the pylorus. duodenum was normal, but a deeply excavated ulcer found on the lesser curvature about 2 inches from the p rus. The ulcer was excised and the opening closed as pyloroplasty. The patient made a good recovery. [M.B.

The Latest Literature.

British Medical Journal.

April 28, 1900. [No. 2052.]

1. Bulbar Paralysis and Its Counterfeits. G. A. Gibson.
2. Report on the Acoustic Principles Affecting the Conduction of Sound by the Bones of the Head. Albert A. Gray.
3. A Family with Addison's Disease. Robert A. Fleming and James Miller
4. Preliminary Note on a New Quantitative Method for Serum-Diagnosis. Richard T. Hewlett and Sydney Rowland.
5. On the Value of the Agglutination-Test as a Means of Diagnosis of the B. Typhosus from Coliform Organisms. W. H. Horrocks.
6. Inoculation with Typhoid-Vaccine as a Preventive of Typhoid Fever. R. W. Marsden.
7. Antityphoid Vaccine. T. Wilson.
8. Epidemic Laryngitis and Tracheitis Among Troops on the Voyage to South Africa. Charles Gibbs.
9. Report of a Case of Tetanus Treated Successfully by Serum. G. Lloyd Roberts.
10. "Growing Pains" as a Symptom of Rheumatism. E. M. Brockbank.
11. Failure of Respiration During Ether-Administration. G. P. Shuter.
12. On Some Practical Points in Conducting the Administration of Anesthetics. H. Bellamy Gardner
13. A Case of Intestinal Obstruction Caused by a Band and an Enlarged Uterus. C. Hamilton Whiteford.
14 Men and Horses Partially Incapacitated by the Bites of the Simulium (Sand Fly) in a Hampshire Wood. James Cantlie.
15. An Obstinate Case of Neurasthenic Insomnia. Colin Campbell.
16 Hypodermic Administration of Mercury in Syphilis. F. J. W. Porter.
17. Tolerance of Large Doses of Strychnin Without Toxic Symptoms. C. Hamilton Whiteford.
18. Chloroform Poisoning; Stoppage of Heart's Action; Injection of Artificial Serum per anum; Recovery. Herbert J. Walker.
19. A Case of Syringomyelia. T. Sydney Short.

1.—Gibson describes the clinical appearances of a case of **bulbar paralysis** and one of glosso-labio-pharyngo-laryngeal paralysis of cortical origin, or **pseudobulbar paralysis.** He directs attention to the close superficial likeness between these cases, and to the fact that when carefully examined there is really a great difference. Both show difficulty in movements of the lip, tongue, and muscles of deglutition, changes in the voice and in the manner of coughing, but the bulbar palsy cases exhibit strophy of muscles with fibrillary movements and degenerative electric reactions in the muscles affected, while in the pseudobulbar palsy there is usually no wasting in fibrillary movements and the reactions of regeneration are absent. There are the essential differences, but also in the bulbar palsy there is a gradual spread of the symptoms, the invasion of various nuclei by degenerative processes, while in the other the invasion is of the descending motor-tracts. [D.L.E.]

3.—The story of the family reported is as follows: The mother had been all her life much overworked. With her first pregnancy she had begun to show **pigmentation.** The time of this first pregnancy is not noted, but it was certainly more than 7 years before the report. Subsequent to this time with each pregnancy she had become more pigmented and more depressed, and at the time of the report she had marked disturbance of the gastrointestinal tract with irregular pains, attacks of giddiness and syncope, and numerous almost black spots resembling moles over the body. Four children showed similar symptoms, decreasing in degree and severity directly with their youth. The oldest, a girl of 7, began to show pigmentation 4 years ago, and had marked pigmentation of the nipples and, in spots, over the body, with much gastrointestinal disturbance. A girl of 4 showed dark color of the skin and numerous black spots with gastrointestinal disturbance. A boy of 3½ showed the same with the exception that the symptoms were less marked. A girl 2½ years old showed the symptoms still less pronouncedly. It is not insisted that the cases were distinctively **Addison's disease,** but it is suggested that tuberculosis might exist in the whole family and involve the suprarenal glands. Although family involvement in Addison's disease has been rarely noted it is possible that greater attention to this point might demonstrate a larger number of cases. [D.L.E.]

4.—The most satisfactory method as yet known for doing the **Widal reaction** is Wright's method of using papillary pipets. The method reported in this paper is the use of ordinary vaccine tubes which are carefully washed and dried. When used they are filled about two-thirds full with blood and are sealed by heat. The length of the blood-column is measured by a finely graduated scale. The end of the tube is then cut off. It is fastened upright beneath the microscope by catching it in two iris diaphragms, one above the stage and one above the sub-stage. All light is thus cut off excepting that which passes through the glass of the tube, and the brilliant bright rim is measured by a micrometer. The amount of blood contained in the tube is then estimated by multiplying the square of the diameter by the length of the blood-column and multiplying this 0.7854. The accuracy of this method has been shown by coincident gravimetric estimations of the amount of water in similar tubes. After the measurement has been done the capillary tube is placed in a thick-walled glass tube with slightly larger bore, immersed in a diluting fluid at the lower end, and the capillary tube is crushed by means of a soft iron plunger. Mixture is thus readily accomplished. The whole process is said to take only from 5 to 10 minutes, and is accurate. [D.L.E.]

5.—In investigating the **drinking water from a polluted surface** 3 forms of bacteria similar to the colon-bacillus were discovered. One variety had almost all the cultural characteristics of the typhoid bacillus. The agglutination-test when carried out with a powerful antityphoid serum showed agglutination in a dilution as high as $\frac{1}{40}$ in the hanging drop, while the typhoid bacillus reacted in a dilution as high as 1 to 2,000,000. With a weak antityphoid serum both bacilli reacted in about the same dilution. The latter result if taken alone would have been very confusing, but the result with the strong serum led to the belief that it was probably the colon-bacillus. Normal horse-serum was tried, and the reaction obtained was found to be just about the same as that with the strong antityphoid serum, and the final evidence that it was the colon-bacillus was shown by its agglutination with the anticoliform serum. The organism in question reacted in a dilution as high as $\frac{1}{80}$ in the hanging drop while the nontyphoid bacillus gave no reaction. These results show that the agglutination-test needs to be correctly interpreted before it becomes final evidence of the nature of an organism. One should note the strength of the serum, and the time during which the serum is allowed to act. The most powerful serum obtainable should be used, and the organism should be tested with the highest dilution found capable of agglutinating the typhoid bacillus. [D.L.E]

6.—Marsden describes the results of the use of **vaccine in nurses.** Of 22 nurses employed, 14 received the vaccine, beginning with September, 1899; 4 others had had typhoid fever, and the remaining 4 did not wish to be inoculated. The symptoms caused by inoculation were similar to those previously detailed by Wright. By inoculating in the evening and allowing rest the next day, it was found that the nurses were able to return to duty. Since 1895 the nurses on the staff have shown from 3 to 8 cases of typhoid fever yearly, while from September, 1899, to March, 1900, the time during which the inoculations have been carried out, not one case had been seen, unless one doubtful case was typhoid. Where this typhoid occurred it was so mild and evanescent that Marsden feels that it would be of itself strong evidence of the resisting power given by the inoculation. [D.L.E.]

7.—The article is indefinite, and is a mere statement that Wilson considers that the **antityphoid serum succeeds in rendering the typhoid bacillus innocuous.** This is based upon his experience in inoculating soldiers in South Africa. He does not state the number inoculated, but says that about 40 a day were given the serum. In one case inoculation was carried out during an acute attack of gonorrhea, and the discharge ceased on the evening of the inoculation, and after 3 days all signs of inflammation had disap-

peared. In a case of chronic gleet the discharge, after having been resistant to all other treatment, ceased after an antityphoid inoculation, but returned 2 days later after free indulgence in alcohol. [D.L.E.]

8.—There were about 120 cases in the epidemic of **laryngitis** which occurred on board a transport. It affected the privates chiefly, but 4 officers had marked attacks. The course of the disease was an onset with sore throat and high temperature, without swelling of the neck or enlargement of the glands. There was no sign of involvement of the tonsils or pharynx, but there was severe cough, pain in the larynx, huskiness, and finally loss of the voice, and subsequent involvement of the trachea. [D.L.E.]

9.—Roberts reports a case of **tetanus cured by the use of serum.** The patient had been cut deeply in the hand, which later was infected subsequently with earth and other septic materials. The symptoms did not develop until almost a month after the receipt of the injury. He was getting rapidly worse until the first injection of 10 cc. of serum when he made a slight turn for the better. Numerous injections followed the first until the patient was out of danger. Morphia and bromids were used freely during the attack and every precaution possible was taken to help the recovery. The wound which was not quite healed was scraped and cauterized just after the first dose of serum and the bacilli were found in the excised portion. [G.B.W.]

10.—Brockbank reports a number of cases of cardiac disease, in which history of rheumatism seemed to be entirely absent, until the question whether growing pains had ever been experienced was asked, and it was always answered positively. Brockbank lays emphasis on the importance of so-called **growing pains** as **indicating rheumatism** in the obscure form in which it so often occurs in childhood. [D.L.E.]

11.—Shuter reports a case of **respiratory failure from ether-anesthesia.** About midway in the operation the breathing began to get weak and in a few minutes had stopped altogether. The pulse was still good. There was profuse sweating but no cyanosis. Artificial respiration was started and after a hard fight the patient was brought around to recovery, in spite of the development of deep cyanosis and the disappearance of the radial pulse. [G.B.W.]

13.—In this case of **intestinal obstruction** there was an enlarged uterus and a band of tissue found at the operation which were evidently responsible for the stenosis. The band only partially occluded the gut and it was probably the result of an old tubercular peritonitis which was at the time of the operation about cured. There was considerable shock following the operation, but the patient finally made a perfect recovery. [G B.W.]

14.—A number of Scottish volunteers, while engaged in military maneuvers, were **bitten by a "sand fly."** The bite was painless, but in about four or five hours after the bites had been received, fever and local tenderness with swelling developed. Some of the men were unable to return to duty for a week, but the majority were well within 36 hours. [G.B W.]

15.—The special interest in the case of **neurasthenic insomnia** is that enormous doses of drugs were given without any effect. Sulfonal in dram-doses had almost no effect. A dram of chloral hydrate, 1 dram of tincture of hyoscyamin, with ½ dram of nepenthe, was without effect. Fifty grains of trional gave no result, but 60 grains gave 6 hours' sleep, when repeated 8 hours, the third dose 9½ hours. [D.L E.]

16.—Porter believes that induration and pain do not occur if **injections of mercury** are made deeply into the muscles and not hypodermically. When the needle has been driven in to the hilt, and the piston pushed down to the distance required, the fingers should be removed from the piston and the needle rapidly withdrawn in order not to leave any mercury along the tract. [D.L.E.]

17.—In all 1865 minims of liquor strychnia were given within 64 days without producing physiologic effects. [D L.E.]

18.—A young man when under **chloroform-narcosis** had apparent failure of the heart's action, and very weak deliberate respiration. An injection of a liter of artificial serum caused improvement within 5 minutes. [D.L.E.]

19.—The only points of interest in the case of **syringomyelia** are, the existence of marked atrophy of the hands, decided dissociation of sensation, severe sweats, absence of reflexes on the right and exaggeration on the left, the presence of nystagmus, loss of sensation of heat over the whole body, while pain-sensation was retained over the face and front of the scalp, marked contraction of the visual field to green rays. [D.L.E.]

Lancet.

April 28, 1900. [No. 4000.]

1. Internal Derangement of the Knee-joint. EDMUND OWEN and J. M. POOLEY.
2. An Experimental Inquiry Into Scurvy. FREDERICK G. JACKSON and VAUGHAN HARLEY.
3. Endoscopy of the Esophagus and Stomach. GEORGE KELLING.
4. A Case of Pernicious Anemia Treated by Antistreptococcic Serum. WILLIAM ELDER.
5. On Cysts of the Breast, their Relative Frequency, Diagnosis, and Treatment. THOMAS BRYANT.
6. Inversion of the Myomatous Uterus. W. ROGER WILLIAMS.
7. Strychnin as a Factor in Causing Cerebral Hemorrhage. LACHLAN GRANT.
8. On the Value of Abdominal Distention as an Indication for Exploratory Laparotomy in Intestinal Obstruction. JOHN J. WADDELOW.
9. A Case of Double Optic Neuritis from Serous Effusion. (Quincke's Disease). W. MURRELL.

1.—A man of 25 twisted his right knee playing football so that he was obliged to wear a splint for a month. About 6 months later while playing cricket he wrenched his knee again and was laid up for a month again. Four months later another recurrence followed playing football and the man was brought to the hospital for **operation.** A vertical incision was made about 3 inches long a little behind the inner border of the patella and the interior of the joint was inspected. The anterior part of the **internal semilunar cartilage,** torn and ragged, was **displaced,** lying between the articular surface of the inner femoral condyle and tibial tuberosity. It was cut away from the internal lateral ligament and from the tibia. The joint-cavity was washed out and drained for 24 hours. A plaster-of-paris splint was applied. Four months later the knee was in good condition. [M.B.T.]

2.—Jackson and Harley record the results of **living upon fresh meat without vegetables or lime juice,** as experienced, for instance, by Nansen and other explorers, and the effect that has been seen in a number of cases from living on tainted meats either with or without vegetables and fruit juices, and also records some experiments in feeding monkeys on a diet composed largely of meat, in the first series fresh, in the second series tainted, in the third series tainted meat given with bananas and apples. The conclusions that they reach from the investigations are, that **scurvy** cannot be attributed to a pure meat diet, nor can it be controled by giving fruit juices if the meat used is not fresh. The scurvy seems to be due rather to poisoning from eating tainted or canned meats than to a lack of vegetables or fruits in the diet. The monkeys that were fed on fresh meat did not show scurvy symptoms, while those fed on tainted meats, even when it was given with fruits, showed decided symptoms of scurvy, and the blood had the characteristics of scurvy, the specific gravity was decidedly reduced, there was loss of hemoglobin and of red cells, an increase in leukocytes, and a loss in solids, proteids and fibrin. [D.L.E.]

3.—Kelling describes an **esophagoscope** which he has devised. The principle is taken from the finger, which for this purpose must be imagined to be hollow; the bones must be supposed to be replaced by small hollow cylinders joined by hinges; instead of the extensor tendons there is a wire; and instead of the skin there is a covering of indiarubber. For insertion a steel wire or rod with a sponge attached to the end is used, and for illumination the Kaspar hand-lamp is used which covers one-half of the lower end of the tube. Kelling has used this instrument in over 100 examinations without any accident; he finds its use easy. Kelling also describes his gastroscope, its uses and the manner of using it. The principle of the instrument is similar to that of the esophagoscope. For detailed description of the instrument,

iods of use, contraindications, etc., it will be necessary onsult the original, as an adequate discussion of so extive a paper is impossible in the limits of an abstract. T.]

—Elder records a case of apparent **pernicious anea** of about 6 months' duration that was admitted to hoson January 27. Because of Hunter's recent suggestion the disease is due to chronic infection of the alimentract, the man was given antistreptococcus serum 'ebrury 7, and 10 cc. was given every other day, 18 injecs in all being used. No other treatment was adopted pt the use of antiseptic mouth-washes, the latter g used because Hunter believes that infection takes e from bad teeth. The man's blood-count when admitwas 797,500 red cells, 24% of hemoglobin, 4,520 leukos. When the treatment was started on February 7 the cells were stated to be 1,962,500, the hemoglobin 44%. March 20, when the treatment was stopped, the red corles are stated to have risen to the surprising figure of 0,000, and the hemoglobin to 104%, this after 45 days of tment. Elder hopes that this treatment may prove to ery valuable in pernicious anemia. [D.L.E.]

.—Bryant has analyzed his clinical experience of breast ase particularly to determine its bearing upon the frecy of the development of cystic disease. The analysis f 42 cases showed 163 cases registered as solid tumors or nples of cancer or sarcoma and 67 cases as of cystic dis. Of 12 remaining cases 8 were examples of adenomas, re cases of lipomas developing in the parts covering the st, and 7 were cases of carcinoma in men. This is a uency of 29.1°. Bryant concludes that simple **cysts of breast** are far more common than they are generally eved to be; that they are chiefly found in women during same period of life as that in which cancer is met with; they are mostly quite amenable to local treatment with the sacrifice of the breast-gland in which they are ated; and that there is no reason to believe that women have these cysts are more prone to cancer than those have them not. In cases in which the diagnosis is btful an exploratory incision should be made, and if the vth is a cyst it should be dissected out. [M.B.T.]

—Williams asserts that of all nonmalignant tumors, **uter myomas** are by far the most common. The submucous intramural forms are prone to be complicated with inion. They are generally attached near the fundus, and the point of implantation the uterine wall becomes thin pressure atrophy and this predisposes to inversion. h myomata removal per vaginam is generally to be pred; enucleation is adapted to most myomata unless they sloughing or gangrenous, when the operation should be e radical, removing part or all of the uterus. He reports ses of this kind successfully treated by removal of the us. [W.K.]

.—Grant believes that great care should be taken in adistering strychnin to patients who have arrived at the enerative age, especially in cases of cirrhotic Bright's ase, chronic gout, and syphilis, or when a patient has kened and tortuous bloodvessels, or even when there has n an hereditary tendency to apoplexy. [M.B.T.]

.—Waddelow reports a case of spontaneous recovery ocring after 7 days of complete intestinal obstruction and 2 s of fecal vomiting. A diagnosis of biliary colic was le. Operation was not undertaken because progressive ominal distention was not present. [M.B.T.]

New York Medical Journal.

May 12, 1900. [Vol. lxxi, No. 19.]

A Study of the Application of the Galvanocautery in the Nose. Beaman Douglass.
The Kyphotone, or Modified Plaster-jacket Stool for the Correction of Humpback. R. Tunstall Taylor.
General Remarks on the Pathology and Treatment of Stricture of the Urethra. Charles Greene Cumston.
The Technic of Lumbar Puncture. Lewis A. Conner.
The Treatment of Hay Fever by Suprarenal Gland. Beaman Douglass.
Another Case of Typhoid Infection without Intestinal Lesions, with Positive Widal Reaction. W. Ophüls.
Cystitis. Henry H. Morton.

2.—Taylor describes an apparatus for the **correction of kyphosis,** which he has named the kyphotone. The advantages claimed for the apparatus are that it is not expensive, it is easily used, it is comfortable for the patient, and seems applicable to lower dorsal and lumbar caries. The results from its use have been gratifying. As the apparatus is somewhat complicated those interested must consult the illustrations of the original article. [M.B.T.]

3.—Cumston discusses the treatment of **stricture of the urethra** in a clear and thorough manner without adding anything specially new to the subject. [M.B.T.]

4.—Connor thinks that it is safe to **puncture** between the second and third **lumbar** vertebrae in adults, but that in children one should go below this. A large amount of fluid can best be obtained by tapping the lumbosacral space. If the puncture is made for diagnostic purposes the last-mentioned space is the best point to choose, and if the patient is a child it is well to have him in a sitting posture. The spine should be flexed as much as possible to separate the laminae. General anesthesia is usually unnecessary, but there should be at least two assistants at hand to prevent sudden movements. The point for puncture may be located by counting downward from the twelfth dorsal at its articulation with the twelfth rib, or by counting upward from the first spinous tubercle of the sacrum, or if the patient is too fat, by taking a line between the highest points of the crests of the ilia—this passes across the fourth lumbar spine. An antitoxin-needle does well in children, but in adults the needle should be 8 or 9 cm. long, and firm. The needle is introduced at a point opposite the upper edge of the lower spinous process and a few mm. from the median line, directing it very slightly upward and inward. In children one needs to go in only 2 or 3 cm., in adults, from 4 to 7 cm. If diagnosis alone is the object, 10 or 15 cc. of fluid is ample. If it is undertaken for treatment more is often removed. Accidents are rare, though not infrequently one may be unable to obtain fluid. [D.L.E.]

5.—Douglass reports upon the internal use of **suprarenal gland in hay fever.** The one danger from the use of this preparation in his mind is the possibility of causing such prolonged and constant diminution of the blood-supply of the tissues of the nose that atrophy may result. He considers suprarenal gland the most satisfactory of all treatments for hay fever, and states that it is almost a specific. It is given in doses of 5 grains of the saccharated dried suprarenal gland every 2 hours day and night until some giddiness or palpitation is observed, or the nasal mucous membrane has evidently become less hyperemic. It is then given every 3 hours, subsequently every 6 hours, and afterward twice daily. The latter dose is continued throughout the season. [It must, be, however remembered that very unpleasant symptoms sometimes result from the internal administration of suprarenal extract. D.L.E.]

6.—A man of 24 was admitted to the hospital semiconscious. The urine showed the diazo reaction and the Widal reaction was positive in high dilution. He died after one week. The autopsy showed **absence of intestinal lesions,** with bronchopneumonia and pleurisy. The spleen and lymph-glands were enlarged and soft, there were multiple necroses in the liver, and small hemorrhages in the mucous membranes of the genitourinary tract. The bacteriologic investigation showed in the spleen large numbers of bacilli that had the characteristics of **typhoid bacilli** and were agglutinated by serum from a typhoid case. A few similar bacilli were found in the liver. Ophüls believes that in some cases infection may take place in unusual locations, but that in many instances of the kind reported the infection has been by way of the intestinal tract as usual. He thinks that in some instances there may have been swellings of the Peyer's patches, without ulcerations, which had disappeared at the time of autopsy, and as support of this view instances the fact that in several cases death took place late in the disease. In 7 of the last 14 cases of this character reported a positive Widal reaction was obtained. [D.L.E.]

Medical Record.

May 12, 1900. [Vol. 57, No. 19.]

1. Bottini's Operation for the Cure of Prostatic Hypertrophy. Reports of Cases. Willy Meyer.
2. The Modern Treatment of Diabetes Mellitus. Frederic Kraus, Jr.

1.—In the previous portion of his article, Meyer gave a thorough discussion of the indications for **Bottini's operation** and the method of performing it. He states that he has operated in 24 cases; in 9 cases a cure resulted, which in 10 cases lasted from 3 to 25 months; 7 cases were much improved from 6 months to 2¼ years after operation; 2 patients were improved; 1 patient, who was completely cured at first, shows a recurrence of some of his former symptoms, although his general condition is excellent and the catheter has been dispensed with. There were 2 deaths directly due to the operation; 1 from acute sepsis, 1 from suppuration in the space of Retzius; there were also 2 deaths which might be remotely attributed to the operation. Two patients have died from chronic suppurative kidney trouble and one patient died from pernicious anemia. This gives a mortality of 8% directly due to the operation and 8% not directly due to the operation; 38% were cured, and 29% much improved, and 8% were improved. He appends brief reports of the later results in 12 cases which were previously reported elsewhere and full reports of 12 cases not previously reported. [M.B.T.]

2.—Kraus gives a general review of the treatment of **diabetes** based entirely upon the methods of Naunyn and v. Noorden. [D.L.E.]

Medical News.

May 12, 1900. [Vol. lxxvi, No. 19.]

1. Functional and Organic Heart-Murmurs in Infancy and in Childhood. ABRAHAM JACOBI
2. Perforating Duodenal Ulcers. ROBERT F. WEIR.
3. A Metal Roller Water Tank for the Application of Heat or Cold (Counter-irritation). ROBERT COLEMAN KEMP.

1.—Jacobi, in discussing **various forms of cardiac conditions,** reports some interesting cases. One, a colored infant, 13 months of age, had pneumonia from which she partially recovered. She then developed a systolic murmur which increased and in turn disappeared. She finally died and at the autopsy there was discovered a recent pleurisy, but the heart was normal. It, therefore, appears that the murmur that existed in association with the pyemic temperature must have been functional. Extracardial murmurs differ from it and are moreover very infrequent in childhood. Jacobi, nevertheless, believes that most symptoms indicate organic lesions either in the valves or the myocardium. Perhaps the commonest lesion in childhood is stenosis of the pulmonary artery. Sometimes there is persistence of the ductus arteriosus, and Jacobi has seen two cases of this condition recently. The symptoms are a loud systolic murmur over the sternal end of the left intercostal space extending into the vessels of the neck, chiefly in the left side and audible in the left interscapular space. There is also an area of dulness extending along the left margin of the sternum to the clavicle. Often this condition is associated with other cardiac anomalies. The symptoms of stenosis of the pulmonary are a systolic murmur in the second left intercostal space that is not transmitted into the carotid, and the second pulmonary sound is feeble. Often the signs of congenital cyanosis are present. Very loud murmurs are not common in children and organic symptoms may in some cases become inaudible when the heart rate increases. Myocarditis in children is apparently parenchymatous and usually follows various infections, such as influenza and diphtheria. Reduplication of one of the heart-sounds, that is galop rhythm, is an indication of the exhaustibility of the heart-muscle, and demands for its treatment absolute rest. [J.S.]

2.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 984.

3.—Kemp suggests a new instrument for the purpose of **counterirritation** which consists of a hollow metal cylinder 3½ inches long and 1⅓ inches broad. The cylinder is fastened to a handle so that it may be used as a roller, and is left with an opening at one end so that it can be filled with hot water. The instrument has the advantage that it can be used by the patient. When cold is required the cylinder may be filled with ice water. [G.B.W.]

Boston Medical and Surgical Journal.

May 10, 1900. [Vol. cxlii, No. 19.]

1. Adaptation of Pathogenic Bacteria to Different Species of Animals. THEOBALD SMITH.
2. Bacteriotherapeutics, with Especial Reference to Tuberculosis. EDWARD R. BALDWIN.
3. The Relation of Bacteriology to Medicine. RICHARD CABOT.
4. The Sociological Status of the Physician. CLARENCE JOHN BLAKE.
5. Address. H. C. WOOD.
6. The Ideal Ration for an Army in the Tropics. EDWARD L. MUNSON.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, 1018.
2.— " " " " 1029.
3.— " " " " 1027.
4.— " " " " 1032.
5.— " " " " 1043.

6.—Munson, after a comparison of the results of various investigators, concludes that the ideal rations for men averaging 145 pounds should be as follows:

	Northern Portion of the Temperate Zone.	Southern Portion of the Temperate Zone.	Tropics.
Fats	119.5 grams.	61.9 grams.	40
Carbohydrates	666 "	589.2 "	560
Protein	152 "	89.3 "	76.13
Nitrogen	24.36 "	14.3 "	12.18
Carbon	463.89 "	354.73 "	316.13
Fuel value	4540 calories.	3493 calories.	2900 calories
N. to C.	1 : 19.4	1 : 24.8	1 : 26.1
Nutrient ratio	1 : 6.2	1 : 8	1 : 8.8

Journal American Medical Association.

May 12, 1900. [Vol. xxxiv, No. 19.]

1. The Tenements and Tuberculosis. S. A. KNOPF.
2. Notification and State Supervision of Tuberculous. JOSEPH MATTESON.
3. Traumatic Perforations of Membrana Tympani. FRANCIS R. PACKARD.
4. Use of Adrenal Substance in Treatment of Asthma. SOLOMON SOLIS-COHEN.
5. Etiologic Studies on Neuroses of Peripheral Origin. J. GRADLE.
6. Hair and Its Anomalies. HENRY ALFRED ROBBINS.
7. Instruments for Use in Phototherapy. J. W. KIME.
8. Influence of High Altitude on Albuminuria. EDWARD HILL.
9. Vesicorectal Anastomosis. With Special Reference to Treatment of Exstrophy of Bladder. (Continued) JACOB FRANK.

1.—Knopf believes that the conditions most conducive to the propagation of **tuberculosis** are found in the **tenement houses** of large cities. Their bad air, darkness and filth, make a cure of the disease impossible, and death from all infected a certainty. There are houses in which can be counted as many as 20 consecutive cases of tuberculosis during the 4 years. The tuberculous invalid who is up and about is often the greatest danger to the community. It is this class of consumptives who spread their disease broadcast by depositing their infectious sputum everywhere, while hopeless cases are confined to 1 or 2 rooms. Knopf draws a graphic picture of the conditions existing in sweatshops and tenements. There are at present no sanitoriums for incipient cases nor room in hospitals for the more advanced patients who live under these conditions. He ardently advocates the establishment of sanitoriums and special hospitals maintained by the authorities and private philanthropy, and other public measures to stop the spread of tuberculosis, such as better sanitary laws, more public baths, parks, and playgrounds, especially in the crowded tenement districts and proper physical and hygienic education in our schools. The greatest factor in solving the tuberculosis problem will be, however, the proper housing of the poor. As long as the law will permit tenements to exist, which, owing to lack of air, light and want of cleanliness, constitute hotbeds of tuberculosis, so long will sanatoriums and special hospitals serve only as recipients of the supply of tuberculous patients daily created anew. Tuberculosis is a preventable and curable disease and it can be successfully treated in nearly a

climates. The danger of infection from a patient in a model tenement house might be reduced to a minimum. This is shown by experience at Trudeau's sanatorium in the Adirondacks, where during 15 years not one of the medical attendants and nurses, who have lived and labored in close contact with hundreds of consumptive patients, has ever contracted pulmonary tuberculosis. The instruction of the people through local societies for the prevention of tuberculosis is also important. [M B T.]

2.—The measures to be taken for the **prevention of tuberculosis** naturally divide into those directed against dissemination by infected food-animals and those directed against infected man. In regard to the former it may be said that the conditions of success are simple. Rigid inspection of herds and dairies and the destruction of the infected animal solve the problem. Tuberculosis affects the individual for a number of years and during his illness he is little incapacitated for movement. All this time he is hypothetically an ambulant source of infection. Segregation offers the only reliable protection. The State must then provide places where these people may be separated from the community with favorable conditions for recovery. [M B.T.]

3.—In 1500 consecutive cases taken from the out-patient record books of the Pennsylvania Hospital Packard found 11 in which the **membrana tympani** was **ruptured** by traumatism. Notes of these cases are given. There were 4 patients with perforation due to sudden condensation or rarefaction of air in the external auditory meatus, beyond a doubt. Three more could be with probability assigned to this cause. Two were the results of blows with the fist, probably the commonest cause of perforation due to sudden condensation of air in the external auditory meatus. In the cases which result from it the lesion is usually unilateral and found in the left membrana tympani, because the person who strikes does so with the right hand. If uncomplicated with injuries of the labyrinth or ossicles the results are usually good. In treating these cases a little, clean, dry cotton was kept constantly in the external auditory meatus, and no attempt made to do anything beyond the gentlest possible cleansing in cases where there was much discharge. [M.B.T.]

4.—Cohen believes that in the **adrenal substance** we have a decided addition to therapeutic resources. It is not a specific for **asthma.** It is without good influence, perhaps capable of bad influence, on cases that are really spasmodic, but it is of definite use in the smaller number of cases in which the paroxysm is but one other manifestation of a congenital fault of structure or of metabolism affecting the vasomotor system. In such cases the administration of adrenal substance helps to maintain the vascular tone. Five or 10 grains every second or third hour during waking hours is a fair dose. It is best to begin with a moderate dose and to learn the tolerance of the individual. [M.B.T.]

6.—Robbins has collected from literature numerous interesting anomalies of the hair from Biblical times to the present. [M.B.T.]

7.—Kline has devised a concave mirror 30 inches in diameter, with a focus of 8 feet, which he uses to concentrate **light** on certain areas for its **therapeutic effect.** He believes it has some good effect in the early treatment of tuberculosis of the lungs, in chronic joint-affections, in lupus and parasitic skin-diseases, etc. [M.B.T.]

8.—From an examination of over 6,000 **urines** at Denver a mile above sea-level, Hill finds the following **changes** which he believes result **from** the high **altitude:** Acute nephritis, though not common, is exceptionally severe. Amyloid disease is less frequent under predisposing circumstances than most textbooks would lead us to infer. Chronic parenchymatous nephritis appears to terminate fatally in about the same time as at lower altitudes. The chronic interstitial type of the disease is influenced favorably, which is ascribed largely to the tonic, invigorating climate. Slight, transient, circulatory albuminuria, due chiefly to high blood-pressure, is frequent. [M.B.T.]

9.—Frank describes a series of experiments on dogs, **anastomosing the bladder with the rectum** by means of a decalcified bone coupler. Of the 15 dogs operated on, 9 recovered and 6 died. In the first 2 experiments the technic was not perfected, which undoubtedly contributed largely to the failures. As a rule, the dogs were quite sick for the first few days, and showed signs of pain, with rise of temperature. For a week after the operation urine and feces were voided oftener than after this period. The animals that were kept, accustomed themselves to their condition and urinated periodically from the rectum. The feces were always passed in a liquid form, being softened by the urine, and it appeared that the rectal mucous membrane readily adapted itself to the conditions of a urinary receptacle. [M.B.T.]

Annals of Surgery.

March, 1900. [Vol. xxxi, No. 3.]

1. Effect of Intracerebral and Subcutaneous Administration of Tetanic Antitoxin in Tetanus as Observed in 9 Cases. Robert Abbe
2. A New Method of Suture in Operations for Inguinal and other Forms of Hernia. Leonard Freeman.
3. Fracture of the Neck of the Humerus with Dislocation of the Upper Fragment, with a Report of 3 Cases Treated by Operation. B. Farquhar Curtis.
4. Prolapsus of the Rectum in Children. Charles Greene Cumston.
5. Report of Results Obtained in the Treatment of Ununited Fractures with the Parkhill Clamp. Albert L. Bennett.
6. A Case of Acute Osteomyelitis of the Femur, with General Systemic Staphylococcus Aureus Infection, Terminating in Recovery. Albert Ashton Berg.
7. Coccygeal Dermoid Fistula. Robert T. Morris.
8. Report of a Case of Recovery after Gastrectomy for Carcinoma. John Bruce Harvie.
9. Two Cases of Cicatricial Stricture of the Esophagus Treated by Gastrostomy, the "String" Method, and Permanent Dilation by Elastic Tubes. B. Farquhar Curtis.

1.—Abbe reported 9 cases of **tetanus treated by the use of serum.** In 5 cases there was apparent benefit as a result of the treatment, 7 patients had the disease in severe form and in 5 it was so severe that they were deemed worthy of being subjected to the test of trephining. Of these 5, 3 recovered and 2 died. The favorable action was shown either by prompt arrest of the general convulsive spasm or in abatement of bad symptoms. The serum furnished by Parke, Davis & Co. was available during the Summer epidemic, when the Board of Health supply gave out, and it proved itself by comparison noticeably more efficient. Abbe regards the serum as a valuable adjunct in the scientific treatment of this malady and he considers the **cerebral injection** an advance over the subcutaneous method which is worthy of extensive trial and further study. [M.B.T.]

2.—Freeman recommends the following method of **suture in operations for hernia:** 2 or 3 needles are threaded with long loops of silkworm-gut or silver wire and 2 pieces of stiff, silvered wire are procured, long enough to reach the entire length of the inguinal canal. Small probes answer well for this purpose. When the sac is ligated and cut off the cord is held out of the way and the silkworm-gut loop is passed from without inward through the muscular tissue on the median side of the ring well back from the margin, the loop is then carried through Poupart's ligament from within outwards some distance from its edge. A loop is similarly inserted near the pubic limits of the opening, and the prepared wire is now run through the loops which are pulled tight enough to hold it in place. The other wire is laid along Poupart's ligament between the free ends of the loops which are firmly tied over it, thus clamping the wires and bunching a quantity of muscular tissue against the ligament. The wires are bent upwards so as to protrude through the external incision, facilitating removal. The cord is dropped in place over the line of union, and aponeurosis of the external oblique is united above it, the upturned ends of the wires passing through the external ring. In from 10 days to two weeks, when firm union has occurred, the wires are removed by pulling on the protruding ends. This frees the loops which are likewise readily extracted. Freeman has used this method three times with satisfaction. [M.B.T.]

3.—Three cases of **fracture dislocation** of the **humerus** are reported. A man of 29, while at work, fell in a fit, striking the left shoulder. Examination, also including x-ray examination, showed an abnormal condition, and it was evident that if nothing were done the shoulder would become stiff and useless. At the operation the head of the

humerus was found to have separated exactly along the anatomical neck, it was easily removed and part of the greater tuberosity, which was also detached, was likewise removed. Primary union followed and the man is now doing heavy work and the arm is gaining strength. In a second case a boy of 13 fell, injuring the left shoulder; 4 weeks after the injury there was no pains, but the motions of the shoulder were greatly limited, the elbow could not be raised from the side, scarcely any rotation was possible and only slight anterior posterior motion was possible. The line of fracture was transverse, crossing the neck about an inch below the tuberosity. The bone was reunited at the operation with silver wire, primary union resulted and several months after operation the arm is reported nearly as good as the other. In the third case a girl, 11 years old, tripped and fell on the left shoulder, sustaining a fracture of the anatomical neck and subglenoid dislocation of the head of the humerus. Gentle attempts to replace the head of the bone under ether failed, it was also impossible to free the head through an anterior incision. Kocher's posterior incision for resection of the shoulder was made, the base of the acromion was divided and turned downward in the flap and the displaced head was with difficulty forced into the glenoid cavity. As there was tendency for the shaft to ride upward and backward past the head, a long bone drill was inserted through the outer aspect of the shoulder and driven deeply into the head. A dressing was applied and over this a plaster-of-paris bandage; extension straps were applied to the arm. At the present time the child is able to use the arm as freely as ever. In comparing the results of reduction and resection in these cases, Curtis expresses the belief that even the best functional results after resection cannot be compared to the nearly perfect shoulder-joint which can sometimes be obtained by returning the normal head to its natural articulating cavity; the result of reduction may fall considerably below this perfection, yet be as good as the best obtainable by resection. Curtis has collected the results of operations in 25 cases; in 9 the results were good, in 8 fair, in 3 imperfect, and in 1 bad, the remaining 4 terminated fatally. In concluding his article Curtis states that when proper attempts at simple reduction have failed operative measures should be resorted to, unless shock or other injuries justify delay. Anterior displacements require anterior incision; in subglenoid or posterior displacements Kocher's posterior incision is preferable. Resection should be resorted to only when reduction is impossible or would require such extensive damage to the parts or such prolongation as to increase the danger of wound-infection or shock. Resection will give better results in fracture of the anatomic neck than in that of the surgical neck. Asepsis is indispensable and motion should be begun as soon as the wound is healed, 10 to 14 days after operation. [M.B.T.]

4.—Cumston reports 3 cases of **prolapse of the rectum** in which he performed the radical operation. He discusses this condition at some length and in closing his article draws the following conclusions: In acute types of prolapse and invagination of the colon which are irreducible and which present other serious general symptoms, such as incarceration, gangrene or intestinal obstruction, the surgeon should perform resection immediately. In chronic irreducible cases, although life is not threatened, the operation should be performed to avert possible future danger. These chronic conditions impair general health by interfering with nutrition, by causing hemorrhages and they frequently become incarcerated. Inflammation, gangrene, extensive ulceration, cicatricial stenosis may occur. All these dangers are prevented by early resection. In all cases of chronic irreducible prolapse which cannot be cured by milder measures, resection is indicated. Medical means are advised only for a sufficient time to determine if any result is likely to be obtained. Linear cauterization, if tried without result, would better not be repeated because of danger of cicatricial stenosis. [M.B.T.]

5.—Bennett reports 14 cases in which he has used **Parkhill's clamp** in the treatment of **nonunited fractures.** Union resulted in 9 cases. Among the 5 patients in whom nonunion persisted syphilis was present in 3, 1 was suffering from advanced pulmonary tuberculosis, and 1 took off the dressing, causing infection of the wound. Bennett expresses great satisfaction with the results obtained by the use of the clamp. His patients were all negroes who came under his care on the West Coast of Africa. The disadvantages of operating in this uncivilized land with absolutely untrained assistants were extremely great. [M.B.T.]

6.—A boy of 8 fell, striking the region of the left gluteal fold. Acute **osteomyelitis** of the **femur** resulted, with general systemic infection with the Staphylococcus aureus. The marrow cavity of the femur was opened and a few drops of pus and fat escaped. The cavity was thoroughly cureted and drained and antistreptococcus serum was used. Berg calls attention to the following points in the case: The infection of the medullary cavity, resulting from traumatism; the early blood-infection by the same organism and its toxins; the use of the serum and the absence of any metastatic focus of suppuration in a staphylococcus infection; the elimination of the organism by the kidneys; and the acute visceral degeneration and inflammation caused by the effects of the organism and its toxins. [M.B.T.]

7.—Morris states that he has operated in 4 cases of **coccygeal fistula** containing hair. He dissects out the fistulous tract in such cases. He reports one case in some detail in which microscopic examination of the specimen was made. The fistula wall consisted of almost typical skin, containing an enormous number of bloodvessels and extensive round-celled infiltration; the hairs are apparently shed almost as rapidly as they are fully developed, and only a few hairs remain primarily attached to the skin within the fistula. [M.B.T.]

8.—A woman of 46 had been troubled for some time with fulness in the epigastrium, belching gas, burning in the stomach, and pain, there was little vomiting, never vomiting of blood, and an increasing mass was found in the epigastrium. The patient was gradually losing flesh and strength. On exploratory incision the peritoneum was found adherent to the mass which affected the stomach, a loop of intestine was also adherent and on removing it it was lacerated, necessitating suture. The patient's condition was bad, but after transfusion with salt-solution she rallied somewhat and the operation of **gastrectomy** was carried out. The gastrohepatic and gastrocolic omentums were divided and strong adhesions posteriorly were separated; the duodenum was divided near the entrance of the bile-duct, as the pylorus seemed to be involved with the disease. The esophagus, after division, tended to retract, but was secured by sutures and held down, a number of large glands were dissected out and all tissue-bearing evidence of infection was removed. Anastomosis between the esophagus and duodenum was accomplished without much difficulty, the parts were secured with catgut sutures and a final row of silk Lembert sutures. The entire operation lasted an hour and 5 minutes. There was comparatively little loss of blood, the patient was considerably shocked and stimulants were freely administered. Gradual recovery followed, however, and the patient left the hospital about 6 weeks after the operation. At the time of the operation she weighed 79 pounds, since then she has increased in weight to 100 pounds, she eats ordinary food without any inconvenience and is attending to her usual household duties. The pathologic report states that about four-fifths of the entire stomach was removed with about 3 cm. of the duodenum. The new growth was a **carcinoma** originating in the floor of the old ulcer; there was metastatic infection of the lymphatic glands. [M.B.T.]

9.—Curtis reports 2 cases of cicatricial **stricture of the esophagus** following the swallowing of caustics. Stricture resulted in spite of attempts at dilation. The operation of gastrostomy was performed and the stricture was divided by Abbe's bow-string method. In one of the patients retraction occurred which required a second operation, at which time a piece of rubber tubing was inserted through the stricture under tension and allowed to remain to produce dilation. This same procedure was followed in the second case. Excellent results followed in both cases. [M.B.T.]

Archives of Pediatrics.

March, 1900. [Vol. xvii, No. 3.]

1. Dilation of the Colon. F. T. STEWART and ALFRED HAND.
2. An Analytical Study of Certain of the Clinical Phenomena Observed in 112 Consecutive Cases of Chorea. JOHN LINDSAY STEVEN.
3. Two Cases of Idiopathic Hematuria. T. J. ELTERICH.

1.—The case reported was that of a child of 6, who was first admitted to the Children's Hospital, of Philadelphia, with the story that it had been constipated since birth, and that abdominal enlargement had first been noted when the child was 3 years old. The constipation had become extremely obstinate. When seen the abdomen was very greatly distended, there was dull tympany in the flanks and anteriorly, the hepatic and splenic dulnesses were diminished. The greatest measurement was midway between the umbilicus and ensiform—28 inches. He was given hypodermics of strychnin, massage of the abdomen with olive oil, and galvanism. Within 2 weeks the measurement of the abdomen had decreased 12.5 cc. The boy was then discharged owing to an epidemic, but later was admitted into the Pennsylvania Hospital and died there. The postmortem examination showed enormous enlargement of the colon, this part of the bowel covering almost the entire surface of the abdomen. The transverse measurement of the colon when opened was 17 cm. There was a constriction 10 cm. from the ileocecal valve, and another constriction 20 cm. above the anus. There were numerous ulcerations between the constrictions. The walls of the colon were hard and thickened and corrugated. The case is called one of **idiopathic dilation of the colon.** No opinion is expressed as to the cause of the fibrous constrictions. It is recommended that in all such cases operation should be at least considered. [D.L.E.]

2.—The cases of **chorea** studied were 112, 87 of which were seen in the out-patient room, and 25 in the wards. Of the 87 out-patient cases three-fourths were females,—a large proportion; 68 cases occurred between 5 and 15. The disease is rare before the fifth year or after the fifteenth. In 31% there had been more than one attack. In over half of the cases the duration was less than two months. In 26 of 30 cases studied the exciting cause was found to be emotional strain. In 26 cases rheumatism was found in the family history, and chorea in 11 cases. In 5 others some other form of nervous trouble was found. In 32 of 87 cases there were distinct evidences of abnormalities of the heart. Of these 32 cases 31 presented murmurs. Albumin was examined for in 45 cases, but found in only 4. The movements were general in 39 cases, right-sided chiefly in 25, left-sided chiefly in 21. The movements were severe in 23 cases, moderate in 35 cases, slight in 24. Of the 25 cases seen in the wards, 5 were males and 20 females. The general results of the study of these cases were similar to those obtained in the statistics of the out-patients, excepting that the cases were more protracted, and there was a larger proportion of history of rheumatism; the ward cases showed such history in almost 50%. [D.L.E.]

3.—The first case reported occurred in a boy of 8 who had paroxysmal **hematuria.** He had no evidences of local trouble, and physical examination was negative excepting for some anemia and a delicate frame. The cause was entirely obscure. The blood was not examined. The second case occurred in a boy of 5 who had had hematuria for 10 weeks with no other symptoms—the blood in the urine appearing paroxysmally. The blood-examination showed 2,493,800 red cells, and only 5,250 white cells. He had no history of malaria. [D.L.E.]

Wiener klinische Wochenschrift.

January 18, 1900. [13. Jahrg., No. 3.]

1. Concerning Hemolysin and Antihemolysin. RUDOLF KRAUS.
2. Pseudochylous Forms of Ascites. F. MICHELI and G. MATTIROLO.
3. Some New Medicaments in the Treatment of Pulmonary Tuberculosis. JUL. POLLAK.

1.—Ehrlich and Madsen have both shown that in a **tetanus toxin** there are two specific poisons—**tetanospasmin** and **tetanolysin.** The latter has the property of dissolving the red corpuscles. In the tetanus antitoxin are contained two corresponding antitoxins—antitetanospasmin and antitetanolysin. The present authors endeavored to determine whether other bacterial cultures contained analogous poisons, and found that this is the case. Cultures of other bacteria also contain a hemolytic substance. The hemolysins of different bacteria differ in intensity, and the red corpuscles of different animals exhibit different degrees of resistance to the hemolysins. The hemolysins sometimes produce not only a solution of the red corpuscles, but also a transformation of the hemoglobin. The authors furthermore found that antihemolysins were contained in the serum of normal animals, particularly horse-serum, and that these antihemolysins paralyze the action of the hemolysins of different bacteria, thereby preventing a solution of the red corpuscles; hence they conclude that neither the hemolysins nor the antihemolysins are specific substances, and that normal blood serum contains antihemolysins. [D.R.]

2.—There are forms of **chylous ascites** in which the milkiness is not due to the presence of fat, but the real cause of the turbidity is not known. The authors have observed 4 cases of this pseudochylous ascites, and have come to the conclusion that the turbidity is due to the presence of **lecithin** in suspension. [D.R.]

3.—Pollak has found **duotal** (guaiacol carbonate) useful in stimulating the appetite in cases of phthisis. **Pyramidon** (dimethyl-amidoantipyrin) has been found useful as an antipyretic in the fever of phthisis. For the control of cough, Pollak has found **heroin hydrochlorate,** in doses of $\frac{1}{13}$ of a grain, satisfactory and generally without disagreeable after-effects. [D.R.]

January 25, 1900. [13. Jahrg., No. 4.]

1. The Radical Operation for Varicocele. ALBERT NARATH.
2. Multiple Stenosis of the Small Intestine of Tuberculous Origin. SIGMUND ERDHEIM.
3. The Technic of Gastrostomy. ROBERT LUCKE.

1.—The skin of the scrotum is so difficult to cleanse that surgeons are inclined to make the skin incision higher and higher toward the inguinal region in the treatment of **varicocele.** An advantage of the inguinal incision is that it permits more careful isolation of the spermatic artery than is possible in the usual methods of operation. Without care is taken to avoid this artery, atrophy or necrosis of the testicle may result. Narath recommends operation according to the following method: An incision 10 cm. long is made in the direction of the inguinal canal about a finger's breadth above Poupart's ligament, the skin and fascia are divided, the aponeurosis of the external oblique muscle is opened and the inguinal canal is split as in Bassini's operation for the radical cure of hernia, the spermatic cord is lifted up and the veins are dissected as high as possible and divided between 2 ligatures, the proximal stump retracts into the abdominal cavity, the distal extremity is then followed to the external ring and is here ligated and divided, leaving a piece several centimeters long, the inguinal canal is then closed as in the typical Bassini operation. Twenty-one cases are reported in which this operation was performed with very satisfactory results. [M. B. T.]

2.—Five cases of multiple annular **tuberculous strictures** of the **small intestine** are reported. A servant girl of 30 had been taken ill 4 years previously with obstinate constipation. This continued, with pain and some vomiting. At the operation the vermiform appendix and the left tube were resected; a section of the ileum containing 3 circular strictures was also removed and enteroanastomosis was performed. Nine months later the patient was working and in good health. In a second case a woman of 47 had suffered for a long time with intestinal disturbances, colic, irregular stools, and the abdomen was much distended. Celiotomy was performed under local anesthesia and a diseased condition was found of the beginning of the ascending colon and the lower part of the ileum. Enteroanastomosis between the ileum and colon was performed; death followed a few days later. In a third case a woman of 33 had suffered from pain, vomiting, and abdominal distention for 3 years. On operating 2 irregular nodular masses about the size of a walnut were found in the ileum; the mesenteric glands were also enlarged. As the diseased portions of the intestine were about 40 cm. apart, double enteroanastomosis was performed. Three months later the patient reported that the attacks of pain had not recurred. In a fourth case a man of 36 suffered from severe abdominal pain, distention, loss of strength and health. Celiotomy was performed and a circular stricture was found in the lower part of the ileum; 8 cm. of the intestine was resected and lateral anastomosis was performed. In a fifth case a woman of 27 complained of attacks of vomiting, abdominal distention and pain. No tumor

could be felt, there was tuberculosis of the apex of the lung. Celiotomy was performed, 2 tuberculous strictures of the lower part of the ileum were found; enteroanastomosis was performed between the ileum and colon. The patient left the hospital in very good condition. In all of the cases the infection was secondary. [M.B.T.]

3.—Lucke recommends the following modification of Kader's method of performing **gastrostomy** as simple and rapid: An incision 4 to 8 cm. long is made over the left rectus abdominus muscle; the stomach is drawn out and the portion near the pyloric end is surrounded with a purse-string suture; in the middle of this area a trocar is inserted and in this opening is placed a rubber-drainage tube the size of a lead pencil. [M.B.T.]

Münchener medicinische Wochenschrift.

January 23, 1900. [47. Jahrg., No. 4.]

1. An Experimental Study in the Elimination of Carbonic Acid After Repeated Cold Baths. A. LODE and A. DURIG.
2. Local Disposition to Taking Cold and Becoming Immured to Exposure. CARL KISSKALT.
3. Esophagoscopic Diagnosis of Pulsating Diverticulum. GUSTAV KILLIAN.
4. The Treatment of Chronic Obstipation in Children. HEINRICH DOERFLER.
5. Tuberculous Lymphadenitis. VON NOORDEN.
6. A Case of Potassium Iodid Parotitis. G. TRAUTMANN.
7. Measuring Blood Pressure with Gärtner's Tonometer. HUGO WEISS.
8. The Pathology of Miliary Tuberculosis. GEORGE MAYER.

1.—Nasaroff showed that animals, particularly dogs, have the faculty, after repeated cold baths, of gradually decreasing the differences between the rectal temperatures taken before and after the bath. The authors repeated these experiments and obtained a confirmation of **Nasaroff's phenomenon.** Thus in a dog subjected to a cold bath for ten minutes, the fall in temperature on the first day was 5.6° C.; on the second day, 6.8° C.; on the third, 3.4° C.; on the fourth, 2 8° C.; on the fifth, 0.9° C.; on the sixth and seventh, 0.3 C. As to the cause of this phenomenon, they found that it is not due to an increase in metabolism, *i. e.*, not to an increased heat-production, but that it depends upon a **lessened heat-elimination,** which is connected with vasomotor changes. The phenomenon is an evidence of adaptation, and is the result of physical influences. [D.R.]

2.—The author's conclusions are as follows: 1. Arterial hyperemia increases the predisposition to disease. 2. Such an increased predisposition through arterial hyperemia of the internal organs, including the mucous membranes of the air-passages, is brought about by exposure to cold, the latter causing a contraction of the cutaneous vessels. This can be demonstrated in animals. 3. The process of **hardening against cold,** results in a condition of the skin in which the bloodvessels do not react so promptly, by contraction, to the cold; and on that account hyperemia of the internal organs and mucous membrane is not so apt to occur. It is a curious fact that venous hyperemia lessens the predisposition to bacterial disease, while arterial hyperemia increases it. The cause for the latter fact the author promises to discuss in a future article. [D.R.]

3.—Killian has been able to diagnose **diverticulum of the esophagus** in two cases, by means of the esophagoscope. [D.R.]

4.—The author recommends the use of **fresh, sweet butter** in the treatment of the **constipation of infants.** The constipation of bottle-fed children, he claims, is due to the excessive dilution of the milk, to the administration of the same in too large quantities, and to the fact that the milk contains too little fat. The butter must be fresh. Regarding the amounts, he advises that in the second and third months the child should be given, morning and evening, from ½ to 1 teaspoonful of butter until the bowels are normal; then the same dose every two days. In the third and fourth months, the dose is from 2 to 3 teaspoonfuls daily; from the fifth month on to the end of the year, from 1 to 3 tablespoonfuls every two or three days; after that, according to indications. The butter is to be used only when the children suffer from constipation and its consequences. Gastric catarrh and intestinal catarrh are contraindications. [The reviewer has for some time been of opinion that fresh, sweet butter is the best fat for children, and has used it particularly for purposes of inunction in cases of marasmus and acute wasting diseases, such as typhoid fever. He believes that he has seen good results at various periods of childhood from its use. D R.]

5.—von Noorden, in speaking of **tuberculosis of the lymph-glands,** makes an absolute distinction between scrofulous and tubercular glands. The former, however, often furnishes a good soil on which the tubercle-bacilli may lodge and develop, so that a change from simple scrofula to true tuberculosis is quite a common occurrence. The diagnosis of tubercular disease is most important, and when there is doubt as to the nature of the glandular swelling, excision for purposes of examination, and the injection of tuberculin are both proper proceedings. As soon as a diagnosis of tuberculous disease is established, operation should be instantly instituted. Even as a prophylactic measure, operative intervention is often justified. [G B W.]

6.—Trautmann reports a case of **parotitis** following the administration of **potassium iodid.** [D.R.]

7.—The **tonometer** shows increased tension in arteriosclerosis, even in cases in which the peripheral vessels are not much altered. Weiss reports the case of a man of 60 in whom, with slight signs of arteriosclerosis, the tonometric figure was very high (240 mm. of mercury). In the course of some emotional excitement, the patient was seized with apoplexy, and died on the same day. When the tonometer gives low figures, with clinical signs of arteriosclerosis, it is a mark of failing heart-power. The instrument also shows very strikingly the effect of cardiac stimulants, as the author found particularly after the administration of camphor. In nephritis some of the highest tonometric numbers are obtained. In diseases of the heart, no general conclusions can be drawn from the tonometric figures; but in special cases the instrument may be of value, especially as a control of the effect of remedies. [D.R]

8.—A case of **miliary tuberculosis** in a man of 21 years, appearing **secondary to a tuberculosis of the skin.** There was also an old focus in the lung, but it seemed not to have been the source of the miliary tuberculosis, which was, however, practically confined to the lungs. The patient was sick only 13 days. The interesting points in the case were a sudden decline in the temperature shortly before death, the appearance of bacilli in the sputum, the large quantity of albumin in the urine, dependent upon stasis in the kidneys and upon change in the blood itself, and the presence of peculiar sounds over the heart, which were probably connected with the extensive thrombosis of the chambers that was found after death. The changes in the heart were interesting: The heart was small and there was an albuminous degeneration of the myocardium, fragmentation of the muscle-fibers, and degenerative changes in the endocardium, as well as proliferative changes in the latter. Careful serial sections of the tuberculosis of the skin showed a point where the disease ruptured into the cephalic vein. This is apparently the first demonstration of perforation of a tuberculous lesion into the vein of the arm. [D.R.]

Berliner klinische Wochenschrift.

February 19, 1900. [37. Jahrg., No. 8.]

1. The Treatment of the Cord of the Newborn Child. A. MARTIN.
2. The Indications for Cesarean Section. HERMANN FREUND.
3. The Natural Means of Protection of the Organisms Against Infection. P. BAUMGARTEN.
4. Autointoxication. C. A. EWALD.
5. Remarks on H. Solomon's Article Concerning Brain Symptoms in Typhoid Fever. E. STADELMANN.

1.—Martin reports the following **method of procedure with the umbilical cord:** The ligature is applied as usual, and after the child is bathed and dried, a damp gauze compress is laid around the umbilicus and a sterile silk suture is applied at the extreme edge of the skin about the cord, fastened, and then the cord is burned through with the Paquelin cautery at a distance of about 1 to 1.5 cm. from the body. The bleeding stops completely, sterile gauze dressings are used and the cord drops in from 4 to 6 days. [W K.]

—Freund believes that where there is no direct danger e and a good prognosis can be given for the use of sur- procedures, craniotomy is unjustifiable in the case of a g child, and that **Cesarean section** should be resorted all those cases in which birth per viam naturalem is im- ble; for with our present surgical methods this opera- presents little more danger than a complicated delivery. escribes 3 cases which present typical indications for on. All had favorable results. First case (44 years, primi- had contracted pelvis and rigidity of the soft parts h led to fear of eclampsia; second case (43 years, quarti- the indications were in the contraction of the pelvis, ge of the patient and a tumor which had made the in- al wall edematous; third case (28 years, quintipara. contracted pelvis) the patient earnestly longed for a g child. Section was performed and the transverse inci- of the fundus used. [W.K.]

—Baumgarten takes exception to Buchner's theory that acteria are destroyed by a **bactericidal substance ained in the blood—the alexin.** He (Baumgarten) is that the existence of an alexin has never been proved. so-called active albumin of Buchner, which kills bac- cannot be considered identical with the circulating nin, and the difference that exists is sufficient to explain lifference in behavior. Moreover, there is a difference e environment in which the active albumin and the lating albumin act. Regarding the effect of heat upon e serum, which, according to Buchner, deprives the of its bactericidal power, Baumgarten claims that ffect is not due to the destruction of a bactericidal sub- e; for bacteria, as the anthrax-bacillus, which are l in the active, extravascular serum, thrive in the blood better than in the heated serum; yet one would expect blood, the serum of which is bactericidal, would also ctericidal when circulating. He intimates that the brings about certain chemical changes that render blood rable medium for the bacillus, and that there is no de- ion of any bactericidal substance. [D.R]

—Ewald, from a study of the literature comes to the usion that the **toxic action of the urine** is prob- not due to the presence of a product of faulty metabo- but to very simple factors: (1) Urine is not isotonic ds the blood; (2) the quantities used by experimenters been exceedingly large; (3) the rapidity of injection he veins has much to do with the result; and (4) many e normal constituents of the urine, as, for example, the onium and potassium salts, are more or less toxic. are only two conditions so far known that may prop- e classed as autointoxications; one is the **hydrogen hid intoxication,** of which a case has been reported nator, the patient having developed a syncopal attack, cute indigestion, followed on the second day by ejec- of hydrogen sulphid and the discharge of the gas gh the urine, and a complete return of health after a us bowel movement; the other is **diabetic coma,** is to be looked upon as an acid intoxication. No definite are known regarding autointoxication in disease of the id, the hypophysis, the adrenals and the pancreas, ex- n pancreatic diabetes; and the whole subject of auto- cation rests on a less secure basis than ever before. [D.R.]

—Stadelmann points out that he called attention to the **oral pressure symptoms in typhoid fever** some ago, a fact overlooked by Salomon. (See PHILADELPHIA AL JOURNAL, April 21, 1900)

Deutsche medicinische Wochenschrift.

February 8, 1900. [26. Jahrg., No. 6.]

e Diagnosis of Incipient Tuberculosis from the Sputum. L. BRIEGER and F. NEUFELD.

e Treatment of Stricture of the Rectum with a Con- tribution upon Plastic Operations on the Rectum. JULIUS WOLFF.

alysis. E. SEHRWALD.

ndylosis Rhizomelica. M. L. H. S. MENKO.

—Brieger and Neufeld report several cases in which were all the general appearances of **tuberculosis,** ne cases with mixed infection, in others without mixed on, but all of them showing the absence of the tubercle- bacillus from the sputum, and yet all reacting to the tuber- culin-test, and being undoubtedly tuberculosis. They insist that such cases are commonly met with, and it is of very great importance that the diagnosis of tuberculosis should be established, as it is important for cases of infection of other kinds not to be subjected to the danger of contagion from these obscure cases of phthisis by being brought into ward contact with them. The mere absence of tubercle- bacilli in the sputum by no means constitutes evidence that tuberculosis is not present. [D.L.E.]

2.—Wolff reports an interesting case of **plastic surgery of the rectum.** An enormous anal opening had resulted from the nonunion of the parts in a Kraske operation where Hochenegg's method of uniting the ends of the gut had been employed. The opening reached from the anterior border of the anus to the third interspace of the sacrum, so that some 10 cm. of mucous membrane was exposed. The opera- tion used in closing this opening was as follows: Two oval incisions were made, one on each side of the opening, meet- ing above, but below stopping at the ends of the sphincter, about 2 cm. apart. Two narrow flaps of skin and subcuta- neous tissue were dissected free from without, inward towards the middle line, leaving the mucous membrane along the inner borders still intact. These flaps were then turned over and united longitudinally so that the skin surface formed the posterior wall of the bowel. Two more cutaneous flaps were raised from the skin of the buttocks and slid over the raw surface left by the inversion of the first two flaps and fast- ened in place. The result after the closure of one or two small fistulas, which followed the operation, was satisfactory, the patient regaining control over her bowels. [G B W.]

3.—The results reached are: The characteristics of this form of paralysis is a **hyperextension paralysis of the brachial plexus**; there is a combined paralysis of the ser- ratus anticus major and the long thoracic nerve, sometimes with associated involvement of the dorsalis scapulae, and hence paralysis of the rhomoid muscles and the levator scapulae. Sehrwald notes that the cause of paralysis is usu- ally hanging at full length for a minute or more, and that this should always be avoided, particularly by those who are unaccustomed to the exercise. [D L.E.]

4.—Manko proposes the term **spondylosis rhizomelica** for the disease which has been previously known as chronic anklylosing inflammation of the larger joints and spinal column. He reports a case of a man, 27 years of age, who after exposure began to have pains in his right side, stiffness of jaw, neck, and limbs, and difficult swallowing. These symptoms developed so in a short time that he was forced to go to bed, which he kept for 4 or 5 years. At the end of this time the pain and most acute symptoms had abated, but there remained absolute rigidity of the dorsal and lumbar spine and the hip-joints, though the cervical vertebra allowed of a little rotation and flexion. The normal lordosis of the lumbar region had disappeared while the kyphosis of the lower cervical vertebra was increased. Massage and passive and active movements caused improvement. [G.B W]

Centralblatt für innere Medicin.

March 10, 1900. [21. Jahrg., No. 10.]

1. Concerning Some New Drugs. OVERLACH.

1.—The paper deals with fortoin, a new preparation from cotoin. Coto rind has been used for several years in the treatment of diarrhea, and cotoin has been reported upon by numerous observers. Fortoin is a formaldehyd combination with cotoin that is not unpleasant to take. It occurs in the form of yellow crystals or powder, and is tasteless. It is easily soluble in chloroform, acetic acid, and acetone; with difficulty soluble in alcohol, ether, benzol; insoluble in water; readily soluble in alkalies. Even large doses cause no symptoms of poisoning. The dose needed is about 4 grains three times a day, for adults. Overlach reports a series of cases of diarrhea in which he used this preparation with good results, and speaks most enthusiastically of it, claiming that even after other drugs had been used without effect this overcame the diarrhea. It is considered to be antifermen- tative and bactericidal, and to cause active circulation in the mucous membrane, and thus a quick regeneration of the lost epithelium. He has also found it useful in tonsillitis and gonorrhea, but of doubtful value in typhoid fever. [D.L.E]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Internal Administration of Protargol.—Ruheman (*Therapeut. Beilage d Deutsch. Med. Woch.*, October 5, 1899, and *The Medical Review*, March, 1900), employs protargol in cases where he would formerly have given silver nitrate. Its advantages are that it is unirritating, and does not, as a rule, produce argyria even when long administered. In a case of tabes slight discoloration of the skin round the mouth and on the buccal mucous membrane appeared, but not till after 26 drams had been taken. Protargol can be prescribed with the ordinary pill bases. The maximum daily dose is 9¼ grains.

In a case of advanced carcinoma of the stomach it greatly relieved the symptoms. It was also useful in chronic diarrhea, hysterical diarrhea, and in one case of relapsing ulcer of the intestines. In hematemesis from gastric ulcer and in intestinal hemorrhage its effect was excellent; in these cases it is best given as a powder in doses of 7½ grains. Good results appeared to be obtained in some cases of acute and chronic cystitis, gonorrheal arthritis, and in one case of gonorrheal pyemia. In once case of locomotor ataxia no result was obtained, probably because the drug was pushed insufficiently; in a second, in a woman, aged 50, the improvement was very marked. The lightning pains, the ataxy of the legs, the dysuria and incontinence of urine quite disappeared, and Romberg's phenomenon very nearly. Sensation improved greatly, though there were still cutaneous paresthesia. Though the kneejerks did not return, and the ophthalmoscopic appearances remained unaltered, the left pupil began to react again to light. Two pills, containing 1½ grains in each, were given three times a day for 9 months.

To lessen the sensitiveness of the throat before passing the stomach-tube, Hemmeter (*Diseases of the Stomach*, 1900) recommends the following anodyne spray:

℞.—Cocain hydrochlorate, 3% sol. in benzoinol ..... 2 ounces.
Menthol, 1% in liquid vaselin..... ½ ounce.
Use in atomizer for spraying the throat.

Sodium Cacodylate in Inoperable Epithelioma.—Renault (*Journal des Praticiens*, March 31, 1900) claims to have obtained good results in inoperable epithelioma from the internal use of arsenic in the form of sodium cacodylate. He recommends the following pill:

℞.—Sodium cacodylate } of each..... ¾ grain.
Extract of gentian }

For one pill. One pill a day, increased by one every third day until four are taken daily; two in the morning and two in the evening, after meals.

Absorption and Metabolism in Exclusive Rectal Alimentation.—Edsall (*University Medical Magazine*, March, 1900) states that when we attempt to supply the full quota of necessary nutriment by rectal alimentation, we meet with two obstacles—the bowel will not tolerate large quantities of food-preparations at one time, or the frequent use of small quantities, and of the amount that can be given in this way far less is absorbed than when the same quantity is given by the mouth. The result of these two reasons for lack of success in attempting complete nourishment in this way is that patients are likely to lose weight and strength, even though they show no evidence of irritation of the bowel and retain the enemata without difficulty. An investigation carefully carried out by the writer in a case of gastric ulcer fully substantiates these conclusions. Even a gain in weight and some general improvement cannot be considered satisfactory evidence that enough food is being absorbed. In most cases that are fed by rectum some difficulty has made it impossible to provide sufficient water for the tissues' needs, and the lack of water is more damaging than the lack of food. Rectal enemata always contain a considerable quantity of water, and much of this is absorbed, and the increase in the fluids causes both increase in weight and general improvement. Rectal feeding is only a measure by which we can temporarily reduce tissue loss and tide a patient through a brief period during which his stomach is becoming equal to reception of food, or he is being prepared for operation the removal of mechanical difficulties interfering with ingestion of food by the mouth. In cases that show pe nent inability to take foods by the mouth, as in esopha stricture, it should be evident at once that rectal alim tion is only an unsatisfactory makeshift, and that the demands more active treatment, which will usuall surgical.

Hemorrhage in Uterine Cancer.—Lutaud (*M de Gynécologie*, Paris, 1900) recommends the follo formula:

℞.—Extract of cannabis indica..... 8 grains.
Ergotin ..... 1 dram.
Fluid extract of hamamelis ..... 2 drams.
Sirup of Krameria..... 1 ounce.
Distilled water..... 3 ounces.
A tablespoonful every 2 hours.

The Local Uses of Mercury.—The *Medical Revie* March, 1900, quotes from the *Archives of Surgery* an a on the local uses of mercury, by Jonathan Hutchinson. writer holds that mercurial ointments will, if patiently cure almost every form of chronic local inflammation. exact formula does not matter much; the point is to r repeatedly some nonirritating dilute preparation. The portance of dilution is confirmed by the observation o mand Ruffer, who showed that strong solutions of va salts, oils, etc., repel leukocytes, while weak ones at them. A formula which Hutchinson constantly uses follows:

℞.—Ammonio chlorid of mercury.....20 grains.
Yellow oxid of mercury.....10 grains.
Lanolin..... 1 dram.
Lard to make ..... 1 ounce.

Sometimes a few grains of the nitrate are added or cal is substituted for the white precipitate. In obdurate especially in chronic ulcers of the legs, the bisulphur the proportion of 2 grains to the ounce often greatl creases the efficacy. For pustular eruptions of all k chronic boils, sycosis, sores in the nostrils, broken chilb and the like, such ointments are almost certain Hutchinson has carefully tried experiments with other ments not containing mercury and is convinced tha though 100 kinds of salves, and even vaselin alone, are valuable in protecting and healing, yet mercury defi adds to their curative properties.

Gastric Ulcer.—S. Fenwick and W. S. Fenwick (*of the Stomach and Duodenum*, 1900) write concernin use of silver salts: "Personally, we always use the ox silver in the form of a pill, commencing with half a and cautiously increasing it to one grain, with the nece intermissions. The silver salts are particularly val when hypersecretion accompanies the organic disease." to bismuth the authors prefer the subcarbonate to the s trate, since the former has the merit of neutralizing, to extent, the excessive acidity of the gastric contents. usual custom is to prescribe 10 to 15 grains of the subn or carbonate of bismuth with an equal quantity of bica ate of sodium and a few drops of a solution of mo shortly before meals, and in the majority of cases the d sufficient to afford the requisite relief. Occasionally, ever, a much larger amount of the bismuth is required Fleiner has shown that 2 or 3 drams may be given at a without any danger of toxic symptoms." Owing t dangers which accompany the use of the stomach-tu cases of gastric ulcer the authors prefer to administer large doses of bismuth by the mouth, and suggest the f ing plan: "About one hour before breakfast the p assumes the decubitus requisite to bring the powder in tact with the ulcer, and then quickly swallows about 8 o of warm water in which from 2 to 3 drams of carbonat muth have been suspended. He remains quiet for 1 and then partakes of breakfast. This modificati Fleiner's method we have frequently employed with spicuous success, and have never observed any injuri sults from the large doses of bismuth. For the first fort the dose is given each morning; during the next fort on alternate days; and subsequently once or twice a w

Original Articles.

COMMON COLDS: THEIR CAUSE, PREVENTION, AND TREATMENT.

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The nature and cause of acute catarrhal inflammations of the mucous membrane lining the upper portion of the respiratory apparatus is a subject of considerable interest. The prevalence of colds during the winter months renders this a timely subject for discussion at that time, though colds may occur at any season of the year.

Some persons are far more subject to colds than others, while some appear to be practically immune, though absolute immunity is quite rare.

Bacteriologic investigations of acute and chronic inflammations of the nose and throat have so far failed to show the presence of any microorganisms which might be called specific. The bacteria usually found under such circumstances are those most commonly found in inflammatory processes elsewhere, viz, the common pyogenic cocci. The microorganisms found in both acute and chronic inflammations appear to be the same, differing mainly in the degree of their pathogenic power. In acute inflammations the organisms are usually more highly pathogenic than those found in chronic catarrhs, though this is not always the case. Sometimes the organisms found in chronic catarrhal inflammations are highly pathogenic.

Aside from the common pyogenic cocci the organisms which are occasionally concerned in the acute and chronic inflammations under consideration are the pneumococcus, the Bacillus lanceolatus of Friedlander, and the Bacillus capsulatus of Pfeiffer, the organisms which are usually the cause of croupous and catarrhal pneumonia.

From the fact that no specific microorganism of catarrh has been found, and from the nature of the processes which are seen in both acute and chronic inflammations of the nose and throat, it is probable that these conditions are produced by the microorganisms mentioned.

The probabilities are, from the bacteriologist's point of view, that these inflammations are etiologically the same in whatever portion of the respiratory tract they are found, and that the differentiation made by the clinician into rhinitis, tonsillitis, pharyngitis, laryngitis, etc., are based mainly upon anatomic differences due to the location and character of the tissues involved.

The factors which influence the location of the disease process in a particular part of the respiratory tract are probably mainly dependent upon constitutional conditions which render one portion more vulnerable than another. The effects of previous attacks may also predispose one portion of the respiratory tract to an attack because of impairment of function. This may explain, at least in part, the frequently recurring attacks to which some persons are subject upon the slightest provocation. For instance, in some persons the disease always manifests itself in the form of quinsy, and this predisposition is traceable to a constitutional condition which is often inherited, though it may simply be an acquired trait.

Though ordinary colds are generally ignored by the laity because of their apparently benign character, the physician has frequent opportunity of seeing how seriously these attacks should be regarded from the grave symptoms that are sometimes seen in neglected colds. The lymphatic supply of the throat is such as to afford abundant opportunity for the microorganisms to be taken into the general circulation and become distributed throughout the system, and thus give rise to serious inflammations of the internal organs, especially endocarditis and pericarditis, while acute nephritis is probably also produced in this manner in a certain number of cases. When the bacteria are taken into the system in this manner the results are usually most serious.

The constitutional symptoms accompanying common colds are of such a nature as to indicate that large quantities of the poisons generated by bacteria in loco are absorbed into the circulation. The fever, chill, headache, and depression are to be explained in this manner. These alone point to the evident seriousness of these apparently benign affections.

Bacteriology also gives us important information as to the indirect causes of colds. Cultures made from the saliva of a large number of healthy men show that the pyogenic cocci are almost invariably present. During the present winter I have had a large number of the students make cultures from their saliva and these microorganisms were found almost without exception. In a small percentage of the cultures the pneumonia organisms were also found. Sometimes all the different pyogenic cocci were found, but in other instances practically pure cultures of either staphylococci or streptococci were found. In most instances other nonpathogenic organisms were also present in the cultures. A fact observed which is of great practical importance, if borne out by future investigations, is the almost complete absence of the nonpathogenic forms in the saliva of those who apparently took most care in cleansing the teeth. This fact would indicate that the simple measures ordinarily employed in cleansing the teeth do not affect the pathogenic bacteria in the mouth, and probably favors them by removing the organism which might ordinarily inhibit their growth. This is only another indication that half-way measures are worse than useless even in so simple a matter as cleansing the teeth. It is probable that the only safe measure is to employ some simple, effective antiseptic mouth-wash in order to remove the pathogenic bacteria.

The constant presence of these different forms of pathogenic bacteria in the human mouth is without effect upon the person so long as his system is in perfect condition, but upon exposure of the body to cold and dampness the effect upon the vasomotor system is such as to allow these microorganisms to invade the point at which the system is most vulnerable. Damp feet, damp clothing, cold draughts upon the nape of the neck, or cooling off too suddenly after being overheated, will usually be sufficient to permit these organisms to gain a foothold. So far as we know at present this is all that is necessary for these organisms to become active, though they may have been present and inactive for a long time.

The nature of the microorganisms found in common colds and the constant presence of these organisms in

[1] Read before the Montgomery County (Pa.) Medical Society, January 17, 1900.

the saliva of practically all healthy persons indicates that common colds cannot be looked upon as being fresh infections with each attack, though the nature of these organisms, besides abundant clinical evidence, also indicates that sometimes they are of the nature of fresh infections. Frequently one person in a family suffering from a cold infects the entire household. This is possible for the reason that the bacteria have acquired additional virulence in the first case, and thus it is possible for the others to become infected by contact and association.

Association and contact with a person suffering from chronic catarrh may induce acute catarrh in others thus brought in contact with such a person. These facts should lead us to regard all these patients as a source of danger to other persons, and this is especially the case with young children of school age. For this reason persons suffering from chronic catarrh should be excluded from the public schools until relieved of the disease. The association of children in the public schools is so intimate that all those affected with colds should be excluded on sanitary grounds.

For these reasons the recent appointment of a large corps of medical inspectors in Philadelphia, whose duty it will be to make daily inspections of the school children, is a wise sanitary measure. Such inspection will lead not only to the early detection and isolation of the graver forms of infectious diseases, but at the same time it will detect the milder forms of throat infections and thus lead to their systematic treatment at a time when they are far more amenable to treatment. For the reason that common colds are so generally neglected by the laity, this common source of infection should be minimized by calling early attention to this form of disease and thus lead to the adoption of measures of relief and the eradication of the disease.

The experiments recently reported by Carl Röse[2] on the antiseptic value of various substances when employed in the nature of a mouthwash have given us additional information on the question of satisfactorily removing the pathogenic bacteria in the mouth. He found that "odol," in 5 and 10% solution, when employed as a mouthwash for five minutes at a time, was sufficient to destroy a large proportion of these microorganisms. Odol is a crude oily liquid, which is the residue in the manufacture of salol, and contains, among other constituents, salol, which is changed to salicylic acid and phenol in the mouth. The use of Miller's mouthwash of benzoic acid and sublimate mixture (benzoic acid, 1 : 300; sublimate, 1 : 1500) was less effectual in five minutes and not so agreeable. He also found that 40% alcohol was quite effectual when allowed to act for five minutes. The substances employed as a mouthwash must be of neutral reaction because acids decalcify the teeth and free alkalies may irritate the mucous membrane. No irritating substance must be employed.

In cases where these bacteria have already gained a foothold I have had most satisfactory results from the systematic use of Seiler's alkaline antiseptic tablets. These tablets contain the bicarbonate, biborate, benzoate, salicylate, and chlorid of sodium besides eucalyptol, thymol, menthol, and oil of wintergreen, and are best employed by dissolving a tablet in 100 cc. of water at 37° to 38° C. This solution is then used either as a gargle, or by means of a spraying apparatus, according to the part of the respiratory apparatus affected. When this solution is used every two or three hours during the early stages of the disease the results are most gratifying. I have frequently experienced most decided relief after the first application in an attack of acute rhinitis or pharyngitis, with complete recovery within 48 hours. In order to obtain such satisfactory results, however, the solution must be used effectively and persistently, and it must be used early in the attack before the bacteria are imbedded in the deeper layers of the mucous membrane where the solution can no longer affect them.

The gratifying results noted from the use of this compound are no doubt due to its slightly alkaline character. Recent experiments have shown that during convalescence from infectious diseases there is a decided increase in the alkalinity of the blood, and we know that a number of microorganisms find an alkaline medium unsuitable for growth. The small degree of alkalinity which the solution possesses probably renders the mucous membrane an unfavorable medium for the further development of the bacteria causing the inflammation.

In this connection it may be interesting to see the influence of the alkalinity of the blood in relation to natural and artificial immunity, in relation to the leukocytes, and in relation to the presence of supposed bactericidal substances in normal blood.

Karfunkel[3] and Cantani[4] have found that injections of diphtheria-antitoxin into rabbits brought about a distinct increase in the alkalinity of the blood, while injections of diphtheria-toxin brought about a marked diminution in the alkalinity of the blood and that there was no return to the normal before the death of the animal. When 2 cc. of pure antitoxin and 1 cc. of toxin were injected simultaneously the alkalinity of the blood was not disturbed, indicating that the effect of each upon the alkalinity of the blood was modified by the other. Behring,[5] in an investigation upon the cause of the immunity of rats against anthrax, traced this cause to the alkalinity of the blood of these animals, which is quite strong, and he was able to demonstrate that by regulating their diet it was possible to reduce the degree of alkalinity of their blood to such an extent that they succumbed to anthrax. Fodor[6] asserts that animals in which the blood has been rendered more alkaline by artificial means are far more resistant to anthrax infection than normal animals.

Loewy and Richter,[7] as well as Karfunkel, have found that the rise in the alkalinity of the blood in infectious diseases is accompanied or preceded by a marked hyperleukocytosis, and Karfunkel is inclined to the opinion that the increased alkalinity is due directly to the hyperleukocytes. If this is the case, and there is a probability that it is, the presence of the leukocytes in a wound or inflamed tissue manifests itself not only by their phagocytic action, but also by the increased alkalinity of the blood and fluids of the part, and in this manner aids in the destruction of the microorganisms present.

Buchner[8] has found that the simple dilution of normal blood-serum with water destroys its bactericidal action while the addition of normal salt-solution up to the original amount again renders it active. Other salts had a similar effect upon the serum. Moxter[9] reports a number of experiments in which he obtained results according with those of Buchner, and believes, with Buchner, that the bactericidal principle of the blood-serum is broken up by the addition of the water, and

that the components are again united by the salt-solution and thus rendered active once more. Buchner traces the bactericidal action of the blood to the presence of albuminous substances which he has named alexins. But Buchner's theory is called in question by Baumgarten and his pupils. Baumgarten shows that by the use of other fluids than blood-serum, in which all poisonous action is absolutely excluded, they exert a bactericidal action similar to those of Buchner's blood-experiments, namely, physiologic salt-solution and other salt-solutions, and ordinary culture media as gelatin, and bouillon. He believes that the detrimental action of these various solutions, as well as of normal blood-serum, are traceable to the direct effect of the solutions upon the constitution of the organisms. He found that transferring the test-cultures from one medium to an other having a different osmotic pressure was sufficient to bring about the destruction of a large number of the bacteria.

In the light of the recent experiments of Baumgarten and his pupils the beneficial influence of the alkaline antiseptic douche is readily explainable. The alkalinity of the fluid renders the mucous membrane an unfavorable medium for the further development of the microorganisms; besides this we have the detrimental influence of the salts of the solution upon the osmotic constitution of the bacteria. The combined influence of these two factors, along with the invigorated vital resistance of the cells, the leukocytes and the epithelial cells of the mucous membrane, tends to arrest the course of the disease in a very short time.

Cases that are not seen early enough to prevent the absorption of considerable quantities of the bacterial poisons must also receive constitutional treatment to overcome the effect of these poisons in the system as manifested by chill, fever, headache, malaise, etc. I have found the administration of salol, phenacetin, and quinia to answer the purpose most admirably. The direct and indirect influences of these drugs in these diseases is a question which I shall not take up in the present connection. I desire to say, merely, that considerable experience with this combination extending over a number of years has given me most positive assurance of its efficacy. Of course it is to be remembered that hygienic and dietetic treatment are of the greatest importance in these cases as in any infectious disease. The patient should be confined to a room of even temperature, and the higher the room-temperature commensurate with the comfort of the patient, the greater the benefit. In severe cases perfect rest in bed is to be enjoined. The wonderful results reported by Prof. Schenk[10] with regard to the diet of the mother upon the sex of the offspring, and the evident importance and value of maintaining or even increasing the alkalinity of the blood in infectious diseases, should lead us to advise a dietary in these diseases which would favor such a result upon the reaction of the blood.

In conclusion, the points to which I desire to call especial attention, are the following:

First. That common colds are caused by the invasion of the mucous membrane of the upper respiratory tract by pathogenic bacteria which, in neglected cases, may invade the system and lead to serious results and that consequently these diseases should never be regarded as trivial.

Second. The etiologic factors concerned in these diseases are such as endanger the health of other persons coming in contact with these cases and that even though the disease may have become chronic in character it may lead to acute catarrhal inflammations in other persons coming in contact with such a case.

Third. Recognizing the infectious nature of these diseases, it becomes our duty to prevent as far as possible the association of those affected in this manner with healthy persons, and especially with the children in the public schools.

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INTESTINAL INDIGESTION AND ITS CONSEQUENCES.*

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[Continued from page 1100.]

The proteids, or true tissue-builders, all enter the alimentary canal in the form of an alkali-albumin, either in the polymeric state, as found in the vegetable kingdom, or in the "monomeric" form common to animal fluids and solids. In the alimentary canal the polymeric form must first be transmuted into the simple form. This accomplished, the alkali-albumin is acted upon by the hydrochloric acid, and isomerically transmuted into acid-albumin, after which it is further acted upon by the ferment body pepsin and transmuted into a series of albumins, and finally into a true peptone, which is the only form in which a proteid can be taken up by the epithelial cells of the alimentary canal. The larger percentage of the proteids in the foodstuffs, however, passes through the cavity of the stomach into the intestinal canal unpeptonized. Thus we find that the function of the stomach is chiefly a storage and macerating tank, the major portion of the proteids, as well as the starches, sugars, and fats, being transmuted in the intestinal canal. The ferment body trypsin, secreted by the pancreatic gland, together with the protolytic ferments of the bile and intestinal secretions, complete the peptonization of the proteids. When they have all been converted into this particular form in which the proteid can be drawn into the protoplasmic substance of the epithelial cells, they are absorbed by these special cells. After the peptone has gained access to the protoplasm of these cells, of which there are several distinct sets as regards their function, it is further isomerically transmuted in its passage through these cells. One set of cells discharging the contained proteid into the entero-hepatic blood-stream as serum-albumin, so called; another as serum-globulin, so-called, and another as fibrinogen, so-called.

If the transmuting function of these cells is overtaxed the peptone may be discharged as such into the entero-hepatic blood. The peptone being a toxic form of proteid, when it reaches the hepatic gland the epithelial cells of the liver take up the peptone and transmute it into a non-toxic form, in a manner similar to that of the cells of the intestinal canal when they are performing

* Read before the Jenkins Medical Association of Yonkers. Regular Meeting, November 9, 1899.

their function normally, thus preventing general toxemia from the peptones.

Having disposed of the peptone, attention is directed to the consideration of the composition of the so-called serum-albumin, serum-globulin, and fibrinogen.

The physiological chemists teach that the so-called serum-albumin in the alkaline medium of the blood will coagulate if the temperature is raised above 72°C. (161.6°F.), or, to be more accurate, if the temperature is raised to just 73°C. (163.4°F.), and is maintained at that point, a precipitate of the serum-albumin, so-called, occurs. After this has been filtered out, if the temperature of the filtrate be again raised to just 77°C. (170.6°F.), and maintained at that point for a short time, precipitation of the so-called serum-albumin again occurs. When this is filtered out, if the temperature of the filtrate be again raised to 84°C. (183.2°F.), the so-called serum-albumin is again precipitated. And these three proteid bodies deflect the plane of the polaroscope to different degrees; yet they all react to the common tests for the proteids in general. Which of the three is the serum-albumin that resulted from the isomeric transmutation of the peptone in its passage through the epithelial cells of the alimentary canal, and was discharged into the enterohepatic blood, has not been determined. If they all came from the peptone in its passage through the epithelial cells of the alimentary canal, then there must be a larger number of cells having a different function than the three already alluded to. This much we are, however, justified in asserting, viz.: that the so-called serum-albumin, as we commonly obtain it from the blood, is not a single specific proteid compound. We may go even further and assert that it is a very complex proteid compound, made up of many isomeric forms of the proteid elements, some of which may be in the identical form in which they left the epithelial cells of the intestinal wall to enter the entero-hepatic blood-stream, and as such have not been utilized by the system; while many of them, if not most of them, are different isomeric forms of the proteid elements that have been fully utilized by the various structures of the body, isomers that are en route from the various glands and structures of the body to the excretory glandular organs where they are to be taken up, together with active oxygen from the blood-stream, into the protoplasm of the epithelial cells of the gland, there to be oxidized into the end-products which are found in the excretions, and are commonly recognized as the results of tissue-waste.

The same may prove true for serum-globulin and fibrinogen. As yet, however, the proof is not so clear as it is with the so-called serum-albumin.

The oxidation as just described as occurring in connection with the fully utilized proteids is well illustrated in Figs. II, III, and IV.

This result, as will be seen by reference to the figures, is an active chemical decomposition, or oxidation, of the proteid with the formation of the katabolic products, which are common to the excreta. Each gram of proteid so oxidized in the body yields the heat equivalent of 1,812 kilogrammeters.

The nucleoalbumin, or the true hemoglobin-forming substance, when taken into the stomach and intestinal canal in the form of food, like the proteid when of vegetable origin, is acted upon by the digestive ferments and rendered less complex or similar to that of animal origin. The nucleoalbumin, both of the vegetable and animal class, is further so transformed by the digestive processes, that it can be taken up by the epithelial cells of the alimentary tract designated for this special work of absorbing the nucleoalbumin, the same as there are special cells for the various other constituents of the food as already described. The nucleoalbumin in its passage through these special cells, or after it has entered

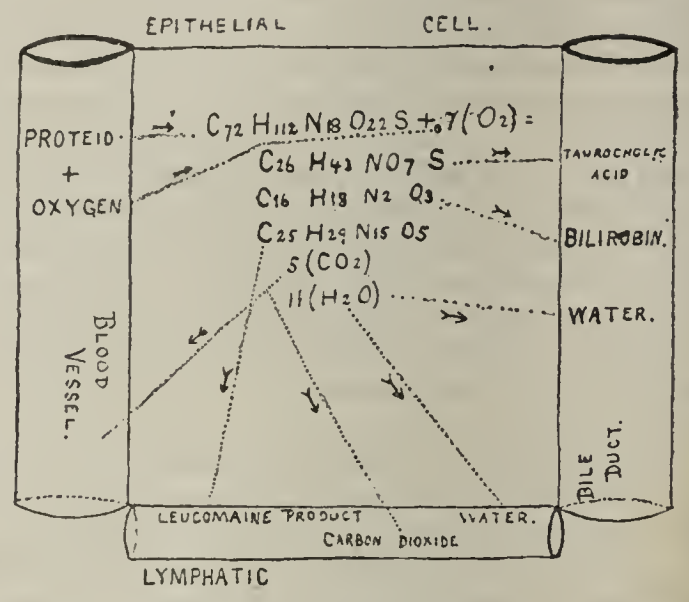


FIG. II.—PROTEID OXIDATION.

Schematic drawing illustrating the oxidation process in the protoplasm of the epithelial cell of the liver.

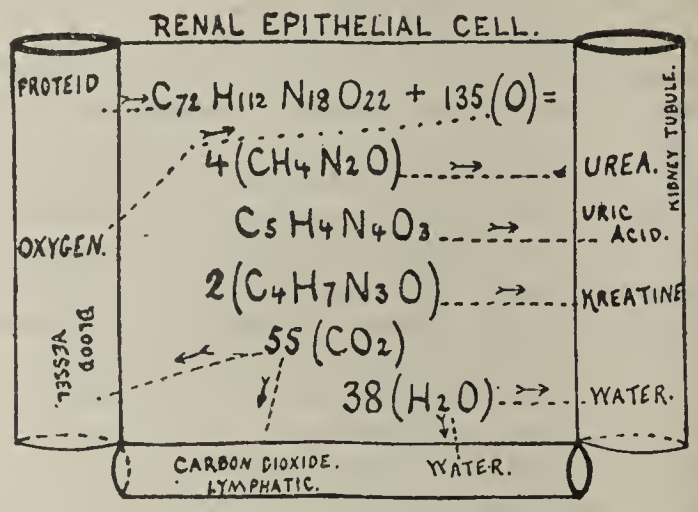


FIG. III.

Oxidation of proteid molecule in renal epithelium into urea, uric acid, etc. (Schematically represented.)

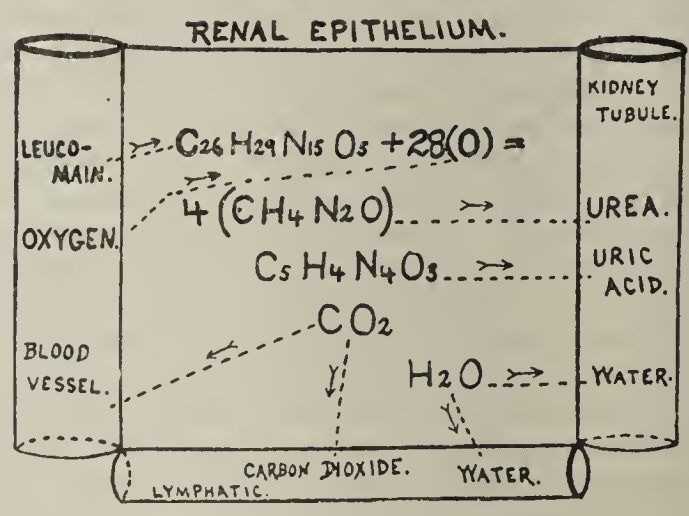


FIG. IV.

Oxidation of proteid derivative molecule in renal epithelium into urea, uric acid. (Schematically represented.)

into the system, becomes, in part at least, isomerically or by a process of oxidation-reduction, transformed into animal nucleoalbumin, and finally appears as such in the milk, eggs, and various structures of the body. Other portions pass up to the liver and are there oxidized in the hepatic cells. In this manner the nucleo-

albumin is split up in accordance with the analytic theory of animal chemistry, thus forming the simpler forms of compounds, such as hemoglobin and lecithin, water, carbon dioxid, etc., all of which are well known and easily recognizable substances. It is also highly probable that in this oxidation-process the polymeric molecule gives place to the less complex or monomeric form of structure, thus explaining the formation of the simpler form of nucleoalbumin as it is found in the animal kingdom. The hemoglobin contains the iron that previously existed in the nucleoalbumin, and enters into the composition of the red blood-corpuscles, thus giving to them their continuous supply of hemoglobin as rapidly as it is exhausted in its natural metabolic destruction. The lecithin contains the phosphorus, and it enters into the nerve-tissue, either as one of the component parts of this structure, or as an oxidizable food-product for the direct stimulation of the nerve-cells.

By this method of formation, the first logical explanation is given for the production of hemoglobin and lecithin in the physiological economy. Both of these substances have been developed in perfect harmony with the common laws of chemistry, as they are known to exist in connection with both vegetable and animal life. Their formation has been explained, also, without introducing a number of highly speculative problems, all of which rest on absolute uncertainty.

It will be noticed, also, in this study of the nucleoalbumins, that, while they are more abundant in the vegetable kingdom, they are more complex in the former, and it is further noticeable that those found in the animal substances can be more easily digested and assimilated. Consequently, those derived from the animal class of food-stuffs are the most economic for the system.

We cannot pass this point without calling attention to the fact that the presence of certain kinds of bacterial life are in all probability essential to a perfect performance of the digestive function. A few years ago Nuttall and Thierfelder, in a series of experiments, in which they used young guineapigs, apparently proved that the alimentary canal could be kept free from all bacterial influences, and a perfect nutrition at the same time be maintained. In opposition to this is the fact that in almost all instances the alimentary tract does at all times contain various microorganisms. Added to this are the more recent experiments of Dr. M. Schottelius.[1] Dr. Schottelius' series of experiments was carried out in a similar manner to those of Nuttall and Thierfelder, but instead of selecting the guineapig, hens and their eggs were utilized for the experimental work. Two sets of eggs were taken, one in which the surface was made absolutely free from bacteria, the other set remaining contaminated by microorganisms. The first will be called for convenience sterilized eggs, while the other batch will be designated as nonsterile eggs. The former were introduced into a sterile incubator, while the others were not. When the chickens were hatched those from the sterilized incubator were carefully fed on sterilized food, while those of the control experiment were given ordinary food. The feces were examined in both instances. In the so-called sterile chickens the feces were found to be absolutely free from all forms of bacterial life, while the reverse was found to be the case in the control experiment. At the end of a certain period of time the nonsterile batch of chickens were found to have gained in weight much more rapidly than the sterile batch. The gain being 250% greater in those in which the bacteria gained access to the alimentary tract. All of the so called sterile chickens died within three weeks after they were hatched, while the control chickens lived on as usual. Thus it would seem to be clearly proved, that for the most perfect working of the digestive function in the alimentary tract, and also for assimilation, the presence of certain kinds and amounts of bacterial life in the alimentary tract is absolutely essential.

To determine which forms of bacterial life are essential for the maintenance of a perfect physiologic state, will require a long series of experiments, in which the composition of the food is accurately determined before being ingested. At the same time the excreta representing the utilization of the foodstuffs and tissue-waste must be accurately studied. Then the various kinds of microorganisms at work in the contents of the alimentary tract must be determined through a study of the bacterial life found in the feces. With this there must also be associated an isolation of the various kinds of bacteria found in the contents of the alimentary canal in connection with the condition recognized ordinarily as the normal state. Then the action of the bacteria should be carefully studied on the normal sterilized foodstuffs outside the body, and this must be done with the bacteria, singly and in combination. Their action should also be studied upon the food in the presence of the various digestive ferments. When all this has been accomplished, a very fair knowledge of the action of the germs in the digestive process in the normal state will be secured. Then, in a similar manner, their action upon the digestive process could be studied in connection with the condition designated as intestinal indigestion, and also in connection with all the pathological processes, which appear to take their origin in an imperfect digestion and assimilation, in which an incomplete oxidation is a leading feature of the disease, such as occurs in gout, rheumatism, Bright's disease, diabetes, etc.

While all this desirable information is not as yet at our command, with the accurate knowledge that we do possess of the composition of the foodstuffs, we do know from practical experience, that if the food-supply is properly adjusted so that the constructive material is available and sufficient for the daily demands of the system, and if, at the same time, the heat-producing substances are of the right kind and quality, they can all be utilized perfectly without exhausing the oxygenating capacity of the system. This is, also, assuming that only those microorganisms favorable to the normal digestive function are present in the alimentary canal. Even under these favorable conditions nature has allowed quite a wide margin for deviation as to the quantity of food that can be ingested. Whether a similar indulgence as regards the quantities and varieties of microorganisms can be tolerated, is one of the unsolved mysteries of bacteriology. Were it not for this wide margin of indulgence in the food-products taken, and possibly as to the microorganisms, it would be impossible to secure anything like a fair standard of health.

When these laws are observed and the foodstuffs kept well within the prescribed limits, the digestive functions will be perfectly performed, assimilation thoroughly maintained, and normal physiologic phe-

[1] *Arch. f. Hyg.*, xxxiv, p. 240.

nomena only will be observed. Under these conditions the system as a whole will possess the highest possible degree of resistance against all disease-processes. Lower this standard and the system is easily attacked by infections. Thus we see how it is that intestinal indigestion is a prime factor in producing all forms of disease.

The chief causes of intestinal indigestion are of two kinds: First, the presence of abnormal microorganisms and the putrefactive changes produced in the foodstuffs in the alimentary canal by their presence; second, the taking of considerable more food than can be digested and properly oxidized, and also the taking of food of faulty composition. To these may be added, not as direct causes, but as conditions which influence perceptibly the perfection of digestion and assimilation, the kind of work which the individual has to perform, the lack of outdoor exercise, the peculiar condition of the nervous composition, the mental state, climatic influences, etc., all of which play their part in influencing the digestive phenomena.

The microorganisms, so far as we are at present acquainted with their definite action, are those which are apt to excite the more pronounced lesions of the alimentary canal, such as true inflammatory conditions. Still it must be admitted that most of the abnormal and putrefactive fermentative processes that occur in the foodstuffs in the alimentary canal have their origin in some form of microorganism. While microorganisms are always present in the alimentary canal, and appear to be essential for a perfect digestion, they are not of the kind that excite putrefactive fermentation with the formation of toxic products, which, when absorbed into the circulation, give rise to abnormal symptoms. On the other hand, their action in conjunction with that of the normal secretions constitutes the phenomena known as the digestive process. Under ordinary circumstances the combined action of the microorganisms and the digestive secretions is sufficient to prevent any deleterious influence from the presence of abnormal microorganisms and the digestive function is perfectly performed.

One of the most important factors, then, in the production of intestinal indigestion is the intake of too much food, and especially that which is faulty in composition (as the substituting of cow's milk for human milk in infant feeding), or the use of vegetable or starchy foods in young children before the full development of the digestive organs.

From the foregoing it is clear that in the production of intestinal indigestion, as in all other conditions in which the microorganism is regarded as a chief etiological factor, it is essential to precede the presence and action of the germ by conditions that tend to produce a soil suitable for its growth and development. Here we find that overfeeding or the use of unsuitable food precedes the action of the microorganisms. Overfeeding and the use of easily fermentable food readily develop the nidus, which is suitable for the active growth and action of the germs that excite putrefactive fermentation. Once this is excited, there is an abundant production of mucus in the alimentary canal, the proteid constituents of which appear to favor a rapid growth of these microorganisms. By the growth of the germs in this proteid medium, the molecular structure of the proteid molecule contained in the mucus is abnormally decomposed and an almost endless variety of toxic products are produced. These, when they are absorbed with the nutritive pabulum, appear to be the chemical products that give rise to an almost limitless chain of symptoms.

Looking a little more closely into this interesting subject, we find that the milk-sugar, the fat, and the proteids contained in the milk of the human subject are in that condition in which the digestive apparatus of the infant can most easily transmute them into an absorbable state, while the chemical composition and the proportions of the sugar, fat, and proteids in cow's milk are differently arranged, consequently not so available in its natural state for perfect results in infant feeding. Therefore, the use of cow's milk alone, in infant feeding, is prone to produce digestive disturbances and malnutrition. When properly diluted and modified by the addition of egg and barley-water, cow's milk can be made available for infant feeding. The mother's milk, however, when of perfect composition, yields the highest degree of nutrition with the least tax upon the digestive powers of the child. All deviations from this fixed plan of nature tend to lower the nutritive vitality, and ultimately excite intestinal indigestion.

In the adult, overindulgence in food may be sufficient to cause intestinal indigestion. But when this is coupled with faulty composition a decided disturbance in the digestive process must follow sooner or later, depending upon the inherent chemical activity of the organism.

From a careful study of the normal process of digestion, it becomes apparent that a well-regulated mixed diet is the most desirable at all times, except in early infancy, old age, and in some diseased conditions, when a purely milk diet is the most desirable.

A well-regulated mixed diet is one that contains the mineral ingredients common to the animal organism, the starches or sugars, the fats, and the proteids, all so proportioned that the requisite amount of heat will be produced by the carbohydrates along the line of the entero-hepatic system, and by the fats in the lungs, and the full amount of constructive material supplied.

The animal and vegetable kingdoms both contain these three classes of substances. No one of them is perfectly adjusted, however, for the best results, although milk, so far as its general composition is concerned, comes very close to perfection. But milk, like every other single article of food, has its defects. The sugar and fat, as compared with proteid constituents, are slightly in excess of what they should be for the most perfect results. Milk also contains too low a percentage of the nucleoalbumin or hemoglobin-forming product. Therefore, to secure the most perfect results the animal and vegetable compounds in some form should be blended together in outlining a well-regulated mixed diet.

The vegetables, taken alone, contain an excess of the starches and sugars, and comparatively little fat. Their contained proteid, which often exceeds in percentage that found in the animal kingdom, is less available for assimilation than the latter, because, owing to its highly polymeric structure, it is less readily split up to meet the requirements of the organism and is much more difficult to convert into a peptone. In fact, the task is so great that from 15 to 60% passes through the alimentary tract without being so transformed, while with the animal proteids the loss is only from 2 to 10%.

Therefore, when living upon an exclusive vegetable diet, a large bulk of unavailable material must be taken into the alimentary canal to secure the absorption of the requisite amount of proteid substance. With this there is also an excessive amount of starch and sugar, and a deficient quantity of fat. If the individual has

been blessed with a strong digestive apparatus, and can lead a comparatively leisurely and out-of-door life, many years may pass without material damage to the economy upon a purely vegetable diet. If, on the other hand, adverse conditions are imposed, as they frequently are with such a diet, intestinal indigestion and various forms of malnutrition will speedily follow.

The great advantage that the vegetable class possess over the animal class is the high percentage of nucleoalbumin that they contain as compared with the animal. This is especially true with the green vegetables and the legumins. Hence their value and the necessity for using them.

The liberal use of fruits is another very potent factor in exciting abnormal fermentation of the foodstuffs in the alimentary tract. It is the irritation that arises from this disturbed action in the transmutation of the foodstuffs that makes them laxative in their nature. Many of the fruits in the market are plucked before they have had an opportunity to fully ripen; in their raw state they are often laden with microorganisms, and at best are in a state of partial decomposition when they are introduced into the alimentary canal. Therefore, they should be avoided as laxative agents.

The meat diet alone is defective in that it does not contain any glucose compounds; but when the term "animal diet" is used in its true meaning it includes milk, eggs, butter, cheese, and all products that are obtainable from an animal source. Under these conditions, all four classes of chemical compounds are represented in an animal diet, and can be secured easily in the required proportion, with the exception of the nucleoalbumin. The nucleoalbumin is not in sufficient amount to fully sustain the demands of the system for this substance, hence the necessity on this account for the addition of the vegetable class to secure a perfect diet.

On the other hand, when the term "vegetable diet" is used accurately, it excludes the use of butter, lard, eggs, and milk, and every animal product, even in the process of cooking. When this is done it is found to be almost impossible to construct an exclusive vegetable diet in which the four classes of chemical compounds are properly proportioned. A near approach to perfection in composition, even if such were possible, would still necessitate the introduction and transmission through the alimentary canal of a large amount of waste and irritating material, owing to the great indigestibility of the vegetable proteids. Consequently, sooner or later, the system must suffer. It is for these reasons that the excessive use of the vegetable compounds and fruits is so prone to excite intestinal indigestion. In a similar manner an animal diet may result in intestinal indigestion, not so much from faulty composition as by a too liberal use of the animal foodstuffs.

These, then, are the essential conditions or factors that tend to, and do actually, cause the innumerable cases of intestinal indigestion which are constantly presenting themselves for treatment.

The clinical feature presented in connection with intestinal indigestion is an exceedingly complex and varied one. The symptoms may be acute or chronic in their nature. It is the chronic class, however, that are the most important and the most varied in symptomatology.

[To be concluded.]

MÜTTER LECTURES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The Surgical Treatment of Congenital and Pathologic Disfigurements of the Face.

By JOHN B. ROBERTS, M.D.

Lecture II.—*A Rapid Survey of the Anatomy (Constructive, Regional, and Artistic) of the Human Face.*

[Abstract.]

The frontal and temporal regions of the cranium must be included in the present study; because the disfigurements to be considered concern the ears and forehead, as well as that portion of the head usually called the face in anatomical treatises.

Good surgery of any region is impossible without a knowledge of the bony landmarks and the mutual relations of the soft parts. The lecturer is therefore obliged to spend a little time at least in describing the bones, muscles, arteries and nerves of the region, the surgery of which is to be discussed. The carotid, temporal and facial arteries must be remembered, because of the hemorrhage, which occurs from them during operations, and because the bloodsupply of flaps made in plastic operations is a matter of supreme importance. The situation of the branches of the facial nerve and the position of the duct of the parotid gland must be always in the mind of the operator, lest wound of these important structures occur.

The upper jaw is of major importance in the construction of the face, forming as it does portions of the walls of the orbit, nose and mouth. Its alveolar arch must correspond with the same portion of the lower jaw, in such a way that the upper teeth may lie in front of the lower jaw when the mouth is closed. The incisive portions of the two upper jaw bones are developed by special centers of ossification. They therefore have much to do with the shape of the lower portion of the face and mouth. Harelip and cleft palate are the most conspicuous and most common congenital deformities due to improper development of this portion of the facial skeleton. Another disfigurement is that in which the lower jaw with its teeth project in front of the upper jaw. This deformity is said to be due at times to precocious ossification of the sutures between the body of the upper jaw and its intermaxillary or incisive portion. As a result, the upper jaw and teeth do not develop in a forward direction as much as they should and the lower jaw gains an undue relative prominence. The lower segment of the face is therefore altered in an unseemly manner. Mechanical appliances to prevent this ugly alteration in the relation of the two jaws may be successfully employed in young children.

The lower jaw varies greatly in shape in different individuals and at different periods of life. The angle between ramus and body in the adult male is about 122°. It is very obtuse in infants, and more obtuse in women than in men. Changes in the angle of the mandible and the prominence of the chin, produced by the loss of teeth and the absorption of the alveolus in old age, give the characteristic appearance of the senile face. Ankylosis of the temporo-maxillary joints preventing movement of the lower jaw will, if occurring in childhood, lead to atrophy or want of proper development. An immature chin thus results, causing conspicuous disfigurement of the individual. Burns of the lower part of the face and neck in early life often

prevent proper mobility of the lower jaw and lead to a lengthening and bending downward of the bone. Persistent thumbsucking in young children after the second dentition causes deviation of the teeth and an abnormal relation of the jaw-bones.

The frontal eminences are better marked in young persons and women than in adult males, because in the latter the greater development of the frontal sinuses brings the lower portion of the frontal bone forward in the neighborhood of the superciliary ridges. The frontal sinus begins to develop at about seven years of age.

A study of the facial angle and its measurement by the goniometer of Camper are interesting to anatomists and surgeons as well as to artists.

The face of the infant is small in comparison with the rest of the head. The cranium of the baby is five or six times as large as the face. The development, as the infant grows, of the superciliary arches and frontal sinuses makes the frontal eminences less conspicuous, and the forehead therefore assumes a more receding character. The face at first is short in comparison with its breadth and lacks the prominence of the adult face. This is largely due to the absence of teeth. The growth of the jaws, which occurs when the teeth have erupted, changes the lower portion of the face into that of the adult.

The appearance of the human face has varying characteristics in different races of men and in different individuals of the same race. A protruding face is called prognathous; the nonprotruding face, orthognathous; and a broad face eurygnathous. The Caucasian face is orthognathous and often prominent mesially and centrally, while the African and Mongolian races have prognathous faces. The Mongolians have faces which are broad and centrally depressed as well as prognathous.

The muscular structures of the face differ from the muscles of the extremities in that one end of many of the muscles is inserted into the skin, which is movable and drawn into folds and wrinkles at right ankles to the direction of the muscular pull. In subjects whose skin is thin and flexible muscular contraction causes many and delicate wrinkles. When the skin is thick and stiff by nature or as the result of disease, a slight action of the muscles of expression will produce no visible wrinkling. More active contraction will cause few and thick wrinkles. Under the latter circumstances delicate shades, and variety and beauty, of facial expression are absent.

There are two main muscular landmarks on the front of the face. One about the two eyes and one around the mouth. They are in a certain sense sphincter muscles, closing the eyelids and the opening of the mouth. The orbicular muscle of the mouth has its fixed attachments in the middle line above and below, but the orbicular muscles of the eyelids have their fixed points at the outer and inner ends. Many of the muscles of expression are inserted into or blend with the fibers of the orbicular muscle of the mouth and by acting upon it make great changes in the expression of the face.

The mobility of the lips, the bulk of which is chiefly the orbicular muscle, gives expression to the face to a much greater extent than any muscular movement about the eyelids and forehead.

The muscles of the face occur in pairs. The frontal muscle and orbicular muscle of the mouth, though each is spoken of as single, are really two lateral muscles usually acting as one.

The action of the frontal muscle is to raise the eyebrows and make transverse wrinkles in the skin of the forehead. It has been called the muscle of attention. When acting excessively it produces the appearance of astonishment.

The corrugator muscles of the eyebrows pull the eyebrows inward and downward near their nasal ends, making vertical wrinkles between the eyebrows above the root of the nose. This expresses frowning shown in mental and physical suffering. The greater zygomatic muscles draw upward the angles of the mouth and cause wrinkles under the eyes, thus giving rise to the expression of joy. They are assisted by the elevators of the angle of the mouth.

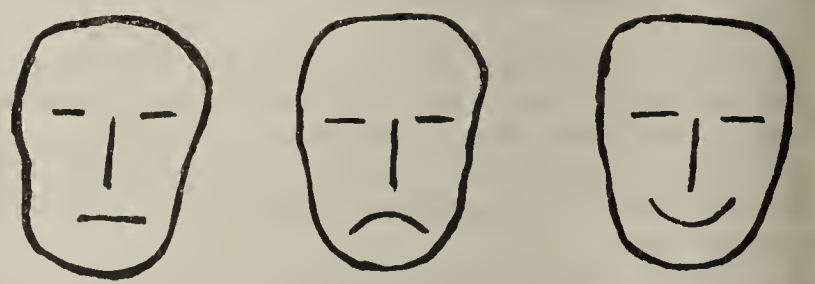


FIG. 1.—Crude diagrams showing change in expression caused by change in shape of mouth.

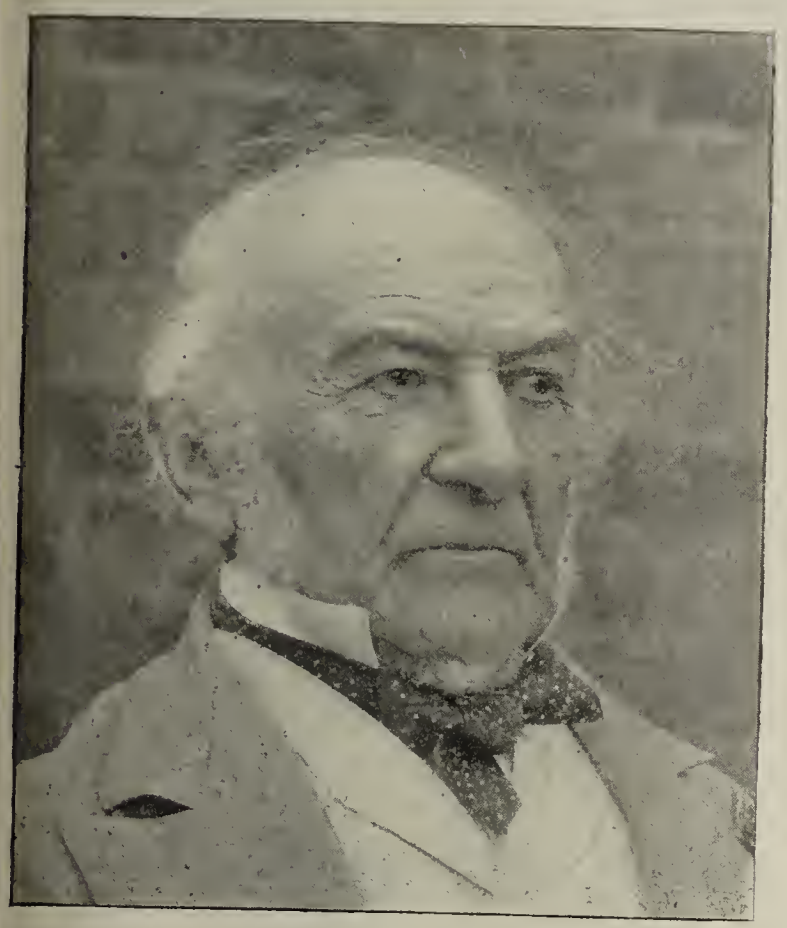
A well marked furrow in the face is the nasolabial line extending downward and outward from the wing of the nose to a point external to the angle of the mouth. It is seen in all faces, especially in the aged. The nasolabial line changes its shape with the action of various muscles of emotion. It is important to the surgeon, because incisions made along its groove show little scar. In laughter the nasolabial line assumes a double curve like the old italic *S*. In pain it is straight; in grief, convex outward. In contempt it is drawn in at the lower end and extended around the angle of the mouth.



FIG. 2.—Action of corrugators of eyebrow shown in expression of suffering.

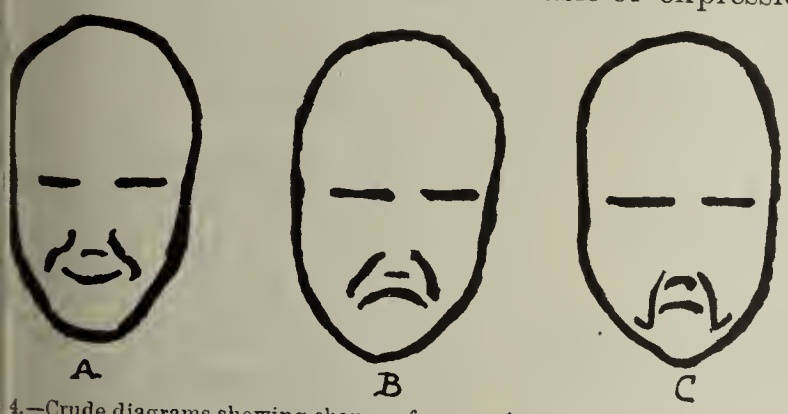
Other emotions are shown by similar actions and ombinations of action of the small muscles of the face, hich are inserted into the skin or into the muscular ass of the lips.

In true emotions the muscles of the various portions



3.—The nasolabial line and the transverse furrows of the forehead are well shown in this photograph.

the face act in consonance involuntarily and produce pressions which seem to us natural. We can, how-er, by distinct voluntary effort bring disassociated uscles into action, and thereby produce a grimace. is interesting to observe how the anatomic situation l nervous supply of muscles indicate what emotions occur together. This anatomic basis of expression



4.—Crude diagrams showing change of expression caused by changes in the nasolabial lines.

esponds exactly with the psychic relations of the nomena. It is impossible, for example, to give ntion to external objects and to be at the same time state of meditation. The impossibility of such a ital contradiction is anatomically shown in the fact the frontal muscle cannot carry the eyebrow up-d to indicate attention while the orbicular muscle e eyelids is pulling it down to indicate meditation.

TURE III.—*Characteristics of Surgery in the Face. —The Principles of Plastic Surgery of the Face.*

[Abstract.]

he skin of the face is thin, elastic, and very vascular. vascularity and elasticity render it suitable for plastic procedures. Incision should be made in positions where there is usually a shadow, as under the eyebrow or beneath the lower jaw, or in the bottom of the furrows produced by the habitual expressions of the patient. When these positions cannot be chosen the surgeon's cut should be made parallel to the facial lines rather than across them. A slightly curved line makes a less conspicuous scar than a straight or abruptly curved one. Accurate apposition should be made by means of sutures. Oblique incisions through the skin permit more accurate apposition than those dividing the skin in a plane at right angles to the surface. The intracuticular suture is sometimes valuable; but is not necessary, if thin silk is employed and the wound kept aseptic. Formaldehyd catgut may be used instead of silk, because it may be thin without being absorbable as soon as the ordinary catgut suture. The infrequency of valves in the veins of the face is said to be the cause of the rapid spread of septic inflammations in this region. Wounds should therefore be kept free from contamination. The bones of the face have a good blood-supply, and many of them are comparatively soft. They may be utilized for plastic operations without much danger of necrosis.

Portions of the nose, ear or lip which have been cut off should be readjusted and sutured in position, for there is a fair prospect of immediate union of such parts accidentally separated from the face.

It is better as a rule to keep the wounds dry. They may be covered with a small piece of aseptic gauze, or an aseptic scab may be formed by dusting a little boric-acid powder over the wounds and allowing it to form a crust with the serum.

Incisions in the cheek should, when possible, avoid perforating the mucous membrane. This prevents infection from the bacteria within the mouth. Drainage, when necessary, should be into the mouth and not upon the surface of the face. The duct of the parotid gland must be avoided. If cut, the proximal end should be carried into the mouth through a properly placed incision. This avoids the occurrence of external fistula.

Plastic surgery is called into requisition to repair congenital malformations and deformities, the result of injury or disease.

Displacement of skin by stretching or sliding, transferring a flap with a pedicle, and transplanting portions of tissue from the face or other regions, without pedicles, are the chief methods employed. Occasionally the flap to be used for repairing a gap is not put into position until inflammatory changes have increased its vascularity and thickness.

Plastic surgery may also have for its object the curtailing of abnormally large organs, such as noses, ears and lips.

Plastic surgery should not be done upon a patient in poor health nor when septic contamination is particularly likely to occur. Syphilitic processes should be stopped by treatment before the deformities caused by them are corrected by operation.

A series of operations may be necessary to obtain the best cosmetic result. A bulky resemblance to the organ to be constructed is made first. Subsequent improvement is then obtained by minor operations, with sufficient intervals between them to permit the absorption of inflammatory exudate and cicatricial shrinking.

Flaps may be jumped across a bridge of skin, may be turned upside down and skin-grafted upon the raw

surface, or one flap may be put upon the top of another to raise depressed portions of the face. Flaps containing periosteum and bone are sometimes used. Plastic flaps should contain a good deal of subcutaneous tissue, and should have a wide pedicle when possible. The flaps should be about one-third larger than the space to be filled in.

In transplanting portions of skin without pedicles the best results are usually obtained by removing the subcutaneous fatty tissue, and keeping the wound absolutely dry and free from antiseptic solutions. Asepsis, not antisepsis, is an essential here.

If gangrene occurs it is wise not to remove hastily the tissue which seems to have lost its vitality. Very often only the surface or the edges will actually die, and a much better result will be obtained than the surgeon expects when he sees the tissue beginning to slough.

GASTRIC ANALYSIS.

BY ALBERT PHILIP FRANCIN, A.M., M.D.,
of Philadelphia, Pa.

THE subject of gastric analysis in relation to disease of the stomach is so familiar in theory to the medical profession that any introductory remarks upon this phase of the subject would be out of place here. The present brief consideration attempts to deal only with the practical side of the matter, to give, in a systematic way, what is essential for making a complete and accurate analysis of gastric contents, and what the hospital resident or graduate student in working up a case of gastric disease must know or have at his disposal.

The subject has been treated under three heads: (*a*) The stomach-tube and the test-meal. (*b*) The preparation of the solutions, and (*c*) Chemical analysis. In the last division no more than one method has been given in relation to any constituent of the gastric contents, and that method has been chosen which is admittedly the most accurate. It follows, of course, that the methods of chemical analysis do not differ materially from those given in textbooks on Physical Diagnosis. Under heads (*a*) and (*b*), however, is arranged matter not readily found by one who has not access to special works on the stomach or medical chemistry and then in such shape as to require considerable time for its apprehension. Whenever it has seemed useful, practical hints met with in the laboratory have been added, and it is hoped that this succinct and brief account of the subject may prove of service to some investigator who has not the advantage of a past master in the art continually at his elbow.

The Stomach Tube.—The flexible, soft rubber tube is the one which experience has shown to be the safest and the most serviceable. Other kinds of tube varying from an ordinary stomach pump to a hard rubber tube have been from time to time employed, but it was Ewald and Boas to whom the development of this whole subject is so largely due, who demonstrated conclusively the many advantages of the soft rubber tube.

The best known variety of instrument consists of a tube with a funnel attachment at the distal end. This is very serviceable on account of the readiness with which it may be kept clean[1] and the ease of its manipulation. It is usually well to have in connection wit this a bulb apparatus, *i. e.*, a Politzer bulb or the bul of a Davidson's syringe, in order to start the flow of th contents. This tube is also useful for inflating th stomach for purposes of physical diagnosis.

Another variety of tube much used contains as pa of its mechanism a bulb conveniently situated i its continuity. By compressing this after the inse tion of the tube into the stomach, the flow of th gastric contents is started and the siphon action of th tube is usually sufficient to empty the stomach.

It is perhaps some assistance in the use of thes tubes to have a short piece of glass tubing in a conve ient position in the continuity of the tube in ord



After Leube.

that one may observe in which direction the suc action of the tube is at the moment exerted. They not sold with such a piece of tubing in place, but can readily arrange this by cutting the tube across convenient point and inserting a suitable piece of g tubing.

For lavage of the stomach either of the above vari of stomach-tube may be used; but there is a conven apparatus described by Leube, which consists of a r voir with an outlet to which is attached a foot or according to the height at which the former is pla of rubber tubing. Into the lower end of this p of tubing is inserted a glass tube in the shape o inverted Y. Either leg of this glass tube is inse

[1] Boas advises that separate tubes should be used in tuberculous, syphilitic, and carcinomatous subjects.

to rubber tubing of sufficient length to enter respectively the patient's stomach and a receptacle. Two nchcocks are placed, as in the diagram.

By alternately opening and shutting the pinchcocks the omach may be filled and emptied of its contents. Sterile ater may be used in the reservoir or a medicated solution. With a little practice a patient can soon learn to wash t his own stomach, and may, where this is frequently cessary, rig up such an apparatus in his bedroom.

The Passage of the Tube.—The patient, protected a rubber apron, is seated upon the edge of ordinary straight-backed chair, or, if in bed, the edge of the bed, and his head thrown forard. The physician stands in front of him, having a itable receptacle for the contents ready and also a sin of hot water, into which he dips the tube for the rpose of lubricating it.[2] He now directs the patient open his mouth and without introducing a finger, as metimes described, inserts the end of the tube far ck in the pharynx, directing the patient to swallow. e muscles of deglutition seize upon the end of the be, and, aided by a moderate amount of pressure on part of the operator, the tube passes readily into stomach. Care and firmness are alone necessary the successful manipulation of the tube.

Where the patient is extremely nervous or the muss of the pharynx irritable and there is much gagging spray of cocain (4%) may be used preparatory to sing the tube.

Expression of the Contents.—This is accomplished by honage, in simply depressing the external end of the e, which is sufficiently long to act on this prinle. It is usually necessary to start the flow of the tents by asking the patient to bear down, so as to e the contents into the tube. This may also somees be accomplished by exerting moderate pressure h the hand over the region of the stomach. Better, wever, is the use of a bulb apparatus as described ve to start the flow of contents.

Contraindications.—There are certain contraindications he use of the tube which may be briefly mentioned: ite febrile diseases, marked emphysema, with bronis, severe organic heart disease, ulcer or ulcerative cesses, aortic aneurysm, the hemorrhagic diathesis,[3] carcinoma of the stomach. Outside of these cons the use of the stomach-tube with ordinary care perfectly simple, proper, and safe procedure, and which is often absolutely necessary to the intelligent reciation of a case of gastric disease.

The Test-Meal.—Ewald's test-breakfast is now univery conceded to be the best on account of its simity, comparative cleanliness, and the ease with ch it may be obtained from the stomach; and be se of the fact that it represents all the constituents n ordinary mixed diet. It consists of an ordinary roll, weighing about 35 grams, and a half liter or luidounces of hot water or weak tea, taken without m or sugar. It is administered in the morning on empty stomach or after washing out the stomach, expressed one hour after its administration.

THE PREPARATION OF THE SOLUTIONS.

may be premised with regard to both the preparaof the solutions and the chemical tests themselves that while they are not in the least difficult, from their nature they require a certain amount of time, and no one who is "in a hurry" or who in the beginning cannot give 3 or 4 hours a day uninterrupted attention to the work ought to undertake it. After one is quite familiar with the technique and the clinical methods themselves, a half hour or an hour will suffice for making one or more analyses, but in the beginning this is not to be thought of. In the beginning it takes two or three afternoons to prepare the solutions alone, after which one may work as rapidly as is consistent with accuracy.

Rosalic acid solution, made by dissolving $\frac{1}{2}$ gram commercial boric acid in 5 cc. alchol and adding distilled water to 50 cc.[4]

A Decinormal Soda Solution.—Make two solutions: (*a*) dissolve 4.5 grams of soda by-lime ($NaOH^{40}$) in 900 cc. distilled water in a large bottle. The soda dissolves slowly, and the process is aided by vigorously shaking the bottle from time to time—or by previously pulverizing the soda in a mortar. This makes an approximate decinormal solution which is too strong. To get it absolutely accurate titrate with (*b*) an oxalic acid solution made by dissolving 6.285 grams oxalic acid in 100 cc. distilled water.[5]

To make the control-test put 10 cc. of (*b*) the decinormal oxalic-acid solution in a beaker, add a drop of rosalic acid as an indicator and titrate with (*a*) the soda solution in a Mohr's burette. It should take just 10 cc. of the soda solution to neutralize the acid, which is shown by the appearance of a faint pink color which does not disappear on stirring. If it takes more than 10 cc., as will be the case, the soda solution is too strong and more distilled water must be added, according to the formula $C = \frac{N.\ d}{n}$ in which C represents the number of cc. which must be added to the solution remaining; N the total number of cc. remaining after titration; n the number of cc. consumed in one titration; and d the difference between the number of cc. theoretically required and that actually used in one titration. Repeat the test and it will be found that it takes exactly 10 cc. soda-solution to neutralize 10 cc. oxalic-acid solution.

Congo-red paper: Shake enough congo-red into a basin of water to color it a bright crimson. Immerse filter paper cut of convenient sizes in this. Allow the paper to remain in the solution about an hour and then hang up to dry.

Phenolthalein: Dissolve $\frac{1}{2}$ gram phenolthalein in 50 cc. dilute alcohol.

1% ferric chloride solution: Dissolve $\frac{1}{2}$ gram ferric chloride in 50 cc. distilled water.

4% carbolic acid solution: Dissolve 2 grams of carbolic acid in 50 cc. distilled water.

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ycerin, oil or vaselin are no longer used, as they do not, as shown by materially assist in the passage of the tube, are dirty, and interfere with cognition of fat or free oil droplets in the contents.

teresting cases of severe or even fatal accidents have been reported by before the Berlin Medical Society, *Berl. klin. Wochenschrift*, 1890, p. 694, Fenwick in the *Practitioner* for April, 1892.

[4] The following is a list of all the materials used in this work in quantities somewhat greater than are necessary for making up the solutions. They may of course be more advantageously purchased in greater quantity at wholesale rates: Litmus paper, congo-red, 1 gram; soda-by-lime, 5 grams; phenolthalein, 1 gram; crystalline oxalic acid, 8 grams; rosalic acid, 1 gram; ferric chloride, 1 gram; carbolic acid, 3 grams; resublimed resorcin, 5 grams; saccharin-albin. 10 grams; phloroglucin, 3 grams; vanillin, 2 grams; alizarin monosulphate of sodium, 1 gram; calcium carbonate, 3 ounces; chloride of sodium, ½ pound; strong acetic acid, 2 fluidounces; potassium hydrate, 4 fluidounces; copper sulfate, 2 grams; strong acetic acid, 2 fluidounces; absolute alcohol, 2 pints, and distilled water ad lib.

The following mechanical appliances are necessary: A Mohr's burette; filters and filter paper; bottles and corks, preferably rubber of various sizes; glass rods and tubes; beakers of various sizes; a small Davidson syringe; one 1,000 cc. graduated glass, and one 10 cc. and one 5 cc. graduated pipette; one or two small porcelain dishes, a Bunsen burner.

[5] Absolute accuracy in the proportion of the oxalic-acid solution is essential. The 6.285 grams is obtained from the atomic weight of oxalic acid, $C_2\ O_4\ H_2 = 125.70$ grams, and as it is dibasic, and we want a decinormal and not a normal solution, we get the figure 6.285 grams.

Resorcin solution: (Boas):

Resublimed resorcin	5 grams.
Saccharin-albin	3 grams.
50% alcohol	100 cc. Mix.

Phloroglucin-vanillin solution:[6] (Günzburg):

Phloroglucin	2 grams.
Vanillin	1 gram.
Absolute alcohol	30 cc. Mix.

Alizarin solution: Dissolve ½ gram of alizarin in 50 cc. distilled water.

Saturated solution of sodium chloride: Take a four-ounce bottle of distilled water and add as much sodium chloride as it will take up.

1% solution of copper sulphate: Dissolve ½ gram of copper sulphate in 50 cc. distilled water.

A solution of KOH. Calcium carbonate. Absolute alcohol, which can be diluted to any required strength. Distilled water.

CHEMICAL ANALYSIS.

A specimen of gastric contents should be examined first macroscopically with regard to its amount, its color and consistency, the presence of abnormal constituents like meat, as to the quantity and kind of sediment, the presence or absence of mucus, etc.

The normal contents obtained one hour after an Ewald test-breakfast consist approximately of a whitish sediment of bread debris, without particles of meat or other undigested food, of a small amount of mucus, and of from 40 to 60 cc. of a clear white or bluish-white supernatant fluid.

Gastric contents should also be examined microscopically for bacteria and bacilli, for blood-corpuscles, fat and epithelial cells, starch-granules, etc.

The contents should then be stirred or shaken, and filtered. The following is a good order of procedure in the chemical examination of the filtrate:

1. Reaction with litmus paper.
2. Reaction with congo-red paper for the presence of free acid.
3. Günzburg for free HCl.
4. Total acidity with phenolthalein.
5. Free HCl, organic acid and acid salts with alizarin.
6. Combined HCl (4) — (5).
7. Free HCl, quantitatively.
8. Total HCl, (6) + (7).
9. Organic acids and acid salts (5) — (7).
10. Acid salts. Leo's method.
11. Organic acids (9) — (10).
12. Lactic acid, Uffelmann, with etherial extract.
13. Propeptone, and peptone.
14. Coagulating or rennet ferment.
15. Pepsin.[7]

It requires about 60 cc. of contents to make all the tests, taking 10 cc. for each essay. In the event of the contents being small in amount, it is better to take 5 cc. and make the necessary reduplication in the result than to dilute the contents with water. The later may, however, be done. Also, it is possible to use the same 5 cc. of contents for both free HCl quantitatively and total acidity, by making the former test first and then adding the indicator and proceeding with the titration.

3. *Test for Free HCl.*—Take a small drop from the stomach-contents by means of a glass rod and place it on a porcelain dish; to this in the same manner add a drop from the phloroglucin-vanillin (Günzburg's) solution. Heat gently over a Bunsen burner. HCl, if present, will appear as a bright or pale rose-red color—according to the amount present—at the margins of the mixture.[8]

4. *The Total Acidity.* — (Free and combined acid, organic acids and acid salts.) Fill a Mohr's burette with a decinormal soda solution. Take 10 cc. of the stomach-contents in a small beaker, add a few drops of phenolthalein as an indicator, and titrate with the soda solution until a permanent pink color, due to the neutralization of the acid in the contents, appears. Add the soda solution drop by drop and gently shake the 10 cc. of contents after each addition. The number of cc. used is then read off and this multiplied by 10 in order to denote the relation of the result to 100 cc. stomach-contents, is spoken of as the "degree of acidity in terms of NaOH." Thus, if it took 5.2 cc. decinormal soda solution to neutralize 10 cc. stomach-contents there would be 52 per hundred, or the total acidity would be 52 in terms of NaOH.[9]

The acidity of normal gastric contents varies from to 60 cc. in terms of NaOH.

5. *Free HCl Organic Acids and Acid Salts.*—Take cc. of stomach-contents, add a drop or two of alizarin as an indicator, and titrate with the decinormal soda solution until a violet color appears. The combined acid is not affected and the reaction indicates the neutralization of the free HCl, the organic acids and acid salts. If there are no organic acids present it applies to the free HCl and acid salts alone.[10]

6. *Combined HCl*, (4) — (5).

7. *HCl quantitatively*[11] (Mintz's method): Take cc. of the stomach-contents in a beaker and titrate with the decinormal soda solution, adding $\frac{1}{10}$ cc. at a time and testing the contents as in the qualitative test for HCl, after each addition until the response with Günzburg's reagent no longer occurs. The last reading before the disappearance of the reaction is taken as the number of cc. indicative of the quantity of HCl present. As the factor for HCl in terms of NaOH is .00365, multiply the number of cc. required by 10 and by .00365 and the result is the percentage of HCl present.[12]

8. *Total HCl*, (6) + (7).

9. *Organic acids and acid salts*, (5)—(7).

10. *Acid Salts.*—Take 15 cc. of gastric contents in a beaker and add calcium carbonate to saturation. Stir the mixture and filter immediately. Expel the carbonic acid gas generated by passing a current of air through the filtrate.[13] Take 10 cc. of the filtrate,

[6] This solution decomposes on exposure to light; it must therefore be kept in a dark bottle.

[7] Clinically, in the examination of gastric contents, it is usually sufficient to make the first twelve tests given.

[8] The contents of the normal stomach are acid 20 minutes after the ingestion of food. The formation of HCl begins with the taking of food, and after combining with the native proteids and mineral salts to form acid proteids and salts, appears as free acid. In the case of an Ewald test-breakfast free HCl appears 20 minutes after the ingestion.

[9] If the acidity is entirely due to HCl, the number of cc. required multiplied by 10 and by .00365, the factor for HCl in terms of NaOH, gives the percentage of HCl. For one cc. of a decinormal soda solution neutralizes .00365 HCl. This, however, is only true where the total acidity is due entirely to HCl. Thus, if 5.2 cc. NaOH were used, then $5.2 \times 10 \times .00365 = .189\%$.

[10] Töpfer, who proposed the above test, recommends the following preliminary steps to familiarize the eye with the color required in the reaction:

(*a*) To 5 cc. distilled water add a few drops of alizarin-solution. A clear yellow color results. This varies somewhat, at times a clear red color results.

(*b*) To 5 cc. of a 1% solution of disodium phosphate add a few drops of alizarin-solution. A reddish color with a tinge of violet results.

(*c*) To 5 cc. of a 1% solution of sodium carbonate add a few drops of alizarin solution. A clear violet tint—the reaction to be recognized in the test—results.

[11] Normal amount of free HCl equals 0.1 to 0.2%.

[12] If the amount of the contents is sufficient it is usually wise to repeat the test in the knowledge of the approximate result of the first trial, as unless it is carefully made the result is not as low as it should be.

[13] This is conveniently done by means of a glass rod inserted in one end of the bulb of a Davidson syringe. It will not do to blow air through from the lungs, of course this itself contains CO_2. It is well also to use as small a filter paper as conveniently possible, as the calcium carbonate absorbs so much of the solution that it is well to lose as little as possible in the filter-paper.

henolthalein as an indicator and titrate with the ecinormal soda solution. The number of cc. used presents the acid salts; this divided by two gives the id phosphates.

11. *Organic acids*, (9)—(10).

12. *Lactic acid.*[14]—Shake up a few cc. of stomach-contents with 30 to 40 cc. neutral sulphur and ether in a stoppered flask for about 10 minutes. Allow the contents to settle, and pour off the supernatant ether into a beaker. Evaporate this to dryness over a water bath, first having turned out the flame, and take up residue with a few cc. distilled water. Add this, a few drops at a time, to Uffelmann's reagent in a test-tube. The appearance of a canary-yellow color indicates the presence of lactic acid.

Uffelmann's reagent is prepared by adding a few cc. of a 1% ferric chloride solution to about an equal quantity of a 4% carbolic acid solution in a test-tube and diluting with distilled water until the mixture becomes a delicate amethyst-blue color. This test reacts with 0.1% of lactic acid.

13. *Propeptone and Peptone.*—To 3 cc. of contents add an equal quantity of a saturated solution of sodium chloride. Stir and add 3 drops of strong acetic acid. Propeptone if present will come down as a white precipitate and should be filtered out.

To the filtrate add 1 cc. of potassium hydrate, and then a few drops of a 1% solution of copper sulphate. The biuret reaction, which consists in the appearance of a purple color, indicates the presence of peptone.

14. *The Milk-Curdling or Rennet Ferment.*—Take 5 cc. of the contents and neutralize by adding an amount of the decinormal soda solution equal to the total acidity of that quantity of contents as previously estimated. Having in a like manner estimated the acidity of the milk, a sufficient quantity of soda solution is added to 5 c.c. of milk to render it neutral. Add the neutralized milk and contents together and set aside in a place at the temperature of 100° F. A curd of casein consisting of the entire or almost the entire bulk of the mixture, forming in the course of one or two hours, indicates the presence of the ferment.

15. *Pepsin.*—HCl having been previously ascertained to be present, 15 cc. of the filtered contents are placed in a test-tube and a small piece (.05 gramme) of the coagulated white of egg added. The tube is then kept at a temperature of 40° C. and, if pepsin is present in normal amount, the egg albumin should have been digested at the end of 3 hours.

The motor and resorptive powers of the stomach are indicated respectively by the amount of time required to digest food; and by the time of the appearance of the iodine reaction in the saliva after the administration of a 5-grain capsule of potassium iodide. In the first instance the stomach should contain no food or a few particles only 7 hours after the ingestion of an ordinary meal, or 2 hours after an Ewald breakfast, while the reaction with starch paper should appear in from 10 to 20 minutes after the administration of the capsule.[15]

Sir John Batty Tuke has been elected without opposition, member of Parliament for the University of Edinburgh for St. Andrew's.

Lactic acid is not present in the normal contents, unless it has been ingested with the food. Its presence depends upon the processes of fermentation, and the bacteria which produce it do not thrive in an acid medium. Hence it follows that free acid is rarely found in the presence of free HCl.

[15] It should be added, however, that the results obtained are only tentative, and should not be too closely relied upon.

A CASE OF ACUTE GONORRHEA TREATED BY MERCUROL IRRIGATIONS.[1]

By FERD. C. VALENTINE, M.D.,
of New York.
Professor of Genitourinary Diseases in the New York School of Clinical Medicine, etc., etc.

B. S. L., American, aged 32, married, secretary of a corporation, had several gonorrheas resulting in stricture, for which he discontinued treatment July 15, 1898. On January 20, 1900, while inebriated, he had coitus *extra domo*.

On January 24 he found a free yellowish discharge. Some pain on urinating. Cotton, which he had worn on the glans four hours, is thickly coated with yellowish-green discharge. A free yellowish-white discharge flows from the meatus. A specimen taken with a sterilized loop shows, microscopically, numerous gonococci characteristically grouped in pus-cells. Both urines are somewhat turbid, containing many coarse short filaments and coarse flakes, which sink rapidly. He was given an anterior irrigation of mercurol, 5%.[2]

January 25, 9 a.m., he reports that severe burning set in in the urethra ten minutes after the irrigation. He was obliged to urinate every five minutes for an hour. Then frequency and burning began to grow less, eventually becoming a severe scalding only when he urinated, every hour. This continued for 11 hours after the irrigation. On arising today he observed no excess at the meatus. He urinated two hours ago. Only a very slight, pearly, pinhead drop is expressible to the meatus. Specimen taken by sterilized loop shows mucus, urethral epithelia, pus, gonococci. First urine is clear, contains medium long, coarse filaments and coarse flakes, which sink rapidly. Second urine was not obtained. He was given an anterior irrigation of mercurol, 2.5%.

January 25, 7 p.m., the burning in the urethra after irrigation lasted two hours. He urinated every 10 minutes for the first hour, then hourly for two hours; slight scalding persisted for three hours, with almost no discomfort thereafter. He urinated a half hour ago. No specimen was obtainable from meatus, and the first urine was clear with a few coarse flakes that sank slowly; the second urine was not obtained. An anterior irrigation of mercurol, 1% was made.

On January 26, at 8 a.m., the patient reports that the burning after last night's irrigation lasted about 2 hours. Pain in the urethra was continuous until midnight, and had no relation to urination. This morning he found the cotton he had worn overnight clean, and he could express no excess of moisture from the meatus. He had urinated 1 hour ago; the cotton was clean; a very slight thin watery excess was expressible to the meatus.

The first urine was clear, with a few short, fine filaments and flakes, which floated to the center of the tube. The second urine was not obtainable. An anterior irrigation of mercurol, 1% was made.

On January 26, 7 p.m., irrigation in the morning produced no inconvenience, and he had observed no excess of moisture all day, but urinated normally, the last time one hour ago. Now a faint, thin, watery excess is expressible to the meatus with much difficulty. Specimen taken by sterilized loops was found microscopically to contain mucus, urethral epithelia, pus, some scattered diplococci, some grouped, but not characteristically. The first urine was clear, with a few fine, short filaments, which float to the center of the column, and the second urine was not obtained. An anterior irrigation of 1% of mercurol was made.

January 27, 8 a.m., he complained of burning in the urethra for 1 hour after last night's irrigation, but had observed no frequency of urination; no excess was expressible. He had urinated 2 hours before visiting the office, but the cotton was clean. After urination a faint watery excess was expressible to a point deep in the meatus, but not to the lips. Attempts to take a specimen by sterilized loop having failed, a swab was used. Specimen contained microscopically large quantity of mucus, urethral epithelia *en masse*, pus, and some detritus. The first urine was clear, with one fine shred, which sinks; a few very fine filaments floated. Some short fine filaments

[1] Presented to the Genitourinary Section of the New York Academy of Medicine, March 21, 1900.

[2] The technic of urethral and intravesical irrigation is fully described in "The Irrigation Treatment of Gonorrhea." Wm. Wood & Company, 1900.

sank slowly. The second urine was not obtained. An anterior irrigation, 1% mercurol, was given.

January 27, 8 p.m.—There was no burning after this morning's irrigation, no imperious nor painful urination. Patient urinated 2 hours ago; the cotton was clean, and no excess was expressible from the meatus. The first urine was clear, with a few medium, coarse and fine filaments, some of which floated; the second urine was not obtained. An anterior irrigation of mercurol, 2%, was given.

January 28, 8 a.m.—There was no burning after last night's irrigation, and no excess was observed. The patient occasionally had a sensation of a drop rolling through the urethra. He urinated 3 hours ago, and afterward a slight watery excess was expressible to the meatus. A specimen taken by swab contains microscopically mucus, epithelia, pus, no bacteria. The first urine was clear, with long fine filaments, medium coarse filaments, and a few coarse flakes, which sank slowly. The second urine was clear, with a few fine flakes, which floated. Anterior irrigation, with mercurol, 2%, was done.

January 29, noon.—There was no discomfort after last night's irrigation, but the cotton this morning had a faint yellowish streak. Patient had urinated 1½ hours ago. A very slight rice-watery excess is expressible to the meatus. It contains mucus, urethral epithelia, pus, very few minute scattered diplococci, micrococci, short bacilli. The first urine was clear, with a few long and short, coarse and fine filaments, and a few medium coarse flakes; all sink slowly. The second urine was clear. The usual anterior irrigation of mercurol, 2%, was given.

January 30, noon.—Yesterday's irrigation caused much burning in the urethra, which lasted an hour. Towards evening he could express a milky excess of moisture, and the cotton this morning had a small, thin, yellow stain, but he could express nothing from the meatus. He urinated an hour ago. A faint whitish excess is expressible from the meatus. The specimen taken by loop shows mucus, epithelia, pus, no bacteria. The first urine is gelatinoid, and has a long, fine filament and fine flakes, which sink slowly. The second urine was not obtained. Anterior irrigation of mercurol, 2%, was made.

January 31.—There was no burning or other discomfort after yesterday's irrigation, but the cotton this morning had a slight yellow spot, but no excess was expressible. Yesterday afternoon he had a sensation of drop rolling along the urethra. He had urinated one hour ago, and a minute quantity of thick white excess is expressible to the meatus with much difficulty. Specimen taken by loop contains mucus, epithelium, some pus, no bacteria. The first urine was clear, with a few long and short, coarse and fine filaments, a few fine flakes, some float, some sink slowly. The second urine was not obtained. The usual anterior irrigation of 2% mercurol was made.

On February 1, 8 a.m, the patient reported no burning or discomfort after yesterday's irrigation, and that he found no excess at the meatus this morning. He urinated one hour ago, and afterward a faint, very slight moisture was expressible to a point deep in the fossa. A specimen taken by swab contains mucus, epithelium, pus, few micrococci. The first urine was clear, with few fine long filaments, and a few me lium coarse flakes which sink slowly. The second urine was not obtained. Anterior irrigation was made with mercurol, 2%.

February 1, 7 p m.—There was no burning nor excess at any time today, the meatus looks normal, and there is nothing expressible. The first urine is clear, with a few long, coarse and fine filaments, and a few coarse and fine flakes, which sink very slowly. The second urine was not obtained. Treatment, anterior irrigation, with mercurol, 2%.

February 2, 8 a.m.—A very slight burning occurred at the end of the first urination after last night's irrigation, but the patient observed no excess this morning. He urinated two hours ago. The meatus looks normal, and there is nothing expressible. A specimen taken by swab shows mucus, urethral epithelium, and a few pus-cells. The first urine was clear, with a few short, coarse filaments, and a few medium fine long filaments, some of which sink slowly. The second urine was not obtained. Anterior irrigation of mercurol, 2%, was done.

February 2, 8 p.m.—This morning's irrigation was followed by no burning, nor by frequent or urgent urination. No excess was observed today. Urinated 1¼ hours ago. T meatus looks normal and there is nothing expressible. T first urine was clear, with fine filaments, fine flakes, some which float, and some sank slowly. The second urine v not obtained. An anterior irrigation of mercurol, 2%, v made.

February 3, noon.—No discomfort followed last nigh irrigation. Observed no excess today. Urinated 2½ hou ago. The meatus looks normal, and nothing was expre ible. The first urine was clear, but contained two coa filaments, one coarse flake, which sank very slowly. T second urine was clear. The strength of the anterior irri tion of mercurol was increased to 5%.

February 28.—The patient has been out of town, but d ing his absence observed no excess or any other discomf Urinated an hour before reporting at the office. The mea looked normal, and nothing was expressible. The f urine was clear, with two fine filaments which floated to center. No treatment was given, but the beer-test v ordered.

March 4—Last night the patient drank 10 glasses of b but he observed no excess this morning He had urina 3½ hours before coming to the office. The meatus lo normal, and no excess is expressible. The first urine clear, but a few fine, medium, short filaments float to top urine. The second urine is clear. Examination of pr tate and of seminal vesicles show both organs to be norm The juice expressed contains sympexion, some prost epithelia, a few pus-cells, a few mixed bacteria, no gonoco Urethroscopic examination was not made, because urethra was too small to admit the tube.

Resume.—In this case, the gonococci disappeared d nitely on the second day, and, after the fifth irrigati the discharge was reduced from a free yellow flow t slight pinhead drop by one irrigation of mercurol, 5 The urine became clear after the first irrigation. T burning produced by mercurol continued after each i gation for 3 days, and recurred to a slight degree a several subsequent irrigations. This burning was a ciated in most instances with frequent, imperious uri tion. It is possible that these manifestations may h been due to a small quantity of the irrigating fluid hav entered the posterior urethra, as this patient very ea relaxes his compressor.

Intravesical irrigations were not employed in t case, at least not intentionally, as I do not yet know proper dosage for this purpose.

In view of the difficulty of obtaining complete rec of a case of gonorrhea, I need not apologize for pres ing this, which is as full as I could make it, thus The condom test has, as yet, been impossible, owin the absence of the patient's wife.

I have used mercurol in a number of other ca but cannot present their records, as: (1) Some lef soon as the acute manifestations subsided; (2) Ot positively refused to permit continuance of its use, cause of the pain produced by the first irrigation.

I have ordered mercurol in 10%, 5%, 2.50%, and solutions by hand-injections: in each instance the charge was increased, and especially with the stro solutions the pain was aggravated.

The use of mercurol-irrigations has not been as s factory in other cases as in the one recited. In s there was a very rapid, immense increase of the charge, obliging me to return to potassium perma nate, to retain the patients.

The bactericidal value of mercurol in diseases of bladder merits, I think, careful investigation. I used it in 32 cases, sometimes intentionally, in s accidentally.

When a strong solution (5%) enters the bladder, following symptoms present themselves:

Within 30 seconds to 5 minutes after entrance of

luid into the bladder, several vesical spasms set in. They are accompanied by intense pallor, nausea, cold weat, dilated pupils, threadlike pulse varying from 60 to 50; forcible, very painful, extrusion of drops of urine very 10 to 15 seconds. Gradually, the intervals of rination extend to half a minute, one minute, and so n for two or more hours. Urination remains imperi- us for from 8 to 36 hours. The vesical pains, nausea, nd general malaise continue from 3 to 5 hours. If the ccident occurs in the afternoon, that night the patient s obliged to urinate three to six times. On the following ay, the first urination, and sometimes even the second nd third are accompanied by acute pain.

In some instances, nausea is so intense as to cause the atient to vomit or retch for several hours.

In 5 cases of subacute gonorrhea, when such an acci- ent occurred, the discharge, which had been a merc elatinoid excess, was replaced within 12 hours by a co- ious, yellowish-green, heavy flow. The entire penis ecame tumefied, and the meatus edematous.

I used an intravesical irrigation of mercurol, $\frac{1}{3000}$, n an old case of cystitis. The patient bore silver ni- ate $\frac{1}{2000}$, by intravesical irrigation with but slight dis omfort, lasting a few minutes. The irrigation of mer- rol, $\frac{1}{3000}$, produced the following effect: The patient ew faint, was unable to stand, twisted his body with succession of painful spasms. For 4 hours, the urine ractically dribbled from his meatus, so continuous were ie emissions of a few drops at a time. Then the inter- ls gradually grew normal, but painful urination con- nued for 15 hours.

It seems very possible that the untoward manifesta- ons I have observed may be due to ignorance as yet the proper dosage of mercurol. I regret that this eliminary report can contain no guide thereto.

It is far from my intention to launch a new gonococci- de for the mere sake of so doing. But the partial sults in some cases, and the practically complete out- me of the one first recited, encourage me to deem this eparation worthy of further trial.

Past experience with drugs vaunted as gonococcicides l me in each case to return to potassium permangan- e. While not condemning them, I must say that my sults with potassium permanganate have yielded in e majority of cases more satisfactory results. It seems ssible, as our knowledge of gonorrhea advances, we ay be able to distinguish the cases in which each drug especially efficacious. Perhaps the one above-reported, some bacteriologic reason, was especially amenable mercurol. At all events, it was more quickly relieved an any other case in my experience. Future work in nilar cases may show that treatment might have been scontinued in four days.

The chemical character of mercurol (nucleid of mer- ry), the manner of making solutions thereof, etc., are ll described in the writings of my friend, Dr. Karl hwickerath, of Bonn. His work could well be ampli- d by

1. Experiments to demonstrate the efficacy of mer- ol as a gonococcicide in cultures of this bacterium.
2. Clinical research to establish the varying strengths solutions that can be borne and prove efficacious in urethra and bladder.
3. A chemical or mechanical neutralizer to immedi- ly antidote the effect, should a strong dose accident- y enter the bladder.

In discussing Dr. Valentine's paper Dr. Ramon iteras said: The results obtained at the Post-Graduate Hospital from the use of mercurol may be regarded as very satisfactory, although the treatment followed in the clinic there was of a milder character than that employed in this case.

Of course there are occasions in which stronger measures are desired by the patient, and in which it may be right within limits to comply with his desires. But, as a rule, the practice at the Post-Graduate Hospital with all germicidal injections, and indeed with all new remedies, is to commence with the smallest possible dosages, and increase the strength gradually, according to the tolerance the patient exhibits.

In the case of mercurol a beginning was made with the very modest strength of $\frac{1}{20}$ of 1%, though we had been assured that as much as 5% could be safely used, and have since heard of specialists who have experimented with no less than 10%. Having felt our way with these weak solutions, and gained favorable if somewhat slow results, we gradually increased the strength, until a 2% solution is now prescribed in all cases of urethritis which are not very acute.

Perhaps the result of our investigations will in the end only go to prove, what many of us are apt to regard as already established, that there is no one absolute specific for gonorrhea, but that several different remedies may be used, and that in the case of each and all of them it is desirable, if not necessary, to school ourselves to patience in the treatment of this troublesome complaint, at the same time recognizing that each individual case may have peculiarities of its own which suggest special remedies.

Still, it may be, and is, a fact that none of them have yet succeeded in doing what our unprofessional brethren claim to be able to do with their remedies—effect a complete cure in three or even eight days; but, if argonin was an improvement on permanganate and nitrite of silver, and protargol was a shade or two better than argonin, and this new nucleid of mercury produces somewhat better results than protargol, it shows at all events that we are progressing along the proper lines.

The first thing to be said in favor of mercurol, so far as our experience goes, is that, when used with ordinary care, and in not too strong solutions, it is a perfectly safe remedy; and in this connection it may be said that only in a very small proportion of the cases treated in the clinic have complaints been made that the injection causes any disagreeable sensations. Some urethras are of course more sensitive than others, and patients have different standards of appreciation of pain. But, in any case, all it is necessary to do when a patient complains of the injection burning is to tell him to dilute it, or to increase the strength if he feels it is not strong enough.

At present we have a total of over 50 names on the books of the clinic devoted to the treatment of gonorrhea with mercurol, and though it is not easy, for reasons that will suggest themselves, to give an absolutely reliable and scientifically arranged report of the results obtained, a few figures may be quoted to show in rough outline the character of those results. Of the total number of 51, more than half—viz., 26—have been put on the books since the beginning of the present month, and on that account may be dealt with separately. Of the others, 7 failed to continue treatment long enough to give the remedy a fair chance, or if they did so, they did not return to report the results. Of the remaining 18, 8 may be said to be absolutely cured, and 10 practically or nearly cured. This I think is to be regarded as very satisfactory, especially when allowance is made

for the fact that several of the cases were delayed in cure by irregularities. As regards the March cases, in all of which the treatment has been the uniform 2% or 10 grains to the ounce, probably all that it would be wise to say now is that they promise to give even better results. In no case can any untoward symptoms be said to have been developed.

In all these cases the discharges have been examined from time to time for the gonococcus, and it was surprising in how short a time they were found to disappear. The treatment has been attended by very few complications. It might be wise to warn our professional brethren against the substitution of bichlorid of mercury for mercurol, as I have been led to believe, from the pain following the ingestion from prescriptions put up by outside pharmacists, that this mistake has been occasionally made.

RUPTURE OF THE PLANTARIS MUSCLE.*

(Lawn Tennis Leg, or Coup de Fouet.)

BY JOHN H. GIBBON, M.D.,

of Philadelphia.

Assistant Surgeon, Jefferson College Hospital; Surgeon Out-Patient Department of the Pennsylvania and Children's Hospitals.

THE case I report is that of a gentleman, aged 38 years, who presented himself at my office on September 7, 1899, giving the following interesting and typical history:

On the day previous, while playing tennis, he was suddenly seized with a sharp pain in the calf of the left leg, followed by such weakness and pain upon locomotion that he was obliged to leave the court. He described the sensation as that of being struck upon the leg, and with this idea in mind he looked around to see who had struck him, supposing it to have been his young nephew who was playing near the tennis court. The subsequent pain was not very great except when he tried to walk, and this could only be accomplished with the ankle held stiff and the toes turned out. The day following the injury, when I saw him, he walked with great difficulty, using a cane and keeping the injured leg stiff and the toes very much everted. When at rest the part gave him no pain. Upon examination of the leg I found the skin over the calf tense and a very tender spot over the middle of the calf-muscles, and it was here that the patient definitely located all his pain. Measurement showed the circumference of the injured leg to be one inch greater than that of the opposite side. There was no ecchymosis present at seat of injury or below it, but there was to be felt at the point of pain a distinct deep induration. With the history and these local signs I made a diagnosis of rupture of the plantaris muscle, and applied ichthyol ointment and a firm bandage from the toes to the knee, after which he was more comfortable and walked with less limp. He went to his office in a cab for the two subsequent days, spending much of his time with his foot elevated, and did no walking. On the third day, however, his leg was so painful that he was quite ready to go to bed and give the part absolute rest. At this time there was slight swelling about the ankle and extensive ecchymosis both over the seat of the injury and below it. The part was kept firmly bandaged, and daily inunctions of ichthyol-ointment were made. At the end of about a week the patient was up and moving about with a cane, the ankle still held stiff and the toes everted. Any attempt to turn the toes in and extend the foot gave rise to pain. A Randolph elastic bandage was now prescribed with daily massage, and within a few weeks the patient could walk without a cane, the tenderness and induration had disappeared, and now the function is entirely restored. The circumference of the injured leg a month or two after the injury was the same as that of the other leg.

* Read before the Philadelphia County Medical Society, February 14, 1900.

This case illustrates so typically the symptoms an course of a ruptured plantaris that I thought it worth of record. The description of the injury is not nev the French having described it in the early part of th century under the name of *coup de fouet* (blow of th whip) and the English calling it "lawn tennis leg Probably the most distinguished sufferer from the ai ment was Cardinal Richelieu, but the particular gam he was playing is not recorded. The name of law tennis leg is a bad one, because in the majority of cas the injury was not received at this sport, but in man instances occurred when the patient was walking, mal ing a particular step, mounting a bicycle or horse, using the limb in some other ordinary way. Th cause of the injury is the most difficult part of th question and probably the most interesting. It ce tainly cannot be attributed to excessive muscular strai because in none of the cases is it recorded that the cal muscles were doing any more than their ordinary dut A tendency to obesity has been advanced as a cause, the patients have often been quite stout. Muscul tire has been suggested and is plausible enough whe the histories of the reported cases are studied; to fin that it has occurred after a long walk, a hunt, or aft excessive exercise is not infrequent; in my own case th patient was not in a particularly good condition, fro an athletic point of view, and had played tennis on th day previous to injury until he was "stiff and tired Terillon thinks much of the trouble is due to ruptu of deep varicose veins. As we have no postmorte examinations following this injury its pathology mu remain somewhat indefinite. The earliest cases are r ported as ruptures of a portion of the gastrocnemiu but a rupture of this muscle could be told by feelin a separation at the seat of injury, and by immedia and superficial effusion of blood. I am inclined, hov ever, to the belief that in those severe cases where pa and swelling are great and continued, and where th patient makes a recovery extending over months, suc as have frequently been reported, that a more extensi injury to muscular tissue has occurred than a separ tion of the plantaris from its tendon. In these case unless there is evidence of an injury to the gastrocn mius, I should suspect that there had also been son laceration of the deeper calf-muscles; or perhaps th trouble may be attributed, as suggested by Terillon, a varicosity of the deep bloodvessels.

The symptoms are in nearly all reported cases ve much those complained of in my case; a sudden pa above the middle of the calf, where the muscle joins tendon, as if one had received a blow; inabilit because of pain, to walk except with the part held st and the toes everted; swelling; later, greater pain a ecchymosis. Physicians are not immune from th injury, McDonald, of Chicago, reports his own case, does Dr. Don, of the English Army, and Dr. Allis, this city, tells me he has suffered from it. The left l strange to say, is the one most frequently injured this way, although I have found several cases wh the plantaris of each side was ruptured on differe occasions.

The treatment consists in immediate rest and mo erate compression, with later massage and an elas bandage. Judson recommends as a very comfortal aid to locomotion in the severer cases a high-heel shoe. I believe that to put these injured legs up in fixed dressing, like plaster of paris, except where can be demonstrated that one of the large muscles

the calf is ruptured, is not only unnecessary, but less apt to give good results than when the leg is elevated with moderate compression, and later massage is given. The fixed dressing permits adhesions to take place and the exuded blood is not so readily absorbed. The open-work elastic bandage I find is cheaper and more comfortable and in every way as effective as the solid rubber bandage or elastic stocking, the solid rubber is hot and often produces an irritation of the skin, the elastic stocking when it becomes worn out at any one spot is useless. In my dispensary work I invariably recommend the elastic bandage whenever I want compression of the part, as, for instance, in varicose veins of the leg.

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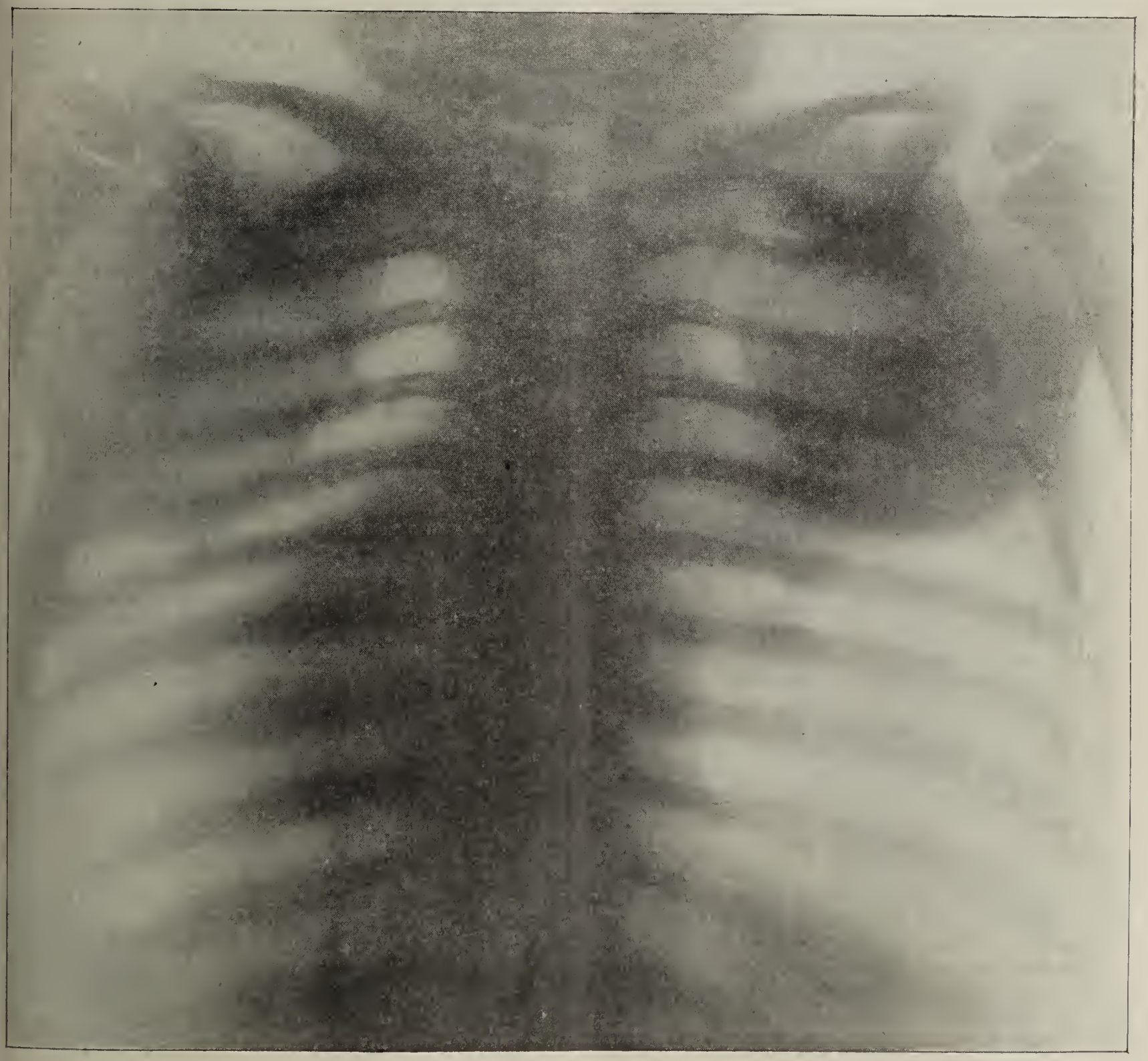
Mr. Louis A. Byrne, F.R.C.S. Ireland, has been elected coroner for the city of Dublin, in succession to the late Mr. Joseph E. Kenny.

A CASE OF CHRONIC PNEUMONIA.

By MALCOLM S. COUNCILL, M.D.,
of Bryn Mawr, Pa.

Through the courtesy of Dr. Daland, I report this case because of its unusual persistence, extending over an approximate period of 12 months, and for its prognostic and diagnostic value.

A. T., a white male, 2 years old, with a good family history, belongs to a large family of children, one of whom died of "abscess on the lung and slow fever." He was born healthy, after an uneventful labor, and was strong and vigorous until February, 1899, when he had a severe attack of pneumonia, ushered in by convulsions. At the end of about 3 weeks convalescence began, but was slow; and, about the last of March, the mother says he lost the use of the limbs on the right side. He was brought to the medical service of the Polyclinic Hospital on the 30th of the following October, and I give his condition at that time. The skin was dry and harsh; there was cyanosis of the lips and hectic flush; the muscles were wasted and flabby; anorexia, constipation, and occasional vomiting after taking food existed; the morning and evening temperature was normal, though the mother reported fever during the night, and disturbed sleep; the pulse was 130 The child had only partial use of the right arm and leg, and nightsweats and persistent and paroxysmal



eough were noted. The respirations were 44 a minute; expiration was prolonged; and breathing was of a pronouneed asthmatic type, with reeession of the suprasternal noteh and intercostal spaces. Examination of the right side showed a bulging in the intereostal spaces of the upper thoracic region, extending, anteriorly, down to the fourth interspace; diminished expansion; increased fremitus in the upper anterior and posterior region; dulness on percussion, the area extending downward to the fourth interspaee anteriorly, thence, obliquely downward and backward to a lower level posteriorly, following the contour of the upper lobe of the lung; bronchial breathing and coarse rales over the area of dulness, with exaggerated breathing and increased resonance over the lower part of the lung. Examination of the left side showed inereased expansion, with the breath-sounds more plainly heard, and inereased resonance. The right heart was enlarged and the organ displaeed. The urine was colorless; specifie gravity 1.026, with a small quantity of mucous sediment; but contained no albumin, sugar, aeetone, nor indican.

The provisional diagnosis was chronic pneumonia. Obstruction with collapse of a portion of the lung, and tuberculosis were to be eliminated.

While simple obstruction could not be responsible for the aggregate symptoms present, the character of the respiration, its rapidity, with the deep recession in the supraspinal and intercostal spaces, was the chief symptom suggestive of it, and so closely resembling the respiratory efforts caused by obstruction as to demand investigation. A swollen mucous membrane with an accumulation of secretion may partially obstruct the smaller bronchi, but, instead of resulting in collapse, would produce an emphysema; and, in the case of a large bronchus supplying a whole lobe, such a condition could not be accountable for its occlusion. The larynx was twice examined; once under an anesthetic, with negative results; and the accompanying radiograph was made, showing the absence of any metallic or very dense foreign body. The elimination of an obstruction was based on these examinations, together with the symptoms, physical signs, and history of the case.

The radiograph was of special value in this case, showing, in an excellent manner, the condition of the lung, confirming the results of the physical examination. The dark area, which is well defined, extends down to the fourth interspace on the right side, corresponding to the area of dulness, while below this interspace scarcely any shadow exists, on account of the compensatory emphysema.

The elimination of tuberculosis was based on a thorough investigation of the family history, especially the mother's; the patient's previous condition; the onset, course, and severity of the disease; his surroundings; and on the absence of temperature, and of the Bacillus tuberculosis from the secretion of the lung. This secretion was obtained by placing the patient in an inclined position, the head lower than the feet. Immediately following a paroxysm of coughing, the attendant nurse quickly passed the finger, loosely wrapped in gauze, well back into the pharynx and around the base of the tongue; a method less harsh than the one of making the patient vomit, and, if properly executed, is more satisfactory. Numerous long and short bacilli and cocci were found, but it failed to show the presence of the Bacillus tuberculosis; and while the result of one examination was not conclusive, the operation was not repeated, as the accumulated clinical data seemed to confirm the provisional diagnosis.

He was placed on treatment, largely hygienic and dietetic. Improvement began almost immediately, and now, at the end of four months, he has gained eigh pounds in weight; the respirations are normal; th cough and sweats have disappeared; the use of th limbs has returned; he eats and sleeps well, and i strong and healthy in appearance.

There is often such a close resemblance between pro tracted pneumonia and tuberculosis that there is diffi culty in making an early diagnosis in a patient 2 year of age, and, at the present time, when tuberculosis i receiving so much attention, the probability of th former condition is often overlooked, especially if th family history reveals a trace of the latter.

Pneumonia, however persistent, is never hopeless, anc there should not be undue haste in assuming tha tuberculosis is present because the patient is wasted anc anemic and the condition of the lung has remained stationary; and, when all the means of diagnosis hav been exhausted, the cases of protracted pneumonia, ir private practice, will be found more numerous than those of tuberculosis.

Nervous Dyspepsia.—Boardman Reed (*International Medical Magazine*, January, 1900) gives his views on the diagnosis, prognosis, and treatment of nervous dyspepsia. He says: "In probably more than half of the eases of so-called nervous dyspepsia, the trouble is dependent upon disease somewhere in the gastrointestinal tract, though very often such cause is unreeognizaed and, it may be, unreecognizable." Again: "The fewest eases of it are encountered now by the men who are most expert and painstaking in their examinations. He prefers to limit the term strictly to forms of indigestion or gastric symptoms, whieh eannot be traced to any organie lesion, and are not the manifest result of even any well-known funetional affeetion. The symptoms may be very variable, any form of unpleasantness referable to the stomaeh being liable to oeeur. The diagnosis ealls for a eomplete examination of the entire body of the patient, to exclude organic disease." Reed says: "When all the organs, including those of the alimentary eanal, are found to be healthy, and there is eomplaint of pain, discomfort, or any symptom direetly or indireetly referable to the stomach, espeeially during the period of digestion, it may be attributed to nervous dyspepsia." It is often diffieult to exclude gastrie eatarrh, uleer, and ineipient eaneer. Repeated examination of the gastrie eontents is sometimes necessary. Nervous dyspepsia is generally eurable and, if uncomplicated, should never prove fatal. But when there is a strongly inherited tendeney to neurasthenia, the cure may be very diffieult and prolonged. The following is the general plan of treatment recommended: Rest in bed and seelusion, especially if the patient be a woman, with regulated diet, massage, electricity for 4 to 8 weeks, followed by gradually increased exereise out of doors. If, however, instead of nervous dyspepsia, the ease is one of neurasthenia, eomplieated with or resulting from gastrie catarrh, espeeially if there be dilation of the stomach, the rest-cure is generally not very sueeessful; and may even aggravate the eondition. Liquid diet disagrees with a dilated stomaeh from the start. Men need a long vacation from business and should keep in the open air. A hunting or camping trip, or a sea voyage is very benefieial. After this there should be a complete reform in the patient's mode of life—more hours for recreation and sleep, and less nervous strain. Horsebaek riding is especially recommended. A full nutritious diet is neeessary. Central galvanization, general faradization and static eleetrieity are helpful. Massage, abdominal and general, is good. But if the eondition is complieated by hyperchlorhydria or aeid gastric eatarrh, as is frequently the case, massage over stomach does harm. The drugs given are nerve-tonics and tissue-builders, sueh as iron, arsenic, gold, the hypophosphites and espeeially the glyeerophosphates. Bone-marrow and nucleoalbumens are espeeially reeommended. Next in usefulness is a combination of sodium glycerophosphates with strychnia. HCl, with some aetive preparation of pepsin, should be given if the gastrie juice is deficient. Overeome eonstipation by massage, eleetrieity and gymnasties; though in the rest-treatment some drugs may be neeessary. [M.B.T.]

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President Eliot on Antivivisection Legislation.—We are permitted to reproduce the following letter of President C. W. Eliot, of Harvard, to Hon. James McMillan, chairman of the Committee on the District of Columbia, in connection with the recent hearing on the Antivivisection Bill. The opinion of a great educator upon this subject, about which so much popular misunderstanding and misinformation exists, is of great indirect value, but so succinctly and accurately has President Eliot stated the essence of the professional objections to the objectors that we wish his letter might be published in every lay journal of the land.

HARVARD UNIVERSITY,

CAMBRIDGE, March 19, 1900.

Dear Sir:—I observe that a new bill on the subject of vivisection has been introduced into the Senate, Bill No. 34. This bill is a slight improvement on its predecessor, but is still very objectionable. I beg leave to state very briefly the objection to all such legislation.

1. To interfere with or retard the progress of medical discovery is an inhuman thing. Within fifteen years medical research has made rapid progress, almost exclusively through the use of the lower animals, and what such research has done for the diagnosis and treatment of diphtheria it can probably do in time for tuberculosis, erysipelas, cerebro-spinal meningitis, and cancer, to name only four horrible scourges of mankind, which are known to be of germ origin.

2. The human race makes use of animals without the smallest compunctions as articles of food and as laborers. It kills them, confines them, gelds them, and interferes in all manner of ways with their natural lives. The liberty we take with the animal creation in using utterly insignificant members of them for scientific researches is infinitesimal compared with the other liberties we take with animals, and it is that use of animals from which the human race has most to hope.

3. The few medical investigators can not, probably, be supervised or inspected or controled by any of the ordinary processes of Government supervision. Neither can they properly be licensed, because there is no competent supervising or licensing body. The Government may properly license a plumber, because it can provide the proper examination boards for plumbers; it can properly license young men to practise medicine, because it can provide the proper examination boards for that profession, and these boards can testify to the fitness of candidates, but the Government can not provide any board of officials competent to testify to the fitness of the medical investigator.

4. The advocates of antivivisection laws consider themselves more humane and merciful than the opponents of such laws. To my thinking these unthinking advocates are really cruel to their own race. How many cats or guinea-pigs would you or I sacrifice to save the life of our child or to win a chance of saving the life of our child? The diphtheria-antitoxin has already saved the lives of many thousands of human beings, yet it is produced through a moderate amount of inconvenience and suffering inflicted on horses and through the sacrifice of a moderate number of guineapigs. Who are the merciful people—the few physicians who superintend the making of the antitoxin and make sure of its quality, or the people who cry out against the infliction of any suffering on animals on behalf of mankind?

It is, of course, possible to legislate against an improper use of vivisection. For instance, it should not be allowed in secondary schools or before college classes for purposes of demonstration only; but any attempt to interfere with the necessary processes of medical investigation is, in my judgment, in the highest degree inexpedient, and is fundamentally inhuman.

Yours very truly,

C. W. ELIOT.

HON. JAMES MCMILLAN.

Medical Graduates and the Code of Ethics.—In recent years the American Medical Association has arranged to provide a sufficient number of copies of the Code of Ethics for presentation to the members of the graduating classes of every medical college in the country. This is a wise and proper measure. It should lead to further and more farreaching efforts for the betterment of ethical standards among our young men and women. A series of lectures in every center of medical education for the benefit of the senior classes of all the colleges, dealing with the history of medicine, the achievements of our great men, the ethics of the profession and our relationship to world-problems, would be of exceptional benefit, not only to such advanced students, but to those practitioners upon whose shoulders the burdens of actual work have grown heavy and to whom the duties of the hour are irksome. We hear too little in our medical colleges of the genuine "institutes of medicine," just as we know too little of them outside the colleges. The *esprit de corps* of the profession needs cultivation; the best place to start is with the students; the copy of the code on commencement night is a good thing; may it lead to still better things.

Infectivity of Typhoid Fever.—A very interesting paper was read at the last meeting of the British Epidemiological Society upon this subject, by one of the most learned men in London about fevers, Dr. E. W. Goodall, Medical Superintendent of the Eastern Fever-Hospital. Dr. Goodall remarked that while all observers were agreed that enteric fever was an infectious disease in the widest sense of the word, the general belief had hitherto been that it was only rarely communicated from the sick to the healthy, the ingestion of some article of food or drink which had been contaminated by the alvine discharges of the patient being considered by nearly all authorities to be necessary for

the transmission of the virus. Dr. Goodall called attention to a reaction in medical opinion, and to the growing conviction among those in charge of fever-hospitals—obviously including himself among the number—that enteric fever was more frequently communicated directly from the sick to the healthy than was commonly supposed, and in support of this contention he adduced some striking instances of the propagation of the disease among the nurses, domestic servants, and ward-maids of hospitals. Dr. F. F. Caiger, the superintendent of the Southwestern Hospital, and Dr. H. T. Bulstrode, of the Local Government Board, supported Dr. Goodall's view that the infective material could pass directly from the sick to the healthy. Colonel Lane-Notter, Professor of Hygiene at Netley, was convinced that the infection was always eaten or drunk. The question has been ventilated in a way that will lead those who have the proper opportunities to watch carefully for evidence upon which to come to some conclusion.

Should Transactions be Edited?—The transactions of the various State, national and international societies presenting the permanent records of professional observations contain, in addition to that which is of genuine and lasting value, much that is evanescent, crudely expressed, or misleading. Occasionally in such transactions there appears something so ridiculous and illogical as to lead to the wish that such publications should be rigidly edited and the valueless material kept out. Attractive as such a proposition might seem at first glance to the ultrascientific mind, there are many and practical reasons why it cannot be adopted. Scientific bodies must be so thoroughly democratic that even the humblest member shall have the right to express his assent to or dissent from prevailing customs; it is only through such liberty that progress begins or that excessive radicalism may be held in check. The abuse that arises from the too frequent publication of foolish, stupid and useless articles tends to remedy itself, because such articles are soon lost sight of and leave no permanent impress on the minds of hearers or readers. The truth, however modestly stated or inadequately presented, has the attributes of permanency; it adds itself to the great current of human knowledge that flows ceaselessly on when the froth of insincerity has been dissipated in the air and the mud of mediocrity has sunken to its proper level. The value of transactions may be most improved by efforts tending to the improvement of personal standards and attainments, not by censorship or suppression.

The Westphal-Piltz Pupillary Reflex.—New reflexes are discovered from day to day. One would suppose that at least the pupil, whose great variety of reflexes, due to various stimuli, such as pain, light, effort, etc., have been the subject of careful study, would be somewhat immune to this sort of thing, but this is the furthest possible supposition from the truth. It was only last year that Westphal (*Neurologisches Centralbl.*, 1899, No. 4) described a curious phenomenon of the pupil observed only in those cases in which it did not respond to light. This consisted in the fact that after a vigorous closure of the eyelids, the pupil becomes narrower when they are suddenly opened. Shortly afterward Piltz (*Neurologisches Centralbl.*, 1899, No. 6) published an article in which he showed that the same phenomenon could be observed if an effort were made to close the eyelids that were held apart by force. These two observations were entirely independent; much of the work done by Piltz being completed before the publication of Westphal's appeared. Piltz called attention to the important fact that this phenomenon occurs not only in the pupils that fail to respond to light, as of the Argyll Robertson type, but also in the pupils of healthy persons. Recently Antal (*Neurologisches Centralbl.*, 19. Jahrg., 1900) has studied this reflex in 48 cases of various diseases, including 11 cases of locomotor ataxia. He believes as a result of this that Piltz's method of eliciting the reflex is much more valuable than that of Westphal. The reflex may in some cases appear as a prodrome of the Argyll Robertson pupil, as well as a late symptom when the light-reflex has been wholly lost. He fails to call attention to a fact that we have frequently observed, that the tendency of the patient to roll the eye upward and outward during the effect to close it, interferes seriously with the observation of the pupil.

Is Thomsen's Disease Due to an Intoxication?—The early neurologists were greedy; it was their aim to include in the domain of neurology nearly all diseases that had distinct nervous symptoms. As, however, pathology became more accurate, the internal medical men commenced to limit them more or less closely to those diseases which really were due to alterations in the nervous system itself, either those accompanied by distinct lesions or those which were manifested merely by obscure functional changes and their resultant symptoms; thus, in the earlier days, such a disease as tetanus was looked upon as unquestionably neurotic in character, and with far less excuse the neurologists appropriated myxedema and more lately akromegaly, although these belong strictly in the domain of nutritional conditions. The careful studies of neurologists are responsible for some other losses. Recently, for example, v. Bechterew has called attention to the peculiar features of myotonia congenita which he believes indicate that this condition is properly the result of an alteration in metabolism (*Neurologisches Centralbl.*, February 1, 1900, No. 3, p. 98.) The symptomatology according to him depends entirely upon the degree of the muscular tension, which, in these cases, develops very slowly. As the curious muscular phe-

nomena are manifested either to voluntary, mechanical, or electrical stimulation, there is no reason to believe that they are dependent upon or concerned with the nervous system. Moreover, the curious modifications that take place in the severity of the disease from time to time, and the occasional complete cure, also indicate that the nature of the process is to be found in some disturbance of the metabolism of the body, especially of the muscular metabolism. Careful examination of the urine shows that in these cases there is diminution in urea, chlorids, and phosphoric acid, and various alterations in the quantity of uric acid. As certain symptoms of gout become less pronounced, the myotonia also improves, and it seems that the simultaneous occurrence of the two lesions is more than a mere accidental complication. Of course, if v. Bechterew is correct in this view, myotonia should be transferred to the domain of the general internal clinician, and the neurologist should have nothing more to do with it.

About a Practical Method of Estimating Hemoglobin and Practical Methods in General.—Acting on the suggestion of Ehrlich and Lazarus in their article on anemia in Nothnagel's Special Pathology and Therapy, Tallquist (*St. Paul Medical Journal*, May, 1900), a physician in the medical clinic at Helsingfors, Finland, has worked out a very simple method of estimating the amount of hemoglobin present in the blood, which seems worthy of attention. The method consists of catching a drop of blood on a piece of filter-paper and estimating the amount of hemoglobin it contains by comparison with a fixed color-scale. To determine the proper coloring, the blood of persons suffering with anemia of various degrees was taken and the quantity of hemoglobin was estimated by means of Miescher-Fleischl's hemoglobinometer. The color of the blood-stain on the paper was then copied by a person expert in using colors. Several specimens were made in different shades and of different strengths, and the best were chosen and compared with sound blood each day. In this way a scale of 10 colors was obtained, and by a series of trial-experiments, under the control of the hemoglobinometer, Tallquist finds that with some practice he is able to estimate without difficulty the amount of hemoglobin present within 10%. Accompanying Tallquist's article is a print from the original scale which he considers has been reproduced with a fair degree of accuracy, and his article contains detailed directions for using this method. We call the attention of our readers to this method because it seems simple and reasonably reliable. One great trouble with our modern pathology and practice is that they are not practical, their methods are too complicated and too expensive in time and money. Wonderful progress has certainly been made in scientific medicine within the past few years, and we would not belittle the valuable results which have been obtained, but while these new resources are added we feel that there has been some loss of power. Many practitioners and students come to feel that because the more thorough examination is impossible in busy practice that no examination which they can make is worth while, and thus they fail to cultivate their possible powers as diagnosticians and their patients are the losers thereby. It is much better that the physician should cultivate simple and practical methods of examination and diagnosis, which he can personally use in every case in which it is called for, than that he send an occasional specimen to a skilled pathologist. While valuable information is to be had from careful microscopic examination of tumors, the diagnosis of malignancy was made in many cases years before this resource was known. While the careful quantitative estimation of the constituents of urine is most desirable and necessary in some cases, valuable information may be obtained by simple tests. Thorough systematic use of such tests with careful study of accompanying signs and symptoms will greatly aid anyone in becoming a skilled clinician.

The Sanitary Examination of Public Water-Supplies.—One of the most bitterly contested suits in regard to the purification of a city water-supply[1] by the private corporation having it in control, was recently decided against the city because in the original contract a chemical standard for purity had been established, and the city was unable to show that continuous chemical variations were undoubtedly due to contamination. The court in addition held that, as the original contract[2] made no mention of bacteriologic tests, therefore testimony as to bacteriologic impurities could not be admitted in evidence, nor would the court admit bacteriologic evidence as to the efficiency or nonefficiency of alleged filtration-appliances.

Whether the position thus assumed by the judge of the lower court will receive the approval of the higher tribunals, remains to be seen. In any event, there is a distinct lesson for sanitary authorities in the rulings cited. A chemical standard for a given water may represent the sum total of knowledge in regard to it at a given time, but it is a bad precedent to set that as a standard to govern the affected community for all time. Even chemistry might have made advances during succeeding decades which would have led to a revision of the standard according to more modern chemical knowledge. As it happened in this case, bacteriologic research had supplied a method of judgment infinitely superior to that of chemistry, and the community, because of the fatuous yet legally-binding action of a preceding generation, was estopped from even presenting the facts of the case to a judicial tribunal. How much wiser it would have been had the city provided in the original contract that the question of purity

[1] City of Denver *vs.* Denver Union Water Co.
[2] Made in 1889.

should be from time to time established by examinations in accord with the most advanced scientific methods, no fixed standard being set but the accepted highest standard at the time of such examinations to govern the tests.

As a fact, there is too much tendency to rely upon single chemical examinations as standards of purity for water-supplies. These examinations have little value at all except when carried on daily during long periods of time. Their interpretation then requires unusual expert knowledge. Bacteriologic examinations from day to day are of infinitely greater value, since both number and character of bacteria form the basis of valuable knowledge as to the potability of a given specimen. Yet both methods of analysis should be used only in connection with complete knowledge of the sources of supply and the possible or actual sources of contamination. The naked-eye sanitary inspection of a watershed supplies evidence that neither of the more technical methods of investigation can supplant or set aside.

Medical Sermonets, No. 16. Professional and Amateur Scientific Progress.—There is an unconfessed and even unconscious hopelessness and despair as to aiding in scientific discovery on the part of the greater number of medical men, that is altogether unjustifiable and dangerous. Nearly all of us, in view of the improbability of our amateur efforts coming to anything, are prone to quit all attempts at originality. The expert investigators, and researchers by profession appear to be monopolizing discovery and leaving the rest of us no chance. Even games are taken in hand by the men of exceptional ability or opportunity, and one is afraid even to play at playing because others can beat us so badly. In science the "plants" of laboratories, and the long training of apprenticeship appear so necessary to all investigation or to success in it, that before we attempt following any novel suggestion we are seized with a conviction of final failure. We believe the leaders will somehow get the result, before we can possibly do it. Moreover, the professionals are crowding upon us such a mass of new facts and conclusions that our minds are wholly occupied in receiving, and we have no time to give out anything even if we had anything of value to give. We thus tend to become differentiated into absorbing organs—mental sponges, as it were—and leave to others all initiation and originality.

This, as we have said, is an unfortunate and an unauthorized condition of mind, one utterly unwarranted by the facts. Even in pure science it does not hold, as the annals of discovery clearly show. But in medicine it is almost the reverse of true. The beginning, and almost the ending of medical progress consists in accurate observation and logical induction, and all the observing eyes coupled to the logical minds are by no means in the laboratories and labelled *Professors*. Moreover, the few instruments required may be obtained by the most humble and suburban practitioner. It is the will and resolution that fail rather than the capacity and means. The controling reason for the existence of the capacity and opportunity of any one to prosecute original and fruitful observation lies in the facts of the individuality both of disease and of the diseased person, and that every student of living (not dead) pathology has his peculiar material always at hand. Every case in some way or other differs from that of every other, and in interest and novelty cannot be brought under formal and definite rules. Every young physician learns that the "typical" case is rarely if ever seen, and that he has to learn his medicine over again when it comes to a vital and influencing diagnosis and therapeutics. Whatever lives is mobile and changing and never repeats exactly the laws and rules derived from past experience.

If the isolated and unknown physician cannot discover new truth, he can at least gather observations and aid in amassing new material which some other may utilize to that end. A little observation shows how interdependent are the thousand preparers and gatherers, and the final discoverer who focusses all the rays to one luminous generalization. In fact, the originality of the famous man is frequently and generally only the product of numerous other originalities of the unknown men,—the lens that gathers many prerequisite beams of light to one image. This is so true that it is a truism. Those who have learned the vanity of fame and the worthlessness of working for a mere name will not envy the fame of half-accident, and will be glad to add their share, however little, still necessary, to the perfection of the completed result. Our personalities are but differentiated functions of the great person, Humanity, and the health of that mighty organism is dependent upon the right working of each component part. In a very simple and practical sense it is doubtless a sad fact that thousands of modest physicians are entirely too content to leave the results of their personal experience unformulated and the professional harvests of their lives ungarnered. Accurate and full case records are too rare with the vast majority of practitioners, and even if written out are sadly prone to go to the garrets and paper mills unutilized. What riches have thus been buried in the unopened and undigested record books of physicians, and how often these could have been made to yield material of value had their authors but done their duty! This does not demand that one should write more for publication, but rather that he should better systematize and formulate personal experience, so that it may upon occasion be placed at the disposal of the profession. Above all things, do not let us give way to the foolish renunciation of personal initiative and independence. There is every day at every one's disposal something of novelty and value to every other physician; it is our duty, it should be our pleasure, and it may be our enduring honor, to follow up every suggestion and clue with strenuous thoroughness. By so doing no one can foresee what discovery of the greatest beneficence may unexpectedly open before him, as a reward of his scientific zeal and professional enthusiasm. As we all know, the history of medicine is the history of precisely such discoveries.

Small Doses of Antitoxin in the Treatment of Diphtheria.—John H. Musser (*University Medical Magazine*, March, 1900) reports 13 cases of diphtheria in the treatment of which small, frequently repeated doses of antitoxin were used. His method is as follows: For children up to 6 or 8 years the initial dose is 500 immunizing units, to be repeated at intervals of 6 hours, if the fever does not fall, if the strength of the patient does not improve, or if the local manifestations are spreading. For children over 8 years, 1,000 immunizing units are given as an initial dose, and repeated at intervals of 8 to 12 hours, as needed. In but one case was there any erythema and albuminuria, and there were no joint affections and no deaths. Musser is of opinion that his doses are sufficiently large to combat the disease, and that repeated small doses prevent the unpleasant effects commonly seen. [M.B.T.]

Correspondence.

TWO MORE CASES OF PAROTITIS IN PNEUMONIA.

By HOWARD S. ANDERS, M.D.,
of Philadelphia.

To the Editor of The Philadelphia Medical Journal :—

After reading Dr. Talley's article in the Journal of March 24, I had in mind the two cases about to be mentioned, but delayed reporting them earlier along with those of other recent correspondents, subsequent to Dr. Talley's paper, thinking that I might be able to find a more detailed record of at least one of the cases; but I have not succeeded in doing so, and must be content to mention simply.

The first case occurred in my service as interne at the Presbyterian Hospital, ten years ago, in a middle-aged woman. The pneumonia was right-sided, and the parotitis bilateral.

The second case was that of a man about 60 years of age, also with pneumonia of the right lung, but with parotitis on the left side. Both cases had hyperpyrexia, and some delirium; and both recovered.

POISONING BY OIL OF WINTERGREEN.

By H. J. VAN WAGENEN, M.D.,
of Taberg, N. Y.

To the Editor of The Philadelphia Medical Journal :—

I wish to report a case of poisoning by oil of wintergreen, to see if there are other cases recorded.

May 5, at 4 P.M., a boy of 2 years was given about a teaspoonful of oil of wintergreen by an older sister. The child ate supper as usual and did not seem ill, at least nothing unusual was noticed by the parents until 10 P.M., when the child began to vomit and was evidently in great pain. I saw him at 11 o'clock, and gave an emetic, and a little later a cathartic, followed by eggs and milk.

The child was delirious at intervals during the night, and the next morning at 8 o'clock was delirious and restless, with a temperature of 97° F. and pulse 140, full and bounding, respiration 25 to the minute, deep and labored. The child continued in much the same condition all day, and toward evening had a convulsion, and thereafter had convulsions at intervals until the morning of May 7, when his temperature was 103° F., pulse 160, and respiration 25 to 30. He sunk into a coma and died at 4 P.M., without returning to consciousness.

DOUBLE PAROTIDITIS WITH ENDOCARDITIS COMPLICATING LOBAR PNEUMONIA.

By JOHN A. ROBISON, A.M., M.D.,
of Chicago.

To the Editor of The Philadelphia Medical Journal :—

I wish to add to a sixth case of double parotiditis complicating lobar pneumonia to the record to which Dr. Coleman added the fifth case in the Philadelphia Medical Journal of April 21, 1900. In my case there was the further complication of endocarditis.

E. H., aged 10 years, female, of German parentage, schoolgirl. Had a severe chill Sunday noon, March 25, followed by fever, coughing, severe pain in the bowels, and excessive vomiting for 3 days. Had no pain in the chest. She entered the Presbyterian Hospital March 18, with pneumonia involving the left lower lobe. The blood-count showed 12,000 leukocytes, steadily increasing to 19,000, the day before the crisis, April 3. The urine was amber in color, with acid reaction; albumin was present in small quantity; 940 cc. was passed in 24 hours, showing urea, 18.8 grams, and total solids, 26.28 grams. Microscopic examination showed granular debris, epithelial cells, and microorganisms.

The crisis occurred on the seventh day, and two days later the temperature and pulse rose slightly. The left parotid gland was greatly swollen and tender, and the right slightly swollen. The twelfth day of the illness the temperature rose to 103° F., and the right parotid gland was much swollen and tender. A soft systolic murmur was heard at the apex-beat, with accentuation of the second heart-sound.

The left submaxillary gland enlarged on the fifteenth day. On the seventeenth day a mitral presystolic murmur was discovered, both the presystolic and systolic murmurs persisting when the patient was discharged on the twentieth day, recovery being prognosticated. No bacteriologic examination was made. The affected glands resolved without suppuration.

AN UNUSUAL CASE OF FOREIGN BODY IN THE EAR.

By C. HUBART LOVEWELL, M.D.,
of Chicago.

To the Editor of The Philadelphia Medical Journal :—

I wish to report an unusual case of foreign body in the ear.

A few days ago Mr. G. consulted me in regard to a peculiar ringing in his left ear. Patient stated that a few days before he had used some soapy water in bathing his neck and ears and soon after noticed that he could not hear with his left ear, and that he had been very much annoyed by a continual buzzing and feeling of fulness in that ear. He was of the opinion that some of the soap had lodged in it and was causing the trouble, and desired me to examine and ascertain the real condition. Accordingly a solution of peroxid was instilled into the canal and after waiting a few moments a politzer was used with hot water in order to remove any collection of cerumen which I judged was causing the trouble. After a thorough douching a speculum was introduced and immediately disclosed a plug of wax still completely filling the meatus. By instilling more peroxid and repeated douching the mass was finally removed, giving almost immediate relief.

Upon examining the mass, we found protruding the legs and thorax of an insect, which, upon closer scrutiny, proved to be a fairly well-preserved specimen of the genus apis and probably of family mellifica, or common honey-bee. At first the patient could give no information as to how or when it happened, but after some study related the following: The only time that he had ever had anything in his ear was one time in the Spring of 1872 while planting corn near Baldwin City, Kans. He remembered distinctly some insect flying into his ear and of its causing so much pain and distress as to necessitate his leaving the team and going to the farmhouse for assistance. There the wife applied hot applications, but no diminution of the pain or buzzing occurred until the canal was filled with hot oil, when it ceased for a while. For three days, he says, he suffered untold agony and was completely worn out for want of sleep and nourishment, when on the fourth morning he awoke after his first short sleep and found all discomfort had vanished. He concluded that the intruder must have worked its way out during his sleep as he rolled and tossed about. From that day until his present discomfiture he had no symptoms, whatever, of any difficulty in his ear. Beside some congestion of the membrane I discovered nothing abnormal in the ear, and after insufflating a powder of europhen and boric acid I dismissed the patient.

I understand cases have been reported in which foreign bodies have remained in the ear for longer periods than this without causing any inconvenience, but I think that this one is somewhat unusual inasmuch as the insect was a bee and must have had a rare opportunity to sit down while waiting to be removed.

EARLY SIGN OF TUBERCULOSIS.

BY T. F. CHMELICEK-LUHAN, M.D.,

of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN your issue of April 28 I read Dr. Thomas F. Harrington's timely suggestion on *the early sign of tuberculosis*, in which he says that "It is now generally admitted that if the disease could be detected in what might be called the pretuberculous stage, etc., a good step in advance would be taken towards the reduction of the number of cases now reported as incurable."

Having had considerable experience in the observation of the so-called pretuberculous or latent stage of tuberculosis (nearly 900 cases) I wish to offer through your paper my observation which simply confirms the observation made by Dr. Thomas F. Harrington in his particular observation of the *dilated state of both pupils*, and wish to add, that these dilated pupils are invariably associated with the peculiar bright or glistening eyes and show great susceptibility to light, contracting rapidly on reflexed light and dilating again if the irritant is withdrawn. I have made hundreds of diagnoses simply on the two main symptoms, long before the bacilli could be detected in the sputum, viz., the evenly dilated pupils and very irregular and capricious appetite. The early dyspepsia of tuberculous patients is in direct proportion with the eye-phenomena and the remarkable results of my treatment are based mostly on the theory that the lungs should be let alone and the digestion and assimilation, together with the hygienic surroundings, should be the main issue in the management of this disease. As I am preparing a paper on the early diagnosis and treatment of tuberculosis among the poor I shall confine myself to these short preliminary remarks and wish only to congratulate my colleague on his observation of the same phenomena which I will incorporate in the paper. Of course there are people, mostly women, with largely dilated pupils, as the doctor remarks, without tuberculosis, but if we could keep them under observation for some length of time we may ultimately be rewarded with seeing slow progress and at least tendency to infection on slight provocative disease, such as acute bronchitis or la grippe or anything which tends to enervate the individual.

I think from the standpoint of medical examiners this sign is of great importance and should be carefully investigated.

Relationship of Membranous Inflammation of the Nose and Diphtheria.—In considering the subject, Yonge (*Practitioner*, December, 1899), concludes as follows: 1. That **membranous rhinitis** (this term being understood not to include primary nasal diphtheria) is commoner than is usually supposed, cases being overlooked owing to the mild constitutional symptoms, or regarded as catarrhal rhinitis, etc. 2. That the disease may occur in one of two forms, which concur in the local appearances, the prolonged course and the mildness or absence of constitutional symptoms, but differ in the presence or absence of the Klebs-Löffler bacillus and in their power of infection. 3. That the form associated with the Klebs-Löffler bacillus is considerably more common than the simple form and is a mild local manifestation of diphtheria, differing sharply, however, from the usual form of primary nasal diphtheria. 4. That, inasmuch as the two forms of membranous rhinitis are clinically indistinguishable, a bacteriologic examination should be practised in every case, and isolation of the patient carried out, at least until the result of the examination is made known. [D.R.]

Reviews.

The International Medical Annual and Practitioner's Index. 8vo, pp. xii, 748. New York: E. B. Treat & Co., 1900. Price, $3.00.

This epitome of the advances made in the various departments of medicine for the year represents the results of the joint labors of 41 contributors, each well equipped for the subjects respectively assigned him. The volume is essentially one for the general practitioner, who must know everything, and especially the latest of everything, and whose "specialty" may be defined as the relief of suffering, and the prevention and cure of disease. To these ends this manual will contribute.

International Clinics. Edited by JUDSON DALAND, M.D., Vol. IV, Ninth Series. 1900. Philadelphia: J. B. Lippincott Co., 1900.

The scope and the practical character of the papers contained in this volume will be indicated by the statement that 12 deal with subjects in medicine, 7 with questions solely of treatment, 4 with drugs and remedial agents, 4 with topics on neurology, 4 with surgical questions, 2 with laryngology and pharyngology, and 1 each with ophthalmology. The contributors further are principally teachers in the schools of various countries, and their communications are essentially clinical in nature.

The Refraction of the Eye. A Manual for Students. By GUSTAVUS HARTRIDGE, F.R.C.S., Senior Surgeon to the Royal Westminister Ophthalmic Hospital, London. Tenth edition. Illustrated. 12mo. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. Price, $1.50 net.

The fact that this valuable manual has passed through 10 editions in 16 years, is in itself sufficient recommendation of its merits. In the forelying volume, the original place of the book has been mentioned, but much new matter has been inserted. There has been careful revision of the text, and alterations have been made in accordance with the increasing knowledge of the subject. Particularly noticeable improvement has been made in the chapter on Muscular Asthenopia.

Manual of Bacteriology. By ROBERT MUIR, M.A., M.D., F.R.C.P. Ed., Professor of Pathology, University of Glasgow, and JAMES RITCHIE, M.A., M.D., B.Sc., Lecturer in Pathology, University of Oxford. Second Edition, with 126 illustrations. 564 pages. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1899. Price, $3.25.

This is one of the best practical manuals on bacteriology that we have ever seen. The present, the second, edition was issued in less than two years after the first. The theoretic problems agitating bacteriology, particularly those of immunity and agglutination, receive careful attention; and there are few books in which these complicated subjects are more clearly or more philosophically presented. Valuable chapters on Smallpox and Vaccination, Hydrophobia, Malaria, and Dysentery, are added in the form of appendices. A well-selected bibliography makes the book also of value for purposes of reference.

The Year-Book of the Nose, Throat and Ear. The Nose and Throat, Edited by G. P. HEAD, M.D. The Ear, Edited by ALBERT H. ANDREWS, M.D. 8vo, pp. 274. Chicago Medical Book Co., 1900.

The work of specialization in medicine goes merrily on. We have had yearbooks and annuals, and digests and retrospects, and we are now to have more. During the lifetime of the *Index Medicus* there has been need for works of this

sort, or at least for an increase in their number, particularly in any city with reasonable library-facilities. In the volume before us an endeavor has been made to present the most essential points of a large proportion of the articles of interest in the departments of rhinology, laryngology, and otology that appeared in the journals during the preceding year. The articles dealing with the nose and throat and those relating to the ear are considered separately, and a generous index facilitates references.

Diet and Food. Considered in Relation to Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A. and M.D. Oxon., F.R.C.P, Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Second Edition. With five illustrations, 8vo, pp. xi, 102. Philadelphia: P. Blakiston's Son & Co., 1900. Price, $1.00.

While all may not assent to the views of Haig, his most vigorous opponent will not deny that he has rendered a service in his crusade against the alloxuric bodies. There is much yet to learn in connection with the chemistry of digestion and assimilation, and of the disorders that result from its variations, but there is reason to believe that there are marked individual differences in this respect, so marked indeed that no arbitrary rules can be insisted upon. Similar metabolic disturbances may result from different causes in different individuals, and the same causes may give rise to different metabolic results. Haig is nothing if not an enthusiast on his subject, and the diet that he recommends is free from meat and eggs, as well as tea, coffee, and alcohol. The available "uric-acid free" foods include (1) milk and milk-products, (2) breadstuffs, cereals and glutens, (3) nuts and nut-foods, (4) garden vegetables, as potatoes, (5) garden fruits, as apples, (6) dried and foreign fruits. Haig's exposition is suggestive if not conclusive. It is worth being familiar with.

Plea for a Simpler Life, and Fads of an old Physician. By George S. Keith, M.D., LL.D., F.R.C.P.E. 8vo, pp. xxii, vi, 173. London: Adam and Charles Black, 1900. Price, $1.25.

The title of this little volume is an attractive one, and its contents are not without interest, but the principles enunciated are so radical as to discourage their general acceptance. It is perhaps true that overeating is a not uncommon vice; but such restrictions in diet as are here suggested represent the other, and not less injurious, extreme. We can assent to the proposition that tea, coffee, alcohol, and tobacco are not essential to a healthful dietary, and while perhaps meat can at times be advantageously dispensed with, it would be little short of fanatical to interdict wholly its use as an article of food. It is the intermediate course, here as everywhere, that will commend itself to liberal-minded men. Excess and waste are always to be avoided. So also with regard to drugs. There have no doubt been, there probably always will be, abuses in this connection, but this admission is far different from a wholesale denunciation of medicinal agents Life is in no small degree a chemical problem, and food and drugs can often be utilized to advantage in the natural solution, in both health and disease. Of the two essays contained in the volume before us, the "Plea for a Simpler Life" is an appeal for restriction of the diet, especially with abstinence from meat and stimulants, for both prophylactic and therapeutic purposes; while the "Fads of an Old Physician" is a supplementary paper, taking up successively "So-called Starving!" "Three Different Methods for Preserving and Regaining Health," "On Stimulants," "On Self-Massage," "Hot Water," "Liquorice," "On Cause," "Relief of Pain and Sleeplessness," "Rheumatic Fever," "How One Should Live in a Hot Climate," "On Matters which Retard Digestion and Prevent Waste," "On Natural Cravings and Dislikes," "The Responsibilities of Health," "Effect of High-living on the Morals of the Young," and "My Teachers." Dr. Keith has cited numerous interesting observations, but it can scarcely be said that neither they nor the arguments they are intended to exemplify carry conviction.

Elements of Clinical Bacteriology for Physicians and Students. By Dr. Ernest Levy, Professor in the University of Strasburg i. E., and Dr. Felix Klemperer, Privat Docent in the University of Strasburg i. E. Authorized translation by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc. 441 pp. Philadelphia: W. B. Saunders, 1900. $2.50 net.

Though hitherto inaccessible to many, this bacteriology is well known, because of the notoriety of the authors in the field of experimental research. In rendering an English version of a work so timely, and so useful, Dr. Eshner has made every reader, whether or not he can read the original, beholden to him. For Emerson's saying, "I should as soon think of swimming across Charles river when I wish to go to Boston, as of reading all my books in originals, when I have them rendered for me in my mother tongue," applies with especial emphasis to the class of books to which this volume belongs. The foreign language may be familiar, yet most persons read with slighter conscious effort, and in less time, their own tongue than the acquired—preeminent considerations to the busy physician or student using a clinical bacteriology; and in this translation, which is excellent in every respect without sacrifice of any essential original quality, the reader's gain is entire.

The contents of the volume are arranged in four main divisions, and an appendix, in which are successively treated: Morphology and Biology of Bacteria; Infection; Immunity, Immunization, and Cure; Methods of Culture and of Examination; Inflammation and Suppuration; Specific Diseases of Bacterial Origin; Mycoses; Infections with the Lowest Forms of Animal Life; Bacteriologic Examination of Soil, Air, and Water; the Bacteria Principally Found in Soil, Air, and Water; and Disinfection.

The section on specific infectious diseases includes instructive chapters on Plague and Botulism, which will claim particular attention, owing to the prevailing ravages of the one, and to the recent discovery by Van Ermengem of the existing agent of the other.

The illustrations, which are a special feature of the English version, and the full index, both indispensable adjuncts to completeness, help to make this a book that the physician will keep within arm's length.

An American Textbook of Surgery. For Practitioners and Students, by Thirteen American Professors of Surgery. Edited by Wm. W. Keen, M.D., LL.D., and J. Wm. White, M.D, Ph.D. Third Edition, thoroughly Revised and Enlarged, 1228 pages. Illustrated with 39 Plates, many of them colored, and 500 Woodcuts. 1899. Philadelphia: W. B. Saunders, Publisher. Price, cloth, $7.00 net; sheep or half morocco, $8.00 net.

The remarkable sale of this book during the past seven years (over 29,000 copies) for the most part among American practitioners, certainly gives it just right to the title "An American Textbook of Surgery." Probably no surgical textbook has ever been the counsellor of so many American medical men unless, possibly, that of Gross be excepted, and Gross' Surgery was on sale for a much longer time. The general character and scope of the work is so well known that any description of it would be superfluous; the names of the editors and their collaborators are a sufficient guarantee of the thoroughly-reliable and progressive character of its teachings. A large number of additions and changes in this new volume deserve mention however. Perhaps the most striking of these changes is the omission of the entire portions of the book which were devoted to Ophthalmology and Otology, to make room for a more thorough consideration of less specialized surgical subjects, and for discussion of numerous recent discoveries and advances. As evidence of the earnest efforts of the editors and publishers to keep the book thoroughly up to date, it may be mentioned that for two years a chapter on the use of Röntgen-rays has been added without waiting for a new edition. Among the new topics introduced, are serumtherapy, postoperative insanity, the use of dry heat at high temperatures, Hoffa's and Lorenz's

operations for congenital dislocation of the hip, the forcible reposition of deformity in Potts' disease of the spine, the surgery of typhoid fever, gastrectomy and other operations on the stomach, the surgery of the ureter, infiltration-anesthesia, newer methods of disinfecting the hands, the use of gloves in surgery, and many other less extensive additions. The work of revision was equally as important as the new matter which has been added, and it will be readily appreciated that such extensive changes, while they do not make a new book, still make it necessary, for those who desire to keep up with the times, to buy a new book. It can be safely said that no book of its size contains so much that is new, and none of its numerous competitors are in every way more trustworthy.

Bacteriology of Medicine and Surgery. A Practical Manual for Physicians, Health Officers and Students. By WILLIAM HALLOCK PARK, M D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Assistant Director of the Research Bacteriological Laboratories of the Department of Health, City of New York; assisted by A. R. GUERARD, M.D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with 87 engravings and 2 colored plates New York and Philadelphia: Lea Brothers & Co. Price, $3.00.

An elementary textbook on bacteriology, intended especially for the student, health-officer, and practising physician. The general arrangement is that usually found in textbooks on bacteriology. Perhaps of the greatest value is the chapter on Disinfection and Disinfectants, which is eminently practical, and gives facts that are not generally to be found in textbooks. The subject of immunity is rather scantily treated. Ehrlich's theory of immunity is interpreted (page 369) so as to imply that the substance fixing the toxin is the antitoxin, whether it be in the cell or outside of it. As we understand the theory, the substance in question becomes the antitoxin only when it has left the cell and is circulating in the body-fluids. The theory advanced by Ehrlich, it will be remembered, is that particular body cells contain in their protoplasm molecules or constituents (*side-chains*) that have an affinity for particular toxins and unite with them. As soon as such molecules are, by this union, put out of use, the cell endeavors to replace them, and, in obedience to a general biologic law, more of these molecules or constituents are formed than are actually necessary to repair the defect. The excess is thrown into the circulation, and there constitutes the antitoxin. To the reviewer's mind, this is the best theory yet advanced. The objection offered by the authors, is that it does not explain how a neutral mixture of toxin and antitoxin can still be capable of producing more antitoxin when introduced into the body. That objection may be answered in the following way: The combination of toxin and antitoxin, as it exists in so-called neutral mixture, is a very loose one, and as soon as the mixture is injected, the toxin is seized upon by the particular cells having an affinity for it; and these cells thereupon reproduce the constituents that have been used up in the combination with the toxin. These new-formed elements are thrown into the circulation and constitute antitoxin. There are a number of trivial errors: Thus, the discoverer of the lepra bacillus is given as Hausen (page 28), and Birch-Hirschfeld is called Birsch-Hirschfeld. The formula for Ziehl's carbolfuchsin solution should be fuchsin 1 gram, instead of 1 grain, and carbolic acid 5 grams, instead of 5 grains. The page heading on pages 517, 519, and 521, is the meaningless "Intracellularis Meningitidis," instead of Diplococcus Intracellularis Meningitidis. The section on the plague is very brief—the steady march of this sinister specter toward both of our shores, from the occident to the orient, demands that physicians acquire a thorough knowledge of plague-prophylaxis and of the diagnostic features of the disease. A future edition will enable the author to do this demand justice. The opportunity might then also be taken to incorporate a few words on the subject of Malta fever. The chapter on the Diphtheria Bacillus is admirable, as might be expected from the author's valuable studies on that disease.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Woman's Medical College of Pennsylvania.—Dr. Thomas S. K. Morton has resigned the chair of the Principles and Practice of Surgery and of Clinical Surgery.

Medico-Chirurgical College of Philadelphia.—At the annual commencement exercises, held May 19, degrees in medicine were confered upon 37 graduates, degrees in dentistry upon 22 graduates, and degrees in pharmacy upon 18 graduates. Prayer was delivered by the Rev. Kerr Boyce Tupper, and the principal address by George E. Reed, president of Dickinson College.

According to the will of the late Alexander McFadden, the following bequests are made to institutions: Methodist Episcopal Hospital, $10,000 for the endowment of 2 free beds to the memory of decedent's first wife, Elizabeth A. McFadden, and his late daughter, Clara Harding; Methodist Episcopal Orphanage, $5,000; Penn Asylum for Indigent Widows and Single Women, Kensington, $8,000.

St. Timothy's Hospital, Roxborough, Philadelphia.—Plans have been prepared for a three-story and attic addition to St. Timothy's Hospital, Roxborough. The structure will be 139½ by 49 feet, and will be located on the corner of Ridge avenue and Rector street. It will be erected as a memorial to the late Percival Roberts, Sr., president of the Pencoyd Iron works Company, by his heirs, at a cast of $50,000. The building will be of iron and steel framework, finished with stretcher brick and ornamented with terra cotta and red cut-stone trimmings.

Franklin County (Pa.) Medical Society.—The regular quarterly meeting was held in the Library Rooms, in Chambersburg, April 17, 1900. At the January meeting of the society, a committee was appointed to confer with some attorney who will represent the society in the prosecution of quacks and illegal practitioners coming into the county. At this April meeting the committee reported and recommended the employment of an attorney and prosecution of such imposters. The report was adopted and the committee was increased to five, and instructed to contract with the attorney recommended, and have him investigate and prosecute all cases referred to him by any member of the society or of the committee.

Berks County (Pa.) Medical Society.—At the meeting held May 8, DR. ISRAEL CLEAVER presented **a pair of surgical kidneys** with two large concretions, one in the bladder proper, the other in the prostate gland. The former weighing in the moist state, 290 grains; in the dry state, 261 grains. The latter weighing in the moist state 480 grains, in the dry state, 451 grains. The specimens were removed by postmortem from a soldier from the Civil War, aged 73 years. His trouble began first as a chronic diarrhea, later on retention, and later on incontinence. The bladder was contracted, wall slightly thickened, the prostate gland nearly all absorbed by the pressure of the concretion in the gland. Specimens were rare, as only a few cases are on record.

DR. LOCK, from Philadelphia, read a paper on **Enlarged prostate.** In the treatment Dr. Lock put great stress upon the treatment of the cystitis, in which he recommended an irrigation with potassium permanganate 1 to 4,000, saturated solution of boric acid, nitrate of silver, 1 to 10,000, sodium salicylate 15 grains to 1 ounce daily. Internally he advised the administration of fluid extract of ergot in some cases. When neither of those gave relief, he recommended the dilation with the bougie, or some operation, either suprapubic puncture or some operation for the destruction of part of the gland or the removal of part of same, in which he preferred using an electric cautery, by which means a part of the gland can be destroyed, thus lowering the urethra and allowing the patient to get rid of all residual urine.

Live Stock Sanitary Board of Pennsylvania.—The value of the work of the State Live-Stock Sanitary Board is dealt with at considerable length in a report which Dr. Leonard Pierson, State Veterinarian, has sub-

mitted to Secretary of Agriculture Hamilton. The document says: "For the fiscal year ending May 31 the Board was allowed $40,000 for its work of combating diseases of animals. Of this amount $27,992 98 was paid directly to farmers for tuberculous cattle; $233.50 was paid for glandered horses and mules; $5,692.03 was paid for tuberculin tests and inspection of herds made at the owners' request, for the purpose of suppressing tuberculosis; $2,906 was paid for inspection, vaccination, etc., in relation to other diseases, as anthrax, blackleg, rabies, hog-cholera, sheep-scab, glanders, etc.; $3,286.46 was paid for animals afflicted with diseases, other than tuberculosis, for cremating anthrax carcasses and for miscellaneous expenses, including supplies and office help, and $889.48 was paid for special service in connection with the enforcement of the law governing the inspection of cattle coming into Pennsylvania." The report says that unscrupulous dealers find the States that are without the protection afforded by an inspection law profitable places for disposing of the tuberculous animals that they can buy cheaply in other States. During the past year anthrax was reported in Bradford, Cambria, Chester, Delaware, Franklin, Jefferson, Monroe, Philadelphia, Pike, Potter, Susquehanna, and Warren counties, causing the death of 196 cows, 26 sheep, and 14 horses. A number of persons were affected with anthrax from diseased animals or their products, and it is believed several deaths have resulted from such infection.

Vital Statistics of Philadelphia for the week ended May 19, 1900:

Diseases.	Cases.	Deaths.
Total mortality		535
Pneumonia 75, congestion of the lungs 6,		81
Pulmonary tuberculosis		54
Diphtheria 33, membranous croup 3	82	36
Apoplexy 22, paralysis 7, softening of the brain 4		33
Marasmus 9, inanition 13, debility 8		30
Nephritis 17, uremia 13		30
Heart-disease 20, fatty degeneration of the heart 5, neuralgia of the heart 1, inflammation of the heart 2		28
Convulsions 25, epilepsy 1		26
Measles		22
Carcinoma 20, sarcoma 1		21
Gastroenteritis 13, cholera infantum 2		15
Senility		15
Inflammation of the brain		14
Scarlet fever	60	12
Burns and scalds		10
Typhoid fever	75	9
Bronchitis 8, peritonitis 6, septicemia 6, pleuritis 5, abscess 4, diabetes 4, influenza 4, rheumatism 4, teething 4, parturition 3, dropsy 3, pulmonary hemorrhage 3, suicide 3, unknown 3, anemia 2, gangrene 2, jaundice 2, intestinal obstruction 2, asphyxia 1, asthma 1, aneurysm of the aorta 1, congestion of the liver 1, chicken-pox 1, hip-disease 1, drowned 1, dysentery 1, catarrhal fever 1, goiter 1, appendicitis 1, laryngitis 1, hepatitis 1, spondylitis 1, neuritis 1, locomotor ataxia 1, leukemia 1, edema of the lungs 1, opium poisoning 1, purpura hemorrhage 1, pyemia 1, cirrhosis of the liver 1, arteriosclerosis 1, strangulation 1, gastric ulcer 1, gunshot wounds 1.		

NEW YORK.

Bushwick and East Brooklyn Dispensary, New York.—Dr. H. W. Lincoln has been appointed gastrologist.

A Bequest to St. Luke's Hospital.—By the will of the late James D. Sarven, of Tarrytown, about $50,000 has been left to St. Luke's Hospital of New York City.

New York Eye and Ear Infirmary.—A two-story addition to this hospital is about to be erected in the rear of the present building at Second Avenue and Thirteenth Street. Plans have been filed for a structure which it is estimated will cost $35,000.

St. John's Hospital, Brooklyn.—It is said that owing to the action of the city in cutting down the pay for city patients to one-half the actual cost to the hospital for caring for them, the hospital resources have been so drawn upon that the hospital managers have decided to meet this state of affairs by refusing to receive all city patients except in emergency cases. If this step is taken it will cause the retirement of the ambulance of St. John's Hospital, thus diminishing the public ambulance service of Brooklyn.

Booths for Sterilized Milk in the Parks.—This year the Board of Estimate and Apportionment has appropriated $4,000 for the erection of two booths for milk, one in Central Park, and the other in Tompkins Park. These are intended for dispensing Mr. Nathan Straus' sterilized milk and infant foods. Last year the plan fell through because of the opposition of Mayor Van Wyck. The booths will be made quite ornamental, and will be 15 feet high, 30 feet long, and 14 feet wide. They will have a tiled wainscoting and cement floors, so that the booths can be washed out daily. Each booth will cost $1,400, and appliances are to be provided for the cooling and proper preservation of the milk. By the time the warm weather sets in, Mr. Straus will have milk booths in operation in nearly all the city parks and on the recreation piers.

The Psychologic Side of Police Confessions.—At the meeting of the Medico-Legal Society, on May 16, Dr. Thomas J. Hudson, of Washington, D. C., read a paper in which he pointed out the danger of innocent persons being made to confess deeds which they had never committed, simply through the psychologic process of suggestion. He deprecated the practice of admitting in courts of law confessions of guilt on the part of persons charged with capital crimes, especially when such confessions were obtained by the present system of turning a detective loose upon the accused person and allowing him to browbeat his victim into a confession before he has a chance to employ counsel. He declared that by such a process it was just as easy to obtain a confession from an innocent person as in the old days when torture was employed.

Long-Distance Cycling as a Consumption Cure.—William H. Brown, who has just made a long-distance bicycle record for himself, has done so only amid the greatest discouragements, for he has been compelled to peg away in mud and rain, and under all sorts of adverse conditions. But he has been plucky and persistent, and well he might, for he has not been churning through the mud for mere glory, or for filthy lucre, but to demonstrate the value of such exercise as a consumption cure. It cannot be said that he has demonstrated this point, but he has shown that a man may ride 1,400 miles in about 148 hours, under very trying conditions, and may actually gain in weight during the last few days of this ordeal. While reeling off these 14 centuries Mr. Brown was only off his wheel 37 hours, and was asleep altogether only 11½ hours. At the commencement of the ride his weight was 152 pounds; after he had ridden 1,000 miles his weight was 145 pounds, and after having ridden 1,400 miles his weight was 148½ pounds, and he was said to look no more fatigued than many do after having ridden a single century. At this time he was examined by several physicians, who found his temperature normal, his pulse 60, firm and regular, and his respirations 22. His diet has been rather remarkable, consisting chiefly of raw vegetables and cereals. This, however, is in accordance with the statements of Charlie Miller and Frank Waller, that raw oatmeal, wheat, and barley are excellent food for such work.

Doctor's Wife Assailed With Caustic Potash.—When Dr. John J. Cronin's wife answered the door at 10.30 o'clock last Thursday evening, she was met by a slender young woman, dressed in black, and closely veiled, who asked Dr. Cronin to come to an urgent case of heart-disease. Dr. Cronin had just retired after a busy day, and had left word that he should not be disturbed. Mrs. Cronin accordingly said the doctor was not in, whereupon the woman, after a moment's hesitation, and a hurried glance up and down the street, pulled a small bottle out from where she had concealed it in her skirt, and with the remark "I called to give him this," she suddenly pulled out the cork and dashed the contents in Mrs. Cronin's face. The fluid was caustic potash, and as it burned her eyes and face, Mrs. Cronin screamed and fell to the floor in a faint. Dr. Cronin hastened down stairs, but the assailant was nowhere to be seen. While he was attending to his wife the police were

notified and at once instituted an investigation. It was quickly learned that the same woman had called less than an hour before on Mrs. Cronin's mother and had asked where the doctor lived, explaining that she wished to call on his wife. The mother was suspicious of the manner and appearance of her questioner, and so replied that it was somewhere on Fifty-first Street, but she did not recall the number. So far the clues furnished the police have been barren of result. Mrs. Cronin was removed to the Manhattan Eye and Ear Hospital, where it is said she might lose the sight of one eye. No motive for the deed can be given.

Medical Lectures to Teachers.—Dr. James P. Haney has been giving, since April 21, a series of 5 lectures on medical topics, to the Society of Pedagogy, an organization of public-school teachers. In his first lecture he considered the growth and development of the child, comparing the two sexes. Thus, he pointed out that recent research had shown that the average girl was at least two years in advance of the average boy, both in mental and physical development, though the boy being stronger physically could work harder and so keep abreast of the girl in spite of her greater intellectual maturity. The second lecture dealt with the physiologic changes taking place from infancy to adult life. In this connection stress was laid upon the need for discouraging precocity by diverting the excessive mental activity into physical development. The third lecture treated of facial and cranial and other peculiarities and their significance, and the teachers were wisely cautioned not to attempt to judge the character or condition of a child from any one or two such physical signs. Perhaps the lecturer touched more nearly the everyday work of the school teacher in his fourth lecture, the subject of which was fatigue. He touched upon the importance of plenty of sleep and of recreation, and pointed out that the child's best hours for work were from 9 to 11 o'clock in the morning, and the worst between 4 and 5 o'clock in the afternoon. As a practical test of fatigue the teacher was advised to call upon the pupils to hold out their hands. If this was done listlessly, the children were unduly tired. The final lecture dealt with school-made diseases, such as chorea, hysteria, and various eye-troubles.

An Important Legal Decision.—A case of great interest to hospitals, and to nurses and physicians generally, has just been decided in the Supreme Court on the third trial. The result of the second trial was referred to in this JOURNAL on December 30, 1899. The case is that of Miss Helen Delaney Ward against the St. Vincent's Hospital, and the suit is brought to recover $30,000 damages for an injury received while the plaintiff was a private patient in that hospital. She entered the hospital in February, 1894, and paid $25 a week for board, and $3 a day for a special nurse. The operation which was done on her was completely successful, but before she had come out from the influence of the ether, the nurse burned her leg by carelessly applying a hot-water bag. The nurse did not report what she had done for several days, thinking that she could care for it herself. It is alleged that in consequence of this injury Miss Ward was compelled, a year later, to undergo an operation to save her from amputation. The suit for damages was brought in March of the same year, and the case first came to trial three years later before Judge Cohen. He directed that a verdict be given for the defendant, on the ground that the hospital being a charitable institution was not liable for the negligence of its employes. This was the position that had been taken in previous decisions handed down in Massachusetts and Pennsylvania, based on a case in England, which, it is said, has since been reversed by the House of Lords. However that may be, Miss Ward appealed, and when the case came up last April, the Judges of the Appellate Division by a unanimous verdict ordered a new trial, holding that the plaintiff was a pay-patient, and that the action was not brought on the ground of negligence, but for alleged breach of contract. At the second trial, last December, the jury disagreed. The third trial took place on May 15, 1900, and resulted in Judge Gildersleeve and a jury in the Supreme Court awarding the plaintiff $10,000 damages. The importance of this decision, so entirely opposed to precedent, is obvious, for it will undoubtedly afford an opportunity for many similar suits.

NEW ENGLAND.

Mrs. Sally Baker, of Marshfield, Mass., the last pensioner of 1812 in that part of the country, has died at the age of 101 years and 11 months.

Yale University is soon to establish a new medical school. A lot adjacent to the New Haven Hospital will probably be purchased at a cost of $75,000.

The Boston Board of Health has recently required all ice-dealers to fill out a blank giving details of the source, kind, and method of storing of all ice sold.

Dr. H. P. Walcott, of Cambridge, who has been connected with the Massachusetts State Board of Health for 20 years, much of the time as its chairman, has been reappointed.

The Rhode Island Hospital's New Bacteriologic Laboratory was formally opened May 10. Dr. W. T. Councilman, of Boston; Dr. J. W. C. Ely and Dr. G. Alden Blumer were the speakers.

The Boston School Committee is to institute a series of measurements of the height and weight of the school children under its care, beginning with the primary grade and continuing through the period of growth. The work will be done by the director of physical training and continued through a series of years in a systematic and definite manner.

Boston Society for Medical Improvement.—At the meeting held May 8 Dr. Theobald Smith read a paper on **The comparative etiology of malarial diseases.** Dr. E. H. Nichols was to make a report on **The etiology of cancer,** especially with reference to the work in foreign laboratories, but the matter was deferred for the collection of further data.

The officers of the Norfolk District Medical Society for the ensuing year are as follows: President, Dr. F. W. Goss; vice-president, Dr. C. F. Wittington; secretary and librarian, Dr. J. C. D. Pidgeon; treasurer, Dr. E. G. Morse; censor, Dr. H. M. Cutts. The fiftieth anniversary of the society was celebrated May 8 with an address by Dr. H. C. Ernst, and a sketch by Dr. C. Ellem Steadman.

Suffolk District Medical Society—Surgical Section.—At the last meeting DR. PAUL THORNDIKE, of Boston, and DR. PRESTON KEYES, of the John Hopkins Medical School, presented a **Report of cases of infection due to the Bacillus aerogenes capsulatus of Welch.** At the same meeting DR. JOHN COLLINS WARREN discussed **The radical cure of hernia,** with an analysis of 98 cases.

Thurber Medical Association, Milford, Mass.—At a meeting, held May 3, papers were read as follows: **The mortality from consumption among American-born Irish,** by DR. W. W. BROWNE, of Blackstone. **Some of the uses of calcium sulphid,** by DR. WM. L. JOHNSON, of Uxbridge. A committee was appointed to cooperate with the Milford Board of Trade in relation to the establishment of a hospital in Milford.

School for Instruction of Health-Officers.—The second annual session was held at Burlington, Vt., May 22 to 24. The program embraced a large number of papers by leading sanitarians from all parts of the State, and the meetings were very largely attended. The annual address was made by the President, M. H. Buckham, and a report of the work accomplished by the Laboratory of Hygiene from February 1, 1898, to May 1, 1900, was made by Dr. J. H Linsley.

Boston Society for Medical Improvement.—At a recent meeting, DR. W. M. CONANT read a paper entitled, **A plea for the anterior abdominal route for fixation of the kidney.** He said incisions can be made in one of three places; either through the rectus just to the right or left of the linea alba, through the semilunaris, and the third incision which seems to the reader the best incision is one which starts from the linea semilunaris and runs obliquely backward parallel with the crest of the ilium 3 to 4 inches, and ending about opposite to the tip of the twelfth rib. The

cia of the external oblique and the muscles are separated. e fibers of the internal oblique can either be cut, or are parated as in McBurney's operation. The fibers of the nsversalis muscle are then separated. The peritoneum is en opened, or if one does not care to open it it can be shed to the inside. In case the peritoneum is opened the ending colon is pushed to the inside and you come down once upon the kidney after going through the peritoneum vering it. Kangaroo sutures are then passed through the ver portion of the kidney, the fibrous capsule being in-ded and they are then brought to the strong band of nbar fascia, thus making a shelf on which the kidney ts. There are usually 2 or 3 sutures passed. The loose ritoneum is then caught up and sewed over the kidney. e ascending colon is replaced, and if it is rather free, it is d down by one or two kangaroo stitches. The peritoneum the anterior abdominal wall, if it has been opened, is ved up with a continuous catgut stitch. The 3 layers of uscles are sewed up with kangaroo or chromicized catgut. e skin incision is closed with a subcuticular stitch or with errupted stitches of silkworm gut. The following advant-es are claimed for this method of operation: (1) Rapidity operation; (2) slight loss of blood; no vessels of any ment are cut; the incision runs parallel with the nerves l they are not interfered with; (3) as a consequence of 1 l 2 there is little shock; (4) absolute certainty of diag-sis; (5) possibility of correcting any pathologic condition ich may exist in any other of the important organs, as bladder, appendix, or the pelvic organs. All can easily made out through this incision, and if necessary, be oper-d on; (6) the holding of the kidney in a position where re will be no dragging or pulling on the stitches when the ient stands erect; also holding the kidney in what may be sidered an anatomic position, it being low enough down that there can be no disturbance from the weight of the placed organ in case there is a marked enteroptosis; (7) freedom from symptoms after the operation; in many es the patients can take up their regular work, being better n they have been for years; (8) the necessity of only a rt time for the patient to remain in bed, practically no ger than in the ordinary laparotomy, from 2 to 3 weeks.

uffolk District Medical Society.—Medical Sec-n.—At the meeting held May 16, Dr. H. F. Hews gave following **Study of symptoms in disorders of the mach,** as gathered from his clinic at the Massachusetts neral Hospital. The records of the chemical analyses of cases of disorder of the stomach treated in the clinics of writer in Boston show that a normal acidity of the con-ts was present in 120, or 48% of the cases; hyperchlorhy-a in 72 cases, and hypochlorhydria in 48 cases, 15 of ich showed achlorhydria. A table of normal records apiled from the examination of 100 individuals in Bos-which is used for comparison is appended. Of these cases 85 showed evidence of definite organic disease of stomach, as carcinoma, ulcer, stenosis, marked gastritis. the remaining 175 cases, including 47 cases of hyper-orhydria, 28 cases of hypochlorhydria, and 90 cases of mal acidity, the chemical abnormality was the only ab-mal objective sign discernible, either this or no objective ormality being present. A comparative study of the ptomologic subjective signs and the chemical findings jective signs) in these 165 cases revealed the following im-tant facts in regard to the symptoms of these gastric dis-ers: (1) One symptom, distress, was present in practically the cases, and one symptomology, distress plus a desire raise gas or actual eructation, was present in 80% of all es, including many cases of each variety of acid condi-n. (2) This symptomology was the total symptomology 0 cases of hyperchlorhydria, in 41 cases of normal acidity, in 14 cases of hypochlorhydria, nearly one-half of all cases. (3) In 27 cases of hyperacidity additional symp-ns, as heartburn, pyrosis, were added to this common und symptomology. The writer concluded from this ly that these common symptoms, distress and eructation, resent a habit or natural reactive manifestations of stomach which is manifested whenever that organ is ed to perform its function under untoward circum-ces, whatever the cause of the disturbance. Thus se symptoms are present in all cases of gastric disturb-e, regardless of the cause. When the affection is severe other symptoms, as vomiting, may be imposed. Where the cause is an irritant, as an excess of acid, special symptoms, as the pyrosis, indicative of this special cause, may be added to the regular symptoms of the stomach labor, if the irritant is strong or the susceptibility great. Otherwise merely the habit symptoms will occur. Subjective symptoms are thus no guide to chemical conditions or to the actual objective nature of the disturbance.

Dr M. P. Smithwick read a paper on **Eye-strain as a cause of gastrointestinal disturbances.** He said a tendency of digestive neuroses to disappear spontaneously for considerable periods, to improve temporarily under most any treatment, and to persist long under treatment that finally cures, makes it often difficult to determine the cause. A man, 30 years of age, had been subject to attacks of vertigo, nausea and vomiting, and headache every two or three weeks since he became a barber at 16 years of age. Between attacks he was well. Diet and treatment did not influence attacks, but they ceased 17 months ago when glasses were given for hypermetropia. Of 20 cases studied 3 had normal eyes, 3 hypermetropia, 13 hypermetropic astigmatism, one of these having esophoria, one compound astigmatism with muscular imbalance. Glasses were given in 17 cases and were beneficial to all. Eye-strain was not proven the sole cause of symptoms in any of the 20 cases. The writer is convinced that it can cause digestive neuroses and that frequently it may be a factor. He recommends the routine examination of children's eyes at the earliest practicable age.

CHICAGO AND WESTERN STATES.

University of Texas, Galveston.—The annual address to the graduating class was delivered by Dr. William E. Carter, professor of physiology, formerly of the University of Pennsylvania.

New Willard Hospital.—The new Frances E. Willard National Temperance Hospital was opened a few days ago, with a reception by members of the Association. This hospital affords accommodation for at least thirty patients.

Milk Preservatives.—Health Commissioner Reynolds, of Chicago, has declared that the use of preservatives to keep milk from souring is a direct menace to infants, and active measures will be taken to put a stop to the practice, and the names of dealers who violate the mandate of the Health Department will be made public.

Wesley Hospital, Chicago.—The following staff has been appointed: Professors Davis, Edwards and Webster in medicine; Van Hook and Plummer and Dr. Schroeder in surgery; Dudley and Mergler in gynecology; Gradle and Allport in eye and ear; Casselberry in nose and throat; DeLee in obstetrics; Ridlon in orthopedics; Danforth in renal surgery; Hatfield in children's diseases; Futterer, pathologist; Zeisler in skin diseases; Church and Patrick in nervous and mental diseases.

Distribution of Profits from the Recent Christian Edition of the "Topeka Daily Capital."—Rev. C. M. Sheldon, of Topeka, Kan., received $5,000 from the profits of the *Christian Daily Capital*, of which he has given $1,000 to the India famine sufferers, and the balance has been distributed as follows: City Detention Hospital, Topeka, $1,000; for the contagious disease ward, Christ's Hospital, $1,000; Washburg College, $500; Topeka Y. M. C. A., $500; for a public drinking fountain, $300; Kindergarten Association, $100; Y. W. C. A., $150; W. C. T. U, $100; Ingleside Home, $100; State Temperance Union, $100; Anticigarette League, $50.

Illinois State Medical Society.—At the annual meeting, held May 15, 16, and 17, at Springfield, the following officers were elected for the ensuing year: President, Dr. George N. Kreider, Springfield; first vice-president, Dr. Weller Van Hook, Chicago; second vice-president, Dr. Denslow Lewis, Chicago; assistant secretary, Dr. O. B. Will, Peoria; treasurer, Dr. E. J. Brown, Decatur; permanent secretary, Dr. E. W. Weis, Ottawa. Officers of Sections: Section 1—Chairman, Dr. Charles D. Center, Quincy; secretary, Dr. G. W. Nesbitt, Sycamore. Section 2—Chairman, Dr. M. L. Harris, Chicago; secretary, Dr. W. F. Grinstead,

Cairo. Section 3—Chairman, Dr. Frank P. Norbury, Jacksonville; secretary, Dr. C. C. Carter, Rock Island. Peoria was selected as the place for holding the next annual meeting; time, May 21, 22, and 23, 1901. Chairman of the Committee of Arrangements, Dr. J. D. Henry, Peoria.

Evils Resulting from Naming Diseases for Individuals.—DR. N. S. DAVIS, SR., read a paper on this subject before the Illinois State Medical Society. He said it is very inconvenient; it is meaningless—*i. e.*, it conveys no information concerning the causes or location, nature, or results of the disease. Many examples of this meaningless method were cited. Disease is necessarily a deviation from a healthy condition of function or structure of some part of the whole living body, consequently its name should be suggestive of the nature, and, when possible, also of the chief seat of the disease.

Treatment of the Opium Habit by the Bromid-method.—DR. ARCHIBALD CHURCH, of Chicago, read a paper on this subject. In the *British Medical Journal* of July 10, 1897, Dr. N. Macleod, of Shanghai, reported 7 cases which he had treated by what he called the "bromid sleep." Briefly, the purpose of the bromid-treatment is to stupefy the patient utterly for a number of days, during which time the opium is rapidly withdrawn and recovery had from the physical disturbance secondary to its withdrawal. The plan of treatment was hit upon by accident. Macleod states that early in 1897 a neurasthenic lady, addicted to morphin for nine years, by accident had administered to her two and a half ounces of sodium bromid in something over 2 days. A profound sleep was induced, lasting several days, and when its effect wore off the craving for morphin had ceased, and with it the various disturbances which had led to its use. A few months afterward a pilot who was addicted to morphin and alcohol agreed to try the effect of the treatment and no suffering was experienced during the withdrawal of morphin, the craving for which, as well as for alcoholics, disappeared on recovery from the bromid sleep. Dr. Church submitted the histories of two cases treated by the Macleod method. In the first case the result was excellent. The second case, which might otherwise have been a successful result, so far as the bromid treatment was concerned, terminated fatally perhaps by the bromid aggravating a nephritis. The method of administration which has gradually developed as the result of the experience of Macleod and the speaker's observations was formulated in this way: The drug should only be given in the daytime; 120 grains of sodium bromid in a half tumbler of water every 2 hours, until an ounce is given in the same way, and this may be sufficient, or it may be necessary to continue the doses in the same way on the third day. Macleod says a safe rule is to cease the administration of the bromid after 24 hours, when drowsiness is so profound that the patient cannot be aroused, or when aroused is incoherent. If the sleep continues or becomes deeper, no more bromid will be needed. It is to be remembered that the bromid acts in a cumulative manner. After the second or third day, when the bromid is withdrawn, the drowsiness, in some cases actual coma, tends distinctly to deepen for 48 hours, so that the fully-developed sleep presents a rather alarming condition to any one not familiar with it. For 2 or 3 days, there is difficulty in feeding the patient, and swallowing is sometimes impossible, so that rectal alimentation is required. During this treatment, there is apparently a tendency to aspiration pneumonia, so that feeding by the mouth becomes doubly dangerous. Any septic condition in the pharynx or in the antra communicating with the mouth should contraindicate the treatment. The poisonous effect of the bromid falls apparently upon the respiratory and cardiac centers, so that a weak heart, or impaired pulmonary conditions, would furnish reasons against the method. Considering the fatal termination of a case of nephritis that he had reported, it is strongly suggested that sodium bromid, in large quantities, acts harmfully upon the kidneys, if diseased, and therefore any degree of nephritis should be a contraindication to this line of treatment. Three deaths occurring in 12 cases, although in each instance attributable only remotely to the bromids, and where the bromid had been used in extraordinary doses—doses that can no longer be advised—show that the plan of treatment is very far from being simple, and without danger. However, as compared with the difficulties of the ordinary methods that are pursued in correcting the addiction to morphin, it seems to the essayist to be of very definite value in well-selected cases, and in such cases he would not hesitate under appropriate safeguards to employ it.

SOUTHERN STATES.

Proceedings have been instituted against the New York Medical College of San Antonio, Tex. for forfeiture of charter. The so-called college is charged with selling its diplomas to any person it pleases, regardless of qualifications, etc.

Orleans Parish Medical Society.—At a meeting held May 12, DR. W. SCHEPPEGRELL read a paper on **The physiology of voice production.** DR. A. PETTIT reported a case of **hemorrhagic smallpox,** which terminated fatally in 5 days. DR. S. L. THEARD reported 5 cases of **hemorrhagic smallpox,** all of which had terminated fatally except one now under observation. The eruption noted in these cases simulated that of scarlet fever; the mucous membranes were intensely congested and given to capillary hemorrhage. DR. Q KOHNKE had noted that cases of smallpox presenting well-marked typical eruption, shot-like when felt between the fingers, were prone to recovery, the latter characteristic especially seemed to indicate power of resistance in patients.

MISCELLANY.

American Proctologic Society.—The following officers were elected by the American Proctologic Society at Washington, May 5, 1900: President, Dr. James P. Tuttle, New York, N. Y.; vice-president, Dr. Thomas Chas. Martin, Cleveland, O.; secretary, Dr. Wm. M. Beach, Pittsburg, Pa.; executive council: Dr. S. T. Earle, Jr., Baltimore, Md.; Dr. A. B. Cooke, Nashville, Tenn.; Dr. J. R. Pennington, Chicago, Illinois.

National Confederation of State Medical Examining and Licensing Boards.—The following is the program of the tenth annual meeting, to be held in the banquet hall, Hotel Traymore, Atlantic City, N. J., Monday, June

Annual address by the President: The Work Accomplished under the Kentucky Law; Associate Medical Examining Boards, Charles A. Groves, East Orange, N. J.; A brief review of the medical curriculum of the United States with special reference to its defects and indicated modifications, as demonstrated by the State medical examinations of Pennsylvania, Henry Beates, Jr., Philadelphia; The new medical law of Ohio, Hon. Maro J. Love, Bloomingville; The cooperation of the medical profession of the United States with the National Confederation of State Medical Examining and Licensing Boards in establishing interstate reciprocity for the license to practise medicine, Emil Amberg, Detroit, Mich. Discussion: What steps shall be taken to establish a uniform standard of preliminary requirements in accordance with the recommendations contained in the report of the committee on minimum standards, adopted June 5, 1899? The following members will lead: N. R. Colemans, Columbus, Ohio; William Warren Potter, Buffalo, N.Y.; Augustus Korndorfer, Philadelphia; Joseph M. Matthews, Louisville, Ky.

Obituary.—DR. COLEMAN F. LEAMING, a prominent physician of Cape May county, N. J., died at Cape May Court House, May 13, aged 72 years.—DR. WILLIAM R. RAMSEY, Norristown, Pa, May 13, aged 68 years.—DR. LANDON CARTER GRAY, a distinguished neurologist of New York City, May 8, aged 51 years.—DR. JOHN E. BURDICK, Johnstown, N. Y., April 30, aged 62 years.—DR. EDWARD P. WILLIAMS, Atlantic City, N. J., April 29, aged 69 years.—DR. JOHN STOCKTON HOUGH, Ewing, N. J., May 6, aged 54 years.—DR. CHARLES C. STREET, Boston, Mass., May 7, aged 64 years.—DR. EDWARD EVERETT VINCENT, surgeon to Lieutenant Peary's Arctic expedition in 1893, was killed in a bicycle accident in Detroit, May 4.—DR. JOHN R. BRONSON, Attleboro, Mass., May 9.—DR. MATTHEW M. BAGG, Utica, N. Y., May 3, aged 83 years.—DR. GEORGE W. WARREN, West Boylston, Mass., April 22, aged 81 years.—DR. CHARLES S. COLLES, New York, May 20.—DR. PUSEY WILSON, Moorestown, N. J., May 20, aged 74 years.—DR. CHARLES W. SYDNOR, Marlboro, Frederick County, Md., May 11, aged 68 years.

The Bubonic Plague.—Surgeon-General Wyman, of the Marine-Hospital Service, is reported to have said that Surgeon Kinyoun, who has charge of the Federal sanitary interests in the State of California, was working in harmo

th the State and local Boards of Health in the efforts to event the spread of the plague. The Surgeon General ints out the absolute necessity of having every Chinese oculated as a preventive measure. Thus far eight cases ve been reported of the plague, in all of which those fected died. The sanitary inspectors, who are to prevent e departure of Asiatics by means of the railroads crossing e State line, will be stationed at Reno, Ariz., Yuma, Ariz., and hland, Ore. The Board of Health of San Francisco last ek adopted a resolution declaring that bubonic plague ex- s in the city. The Board stated that there were at that time living cases, but that six deaths had occurred from the ague during the past three months, and their declaration as one of many precautionary measures designed to pre nt the spread of the disease. Haffkine preventive inocu- ions are to be undertaken in the Chinese quarter, but they e not to be compulsory. House-to-house inspection in the inese quarter will be resumed, and the Chinese are re- ired not to remove from the rooms in which they lived y person who may become ill, but they must await the spection of the health authorities. It is officially an- unced that several cases of plague have occurred at Rio Janeiro.

Health-Reports.—The following cases of smallpox, llow fever, cholera, and plague have been reported to the rgeon-General, U. S. Marine Hospital Service, during the ek ended May 19, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
ABAMA:	Mobile	May 5–12	2	
DIANA:	Evansville	May 5–12	2	
NSAS:	Wichita	May 5–12	4	
NTUCKY:	Covington	May 5–12	2	
UISIANA:	New Orleans	May 5–12	57	14
INE:	Portland	May 5–12	1	1
SSACHUSETTS:	Chicopee	May 5–12		1
CHIGAN:	Detroit	May 5–12	2	
BRASKA:	Omaha	May 5–12	6	
IO:	Cleveland	May 5–12	19	1
NNSYLVANIA:	Pittsburg	May 5–12	2	
AROLINA:	Greeneville	May 5–12	3	
AH:	Salt Lake City	May 5–12	2	
SHINGTON:	Tacoma	April 28–May 5	1	
OMING:	Sweetwater Co.	May 4	6	
"	Uintah Co.	May 4	4	

SMALLPOX—FOREIGN.

STRIA:	Prague	April 22–28	16	1
LGIUM:	Antwerp	April 22–28	1	1
NADA:	Manitoba	April 1–30	80	
"	Winnipeg	April 28–May 12	3	1
"	Quebec, Bonaventure Co.	May 4–11	5	
NA:	Hongkong	March 22–April 7	6	3
GLAND:	Liverpool	April 22–28	9	4
"	London	April 22–28	6	1
"	Southampton	April 28–May 5	5	
ANCE:	Lyons	April 14–21		2
BRALTAR:	Gibraltar	April 22–28	1	1
EECE:	Athens	April 22–28	8	2
DIA:	Bombay	April 10–17		72
	Calcutta	March 25		39
	Kurrachee	April 8–15	12	9
LY:	Rome	March 22–April 7		2
"	Venice	April 14–21		1
PAN:	Formosa, Tamsui	March 24–31	134	2
XICO:	Chihuahua	April 28–May 5		1
"	Mexico	April 1–29	57	42
"	Vera Cruz	April 28–May 5		8
SSIA:	Moscow	April 7–21		5
"	Odessa	April 22–28	7	2
"	St. Petersburg	April 14–21	31	9
"	Warsaw	April 14–21		2
TLAND:	Glasgow	April 22–28	19	2
IN:	Corunna	April 22–28		1
"	Valencia	April 22–28	1	

YELLOW FEVER.

A:	Havana	May 7	1
XICO:	Vera Cruz	April 28–May 5	10

CHOLERA.

BIA:	Oman	March 10	Present.
IA:	Bombay	April 10–17	26
"	Calcutta	March 18–24	101

PLAGUE—FOREIGN.

EGYPT:	Alexandria	May 9		Reported.
INDIA:	Bombay	March 10–17		533
"	Calcutta	March 18–24		878
"	Kurrachee	April 8–15	486	402
JAPAN:	Formosa, Tamsui	March 24–31	106	74
"	Osaka	April 13		1
NEW CALEDONIA:	Numea	Dec. 17–April 4	123	77

Association of Military Surgeons of the United States.—The following is the program of the ninth annual meeting to be held in New York, May 31, June 1 and 2:

1. Examination of Recruits: "Some Suggestions on Recruit Identification and Routine Correspondence," J. S. KULP; "What Should be the Standard of Vision Required of Enlisted Men in the United States Army?" MYLES STANDISH; "The Physical Factor in Examinations for the Army and Navy," H. G. BEYER; "A Study of Visual Perception with Special Reference to Training the Eyesight of Soldiers," J. F. CALEF. Discussed by FRED. W. BYERS, WILLIAM J. MAYBURY, O. D. ROBINSON and N. DARRELL HARVEY.
2. Camp Sanitation: The Hygiene of Camps of Instruction, JULIAN LAPIERRE; Organization and Administration of Medical Service, B. F. POPE; Methods Resorted to to Obtain Water for Disposal of Excreta, etc., in Establishing Hospital at Corregidor Islands, W. O. OWEN; The Value of the Schumburg Method of Purification of Water for Military Purposes, JOHN H. HUDDLESTON; Some Experiences and Suggestions, W. G. B. HARLAND; Some Problems that had to be Solved by Our Medical Department Across the Seas, J. VAN R. HOFF.
3. Rations: Hygiene of the Navy Ration, H. G. BEYER; The Ideal Ration for an Army in the Tropics, E. S. MUNSON. Discussed by GEORGE HENDERSON and N. SENN.
4. Transportation of Wounded: Transportation of Wounded on Shipboard, with Special Reference to the Invention of Commander Mahon, C. U. GRAVATT; A Method of Transportation of Wounded on Ships of War, JOHN C. WISE; The Care of the Wounded on a Modern Ship of War, R. K. SMITH. Discussed by JOHN C. WISE.
5. Field and Service: General Hospitals, A. WOODHULL; Field Work in the Philippines, F. M. KEMP; Experiences as Chief Medical Officer, Eighth Army Corps, in the Philippines, HENRY LIPPINCOTT; Medical Department in the Field, L. M. MAUS; Some Observations Made During My Service in the Spanish-American War, R. E. BELL; Spanish-American War as Seen by the Military Surgeon, ALLEN A. WESLEY; Some Object Lessons from the Volunteer Service, HOWARD S. DEARING; Remote Effects of Gunshot Wounds from the Small-Caliber Bullet, L. A. LAGARDE; Some Experiences of a Volunteer Surgeon in the Philippines, R. J. FITZGERALD. Discussed by GEORGE M. STERNBERG.
6. Miscellaneous: Should Military Medical Science be Taught in our Medical Colleges? EDMUND C. BRUSH; The Medical Department of the State of Pennsylvania, J. K. WEAVER; Sick Soldiers in Philadelphia after the Late War with Spain; JOHN V. SHOEMAKER; Prophylaxis, as Applied to Military Medicine, W. H. DEVINE; Continued Experience in Early Operation for Appendicitis, A. C. GIRARD; The Management of Quarantinable Diseases and Sanitary Cordons, C. P. WERTENBAKER; The Military Use of the Sky in Yellowstone National Park, A. E. BRADLEY; To What Extent Should the Military Surgeon be Required to Invade the Realm of Ophthalmology? J. M. BANISTER; Investigations into the Value of Nuclein in the Treatment of Chronic or Recurrent Malaria, A. C. GIRARD. Discussed by JOHN H. HUDDLESTON and SENECA D. POWELL.

Changes in the Medical Corps of the U. S. Army for the week ended May 19, 1900:

CLAYTON, First Lieutenant JERE B., acting assistant surgeon, will, in addition to his other duties at the post of Vancouver Barracks, take charge of the office of the chief surgeon at headquarters, department of the Columbia.

SCHERER, ELMER A., acting assistant surgeon, is granted leave for one month, to take effect about May 21.

WESTERDAHL, GUS J., hospital steward, now at West Point, N. Y., is transferred to Fort Wood to relieve Hospital Steward William A. McGuire.

MCGUIRE, WILLIAM A., hospital steward, will be sent to West Point, N. Y., for duty.

HARTUNG, HENRY, hospital steward, U. S. hospital ship "Missouri," San Francisco, Cal., is transferred to the U. S. Army general hospital, Presidio, for duty.

ANDERSON, JOHN B., hospital steward, U. S. hospital ship "Missouri," San Francisco, Cal., now on furlough, is transferred to the U. S. Army General Hospital, Presidio. Upon expiration of his furlough he will be sent to that hospital, to relieve Hospital Steward James H. Boyle.

BOYLE, JAMES H., hospital steward, will report to the commanding general, department of California, San Francisco, Cal., who will furnish him transportation to Manila, P. I., for duty.

WHITNEY, WALTER, acting assistant surgeon, now on duty at Fort Sheridan, will accompany to New York City the detachment of the Fifth Infantry, under orders to proceed to Santiago, Cuba, and upon completion of this duty he will return to his proper station.

ARNOLD, GEORGE H., hospital steward, now at Fort Wrangle, Alaska, will, when his services are no longer required at that post, be sent to Vancouver Barracks for duty.

SHIMER, First Lieutenant IRA A., assistant surgeon, is, in addition to his other duties, detailed as sanitary inspector of Santiago, Cuba, vice Major L. C. Carr, relieved.

CARR, Major C., surgeon, is relieved from duty as sanitary inspector, Santiago, Cuba.

DAVIDSON, WILSON T., acting assistant surgeon, will proceed to Havana, Cuba, and report to the president of the examining board convened for examination for appointment as assistant surgeon, U. S. A.

ROBERTS, WM., hospital steward, Army Medical Museum, Washington, D. C., will be discharged by way of favor from the service.

Changes in the Medical Corps of the U. S. Navy, for the week ending May 19, 1900:

THOMPSON, J. C., assistant surgeon, detached from the "Bennington," and ordered to the naval hospital, Mare Island, Cal., for treatment.

HUNTINGTON, E. O., assistant surgeon, detached from the "Newark" and ordered to the "Bennington."

Changes in the U. S. Marine-Hospital Service, for the 7 days ending May 17, 1900:

AUSTIN, H. W., surgeon, detailed as a member of Board of Examiners convened to meet at New York, N. Y., May 23, 1900, for the examination of candidates for appointment as assistant surgeon, U. S. Marine-Hospital Service. May 17.

STONER, C. W., surgeon, relieved from duty as member of Board of Examiners, convened to meet at New York, N. Y., May 23, 1900, for the examination of candidates for appointment as assistant surgeon in the U. S. Marine-Hospital Service. May 17.

MEAD, F. W., surgeon, granted leave of absence for 1 day. May 12.

BURFORD, R. E. L., acting assistant surgeon, granted leave of absence for 7 days. May 12.

GIBSON, L. P., acting assistant surgeon, granted leave of absence for 5 days. May 15.

GREGORY, G. A., acting assistant surgeon, granted leave of absence for 4 days from May 11, 1900. May 12.

MONCURE, J. A., acting assistant surgeon, to proceed to the Brunswick, Georgia, Quarantine Station, for temporary duty, May 14.

O'REILLY, W. J., acting assistant surgeon, granted leave of absence for 3 days from May 22, 1900. May 12.

STANTON, J. G., acting assistant surgeon, granted leave of absence for 22 days from May 16, 1900. May 17.

BOARD CONVENED.

Board convened to meet at New York, N. Y., May 23, 1900, for the examination of candidates for appointment as assistant surgeon, U. S. Marine-Hospital Service. Detail for the Board: Surgeon GEORGE PURVIANCE, Chairman; Surgeon G. W. STONER; Surgeon G. T. VAUGHAN, Recorder.

APPOINTMENTS.

FISHER, ALBERT W., appointed acting assistant surgeon, U. S. Marine-Hospital Service, for duty at Toledo, Ohio, from May 1, 1900.

SCHURRER, L. T., appointed acting assistant surgeon, U. S. Marine-Hospital Service, for duty at Lexington, Mich., from May 14, 1900.

RESIGNATIONS.

FISHER, W. H., acting assistant surgeon, resigned to take effect April 30, 1900.

CASUALTY.

TABB, S. R., assistant surgeon, died at Savannah, Georgia, April 30, 1900.

The late M. Crevat-Durant, of Fontainebleau, bequeathed 300,000 f. to the hospitals of Paris, and 100,000 f. to the Institute Pasteur.

Intussusception in an Infant; Operation.—F. S. Clark and F. E. Bunts (*Cleveland Journal of Medicine*, April, 1900) report a case of intussusception in an infant 7 months old. An operation showed the intussusception was of the ileocecal variety, and about 7 inches in extent. The child made a good recovery, but at the end of 3 weeks was again attacked and showed symptoms very similar to the first attack. In the first attack blood was passed from the bowel; in the second, none. The second attack was diagnosticated as intestinal obstruction, but not intussusception. The child died and necropsy revealed a band of adhesion extending across a loop of intestine, thus causing the obstruction. Clark and Bunts are of opinion that blood from the bowel is the best single diagnostic sign of intussusception, and that the absence of a "sausage shaped mass" on palpation does not exclude this condition. [M.B.T.]

Foreign News and Notes.

GREAT BRITAIN.

Dr. J. Kingston Fowler, physician to Middlesex H pital and the Brompton Consumption Hospital, is the ora of the Medical Society for the year.

London University, the university which provides best medical degree in the kingdom for its alumni, has at l a home worthy of its claims and its past performances. has taken formal possession of a wing of the enormous p ace in Kensington known as the Imperial Institute, and Prince of Wales has just attended the first prize-giving d

To Study Yellow Fever.—The Managing Commit of the Liverpool School of Tropical Diseases will shor despatch an expedition to the Amazon to investigate yellow fever. The expedition will proceed by way of Ba more, where its members will confer with physicians Johns Hopkins University.

Recently seventeen medical men, speaking as they peared to think for the medical profession, called upon Glover to resign his seat on the General Medical Council a direct representative of the profession, because he is p pared to give a qualified support to **the Midwives B** Dr. Glover has now had an opportunity of explaining exact position in an address to a medical conference at M chester, and there he was awarded a vote of thanks for address. It is quite clear that the medical profession in E land requires organization before it can claim to hav collective opinion.

The Late Mr. James Smith, who recently died in E fast, had an enormous practice in midwifery, especia among the poor. A paper of his entitled "6,000 Accouc ments Comprising 1,366 Operations" showed him to be obstetrician of courage and resource. The lay papers in th obituary notices of him mention one thing that will har read to medical men as the honorable distinction which writers evidently consider it to be. They say that he ha medical degree *honoris causa* from the National University Chicago, an institution founded some ten years ago, wh died as soon as it was born.

The Chair of Medicine in Edinburgh Univers has been filled by the appointment of Dr. John Wyllie. election may cause some surprise outside of Edinburgh U versity circles, for there were two physicians (excluding P fessor Osler, of Baltimore, who early intimated his intent not to be a candidate for the chair) whose scientific clai seemed higher than those of the gentleman upon whom the has fallen. But elections to professorships at Edinburgh U versity have a way of providing surprises, while Dr. Wyll qualifications for his new post are certainly strong. He for some time pathologist to the Royal Infirmary and ass ant physician, and nearly twenty years ago was appoin full physician, in which capacity he has proved himse highly successful and sympathetic teacher. He has also b an examiner in medicine in the University, and during illness and since the death of Sir Thomas Grainger Stew has acted as deputy Professor of Medicine. His chief p lished work bears the title, "The Disorders of Speech."

John Neville Colley Davies-Colley died May 6 the comparatively early age of 57. He was one of the b known surgeons in London, the son of a medical man Chester, was educated at Cambridge University and Gu Hospital, and after holding the minor appointments at hospital was elected demonstrator of anatomy and assist surgeon. Later he succeeded Mr. Cooper Foster as full s geon to the hospital and lecturer on surgery, and earne great reputation among his colleagues and the students the thorough nature of his work and the courtesy and ki ness of his disposition. Mr. Davies-Colley's services as examiner were much in request, as he had the demea that encourages candidates to do their best, and at the sa time it required a high standard of accuracy and industry satisfy him. He was a member of the Court of Examin of the Royal College of Surgeons for many years, and examiner in anatomy and surgery at the Royal College

Physicians of London, the Cojoint English Board, and Cambridge University. Mr. Davies Colley wrote no big book, but he contributed articles to Heath's Dictionary of Surgery and Morris' Treatise on Anatomy, and wrote many excellent clinical papers in the *Lancet*, the *British Medical Journal*, and the Guy's Hospital Reports. Mr. Davies-Colley died of internal cancer. His hopeless condition was recognized as far back as last Christmas, when his resignation of his appointment at Guy's showed his own conviction that his energetic and useful life was to be prematurely cut short.

The sittings of the Departmental Committee to inquire into the results of using **coloring matter and preservatives in food** have been recommenced, and at a recent session, held in the rooms of the Chemical Society at Burlington House, London, some very valuable evidence was given by Dr. E. H. Starling, speaking as a delegate from the Royal College of Surgeons of England. He said that as the result of experiments made by himself he had come to the conclusion that formalin should be absolutely prohibited in food. Salicylic acid he considered less harmful, though in an acid medium it acted as an antiseptic and prevented the action of the gastric juices, while it was a fairly potent drug, notable for its idiosyncrasies, and therefore should only be administered under medical advice and control. Boric acid he held to be the most nearly innocuous of the three commonly-used preservatives, but he did not see any difficulty in the milk supply of large towns being carried on without such sophistication, and was consequently disposed to prohibit the use of boric acid in milk where it is now so usually put. Dr. Starling, as might be gathered by his being deputed by the Royal College of Surgeons of England to speak for the corporation, is at home with the subject. He is one of the most distinguished English physiologists, Jodrell Professor of Physiology in University College, London, in succession to Professor Schäfer, translator of Metchnikoff's Pathology into English, an F.R.S., and the author of the best English treatise upon elementary physiology. His views are likely to have weight with the Deparmental Committee, and may possibly help to arrest in Great Britain the passion for adulteration.

Mr. Treves on the Wounded in the South African War.—In a crowded meeting of the Royal Medical and Chirurgical Society of London, held on May 8, Mr. Treves narrated his experiences of gunshot-wounds received from his work as civilian consultant surgeon to the English forces in South Africa. He narrated some amazing stories of narrow escapes of the kind which the campaign has furnished many examples of, and drew his principal deductions from them, viz.: (1) That the proportion of wounded in modern war with modern bullets that would recover from all injuries, without operation, was very high; and (2) that the operative treatment of abdominal injuries on the field was most discouraging. The circumstances which in his opinion called for operative procedure in abdominal gunshot wounds were as follows: (1) When the case was seen within 7 hours after injury; (2) when the transport was short and easy; (3) in the case of anteroposterior wounds above the umbilicus where the bullet had escaped; (4) when there was extensive hemorrhage; (5) in some wounds below the umbilicus with escapment of the bullet, especially if hemorrhage had occurred. On the other hand, operation was contraindicative: (1) If the case was not seen until more than about 6 hours had elapsed; (2) when the transport had been long and arduous; (3) in transverse and oblique wounds above the level of the umbilicus; (4) in all cases of retained bullet; (5) in all wounds involving the liver and right kidney, because these recover; and also (6) in most cases of wound below the umbilicus, because these also generally get well. It need hardly be pointed out that these clearly laid down general principles contravene in many directions the lesson of the textbooks. It should also be remembered that the splendid percentage among the British soldiers of recoveries from abdominal gunshot wounds in the South African war has largely depended upon the fact that the British when shot have generally marched far from their base and been without food for many hours. Empty guts have been their salvation in many cases, so that paradoxical as it may seem, difficulties of transport have their advantages.

The rumor that **plague** has appeared in Glasgow is entirely without foundation.

MISCELLANY.

Dr. Dutremblay, in a note to the Académie de Médecine, describes the successful treatment of seasickness by inhalations of pure oxygen.

Obituary.—DR. STCHERBAKOW, professor of physiologic chemistry in the University of Kasan.—DR. G. PLANCHON, member of the Academy of Medicine of Paris and director of the School of Pharmacy of Paris.—PROF. FRANZ WILDNER, professor of veterinary medicine in the University of Innsbruck.—DR. RUDOLPH VON LIMBECK, privat-docent of internal medicine in the University of Vienna.

Japan is the happy hunting-ground of the trusts, according to a recent lay despatch. It seems that the doctors of Mihara-machi, in Bingo province, have lately established a medical trust which is unique. It has already raised the price of all drugs and medicines 50%. It has also arranged that each of the doctors composing it shall communicate to his confreres the names of such patients as are in debt to him. The other medicos must take care not to attend such a patient. If they do, they will subject themselves to a severe fine at the hands of the association.

University Appointments.—WÜRZBURG: Prof. Kuhnt, of Königsberg, has been invited to the chair of ophthalmology, to succeed the late Prof. Michel.—GIESSEN: Dr. Poppert has been elected professor of surgery.—HEIDELBERG: Dr. Göppert has been elected professor of anatomy, and Dr. Gustav Aschaffenburg professor of psychiatry.—GÖTTINGEN: Dr. Cramer has been elected director of the Insane Asylum.—BUDAPEST: Dr. August Hirschler has been elected professor of diseases of the stomach and intestine.—WARSAW: Dr. Nikolski has been elected professor of dermatology and syphilis.

Priority in the Detection of the Agglutination-Test in Typhoid Fever.—We gladly give space to the following, transcribed from the *Lancet*:

To the Editors of THE LANCET:—

SIRS.—In his recent Goulstonian Lectures, Dr. Horton-Smith professes to give an account of the history of serum-diagnosis, but makes no mention of either my name or my work. Since his lectures may possibly be taken as authoritative on the subject, and as Dr. Horton Smith is not alone in either ignoring or being ignorant of my share in the invention, I am induced to ask you to give publicity to the enclosed communication.

I am, Sirs, yours faithfully,

April 14, 1900. ALBERT S. GRÜNBAUM.

[ENCLOSURE]

Die Unterzeichneten bestätigen gerne, dass Herr Dr. A. S. Grünbaum zu Anfang des Jahres 1896 an dem Krankenmaterial der I. medicinischen Klinik in Wien systematische Versuche über die Agglutination von Typhus- u. Cholera-bacterien durch das Blutserum von Kranken u. Gesunden angestellt hat, und dass er im März, 1896, also lange vor der diesbezüglichen Publication des Herrn Widal, an zwei Typhusfällen der Klinik die Beobachtung gemacht hat, dass ihr Blutserum in bedeutender Verdünnung Typhus-bacillen agglutinire. Herr Grünbaum war sich der diagnostischen Verwerthbarkeit dieses Befundes vollkommen bewusst, u. er zögerte mit der Publication derselben nur mit Rücksicht auf die Nothwendigkeit, die Verlässlichkeit der Reaction an einer grösseren Anzahl von Typhusfällen zu erhärten.

Herr Dr. A. S. Grünbaum hat demnach die Agglutinationsreaction des Typhus-serums selbstständig entdeckt und es ist Sache der Gerechtigkeit dies anzuerkennen.

(Signed) { Prof. Dr. NOTHNAGEL.
{ Docent Dr. MANNABERG.

Wien, am 8. März, 1900.

[TRANSLATION]

The undersigned confirm with pleasure that Dr. A. S. Grünbaum at the commencement of the year 1896 made systematic experiments with the material of No. 1 Clinical Ward in Vienna on the agglutination of typhoid and cholera bacteria by the serum of both sick and healthy persons, and that in March, 1896, therefore long before the publication of M. Widal on this subject, he had observed in two cases of typhoid in the ward, that their serum, in considerable dilution, agglutinated typhoid bacilli. Mr. Grünbaum was fully aware of the diagnostic utility of this observation, and he delayed publishing it only on account of regard to the necessity of the reaction on a larger number of cases of typhoid.

Dr. A. S. Grünbaum therefore discovered the agglutination reaction of typhoid serum independently, and to acknowledge this is a matter of justice.

Society Report.

GERMAN SURGICAL CONGRESS.

Twenty-ninth Annual Session, Held at Berlin,

April 18, 19, 20, and 21, 1900.

Specially reported for the PHILADELPHIA MEDICAL JOURNAL.

[Continued from page 1124.]

SECOND SESSION.

Operations for Stone in the Kidney and Ureter.—ISRAEL (Berlin) first gave a short review of the surgery of the kidney from the time of Hippocrates. In ancient times renal surgery was kept back because of the fear of cutting through the abdominal walls, the fear of hemorrhage, and the uncertainty of diagnosis; even at the present it is not always possible to differentiate between nephrolithiasis and other diseases. Experience has shown that renal colic is not always present, and even with the use of the x-rays and with palpation the diagnosis can be established only with probability; yet it is not the proper ground to hesitate about operating because the diagnosis is uncertain, for instead of the expected stone other pathologic conditions will probably be found. It is only through exploratory incision that we can discover a tuberculous focus, small abscess, small tumors and sclerotic processes. The following questions come up for consideration when we are considering the indications for operation: When is operation absolutely indicated? When should we recommend operation even if life or the integrity of the kidney is not endangered? When is it best to refrain from intervention? Israel considers calculus-anuria an absolute indication for operation, whether it be from occlusion of the ureter, from reflex inhibition of the function of the kidney, or from lack of a kidney. It is true that total anuria may exist for several days and recovery may follow from the spontaneous escape of the occluding stone, but in most cases the patients die of uremia. Spontaneous passage of the stone may be expected as long as colic is present. Another reason for operation is that occlusion of the ureter tends to bring about degenerative processes of the epithelium. Another complication which indicates operation is acute pyelonephritis with pyemic fever, chills, occasional vomiting, dryness of the tongue, and painful kidney, or if the infected kidney threatens the sound kidney with infection. Renal hemorrhage from stone is seldom an indication for operation, but this is not true of malignant disease or tuberculosis, hence in case of doubt exploratory operation is necessary. The danger of operation is small as compared with the risks of anuria, pyonephrosis, pyelonephritis, etc. The mortality is estimated at from 2 to 4%. The intensity of the symptoms is not so much an indication for operation as the chronicity—repeated recurrence of the attacks. As to the method of operation, Israel prefers incision through the kidney-substance rather than through the pelvis for extraction of the stone. Suture of the pelvis requires more perfect technic than that of the parenchyma. The most important factor for the success of the operation is the complete freeing of the kidney from its fatty capsule and the careful isolation of the ureter from the rest of the pedicle. Incision is made along the convexity of the dorsal surface of the kidney; suture of the kidney is the proper procedure in case of a septic or slightly infective process; in other cases drainage should be provided. Extirpation is never undertaken in case of simple nephrolithiasis, but may be necessary in certain cases of advanced infectious processes. In cases of stone in the ureter it should be pressed upward into the pelvis of the kidney if possible and removed by nephrolithotomy. In certain cases a longitudinal incision may be made, which is closed with Lembert sutures.

Discussion.—CZERNY (Heidelberg) does not open the pelvis of the kidney because of the fistula which so frequently follows; he prefers to do nephrotomy. It is difficult to obtain consent to early operation, as is desirable, although the mortality is very low. In two cases he has seen ureteral stone in the end of the ureter; in one case he succeeded in getting it out and in the second he was obliged to do cystotomy. It is difficult to determine when we should operate for anuria. In one case in which he operated the patient died and at the necropsy stone was found in the other ureter and several small stones in the pelvis of the kidney. KRÖNLEIN (Zurich) considers the x-ray of great use in the diagnosis in cases of stone located in the lower part of the ureter, in the ampulla. Krönlein suggests removal by cystoureterotomy. KOLACZEK (Breslau) mentions a case of anuria in which he removed a stone from the first portion of the ureter, but the patient died from coma in spite of the operation. LAUENSTEIN (Hamburg) observed that the x-rays were useful in the diagnosis of phosphatic calculi as well as oxalate of calcium. KÜMMELL (Hamburg) finds that the clearness of the x-ray picture is much dependent upon the fat of the patient. ISRAEL (Berlin) stated that his experience with the x-rays in the diagnosis of stone was quite limited and for the most part he had got indefinite pictures. He believes that little will be gained by opening the peritoneum to palpate the kidney, as suggested by Krönlein. Like the latter, he has operated twice in cases in which but a single kidney was present.

The Determination of the Functional Condition of the Kidneys Before Operative Intervention.—KÜMMELL (Hamburg) considered thorough catheterization of the ureter a procedure of the highest importance, yet there are cases in which this is very difficult, or even impossible; for example, in case of tuberculosis of the urinary organs. If the urine of both sides is abnormal, it is difficult to say whether we should operate. He mentions one case of left-sided tuberculosis, with pyuria of the other side, in which he did extirpation, and the urine of the opposite side finally became normal again. The danger of infection from catheterization is very slight; he has never seen an instance, and Albarran has never seen infection in more than 1,000 cases. In case there is lessened quantity of urea, the extirpation of the kidney is not advisable. The freezing point of the body-fluids is a test of importance; the freezing point of the blood in cases of imperfect elimination sinks considerably.

Exploratory Nephrotomy.—BARTH (Danzig) thinks incision of the convexity of the kidney is sometimes justifiable for diagnostic purposes, but advises caution, as he has seen several cases of necrosis from injury of the bloodvessels; embolus of the lung is also possible.

Discussion.—ISRAEL (Berlin) believes that the gangrene in the cases mentioned by Barth resulted, not from the incision, but probably from suturing too firmly. BRAUN (Göttingen) has found nephrotomy difficult in some cases because of firm adhesions.

Demonstration of Polycystofibroma.—KRÖNLEIN (Zurich) showed a tumor of this kind which he removed from a patient who has remained well 1¾ years.

Ectopia of the Bladder.—ANSCHÜTZ (Breslau) presented a male of 18 in whom defect in the bladder-wall had been supplied by intestine. A coil of small intestine 12 cm. long was isolated and anastomosis was performed with the ends above and below the loop; 4 weeks later the intestine was sutured into the defect in the bladder-wall, and later on a plastic operation was carried out. The bladder holds about 100 ccm., the urine is clear and acid but contains intestinal mucous.

Discussion.—TRENDELENBURG (Leipzig) has seen no case in which it was impossible to suture the bladder-wall, even if the bladder is ever so small and the urine can be retained about 2 hours. He reported 2 cases in boys who were respectively 2½ and 3½ years old at the time of the operation and gave photographs of their later condition. MIKULICZ (Breslau) believes that it is not always possible accurately to close the bladder.

The Conservative Treatment of Myoma of the Uterus.—OLSHAUSEN (Berlin). In case of hysterectomy for myoma Olshausen advises always leaving at least one ovary, because of the influence on the nervous system of the woman; this is especially important in young patients. Enucleation of myoma for solitary tumors is generally considered the procedure of choice. Olshausen believes that indications for enucleation should be extended, particularly if the woman is near the menopause, and in such cases it may be justifiable to leave a few small tumors. He states that he operates in only about 16 5% of all cases of myoma.

LEXER (Berlin) presented a patient with a **congenital fissure of the face.** SCHULTHEISS (Wildungen) exhibited **x-ray photographs of an enormous vesicle calculus** which he had removed by suprapubic cystotomy, after split-

ing it in the bladder with a chisel; the stone weighed one pound and had a bean as a nucleus.

The Treatment of Hydronephrosis. — Reisinger (Mainz) reports a case in which he had made direct anastomosis between a hydronephrotic kidney and the bladder, a nephrocystoanastomosis. There was a congenital misplacement of the kidney to near the promontory of the sacrum, and the under extremity of the kidney was only about 3 cm. distant from the bladder. The symptoms, attacks of pain, etc., which had existed before operation, were relieved.

Splenectomy.—Bessel-Haggen (Charlottenburg) presented a patient upon whom he had performed splenectomy. He has collected from literature 247 cases of this kind with a mortality of 18%. **Necrosis of the Pancreas.**—Brentano (Berlin, presented a patient who had recovered from operation for necrosis of the pancreas; a diagnosis of subphrenic abscess had been made. Gluck (Berlin) presented a child with a healed defect of the radius and a clubhand. **The Treatment of Pancreatic Cyst.**—Bessel-Haggen (Charlottenburg) reported a case in which, because of adhesions, he had been unable to suture the cyst on any side; after opening it he sutured to the wall of the stomach and recovery followed.

Recurrence After Gallstone Operations.—Kehr (Halberstadt) has performed 491 operations for gallstones: 202 cholecystotomies, 104 cystectomies, 82 choledochotomies, and drainage of the liver, with a mortality of 3.4%. He has never observed real recurrence, but he has observed symptoms simulating recurrence, from inflammation about the gallbladder and formation of adhesions in about 15% of the cases. He has often found hernia following the operation. Physicians advise operation for cholelithiasis too seldom. The results at the present time are brilliant.

Discussion.—Löbker (Bochum) believes that in our efforts to prevent complications cystectomy deserves first consideration, particularly because primary carcinoma often follows gallstones. The gallbladder should be removed for the same reason that the appendix is removed after appendicitis. Körte (Berlin) removes the gallbladder if the symptoms are complicated with inflammatory condition, but he believes the indications of the operation should be somewhat limited. König (Berlin) stated that he, himself, suffered from severe symptoms of gallstone several years previously, but that today he is completely well without any operation. Rehn (Frankfurt am Main) stated that although he was the first to perform cystotomy and choledochtotomy, he is inclined at present to limit the indications for the operation.

The Statistics and Technic of Bottini's Operation.—Freudenberg (Berlin) has performed this operation 77 times on 61 patients with very satisfactory results, He has tabulated from literature 683 cases with a mortality of 4¼ to 5½%, and 6⅔% of unfavorable results; 88% good results; about two-thirds of this number cures and one third improvements. He advises performing the operation with the bladder filled with sterile air and applies the blade nearly white hot. We should not be satisfied with unfavorable results or half-results, but should repeat the operation later if necessary. Unfavorable result is usually due to imperfect removal of the obstruction to micturition. In most cases he finds that incision 2.5 to 3.5 cm. long suffices and larger incisions may injure the membranous urethra, in some cases incision of 4½ to 5 cm. long is necessary. The length of incision can usually be determined by rectal palpation. He demonstrated an incision cystoscope which may be used as an accessory.

Wossidlo (Berlin) demonstrated an **incision cystoscope** for the performance of Bottini's operation under direct observation.

Discussion.—Frisch (Vienna) believes that the results of Bottini's operation are not so favorable as the speakers have painted them; the operation is untrustworthy; we never know whether it will succeed or fail; moreover, the vesical sphincter may be divided. Jaffé (Posen) and Troje (Brunswick) have had good results from the operation, as has also Kümmell (Hamburg). Zuckerkandl (Vienna) reported a case of suprapubic cystotomy performed one year after Bottini's operation, and no trace of the result was to be observed.

[To be concluded.]

Festschrift

IN

HONOR OF ABRAHAM JACOBI, M.D., LL.D.,

TO

Commemorate the Seventieth Anniversary of his Birth, May 6, 1900.

Abstracted by Alfred Hand, Jr., M.D., of Philadelphia.

[The numbers represent the order in which the articles are placed, and are inserted in this review for convenience of reference.]

1. Appreciation of Dr. Jacobi's Work at Albany. A. Vander Veer.
2. Chorea. M. Allen Starr.
3. On "Generalized Vaccinia." E. Henoch.
4. A Contagious Form of Pneumonic Fever in Children. Hermann Weber.
5. A Contribution to the Study of Medullary (Myelogenous) Leukemia in Childhood. Adolf Baginsky.
6. On the Employment of Asaprol in the Treatment of Whooping-cough. Moncorvo.
7. Primary Simple Acute Endocarditis. Henry Hun.
8. St. George's Hospital in Constantinople. G. B. Violi.
9. Achylia Gastrica simulating Hyperchlorhydria. Max Einhorn.
10. On the Diagnosis of Malignant Endocarditis. Henry L. Elsner.
11. Curare in the Treatment of Tetanus. B. Scharlau.
12. On the Etiology of Head-shaking with Nystagmus (Spasmus Nutans) in Infants. John Thomson.
13. A Contribution to the Study of Scarlet Fever. A. Steffen.
14. Pachymeningitis Cervicalis Hypertrophica?—Intramedullary Stringlike Gliosarcona. Soltmann.
15. A Case of Multiple Neurofibromata of the Ulnar Nerve. W. W. Keen and W. G. Spiller.
16. Some Bacteriological Poisons in Milk and Milk Products. Victor C. Vaughan and Julian T. McClymonds.
17. A Case of Otitic Brain Abscess in a Boy of Five Years; Operation; Recovery. E. Gruening.
18. A Contribution to the Statistics of the Excision of the Shoulder-blade. Arpad G. Gerster.
19. Acute Dilation of the Heart in Influenza of Children. F. Forchheimer.
20. Experiences in Chorea. C. Gerhardt.
21. The Cardiovascular Changes in Bright's Disease. James Tyson.
22. On Enuresis and "Irritable Bladder" in Children. Frederic Bierhoff.
23. An Experimental Contribution to the Knowledge of the Toxicology of Potassium Chlorate. S. J. Meltzer.
24. Acute Catarrhal Lacunar Amygdalitis in the Nursing Infant. Henry Koplik.
25. Nasopharyngeal Disease in Pediatric Practice; A Clinical Study. Francis Huber.
26. Scarlatina Miliaris. J. P. Crozer Griffith.
27. On Tonsillitis Chronica Leptothricis in Children. Alois Epstein.
28. The Use of the Diphtheria Antitoxic Globulins of the Blood-Serum instead of the Entire Serum in Diphtheria. Wm. H. Park.
29. On the Etiology and Pathogenesis of Rachitis. A. Monti.
30. Six Cases of Malignant Renal Tumors in Childhood. H. Rehn.
31. Contribution to the Determination of the Value of Baccelli's Procedure in the Treatment of Echinococcus-cysts (Echinococcus Pleurae). Johann von Bokay.
32. The Normal Boundaries of the Large and Small Areas of Cardiac Dulness in Childhood. J. W. Troitsky.
33. Uricemia in Children. Jules Comby.
34. Asses' Milk as an Infant Food. H. von Ranke.
35. Remarks on Poliomyelitis Anterior Acuta. Axel Johannessen.
36. The Afferent Element in Epilepsy. William H. Thomson.
37. A Consideration of the Nourishment of the Child after Infancy. Otto Heupner.
38. Clinical Observations on the Operative Treatment of Tuberculous Peritonitis. Augustus Caillé.
39. Notes on Some Experiments Concerning Cell Emigration. I. Adler.
40. Some Important Aspects Connected with the Scientific Feeding of Infants. T. M. Rotch.
41. On the Presence of a Murmur in the Ductus Arteriosus in the Newborn. Theodor Escherich.
42. Aspiration in the Treatment of Acute Traumatic Empyema. With an Illustrative Case. Joseph D. Bryant.
43. Infrequence (Absence?) of Endocarditis at New York Foundling Hospital. William Perry Northrup.
44. Iodide of Iron in the Treatment of Certain Forms of Infective Arthritis. J. C. Wilson.
45. A New Method of Detecting and Determining Glucose in Urine. J. Rudisch.
46. I.—Toxic Pemphigus of a Newborn Child.
    II.—General Infantile Atrophy and the Injections of Serum.
    III.—Diffuse Latent Pulmonary Gangrene. A. Martinez Vargas.
47. On the Antiperistaltic Movement. Gustav Langmann.
48. Total Extirpation of the Ureter. Willy Meyer.

49. Cardiac Malformation with an Unusual Arterial Distribution, accompanied by a Systolic Murmur which was loudest posteriorly. L. EMMET HOLT.
50. Simple or Round Ulcer of the Duodenum. FRANCIS D. KINNICUTT.
51. On Growth and Overgrowth and on the Relationship between Cell Differentiation and Proliferative Capacity; Its Bearing upon the Regeneration of Tissues and the Development of Tumors. J. G. ADAMI.
52. Septic Endocarditis. SAMUEL S. ADAMS.
53. The Visceral Lesions of the Erythema Group. WILLIAM OSLER.
54. Venous Thrombosis as a Complication of Cardiac Disease. WILLIAM H. WELCH.
55. Genitourinary Tuberculosis; Its Diagnosis in the Laboratory. FREDERIC E. SONDERN.

1.—This article by Vander Veer is biographical in character.

2.—Starr analyzes the histories of 1,400 cases of **chorea** seen in the Vanderbilt Clinic. The proportion of females affected compared with males was almost exactly 2 to 1; the disease is more common in the poorer classes and is accompanied by an apparent anemia. Heredity and infectious diseases seemed to bear no definite relation to the disease, in etiology, the most constant element being the malnutrition. Fright immediately before the onset was noted in 285 cases, and 290 had a distinct history of true rheumatism. Organic heart-murmurs were present in 175 cases, functional in 123, and none were heard in 871. Nine hundred and nineteen cases occurred between the ages of 7 and 14 years; of 1,129 cases, 707 came on between March and August, because of the lack of outdoor exercise during the winter; for this reason also, recurrences which were present in one quarter of the cases are most common in the spring. The choreic movements were general in 951 cases, unilateral in 449, the right side being affected slightly more than the left. Mental irritability was noted in 827 and speech was affected in 556. Arsenic, pushed to the physiologic limit and then reduced slightly, is the best drug in the treatment, and antipyrin is second; very little effect was produced by exalgin, phenacetin, bromid, chloral, and paraldehyde. Better than any medicine is a change of air.

3.—Henoch states that no case of **generalized vaccinia** can be rightly considered as such unless the contents of a pustule are inoculated into an unvaccinated child or calf and produce vaccinia. d'Espine and Jeandin's case meets the requirements more nearly than any other, but the objection may be urged that it might possibly have been a case of varioloid. The majority of cases reported have not been subjected to proper criticism and many are probably some skin-disease like eczema.

4.—H. Weber reports an epidemic of a **contagious form of pneumonic fever** in children; 7 cases were observed, the incubation period being about 12 days, the pneumonia affecting the lower lobes and ending by crisis in 4 days; the sequels were peripheral neuritis, cardiac weakness, and delirium during the decline.

5.—Baginsky gives the notes of a case of medullary or **myelogenous leukemia** in a boy, 9 years old, under observation for a few months. There had been attacks of measles, whooping cough, and pneumonia, the present illness having begun 2 months before admission. The spleen was tremendously enlarged, extending down to Poupart's ligament on the left. The blood-examination showed specific gravity, 1.046; hemoglobin, 30%; red cells, 2,000,000; leukocytes, 986,000, a proportion of 1 : 2.2. Stained preparations showed poikilocytes and nucleated red cells, and a differential count of the leukocytes gave large mononuclears (myelocytes) 79 1%, polynuclears 12.3%, eosinophiles 5%. The general condition of the boy varied greatly from day to day; sometimes he was comfortable, sometimes almost dying from dyspnea. After a week of fever, the origin of which could not be ascertained, the boy was taken home with a normal temperature. Estimation of total nitrogen and uric acid in the urine showed a decided increase in the elimination of uric acid, the relation being 1.30 instead of 1.50, probably being directly dependent on the increase in the leukocytes. Arsenic and iron were administered without any apparent effect.

6.—Moncorvo reports 26 cases of **whooping-cough** cured in from 3 to 8 days by means of a 1% solution of asaprol applied to the pharynx every 2 hours in the day.

7.—Hun details an attack of primary simple acute **endocarditis** in a girl, 13 years old, resulting in mitral insufficiency and stenosis; during the course neither pneumonia nor rheumatism was present, although the first was suggested by a few rales and herpes, and the second by the family history and by a few nodules on the fingers.

8.—Violi gives an interesting resume of the work of the Hôpital de St. Georges, for children at Constantinople,

9.—Einhorn reports a series of 6 cases of **achylia gastrica,** which resembled hyperchlorhydria in the subjective symptoms of pain and distress coming on one or two hours after meals and, like the pain of hyperchlorhydria, relieved by the ingestion of water; sometimes the ingestion of food stops it.

10.—Elsner discusses the **diagnosis of malignant endocarditis,** mentioning as clinical types: I. Intermittent or pyemic; the following different forms are observe: (1) Pyemic or septic form, occurring especially in puerperal fever and other conditions with a pus fo us, the chills being due as much to the pyemia as to the endocarditis; (2) erratic intermittent form, showing more or less continuous fever with irregular chills; (3) late cardiac intermittent form, in which there is intermittent fever without sign of heart disease until near the end; (4) intermittent form with preexisting heart-lesions, this form bearing the strongest resemblance to malaria. Many cases of these forms are almost chronic, the duration ranging from 1 to 6 months. II. Fulminating intermittent, terminating fatally in from 10 to 17 days. III Typhoid type, closely resembling typhoid fever, with a development of the typhoid stage and irregular chills. IV. Cerebral type, with a strong tendency to coma and other cerebral symptoms suggesting meningitis. V. Chronic cardiac type, which includes cases in which the valvular lesions have acted as powerful predisposing factors for the infection to settle on the endocardium. In the diagnosis, stress is laid on great irritability of the heart's action, the presence of soft murmurs or the disappearance of a previous organic murmur, signs of emboli, petechiae, irregular chills, the Widal and diazo-reactions (the latter of minor value), the presence of leukocytosis, and cultures of microorganisms from the blood.

11.—Scharlau recommends the use of **curare in tetanus** to produce relaxation during waking hours as well as during sleep; the drug varies in strength, and so should be tested on animals before being given to man; the initial dose for a child should be $\frac{1}{12}$ of a grain, gradually increased until the desired effect is produced. In 3 cases so treated, with chloral to produce sleep, recovery ensued.

12.—John Thomson gives as the etiology of **headshaking with nystagmus,** or spasmus nutans, rachitic infants of the poorer classes, between the ages of 4 and 12 months, living in poorly lighted houses, thus causing eyestrain at a time when coordination is being established, the disease developing in the vast majority of cases in the dark months of December and January.

13.—Steffen contributes an interesting article on scarlet fever, summing up from his experience in over 1,200 cases, the present status of knowlege on the subject, illustrating some of the points by reference to certain cases.

14.—Soltmann reports a case, the symptoms of which during life were those of pachymeningitis cervicalis hypertrophica, the patient being a girl of 12 years. Postmortem, the membranes were only slightly adherent and not at all thickened, and the cord was found to be converted almost entirely into a **gliosarcoma** with cavity-formation and hemorrhages. Colored plates illustrate the article.

15.—Keen and Spiller report the history and pathologic findings in a case of **multiple neurofibroma of the ulnar nerve.** The patient, a man of 47 years, had one tumor in the lower part of the forearm, four in the palm of the hand, and the end of the nerve at the tip of the ring-finger was thickened; the tumors were in the interior of the nerve and were removed by separating the fibers of the nerve and dissecting out the tumors. Pain, which had been continuous and spontaneous before the operation, ceased after it, and the area of hyperesthesia at the termination of the ulnar nerve diminished greatly. Spiller reviews the literature and shows that the neurofibromata of the nerves, the cutaneous fibromata, the plexiform neuromata, certain forms of elephantiasis and certain pigment naevi are to be classed under the one head of generalized neurofibromatosis. In the tumors from this case, the proliferation started in the endoneurium, the oval shape being due to the resistance offered by the perineurium. Such tumors are prone to undergo malignant degeneration or change. The article is illustrated.

16.—Vaughan and McClymonds give a summary of their investigations on some **bacteriologic poisons in milk** and milk-products; in 49 samples of American green cheese a bacillus of the colon group was found in every sample. The clinical observation that opium does harm if given in the vomiting and purging from tyrotoxicon poisoning led to experiments on guinea-pigs with the bacillus obtained from cheese; 0.5 cc. of a beef-tea culture killed only those animals which received ¼ grain of morphin hypodermically.

17.—Gruening reports a case of **otitic brain-abscess** in a boy 5 years old, operation being followed by recovery which is attributed to the early recognition, the absence of complications, the situation of the abscess on the under surface of the brain and the avoidance of irrigation.

18.—Gerster makes a contribution to the statistics of the **excision of the shoulder-blade,** giving as indications for its removal: neoplasms, chronic suppurations and compound injuries; the statistics since the introduction of antisepsis show that more cases are being submitted to operation with better results. Since Schultz's paper in 1896, the author has collected 4 cases including his own; refers to Koenitzer's article collecting 29 cases.

19.—Forchheimer, after a consideration of the different theories suggested to explain the **dyspnea and symptoms of dilation of the heart in influenza,** reports 2 cases and concludes that there are 2 forms of dilation, one due to the action of the toxin on the nervous system of the heart and possibly on the myocardium, the second form occurring in such conditions in which outflow of the blood is materially interfered with on account of mechanical conditions.

20.—Gerhardt analyzes 55 cases of **chorea** and although the number is much smaller than those forming the basis of Starr's paper, the conclusions are in many points strikingly similar especially as to etiology, the association with acute articular rheumatism (both series giving a lower proportion than is usually stated), the presence of organic heart-murmurs and the proportion of relapses; Gerhardt's cases gave a much higher percentage of heart-murmurs than Starr's.

21.—Tyson discusses the origin of the **cardiovascular changes in Bright's disease;** the hypertrophy of the heart is a true hypertrophy with, in some cases, a mild interstitial myocarditis, the left ventricle alone being enlarged in a little over half of the cases, the remainder showing enlargement of both ventricles, the right never being enlarged alone; the changes in the bloodvessels are first an inflammation affecting the intima and then a secondary degeneration both of the intima and of the muscularis, which is not hypertrophied, even when thickened. Two divisions may be made to include the cases of associated cardiovascular and renal disease, the first being arteriosclerotic in which some irritative substance in the blood, such as lead or the poison of gout, excites a primary endarteritis in the whole arterial system including the kidney; the second division includes those cases in which the renal disease is primary, and as the damaged kidneys are unable with the ordinary rate of the circulation to eliminate all of the products of metabolism brought to them, those which remain behind influence the heart through the nervous system to propel the blood faster and hypertrophy results; when this hypertrophy affects the right ventricle it is the result of the increased blood-supply to it; the bloodvessels become affected later both by the original cause of the renal disease and also by the toxic state of the blood due to defective renal function.

22.—Bierhof, on **enuresis and "irritable bladder"** in children, is of the opinion that the essential or ultimate condition causing enuresis is hyperesthesia of the deep urethra or sphincter from hyperemia or inflammation, the long list of causes usually given being predisposing or remote; the condition is never a bad habit, and punishment has no place in the treatment; the author recommends hot sitz-baths, the appropriate treatment of accessory causes, restriction of fluids in the evening and elevation of the hips during sleep; local applications, if possible, are desirable.

23.—Meltzer selected, as appropriate to this volume, the subject of the **toxicology of potassium chlorate from an experimental standpoint,** in view of the fact that Jacobi was the earliest to call attention to the dangers of the drug. The status of previous knowledge was that dogs poisoned with the salt die with methemoglobin in the blood, but that rabbits killed by the same kind of salt have no recognizable change in the blood and there is rarely a nephritis. The author, as a result of intracerebral injections, found that chlorate of potash is a strong poison for nerve-cells, which are first intensely excited and then paralyzed by it.

24.—Koplik suggests the term "acute catarrhal lacunar amygdalitis" for all the **anginas in infants** not caused by a specific germ, as diphtheria. He tabulates the cases in infants under 1 year which were seen in 1,284 cases of angina catarrhalis in children under 10 years; 25%, or 333, occurred in infants, the great majority being between the sixth and the twelfth month. The appearance of normal and diseased throats in infants are carefully described and the importance urged of inspecting the throats of all infants.

25.—F. Huber points out the important duty resting on the general practitioner to prevent serious changes from occurring or persisting in the nasopharynx in children under their care; the manifold ways in which adenoids may be harmful are detailed and the beneficial results which follow removal of the hypertrophied tissue are mentioned.

26.—Griffith's paper on scarlatina miliaris appeared in the Philadelphia Medical Journal for May 12, 1900.

27.—Epstein refers to the rarity of **tonsillitis chronica leptothrica,** especially in children, and reports 5 cases that have come under his observation; the chronicity of the disease is well shown by the duration of his cases, which was from 2 months to a year and a half. The use of "Haller Iodin-water" as a gargle, 3 times a day, seemed to have more influence than any other of the means employed to effect a cure.

28.—Park has endeavored to separate the **diphtheria antitoxin from the blood-serum,** in order to avoid the occasional sequels of injection, such as rashes, fever and joint-pains. Using as a basis the fact that as the blood of the horse increases in content of antitoxic units, the globulin also increases and seems to be closely connected with the antitoxin, the "antitoxic globulin" was separated and used in 48 cases with the same results that attend the use of the antitoxic serum as regards recovery and rashes, but with the disadvantage that there was in a fourth of the cases a somewhat greater local reaction following the injection. The dried globulin, which is easily soluble in water, has retained its antitoxic properties for 2 months and probably will not deteriorate as quickly as the serum.

29.—Monti contributes a philosophical article on the etiology and pathogenesis of **rachitis,** showing first by a number of citations that the general opinion of the etiology is harmonious in holding unsuitable nourishment to be the fundamental cause. All kinds of unsuitable nourishment which feed the organism to a certain extent, but which lead to a peculiar form of dyspepsia in which there is in the gastric juice a lessening in the amount of hydrochloric acid and a formation of lactic acid in excess of the normal amount, are, if maintained for some time, calculated to cause rachitis. Breast-fed children may thus become rachitic if the milk is too watery, or too poor in fat, or too low in specific gravity, or too rich in sugar or fat; there need not be any specific changes in the milk such as Zander found; an increase in the potash salts and phosphoric acid as compared with the sodium salts and chlorin. Bottle-fed children are more frequently rachitic, no matter what method of feeding is pursued, especially if the milk is sterilized The disturbance of digestion with the decrease in hydrochloric acid and the increase in lactic acid leads to the continual absorption of small amounts of lactic acid and a lessened absorption of lime-salts; the lactic acid has an irritant action on the growing bone-tissue and the resulting increase has not a sufficient amount of lime for calcification.

30.—H. Rehn reports 6 cases of **malignant tumors of the kidney,** in 4 girls and 2 boys, 3 being between 1 and 2 years old, 1 being 5 and the oldest 11 years old. Heredity seemed to play no part, and the tumors had been noticed for periods ranging from several months to, in the oldest, 5 years. The right kidney was affected in every case, hematuria was seen in but 1, albuminuria was not observed in any; there were edema of the right leg and dilation of the superficial abdominal veins. Metastasis to the lungs was detected in 2 cases during life. Laparotomy was done in 1, metastasis occurring in 2 months. The pathologic diagnosis in 3 cases was sarcoma; in 2 carcinoma, autopsy being refused in one.

31.—von Bokay reports in detail an **ecchinococcus cyst of the pleura** in a boy of 5 years, and refers to his pre

vious communication of 3 cases of echinococcus cyst of the liver in children, all 4 cases being successfully treated by Baccelli's method, which consists in the aspiration of the cyst and the injection of bichlorid of mercury; shrinkage of the cyst soon follows; none of von Bokay's cases relapsed.

32.—Troitsky gives an exhaustive review of the literature on the subject of the normal limits of the superficial and deep areas of cardiac dulness in childhood; conclusions are drawn from these writings and from his own studies on 229 healthy children; the details of the studies are too extensive to condense in a brief abstract.

33.—Comby treats of **uricemia in children,** referring at length to Rachford's investigations on xanthin, paraxanthin and heteroxanthin. Cases are briefly detailed showing the different manifestations of lithemia, and a didactic summary is given, stress being laid, in the etiology, on heredity. The symptoms are manifold, but may be grouped according to the system affected, thus: 1. Nervous symptoms, headache, paroxysmal or periodic, neuralgic pains in the bones or joints, cerebral excitement, insomnia, convulsions, neurasthenia. 2. Digestive troubles, cyclic vomiting, colic, polyphagia, constipation, membranous enteritis and intestinal lithiasis. 3. Urinary conditions, renal calculus and colic, albuminuria, glycosuria, dysuria, and spasm of the bladder. 4. In the respiratory tract, coryza, sneezing, laryngitis, bronchitis, asthma, pulmonary congestion. 5. In the circulation, palpitation, tachycardia, arrhythmia, false hypertrophy. 6. In the skin, eczema, sweating, pruriginous eruptions. In the treatment, a paragraph full of suggestions is devoted to the subject of mineral waters appropriate to the different conditions. For the joint pains, Bourbonne (Haute Marne) is recommended; for abdominal pains with diarrhea, Plombières (Vosges); for constipation and membranous enteritis, Châtel-Guyon (Puy-de-Dôme); for albuminuria, St. Nectaire (Puy-de-Dôme); for renal gravel, Contrexéville (Vosges); for gouty anemia, Royat, La Bourboule (Auvergne St. Gervais (Savoie); for the dermatoses, Uriage (Dauphiné), Luchon (Haute Garonne), La Bourboule; for neurasthenia, Bagnères-de-Bigorre (Pyrénées); for dyspepsia, Vichy (Allier), Pougues (Nièvre).

34.—von Ranke refers to several cases of undersized newborn infants, fed successfully for the first 2 months of life on asses' milk in spite of the low fat-content which all analyses show; this lowness in fat renders it unsuitable for use after the second or third month; the reason why newborn infants digest it so much better than diluted cow's milk is in the relation betwcen the casein and the albumin as shown by Koenig's table in which the casein of cow's milk is to the albumin as 100: 17.5, while in woman's milk it is 100: 122 and in asses' milk 100: 231. The great obstacle to a more extended use of **asses' milk as a food for infants** during the first 2 months of life is its cost, as one animal gives about enough for one child, and the period of lactation is not a long one.

35.—Johannessen discusses the **obscure etiology of poliomyelitis anterior acuta** and refers extensively to the literature; he tabulates observations on 23 cases and illustrates the article with photographs of 3 patients and skiagraphs of patients and of healthy children of equal ages showing the hypoplasia of the bones; he recommends waiting for a short time after the acute symptoms subside before starting treatment

36.—Thomson writes of the **afferent element in epilepsy** which he defines as "a disease characterized by a sudden derangement of the normal regulative inhibition existing between cortical nerve-centers, induced in the first instance by an abnormal afferent excitation." The only constant element in all forms of epilepsy is its suddenness, and instead of epilepsy being an explosion of motor energy primarily, there is an afferent excitation which leads to a disturbance of the normal inhibition and there then follow the motor phenomena. This theory will not only explain the action of the bromids, but also suggests lines for therapeusis which "will often result in more successful management of the complaint."

37.—Heubner refers to the careful and extensive researches that are making the **feeding of infants** scientifically exact, a standard being furnished by nature in a healthy breast-fed infant. For healthy older children there is no such standard, and only the highest praise can be given to such work as Camerer has done in studying most thoroughly the metabolism of his 5 children over a long period of time. After referring to other investigators who have studied the needs of the growing child for the different food stuffs, Heubner concludes with the remark that a healthy child should eat "rather somewhat lightly than too abundantly."

38.—Caillé reports 13 cases of **tuberculous peritonitis** for which laparotomy was done; 3 passed from under observation at the end of a year, 2 died after no improvement and 1 after temporary bettering, the remainder being either much improved or entirely cured. The cases show the futility of medicinal treatment, the indication being for early operation. To the 3 varieties of tuberculous peritonitis ordinarily given: (1) Chronic tuberculous ascites (miliary form); (2) fibro-caseous tuberculous peritonitis; (3) fibro-adhesive tuberculous peritonitis; the author adds a fourth, (4) tuberculous peritoneal tumors.

39.—Adler experimented on rabbits to see if different substances had **chemotactic influences** on one variety of **leukocytes** more than on another; cubes of elder-pith, soaked in different solutions (acid, alkali, emulsion of staphylococci, sodium chlorid, sodium salicylate, streptococci, formalin, bichlorid of mercury), were introduced into the peritoneal cavity of rabbits, the wounds closed and the animals killed after 24 hours; the cubes were then placed in fixing solutions, imbedded, cut and stained; the results were negative.

40.—Rotch mentions some important aspects connected with the **scientific feeding of infants** and points out that it is necessary for the physician to know not only what modifications of milk to prescribe, but also to know what the child actually gets, otherwise it will be impossible to tell, when the child is doing well, what is the cause of the improvement or the cause when the food disagrees, and then the proper change cannot be intelligently made. He protests against the use of unknown milk or cream as being likely to be unsafe from a bacteriologic standpoint, and as furnishing unknown quantities of fat and proteid for the home modifications. Maternal anxiety to be sure that the child will get a sufficiently strong food often leads to the addition of a little more milk or cream with the result that the percentages are changed greatly.

41.—T. Escherich gives the notes of a prematurely-born infant, cyanotic from birth, with a loud systolic murmur at the base of the heart; death occurred 12 hours after birth and the autopsy showed a **pneumonia and a patulous ductus arteriosus,** the heart being normal; the pneumonia, of intrauterine origin, doubtless took part in keeping the ductus open; and the author suggests that Schultze's method of artificial respiration would have been beneficial. The literature on patulous ductus arteriosus is reviewed.

42.—Bryant, in reporting a case of **acute traumatic empyema,** describes a method which he devised for continuous aspiration of the pleural cavity with the object of lessening the intrapleural atmospheric pressure and so allowing of the expansion of the lung. The apparatus, as finally perfected, consists of an inflated rubber collar which approximates itself closely to the area around the wound, there passing through this collar into the chest a drainage-tube at the outer end of which a collapsed rubber ball exerts a steady aspirating effect; between the bag and the collar a glass tube is inserted to allow of inspection of the fluid, and a stopcock permits the regulation of the aspirating force; this force should never be so great as to cause the fluid to become bloody; the effect in the case was apparently to render unnecessary extensive thorectomy. In a subsequent examination of the literature, the author finds that a somewhat similar procedure was suggested by Bulow about 20 years ago.

43.—Northrop contributes a brief note referring to the fact that a case of acute simple **endocarditis** has never been observed in the New York Foundling Hospital in the past 27 years, the service covering the admission of 27,000 infants, with autopsy in between 2,000 to 3,000; heart-murmurs have been frequently noted, but they have been transitory or unexplained at the autopsy; one case of malignant endocarditis has been seen as a part of a septicemia.

44.—Wilson refers to the success attending the use of **iodid of iron** in the treatment of certain forms of **infective arthritis,** especially gonorrheal; 3 cases are reported, 2 of gonorrheal infection, the other showing on culture only staphylococci, in which recovery followed the

administration of the sirup of the iodid of iron in doses of 2 cc. (half a dram) t. d., pushed to 4 cc., q. d. In convalescence, gelatin-coated pills of the iodid of iron may be used, the sirup being better in acute cases.

45.—Rudisch describes a new method of detecting and **determining glucose in the urine** by the use of a solution of copper sulfate, 4.78 grams; sodium sulfit, 50 grams; sodium carbonate, 80 grams, in 10% ammonia water, diluted with water up to 500 cc.; 1 cc. of the solution is decolorized by 1 mgm. of sugar. The disadvantages of all the different methods are discussed, the only characteristic reaction of dextrose being the property of fermentation in contact with yeast.

46.—Vargas reports 3 interesting cases; the first was that of a newborn infant presenting on the second day a general pemphigus-eruption, the palms, soles, and mucous membranes being uninvolved; the fluid of the bullae was at first clear, then becoming cloudy and slightly sanguineous, but it was germ free; the case ran a mild course and recovered; all the mentioned causes of **pemphigus** being excluded, the case was considered to be toxic in origin, of intrauterine occurrence, the mother during the last months of pregnancy being miserably underfed, the main articles of diet being sprats, herring, and black pudding, she herself frequently having an itching eruption on the arms The second case was that of a child 2 years old in a state of general **infantile atrophy,** the weight being 11 pounds, the appearance being like that of a mummy; recovery was rapid on a milk diet, with the important therapeutic measure of the subcutaneous injection of artificial serum twice daily, 100 cc. being given at each injection; striking photographs taken before and after treatment accompany the article. The third section is a clinical and pathologic report of a case of **diffuse latent pulmonary gangrene** in a child of 3 years: over the base of the left lung there were signs of a massive consolidation with flatness and absence of breath-sounds; putrid odor; fetid expectoration and gastric fermentation were absent; the grave general condition did not agree with that of an ordinary pneumonia; pleural effusion was excluded and there was nothing to suggest tuberculosis. At the autopsy, the base of the lung was found to be in an eaten-out condition, the necrotic tissue projecting in regular ridges one above another, as shown in a beautiful illustration; the etiology, as suggested by Jacobi, is probably an infarct.

47.—Langman states that antiperistaltic movement of **reversed peristalsis** has not been proved conclusively by physiologic experiments; he gives the notes of one case and collects a number of other cases from literature which show that true antiperistalsis does exist as a pathologic phenomenon, chiefly in intestinal neurosis.

48.—Meyer gives the indications for **total extirpation of the ureter,** which may be done either primarily, when the kidney is removed, or secondarily, some time after nephrectomy. The 3 indications for nephrectomy are: (1) Tumor of the kidney; (2) tuberculosis of the kidney; (3) pyonephrosis and pyonephrotic stone kidney. In removing a kidney for tumor it is well to remove as much of the upper portion of the ureter as possible, and if it becomes involved in its entire length, the trouble is probably beyond the knife. If a tuberculous kidney is recognized and removed early, the ulceration of the ureter will, in many cases, heal entirely; the cystoscope will show whether this occurs or not, by pressing on the hypochondriac region during examination, when, if the ureter is inflamed, pus will appear at its mouth; a second indication for secondary ureterectomy is the breaking down of the original wound with sinus-formation. In performing nephrotomy or nephrectomy for stone or its sequels, it should be a rule to test the patency of the ureter down and into the bladder, for thus stricture, or an impacted calculus, may be found, and if the stone is high up, it may be removed; if low down, or if there are many, removal of the ureter is indicated at the time if the patient's condition will permit it, or at a second operation, if not; if the stricture is not too tight, it usually does not call for removal. Cases are reported with illustrations.

49.—Holt reports a case of **cardiac malformation** in a child 19 months old, the symptoms during life being poor development, with occasional attacks of cyanosis; examination showed slight enlargement of the heart to the left, with a systolic murmur over the whole left chest, of maximum intensity midway between the nipple and the median line, and at times there was a double murmur at the apex; there was marked epigastric pulsation and the aortic second sound was intensified; posteriorly a systolic murmur was heard over both sides, but loudest on the left near the spine at the level of the sixth to the eighth dorsal vertebra. Bronchopneumonia, cyanosis, and edema of face and feet developed, but all except the consolidation of the lung disappeared 2 weeks before death, which resulted from asthenia. At the autopsy the much-enlarged aorta was found to communicate with both ventricles, the upper portion of the ventricular septum being deficient; there was complete atresia of the pulmonary orifice with great reduction in the size of the pulmonary artery, the ductus arteriosus being absent; the aortic, mitral and tricuspid valves were normal; the left common carotid artery arose before the innominate and the aorta gave off, from the lower part of the descending arch, a large branch one-half inch in diameter, which passed in front of the aorta, communicating with the trunk of the pulmonary artery and giving off 3 branches to each lung. There was a general tuberculosis. The absence of cyanosis for the greater part of life is noteworthy, and the case illustrates well the contention that cyanosis does not depend on admixture of arterial and venous blood.

50.—Kinnicutt discusses the etiology of **simple or round ulcer of the duodenum,** and reports 7 cases which he analyzes with reference to the symptoms of pain, vomiting, and hemorrhage; the case-histories are given in detail

51.—Adami says that the **general idea of growth,** which is that the typical cells of a tissue proliferate, is incorrect or rather imperfect, and that the following laws may be laid down from study of the subject:

1. The fully differentiated cells of a tissue proper never arise from cells that are themselves fully differentiated.

2. Under the normal conditions of growth and during physiologic regeneration, the fully differentiated cells would seem in nearly every case to be developed from "mother cells"—undifferentiated or but partially differentiated cells, which themselves throughout the term of life of the individual never attain to the full differentiation peculiar to the tissue to which they belong and which indeed they produce. For these mother cells by division give origin to the daughter cells, and it is the daughter cells which attain full differentiation and form the specific cells of the tissue. More rarely the functional cells themselves by reversion to a more embryonal type, take on the properties of mother cells.

3. Under *abnormal* conditions, the fully differentiated functioning cells of certain tissues are capable of proliferation and giving rise to cells of like nature, but this is only after a preliminary reversion to a simpler, more embryonic type. The fully differentiated cell as such is incapable of proliferation.

4. Or, otherwise the energy stored up by the cell may be expended in one of two directions, but act in both—either in functional activity or in preparation for proliferation, and the structure of a cell being the expression of the activity of that cell, the expenditure of energy in either direction is attended by corresponding morphological or structural differences in the cell.

5. The more highly differentiated the cell, the more highly elaborated its structure, the less the ease with which it reverts, and the less the liability to reversion to a simpler reproductive form; the simpler the cell, the greater the ease and the greater the liability to such reversion. It is thus possible to conceive, at the one extreme, cells so simple in function and in structure that functional or reproductive activity may be called into play indifferently, without *recognizable* preliminary structural alteration, and, at the other, cells so highly differentiated that the capacity for proliferation has become entirely lost.

After referring to writers who have mentioned these or similar ideas which have not received the proper attention, and after a consideration of their applicability to the formation of tumors, the author states that tumors may be considered as being derived:

1. From embryonic cell "rests," which have for a shorter or longer period remained latent in one or other tissue and then have taken upon themselves a rapid proliferation leading to tumor-formation.

2. From the mother cells of a tissue which, remaining undifferentiated but capable of active proliferations throughout

life, now assume excessive proliferative powers, their daughter cells retaining to a greater or less extent the characters and the properties of the mother cells.

3. From differentiated cells which reverting to a simpler, more embryonic type, with this reversion gain the capacity for active and excessive proliferation.

52.—Adams has collected from literature 47 cases, including his own, of septic endocarditis in children under 14 years of age. The diagnosis rests mainly on the presence of irregular fever, the changing character of the cardiac murmur, and its tendency to form emboli, but examination of the blood and the cultivation of microorganisms in nutrient media are of great help.

53.—Osler, in discussing the **visceral lesions of the erythema group,** continues a previous publication, completing the history of one case and adding 7 more, making a total of 18 cases, characterized by:

I. Polymorphous skin lesions: (*a*) acute circumscribed edema; (*b*) urticaria; (*c*) purpura; and (*d*) ordinary exudative erythema.

II. Polymorphous visceral lesions: (*a*) local serous or hemorhagic exudate in the walls of stomach or bowels, causing (1) crises of pain and (2) hemorrhages; (*b*) acute nephritis; and (*c*) certain rare pulmonary and other lesions.

III. Infiltration of synovial sheaths, periarticular tissues and arthritis.

While the description of the cases under the name of erythema exudativum multiforme has been criticised the author states that no other term is as satisfactory, and he so groups them to show the relationship between the different skin-conditions present. An analysis of all the symptoms is given and the variability in the character of the skin-lesions pointed out, one case within a year showing different conditions which might be diagnosed as simple purpura at one time, peliosis rheumatica at another, angioneurotic edema, exudative erythema, and simple urticaria at others.

54.—Welch reports 4 cases of **venous thrombosis in cardiac disease** and collects 23 others from the literature The histories are extensively given and the symptoms analyzed. The condition is a rare one. In 23 cases, 17 were females; the ages are given in 17, and 8 of these were between 15 and 30 years. In 21 cases the mitral valve was affected in 20, the other being an aortic lesion with secondary mitral insufficiency. Rheumatism was the cause of the endocarditis in a little over half of the cases; the remainder developed insidiously or were the result of infectious diseases. The thrombosis occurred during failing compensation, the thrombi usually being dark-red in color, or gray in the older parts; in 27 cases, the thrombosis occurred in 23 in the veins conveying blood from the upper extremities or neck, and in 21 of these the left side was affected, 14 times alone, the remaining 7 being bilateral. The thrombosis produced enlargement of the lymphatic glands and an edema which was inflammatory as well as a congestion; there were also pain, tenderness and the presence of hard, sensitive venous cords. The prognosis is grave, only 4 cases recovering. The theories advanced to explain the location of the thrombosis are the greater length of the left innominate vein, with imperfect development of the valve at the junction of the internal jugular and subclavian veins and with pressure on the latter by the dilated left auricle and distended pulmonary veins. These conditions tend to produce eddies in the blood which favor clotting. The special location of the thrombosis only is explained by these, the author deeming it highly probable that the direct cause is, as was found in one of his cases, the presence of microorganisms.

55.—Sondern describes the **technic for the examination of urine** from suspected cases of genitourinary tuberculosis, mentioning the importance of the same in order to exclude the smegma bacillus, a point on which the textbooks are usually not sufficiently explicit. Tubercle bacilli may be found in stained specimens singly, but usually they are in groups, the individuals lying parallel to each other, the group forming a curve like a part of the letter S. They also present a beaded appearance, which the smegma-bacillus never does. After a specimen is stained with hot carbol fuchsin and decolorized by nitric acid, several groups of bacilli should be "ringed" for convenience of location after immersion in absolute alcohol from 5 to 8 hours, the smegma bacillus being almost always decolorized. In doubtful cases the Hesse culture method is recommended.

The Latest Literature.

British Medical Journal.

May 5, 1900. [No. 2053.]

1. A Clinical Lecture on Secondary Suture of the Brachial Plexus. William Thorburn.
2. Fracture of the Carpal Scaphoid. William Stokes.
3. The So-called "Stave of Thumb," or Bennett's Fracture. George Thos. Beatson.
4. A Case of Fracture-Dislocation of the Spine, with Complete Destruction of the Cord in the Upper Lumbar Region. Ashley W. Macintosh.
5. The Therapeutic Value of the X-rays in Medicine. Eduard Schiff.
6. Treatment of Lupus by the X-rays. Robert Earnest Scholefield.
7. An Example of the Use of the X-rays in the Examination of Enlarged Metatarsophalangeal Joints. Geo. H. Rodman.
8. Rötheln. John Wilson Moir.
9. Pneumonia. J. Latchford.
10. Amputation without Anesthesia. Price Morris.
11. A Case of Severe Hematemesis from Probably a Duodenal Ulcer; Intravenous Injection of Saline Solution; Recovery. R. Stanley Thomas.

1.—Thorburn reports a case of a girl of 16 years who had an **injury of the brachial plexus** in an accessible region of the neck, external to the scalenus medius. The motor fibers above that level were intact, while those below it were paralyzed; the sensory fibers all arise below it and were therefore all paralyzed. The plexus had been torn across or hopelessly contused in the region named, but its roots had not been torn from the spinal cord. The operation of secondary suture was performed seven and a half years after the injury. This was done through a long incision in the posterior triangle of the neck, parallel to and just in front of the anterior border of the trapezius muscle. The clavicle was divided and a careful dissection made of the cicatricial mass into which it was found that the 5 main trunks of the plexus entered and ended. This cicatricial mass was cut away and the peripheral ends found and freed from their attachments. The peripheral ends were divided into 5 trunks, possibly somewhat artificially, and these trunks sutured to the ends coming off the spinal column. The wound healed by primary union. Four years afterward the following conditions were present in the once entirely paralyzed arm: There is sensation throughout the entire limb, but localization of touch is defective. The hand shows the least sensation, while the sense of touch improves the higher up the arm the test is made. As to motion, almost all the motions of the arm are recognizable, but all except flexion of the elbow and wrist and abduction and adduction of the arm are very feeble. There is no confusion of movement and the muscular sense is perfectly normal. The skin of the fingers is glossy from disuse, but no trophic lesions have developed since the operation. [G.B.W.]

2.—Stokes calls attention to the especial value of x-rays in diagnosing **fractures of the carpus.** He quotes a case from his own experience which illustrates very well the difficulty often experienced in discovering the true lesion. This was a case of fracture of the scaphoid, and was not diagnosed until weeks after the receipt of the injury. [G.B.W.]

3.—Beatson calls attention to the fact that **fracture of the metacarpal of the thumb** is of more frequent occurrence than of the other metacarpal bones, and that the fracture in the thumb is generally situated at the base of the metacarpal instead of its middle, as it is in the others. He says that this fracture is often overlooked, sometimes being mistaken for a dislocation or for a sprain. The main disablement accompanying this injury is the inability of the patient to oppose his thumb and index finger, rendering many of the ordinary uses of the hand impossible. The treatment consists in extending and fully abducting the thumb and holding it in this position by a proper-fitting apparatus. [G.B.W.]

4.—Mackintosh reports an interesting case of **fracture of the spine.** The patient, a strong, healthy man of 32 years, as the result of a fall, showed depression of the

eleventh dorsal spine and prominence of the twelfth dorsal and first lumbar spines. From the onset there was complete paraplegia, the lower limbs were quite flaccid and reflexes abolished. There was loss of all forms of sensation over the legs and lower trunk, the upper limit of total analgesia and thermoanesthesia being higher and sharper than that of total anesthesia, and there was a zone of partial anesthesia. Marked constipation and incontinence of feces and reflex or intermittent incontinence of urine with imperfect emptying of the bladder were also present. There developed during the course of the illness rapid wasting and loss of faradic excitability of all the leg muscles, vasomotor and trophic changes in the anesthetic area, cystitis and later diminution in the size of the bladder, with dribbling of urine. Uremic symptoms then came on, with death in 6½ months after the accident. At the necropsy the following conditions were found: Fracture dislocation of the eleventh and twelfth dorsal vertebrae, complete division of the cord below the origin of the twelfth dorsal roots, destruction of the upper three or four lumbar segments, sacral cord much depressed and disintegrated, eleventh intervertebral foramen on the right side obliterated by callus, complete degeneration of the posterior root on the right, not on the left, also of both twelfth dorsal roots and considerable degeneration of the anterior sacral roots. [G.B W.]

5.—Schiff considers the **x-rays useful in the treatment of** the following **skin conditions:** Abnormal growth of hair, sycosis, favus, wounds of the hairy parts of the body, trichorrhexis nodosa, furunculosis, acne, lupus (vulgaris, or erythematodes), eczema, and elephantiasis. He describes the method of use, and recommends daily sittings lasting at first 5, later on as long as 20 minutes lessening gradually the distance of the tube from the part. The parts not to be treated should be protected with pasteboard covered with lead, and when treating the face lead masks should be used to avoid conjunctivitis. It is often necessary to continue the treatment for as long as 2 months after the first series of frequent sittings, shorter sittings being used and the time between them being increased. Also the depilated places will usually grow again in about 2 months, and will need a second treatment to complete the cure. [D L.E.]

6.—A case of **lupus** is reported which had lasted for about 2½ years, and had been resistant to other treatment, but the x-rays caused apparently entire cure. [D.L E.]

7.—Rodman reports 2 cases of **bony outgrowth** at the metatarsophalangeal joint of the big toe, the condition having been revealed by the x-rays. It was not determined whether the shadows were gouty deposits, but radiographs of gouty enlargements of finger-joints did not show any corresponding condition. [G.B.W.]

8.—Moir in an epidemic of **rötheln** observed that 8 of 30 girls attacked showed in the early portion of the attack slight headache, a little elevation of temperature, and more or less distinct subcutaneous mottling of measles-like character. These symptoms afterward disappeared, and the girls were released from isolation, but on the fourteenth to the sixteenth day all developed typical symptoms. He believes that it is probable that the first invasion of the disease is sufficiently toxic to cause symptoms, and that the toxemia disappears to some extent subsequently until the maturation of the process is complete. Glandular swellings he considers particularly characteristic in the later stage, when they appear, since they precede the rash by a few days. He isolates cases when the glands swell during an epidemic. [D.L.E.]

9.—In an epidemic of **influenza,** often **complicated by pneumonia,** Latchford treated the pneumonia by giving in the early stages quinin and ergot; in the second stage, digitalis, chlorid of iron, quinin, and dilute hydrochloric acid. [D L.E.]

11.—Thomas describes a case in which there had been a **poisoned wound of the right thumb,** which lasted 3 months. In the latter part of this trouble the man showed signs of **duodenal ulcer,** consisting chiefly of pain an hour or so after taking food. This was situated in the right side of the epigastrium. He repeatedly vomited blood, and passed blood from the bowels. In one attack the loss of blood was so severe that he almost died. Two pints of saline solution injected into the median basilic vein caused almost immediate improvement, and the man recovered. He had no return of the hemorrhage. It is suggested that the duodenal ulcer, which was probably present, was perhaps due to septic embolism, resulting from the poisoned wound of the thumb. [D.L E.]

Lancet.

May 5, 1900. [No. 4001.]

1. Then and Now: or, The Influence of Modern Surgery upon Medical Practice. Fred. J. Smith.
2. The Causes and Treatment of Movable Kidney. C. Mansell Moullin.
3. Colonial Practitioners and the Public. Walter Thomas.
4. The Effect of Alcohol on the Human Brain. Victor Horsley.
5. Observations on the Epidemiology of Plague. T. Frederick Pearse.
6. Remarks on Vasectomy Relative to Enlarged Prostate and Bladder Atony. Reginald Harrison.
7. Three Cases of Surgical Interest. T. Frederick Gardner.
8. A Series of Cases of Abdominal Injuries without External Wound Treated by Laparotomy. G. R. Turner.
9. A Case of Kyphotic Pelvis. J. B. Hellier.
10. A Case of Strangulated Inguinal Hernia in an Infant aged 14 Days. Chas. MacLaurin.

1.—With regard to **malignant growths,** Smith considers that we have gained but little in clinical diagnostic precision, much in scientific knowledge, and most in our powers to relieve by means of hypodermic medication and operative relief. Cases in which we urge operation must be carefully selected; but when, on the other hand, the patient or friends urge us to do something we should not, provided we explain matters thoroughly, be too shy of **operation,** for even euthanasia, on the table or within a few hours, is a boon, for which many a sufferer must be only too thankful. With regard to **gastric ulcer,** it is still impossible, and probably will always remain so, to exclude the presence of an ulcer, to prove a negative diagnosis. A profuse hematemesis, or a fatal perforation, often has been absolutely the first indication that anything has been wrong with the stomach, except perhaps the very mildest and negligible degree of indigestion or discomfort after meals. In face of the chances of hemorrhage, perforation, social crippling, and carcinoma, Smith considers it a serious question, whether we should not urge surgical exploration in cases in which we have reasonably strong grounds for suspecting an ulcer of the stomach which has lasted for over 3 months. On the first occurrence of hematemesis, or on first making a diagnosis, medicinal measures alone should be tried; on a rapid reappearance of hemorrhage operation should be considered; on a third repetition, or confirmed persistence of hemorrhage, Smith would urge it. When the diagnosis rests on a less secure foundation—*i.e.*, pain, etc.—rest in bed with slop-diet should be tried for a fortnight; the disappearance of the symptoms on enforced rest in bed, even without greater strictness in diet is to me a somewhat mysterious fact. If, with resumption of active life, the symptoms recur, Smith would again on the second recurrence begin by suggesting operation, and on the third recurrence most strongly urge it. These opinions are, of course, quite apart from the urgent and absolute necessity of operation for perforation. As to operative relief in case of **gallstones,** Smith considers intervention indicated, (1) if there be a large stone, too large to escape per vias naturales; (2) if there be a large accumulation of smaller stones, causing obstinate, frequent, or long continued trouble; and (3) if suppuration has occurred round a stone of any size. Our problem is to determine that one of these is present, and, if possible, to ascertain which of them. Smith believes that the proper method of dealing with **ascites** was to have the abdomen opened by a surgeon when purges, diaphoretics, and diuretics have had a fair chance, or when there is no time to use them, owing to the urgency of the case. The operation has been performed at his suggestion in hospital and private practice some fifty times or more—in some cases of heart disease and cirrhosis of the liver the records have escaped observation. He advocates it on the following grounds: it is more scientific than paracentesis; it is safer for the patient; it assists diagnosis where that is doubtful; it permits of the removal of removable causes; and it sometimes cures cases which are otherwise incurable. Operation in cases of appen-

dicitis is advised instantly in fulminating cases as soon as we can be reasonably certain of pus in the less acute cases; and after the subsidence of an attack in milder cases. [M.B.T.]

2.—In the treatment of **movable kidney** Moullin believes that the choice lies between wearing an abdominal belt and nephrorrhaphy. In his experience it is only in the milder cases that the belt succeeds and then it must be combined with massage and exercises calculated to strengthen the muscles of the trunk. A belt braces the abdominal viscera together and so steadies the displaced organ, but it can not press the kidney back into its place, nor, if the kidney has been reduced, can it retain it there when the patient stands upright. The pads which are often recommended he believes to be entirely useless. For all cases in which there is manifest deformity of the lumbar region associated with movable kidney, or in which there is real distress, he recommends nephrorrhaphy. [M.B.T.]

6.—In conclusion, Harrison expresses the beliefs: That vasectomy has been shown to be specially effectual in the earlier stages of prostatic hypertrophy in effecting shrinkage of the gland and the restoration of the natural process of micturition. That in cases in which there is evidence that the prostate has in the course of degeneration assumed the form and structure of a fibrous growth the conditions are such, provided the symptoms of obstruction warrant the adoption of other measures than catheterism, as to render some form of prostatectomy preferable to either vasectomy or castration. That when as a consequence of sudden or protracted prostatic obstruction secondary changes have taken place in the bladder itself, in the forms of sacs, pouches, or trabeculation, the possibility of restoring its natural function by any means is extremely unlikely. Under such circumstances the induction of shrinkage of the enlarged gland will do good in affording a readier access for the catheter and in removing spasm, pain, or hemorrhage connected with this or other similar process. [M.B.T.]

7.—Gardner reports an **amputation** of the left **breast** for scirrhous carcinoma in a **woman** 82 years and 7 months old; the patient rallied well from the operation and made a good recovery. She died about 10 months after the operation without any sign of recurrence in the breast, with severe pain in the back, probably due to carcinoma of the vertebra. In a second case he operated successfully for pyosalpinx and fibroid tumor of the uterus, performing hysterectomy. A girl of 12 had right-sided hemiplegia, aphasia, headache and nystagmus; later on convulsions and rise of temperature developed. It was believed that a brain-abscess was developing and trephining was performed, one inch behind and an inch above the external auditory meatus; a grooved needle was passed into the brain-substance in the direction of the frontal lobe, into the temperosphenoidal lobe, and backward into the cerebellum without pus being found. A needle was passed into the lateral ventricle, but no considerable amount of fluid was withdrawn. Improvement followed the operation, however; the temperature never rose above 99°, the wound healed rapidly, and the patient is now quite well. [M.B.T.]

8.—Turner reports 5 cases of **abdominal injuries without external wound,** treated by celiotomy. In the first case a man of 58 stumbled while carrying a heavy load of lead, which fell on his abdomen; severe pain, vomiting, and symptoms of collapse developed. Celiotomy was performed and a tear in the intestine was sutured. A good recovery followed. In a second case a coachman, aged 57, fell from an omnibus. Symptoms of internal hemorrhage developed and a diagnosis of ruptured kidney was made. On opening the abdomen the kidney was found torn in half, with several minor lacerations on the surface. Nephrectomy was performed and uneventful recovery followed. In a third case a man of 24 was struck on the right side of the abdomen by the pole of an omnibus; he was brought to the hospital collapsed, pale, almost pulseless, and with much fulness over the region of the right costal border. On opening the abdomen laceration of the liver was found. A drainage-tube was inserted and the external wound was closed. Death followed 9 days after the accident. At the necropsy it was found that the right kidney was ruptured; there was retroperitoneal extravasation of blood and some pneumonia of the left side. In a fourth case a girl of 17 was run over, the wheel passing over the upper part of the abdominal wall. The abdomen was opened and the second portion of the duodenum was found ruptured; it was sutured and the abdominal cavity was cleansed and closed, but the patient never rallied and died the next day from shock. At the necropsy the head of the pancreas was found smashed to a pulpy mass. In a fifth case volvulus of the small intestine occurred in a boy of 7 as the result of a fall. Successful operation was performed for the relief of the condition. [M.B.T.]

9.—Instances of **kyphotic pelvis** are rare, according to Klein, one in 6,016 labors. It is estimated that the resulting mortality is about 12% of the mothers and 40% of the children. Hellier reports a case remarkable for the transverse contraction of the pelvic outlet. This extreme contraction contraindicated the use of forceps; symphysiotomy was out of the question. Cesarean section was contraindicated by the firm impaction of the head against the pelvic outlet and the spasms of the uterus; obviously craniotomy was the proper treatment, and was performed, **craniotomy** at the pelvic outlet being a much easier and safer measure than craniotomy at the brim. The patient made a rapid recovery without any signs of sepsis. [W.K.]

10.—A male child was born with a right inguinal **hernia** which it was found impossible to retain in place with a wool-skein truss. Strangulation occurred when the **child** was **14 days** old. After the symptoms had lasted 24 hours **operation** was performed and was followed by a sucessful result. [M.B.T.]

New York Medical Journal.

May 19, 1900. [Vol. lxxi, No. 20.]

1. A Study of the Blood in Cancer of the Stomach. WILLIAM OSLER and THOMAS MCCRAE.
2. Cystitis. HENRY H. MORTON.
3. "Estivoautumnal Fever" in New Orleans, Summer and Autumn, 1899. H. A. VEAZIE.
4. The Genesis of Antitoxins. JUSTIN D. LISLE.
5. Physical Training in School and Home. HENRY S. PETTIT.
6. Trachoma. NORBURNE B. JENKINS.

1.—Osler and McCrae record the results of **blood-examination in a series of 150 cases of cancer of the stomach.** Their conclusions are that a doubtful case with blood-count below 1,000,000 is greatly in favor of pernicious anemia. The nucleated red corpuscles are seen in all varieties of a severe anemia, but if megaloblasts are seen they point toward pernicious anemia and are rarely seen in cancer. The presence of leukocytosis or of alterations in the relative number of different forms of leukocytes are of little moment in the diagnosis of cancer of the stomach. The presence or absence of digestion leukocytosis is uncertain and of little assistance in diagnosis. They report 22 investigations of digestion leukocytosis, and found it present in 10 and absent in 12. The number of leukocytes varied most frequently between 5,000 and 20,000. The leukocytes were studied in relation to the temperature, and to the presence of metastasis or ulceration. The two latter had little influence. In 44% of nonfebrile cases and 73% of febrile cases there was leukocytosis, hence febrile cases had a higher average of leukocytes. Nearly half the number of cases had less than the normal number of leukocytes, however. [D.L.E.]

2.—In discussing the treatment of **cystitis** Morton expresses his belief that in all but the mildest cases the patients should be kept in bed. It is well to begin with a calomel purge and to procure daily free movements of the bowel by the use of purgative waters; hot sitz baths are useful in allaying irritability and tenesmus, the diet should be light and largely of milk, diluents should be taken freely, opium is given in acute cases to control tenesmus, pain, and irritability. The balsams are usually very beneficial. Salol is mentioned as a representative of the urinary antiseptics and urotropin is also very highly spoken of. Washing the bladder is inadmissible in acute cases, and with the exception of the use of silver nitrate local applications do harm. In the case of chronic cystitis the patient should not be confined to bed but should have the benefit of fresh air. The balsams are of less value; salol and urotropin are very useful. In the local treatment, all sources of irritation within the bladder should be removed, also any obstacles to its evacuation. Suprapubic drainage is preferred to perineal drainage, when it has to

be continued for some time. For cleansing the walls of the bladder, removing adherent pus and decomposing urine, salt-solution or boric-acid solution may be used. Antiseptics, with the exception of silver nitrate, have proved disappointing and have fallen into disuse; silver nitrate may be used in the strength of 1 : 4000 and the strength gradually increased. [M.B.T.]

3.—Veazie in this portion of his paper gives a review of the **diagnosis of malarial fever.** As somewhat distinctive between yellow fever and malaria, he observes that in yellow fever the pain is more marked in the knees and calves, while in malaria it is more general. In malaria the expression is dull, in yellow fever excited and anxious, and the eyes are watery, while in malaria they are congested, but not watery. There is more marked contraction of the pupils in yellow fever, and decided photophobia. The tongue in yellow fever is thickly coated and red beneath but not swollen and indented, while in malaria it is likely to be swollen and indented, unless markedly coated. Sore throat is uncommon in malaria, while in yellow fever swelling of the tonsils is common and inflammation of the parotids is seen at times. The gums are very red in yellow fever. The spleen is enlarged in malaria, but not in yellow fever. There is usually much more marked disturbance of the stomach in the latter. It is, however, very difficult to make a diagnosis under the most favorable circumstances. [D.L.E.]

4.—Lisle reviews the recent theories concerning **production of antitoxin.** He allies himself with those who attribute the formation of antitoxins to cellular activity. He considers that Erlich's side-chain theory consists merely of a term borrowed from organic chemistry, and that it contributes nothing toward the solution of the mystery of the production of the antitoxin. [D.L.E.]

Medical Record.

May 19, 1900. [Vol. 57, No. 20.]

1. When Shall We Operate for Appendicitis? Joseph Wiener, Jr.
2. 1. On a Peculiar Variety of Pathogenic Streptococci. 2. On a Peculiar Property Possessed by (at least Some of) the Pathogenic Bacteria: Preliminary Communication. E. Libman.

1.—In concluding his article, Wiener gives the following excellent rules as to **when** we should **operate in appendicitis:** Not every case of appendicitis should be operated on. After a first mild attack, try regulation of diet and salines. After a first severe attack, remove the appendix. After 2 or more even mild attacks, operate. In an acute attack, do not give opium or morphin. Operate during an attack, if a chill manifests itself; if the pain is severe enough to require morphin; if the pulse is very small, or rapid, or irregular; if there is persistent vomiting; if there is persistent rigidity of the abdominal wall; if an abscess can be felt; if the general condition makes it imperative; if in doubt. [M.B.T.]

Medical News.

May 19, 1900. [Vol. lxxvi, No. 20.]

1. The Status of Gynecology in 1876 and 1900. Alexander J. C. Skene.
2. The Pharmacopeia of Nineteen Hundred. Horatio C. Wood.
3. The Treatment of Suppurative Otitis Media in Young Children. George L. Richards.
4. Fibroid Tumor of Uterus; Enteroptosis; Retroversion; Ruptured Perineum—Operations—Recovery. Matthew D. Mann.

1.—Skene, in an article read at the 25th annual session of the American Gynecological Society, gives a resume of the **advances made in the knowledge of diseases of the uterus** and the adnexa and corresponding changes in methods of treatment, and says that, at this time, all forms of uterine diseases are treated according to modern surgical and medical therapeutics which give results that might make the older gynecologists wish that their birth had been deferred a quarter of a century. From his review he concludes that in the discoveries, developments, and growth of gynecology, this country has been and is now first among the foremost. [W.K.]

2.—See Philadelphia Medical Journal, Vol. V, p. 1043.

3.—Richards treats **suppurative otitis** of children briefly as follows: Cases in which there is considerable destruction of the tympanic membrane and free fetid discharge: Cleanse ear with sterile water or a 1 to 5,000 bichlorid solution, dry, and apply hydrogen peroxid on a cotton applicator until bubbles cease to come off; apply on a cotton pledget a saturated solution of boric acid in alcohol (40 to 90% alcohol), in some drying powder, such as boracic acid, and lastly put in a gauze drain. In acute cases with a small perforation the peroxid, boric acid, alcohol, and powder are omitted. The mother of the patient is instructed carefully in the details of home-treatment, which consist in drying the ear with a cotton applicator and blowing powder into the canal. No syringing at home is allowed. [G.B.W.]

Boston Medical and Surgical Journal.

May 17, 1900. [Vol. cxlii, No. 20.]

1. The Ideal Ration for an Army in the Tropics. Edward L. Munson.
2. A Study of the Nature and Significance of the Symptoms in Disorders of the Stomach. Henry F. Hewes.
3. A Case of Pernicious Vomiting of Pregnancy. E. L. Twombly.
4. Bicornate Uterus, with Twin Pregnancy; Abortion from One Horn. Charles H. Winn.
5. A Case of Pernicious Vomiting of Pregnancy. H. S. Knight.
6. The Question of Supernumerary Fallopian Tubes; with Specimens of Fallopian Tubes with Supernumerary Ostia. Agnes C. Vietor.

1.—Munson continues his article upon the **ration suitable for soldiers in the tropics.** He gives a number of tables representing the different forms of diet, including one proposed by himself, which he believes is especially suitable for tropical countries, and which includes fresh fruit, soft bread, rice, potatoes, tomatoes, dried fruits and sugar. The conditions to be fulfilled by such a diet are as follows: The quantity should be moderate, in order not to throw an excessive amount of work upon the alimentary tract and not to predispose to hepatic congestion. As in tropical countries the daily quantity of nitrogenous elimination is reduced about one half, it follows that the amount of nitrogen ingested should be correspondingly reduced, but for the soldiers it should not be reduced below 16 grams, that is to say, about 100 grams of protein. It is a curious fact that in tropical countries the vegetables chiefly employed are very poor in nitrogenous elements. [J.S.]

2.—Hewes has conducted an elaborate series of **investigations upon the physiology of the stomach in disease.** The condition of the stomach was first ascertained while the patient was fasting, then a test-meal was given and withdrawn in 1 hour. HCl and lactic acid were tested qualitatively and the total HCl and total free HCl quantitatively. Moreover, a careful history was taken 3 times in each case. Two hundred and fifty cases were examined, 120 of which were practically normal; 130 showed various types of deviation. In the remaining cases hyperacidity was observed 84 times, hyperchlorhydria 72 times, hypochlorhydria 48, achlorhydria 15, hyperacidity due to lactic-acid fermentation 7 times. The deviations from the normal were determined by comparing the results with those obtained by estimations made on 100 normal cases. The chief object of these investigations was to determine the relation of the subjective and the objective signs of gastric disorder. In the 47 cases of hyperchlorhydria, 4 persons presented distress alone, 20 distress and eructation of gas, and 19 distress, heartburn, and pyrosis. The symptoms came on at varying intervals after the ingestion of food, and were described in various ways by the patients. In the 28 cases of hypoacidity, distress alone was noted 5 times, distress and eructation of gas 14 times, and distress, eructation, and regurgitation of food 6 times. Vomiting also occurred in 3 cases. In 90 cases with normal acidity, distress occurred 17 times, distress and eructation 41 times, and distress, heartburn and pyrosis 15 times. The foregoing symptoms with regurgitation, 11; and with vomiting, 6 times. In all these

cases, the symptoms varied considerably. The only common symptom in all cases was distress. The other symptoms were also more or less uniform, and therefore it seems to follow that they represent merely disturbance of the gastric cavity. Hewes notes, as have other observers, that the intensity of the symptoms bears no relation to the objective signs, for in cases of intense irritation, that is extreme hyperacidity, the symptoms are sometimes very slight. He, therefore, is inclined to consider that they depend, in a way, upon what he calls habit of the stomach, which he explains by speaking of it as a condition of hyperesthesia. [J.S.]

3.—Twombly reports a case of **death from the vomiting of pregnancy,** apparently caused by a pregnant uterus crowded down in the pelvis, with sharp anteflexion of the cervix. He calls attention to two points: 1. That displacements and faulty positions of the pregnant uterus which delay its rising out of the pelvic cavity and cause pressure upon the nerves of the cervix are often the source of excessive vomiting. 2. If all the measures taken for replacement and relief of the pressure fail in the early months of pregnancy, we should not trust to nature and time to effect a cure, but should proceed to empty the uterus before the patient's strength is too much exhausted. Indications for emptying the uterus are: (1) Inability of retaining any food taken by the mouth; (2) intolerance of rectal enemata; (3) more or less albuminuria; (4) progressive emaciation; (5) headache constant; (6) frequent and feeble pulse; (7) a certain apathy of the patient. [W K.]

4.—Winn reports a case of **twin-pregnancy in a bicornate uterus,** in which an attempted abortion resulted in an incomplete abortion of one horn of the uterus; but the fetus in the other horn remained undisturbed, terminating at the proper time in the birth of a healthy, nine-pound child. [W.K]

5.—Knight reports a case of **pernicious vomiting of pregnancy** due to anteflexion of the neck of the uterus, there being a distinct angle between the neck of the uterus and the body. This was successfully treated by the introduction of a small, soft rubber pessary, which raised the uterus and gave an opportunity for the cervix to straighten itself. After about a week the vomiting gradually subsided, when returning appetite and ability to sleep restored the patient to health and strength. [W.K.]

6.—Vietor mentions the different **varieties of the fallopian tubes,** and describes a specimen of a partially developed supernumerary tube attached to the normal tube removed from a patient suffering from uncontrolable menorrhagia. [W.K.]

Journal American Medical Association.

May 19, 1900. [Vol. xxxiv, No. 20.]

1. The Present Status of Operations for Cancerous Uteri. HOWARD A. KELLY.
2. Cleft Palate. A New Uranostaphylorrhaphy. ALEXANDER HUGH FERGUSON.
3. A Case of Hysterical Hipjoint. JOHN LINCOLN PORTER.
4. Eustachian Catheterization. STEPHEN OLIN RICHEY.
5. Abdominal Surgery. Five Interesting Cases: Pancreatic Cyst; Hepatic Calculi; Fecal Fistula; Combined Appendectomy and Nephrorrhaphy. FLOYD WILCOX MCCRAE.
6. Antitoxin and Intubation, with a Report of 100 Operations. BURT RUSSELL SHURLY.
7. Use of Opium in Infancy, Seen in Adult Life. T. D. CROTHERS.
8. Bubonic Plague in San Francisco. W. H. KELLOGG.
9. Vesicorectal Anastomosis: with Special Reference to Treatment of Exstrophy of Bladder. JACOB FRANK.

1.—Kelly holds that in every case of cancerous uterus the entire organ must be removed. Cancer of the cervix usually extends by direct involvement of the contiguous tissue. Extension by glandular metastases is unusual in the earlier operable stages of the disease. Hence, it is a necessary precaution to give the disease a wide berth on the vaginal side, cutting at least 2 or 2.5 cm. away from it. Anteriorly the disease often involves the base of the bladder before it has extended far in any other direction; here good surgery will sacrifice and repair the entire affected vesical area, leaving it sticking to the cervix uteri. With the uterus we must remove the uterine tubes in all cases of cancer of the body. Many specialists consider the radical operation of no lasting benefit, but Kelly's results are not so discouraging. Among 30 cases operated upon for **adenocarcinoma of the** body of the **uterus** the subsequent history could not be obtained in 2 cases and it is believed that the patients are dead; there are remaining 19 out of the 30, or 63%, showing no evidence of a return of the growth at the present time, from 11 months to 5 years and 7 months after the operation. Seventeen out of 34 patients operated on for squamous carcinoma of the cervix are well without any sign of a recurrence, at periods extending from three to six years, and 8 over five years since operation—an eloquent tribute to the success of the radical operation,which would be justifiable if a far smaller percentage of the number could be saved from a life of such dreadful suffering with its inevitable outcome. In all these cases the uterus has been subjected to a rigid microscopic examination. Kelly knows of other patients still older and in perfect health where there was no doubt as to the diagnosis, but has not included them, as the entire group of cases operated on at the time has not been rigidly criticised microscopically. As regards the operation he believes that the old plan of skinning or shelling out the bare uterus is of all methods the most liable to be followed by a recurrence, and must be abandoned. He insists upon the supreme importance of catheterizing the ureters, in order to mark them out during the operation and to enable the operator to work boldly instead of timidly in the parametric tissue. The disease must be given a wide berth by ligating far out in the parametrium and, if necessary, dissecting out the ureters, and on the vaginal side by cutting far below the manifestly affected area. The ureter, if involved in the disease, should be sacrificed and reanastomosed into the base of the bladder farther back. Kelly describes his method of operating by quadrisecting the uterus. [M.B.T.]

2.—An **operation** for **cleft palate** is described which seems deserving of the attention of those interested in the subject. In order to gain a clear idea of the method it will be necessary to consult the illustrations of the original article. Ferguson has been operating by this method for 11 years, performing the operation 53 times with but one primary failure. Among the advantages of this method the following are mentioned: No tissue is removed. Very broad raw surfaces are coapted. The danger from sepsis is minimized by turning the flaps upward, as described. [M.B.T.]

3.—An interesting case of **hysteria** simulating **hipjoint disease** is reported, occurring in an anemic girl of 11. Complete recovery followed without any treatment except the use of a bitter tonic. [M.B.T.]

5.—A man of 60 had had some obscure abdominal trouble for 2 years; first simulating renal colic, later hydronephrosis, and finally, malignant disease. Exploratory operation was performed. A large, pancreatic cyst was found, and 3 pints of oily, straw-colored fluid was removed by tapping; the cyst was then opened, the edges sutured in the abdominal wound, and drainage inserted. Rapid recovery followed. In a second case a woman of 34 was suffering with symptoms of gallstone cholecystitis. On opening the abdomen an enlargement of the liver was found. The parietal peritoneum was stitched to the liver, an incision was made, 30 gallstones were removed, and drainage was inserted. Subsequently 29 more stones escaped. They were evidently formed in the gallbladder, ulcerating through its roof into the liver. The adhesions were such as to make a careful examination of the under surface of the liver impossible. Two successful operations are reported for fecal fistula following appendicitis. Appendectomy and nephropexy were performed through the same incision in the case of a woman of 29. [M.B.T.]

6.—Shurly reports the treatment of 100 cases of **laryngeal diphtheria** with **antitoxin** in conjunction with **intubation.** He formulates the following series of conclusions and rules of procedure which apply to all cases of laryngeal diphtheria: Administer antitoxin early, without waiting for a bacteriologic diagnosis. Tonsillar exudate attended by a croupy cough or partial aphonia is an indication for a full dose of 1500–2000 units of antitoxin. Antitoxin administered 12 hours or more prior to operative interference will reduce the mortality of intubated cases at least 50%. Immunize all exposed children of croup age. Continuous steam inhalations are of great value in all cases. Early operation is most strongly advocated. His results are

ımmarized as follows: Number of operations, 100; re-)veries, 69; deaths, 31; mortality under 3 years, 49%; ıortality over 3 years, 19%; complicating measles, 8 cases, deaths. [M B.T.]

7.—Crothers cites a number of instances in which the lministration of **opium** to **children** has been followed by sastrous results in later life. The ignorant mother who ;es soothing syrups freely, to suppress the irritation of her fant, is not the only offender. The routine, and often oughtless, physician who uses opium freely in infantile escriptions is responsible in many ways for the wrecks of ter life. [M.B.T.]

8.—Kellogg gives notes from the history of a Chinaman who cently died at San Francisco. After death the inguinal glands the right side were excised and smear-preparations and oculations into animals were made. It is believed that e microorganisms found in the original cover-glass prepara-)ns and in preparations made from animals that died from e inoculations were pest-bacilli. Also in 2 other cases post-ortem evidence of this disease was found. Kellogg believes at the thorough disinfection and cleaning up of the Mon-lian quarter, which the San Francisco Board of Health s been carrying out, has been of invaluable service in ıecking the spread of the disease before it had fairly gained foothold. Vigilance should not yet be relaxed, for it would)t be surprising if other cases were discovered in the near ture. [M.B.T.]

9.—From careful histologic and bacteriologic examination nducted in a number of cases which Frank has operated on, appears beyond doubt that **vesicorectal anastomosis** ay be performed on a dog without leading to an infection the kidneys. In two instances both histologic and bacter-ogic examinations showed a total absence of infection, and e of these cases was that of a dog killed 6 months after eration. If the results on dogs, which naturally cannot kept under the best hygienic conditions and in which no er-treatment could be instituted, furnished results like the ove, it is not unreasonable to expect far better termina-ns in the human patient where after-treatment such as shing out the bladder could be commanded. The advan-ges of vesicorectal anastomosis are summarized as follows: nplicity and shortness of time required for the operation, danger of ureteral constriction by the bowel scar, nor ughing of an implanted trigone, as in Maydl's operation; mparatively little danger of infection. It is not only plicable in exstrophy of the bladder, but also in other path-gic conditions of that organ rendering life a burden. .B.T.]

American Journal of Obstetrics.

December, 1899. [Vol. 40, No. 6.]

Fatal Perforation of a Uterus Partially Atrophied Post Partum; A Medico-Legal Case. C. S. BACON and MAXIMILIAN HERZOG.

The Surgical Treatment of Fibromyoma. J. M. BALDY.

Myoma Ovarii; Endothelioma Ovarii; Calcified Corpus Luteum. FERNAND HENROTIN and MAXIMILIAN HERZOG.

The Early Diagnosis of Uterine Cancer. JOSEPH WIENER, JR.

Shall we Abandon Ventrofixation of the Uterus? WALTER B. DORSETT.

Case of Persistent Fetal Bladder in a Woman of 45. HENRY J. GARRIGUES.

Rupture of the Puerperal Uterus. JAMES F. W. ROSS.

A Curet for Cervical Cancer. HOWARD A. KELLY.

.—Bacon and Herzog discuss the medicolegal phase of a e of **perforation of a partially atrophied uterus.** e patient had been cureted and 12 hours after the opera-a death occurred. A very incomplete autopsy, 3 days er death, disclosed a perforation of the uterus. The hologic examination of the specimen is described and the tory of the case with the animus of the suit is related. .K.]

.—Baldy, in his report on the **surgical treatment of romyomas,** read at the meeting of the International ıgress of Gynecology and Obstetrics, at Amsterdam, con-nns ovariotomy as a procedure for the relief of fibroids. e recognized and generally established surgical procedures in case of fibroid disease, at the present time, are hysterectomy and myomectomy. The hysterectomy may be performed by either the vaginal or abdominal route, and is complete or incomplete as the operator may prefer. The methods of controling the hemorrhage may be ligature, cauterization, and crushing of the stumps. In his opinion the relative advantages between the vaginal and abdominal route for the performance of hysterectomy are altogether in favor of the latter. Myomectomy, while advocated by Kelly and others, is condemned as an unsatisfactory procedure. The question of the propriety of surgical interference rests largely on the consideration of each case. The disease is essentially a benign one, and the question is to be decided on the health and future possibilities of the individual. That of health is largely determined by the pain, hemorrhage, rapidity of growth, size, pressure-symptoms, recurring attacks of peritonitis, mental condition and expediency. [W.K.]

3.—Henrotin and Herzog report 3 cases representing **pathologic findings rarely met in the ovary;** First, large myoma of the ovary, weighing 9¾ pounds, removed from a married woman, aged 23 years. Second, endothelioma of the ovary occurring in a married woman, aged 30 years. Third, calcified corpus luteum. [W.K.]

4.—Wiener discusses the **early diagnosis of uterine malignant disease,** which is one of the most difficult and responsible that the physician is called upon to make. There are no symptoms that are pathognomonic of cancer of the uterus. Pain, hemorrhage or discharge were formerly taught as symptoms, but the case is almost certainly a hopeless one when these are present. Cancer of the uterus should be diagnosed with the microscope. It should be suspected in women of all ages—in virgins, in nulliparas as well as in multiparas. Atypical hemorrhage should always arouse suspicion, even at the time of the menopause. [W.K.]

5.—Dorsett describes his technic in performing **ventrofixation of the uterus.** He has performed the operation 38 times. The advantages claimed for this operation are: 1. That it holds the organ in a more natural position, and long and dangerous bands of adhesion are not so apt to form, for the reason that the intraabdominal pressure is not directed at right angles to the long axis of the uterus. 2. The omentum falls down behind the uterus instead of in front, as is the case with the modified operation. The stitches are carried into the wall, gathering up the fibrous structure of the aponeurosis or sheaths of the recti muscles, and are not so apt to lengthen out. [W.K.]

7.—Ross reports two cases of **rupture of the puerperal uterus.** The causes of rupture may be: 1. Mechanical impediment to the course of labor, from whatever cause. 2. An increase in the size of the child to be delivered, from any cause. 3. Faulty presentation. 4. Under compression of the uterine structures between the descending fetal parts and the pelvic walls. 5. Operative violence. 6. Unnatural violence of the uterine contraction, due either to the administration of ergot or morbid excitability of the organ. 7. Straining at stool. 8. Disease of the wall of the uterus itself, such as that produced by cancer, by atrophy, by softening, by fatty degeneration, by hydatid disease. 9. Unnatural narrowing, rigidity or atrophy of the os uteri. 10. Abnormal development of the uterus. 11. One that should come under the first class, of mechanical impediment to the course of labor, but is often put in a class by itself—deformity of the pelvis. The operative violence more responsible for rupture of the uterus than any other is turning after the liquor amnii has escaped for some hours. The cases of ruptured uteri may be divided into four groups, depending upon the severity of symptoms and time of recognition of the rupture. The treatment depends upon the case. In those in which the rupture is recognized and the patient is not moribund from shock and hemorrhage, he advises a thorough examination of the part through an abdominal opening, a removal of blood-clot from among the intestines, a thorough stoppage of hemorrhage from the wound either by approximating sutures, or by gauze packing, and the establishment of thorough vaginal and abdominal drainage. [W.K.]

8.—Kelly presents a **curet for cervical cancer,** for the removal of all available tissue with a minimum risk to the adjacent structures. The instrument is practically a curet with blunt margin surrounded by crenations, and is composed of three parts, a large stout handle, a stout shank which tapers to a long and rather deep bowl. [W.K.]

Wiener klinische Wochenschrift.

February 1, 1900. [13. Jahrg., No. 5.]

1. Limiting the Application of Celiotomy in Favor of Vaginal Celiotomy. F. SCHAUTA.
2. Ovariotomy Per Anum. HUBERT PETERS.
3. Air-Embolism with Placenta Praevia. HUGO BÜBL.
4. Bacilli from the Stools of Nurslings which are Stained by Gram's Method.

1.—Schauta, after an extended and practical discussion of the relative merits of **vaginal and abdominal celiotomy,** concludes that the complete substitution of the former for the latter is possible in no department of operative gynecology; yet he believes that the vaginal method is preferable in a large proportion of cases and should be employed wherever possible. In his own experience he had performed 1,112 vaginal celiotomies, with 53 deaths, a mortality of 4.7%, and 1,279 abdominal, with 131 deaths, or 10.2%. The operations which belong almost exclusively to the vaginal method are radical operation for adenoma, infarct, sarcoma, fixation of prolapsed and retroverted uterus, and cases of inflammatory and suppurative adnexa requiring the knife. In a second group he places ovariotomy and uterine myoma whenever the ovarian cyst, uni- or parvilocular is freely movable; or the myoma does not extend above the umbilicus; otherwise laparotomy must be the choice. To a third group belong those operations in which laparotomy is the usual method, but the vaginal route must be considered, as in extrauterine pregnancy, where the latter can be advantageously used when the tubal abortion or rupture occurs in the first weeks and there is a normal condition of the adnexa on the other side. In this group he places cesarean section, and generally cases of adherent tumors, multilocular cysts, and all malign ovarian growths, myoma enucleations, etc. If these conditions cannot be determined by examination, then he advises beginning the operation by the vaginal way, changing it to the abdominal, if found necessary, as he had frequently done without any disadvantage to the patient. Schauta thinks that beside the comparative mortality of different methods, one must also consider which will give the most satisfactory results to the patient while living. He believes that vaginal celiotomy is one of the greatest aquisitions of recent times in operative gynecology. It requires greater diagnostic acumen, more persistence and patience, and more skilful technic than the abdominal method; but is favored by its much less mortality; painless, uncomplicated recovery; the absence of an external wound, with its dangers of stitch-abscesses and hernia. The disadvantage of a smaller field of vision, operating in obscurity, and difficult control of hemorrhage, is obviated by a careful choice of cases and the use of the proper technic. He lays especial weight upon this rule—that in vaginal celiotomy one can and must carry it out from beginning to end under the observation of the eyes, as in other surgical procedures. [W.K.]

2.—Peters reports a case of **ovariotomy per anum** in a woman, aged 37, afflicted with prolapsed rectum and an ovarian cyst. She insisted that both troubles be remedied at one operation. The excision of the prolapsed rectum made a broad opening into the Douglas sac. By expression the cyst was forced down into the sac, punctured, the pedicle ligated in three parts, the cyst removed, and the sac closed. The anal wound healed per primam, but the long dilation of the sphincter ani caused a loss of its functional capacity and incontinence alvi resulted, while the retroverted uterus was kept in position by a permanent Thomas pessary. [W.K.]

3.—Hubl reports two cases of **placenta prævia,** in the first of which death, due to air emboli, occurred during delivery; and in the second, a few hours afterward. In air embolism one hears a gurgling noise in the heart, and obtains a tympanitic or muffled tympanitic sound on percussion. The diagnosis of air emboli will also be made when dangerous symptoms appear after conditions making possible the entrance of a stream of air into the uterine veins, as when the pressure on the abdominal or uterine vessels has been suddenly lessened, so that the air is sucked into the open vessels. The turning of the patient from the side to the back for the better contraction of the uterus, especially in badly-contracted uteri, may draw air into the vessels of that organ; or it may be caused by the rapid lessening of the uterine volume through the quick outflow of the amniotic fluid. In this connection the danger of intrauterine irrigation soon after d livery is well known. [W.K.]

February 8, 1900. [13. Jahrg., No. 6.]

1. The Effect of Thyroid Extract upon the Circulation ar Respiration. BÉLA V. FENYVESSY.
2. Disturbances of Vasomotor Activity and Sensibility Aft Urethral Traumatic Facial Paralysis. CARL BIEHL.
3. Murder by an Ethically Depraved Drunkard, the Path logic Conditions and Legal Decision. V. WAGNER.

1.—The author found that **thyroid juice** had no consta influence on the **respiration.** Frequently an intraveno injection caused no changes; not rarely there were son reflex phenomena, consisting of an acceleration and an i creasing shallowness of the respiration, followed by a slight lessened acceleration. In rabbits the substance produced lowering of the **blood-pressure,** beginning a few secon after the injection and persisting, with an unchanged hear action. The fall in pressure is due to dilation of the vessel As substances having a similar action are found in the hyp physis extract and adrenal extract, and since, moreove peptones have the same influence, no final conclusions ca be drawn from the action of the thyroid extract upon th tone of the vessels. Iodothyrin has no direct influence upo the blood-pressure or the pulse rate. Cyon had claimed th iodothyrin had the power of antagonizing these poisons th influence the vagus and the depressor nerve. This v. Fen vessy could not confirm. [D R.]

2.—Biehl reports an interesting case of **facial paralysi** due to a stab wound of the face, in which there were marke evidences of disturbances of the vasomotor nerves and tactile sensation. The affected part of the face was decided puffy. The author believes that it is now proved that th facial nerve contains vasomotor and sensory as well motor fibers. [D.R.]

February 15, 1900. [13. Jahrg., No. 7.]

1. Malta Fever. ALFRED BRUNNER.
2. Landry's Paralysis, with Special Reference to its Bacte ology and Pathology. JULIUS KAPPER.
3. The Formation of Salivary Calculi. FRIEDRICH HANSZE

1.—Brunner reports an interesting case of **Malta feve** in which diagnosis was made on the strength of the protracte fever, profuse sweats, absence of the diazo-reaction, positi result of the agglutination-test with a culture of the Micr coccus melitensis of Bruce, and cultivation of the micr coccus in the fluid obtained by puncturing the spleen. Th micrococcus in turn was agglutinated by the patient's bloo serum in very high dilution. Malta fever is usually looke upon at first as a typical malaria or typhoid fever. Th duration of the disease is, on the average, from 40 to 70 day Hughes recognizes **four types; The malignant,** in whic the mortality is 60%; the **undulant,** which lasts from 60 80 days; the **intermittent,** usually of mild type; and t **irregular.** In recent cases typhoid fever may be exclud by the absence of diarrhea, the clear intellect, the absence spots and epistaxis, the moderate splenic tumor, the abse or slight headache. Nothing characteristic has been di covered at autopsy, except general congestion of all t organs. [D.R.]

2.—A man, 33 years old, employed in a steam laundry, w seized wiih paresthesia in the fingers, headache, vertig pains, and weakness in the lower extremities. The reflex disappeared, sensation was undisturbed, and the sphincte were intact. There was marked flaccid palsy of the legs, ataxia, no reactions of degeneration; finally, paralysis of t intercostal muscles, profuse sweats, paralysis of the phren nerves, dyspnea, cyanosis, and death. During the course the disease, there had been marked constipation, and t urine had shown indican and scatol. Microscopic study the nervous system was negative. No careful bacteriolog examination seems to have been made, and the author jum to the bold conclusion, based upon the finding of indican a scatol in the urine, and the temporary improvement after high irrigation, that the disease was due to autointoxicati with toxic metabolic products. Clinically, the case was, course, one of Landry's palsy. [D.R.]

3.—Henszel reports 3 cases of **salivary calculus.** the first case, the stone-formation was apparently due to

chronic inflammation of the maxillary gland, with inspissation of the secretion. The stone was formed in the gland, and only later passed into the duct. In the second case, the stone-formation seems to have taken place in Wharton's duct itself, and was connected with bacterial action. In the third case, it seemed as if the long-continued traumatism against the region of the left sublingual gland, through the mouthpiece of a pipe, had given rise to the lithiasis. [D.R.]

Münchener medicinische Wochenschrift.

January 30, 1900. [47. Jahrg., No. 5.]

1. Resorption and Emulsification of the Fats in the Stomach. Franz Volhard.
2. The Action of Newer Antiseptics on Infected Wounds of the Cornea. Wilhelm Hauenschild.
3. The School Physician and Psychiatry. W. Weygandt.
4. The Cause of Death After Burns and Scalds. E. Scholz.
5. A Case of Acute Perichondritis of the Nasal Septum of Dental Origin. Gustav Killian.
6. Perityphlitis in a Hernial Sac with Resection of the Cecum and Vermiform Appendix. C. Göschel.
7. Opium Poisoning in a Child of 10 Weeks, Faradization of the Phrenic Nerve for 10 Hours. Recovery. Augustus Mödel.

2.—Hauenschild has made a number of experiments as to the value of **protargol** and **hydrargyrum oxycyanatum** as disinfectants for use in infections of the cornea. His first results show that the bacteria with which the cornea of rabbits were infected were not in the slightest degree influenced by solutions of protargol from 1% to 10%, or by hydrargyrum oxycyanatum in solutions of 1:1000 up to 1:100. These experiments were made by washing the infected cornea with from 80 to 100 cc. of solution falling from a height of about 5 cm., when, however, 250 to 300 cc. were used from a height of 25 cm. as was done in a second series of experiments, the hydrargyrum oxycyanatum solutions greatly checked the growth of the bacteria, whereas the protargol seemed to have no more influence than in the first experiments. These last results show two things: First, that hydrargyrum oxycyanatum is the better antiseptic, and second, that large irrigations are better than small ones. [G.B W.]

4.—Scholz has made some experiments on the **cause of death after burns,** paying particular attention to the theory that holds that death is due to the formation of toxins in the skin. He found that changes in the skin are of no consequence, and that the chief factor is the effect of the heat upon the blood. He took a rabbit and scalded both its ears for 15 minutes. The animal died in clonic spasms. In three other animals the ears were scalded after having been emptied of blood by a clamp. They all survived. In the 3 animals the duration of the scalding was from 3 to 4 minutes. He concluded, as intimated, that death in the control animal was due, not to the chemical changes in the skin, but to the effect of the heat upon the blood. [It seems to us that these experiments are not comparable, since in the control animal the scalding lasted 15 minutes, while in the others it lasted, at the most, but 4. The conditions were not equal. Whether the results would be different if the conditions were rendered equal, we are unable to say; but certainly no conclusions are warranted under the circumstances. D R.]

5.—In this case of acute **perichondritis and periostitis of the nasal septum,** the infection evidently took place from a suppurating cyst of the roots of the incisor teeth. The patient presented himself for treatment after the abscess of the septum had ruptured. On examination then, there was swelling of the mucous membrane of the septum with a minute perforation on the left side. The choanae were greatly narrowed from the edema of the posterior part of the septum. After incision of the mucous membrane on the left side the whole length of the septum the abscess healed. The alveolar cyst was cured by removing the anterior osseous wall and the incisor teeth and cureting away the lining membrane. [G.B W.]

6.—The patient was 35 years old and had had a right-sided **inguinal hernia** for 10 years. Yesterday the hernia became painful and irreducible, with vomiting at the operation. The hernia was found to consist of the colon with appendix and several coils of small intestine. The hernial opening did not show any especial constriction and there was a small **perforation** of the **appendix** with more or less thickening. The appendix was resected and the hernial sac packed with iodoform gauze. At a second operation the contents of the hernia were resected, and two anastomoses performed, one with a Murphy button. The patient made a good recovery. [G.B.W.]

7.—A marasmic infant received an unknown quantity of tincture of opium. By means of faradization of the phrenic nerve, continued during ten hours, the child was kept alive; and, strange to say, after this intoxication it improved rapidly. Unfortunately it died several years later, of diphtheria. [D.R]

February 6, 1900. [47. Jahrg., No. 6.]

1. The Application of Gelatin for Arresting Cholemic Hemorrhage After Operations on the Gall-Passages, with Remarks on Poppert's Drainage of the Gallbladder. Hans Kehr.
2. The Reaction of Leukocytes to Tincture of Guaiacol. Kurt Brandenburg.
3. Basophilic Granules in the Red-Blood Corpuscles. Martin Kohn.
4. A New Method of Demonstrating the Finer Structures of Bacteria. K. Makauishi.
5. Scoliosis Ischiadica. Krecke.
6. Two Cases of Beri-Beri. P. Schmidt.
7. A Case of Injury of the Skull and Brain. Carl Fröhlich.
8. A Report from the Royal Polyclinic for Children's Diseases in Riesingerianum for 1899. C. Seitz.
9. The Resorption and Emulsification of Fats in the Stomach. Franz Volhard.

1.—Kehr reports 3 cases of severe bleeding in jaundiced persons when operating for gallstones. He says he had not met many of these **cholemic hemorrhages** until the past year. The 3 cases reported were treated by the subcutaneous injections of a 2% solution of gelatin, and with evident benefit. The technic was as follows: dissolve 10 grains of white gelatin in 500 ccm. of a sterilized 7% sodium chlorid solution; inject 200 ccm. warmed to 38 0° C., carefully practising all the principles of asepsis, into the subcutaneous tissue of the outside of the thigh or under the skin of the chest-wall. [G.B.W.]

2.—Blood in the urine gives a blue color with tincture of guaiac, in the presence of turpentine or hydrogen peroxid. Pus gives this blue color with the tincture, without the addition of an oxygen containing substance. Brandenburg applied the test by adding to 1 cc. of tincture of guaiac, enough of the commercial 3% hydrogen peroxid solution for the mixture to become clear, then adding a threefold quantity of urine. Vitali and Brücke had endeavored to find the cause of the blue reaction with pus, and had found that a watery extract of pus was also able to turn the guaiac tincture blue. The present author continued these experiments, and found that a chloroform extract of pus turned guaiac blue. The substance in the extract was proved to be a **nucleoproteid,** the presence of which in the leukocytes was responsible for the guaiac reaction of pus. Other substances, such as an emulsion of liver, spleen, etc., were then tested, and it was found that the nucleoproteids of liver, spleen, and thymus, while they had the power to decompose peroxid of hydrogen, did not turn guaiac blue. The only substance that produced the reaction was bone-marrow. The leukocytes appear, then, by reason of their ability to turn guaiac tincture blue, to differ from the cells of the spleen, the liver, and the kidney, and also from the lymphocytes of the thymus and lymphatic glands. Attempts to use the guaiac tincture as a means to separate leukocytes from lymphocytes have so far been unsuccessful. Other nucleoproteids, such as those that appear in the urine in febrile diseases, were examined, but none of them gave the guaiac reaction. This renders it probable that they were not the products of leukocytes, but of tissue-cells. The author believes that the guaiac test is applicable to pus in the urine and in other excretions; but as the urine contains certain reducing substances which somewhat interfere with the reaction, it is advisable to filter the urine and to make the test on the filter.

3.—Cohn found **basophile granules in the red corpuscles** in 3 cases of progressive pernicious anemia, but did not find them in a case of myelogenic anemia nor in one

of splenic anemia. He was able to cause the presence of these granules in animals by the abstraction of large quantities of blood. The granules did not immediately appear after the withdrawal of the blood, but on the following or the next following day; nor did they appear in all of the animals. They were generally found in polychromatophilic corpuscles, and Cohn believes that they represent a partial **degeneration** of the protoplasm of the cells, dependent upon the hydremia that follows loss of blood. That is probably also their origin in man. [D.R.]

4.—Nakanishi recommends the following **method of staining:** A few drops of a watery solution of methylene-blue, saturated during heating, are spread on a slide by means of a piece of linen or filter paper. Then the stain is washed off, so that only sufficient is left to give the glass slide a sky-blue color. The slide may also be prepared by smearing it with some boiling methylene-blue solution, and wiping it off after it is dry with a dry cloth. The material to be examined is placed on a cover glass, and the latter superimposed on the slide. When the material to be examined is solid, it must be suspended in some fluid. By this method the different leukocytes react in different ways. Erythrocytes, which in fresh preparations take either a diffuse blue stain or show blue markings, are to be considered pathologic; they are either dead or in some way damaged. All the malarial parasites are colored by this method; so are all bacteria, including the tubercle and lepra bacilli. The staining of bacteria is not diffuse, the method bringing out the finer structure of the organisms. Living bacteria react differently from dead ones. To bring out the chromatin particles or nucleus, it is best to kill the bacteria with formalin vapor. All bacteria, it is shown by this method of staining, in their young stage are uninuclear, short cells. A membrane is not an essential constituent. Division in bacteria occurs, just as in higher cells, after an antecedent nuclear division. The spore is nothing more nor less than a modified nucleus. The author's method of staining is also of value in the study of exudates and transudates, urinary sediments, etc. [D.R.]

5.—Krecke says that the development of a **scoliosis** in cases of **sciatica** may be due theoretically to 4 causes, the first and simplest is that the patient assumes the crooked position in order to relieve the pain in the affected limb; second, that the affected side becomes weak and does not furnish the proper support; third, this weakness may develop into a true paresis; and, fourth, contractures may form which cause the pelvis to tilt. He reports a case of a man, 33 years of age, who for a year had been suffering from sciatica in the left leg. When examined, this patient at first had a curvature in the lumbar vertebra towards the right and stood with the left heel slightly lifted from the ground. Becoming tired of this position, however, he threw his weight on the left leg, and the curvature was thus towards the left, the right heel being slightly elevated. Thus we have a heterologous and homologous scoliosis, and a typical case of the rare alternating scoliosis of sciatica. [G.B.W.]

6.—Schmidt reports 2 cases of **beri-beri** that occurred in Chinamen aboard a German steamer engaged in the India trade. The incubation period was from 10 to 12 weeks. [D.R.]

7.—The first case reported is one of severe **injury of the skull** with hernia cerebri and a consequental left-sided complete hemiplegia. The patient did well under careful aseptic treatment, and about a month after the injury the prolapsed portion of the brain was removed by ligatures and within 3 weeks after this the paralysis began to improve. One year later the patient was enjoying the best of health except for a "half-lame arm." The other case was one of bullet wound of the head, who, a year after the injury, developed a traumatic encephalitis and died. [G B W.]

9.—Volhard's conclusions are as follows: 1. In the **stomach** there occurs an extensive **decomposition of emulsified egg and milk fat.** 2. The emulsion is destroyed in such a way that it separates into two layers, so that the fats can be removed by filtration. 3. The method of von Mering depends upon a determination of the relation of fat to sugar in an emulsion of yolk of egg and sugar, before and after its sojourn in the stomach, is not free from objections, on account of such decomposition. 4. Mering's method of drying the fats on kaolin with sulfate of sodium, for the purpose of extraction in the Soxhlet apparatus, is the best imaginable. Lanolin, the author found, contrary to the assertions of others, is emulsifiable with difficulty, or not at all. [D.R.]

Berliner klinische Wochenschrift.

February 26, 1900. [37. Jahrg., No. 9.]

1. The Clinical Significance and Experimental Production of Granular Degeneration in the Red Blood-Corpuscles. E. GRAWITZ.
2. The Bacteriologic Examination of the Germs Contained in Brushes. A. WINTERNITZ.
3. Syphilis of the Lingual Tonsil. JULIUS HELLER.
4. The Natural Means of Protection of the Organism Against Infection. P. BAUMGARTEN.

1.—There is considerable difficulty in the interpretation of certain changes seen in the red corpuscles, on account of the fact that it is hard to say whether the changes are regenerative or degenerative. Especially is this true in the anemias; we cannot always tell whether an anemia is brought about through a direct injury of the red corpuscles, *i. e.*, through a blood poison, or whether it is a part of a general cachexia. Grawitz has found a **basophilic granulation in the red corpuscles,** which he considers a sure sign of a degenerative process. Such granulated cells are not found preformed in the bone marrow, and the granulation is not the result of karyolytic changes, *i. e.*, disintegration of the nucleus of the red cells. The granules have been found in pernicious anemia; in carcinoma, when the growth was situated in a locality favoring the absorption of toxic products; in leukemia in advanced stages; and in septic processes. They were strikingly noticeable in the blood in **lead poisoning.** They were absent in 12 cases of chlorosis, in 13 of advanced pulmonary tuberculosis, and in 21 cases of syphilis. They are either absent or few in chronic Bright's disease, and are found in cirrhosis of the liver only when there is a grave cachexia. The granules are the result of a degeneration of the cell, under the influence of some poison. Grawitz was able to produce the granules in mice, and increase in the granulated cells was associated with a hydremic state of the blood. As to their significance, it is pointed out that they may be present before the blood shows any modification morphologically or in the number of cells. Secondly, being the result of a degeneration they afford a deeper insight into the genesis of the anemias. In lead poisoning they give a clew to the gravity of the intoxication. In several instances the author was led to make a correct diagnosis of lead poisoning by a discovery of these granules. Prognostically, their presence in large numbers is indicative of the intensity of the anemogenic process. Plehn had found basophilic granulation in Europeans in the tropics. He looked upon them as the juvenile forms of the malarial parasites. Grawitz, while not positive, is inclined to look upon them as marks of degeneration, and attributes them to the effect of the external heat, since he was able to produce granulation of the erythrocytes in animals by keeping them in a hot chamber for several days. [D.R.]

2.—Winternitz found that an infected brush could be sterilized by boiling ten minutes in a 1% soda-solution. This is true, at least as regards organisms and spores that are not of excessive resistance. Brushes thus boiled are best preserved in a 1 : 1000 sublimate solution. [D.R.]

3.—In 205 cases of **syphilis** Heller found positive evidence of secondary lesions of the **lingual tonsils** in 20, or 9.7%. Of the 20 cases, 9 were women, although the number of women was but about one-sixth of the number of men. Mucous patches of the mouth are five times as common as those of the tongue. The patches on the lingual tonsil tend to resist treatment a long time. The **smooth atrophy of the base of the tongue** is related to the secondary syphilitic lesions in this region. Lewin and Heller have distinguished two modes of origin of the atrophy of the base of the tongue in syphilis. In those cases in which there were scars, they assumed that the atrophy was due to some ulcerative process, probably a gumma; in other cases in which the atrophy was perfectly smooth, they attributed it to interstitial processes and an obliterative endarteritis. But since the healing of mucous patches can produce granulation-tissue and scars, the atrophy is more probably due to healed mucous patches. The absence of **lingual atrophy** is of no diagnostic value; its **presence is suggestive of syphilis.** In examining for the lesions, it is necessary, in order to discover the mucous patches at the base of the tongue, to use the laryngoscope. To determine atrophy, the laryngoscope should be used, as well as palpation with the

ger. The tongue is pulled forward, and the finger inserted refully, so as to avoid touching the pharynx. The base of e tongue is then palpated. [D R]

4.—Baumgarten has made some experiments which he ims disprove the presence of bactericidal substance in ood-serum. He found that a serum in which bacteria re killed, an effect which Buchner would attribute to a ctericidal substance, could be rendered an excellent edium for the cultivation of bacteria by adding a small antity of peptone or of peptone and sugar. He believes at the whole question is one of assimilation and assimilaity; that bacteria, like other parasites, have a high gree of eclecticism, which makes them very sensitive to ferences in media. Natural immunity is due to the sence of some necessary substance or to a failure in asnilating such a substance. That there may be substances xic for certain bacteria he would not deny. Plasmolysis ays an important part in the death of bacteria in so-called ctericidal serum. Another factor which Buchner has erlooked is the precipitate retrogression of plasmolysis, ien the bacteria are transferred from blood-serum to a oper culture-medium. The bacteria may not be dead, but ay be killed in the second medium, through this sudden trogression of the plasmodic changes. The sum and subance of Baumgartner's lengthy paper is, then, that there is bactericidal substance, strictly speaking. The death of cteria is due to the absence of a proper soil for their velopment. [D.R.]

March 5, 1900. [37. Jahrg., No. 10.]

Acute Nonpurulent Encephalitis. H. Oppenheim.
The Pathogenesis and Treatment of Fissure of the Anus. O. Rosenbach.
Glassblowers' Mouth and its Complications. Scheele.
Two Cases of Extensive Unilateral Angioelephantiasis. Wolff.
Nephritis Without Albuminuria in Young Children. Cassel.

1.—The patient was a student, 17 years old, who from fancy had suffered from bilateral middle-ear disease. ter a day of pain in the ear, he had vomiting, fever, onic spasms in the right side of the face and right arm, and st his speech. The right arm and the right facial nerve came paralyzed and the patient became almost comatose. fter hot baths he gradually improved. Six months later, exnination showed slight paresis of the oral branches of the ght facial nerve and trifling weakness of the right hand, toether with some disturbance of sensation in the latter. In ldition, there was a total motor aphasia. Under careful tuition, e patient gradually regained power of speech. Oppenheim lieves that the history and the symptom-complex, viz: febrile affection with cortical epilepsy, a faciobrachial onoparesis, with hypesthesia and complete motor aphasia, oint to **an acute, hemorrhagic, nonsuppurative ncephalitis** of the left frontal lobe, including the foot of e central convolutions. He has seen five cases of this nd; the symptoms in all were alike. In one of them he as able through autopsy to verify the diagnosis. In three ses there was an otitis media. The relation of this to the sease cannot be definitely determined, but it is probable at the organisms causing the purulent otitis may give rise the brain to a nonpurulent, inflammatory infection. R]

4.—Wolff reports a case of **unilateral angiomatous lephantiasis** in a man of 45, who died in consequence of ultiple embolism of the right lung, secondary to a thromophlebitis of the right femoral vein. The similar cases in ie literature are collected and discussed. [D.R.]

5.—Cassel has observed in a number of children, who id not had **scarlet fever** and in whom the heart was ound, a **general anasarca with ascites,** without finding any trace of albumin or of formed pathologic elements the urine. The children were all quite young, and ranged age from 7½ to 2½ years. In 5 cases the dropsy was preded by intestinal disturbances. The course in 9 cases obrved was as follows: Four terminated in cure in from 4 to weeks; in 2 the termination was unknown; in 3 the contion ended fatally. The urine was always pale, slightly id, had a low specific gravity, and never showed any bumin. In the cases that came to autopsy marked renal changes were found, particularly on microscopic examination. There are a number of references in the literature to such a condition. Dropsy without albuminuria has been observed after scarlet fever, chickenpox, measles, and typhoid fever, and also, as in the author's cases, after gastrointestinal disturbances. Filatow had described idiopathic anasarca without nephritis in children; but as he had not made any examinations of the kidneys, Cassel believes that the existence of a nephritis could not be excluded in those cases. [D.R.]

Deutsche medicinische Wochenschrift.

February 15, 1900. [26. Jahrg., No. 7.]

1. The Surgical Treatment of Tuberculosis of the Kidney. F. König.
2. The Treatment of Stricture of the Rectum, Together with a Contribution to the Plastic Surgery of the Rectum. Julius Wolff.
3. Carcinoma of the Large Intestine. I. Boas.
4. A Case of Carcinoma of the Stomach. Herhold.
5. The Technic of Vaccination. Flachs.

1.—Tuberculous disease of the kidney should be divided into two forms: (1) The solitary tuberculosis of the gland substance without communication with the pelvis of the kidney; and (2) the pyelitic form of renal tuberculosis. Although, only in exceptional cases is it possible to diagnose the solitary form, the tubercular pyelitis can in all probability be recognized, even though the tubercle-bacilli cannot be found. In a number of cases, however, the diagnosis will remain in doubt. Also it is by no means always possible to make a positive diagnosis as to the condition of the other kidney, whether healthy or not. König says that according to the results of his pathologic-anatomic researches resection of a portion of the kidney is scarcely to be thought of as a method for bringing about a cure, and cystotomy is adapted for very few cases. The only sure operation for the riddance of renal tuberculosis is total extirpation of the organ. This operation should be done even when a positive diagnosis of a healthy second cannot be absolutely established, as it gives the patient the only chance he has. In a certain number of cases, however, there are conditions which would forbid operation, such are moderate disease of the second kidney, cystitis and involvement of the testicle or prostate. [G.B.W.]

2.—Wolff goes on to say that it is possible to replace a large part of the wall of the **rectum** with flaps of skin and that these flaps will in the course of time so adapt themselves that they will be able of carrying on the functions of a normal rectal wall. Also that by the employment of this method, rectal stricture may be cured. [G.B W.]

3.—Boas' experience was gained from the management of 15 certain cases of **carcinoma of the colon,** of which 12 occurred in men and 3 in women. In 6 the tumor was at the cecum, twice at the hepatic flexure, twice at the splenic flexure, once in the descending colon, and four times in the sigmoid flexure. In 8 cases the tumor was palpable. As to the objective symptoms he makes four groups. In the first there are practically no local symptoms; in the second the symptoms are not clear, and the diagnosis must be established by objective examination; in the third group the symptoms are clearly those of obstructive disease of the bowels, and the diagnosis may often be made without an objective examination. In such cases there is usually increasing tendency to attacks of constipation, but interrupted by onsets of severe colic, often accompanied by vomiting, and ultimately the general appearance of malignant disease is added to this. In this group he puts those cases in which the carcinoma is low down in the bowel, and here there are beside the other symptoms severe tenesmus of the bowel, and oftentimes of the bladder. In the fourth group are placed those cases in which there occur in the midst of apparently normal health sudden attacks of obstructive ileus. The most characteristic subjective symptom is a tumor. Boas has not found in most of his cases that the tumor was very movable, though in 2 of 8 it was. Oftentimes a tumor will not be found, and upon subsequent examination it will become palpable. This indicates the necessity for repeated examination, when the bowel has been emptied, and when it has been filled with water or air. Palpation

in the warm bath is also very valuable. Boas does not consider that it is often difficult to differentiate between impaction of feces and malignant tumors, but the differentiation of inflammation about the appendix and of the occasional benign tumors is often very difficult. Tuberculosis will sometimes give rise to difficulty. It is possible that the diazo-reaction may be an important diagnostic point, since it has been shown that as a rule in carcinoma the diazo-reaction is negative, while it is practically always positive in tuberculosis of the bowel. [D.L.E.]

4.—There are 3 forms of **cancer of the stomach:** (1) the ulcerative form; (2) the infiltrating form and, (3) the circumscribed form. The last of these is by far the rarest variety. The case reported by Herhold belonged in this class, and, therefore, is of especial interest. The patient was a pale, cachectic man who complained of pain following eating. There was a hard tumor about the size of a hen's egg occupying the right side of the epigastrium. At the operation the stomach was opened, and a broad-based tumor, about 5 cm. in diameter, was found attached to the anterior wall of the stomach. The growth was removed and the wound in the stomach and abdomen closed. The patient was very much collapsed after the operation, but finally made a good recovery and was able to take up hard work again. The microscopic examination showed the tumor to be an alveolar carcinoma of the mucous membrane. [G.B.W.]

5.—Flachs recommends a point on the breast two fingers-breadths outside the nipple and two fingers-breadths below the nipple, for **vaccination**. This point he chooses because it is not subject to much rubbing from the clothing, and inflammation is not likely to take place. [D.L.E.]

February 22, 1900. [26. Jahrg., No. 8]

1. Oliver-Carderelli's Symptom in Two Cases of Mediastinal Tumor. MAX AUERBACH.
2. Active Dilation of the Heart. HANS HERZ.
3. Carcinoma of the Large Intestine. I. BOAS.
4. The Assimilation and Elimination of the Iron of Somatose in the Normal Organism. W. NATHAN.

1.—In the first case there was **carcinoma of the stomach,** and the appearance of metastasis of the chest, the only sign pointing with any degree of positiveness toward aneurysm being the presence of tracheal tug and Cardarelli's symptom. (The latter is elicited if one presses the larynx to the left, the Cardarelli phenomena consisting in lateral pulsation of the larynx under these circumstances to the right.) The postmortem showed secondary carcinoma of the mediastium; the aorta lay between the nodules, and the infiltration involved on the one side the aorta, and on the other the left bronchus, both of them being tightly bound to the infiltration. There was no aneurysm. In the second case the diagnosis between tumor and aneurysm was very uncertain, the most important points in favor of tumor being that the difficulties had begun very suddenly, with pain in the chest and spitting of blood. The patient was not alcoholic or syphilitic, and had not been subject to physical overstrain. Although there was a tumor under the left clavicle it did not pulsate markedly; but on the other side there was no cachexia, and Oliver's and Cardarelli's phenomena were present. The postmortem in this case showed tumors of the mediastinum and numerous enlarged lymph-glands lying between the bronchus and the aorta and strongly adherent to both; there was no aneurysm. The results correspond to the previously expressed view of Fraenkel that these phenomena may be seen in other conditions than aneurysm, but are uncommon under such circumstances, and occur only when a tumor is so placed that it presses the aorta strongly against the bronchus, or when it is adherent on the one side to the aorta, and on the other to the trachea or bronchus. [D.L.E.]

2.—The article in the present number is almost entirely given to discussing the question of the occurrence of **active dilation of the heart, or hyperdiastole.** Herz agrees entirely with Rosenbach that this condition is frequently met with and has been merely overlooked or considered a passive action. Normally the heart-muscle dilates actively within certain limits in order to receive the incoming blood-stream. This takes place because of vital changes in the nerve-supply of the heart, the whole matter being controlled by the nerves. Under some circumstances this hyperdiastole is increased beyond the normal. It then amounts to active dilation of the heart. The conditions that cause t may be nervous, or alterations in the blood, or other con tions, but particularly those in which, as in anemia, there a demand by the tissues for a larger quantity of blood. T demand cannot be met by merely increasing the number pulsations, as the blood would not remain sufficiently lo in contact with the tissues. It can be met only by incre ing the amount of blood driven out at each stroke. Hyp diastole may be seen under physiologic circumstances times, as in normal persons after climbing mountains, t rarefaction of the air necessitating hyperdiastole. It is oft seen after hot baths, during digestion, and, at times, duri pregnancy. In these conditions, if the regulating mechanis is not perfect, a pathologic active dilation may readi take place. [D.L.E]

3.—One of the most important symptoms of **stenosis the bowel,** which itself is the most important sign of **carc noma,** is the palpable and visible contractions of the bow It is difficult in many cases to tell whether these movemer are in the small or large bowel. Boas was able to make th distinction in two cases by examination per vaginam duri the attack of pain, when the movements were very activ In both cases it was very evident that the masses felt we small bowel. Oftentimes the situation of the obstructio may be suspected by discovering a splashing sound in t portion of the bowel just above the obstruction. One pec liar sign, which is practically diagnostic at once of steno of the bowel, is a sudden appearance of small coils of bow which vanish very quickly and reappear again. The bow leading to the obstruction may often be found stiffly co tracted. In 2 cases Boas saw hemorrhages from the stomac The gastric contents varied from absence of hydrochlor acid up to the presence of normal amounts. The stools a extremely variable, and it is by no means uncommon to s normal stools. The presence in the bowel-movements blood and pus in small amounts is of extreme importanc In one case Boas saw the complication with membranou enteritis, apparently a unique observation. He has nev been able to make the diagnosis by finding particles of tum in the bowel-movements. The treatment is, of course, large surgical. Medically it is important to remember that th diet is of the utmost importance. One point is to be esp cially insisted upon, all foods which leave large undigest remnants should be excluded, as they are likely to cau sudden complete obstruction. The treatment of painf peristalsis should be by opiates. If opium does not contr it the chances are that no medication will. Of the 15 patien seen by Boas, 12 were operated upon; 5 times the tumor w resected; 3 died. One of the others had been entirely we for 5 years, and the other is still well 5 months after th operation. The palliative operations were less encouragin but Boas insists that operation is the only thing that may b expected to do these cases much good. If the tumor easily movable and the patient is in good condition operatio should be done at once. If possible the tumor should b removed completely by resection, as these growths do n readily give rise to metastasis. If this is impossible anast mosis of the bowel should be carried out. [D.L.E]

4.—Nathan's conclusions from the **administration o iron-free food and iron somatose** to animals are s follows: There was evidence of a marked absorption of th iron somatose in the small intestine. The iron which absorbed is carried to the central canal and thence to th lymph system. It is doubtful whether iron is absorbed b the bloodvessels of the intestine, but there was an extrem pigmentation of the liver, and it is possible that iron wa carried to this organ by the portal vein. Most of the iro was excreted in the large intestine by the leukocytes. Iro was found in the central canals of the large intestine als and it is possible that there may have been some absorptio here as well as an excretion, but this point could not b definitely settled. He saw no evidence of excretion of iro through the kidneys. [D.L.E.]

Centralblatt für Gynäkologie.

February 10, 1900. [24. Jahrg., No. 6]

1. Intense Fresh Corroding Stenosis of the Cervix and of th Fornix in Pregnancy. Delivery per vias naturale FERDINAND SCHENK.

A New Method of Operation for Deep Vesico-Utero-Vaginal Fistula. N. Bardescu.
Upon the Cervix Question. Otto v. Franqué.

.—Schenk considers that a fresh and accute corroding **nosis of the cervix** is usually due to some attempted rtion commonly by means of sulphuric or other acid of e nature. The treatment must vary according to the de- e of stricture or atresia of the vagina. Where this is not extensive he advises delivery per vias naturales by per- ation of the cranium or lessening of the fetus, or by vagi- incision through the cicatricial portion. If, however, atresia is too great, or uterine rupture seems imminent, would employ either the conservative Cesarean section or rro's operation, according to the conditions present. [K.]

.—Bardescu reviews various methods devised by Jobert, und, Bardenheuer, and others, for the cure of a **vesico-ero-vaginal fistula,** pointing out their advantages and ects and then calls attention to a new method used in the spital of Bucharest and known as cysto-colpo celiorrha- y. He reports 3 cases successfully treated by the new thod and gives a detailed description of the operation, ich he says should be performed under ether-narcosis h the patient in a dorsosacral position and the limbs ngly flexed. He divides the operation into 4 stages: 1. e separation and treatment of the uterus. 2. The sepa- on of the vesical and vaginal walls and the obliteration of vesical laceration. The bladder is closed with catgut ures in two series, submucous and muscular. 3. Open- of the peritoneum and colpo-celiorrhaphy. 4. Repair agina and vaginal fixation of the uterus. This completes operation and the fistula is wholly obliterated. A self- ining catheter is employed and is removed in from 6 to ays. Bardescu thinks the operation is easily performed, uires no special instruments, and is productive of the best lts, and adds that the greatest care must be taken in cing the sutures in the bladder, since upon these hang success of the operation. [W.K.]

February 17, 1900. [24. Jahrg., No. 7.]

Remarks upon Significance of Appendicitis to the Obstetrician and Gynecologist. Otto Falk.
Upon the Mechanical Treatment of Atonic Uterine Hemorrhage. F. Schwertassek.
Once More the Atmokausis Question and the Münchener Discussion. Ludwig Pincus.

.—Falk gives statistics from different authors confirming opinion that **appendicitis complicating pregncy** is difficult of recognition and the cause of great rtality. Hrawacek cites 13 cases of catarrhal appendicitis h pregnancy, 5 cured without operation, 11 operations, l 7 deaths. Falk reports an interesting case of supposed rauterine pregnancy, but which in examination under er showed the fetus in the uterus; and the tumor on the at side proved to be an abscess associated with a ne- sed appendix which was removed without disturbing the gnancy, and 3 months afterwards the patient gave birth healthy child, having a normal delivery and puerper- n. Two other cases are reported showing the difficulty of erentiating between appendicitis and diseases of the ad- xa, since the former may run its course with little or no parent intestinal disturbance. Then, too, appendicitis metimes appears as a complication of appendiceal disease. rtin in 171 operations for rightsided salpingitis and 276 ilblesided found appendicitis 6 times in connection there- h; Duhrssen in 1½ years, out of 322 laparotomies, had 10 es of diseased appendix; Ochsner, of Chicago, in 51 oper- ons for primary appendix found 15 times secondary dis- e of the appendages. Hence Falk concludes that it is ential that the obstetrician and gynecologist should both familiar with the technic of the operation for appendicitis, the necessity for it may arise as a complication in either gnancy or disease of the adnexa. [W.K.]

.—Schwertassek reports a case of threatened death from **erine hemorrhage** averted by simple mechanical treatnt. The patient, 35 years of age, in her sixth pregnancy ame very weak, suffered abnormal hemorrhage, especially night, but felt no real labor-pains. Finally it was deemed essary to empty the uterus and 2 dead fetuses in the fifth month were extracted without any injury to uterus or perineum. But there was no subsequent contraction of the uterus and the hemorrhage continued; carbolic solution, ergotin injection, hot salt-solution, etc., being used without avail until the patient collapsed, fainting repeatedly; the limbs grew cold and the pulse imperceptible. The physician then seized the lips of the os uteri with Muzeux' forceps, drew the uterus downward and let them remain, the portion in the vagina being covered with iodoform gauze. Subcutaneous hot-salt infusion, 700 grains salt-water clyster and camphor injection was used, the patient being left on the operating table under warm covers for 4 hours, when she became conscious and the radial pulse was again perceptible. She was then placed in bed, but the forceps were not removed until the next day. There was a moderate rise in temperature on the third day from slight necrosis of the crushed part, but this lasted only 2 days, and on the fourteenth day she was able to get up. The removal of the uterus has been deemed by some authors as the only remedy for atonic uterine hemorrhage, but Arendt says that the drawing downward of the uterus will not only check the hemorrhage but also stimulate uterine contraction and hinder the return of relaxation. Schwertassek thinks that continued pulling for a long time is necessary, and he recommends the use of this procedure in all similar cases. [W.K.]

Centralblatt für innere Medicin.

April 7, 1900. [21. Jahrg., No. 14.]

1. The Importance of Hypeosinophile Granules. L. Grünwald.
2. A Reply to the Preceding Article. Bettmann.

Both are replies to previous articles. Grünwald claims that Bettman is wrong in stating that it is possible by different methods to make the same granules take a hypeosinophile or a neutrophile stain. There is nothing else of importance in the communications. [D.L.E.]

Neurologisches Centralblatt.

April 15, 1900. [19. Jahrg. No. 8.]

1. Contribution to the Casuistry of Exophthalmic Goiter. Popoff.
2. Contribution to the Knowledge of Korsakow's Psyschosis. Luckerath.

1.—Popoff reports 2 cases of **exophthalmic goiter.** The first, a woman of middle age, noticed after losing her teeth hemorrhages from practically all the mucous membranes. During her residence in the hospital for 31 days she had 3 subsequent attacks of bleeding from the membranes associated with huge extravasations of blood into the skin. She gradually improved, and the hemorrhages finally ceased. The second patient, a woman of 27, also noticed hemorrhages in the commencement of the disease, and during her residence of 35 days in the hospital she had six severe attacks. This patient was subsequently discharged unimproved. The symptoms were sufficiently characteristic in both cases to make the diagnosis easy, although in the second case exophthalmos was not pronounced. Popoff has observed this hemorrhagic tendency in 3 cases out of 6 or 7. He regards it as a valuable symptom in the early stages of the disease.

2.—Luckerath reports 2 cases of **Korsakow's psychosis.** The first occurred in a man, 36 years of age, a heavy drinker, who had an attack of typhoid fever associated with loss of memory. He recovered from this, but his memory remained weak, and the condition became practically chronic. At no time were there any symptoms of neuritis. The second patient, a man of 40 years, also a heavy drinker, suddenly became extremely irritable and then developed an occasional loss of memory. In both cases the patients had delusions concerning past events which were evidently due simply to their failure to recall them accurately. This condition probably belongs to the mental disturbances of polyneuritis of which three forms can be recognized, either an irritable weakness of the whole mental organism, or an attack of confusion, or a pure amnesia. Of course, these 2 cases belong to the latter class. The disease is comparatively rare. [J.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Hemorrhoids.—*La Presse Médicale*, December 2, 1899, recommends the following formula for suppositories:

℞.—Chrysarobin..... .....1 grain.
Iodoform.....½ grain.
Extract of belladona.....⅛ grain.
Oil of theobroma, a sufficient quantity.
Insert two or three in the bowel daily.

Derangements of Digestion in Phthisis.—J. Mitchell Bruce (*Treatment in Practical Medicine*, Lea Brothers & Co., 1900) writes as follows: A great part of the treatment of pulmonary tuberculosis consists, as we have seen, in restoring nutrition by means of food. The first condition of successful alimentation are a good appetite and sound digestion. The patient must be encouraged to live generously, partaking as often and as freely as possible of ordinary mixed meals of wholesome, nutritious, attractive and digestible food. Happily one of the interesting features of the disease is the natural maintenance of the gastric functions. A patient suffering from active phthisis will eat with relish at one o'clock a large meal of meat, vegetables, bread, and pudding, and digest it comfortably in the course of the next 4 hours, although his body temperature be 102°, rising to 103. Whatever the explanation of this curious but fortunate preservation of appetite and digestive power may be, they do occasionally break down; but the fact that they might be maintained is the clearest indication of the treatment that ought to be pursued. This proves to be the reverse of the ordinary practice. When anorexia, discomfort, vomiting, and the other evidences of indigestion, such as depression, languor, headache, constipation, and turbid urine, make their appearance in phthisis, they are too often directly referred to the tuberculosis or to the fever. The patient is ordered milk, essences, and every description of patented and advertised foods and "wines"; oil, tonics, malt, and the latest specific for tuberculosis are given even more freely than before. The exercise of a little common sense ought to have prevented all this. The first step to take in such a case is to prescribe a mercurial purge, followed by a saline. The second step is to order a diet of light solids, and specially to supervise the breakfast and supper *menus*; and to cut off stimulants and all manufactured materials excepting a good peptonized cereal food at the evening meal. Thirdly, the times and manner of taking food must be revised. Excessive frequency and excessive amount must be temporarily avoided. If sickness be prominent and persistent, bodily rest is indicated; and the patient should lie down for half an hour before his mid-day meal and for at least 2 hours after it. Sometimes, indeed, obstinate cough and vomiting have to be met by confining the patient to a couch and bringing him his meals, which he takes in the reclining posture. Counterirritation is often successful in the distressing cases where feeding provokes paroxysmal cough, ending in vomiting and loss of the entire meal. A fly blister to the epigastrium, applications to the pharynx or larynx, and iodin paint over a large secreting cavity are different measures called for by different conditions. The best internal remedy is a combination of sodium bicarbonate, sal volatile, diluted prussic acid, and diluted infusion of a vegetable bitter stomachic, given shortly before meals to relieve the mucous catarrh of the stomach and promote the appetite and secretion of gastric juice. *Night* feeding in active phthisis is indicated by several considerations: that the night is too long for a patient with advancing tuberculosis to go unfed, patients with pneumonia being fed ever 2 hours; and that broken sleep produces restlessness, increase of cough, sweats, and exhaustion.

A Stable Solution of Cocain.—According to the *Journal de Médecine de Paris* the following solution of cocain is stable:

℞.—Cocain hydrochlorate..... 4 grains.
Distilled water..... 2½ drams.
Salicylic acid..... ⅙ grain.

Antitoxin in Diphtheria with Special Referen to Small and Frequently Repeated Doses.—Mus (*University Medical Magazine*, March, 1900) prefers to gi antitoxin in small doses, and, when necessary, at frequent tervals, rather than follow the tendency of the time to incre the initial amount. This method implies recognition of t disease at the earliest moment possible and very close obse ation. The results appear to be as good as any reported, a he has had but one case of erythema and albuminuria a none of the general joint affections. Thirteen cases are ported, all of which terminated in recovery. The auth considers 5 of these were seriously ill and the progno doubtful had not the antitoxin been used. In 7 instances t temperature fell to normal and remained so in 48 hours. 5 cases it was normal within 3 days, and in 2 very seve infections within 5 days. The method is as follo For children from naught to 6 or 8 years the initial d is 500 immunizing units, to be repeated at intervals of 6 ho if the fever does not fall, if the strength of the patient d not improve, or if the local manifestations are spreadi For children over 8 years, 1,000 immunizing units are giv as an initial dose, and this is repeated at intervals of 8 to hours, as needed. The only disadvantage in this method the pain caused by the successive injections, but the auth has not found that this objection was sufficient to overbala the discomfort of the urticaria and the general sympto that appear to be more common after larger dosing.

Resorcin in Affections of the Nose and Throa—Blair (*Albany Medical Annals*) recommends the followi mixture of resorcin and benzoinol:

℞.—Resorcin..... 80 grains.
Eucalyptol..... 10 grains.
Menthol..... 20 grains.
Benzoinol..... 4 ounces.

The Treatment of Tapeworm with Chlorofor—Whyte (*Scottish Medical and Surgical Journal*, Novemb 1899) reports six cases of tapeworm treated with chlorofor of these only one was completely successful, one other w doubtful, as the patient could not be traced. The dose vari from ½ to 1 dram. A dose of 1 dram produced rapidly most cases a comfortable sleep of about an hour's durati In *Die Therapie der Gegenwart* for September, 1899, Leichte stern gives his experience in the use of chloroform as anthelmintic. The parasite was *taenia saginata*. Out of cases only one proved successful; the others were almost treated subsequently with success by the administration fluid extract of male fern in dose of 2 to 2½ drams. T chloroform was given to the extent of 1 dram, usually in t or three portions at intervals of one or two hours. In m of the cases there were no disagreeable effects apart from oc sional headache, giddiness, or sickness, such as might expected with any anthelmintic. In others a very deep sle occurred, lasting in one case for 24 hours, in two cases su severe collapse occurred that there was considerable anxi for the patient's life. The conclusion is that chloroform of no use in the treatment of *taenia saginata*. As for *tae solium*, while he does not deny it may be as efficacious as so allege, he thinks less dangerous remedies, such as kous should be employed.

Basham's Mixture.—The following formula has be used in the Philadelphia Hospital since 1875, and possi earlier. It is thought to be the original formula of Dr. K. Basham, of Westminster Hospital, London, and diff radically from the watery product of the U. S. Pharmacop of 1890 (liquor ferri et ammonii acetatis), which represe in each tablespoonful only about 5 minims of tincture ferric chlorid and 48 minims of solution of ammoni acetate.

Each tablespoonful contains:

℞.—Tincture of ferric chlorid..... 10 minims.
Dilute acetic acid..... 15 minims.
Solution of ammonium acetate..... 2 drams.
Elixir of orange..... 30 minims.
Glycerin..... 30 minims.
Water to measure..... 4 drams.

Dose: Tablespoonful.

—*Philadelphia Hospital Formulary*

The Insomnia of the Psychoses.—Butler (*Journal of the American Medical Association*) recommends a combination of conium with sulfonal in the insomnia of acute mania, paretic dementia, and other compound psychoses. He suggests the following formula:

℞.—Fluid extract of conium..... 15 minims.
Sulfonal..... 15 grains.

Allow the alcohol to evaporate spontaneously; add powdered licorice, if necessary, to make a mass which should be dispensed in three capsules at 6, 8, and 10 P.M. As one dose of these capsules will often secure sleep for two nights, it is advisable to postpone the administration of the remedy until after 10 o'clock on the second night.

Levurine or Dried Extract of Beer Yeast.—A. R. Simpson, of Edinburgh University (*Scottish Medical and Surgical Journal*, April, 1900), reports some very encouraging results from the administration of levurine, a dried extract of beer yeast, in sepsis. The drug may be taken in beer or aerated water, or, to those for whom the taste is too repugnant, in cachets. The dose is a teaspoonful, to be given before food, 3 times a day if necessary, until the desired effect is attained of arrest of suppuration and reduction of temperature. In 3 cases of puerperal sepsis the action of the drug was very favorable. Bruce, who tried levurine in a case of carbuncle, writes: "The case of a fairly large carbuncle, which had been increasing till the levurine was begun, seemed to have in 3 days almost entirely gone by absorption without material sloughing; and in 2 days more the surrounding hardness with it. In a similar case I should certainly try it again." Whether the levurine produces its effect by counteracting, as Cassaët and Beylot suggest, a latent glycemia, or by acting as a germicide to pyogenetic organisms, or as an antagonist to their toxins, Simpson does not attempt to decide, but the results of its administration in the cases reported were so striking as to justify him in recording them.

Severe Flatulence.—Bishop (*Journal of the American Medical Association*, September 9, 1899) recommends the following mixture containing acetanilid in severe flatulence after meals:

℞.—Acetanilid..... 2 drams.
Tincture of nux vomica..... 2 drams.
Tincture of capsicum..... ½ dram.
Compound tincture of gentian..... 4 drams.

Dose: A teaspoonful.

Difficulties in the Administration of Anesthetics to Children.—McCardie and Marshall (*Treatment*, April, 1900) state that no child under 8 or 10 years of age should be left more than 3 hours without food even before a major operation. It is most important that nothing should be given before operation but easily digested liquids. Milk especially is a snare and a delusion, for it will, especially when a child is under the influence of fear, often remain undigested for several hours. By far the best thing to give young children is whey, which is easily absorbed and leaves no residue. In older children good meat broth may be given. The writers condemn the practice of covering large portions of the child's body with wet antiseptic cloths. These rapidly become cold during the course of the operation, so that the child is practically operated upon in a wet pack. If the operation requires such antiseptic precautions, the cloths should be frequently changed and soaked in hot lotion, and a hot-water bed should be used when possible. As much as possible of the body should be wrapped in flannel.

Difficulties during Administration.—1. *Reflex spasm of the glottis* is one of the most frequent difficulties met with in young children. It is especially liable to occur in operations involving sudden shock, such as circumcision. When this occurs it is best to push the administration of ether; pushing chloroform in such a condition is extremely dangerous, owing to the liability to inhale an overdose when the spasm has passed off. 2. *Failure of Respiration.*—If the breathing becomes shallow it may often be improved by gently rubbing the lips (Hewitt). If respiration still fails after removal of any obstruction, of course artificial respiration must be performed, and strychnin and atropin injected subcutaneously in full doses (liquor strychnin. min. 5, and liquor atropin, min. ½ for a child of 11 or 12 years). 3. *Heart-Failure.*—This must be met with injections of strychnin and atropin or digitalis. If heart-failure occurs during the commencement of administration, and after struggling, it is, as shown by Hill, due to engorgement of the right heart, and should be treated by raising the patient to the vertical position, in order to relieve the overdistended right heart by gravity. If heart-failure occurs at a later period, it is due either to vasomotor paralysis or to the toxic effect of the anesthetic on the medullary nerve-centers. The treatment for this condition should consist in partial or complete inversion of the patient, together with artificial respiration. Schäfer has recently advocated the injection of suprarenal extract as a powerful cardiac stimulant in cases of heart-failure, and further suggests that, in extremely urgent cases, the extract should be injected into the heart-cavity.

After-effects.—These are of less frequent occurrence and less prolonged than in adults. Vomiting after administration may be relieved by sipping hot water, or by inhaling vinegar from a handkerchief.

Gastric Fermentation.—Hemmeter (*Diseases of the Stomach*, 1900) recommends for gastric fermentation, particularly when associated with putrid diarrhea:

℞.—Beta-naphthol benzoate, Bismuth salicylate, Magnesium oxid, of each..... 2 drams.
Saccharin ..... 7½ grains.
Menthol ..... 16 grains.

Sig.—To be divided into 12, 24, or 36 powders, to suit the indications; if there is much fermentation it should be divided into 12 powders, and one given 3 times daily. Otherwise it should be divided into 24 powders and one given every 3 hours.

Guaiamar.—Butler (*New York Medical Journal*, September 23, 1899) speaks favorably of guaiamar, a new creasote derivative. The following prescription he has used with marked success in several cases of gonorrheal arthritis:

℞.—Guaiamar ..... 2 drams.
Belladonna ointment, Mercurial ointment, of each.. ..... 4 drams.

Sig.—Apply freely to affected joint, gently rubbing it in, and cover with cotton and bandage.

As a dressing for bedsores he has found the following prescription extremely beneficial:

℞.—Guaiamar, Balsam of Peru, of each..... 1 dram.
Benzoinated zinc ointment to make..... 1 ounce.

A Study of Codein and its Salts.—Tochboehler (*Journal of the American Medical Association*, December 2, 1899) concludes: 1. Codein is a most valuable drug as a sedative in the various forms of cough. It is an excellent anodyne in the pains of pelvic and abdominal origin where morphin is contraindicated and where the intestinal functions should not be deranged. It is the best remedy in the medicinal treatment of diabetes mellitus. 2. It is best administered in the form of sulfate for internal use, and as a phosphate hypodermically. 3. Poisonous doses produce great restlessness, intense irritation of the entire body, spasms of the muscular system, and generally dilation of the pupils; 4. No fatal case of codein poisoning is recorded.

Peripheral Neuritis Following the Use of Arsenic in Chorea.—Railton (*Medical Chronicle*, February, 1900) reports 4 cases of neuritis following the use of arsenic. The first case was a girl, aged 12 years; 10 drops of liquor arsenicalis were given 3 times a day for 3 weeks, after which time recovery was complete. In all, 6.3 grains of arsenous acid were taken. Two weeks later the legs became weak and soon all the symptoms of peripheral neuritis developed. The second case, a girl, aged 11 years, took in 4 weeks 8.4 grains of arsenous acid. The third case took 8.1 grains in three weeks, and the fourth 9.1 grains in 24 days. In all the symptoms of paralysis appeared in from one to three weeks after the drug had been discontinued. They all made good recoveries, but convalescence was prolonged. It is impossible to tell in any given case whether the treatment is going to be followed by toxic neuritis or not. The author would strongly urge that no aggregate dose amounting to more than 4 grains of arsenous acid be administered to a child during an attack of chorea.

Original Articles.

RICKETS.[1]

BY JOHN LOVETT MORSE, A.M., M.D.,
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FEW physicians realize, I think, how common rickets now is in our large cities and towns. The comparatively few cases which present marked deformities of the head or extremities are, of course, always noticed. The mild cases, which make up the great majority are, however, as a rule, unsuspected or unrecognized. Of 400 consecutive infants, under 2 years of age, which I examined at "The Infants' Hospital" a short time ago, 80% showed distinct bony changes, characteristic of rickets. This percentage is, moreover, undoubtedly too low, as many babies, only a few days old, were included in the 400, and only those cases were called rachitic in which bony changes were evident.

Rickets is a chronic disease of nutrition. In it, all the tissues and nearly all the organs of the body are involved. Rachitic children are often fat and heavy, however, the normal relation between fat and muscle being altered at the expense of the latter, which are soft and flabby. In fact, atrophic babies are almost never rachitic. The only pathognomonic changes recognizable during life are those in the bones. While rickets may be strongly suspected, it cannot be diagnosticated with certainty, unless some of these bony changes are present. They are recognizable very early, however, if carefully sought for. Some of the earliest symptoms, which should suggest the possibility of the disease and induce a search for the characteristic bony changes, are fretfulness, languor, restlessness at night, kicking off of the bedclothes, sweating of the head, rolling the head, boring the head into the pillow, and night-terrors. Gastro-enteric disturbances, if persistent, are always suggestive. Delayed dentition and delayed development of any sort are more often due to rickets than to any other cause.

SKELETAL CHANGES.

The more common of the skeletal changes are as follows. It is unusual, however, to find them all in a single case. More often only two or three are evident. They may occur singly and in all possible combinations. They should all be looked for, therefore, in every case.

Head.—The mildest abnormality in the cranium is the large size or delayed closure of the anterior fontanel. The posterior fontanel is much less often open. The bones are often thin at the sutures, and the sutures are not infrequently open. In the younger and more severe cases, craniotabes may develop. It is certainly less common here than abroad. Flattening of the back of the head and asymmetry of the head not infrequently occur as the result of the softening of the bones. The normal shape is almost always regained with convalescence, however.

Enlargement of the parietal or frontal eminences is the most common cranial deformity. The parietal are much more often enlarged than the frontal. When both are markedly enlarged, the typical "square head" of rickets is produced. The rachitic head may sometimes be mistaken for the hydrocephalic head. The diagnosis is usually easy, however. The hydrocephalic head is regularly enlarged and rounded; the rachitic irregularly enlarged, and somewhat angular. The hydrocephalic rounded on top; the rachitic, flattened. The fontanel is more bulging and tense in the hydrocephalic. The intelligence is often impaired, in the hydrocephalic; almost never in the rachitic. Local paralysis and Kernig's symptom are not uncommon in the hydrocephalic, but never occur in the rachitic. Thinning of the bones, dilation of the superficial veins, and rachitic changes in other bones may occur in both.

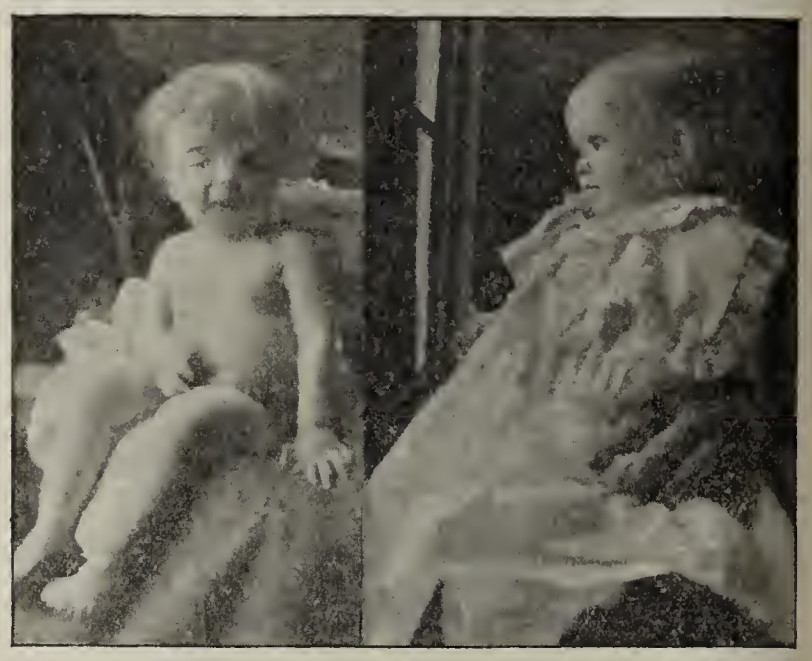


FIG. 1.—Chronic internal hydrocephalus. Facial paralysis.

FIG. 2.—Rachitis.

Delay or irregularity in the eruption of the teeth is very common. Delayed dentition is probably more often due to rickets than to all other causes together.



FIG. 3.—Pigeon breast.

FIG. 4.—Funnel breast.

It would probably be hardly safe, however, to make the diagnosis of rachitis on delayed dentition alone without at least one other symptom. The convulsions so often attributed to delayed dentition are probably due rather to the excitable nervous condition of the causative rickets than to the teeth.

Thorax.—The most common abnormality in the thorax is the rosary. It was present in every one of my cases

[1] Read at a meeting of the Norfolk South District Medical Society, January 4, 1900.

nd was the only sign in 21%. I feel sure that a perceptible beading does not occur in normal children and hat its presence justifies the diagnosis of rickets. It levelops the earliest of all the physical signs. The beading is always greater on the inside of the chest-wall han on the outside.

Atmospheric pressure and the pull of the muscles on he softened ribs cause various deformities of the thorax. The tendency is toward flattening of the sides of the hest and increase of the anteroposterior diameter. An extreme degree of this gives rise to the deformity known as "pigeon-breast." If the entrance of air is interfered with, as by enlarged tonsils or adenoids, it is possible to get the opposite condition, the "funnel-breast."

The pull of the strong diaphragm may cause a furrow along the lower part of the chest along the line of its nsertion. This, in my experience, is the most frequent of the grosser thoracic deformities. The flaring of the ribs below the diaphragm is favored by the normally arge liver and the abnormally distended abdomen.

Extremities.—The most common abnormalities in the extremities are enlargement of the epiphyses and deformities of the long bones.

Enlargement of the epiphyses is most common at the wrists and ankles, especially at the wrists. It may be confused with that due to syphilis or scurvy.

Rachitic enlargement is much more common than syphilitic. Syphilitic enlargement is more common in he first few months of life than later. Syphilitic enargement may be unilateral, rachitic never. The syphilitic may break down, the rachitic never does. The syphilitic enlargement is a boggy infiltration over he bone, the rachitic an actual swelling of the bone tself. The swelling in syphilis is more proximal than hat in rickets, being at the junction of the epiphysis nd shaft instead of the extremity of the bone.

In scurvy the enlargement is in the diaphysis, not in he epiphysis. It is due to subperiosteal hemorrhage



FIG. 5.—Retraction at the insertion of diaphragm.

FIG. 6.—Weak spine in rickets.

nd not to bony enlargement. Tenderness is extreme. Motion is limited. Other symptoms of scurvy, as subcutaneous hemorrhages and swollen and bleeding gums, re usually associated. It may be noted in passing that 'acute rickets" is almost invariably scurvy.

Deformities of the long bones are much more common in the lower extremities than in the upper and more common in the legs than in the thighs. The frequency of these deformities is, as a rule, overestimated, I think, probably because of their striking nature. They really are comparatively infrequent and, as a rule, of later development than the other bony changes. Bow-legs and knock-knee, of course, require no description. The peculiar waddling gait which they often cause is, however, worthy of mention. Flat-foot is also a common association and may persist after the disappearance of



FIG. 7.

the cause. Owing to arrested growth in the long bones the legs may be permanently shortened with consequent loss of height. Fractures of the long bones, usually greenstick, may occur, but are decidedly uncommon and happen only in the most severe cases.

Tenderness of the extremities is not very unusual and may suggest rheumatism or injury. It is probably due to the pathological changes in the periosteum. The absence of temperature and the presence of the physical signs of rickets should make the diagnosis from rheumatism easy. Careful examination will, of course, rule out injury. The tenderness may also prevent the use of the extremities and hence suggest paralysis.

MUSCLES.

The impaired nutrition of the muscles results, of course, in loss of power. This loss of power is shown in various ways, some of which are very characteristic and may lead to grave errors in diagnosis.

Spine.—The weakness of the muscles of the spine makes the child late in holding up its head and in sitting alone. The deformity produced in the spine is usually a general kyphosis, more marked in the lower dorsal and lumbar regions, the so-called "curve of weakness." It may, however, be a lordosis. The deformity almost always disappears entirely when the child lies down or on hyperextension. It is sometimes rigid, however, and may then suggest Potts' disease. Potts' disease is rare under two years. The deformity is more angular in Potts' disease. The absence of night-cries, psoas contraction and exaggerated reflexes and the presence of other signs of rickets will usually make the diagnosis easy. In some cases, however, recumbency on a Bradford frame for some weeks may be necessary to solve the problem.

Abdomen.—The "pot-belly" is very common and is largely the result of the weakness of the muscles, partly of those of the abdominal wall and partly of those of

the intestine. Dilation of the stomach, which is very common, increases the distention. Marfan thinks that the intestines are elongated in this disease and that the distention is increased in this way. The retraction of the ribs at the insertion of the diaphragm, which results in the flaring of the lower chest and the pushing down of the large liver, also adds to the large size of the abdomen.

The history of gastroenteric disturbance with emaciation in association with the large abdomen may lead to the suspicion of tubercular peritonitis. The absence of free fluid, fever and the tuberculin-reaction should prevent error, however.

As the result of the diminished muscular tone and the stretching of the abdominal wall, hernia, especially umbilical, is very common.

The enfeeblement of the abdominal and intestinal muscles is very likely to result in atonic constipation.

Extremities.—Feebleness of the leg-muscles often leads to delay in beginning to walk. This is often attributed to simple backwardness and not infrequently, especially if there is also tenderness, to paralysis. Backwardness is, of course, always a symptom of some other condition, either past or present. Delay in walking is undoubtedly more often due to rickets than to any other condition. The diagnosis is easy when the physical signs of rickets are present and other causes can be eliminated.

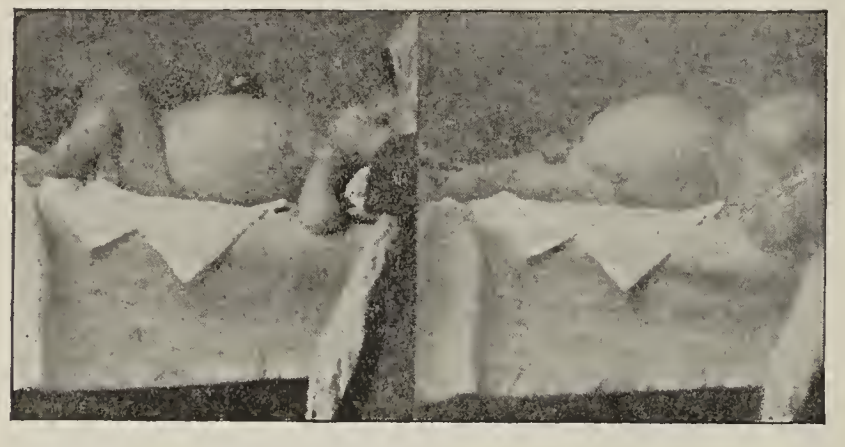


FIG. 8.—Distention of abdomen.

FIG. 9.—Double inguinal hernia.

The diagnosis from the various forms of paralysis is also easy. Confusion will rarely occur if the possibility of rickets is borne in mind. The absence of spasm, muscular contractures, increased reflexes and mental impairment and the presence of rachitic deformities make the diagnosis from cerebral paralysis simple. The distribution of the weakness, the history of the onset, the normal reflexes and electrical reactions and the presence of the signs of rickets make it easy to rule out spinal paralysis (anterior poliomyelitis).

NERVOUS SYSTEM.

Symptoms of increased nervous irritability, such as fretfulness and restlessness, are very common in rickets. Convulsions are not unusual. In fact, the tendency to convulsions is probably greater in rickets than in almost any other condition. Laryngismus stridulus and tetany are also not infrequently met with in connection with rickets.

Much discussion has arisen as to the cause of these nervous manifestations. Many attribute them to craniotabes. They claim that craniotabes may cause them in two ways: by allowing external pressure to be exerted directly upon the brain and by producing cerebral hyperemia. Any such causal relation must be regarded as doubtful, however, as all these symptoms may occur when there is no craniotabes, and craniotabes is often present when there are no nervous manifestations. Moreover, there is no evident relation between the amount and duration of the pressure exerted on the head and the occurrence, severity and duration of the nervous symptoms. Likewise there is no proof that because the cranial bones are hyperemic the cerebral cortex is also. It is more reasonable, it seems to me, to seek the cause in the impaired nutrition of the nervous system, which suffers in the same way as the other tissues of the body. As is well-known, poorly nourished nerve-tissue is more irritable and responds to more feeble stimuli and more vigorously to normal stimuli than does normal nerve-tissue. It is to this hyperexcitability of the illy-nourished nerve-tissues that the nervous manifestations are probably to be attributed. It is possible, moreover, that autointoxication may also play an important part in the production of convulsions, tetany and laryngospasm.

SKIN AND SUBCUTANEOUS TISSUES.

The great frequency of sweating, especially of the head, has already been referred to. This often leads to sudamina and eczema. Impetigo is not uncommon and is due, probably, partly to the predisposing influence of other skin-lesions and partly to the lowered general resistance. The profuse sweating of the head is probably one reason why rachitic children are so subject to nasal and bronchial catarrh.

Tubby has recently called attention to a pad which he finds on the dorsum of the foot in rickets. He considers it pathognomonic. As far as I know, his observations have not been verified.

GLANDULAR SYSTEM.

General glandular enlargement is very frequent and is of no special significance.

Enlargements of the faucial tonsils and adenoids are not uncommon. Their possibilities for evil are greater than under normal conditions, however, as they increase the tendency to bronchial catarrh and by interfering with the entrance of air tend to increase the thoracic deformities.

RESPIRATORY TRACT.

Pulmonary complications are very common, partly on account of the increased vulnerability of the bronchial, in common with the other mucous membranes, in this disease, and partly because of the feebleness of the respiratory muscles and the thoracic deformities. Bronchitis is an almost invariable accompaniment of the severer cases, and bronchopneumonia is not at all unusual. Rachitic patients are said to be especially susceptible to tuberculosis. My experience, however, would not lead me think them any more so than children debilitated from other causes. Localized areas of partial atelectasis and emphysema are not uncommon as the result of the thoracic deformities. Rachitic patients bear these pulmonary complications very badly, because of their enfeebled respiratory power. Any disease of the lungs of any degree of severity in them always carries a grave prognosis.

CIRCULATORY SYSTEM.

The alterations in the heart and bloodvessels are unimportant. The changes in the blood are, however,

worthy of consideration as most cases of rickets are accompanied by anemia. This anemia may be of any form, and of any grade of severity, the severity in a general way varying with the severity of the process. It is most commonly of the chlorotic type. It may or may not be accompanied by leukocytosis. Leukocytosis is more frequent, however, in the cases with splenic tumor than in those without. There is nothing characteristic about the anemia of rickets, as there is no form of anemia found in rickets which may not be found in other conditions, and no form of anemia found in other conditions which may not be found in rickets. It is to be regarded, therefore, merely as a manifestation of disturbed nutrition, and not as the result of any specific action of the rickets.

Spleen.

Enlargement of the spleen is rather common. The spleen was palpable in 8% of my 400 cases. There

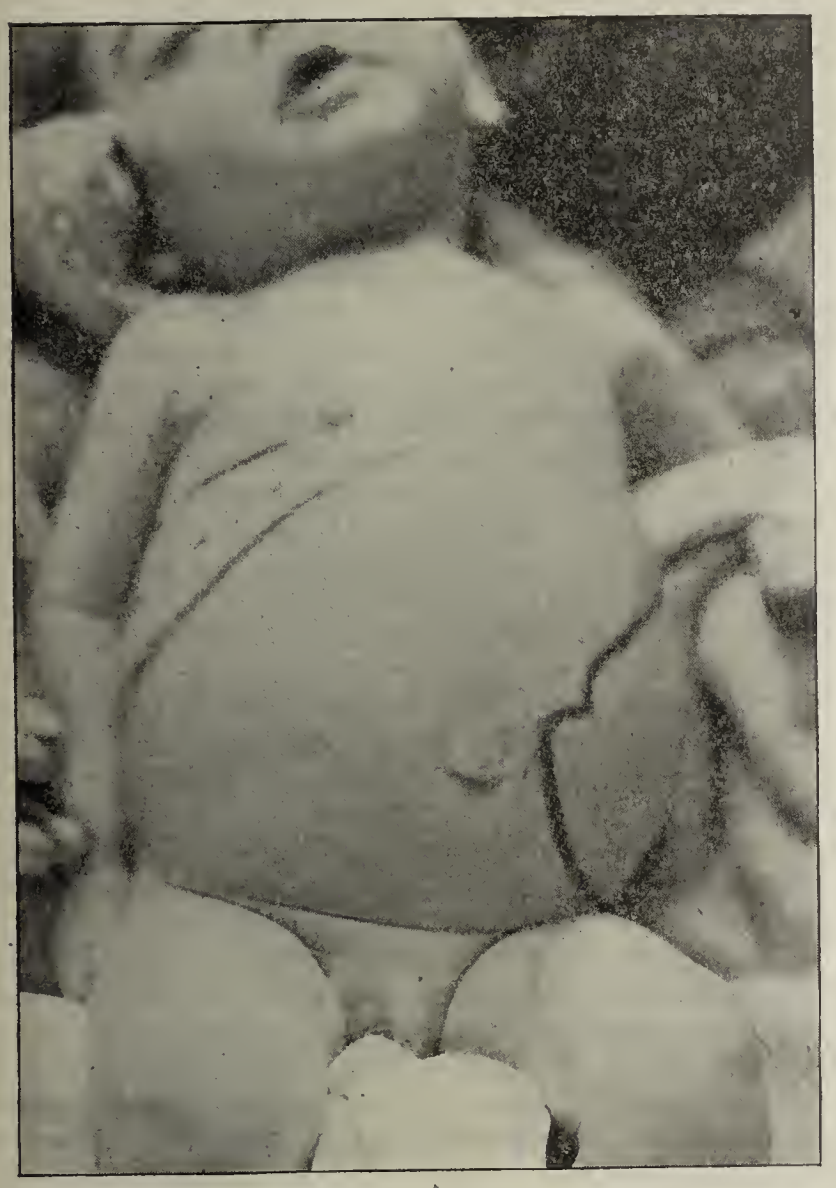


Fig. 10.—Splenic tumor in rickets.

seems to be no constant relation between the size of the spleen and the condition of the blood, as the spleen is sometimes very large when the blood is approximately normal, and small when the blood is markedly abnormal. The splenic tumor and the changes in the blood cannot, therefore, be regarded as dependent upon each other, but merely as different manifestations of the action of a common cause.

In the same way, the size of the spleen seems to bear no constant relation to the severity of the other symptoms. It is of little value, therefore, in prognosis. It almost always regains its normal size after the subsidence of the disease.

Gastroenteric Tract.

Symptoms of gastroenteric disturbance almost invariably occur at some time in the course of the disease. They may be of any and all sorts, and of every grade of severity. There is nothing whatever characteristic about them. Constipation has already been referred to. It is no more frequent, however, than diarrhea. There is some difference of opinion as to whether or not the gastroenteric disturbance is the cause of the disease. My own feeling is that it is not the cause, but the result of one of the causes, namely, improper food. If it were the cause, the gastroenteric symptoms should always precede the other symptoms, and should be present in every case. If they were the cause, it would be difficult to account for the cases which develop in children taking a good food, and showing no symptoms of digestive disturbance. The increased vulnerability of the mucous membranes predisposes to these disturbances as it does to bronchial inflammation. The liver is seldom enlarged.

Etiology.

Any causes which diminish a child's resistance, as cachexia in the parents, syphilis or other diseases predispose to the development of rhachitis. The two main causes, however, are dietetic and hygienic, acting singly or in combination. Of these, the dietetic is generally considered to be the more important. The diet which seems most likely to produce the disease is one high in carbohydrates and low in fat and proteids. The most important factor, however, seems to be the deficiency in fat. The disease seems more likely to develop when the proteids as well as the fat are low.

Although improper food is probably the more important etiological factor, the importance of improper hygienic surroundings in the causation of the disease must not be underestimated. In my cases they seemed more potent than any form of diet.

How unsuitable food and improper hygienic surroundings produce rickets is at present unknown. Various theories as to their action have been advanced, but the evidence in favor of none of them is at all satisfactory. Why the same food taken under apparently the same conditions is followed by rickets in one case, scurvy in another, and atrophy in a third is equally unanswerable. We can only conclude with Holt that "rickets is a complex disease of nutrition, whose exact pathology has not yet been definitely settled."

Prognosis.

The prognosis of rickets *per se* as to life is good. The increased susceptibility to other diseases, especially of the respiratory and digestive tracts, introduces, however, a decided element of danger. Pulmonary complications are particularly serious. The active symptoms usually cease or begin to diminish at the age of 18 months or two years, possibly because at this time the diet becomes more varied and the opportunities for procuring fresh air are greater. Most of the milder skeletal changes, and probably the visceral changes also, disappear with time and growth. The more severe skeletal changes, however, persist through life.

Treatment.

The treatment, based on the etiology of the disease, should be primarily along two main lines—dietetic and hygienic.

Dietetic.—The diet should in the first place, on general

principles, be that suitable for an infant of the given age. Following the teachings of etiology it should be low in carbohydrates and high in fats and proteids. The high fats are especially important. The best form of fat is that found in milk. When the digestion will bear it cod-liver oil should also be given, the form making but little difference. No more should be given than can be assimilated. The presence of free fat in the stools shows that too much has been taken.

Hygienic.—The child should get the greatest possible amount of fresh air and sunshine. If a change of climate is possible, the seashore is preferable to the country. Salt baths, massage and rubbing are useful.

Medicinal.—There is no specific for rickets, although phosphorus has been claimed to be one. Personally I have seen no favorable results from its use. The dose should be $\frac{1}{200}$ to $\frac{1}{100}$ of a grain three times a day after food. It may be given in the form of the officinal phosphorated oil (1 minim = $\frac{1}{115}$ grain) mixed with cod-liver or almond oil or in the form of Thomson's solution—

℞.—Phosphorus ..... 1 grain.
Alcohol (absolute) ..... 350 minims.
Spirits of peppermint ..... 10 minims.
Glycerin ..... 2 ounces.
10 minims = $\frac{1}{132}$ grain.

The lime-salts and the hypophosphites I consider useless, except as tonics.

The anemia is best treated by iron, either in the form of the sirup of the iodid, or as eisenzucker.

Other symptoms and complications should receive their appropriate treatment as they arise.

Deformities.—The best treatment of the deformities is to prevent them from developing. The child should not be encouraged to sit up, stand, or walk, while the bones are soft. He should rather be discouraged. Postural treatment will do something for deformities of the spine, and manipulation for those of the extremities. Further treatment must be mechanical, or operative. Mechanical treatment is of little use after the child is 2 or $2\frac{1}{2}$ years old. Many slight deformities, however, disappear with growth in the course of years.

THE HOSPITALS FOR THE INSANE AND THE STUDY OF MENTAL DISEASES.*

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THAT the necessity for increased facilities for the study of insanity in all its various phases has not been recognized by the general public, can hardly be a matter of surprise when we consider that the importance of the subject has been appreciated by only a small part of the medical profession. Nevertheless, after the lapse of a number of years, the conditions alluded to in Dr. Weir Mitchell's eloquent address are slowly beginning to receive the attention they deserve. In the year 1890 there were 56,000 patients in the hospitals for the insane in Germany.[1] According to these figures there was one insane patient to every 843 of the inhabitants, and in certain districts one to every 500. In Switzerland,[2] the statistics give one to every 200; in England and Wales, one to every 340; and in Scotland, one to 358. From a calculation based on figures taken from the last census, we find that in the United States in the same year, inclusive of the feeble-minded, one individual out of every 310 was of unsound mind; without this class the incidence was as one to 580. Surely no further array of statistics is needed to show that there is no more serious menace to the welfare of humanity than the existence of such a number of patients who are afflicted with what John Morley has called "the most piteous and moving calamity that can overtake man." Is it not well, then, in view of these facts, to ask the question, what progress has been made in this country in increasing the facilities for the study of insanity? No physician, especially in Philadelphia, needs to be reminded of the eagerness with which the views of Pinel were accepted by the medical profession under the leadership of Dr. Rush, and later by the laity. As the result of this enthusiasm we are justified in saying that, today, in the United States, insane patients are lodged, fed, and cared for as well as they are in any country in the world. In spite of this great advance—the importance of which should not be underestimated—it must be acknowledged that until a very few years ago there had been no organized effort made to study insanity.

Our alienists have shown too great a tendency to accept what appeared to be the inevitable, and while attending to the comfort of the insane, have done little to check the prevalence of insanity in the only way which would produce results—the organized effort to study the underlying causes of the various conditions under which alienation presents itself.

"In the conduct of war, of commerce, and of education," says Lord Rosebery, "England has not been scientific." This sweeping statement of Anglo-Saxon shortcomings may be justly applied to the manner in which we in this country have dealt with the various problems connected with insanity.

Twenty-five years ago, however, a feeling of discontent with the methods of management of the hospitals for the insane began to be felt. At Worcester and at the McLean Hospital near Boston, "the spirit of organized common-sense" began to be in evidence, and with it came the hope that the American renaissance in the study of mental diseases had dawned.

Through the liberality of the late Enoch Pratt it will soon become possible to greatly increase the accommodation for insane patients at the Sheppard and Enoch Pratt Hospital. Simultaneously with this addition to the number of patients, it is proposed to inaugurate the work, the plan for which Dr. Brush has long had in mind. To quote his own words, "Some years ago I pointed out to the Board of Trustees the rich field open for the careful scientific study of insanity, its causes and treatment, and the ample opportunity which would be here afforded under judicious direction, for study to those who desired to investigate subjects connected with psychiatry under the best conditions." This sentiment was in strict accord with the wish of Moses Sheppard, the original benefactor of the hospital. The same idea was expressed by the President of the Board of Trustees at the informal opening of the hospital in May, 1891, as follows: "One of our own physicians, writing several years ago, said, 'The study of insanity is the field of all others in medical literature which is most barren of results, and any man of talent and enthusiasm who, in the light of recent advances in brain phy-

* Read by invitation at the meeting of the Philadelphia Neurological Society, March 26, 1900.
[1] Lähr, Die Heil- und Pflege-Anstalten für Psychisch-Kranke des deutschen Sprachgebietes, 1891.
[2] Kraepelin, Psychiatrie, 6te Auflage, S. 10.

siology, cultivates its dark expanse, may gain the reward of a name, and the satisfaction of having done a good and necessary work.' It may be that the trustees of the Sheppard Asylum, if they are wise and fortunate in the selection of this man to guide their institution in its high purpose, will be able to add something valuable to the knowledge of insanity out of the administration of their advanced institution. In this he has voiced the hope of the trustees."

The honor of an invitation to appear before this society was accepted by me, not because I have any new ideas to present for your consideration, but in order that I might enlist your interest and invite your criticism in regard to the scientific work which is contemplated at the Sheppard and Enoch Pratt Hospital. This paper has been entitled "The Study of Mental Diseases," because the plan which Dr. Brush and the trustees have in mind is such as to indicate not only a broadening in the character of the work to be undertaken, but with the treatment of every individual patient according to the best known methods, it is intended that this institution shall afford every opportunity possible for faithful research work. The trustees, with the cooperation of the superintendent, Dr. Brush, are determined that the liberal foundation and excellent material there available shall be turned to the best use, not only of those who may come to the wards of the hospital for care, but for the advancement of scientific psychiatry. In making this decision they lay claim to no originality, but wish to express in a practical way the indebtedness of themselves and the country at large to the Worcester Insane Hospital and the McLean Hospital, the two centers in the United States which have done the most by example, as well as by precept, to stimulate public and professional interest in the need of increasing the facilities for the study of insanity.

[To be continued.]

INTESTINAL INDIGESTION AND ITS CONSEQUENCES.*

By WILLIAM HENRY PORTER, M.D.,

of New York, N. Y.

Professor of General Medicine and Pathology at the New York Post-Graduate Medical School and Hospital, etc., etc.

[Concluded from page 1141.]

In the purely acute intestinal indigestion there are no primary gastric symptoms. The food taken has passed through the stomach without exciting gastric irritation. When the food reaches the intestinal tract, some two or three hours after the last meal, or even at a still later period, an abnormal fermentation is developed. Instead of the normal transmutation products of digestion, which give rise to no perceptible symptoms, abnormal products are developed, some of which are of a gaseous nature and cause considerable distention of the intestine, thus expanding the intraperitoneal cavity, and in some instances giving rise to actual and severe pain. This is especially true when the transverse colon becomes distended and crowded upward behind the stomach and in front of the vertebral column. When this is the case undue pressure is brought to bear upon the solar plexus, which may cause an intense pain located at the pit of the stomach, or the pain may be more or less diffused throughout the abdomen. In other instances the distention simply causes a sensation of intense discomfort. In either case the distress continues until the gases are absorbed or discharged from the alimentary canal by being passed through the rectum and anus, or by being regurgitated into the stomach, from which they are belched up and discharged by the mouth. This localized pain and belching of gas often causes the false impression that the stomach is at fault. The distention of the abdominal cavity often crowds up the diaphragm, which, together with the reflex disturbance in the nervous system, causes embarrassed respiratory action and a rapid and irregular heart action.

At the same time that the gas is formed, or even without much gas formation, toxic products, or ptomains, are produced in the alimentary canal. These, when absorbed into the circulation, together with the peripheral irritation of the nerves distributed to the alimentary canal, cause marked constitutional symptoms and reflex nerve-phenomena. The individual may have severe headache, heartache, and backache, and a sensation through the whole system as if he were under the influence of some toxic agent. There may be a rise in temperature and a scanty elimination of urine. With the absorption of these toxic products, and the general condition of suboxidation there is often produced, in consequence of their elimination through the renal organs, an irritable condition of the whole genitourinary tract. In these cases we often see the diagnosis made of a floating kidney, while the real condition is one due to superirritation of the renal organs and more or less congestion of the glands. Many of these symptoms will rapidly disappear after free action of the bowels obtained through a mercurial; and what simulated strongly the beginning of an acute infectious disease will prove to be simply a case of intestinal indigestion, the normal state rapidly taking the place of the previously abnormal condition.

In the chronic case it is more difficult to exclude the stomach. In fact, in many instances it is impossible, because the long-continued, imperfect intestinal indigestion has caused defective action on the part of the liver, pancreas, and all the organs which are concerned in digestion. A state of general malnutrition has been established, the stomach has become weak and irritable in consequence. In other instances a primary gastric disturbance will lead to intestinal indigestion. A careful study of the history usually shows that the stomach is not primarily at fault. The meals cause no primary disturbance or discomfort. There is no pain or vomiting upon taking food, the individual often declaring that he can eat everything, and that nothing disagrees with him. Yet these same individuals will complain of great discomfort in the abdomen, coming on at varying times after taking the meal. The intestines become greatly distended with gas, and the victim often experiences intense attacks of pain, relief coming, after an hour or two of acute distress, by regurgitation of the gas back into the stomach, from which it is finally belched up and discharged by the mouth. This is another symptom that has lead to the false supposition that the seat of the trouble was in the stomach. Observing these cases closely, the tongue is found to be soft and flabby, often shows the deep imprints of the teeth along its margins. The dorsal aspect is more or less heavily coated with a dirty-brown fur. The conjunctivae and mucous membranes in general are pale, and show a decidedly anemic state of the blood. In-

* Read before the Jenkins Medical Association of Yonkers. Regular Meeting, November 9, 1899.

stead of the clear and ruddy complexion indicative of a perfect nutrition, the skin has a dull, muddy appearance—one hard to express in words, but quickly appreciated by the well-trained eye. The sclera and conjunctivae are more or less tinged yellow, showing that the function of the liver is imperfectly performed. Depending upon the character of the faulty action of the liver there will be defective bile-secretion of two kinds. The bile may be decreased both as regards quantity and quality. When this is the case, obstinate constipation is the rule. When the quality of the bile is altered rather than the quantity diminished, it is often unduly irritating to the mucous membrane; this, together with the irritating products resulting from the abnormal fermentation of the foodstuffs contained in the alimentary tract, will, as a rule, produce diarrhea. The diarrheal discharges often contain more or less mucus, without any inflammatory action in the intestinal canal. These discharges are also very irritating and often produce considerable pain and tenesmus in the lower bowel and anus. The urine is apt to be scanty, high-colored, and superacid. The elimination of urea is decreased, and the output of uric acid is abnormally large. The bile salts and pigments are usually found in such samples. Oxalic and lactic acids, albumin, and glucose may be found in some of the more aggravated cases. Another and a very important ingredient found in the urine of these cases of intestinal indigestion is indican. In fact it is so freqnent as to be almost diagnostic. Its presence is proof positive of intestinal indigestion. Its absence, however, does not prove the absence of intestinal indigestion, for there are some forms in which it is not present. Indican and an excess of uric acid in the urine are the two most common and positive urinary symptoms of intestinal indigestion and a suboxidation state of the system. This superacid condition of the urine, together with the consequent malnutrition dependent upon the long-continued intestinal indigestion, causes an unhealthy condition of the mucous membrane lining the genito-urinary tract, with a hyperesthetic condition of the nerves which are distributed to this canal. The over-acid urine now acts as a constant irritant to the supersensitive membrane, thus causing considerable vesical irritation, painful and spasmodic action on the part of the bladder, similar to what occurs in connection with a true cystitis. There is frequent and painful micturition. It is often for these symptoms that the physician is first consulted, and the poor victim is vigorously treated for the local condition, while the true cause of all the trouble passes unrecognized and untreated. This continued absorption of toxic compounds from the alimentary tract, together with the reflex nervous irritation, keeps the liver continually overtaxed. The central nervous system is poorly nourished and unduly irritated. As a necessary sequence, we have a large and varied train of nervous manifestations. There may be intense headache, continuous or intermittent in character; mild or severe neuralgic attacks, confined to a single nerve trunk, or multiple in distribution—simulating, in some instances, a rheumatic attack. There may be insomnia, or a strong tendency to suicidal mania. There may be the opposite, or a stupid, sleepy condition, almost reaching semi-coma. In other cases all the symptoms common to the most severe aggravated neurasthenia are directly traceable to the prolonged intestinal indigestion, abnormal fermentation, and toxic infection.

All the nonparasitic skin affections are, in a large measure, only the symptoms of intestinal indigestion, and not independent diseases. Thus we find the phenomena of intestinal indigestion presented in one great complex of symptoms, which are often misleading, and, by their local intensity at one point or another, often lead to absolute errors in diagnosis, followed by unsatisfactory results from the best efforts in the line of treatment. Accuracy in diagnosis in these cases can only be secured by a full comprehension of the physiologic laws which govern the processes of digestion and assimilation, by a careful study of the patient's habits, and of the method of the development of the symptoms, so that effects are not mistaken for causes.

A number of cases have come under my observation, in which a pronounced degeneration of the cardiac muscle was clearly and directly traceable to an intestinal indigestion and the disturbance of the nutritive condition of the heart in consequence thereof. In more than one instance failure to recognize the true etiological factor in connection with the cardiac degeneration, until the heart has become badly degenerated, unquestionably results in an untimely death. Unless the cause and effect are early recognized and properly interpreted the local degenerative process often gets beyond our best dietetic and therapeutic efforts. On the other hand, if it is recognized early and the patient can be brought to see the danger ahead, and guard against it, many a death can be averted. In this present age in which we live, with its tremendous demands upon our utmost resources, over-indulgence in eating and eating the wrong kinds of food is prone to cause intestinal indigestion in hundreds of instances. This in turn is followed by degenerative changes in the various organs of the body, and many an untimely death is the result. Therefore, it is important that we, as a profession, should be thoroughly familiar with this subject. We should appreciate fully the importance of detecting early the first symptoms of intestinal indigestion and we should know how best to treat this constantly increasing condition.

The prognosis in all these cases is good if they are recognized early and are carefully treated upon a physiologic, rational dietetic, and scientific therapeutic basis. The prognosis, on the other hand, is less favorable when they have been allowed to go on for years, unrecognized and untreated, until some of the secondary effects become in themselves almost diseased processes. Then it becomes, in some instances, almost impossible to effect a cure.

One of the chief lines of treatment to be employed in combating intestinal indigestion, consists in regulating the diet in accordance with the well-known physiologic laws that govern animal life. To accomplish this the physician must be thoroughly conversant with the chemical composition and all the possibilities of the various foodstuffs. A careful study must be made of each case separately and every idiosyncrasy for or against all food-products accurately noted. The urine must be carefully examined, not so much for albumin and glucose as to determine the comparative output of urea and uric acid, the presence of and the rise and fall in the amount of indican, and also to ascertain what other forms of incomplete katabolins may be present in the renal secretion, that are indicative of an imperfect intestinal digestion and faulty assimilation. This accomplished, the diet must be regulated absolutely, both as regards quantity and composition. The par-

icular kind of food must be prescribed with just as nuch precision as the medicaments that are used. At he same time the urine must be examined frequently nd the exact modifications in the elimination of the atabolic products carefully noted. When this is done ystematically the exact changes in the system can be etermined accurately from day to day.

In prescribing a special diet one principle should lways be kept in mind, which is, that a well-adjusted ixed diet, when it can be perfectly digested and ab-orbed, is the height of perfection. It will secure the nost complete transmutation of the foodstuffs, and in onsequence, absorption and assimilation will reach he highest standard and perfect health will be estab-ished.

In almost every instance of intestinal indigestion the ixing of the various kinds of foodstuffs, as is com-nonly done, will not be tolerated by the enfeebled and lready defective digestive apparatus. So long as this lan is pursued the case will not improve. In all ases of intestinal indigestion, from the mildest to the nost intense type, it is absolutely necessary to limit he diet to a greater or less extent, both as regards uantity and the kind of foodstuffs taken. In many nstances it may be necessary to limit the diet to a few rticles of food, as milk, barley-gruel, or broths, and ven these in very limited amounts, so much so that, t times, the patient may even lose flesh, while the igestive function is being slowly but surely re estab-ished. The fancy of the patient must not be consid-red, but that form of diet must be chosen which will e most effectually digested and yield the largest mount of nutrition. It may be wise at times to take ut in a large measure the fat or the sugar of milk. his may be accomplished in the former instance, by rdering an exclusive skimmed-milk or buttermilk diet; r in the latter instance, by ordering an exclusive diet of umyss, zoolak, kefir, or sumal. In the first instance he fat is the substance taken out, while in the second t is the sugar that is abstracted. When any one of hese limited plans of dieting is resorted to, the heat roduction necessary to keep the nervous mechanism ully in action falls to too low an ebb. When this is he case a little alcohol must be added, as it can be oxi-lized without any expenditure of digestive energy to onvert it into an oxidizable state, and thus it can be nade to produce the required heat with the least possible ax upon the physiologic energy, thus making up, in he best manner known to science, for the defective heat roduction, on account of Nature not being able to utilize he ordinary foodstuffs. Failure to administer alcohol nder these circumstances has in many instances re-ulted in death when life might have been spared. On he other hand, there are instances in which the use of he smallest amount of alcohol will retard digestion if aken with the meal, but if given between the meals vill yield the heat that is essential for the maintenance f life. Therefore, in the use of alcohol it is very essen-ial to observe closely its action upon the digestive unction, and make sure that it is given at a time when t will augment and not retard the digestive function, otherwise its use would better be excluded.

In other instances the plain milk will accomplish the best results. This is especially so when the milk is aken warm, or with a little lime-water, barley-water, r egg-water added. Other cases will do better by xcluding milk in any form, and limiting the diet to roths, gruels, eggs, etc.

An important point, which must be kept always in mind when a patient is placed upon an exclusive diet of any kind, is the well-known chemical fact that all animal foodstuffs contain a low percentage of the nucleoalbumin—not enough to produce the hemoglobin and lecithin as rapidly as they are decomposed in the animal economy. Consequently, some hemoglobin-forming compound must be continuously administered to supply the deficiency. As the vegetable class of foodstuffs contain a large percentage of the nucleo-albumin, it should be our aim to introduce some form of vegetable compound in limited amount as speedily as the digestive system will tolerate its presence without exciting undue fermentation. By so doing we supply most effectually the natural and only compound, so far as known to physiologic chemistry, out of which the physiologic economy can easily and rapidly increase the hemoglobin and overcome the anemia. Failing to get the results desired from the ordinary vegetable foods, a concentrated solution, made from the vegetable compounds, which contains a high percentage of the nucleoalbumin, when administered three times daily, will often bring about the result desired. The vegetable substances that furnish a full supply of nucleoalbumin, without at the same time exciting abnormal fermentation in the intestinal canal, are barley, rice, wheat, and rye; barley and rye being especially valuable on account of the high percentage of the nucleoalbumin. The same may be said of the green vegetables and the legumins.

The mixed diet which most effectually meets the foregoing demands, as soon as it can be tolerated, is one composed of milk, eggs, meat, and toast, or stale bread and butter. The ideal mixed diet, as arranged by me some years ago, makes a very good working standard; it is as follows:

For Breakfast.—Two eggs, 8 ounces of milk, 2 ounces of wheat bread and butter.

For the Mid-Day Meal.—From ¼ to ½ pound of beefsteak, 8 ounces of milk, 3 ounces of wheat-bread and butter.

For the Night Meal.—From ¼ to ½ pound of beefsteak, 8 ounces of milk, 2 ounces of bread and butter.

At Bed Time.—Eight ounces of milk.

Beefsteak is taken as the working standard among the meats, as it is the most easily digested of all the foodstuffs. Under the heading of meat is included lamb, mutton, occasionally veal (the word "occasionally" refers to the frequency of use); all kinds of fish, including the shell forms, such as oysters, clams, lobsters, and crabs; poultry and game of all kinds.

The meats to be broiled, boiled, or baked.

The fish to be boiled or baked.

The oysters and clams to be eaten raw or stewed in their own liquor.

A little crisp bacon may be taken from time to time, also ham and corned beef, *without cabbage.*

Eggs may be taken boiled, poached, or scrambled.

The milk is best taken warm or with a little lime-water added.

Wheat-bread is taken as the standard because it is the most easily and perfectly digested. It should be at least 24 hours old or toasted; rye, Graham, zwieback, or the health-food breads may at times be substituted

Weak coffee, without milk or sugar, or with a dash of milk, may be taken freely as a beverage. Coffee taken clear aids digestion, but with milk and sugar often disturbs digestion.

To enlarge the above diet I recommend in my diet-table the following:

In the line of vegetables: string beans, green peas, lima beans, spinach, lettuce, asparagus, and cauliflower. These are chosen because they are the least likely to excite intestinal

fermentation of an abnormal character. They should be well cooked, and only one vegetable at a meal.

When a vegetable is taken with the meal there must be a reduction in the quantity of meat or milk as given in the above table.

In case one particular form of meat cannot be tolerated, another kind must be substituted. In like manner, if milk or eggs cannot be tolerated, another kind of food must be substituted. The same rule holds true in the selection of the vegetable substances.

I further exclude in my diet-table the following foodstuffs:

All fruits, either cooked or raw; all cereals and breakfast foods, nuts, sweets, and pastry of all kinds, potatoes in all forms, onions, tomatoes, turnips, parsnips, carrots, celery, radishes,cabbage, egg and oyster-plant, corn, etc.; pork in all forms, except as before stated. Rich gravies, and all forms of soups are excluded The latter first, because they tend to destroy the keen appetite which makes possible the eating of plain and substantial food; second, because they destroy the appetite and stimulate a strong desire for the entrements and highly-seasoned foods; and third, because the mixed, cream, and rich stock soups tend to excite undue and putrefactive fermentation in the intestine. Rich gravies, because they disturb digestion.

Potatoes, that are so commonly used, are excluded for three reasons: First, because they have a high percentage of starch and a low percentage of proteid; second, because they are so apt to be taken three times daily, and are so often eaten fried; third and chiefly, because of the ease with which the starch contained in the potato is digested and assimilated within the system. In consequence of this rapid utilization of the potato starch, which yields to the animal economy only heat, the oxygenating capacity of the system is exceeded, and there is not a sufficient amount of oxygen left within the body to perfectly oxidize and assimilate the proteid constituents of the food that must be accomplished if a perfect state of health is to be maintained. In the repair of the diseased condition it is still more necessary that the proteids shall be perfectly oxidized and assimilated, hence the absolute necessity to exclude the potatoes and food products enumerated.

Fruits are excluded: first, because they are usually picked before they are fully ripe; second, because they are in a state of partial putrefaction and are often covered with bacterial life when eaten, and often taken in excessive quantities. Having reached the alimentary canal, in this state, they excite undue and putrefactive fermentation of proteid constituents contained within the intestinal canal and thus prevent the perfect digestion and assimilation of the proteid elements of the food.

Even when the fruit is taken when fully ripe and freshly picked, it contains little or no nutritive elements. In this condition, its saccharine elements are very easily fermented, and tend to start up an irritative condition of the alimentary contents, which easily and quickly runs on into a putrefactive fermentation of the proteid constituents contained in the contents of the alimentary tract. For these reasons, if the best results are to be obtained, this class of food-products must be absolutely excluded from the dietary.

When all the above details are carefully observed, a well-regulated mixed diet can usually be secured, and one that will furnish the requisite amount of all the chemical substances that are required to sustain the animal economy, and still keep well within the limits of the oxygenating capacity of the system.

The medicinal treatment of intestinal indigestion and its sequences is equally as varied and important as the dietetic management. It will not, however, be taken up at this time in detail, because the purpose of this paper has been to bring out the etiology of intestinal indigestion, its sequences, and the dietetic management of this complex condition.

In a general way, it may be said that the use of a little dilute hydrochloric acid, either alone or in combination with some pepsin, preferably in most instances alone, will, to a certain extent, augment the transmutation of the proteids in the stomach into a peptone. In so far as this is accomplished, the amount of work imposed upon the intestinal digestive function is reduced to the minimum. The transmutation of the foodstuffs in the intestine can be greatly augmented by the use of a few grains of inspissated ox-gall and pancreatic extract, exhibited three times daily just before eating. The proof of this is shown by the greater improvement for the better in the excretory output, as compared with the cases which are dieted, but not medicated, in this manner. The undue fermentation is also very materially checked by these substances. The bile secretion on the part of the liver is nearly doubled under the administration of bile in this manner. This has been proved positively by a careful observation of its effects in those cases in which the common bile-duct has been occluded, and the bile was thereafter discharged through a fistulous opening. The influence of the bile is explained, not by the old and exploded assumption that the bile was absorbed and reconverted into bile, but by its presence augmenting the rapidity and perfection of digestion and absorption, thus supplying to the liver a larger amount of proteid material which can be oxidized into bile. The undue fermentation is also checked in part by the action of these ferment bodies which have been artificially added. To these can be added animal charcoal, resorcin, salicylic acid, naphtalin, phenacetin, ammonol salicylate, or any one of the numerous intestinal antiseptics, so-called, that may suit the fancy of the subscriber. Tannalbin, while not an antiseptic, has a decided tendency to precipitate the mucus so abundantly formed in these cases. And as this mucus is the chief nidus, on which the microorganisms seem to grow, and out of which they seem to produce most of the toxic products, its destruction by precipitation results in effects that are equal to or greater than that of the best-known intestinal antiseptic, so-called. None of them, however, will produce any profound and startling results, but they do assist, in a large measure, to subdue the abnormal and putrefactive fermentation.

When the liver is performing its function abnormally, and the tissues are stained with bile-pigment, a mercurial of some form is in order, and is always followed by an improvement in the general and the local condition.

When constipation is a prominent symptom, it must be overcome by some laxative agent, but one which always acts upon the normal plan of nature.

Caffein and strychnin are valuable agents in intensifying nerve-innervation. They also augment the intestinal and the general circulation, and thereby cause a more rapid and equable distribution of the blood through the whole body. The caffein also intensifies the rapidity with which the ferments in the intestinal tract accomplish their work. The strychnia and the caffein also have a decided tendency to stay tissue-waste, as evidenced by the smaller elimination of nitrogenous katabolic products in the urine when they are freely given.

The Council of the Université de Paris has named Profs. Landouzy and Lannelongue representatives to the Tuberculosis Congress, to be held at Naples.

MÜTTER LECTURES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The Surgical Treatment of Congenital and Pathologic Disfigurements of the Face.

By JOHN B. ROBERTS, M.D.

Lecture IV.—*The Removal of Disfigurements Due to Pigments, Cicatricial Distortions, Errors of Development, Tumors and Skin Diseases.*

[Abstract.]

Unburnt powder imbedded in the skin and subcutaneous tissue and intentional tattooing with black pigments cause blue stains in the skin. Coal miners often suffer similar disfigurements from wounds being soiled with coal dust. Wounds soiled with gunpowder or coal dust must be at once thoroughly scrubbed with soap and hot water and a brush, to remove the particles of carbon. Anesthesia, local or general, may be needed for such treatment. When the skin has healed over the imbedded carbon, the discoloration can only be removed by excising the stained area or tediously removing each particle. Croton oil has been picked into the skin to cause suppuration and extrusion of the black particles. Combustive destruction of the carbon by introducing a red hot galvanocaustic needle has been proposed. Dermatologists employ chemical means to remove intentional tattooing. The discolorations due to accidental wounds are probably too deep for success by this method.

Glycerole of papain has been picked deeply into the skin with the object of removing the pigment after tattooing. Another method sometimes employed is to pick into the skin a solution of tannic acid. A stick of silver nitrate is then firmly rubbed into the punctured area. Silver tannate is formed where the tannin has been picked into the skin. Of course, scabs form and, on removing the scabs in about two weeks, it is found that the pigmentary stain is gone.

Cicatricial distortions, unimportant in other regions, are unsightly upon the face. Operations producing distorted scars should be avoided, if possible. Syphilitic ulcers should be treated early and vigorously. Abscesses may be opened on the mucous surface of the cheek. Tuberculous glands may be removed or drained before they by spontaneous opening cause ugly scars.

Tumors should be excised by incisions so placed as to prevent cicatricial distortion of the eyelids, mouth and nose. Plastic operations to fill the gap left by removal of the tumor will often be necessary.

Burns make extensive and horrid deformities of the face. Keloid degeneration of scars is a cause of disfigurement in many scars otherwise unimportant. The disease occurs more frequently in the black race than in the white. It may attack leech bites, acne pustules, smallpox scars and even fly blisters, as well as ordinary wounds. The keloid growth may return after excision. It is a disease of youth and adolescence, and usually disappears spontaneously before middle life. Extract of thyroid gland internally and local applications of collodion have been used by White in hypertrophy of scar tissue resembling keloid disease. Excision, if employed, should be made at a considerable distance from the boundaries of the keloid mass.

The unsightliness of depressed or irregular scars may be lessened by excision and by transference or transplantation of skin. Moderately depressed scars may be treated by rubbing the skin with finely powdered calcium carbonate. This attrition removes or prevents the epithelial accumulation along the edges, which makes the depression more conspicuous. The pits of smallpox may be thus treated with some success. The white spots of vitiligo may be made less conspicuous by removing the excess of pigment which usually appears at the margin of the white spots. This is to be done by applications similar to those used in the removal of freckles. Corrosive sublimate, three or five grains to the ounce, is a good application.

Congenital fistules and fissures occur from imperfect closure of the branchial clefts. They are usually best treated by excision. Fistules due to suppurative disease of the accessory sinuses of the nose are difficult to close because of the trouble in thoroughly sterilizing the mucous-lined cavities from which they arise. Drainage and disinfection are important parts of the treatment.

Meningocele and encephalocele cause tumors upon the face which should be treated by aseptic excision.



Fig. 5.—Case of disfigurement from burns. Improved by incising scar-tissue under chin and taking two long flaps from back, which were brought around the front of the neck like a cravat.

Deficiency and atrophy of the bones of the face are curious conditions due to irregularities in development and nutrition. Osteoplastic operations may under some circumstances be valuable. Prosthetic appliances of wax, papier maché or celluloid are occasionally of service in concealing excessive deformity due to these causes.

Facial hemiatrophy is another disfiguring condition due to a trophoneurosis occurring not only in children, but also in adults. Hypertrophy of the bones of the face occurs, giving a leonine appearance to the patient. The bulky bone may be reduced by chiseling operations.

Many skin diseases are most disfiguring when occurring upon the face. A large number of them are readily removed by judicious treatment directed to the general health of the patient and accompanied by proper local remedies to alter the nutrition of the skin.

Comedo, sebaceous cyst, and various forms of acne are characteristic dermal affections, which need a combination of general and local treatment. Surgical management is sometimes required.

Warts, horns and moles are occasionally allowed to become a source of great perturbation to the patient's mind, and need mechanical treatment. Congenital moles are often large, pigmented and hairy. Such



FIG. 6.—Case of hemiatrophy of the face, with small abscess communicating with one of the ascessory sinuses of the nose on the same side as the atrophy.

growths require extensive surgical operations for their removal. Hairy growths are best removed by electrolysis. The method is a slow one, but is effectual; if the electrolytic needle at the negative pole is inserted with care into the hair-follicles. It has been proposed to



FIG. 7.—Case of dermatolysis treated successfully by excision followed by application of flaps from the arm, neck and forehead and by skin-grafting.

graft shavings of skin, taken after the method of Thiersch, upon the surface left after shaving off the pigmented tissue which forms the bulk of the mole.

Vascular tumors and discolorations may be treated by extirpation with a knife and in some cases by electrolysis. When possible, excision is most expeditious and radical. If well done, it leaves little scar to cause disfigurement.

A circumscribed hypertrophy of the skin, called dermatolysis, in which soft masses of thickened integument hang in loose folds over the face, is of occasional occurrence in the face. It is to be treated by excision, skin-grafting and the transference of cutaneous flaps.

Lupus, which is a cutaneous tuberculosis, causes great ravages to the skin. It produces ectropion of the eyelids and lips, a shrunken, beak-like nose or even complete destruction of the external nose, contraction of the opening of the mouth, and distortion of the lips and ears. The disease should be removed by dissection and covering the space with skin-shavings, by scraping the diseased structures away with the curet, or by using strong caustics. The use of tuberculin was supposed to be beneficial. A more prolonged experience with the remedy has, however, not proved its claims to be wholly substantiated.

SYPHILIS:

The Special Pathology and Reclining Rest-Treatment in the Constitutional Stage.

BY SAMUEL H. FRIEND, M.D.,
of Milwaukee, Wis.

IN consequence of the clinical and pathologic work upon syphilis done by Ricord, v. Bärensprung, Sigmund, Virchow, Fournier, Hutchinson, Heubner, Lang, Zeissl, Bumstead, Rumpf, Taylor, and many others, we may now draw absolute conclusions on the special pathology of syphilis. In order to bring out this special pathology I shall first consider (*a*) the accepted special pathology, namely, (1) that it is in the blood; (2) in the connective tissues; and (3) in the gumma. I shall then outline (*b*) the clinical features, (*c*) the pathologic anatomy of the disease, to find the relation which the symptoms and pathologic changes bear to the constant changes found in the arteries, and (*d*) conclude by considering the routine treatment of reclining rest in the constitutional stage of the disease.

1. Syphilis as a disease of the blood: From our present knowledge of the symptoms and pathology of the specific fevers (Jonathan Hutchinson, Syphilis, p. 2; Albutt's System of Medicine, Vol. II, pp. 251–2) we conclude that syphilis is a specific fever. Syphilis, like typhoid fever, tuberculosis, diphtheria, "smallpox, measles, scarlet fever" (Hutchinson), etc., has a stage of incubation after exposure and follows a definite symptomatic and pathologic course. An examination of the blood of a syphilitic shows no demonstrable changes. There is in the constitutional stage an anemia and a leukocytosis; a condition which is found in almost all specific fevers.

Like almost all the last-named diseases, syphilis is produced by inoculating the blood. Try as we may, we find no evidence in the symptoms or pathology of syphilis which points to disease of any constituent of the blood different from other specific fevers.

2. Syphilis as a disease of the connective tissue: A study of the initial lesion of syphilis shows an intense cell-hyperplasia of all structure. A study of the skin-lesions of smallpox and of a Peyer's patch in typhoid fever, a tuberculous lesion of the lungs, etc., shows a

milar cell-hyperplasia. A microscopic examination of l these structures after regeneration shows an excess of nnective tissue, because in all processes of regenera- on connective-tissue cells replace diseased special cells. respective of the size of a diseased area, and whether ie diseased area is caused by syphilis, trauma or any her process, the regeneration of a diseased part results an abnormal development of connective-tissue cells.

3. The special pathology of syphilis in the gumma: In 54 Virchow demonstrated that the gumma is not a spe- fic inflammation to syphilis (*Archiv*, Bd. xv, pp. 325–6). he formation of caseous masses in tuberculosis and in prosy after the occlusion of the arteries is well known. hese caseous masses correspond microscopically with mmatous formations in syphilis. In a series of ex- riments which I made during the winter of 1888 and 89, in Professor Virchow's Pathologic Institute in erlin, I produced in rabbits gumma in the subcuta- eous layers of the skin by the hypodermic injection of otassium iodid. I at first used a saturated solution hich, owing to the pain and the production of what I ought to be cysts, was changed in all experiments one-half that strength. I found that even minute aces of the salt produced the cysts. The only notice- ble difference shown between the use of the weakened nd strong solutions was the production of smaller cysts. he nodules remaining after the injection gradually in- eased to the size of a pigeon's egg according to the forma- on of the caseous mass, and in the course of five to six eeks liquefaction began. A microscopic examination the nodules immediately after the injection showed ystals and a scarification-necrosis. The capillaries nd all cells were affected. After two days granulation- ssue began to form which gradually underwent case- ion, and around this caseous mass a vascular network ould be distinguished. A later examination of the olution of the mass gave every microscopic detail seen a syphilitic gumma.

From these observations I conclude that in none of ese organs or tissues, namely, in the blood, the connec- ve tissue, nor in the gumma, do we find the special athology of syphilis.

Clinical Features.

(*b*) Proceeding to the clinical history of syphilis, the bservations of Hunter, Ricord, Diday, Sigmund, v. ärensprung, Fournier, Hutchinson, Lang, Bumstead, eissl, Chiari, Taylor, and many others, have shown the mptoms in this disease to be complex and diverse. very symptom, from the time of the initial lesion to ie termination of the disease, has been minutely de- ribed. This symptomatic knowledge shows that every rgan and system may be affected by the disease, and, s expressed by Hutchinson, "Syphilis may imitate any isease" (pp. 485–492, Syphilis).

Special Pathology.

(*c*) From a practical point of view, our knowledge of ie special pathology of syphilis dates from the time of ohn Hunter, who demonstrated the indurated base in ll primary lesions of syphilis. Ricord added to our athologic knowledge by describing syphilitic lesions in rgans hitherto undescribed. Michaelis, Lebert, and v. ärensprung chemically and microscopically confirmed Hunter's observations upon the specificity of the indu- ated chancre,[1] and Virchow, basing his observations pon the works of Michaelis, Lebert, and v. Bären- prung, showed that the indurated chancre and the gumma have the same special pathology.[2] Lebert further observed that the arteries in the indurated chancre are greatly proliferated.[3] Virchow further described an en- darteritis which he observed in the gumma,[4] and com- pared the fatty metamorphosis, usually caused by endar- teritis with the endarteritis observed in the gumma, and stated that that endarteritis might also be caused by syphilis.[5] He demonstrated that, while the gumma is usual in syphilis, it is not a specific inflammation in that disease.[6]

Virchow described in detail the special pathology of almost all the syphilitic lesions of organs hitherto un- described, and thereby laid the foundation for the ad- vances which follow his great work.[7] Biesiadecki dem- onstrated the special pathology of the erythematous syphilid as a disease in the walls of the capillaries.[8]

Heubner determined our knowledge of the special pathology of the arteries of the brain in syphilis in his masterly work, Die luetische Erkrankung der Hirn- arterien, Leipzig, 1874, from which I make the following summary: The process develops between the elastic lamella of the intima, the membrana fenestra and the endothelium, and in the beginning all the cells consist of endothelial cells. The endothelial cells continually increase and form a network which is made up of spindle and stellate cells, bound down by connective tissue in which wander round cells from the vasa nutria of the bloodvessel. This process produces a granulation- tissue similar to the development of syphiloma in other places. The new tissue subsequently grows in two directions, namely, (1) into the inner part of the artery, and (2) advances longitudinally along the lumen of the artery, and on the one hand narrows the artery more and more, and on the other hand involves communica- ting arteries and branches of the main arteries until all the arteries of that area, except those of very small dimensions, are involved in the degeneration. Further development shows either (1) an organization of the new growth when the latter takes a similar structure as the original artery with a narrowing of the lumen, or (2) there follows, after obliteration of the lumen of the artery, a degeneration of the artery to fibroid tissue.

Heubner's work stimulated renewed investigation upon the special pathology of syphilis. Auspitz's and Unna's investigations demonstrated the special path- ology of endarteritis obliterans in the chancre. Fried- lander, Köster, Baumgarten[9] and Unna differ from Heubner. Their observations show that the syphilitic process begins in the vaso vasorum and adventitia, and not in the intima. Unna finds that where the vaso vasorum are not present, that is, in the smaller arteries and capillaries, the endarteritis obliterans does not begin in the intima but in the adventitia.[10]

Rumpf's investigations show many cases of disease of the arteries in syphilis.[11] My own investigations have been made on five selected cases of syphilis of the spinal cord and on two cases of syphilis of the brain. In all of these cases I have found the vascular lesions as already described. One case published[12] showed all of the obliterative vascular lesions described by Heubner. Observation upon many cases of syphilis in the consti- tutional stage has demonstrated in all of these cases, disease of the arterial system through (1) the chancre, (2) the erythematous syphilid, (3) rupia, (4) alopecia, (5) sarcocele, (6) choroiditis, (7) ataxy, (8) hemiple- gia, etc.

Returning to the gumma, the most frequent and sig- nificant lesion in syphilis, we find in its origin, devel-

opment and fate a verification of the special pathology of the disease in the arteries.

The origin of every gumma is an area containing diseased arteries. Surrounding the diseased arterial area there is formed granulation-tissue—(granuloma, Virchow)—which gradually undergoes (*a*) easeation, (*b*) fatty metamorphosis, (*c*) liquefaction, (*d*) suppuration, (*e*) calcification, or (*f*) the tremendous hypertrophy seen in the sarcocele of the testicle and in the intestines and stomach. The degeneration of the granulation-tissue may be produced by a combination of two or more of the above-named processes, namely: there may be caseation and liquefaction, or great hypertrophy, liquefaction and suppuration, etc, When (*a*) caseation of the granulation-tissue occurs it is caused by the diseased artery stopping the supply of arterial blood. The caseous mass also acting as a foreign body stimulates renewed growth in the surrounding tissue. Outside of the caseous mass we find a zone of spindle-celled or connective tissue, and still further out granulation-tissue in which giant cells occur. The arteries in these tissues are greatly proliferated. When (*b*) fatty metamorphosis occurs it is caused by the diminution of oxygenated blood; when (*c*) and (*d*) liquefaction and suppuration occur they are caused by a mixed infection of the granulation-tissue; (*e*) calcification is caused by the deposition of salts in the granulation-tissue; and (*f*) the tremendous hypertrophy is caused by the formation of a large vaseular network whieh supplies the parts with an increased amount of blood which stimulates an overgrowth.

From a physiological point of view I quote from "Constitutional Syphilis," by Jonathan Hutchinson in Allbutt's System of Medicine, Vol. II, p. 266: "Dr. George Oliver, in the course of his researches on arterial pressure and variations in the caliber of arteries in different positions, eame upon the very remarkable observation that in the subjects of syphilis (in all stages) the radial artery continues uniform in size in the erect and reeumbent postures. This he found so constantly the case that it was impossible to attribute it to local or exeeptional disease. He believes that it indicates some ehange in the arterial coats of such a nature as to elude reeognition by the finger, which cripples the physiologieal play of the tube."

I conclude:

1. That without regard to the system, organ or tissues affected, and irrespeetive of the period of syphilitic infection, all syphilitic lesions begin in the arteries.

The truth of this special pathology is demonstrated by a study of the symptomatology of syphilis. There are few symptoms of the disease which cannot be explained by (1) an aeute change in the arterial wall caused by the infection, (2) by a chronie change in the arterial wall or a destruction of the artery, a sequel of the syphilitic infeetion; (3) by a relapse of the syphilitic infeetion causing changes in the arterial walls and destruetion of the artery.

A study of the pathologic phenomena of the disease shows that almost every phase of that phenomena, including the formation of connective tissue, gumma, and the virulent infectiousness of the blood, is explained by the disease in the walls af the arteries.

2. That (1) the special pathology of syphilis is in a disease of the arterial walls; (2) that this disease of the arterial wall bears the same relation to syphilis as does the disease of Peyer's glands of the intestine in typhoid fever; the disease of the skin in smallpox; the formation of a false membrane in diphtheria, etc.

TREATMENT.

(*d*) Without going into the details of the treatmen of syphilis by mercury, I shall eonclude by considering the routine usage of reclining rest during the first par of the eonstitutional stage of this disease.

The necessity for a treatment of reclining rest in th constitutional stage of syphilis is indicated (1) by th nature of the special pathology; (2) by physiologi investigation on the action of reclining rest; (3) by clinical experience in the treatment of the specifi fevers.

We know that an artery even in health is of a delicate structure; pathologic investigation shows how much more delicate is the structure of a diseased artery.

Physiologic experiment shows that the body at res diminishes the volume of blood in the arterial system and lessens the tension of the arterial walls.

Clinical experience in tuberculosis of the lungs kidneys, etc., shows that even slight exertion produces hemorrhage with excessive loss of blood and destruction of tissue. In the constitutional stage of syphilis there occurs hemiplegia, posterior sclerosis of the spinal cord, selerosis in the skin, etc. In all of these tuberculous and syphilitic conditions we can trace the lesions directly to the diseased arteries.

Clinical experience in all specific fevers demonstrates that rest is, beyond any reasonable doubt, the one power which effects most cures.

In all the specific fevers the neglect of the rest-treatment leads to (1) prolongation of the disease; (2) aggravation of symptoms; (3) sequelas; (4) relapse; and (5) death.

In the ambulatory treatment of the constitutional stage of syphilis the condition of the arteries is aggravated, and therefore symptoms are prolonged, sequelas occur, and in the later stages relapses are the rule and not the exception.

I conclude, therefore, that in a disease of the arterial system, such as syphilis, the foregoing special pathology demands that reclining rest be made a routine treatment during the constitutional stage.

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[4] Bd. 15, p. 324.
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Improvement of Gait in Tabes.—Adler (*Neurologisches Centralblatt*, February 1, 1900, p. 102) having observed that artificial fixation of the knee-joint produced very marked improvement in the gait of a patient suffering from tabes, was led to experiment on other cases with an ordinary elastic stocking, and found that it added considerably to the comfort of the patients and led to great improvement in their walking. [J.S.]

RIEDREICH'S DISEASE, WITH THE REPORT OF A FATAL CASE.[1]

F. SAVARY PEARCE, M.D., AND JOHN M. SWAN, M.D.,
of Philadelphia.

Friedreich's disease is no doubt the expression of ie of the many forms of "degeneration" of the human ody, and taking on as it does a form of gliosis of the ghest tissue—the nervous system—and of an em-yologic type of such aberrant neuroglia overgrowth, e feel that some autochthonous poison transmitted rough heredity to the affected offspring is the cause its pathogenesis. Depending on the amount of the ereditary taint too will the development of the gliosis ogress in utero; but it is the rule that nature's con-rvatism pretty effectually cares for the fetus; and it not until environmental causes proper in early youth -especially some of the infectious, subtle, undermin-g diseases—act, that the morbid process gains ascend-ncy, thus giving rise to symptoms.

Nor is it singular in such a non-system (but irregular istributed disease of parablastic tissue) cord gliosis at symptoms such as nystagmus and shifting re-exes change from year to year. That the sensorium so little affected too in hereditary ataxia proper, sup-orts the theory of one of us, that the better-nurtured entral cord favors increasing gliosis from excessive lood-supply, as compared with the less freely-nour-hed dorsal or sensory area of the cord. The liability contractured club-foot again tends to prove this ypothesis, and the greater strength of the flexor mus-es of the calf tend to cause the equinovarus position; else it is due to trophic influence being less in the ore recently laid down or developed neurons, which pply the extensor muscles—these less-resisting cells ving way first.

Singular it is, vagaries of the mind do not often evelop in Friedreich's disease, when the cerebrum ust be greatly involved in irritation, and that convul-ons are rare. We hold that the commotio cerebri was erhaps the precipitant of the rapid development of ir case after the head-injuries.

B. R., white, single, and of American parentage, first came nder our observation in August, 1895, when she was 19 ars of age. Her mother, a nervous woman, with an irrit-ble heart, is now living at the age of 48 years.

Her father is of a rheumatic tendency; but is engaged in anaging a small cigar and stationery shop. One brother ed of pulmonary tuberculosis in May, 1899. Two sisters ed of marasmus in infancy.

Maternal grandfather is living and well, aged 75 years; aternal grandmother is living and well, at the age of 72 ears. Paternal grandparents both dead; the grandfather influenza at the age of 83, and the grandmother of a congestive chill" at the age of 79.

The previous history is interesting. At the age of 3 years ie patient fell down 8 steps to the pavement and struck the ack of her head. The mother says that blood came from ie ears, the eyes, the nose and the mouth. The child was ot put to bed, however, and the injury was not considered erious, although there was a large lump, possibly a hema-oma, in the right temporal region. About 3 months after is accident, the mother noticed that the child's speech was coming thick and that she pushed her feet forward as she alked, producing a shuffling gait, and wearing out the toes her shoes. The patient became gradually and progres-vely worse and was treated at various times at the Ortho-edic and at the University Hospitals, at which institutions ie was seen by Drs. Mitchell, Osler, and Pepper; and was eported by Osler to the College of Physicians in 1888. The case is mentioned in Griffith's monograph of 143 cases.[2] At the time when the patient first came under our observation, August, 1895, she suffered no pain. The mental condition had been and was decidedly backward; the patient was not able to read at all, could say her letters with difficulty, and could speak but very slowly and then with a lisp and staccato voice. There was great difficulty in pronouncing the words into which the lingual consonants entered. Menstruation began at the age of 17 years and had been regular and painless. There was no headache, the appetite was good, and the bowels were regular.

At that time the patient weighed 115 pounds. The skin was sallow, the mucous membranes were of good color. The ocular conjunctivae of both eyes were injected and the dilated capillaries could be seen passing all the way to the sclerocorneal junction. The ophthalmoscope showed that the media were clear and the optic discs normal. The pupils reacted slowly to light and to distance. There were irregular choreic movements of the lids and the eyeballs; but there was no marked nystagmus. The tongue was clean and moist and the teeth were fairly good.

The patient walked with the feet wide spread, the toes were planted first, the gait was very unsteady, and she had to grasp at surrounding objects for support. The limbs were moved with difficulty and the arms were ataxic to a marked degree.

The patient sat with both hands in her lap, the elbows and the wrists were flexed, the flexed dorsi of the hands and the forearms rested on the knees. When the patient was quiet there were involuntary and infrequent twitchings all over the body. The kneejerks were very slight and were brought out by reinforcement. There was no clonus. The biceps, the triceps, and the forearm extensor jerks were slight. The legs were fairly well-developed although the subcutaneous fat was in too large proportion. The muscles were not hard, but there were evidently exudative products between the muscle bundles. There was no great nor local muscular atrophy and no tenderness on pressure over the nerve-trunks. The muscle-jerks were everywhere sluggish.

The electrical reactions to the slowly interrupted faradic current were good. These reactions in the legs were not quite up to the normal and were better on the right than on the left side. There was decided loss of power in the arms. The grasp was weak, the movements of the fingers were often a combination of athetoid and choreic. The gait was a combination of the ataxic and that of alcoholic neuritis, in which the extensors of the toes are typically involved. The feet tended to assume the equinovarus position when the patient was sitting at rest with her hands flexed in her lap. The saliva dribbled from the mouth when she attempted to talk, owing to the lingual and the labial twitchings then excited. The conformation of the head was symmetrical; the patient was of good disposition and was anxious to get well. The lungs, the heart, and the other organs presented no sign of disease. The sphincters of the bladder and the rectum were under perfect control.

The blood-examination showed 5,252,500 red cells as an average of four counts; 38% of hemoglobin by Gower's instrument; and a slight leukocytosis 2½ hours after eating.

The urine was pale, alkaline in reaction, ammoniacal in odor, 1.024 in specific gravity, and contained considerable granular sediment. The sediment contained epithelium, mucus, and granular debris. There was a small amount of albumin present with phosphates, but no sugar.

Treatment improved the patient's condition somewhat and gave rise to some false hopes that something might be done to relieve the condition permanently. In January, 1896, the patient began to fall as she tried to walk about the room, and she was sent to the Presbyterian Hospital, where she remained about six weeks. On her return there was some further improvement in the intensity of the symptoms; but none had entirely disappeared. With a slowly interrupted faradic current of fair strength there was good response in the interossei muscles of the left hand; but lessened as compared with the response of the normal hand. The flexor muscles of the left forearm responded very well in the ulnar distribution, but not so well in the median distribution; there was even less reaction of the extensors, although the same cur-

[1] Read before the Section of General Medicine of the College of Physicians of Philadelphia, January 8, 1900.

[2] A Contribution to the Study of Friedreich's Disease. By J. P. Crozer Griffith, Philadelphia, 1899, case No. 140.

rent caused a contraction. There was good response in the biceps but less in the triceps. On the same side, the deltoid response was good; the pectoral was not as strong as the deltoid; while the trapezius, the scapular muscles, and the erector spinae responded to the same current. The right arm gave the same result, save that the biceps did not respond as actively. In the legs there was large quantitative change in the gastrocnemii and in the thigh muscles which was out of proportion to that seen in the muscles of the superior extremities. The current had to be much stronger to produce a contraction in the former region. The abdominal and the quadratus lumborum muscles responded well. The skin reflexes were good, there was no anesthesia, no trophic changes, and no marked atrophy. The rotundity of form was well preserved. There was still a tendency to toe-drop, and the kneejerks were absent on both sides. The pupils were dilated and reacted irregularly to light and to distance. There was some lateral nystagmus and slight conjunctival injection.

At this time, the blood showed 4,862,500 red blood corpuscles; 22,922 white blood-corpuscles; and 61% of hemoglobin. The white cells were present in the proportion of 1 to 200 red cells.

In February, 1896, the brother of the patient under consideration was taken ill and in a short time the diagnosis of pulmonary tuberculosis was made. On May 14, 1899, this brother died of that disease after considerable suffering. During the latter part of his life he lived in the same house with our patient. In April, the patient began to complain of cough and expectoration; she became much emaciated, had nigh-tsweats and an evening temperature of 101°. The expectoration was free and was slightly blood-tinged. There was no chest pain. The chest was emaciated, and the respiratory movements were rapid. There was very slight impairment of resonance, increase of tactile fremitus and vocal resonance, and prolongation of expiration at the left apex. The sputum contained no tubercle-bacilli; but staphylococci and streptococci in abundance. On the day following the brother's death, the patient began to expectorate blood and in all lost about four ounces. There had been no nosebleed and examination of the throat revealed no bleeding-point. Following this, a few moist rales appeared in the right lung. During June and July the patient continued to have a cough which was unproductive, the night-sweats persisted and increased in severity; the evening temperature varied from 98° to 103.8°; the pulse became rapid and weak, sometimes beating 146 times per minute; the respirations were rapid and shallow and varied between 30 and 50 per minute. The sputum was examined twice more and each time with negative result so far as tubercle-bacilli were concerned. In June, she had several alarming attacks of weakness, apparently cardiac, although she was always recovered by the time she was seen and the heart presented no gross lesion. Treatment was absolutely unavailing in the reduction of the cough, the fever, and the sweats, but the expectoration was practically absent after the hemorrhage. The condition grew progressively worse during July and on the fifth of August the patient died of failure of the respiration from edema of the lungs. There was no autopsy.

Among the interesting features of the case may be mentioned the presence of the kneejerks in 1895; while in 1896, six months later, they had entirely disappeared. In the same way, distinct nystagmus was absent in 1895 and was noted as having appeared in 1896. The patient at no time presented pain in joints or muscles, and the athetoid movements first noted in the hands subsequently appeared in the neck.

The feature of most interest and of greatest importance is the method of termination of the case. Since there was no necropsy, it is impossible to say that tuberculous disease was absent; and, indeed, the lowered resisting power of the patient, the exposure to the infection, together with the fever, cough, hemoptysis, and night-sweats point to that disease. On the other hand, the absence of the tubercle-bacillus from the sputum and the long duration of the terminal illness point away from tuberculosis. We have been much fascinated by accounting for the various symptoms by a extension of the sclerosis to the gray ganglia at th base of the brain. If this process involved the striat body, the thermic processes might be so disordered tha fluctuations of temperature might result. The invasio of the respiratory center might produce the cough an the rapid breathing; the invasion of the cardiac cente might give rise to the rapid pulse and the attacks o syncope; the invasion of the vasomotor center migh result in the sweats and the pulmonary edema. Th hemoptysis can then only be explained as an accidenta occurrence.

We feel that we should apologize for presenting th report of a case that is incomplete. Efforts were mad to secure a postmortem examination, but permissio was flatly refused. Rather than lose the entire case w place it on record with our hypotheses.

CLINICAL NOTES ON A CASE OF PARANOIA.[1]

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Assistant in Neurology, Columbia University.

The patient in question was a physician, whom I shall call Arthur X.; aged 32, unmarried, 5 feet 10 inches in height, and weighing 183 pounds, when I firs saw him. In the absence of exact memoranda, I wil say that he had an asymmetrical skull, but make no further statement of the somatic evidences of degeneration which he presented. It was learned indirectly tha there was a strong neurotic heredity and a history of an eccentric childhood in his case; but the only relative that I saw preferred to give no information on these points.

After a superficial education the patient, born in the West, was graduated in medicine from a Philadelphia school. He was then sent abroad by his brother, a wealthy and successful business man, who was ambitious that Arthur should have every advantage of education that travel and study afforded. The patient's time was spent less in foreign medical schools and hospitals than in the gay cities of the old world; and the money of his generous brother was spent less for lecture-tickets than for sensuous gratification of various kinds. On returning, Arthur's first attempt at the practice of medicine was a financial failure. He therefore removed to Minneapolis, where his brother equipped an office for him. It is said by those in a position to know that he built up a considerable practice there, but that he spent sums of money largely in excess of his income. While living very openly, an immoral life, he attended services at church with regularity, and developed a great amount of religious fervor. One Sunday while at church he fell in love with a young lady he had seen at a hotel, but with none of whose family he was at all acquainted. He called on her father and assured him that the patient knew that his daughter Alice was deeply in love with him, from the way in which she turned her foot and averted her glance from him in the hotel, and demanded an immediate introduction, together with the freedom of the house. He was very calm and confident, and asserted with much emphasis that the course of this strong, platonic, mutual affection must not be embarrassed in any way. Naturally he was put out of the

[1] Read before the Section on Neurology and Psychiatry, New York Academy of Medicine.

ouse, and the usual torrent of letters followed, arguing, ajoling, beseeching, and finally making the usual claim hat Alice was locked up to prevent her from joining he object of her affections; whereupon Arthur made se of strong anathemas and dire threats in his epistles o her father. The lady and her family left the hotel, fter having suffered great annoyance, her father promsing Arthur that any further persecution by him would ead to a reference of the case to the authorities. rthur's brother settled the matter temporarily by ranslating the erotic paranoiac to another western city, here he actually started him in the practice of medine once more.

This failure to recognize or properly to dispose of rthur's case would seem inexplicable, were it not that imilar cases of dangerous, erotic paranoiacs have been iberated by the courts of this city as capable of conroling their own persons and estates, and were it not hat in a neighboring city, the police, a very few years ago, ad refused to take into custody a similar lunatic, whom hey called simply "a crank," and who a day or two ater shot and killed a physician, an utter stranger, ithout any shadow of reason.

In his new location Arthur's life was marked by a esumption of his former immorality. He made many riends, who were amused by his egotism and his stories f his travels, and who found him well supplied with oney. In a conference with his landlord concerning npaid rent for his offices, he asserted his superiority nd power, as well as better knowledge of the law, laced a revolver in his pocket, and ordered the landord out of his rooms. A few days later he went to the andlord's house, fired his revolver over the landlord's ead, and forced him to sign a receipt for unpaid rent nd a certificate to Arthur's right to the rooms in quesion. Arthur then emptied his revolver by firing bullets n different directions, to show, as he said, "that he had btained by war only what might have been obtained y honorable, peaceful measures among fully accomlished gentlemen, and this by God's command, showing he Dawn of Peace and End of War in the world." rrest followed, and his mental condition being recogized, he was sent to a hospital to be detained there ending lunacy proceedings.

A brief allusion in a letter, written by Arthur some onths afterward, is convincing to any one who knows he patient that his religious delusion began to assert self during a tour in Palestine, about a year and a half efore his arrest. The day before he had the first conerence with the landlord, he went before a notary and ade affidavit to a long statement, beginning:

"I am the Christ of the Jews, the expected Christ of he Jews, and the Christ of the Christians; the second oming of their present Christ. In both these I am one nd the same individual. I come to complete the salvaion of both these people and to unite them into one. . . To assert the return in particle even to the toms of the body back to the same chemical organic nd inorganic elements as exist in vegetables and in the eat of animals, to assert the capability and the fact of hese elements being converted directly into thought. hat this thought is Very God." In this document he uts forth in bombastic phrase his ideas of the connecion of the material with the mental; discusses the sanitary usefulness of cremation; alludes to "stagnating mall and perverted soul association;" and to "mentooul arms which are retracted to God;" and concludes vith a new creed in which he states that the "first Christ was resurrected in a mento-sexual sense before his crucifixion," and in which Arthur figures as an object of belief as "the new Christ of the Jews and Christians of A.D. 1888." This document is signed "Arthur X., M.D., M.R.C.S., E. Christ of the Jews and the second coming of Jesus Christ of the Christians."

While awaiting trial, in the hospital, he wrote a hundred pages of egotistic and religious proclamations and directions to his supposed followers, to "the virgins of the city," and to those who were moving for his release, as well as many folios of pseudo-scientific statements regarding the genesis and nature of man, and an *ad captandum* solution of the difficulties then, as now, puzzling the Powers of Europe. He would arrange the nations in groups, and then have each group enlist under the "starred cross," he being the leader. It is interesting to notice that Arthur then, in 1888, with all his confidence, had his doubts as to the disposal of Turkey. He proceeded with a serene exaltation to plan his religious campaign, unaffected by the fact of his arrest on so grave a charge, or by his approaching trial; but rather enjoyed the martyrdom of his detention, which, to him, was evidence of his importance. Only toward the physician-in-charge of the hospital did he show resentment, because of that official's refusal to allow Arthur to attend church on Easter Sunday, which happened to intervene between arrest and trial. And he duly recorded the dialogue between himself and the physician-in-charge as a bit of evidence of his meekness under gross injustice.

He drew a rude picture of himself, fastened to a cross, wearing a crown of thorns, and with a star at his forehead as well as at each extremity of the cross. He also punctuated some of his manuscript with a cross, starred at each corner. Arthur's release was effected by his brother, who brought him East for examination and commitment. Together, they entered a private retreat for the insane, under the very peculiar ruse that both were suspected of being insane, and, while being sent to the retreat for detention and observation, were still liable to the western city's authority. Arthur was told that unless he agreed to this arrangement, he would be taken to the west, and tried for his crime. The brother was supposed to be allowed parole.

When I first saw him, Arthur's delusion of persecution was vague. It was changeable, also, as regards who his enemies were; for at one time they were all the Christians, yet later he was to recruit his first body of followers from among Christians. Allusions are made in his letters to fear of bodily injury of some indefinite kind, and he certainly thought he was suffering when he wrote the following fragment: "To any one who can answer.—Oh what a brute I am a brute a brute a brute oh what a dog a hell Dog why cant I die How long oh how long must this be Why cant I die why does not my head burst sorrow sorrow sorrow only this for everybody pain misery cries and screams Oh God but this is Hell this world is Hell, struggle struggle, struggle, no end to pain of body if not of mind and no solution?" (This hypochondriac outburst is the only page that I possess, of a great mass of his manuscript, which is almost devoid of punctuation.)

But his exalted and egotistic religious delusion was dominant. His stiffly erect carriage, proud and airy indifference, together with his affectedly deep tones of voice, and his carefully waxed mustaches, combined to produce a theatrical appearance, which, during much of his sojourn at the retreat, he rarely neglected to main-

tain. When he relaxed at a game or during general conversation, he was good-humored and easy-going. He always wore a small star of white paper pinned to the lapel of his coat, but he devised no other insignia. He drew a rough picture of himself and his brother on horseback, each wearing a star, supposedly at the head of their followers. In conversation with the writer, who spent many hours with him, Arthur very rarely alluded voluntarily to his delusions. On one occasion he asked the writer to wear a star, "to show that he was ready to give up his blood for the cause;" and, turning impressively to him, he continued: "I shall need you and a hundred men just like you."

Although claiming to be "the second coming of Christ," he occasionally used obscene language to attendants, and once to a patient. Remonstrance had no effect, and he was unmoved by the suggestion of the inconsistency of his claims to being a religious leader with his use of foul words.

Once he wandered from his favorite role. In a conversation with the writer, he said that he, just as the Christ who had preceded him, had suffered much, and that every man suffered. He would, therefore, be glad to organize a concerted movement, by which the whole human race should be annihilated by committing suicide. Yet he enjoyed games of all kinds—theater, opera, and other entertainments.

Through collusion between two attendants (one of whom had been discharged), he escaped. When recovered several months later, he was placed in an asylum in the West, where he remains, little changed

In his trunk of manuscripts, of which he was allowed to carry the key, were found his only manifestations of the paranoiac's tendency for bizarre though definite arrangement of articles of all sorts. Here were found new creeds, a new hymn, and his own scriptures. His creeds possess little interest and evince poverty of idea. His new hymn, for use in his services, is entitled "Our Bird," and is a weak religious parody on "Listen to the Mocking Bird." His only other artistic production, if it may be dignified by such an adjective, is a transparency of immoral nature, outlined very rudely in pinholes. He wrote a new Lord's Prayer, also an "Epistle to the Medical Profession," neither one possessing much interest, or showing any original idea. He wrote but one medical paper, and this was a brief and foolish attack upon Mr. Lawson Tait, apropos of an article in the *N. Y. Medical Abstract.*

Possible homicidal tendency may be argued from the following fragment: "Ah, yes! we can greet you with a finely caprisoned horse, elegant costume, and elevated plumed hat, like a Wellington, or a Blucher. We can take a sword, and, driving it under your ribs, shove it through your chests up out of your mouths, and then rip up every inch of flesh between these points, cutting withal your hearts in two; we can do this, and as the blood gushes out and chokes and gurgles, your cries for mercy and wails of pain—we can look at you and laugh, not render you a comforting expectation, and revel in your misery—if we want to; but we don't want to."

His very voluminous book of Scriptures is called CHRIST. It is almost entirely autobiographic, and begins with these words:

"The book of Christ, according to the Scriptures. This book shall be added to the Gospel. In all things definite which it avers, shall be accepted for the Truth, in preference to all more ancient writing of the Gospel, which shall seem, or in fact be, contradictory to this Book, for as much as it is from God, you are thus commanded in his second coming to Earth now, as the saviour of the Jews and the second coming of the Ancient Jesus Christ of Nazareth, being in the second coming the same in Spirit as the Ancient Christ, and in both your full and finished Christ, Completor of Christianity as represented in the Starred Cross, the Savior of the World. Now, therefore, it came to pass that Arthur surnamed X. (after the Rt. Rev. Bishop Arthur W. Brown) loved Alice, surname Jackson (Alice C.), and believed that Alice loved him. And with this conviction and the fact he loved Alice, Arthur was sore distressed to learn the facts." After an entirely irrelevant interpolation about his exceptional education, and his conviction that the present forms of religion were all wrong, he resumes: "In this perplexing time Alice, surnamed Jackson, saw Arthur, and immediately loved him most intense." He relates his difficulties with Alice's father, and then writes: "Then penetrated through his skull into his mind the Voice of God, saying, 'She is the one, win her!'" Later he writes: "The same Voice of God flashed into Arthur's mind, saying, 'Yes, there is no mistake about it; she is the one, and there is the voice to tell her of your life.' . . . So sure was Arthur of this that he now sent her, it being Christmas, a basket of flowers, with a Merry Christmas, and his name, and a braid of beads." After relating subsequent occurrences, he writes: "Arthur's mind was paralyzed; he could not think; then from the front lower anterior surface of the brain, backwards and upwards over its surface to a corresponding lower posterior point, an influence swept, which seemed to Arthur as it were a hand passing, and touching as it went," and a voice said, "Obey God, and your mind will be given to you as He wills!" He rambles on, telling the story of this part of his life, for the greater part in ordinary phrases, occasionally in the style and phrase of the Scriptures. Finally, he predicts his escape from the retreat in which he was confined, and appends a letter to his brother, in which he says he goes forth to engage in agriculture, "until," as he says, "I shall find larger opportunity of making known the Revelation of the Starred Cross, and of who I AM."

His prophecy of escape was within two days of being correct.

Here, then, we have the condensed history of a paranoiac of not unusual type, with neurotic inheritance, who, at about the age of 30, reveals a systematized delusion of persecution, displaced in great part by exalted delusions of religious and erotic nature, with an occasional outcrop of a probable youthful hypochondriasis, and with a possible capacity for homicide.

Solitary Tubercle of the Heart.—A. W. Hoisholt (*Occidental Medical Times*, February, 1900) reports the case of a man, 36 years old, who had suffered for about one year from tuberculosis of the lungs. An abscess formed over the sternum, and that bone and several of the ribs became tuberculous. The patient died, and the necropsy showed the layers of the pericardial sac to be adherent, and the heart globular in form. The left ventricle was incised and found to contain a tumor-mass projecting into its cavity. It appeared to be made up of several nodules and was yellowish-white in color. In the extreme upper part of the right auricle another tumor-mass similar in appearance was found. W. F. Whitney, of Harvard, made a microscopic examination of the tumor in the ventricle and found it tuberculous. There was miliary tuberculosis throughout the left lung, and disease had evidently spread to the heart by contiguity of structure. [M.B.T.]

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The meeting of the American Medical Associa-ion at Atlantic City, next week, will probably, and we eartily hope it may, be the most pleasant and well-ttended one that has been held for many years. Atlantic ity is admirably adapted to the wants of great organiza-ion meetings, and Dr. Marvil and all his coworkers have one everything in their power to make the visit of the embers enjoyable and profitable. It seems unfor-unate that geographic demands are so importunate hat all the meetings cannot be held at places and times n which the members will not be subjected to the ndignities of too absorbing hotel and climatic interests. ut we suppose the all-controling need of new mem-ers and the satisfactions of local interests must sup-lant the natural desires of the old members for com-ort of mind, body, and pocketbook. It is hardly less egretted that the choice of officers should be dictated y topographic considerations. Talent, scientific ability, ational reputation—these are not precisely always the pportune products of a certain year and a prescribed ocality. Should any of our subscribers find it impos-ble to attend the meeting this year, they may be con-dent that the PHILADELPHIA MEDICAL JOURNAL will ive them such reports as they are accustomed to find n its columns.

Women as Sanitarians.—At the recent meeting of ne Boards of Health of Pennsylvania, Dr. Benjamin ee emphasized a truth to which insufficient attention as been paid. Women, he said, are born sanitarians, hereas men must be taught. This fact, we should ay, is based upon the evolution of the race, as the role hat cleanliness plays in civilization is undoubtedly ue to women. Even today it is hard work for the omen to keep the best of us men clean and tidy. Ad-antage of this great fact should be taken in our na-onal housekeeping. True wisdom consists in utiliz-ng the teachings, tendencies, and habits shown in the ocial development. Women, by office and evolution, re the housekeepers and health-officers of the family. et them become publicly and officially our health-offi-ers and sanitary managers. The marvelous ability and uccess already shown by them in this field warrants very confidence. There are millions of unoccupied omen, who can thus find a work that will bring glad-ess to giver and receiver, and that will lift us a long ay in the progress of civilization.

The taxation of public medical libraries is in all respects unjust and unwise. In one instance known to us it will, if demanded, constitute the decisive element of library failure. Unless the law is abrogated, the library can hardly live, or its building be preserved. It is strange that the community and legislatures are so slow in recognizing the social value of the medical profession and how necessary are its literature and progress to the preservation of the public health and the lessening of the general death-rate. It is an astonishing anomaly which frees churches and general libraries from the burden of taxation and would impose it upon medical libraries and institutions formed for the benefit of the most evidently and fundamentally best of all good things, the health and life of the whole people. The common health is the commonwealth. In taxing the real estate, so little and hardly gained, of medical societies, the people are injuring themselves. A united profession should by some means bring the folly and injustice of it home to the minds of all legislators. It is worse than a crime, it is a blunder.

A Dastardly Offense Against the Law of Nations and Against Mankind.—*Public Health Reports*, issued by the Marine-Hospital Service of the United States, contains in the issue of May 11, 1900, the details of a smallpox outbreak among a party of American tourists in Europe. The party was a personally-conducted one, under the charge of Mr. Frank C. Clark, of New York, and sailed from that city on the first of February, on the British Dominion Line steamer *New England*. There were about 500 persons on board during the tour, which took in the principal Mediterranean ports and Egypt. When the party returned from Egypt they arrived at Naples on March 19, proceeding thence to Rome.

In that city it was discovered that two of the ladies of the party were suffering from typical attacks of smallpox; one of them, Miss Scouten, of Wisconsin, died within 4 days. Before her death she made a statement that on the voyage another lady had suffered from a similar eruptive sickness, but that the captain and the ship surgeon had denied the illness and ordered her to keep silence lest the ship might be quarantined. The manager of the excursion, by denials and prompt movements, succeeded in evading the vigilance of the Italian authorities and con-

tinued his voyage, touching at one French port and later at Liverpool, where cablegrams from American consuls in Italy caused the vessel to be detained and searched, resulting in the discovery of 17 cases of smallpox on board at that time. Of the passengers who were landed at Rome no less than 10 came down with the disease and 3 died. The ship surgeon persisted in obstinate and apparently ignorant denials of the nature of the disease, even after its fatal and contagious nature was thoroughly manifest.

The full correspondence from our consuls appears in the *Public Health Reports* and presents such an indictment of grossly criminal carelessness against the ship's officers, the manager of the excursion and the ship surgeon, that their conduct can only be described in the phrase which Mr. De Castro applies: "a dastardly offense against the law of nations and against mankind."

The commercial influence which so often successfully seeks to govern the action of medical men in reporting matters that affect the public health is well illustrated by this disgraceful incident. Extreme as it is, it is simply the natural outgrowth of the same spirit that prompts a grocer to keep secret a case of diphtheria in his family, lest "it will interfere with business;" or the dairyman who for the same reason conceals a case of typhoid fever among his help; or the city board of health that so far forgets its own functions as to cover up the existence of yellow fever, smallpox or plague, so that "the commercial interests of the city may not suffer." The disposition on the part of a small minority of doctors to cater to such commercialism and thus endanger the public welfare is so reprehensible that its advocates rarely venture to be outspoken. When either word or deed happens to bring them before the medical public, they deserve the lash of indignation laid on with such a free hand as to deter them from future criminality of the same sort.

The Effect of Alcohol on the Human Brain.—So long as human beings are born with complicated nervous systems, probably so long will many of them crave stimulants, and so long as the social customs, which have existed for centuries, approve of the use of alcohol as a beverage, so long will it probably be used by some to excess, and with this excess will come the misery, the disease, the poverty and disgrace which are the well-known results of drunkenness. Quite naturally, many persons seeing the great evils which may result, oppose the use of alcohol and try to demonstrate to others physiologic and other reasons why its use should be discontinued; while those who are accustomed to use alcohol are equally anxious to find an excuse for its use. In a lecture delivered April 27, 1900, at St. James' Hall, London, Mr. Victor Horsley, the well-known eminent neurologist and surgeon, discussed the effects of alcohol on the human brain, dealing only with the effects of small doses, the so-called moderate drinking. He believes that the best test for the effect of such small doses of alcohol is the result of the action of the drug on the higher psychic functions of the brain, the ideation or the vital thinking apparatus, and the easiest way to measure this is by taking the reaction time of the nervous system. He also discussed the effects of the prolonged use of alcohol on the protoplasm of nerve-cells, and brought forward evidence to show that its use produces degenerative changes. In concluding, Mr. Horsley stated that from a scientific standpoint he believes that the statements which have been made that small doses of alcohol, such as people take at meals, have practically no deleterious effect, cannot be maintained. The cumulative evidence on the subject shows that total abstinence should be our course if we are to follow the plain teachings of truth and common sense.

In view of the interest which is always taken in this subject, and particularly because of the discussion which Professor Atwater's paper has recently aroused, this opinion from so high an authority will be received with pleasure by those who discountenance the use of alcohol as a beverage, and it must certainly be considered with respect by all. Mr. Horsley did not touch on all phases of the subject by any means, and there remains room for much study of the pathologic and physiologic effects of alcohol, for example, such as that of Nicloux on the influence of alcohol on the pregnant woman, which was recently noticed in these columns. Aside from the purely scientific medical aspects of the subject, as a profession we should always remember that many moderate drinkers often become immoderate drinkers, something which can happen to very few teetotalers, and it should never be forgotten that alcohol, even when prescribed by the physician, has occasionally worked great harm.

The housing of the poor is a subject to which we have several times referred recently, and it is one with which the physician especially is often brought into relation. Poverty and crowding beget vice and disease, and the best remedy, the best prophylactic for the latter is the relief of the former. The efforts that have been made in this direction in the city of New York, with their successes and their failures, are detailed in an interesting pamplet entitled "Tenement House Reform in New York, 1834–1900," prepared by Mr. Lawrence Veiller Secretary, for the Tenement House Commission of 1900. The movement for housing reform in New York began in 1834, when attention was called by the City Inspector of the Board of Health to the condition of the tenement houses at that time, but it was not until 1842 that specific attention was directed to the crowded condition and the insufficient ventilation of many dwellings and to the fact that a large part of the population lived in cellars and basements and in courts and alleys. Cer

tain salutary recommendations were made, and in 1846 the Association for Improving the Condition of the Poor, a charitable society organized in 1843, took up the question of the housing of the poor. In 1853 a committee was appointed to inquire into the sanitary condition of the laboring classes and the practicability of devising measures for the comfort and healthfulness of their inhabitants, and as a result it was demonstrated that the number of persons on a given area of soil cannot be increased beyond a certain limit without endangering health. As an outcome of the labors of this association a commission was appointed by the legislature in 1856 to study the construction of tenement houses and to suggest legislation to remedy the evils and protect the lives and health of the occupants. It was found that the existing conditions were traceable to the rapacity of the landlord in every crowded city unrestrained by conscience and wholly unchecked by legislation. The most important recommendation made by the commission was the licensing of tenement houses, but this unfortunately was not adopted. In 1864 the Citizens' Association was formed for the purpose of taking steps to improve the sanitary condition of the city, and a careful study was undertaken, which led to the enactment in 1867 of the first tenement-house law. In 1877 Mr. Alfred T. White, of Brooklyn, erected a number of model tenements and demonstrated the success of the enterprise; and in 1879 the Improved Dwellings Association was formed with a similar object in view and it is still in active existence. In 1879 a new tenement-house law was enacted, and in the same year as the result of a competition the so-called dumbbell plan of tenement was adopted, but this has never proved satisfactory. In 1884 a second legislative commission was appointed, which, after an investigation, made 20 distinct recommendations, but it was not until 1887 that the tenement-house law was amended. A third legislative commission was appointed in 1894 and it made a series of 21 recommendations. These resulted in the tenement-house act of 1895. In 1896 the Citizens' Suburban Homes Company was formed for the purpose of building model tenement houses as a business investment, and a competition was held for the best type of tenement-house plans, an excellent type of building being finally chosen. This enterprise has been distinctly successful from both a social and a financial point of view. In 1899 a Tenement House Committee of the Charity Organization Society was formed for the purpose of improving the condition of the tenement houses. After extensive study numerous recommendations were made to the municipal authorities, but they were not adopted. Early in the present year an elaborate tenement-house exhibition was given illustrating varied phases of the subject and serving as a most demonstrative object-lesson. In connection with the exhibition an architectural competition was opened for the best plans of model tenements. More than 170 architects competed, many excellent plans were submitted and 4 prizes were awarded. This then is the history in brief of tenement-house reform in New York City and the picture can scarcely be said to be a stimulating one. If a chain be no stronger than its weakest link, a community is no better than its worst elements, and there is no single factor so conducive to all that is abhorrent than the mode of life that is the natural result of crowding, filth, want of light, and of air, with all of their endless concomitants. Let us hope that the new century will witness an awakening in this connection.

We call especial attention to the notice in another column of the Conference to be held by the Sanitary Institute of London on the Housing of the Working-Classes. American physicians visiting London this summer may well take advantage of the arrangements made by the Institute.

Honors May Bring Dishonor.—We recently spoke of the immodesty and even impudence of the office-seeker who chicanes for the office that is only valuable as the spontaneous offering of colleagues. We once knew an instance in which success followed the politician's long-pursued aim. By a thousand "pipe-layings" and schemings the presidency of a medical organization was secured. But the struggle aroused so much bitterness, the resultant disgust and reaction was so great, that even those who voted for the man were ashamed of themselves, the society deserted him, and he stood before his own organization a crippled and dishonored member. Despite all his intellect and scientific ability the fruit of all his ambition turned to ashes in his mouth, and all future positions of respect were denied him,—positions he might perhaps have had by modest waiting.

Illegitimate Children: Prevention of Conception: Criminal Abortion.—The question of illegitimacy is of considerable interest from the medical standpoint as well as from the sociologic standpoint, and it is unfortunate that we have not in this country more accurate provision for determining the numbers of this class. In Germany the careful arrangements of the statistics permits a much more satisfactory study of such conditions. H. Neumann has recently written a small pamphlet, entitled "Die unehelichen Kinder in Berlin," in which he discusses, in a very thorough manner, the statistics with regard to the illegitimate children born in Berlin in 1896. He shows the fallacy of many prejudices and erroneous views which prevail with regard to this subject. The social position of these children, he finds, is not so bad in Berlin as it is generally held to be, for promiscuous intercourse is mostly limited to the working classes, and pregnancy usually is followed by marriage at an earlier or later date, so that about $\frac{7}{16}$ of the children which are conceived out of

wedlock become legitimate. Moreover, of those illegitimately born hardly 5% come under the care of the State, and foundlings are treated as orphans. The mortality of the first year of life is about 36.8%, depending upon the social position of the mother. In institutions it is 15 times as great as in the case of those born in private dwellings; the mortality is, of course, high on account of diseases, particularly syphilis, constitutional weaknesses and artificial feeding. Neumann believes that the prevention of conception and criminal abortion (*Engelmacherei*) is limited to the lowest possible number because of public sentiment and strict police control, and in this way much valuable human life is saved to the State.

Sad as is the prevalence of illegitimacy, it is not as dangerous to the welfare of the nation as the prevention of conception and the production of criminal abortion. It is difficult to compare the conditions in the United States and in foreign countries because of the lack of reliable statistics, but we presume that illegitimacy is less common here than in many foreign countries. On the other hand, the evils of prevention of conception and criminal abortion seem to be growing. It is unfortunate indeed when any country finds itself in the position of France, with a birth-rate no greater than the death-rate. As a rule the medical profession is remarkably free from blame for the prevalence of these practices, yet it should be the duty of the profession, not only not to sin themselves, but to use every effort to prevent the spread of these great evils. The shameless advertisements which are to be found in many daily and other papers are a disgrace to their proprietors and publishers and to the public who read them. Some active measures should be taken to prevent this state of affairs and to crush the degraded quacks and midwives who earn money in this way.

The Recognition of the Rights of the Acting Assistant Surgeons of the U. S. Army.—There were 1,030 acting-assistant (or "contract") surgeons in the United States Army during the Spanish-American War. The experience of the Civil War had demonstrated that they should have been commissioned officers, and certain of the oldest and ablest surgeons of the regular service made every effort to have this fact recognized, but without avail, and the old "contract" relation of the Civil War was substantially renewed with them.

They represented the medical profession of every part of the United States (though New England and the Middle States furnished the larger portion), and they were, with comparatively few exceptions, a credit to themselves, the profession, and the service.

The number included men of exceptional ability and distinction who, on emergency summons, patriotically responded at large loss to themselves, to the country's needs. The majority met the Surgeon-General's call at greater or less sacrifice of personal and professional interest. Their patriotic and professional zeal, their devotion to duty, and their skill and intelligence were everywhere recognized and have commanded the strongest expressions of approval from distinguished officers of the army.

One acting assistant surgeon was killed on the firing line, ten fell by disease, while scores returned to their homes disabled for life. They had all the responsibilities of life, property, command, and executive duty attaching to commissioned officers and assistant surgeons, of either the regular or volunteer officers, *yet were civilians only.* Often put in command of large hospitals great sanitary undertakings or municipal improvements; placed in authority over officers and enlisted men of both the regular and volunteer services; and trusted with vast amounts of valuable public property, and rigidly held responsible and accountable for it, they were entirely without military rank, could not sit upon courts-martial, or even prefer charges against men under their own command, their positions being altogether anomalous, and trying to the last degree. Every enlisted man had numerous advantages over them. They were given quarters only when the United States had them to assign, "in kind"; their pay stopped the moment they were stricken down in battle or by disease, or went upon leave of absence, even if disabled; they were held to possess no rights to hospital treatment or to burial privileges, or to have their bodies returned, like others, from possessions of the United States beyond seas, or to their homes, if dying within the United States. Being neither officers nor enlisted men, they had no rights of pension under the Act of 1890, but could claim for disability only, when acquired in the service; could not claim the extra (gratuity) pay accorded all officers and enlisted men of the army; and were not eligible of right to brevets or medals of honor for meritorious service, to the National Soldiers' Home, or to the military societies of the war in which they performed so honorable, exceptional, essential, and unparalleled service. Yet no one could or would claim that their entitlement to all these was not of the first order.

Neither is it too much to claim, while gladly conceding to the handful of medical officers of the regular and volunteer forces of the Spanish War, every meed of recognition and praise,—theirs being chiefly the work of organization and equipment,—that upon the shoulders of the acting-assistant surgeons of that war fell the chief burden of its medical, surgical, and sanitary requirements, whether in Cuba, Puerto Rico, or the Philippines, whether on the firing-line, in camp, hospital, transport service, or on the march.

To secure their stipulated and equitable rights; to preserve the *camaraderie* of service-days; to promote and protect their mutual interests and welfare as the evening of their days draws on; and to make them-

selves felt, as of right,—having served the Republic at risk, in her need,—in matters affecting their profession in its relation to the army and to civil life, these officers *de facto* but civilians *de jure*, organized themselves in December last, into the Association of Acting Assistant Surgeons, U. S. Army, of the Spanish War, and at once undertook the work for which they were associated. Their Legislative Committee prepared and introduced in Congress, April 11, 1900, a bill (Sen. 4,124; H. R. 10,606) which was believed to meet in a general way the equities and requirements of the case, and prepared for its active support.

Meantime, the Congress of the United States declined to make any provision for any considerable increase in the medical corps of the regular army.

These conjoined influences have at last compelled the recognition of the plain duty toward the acting assistant surgeons, and of making more equitable conditions for their successors, upon whom henceforward the Army Medical Corps must chiefly rely for its accessions.

On April 5, 1900, the Secretary of War sent to Congress with his approval, a bill drafted by the Surgeon-General of the Army, providing: First, that acting assistant surgeons of the army should "have the same rights and privileges as regards leaves of absences as commissioned officers of the army" (a matter relating, it will be observed, *to the future only*); and, second, that acting assistant surgeons appointed since the first day of May, 1898, shall be paid for absences *on sick leave* (only). A bill entirely failing to meet, it will be seen, several of the greatest needs demanding legislation, which are covered by the bill introduced by the Association.

On April 13 (two days after the Association bill was introduced), the Surgeon-General sent to Congress, with the approval of the Secretary of War, another bill providing for the appointment of assistant surgeons of volunteers (Sen. 4,274; H. R. 10,726), whereby he proposed to confer upon acting assistant surgeons who had served faithfully for one year, the rank of assistant surgeon of volunteers with the grade of first lieutenant, such assistant surgeons to have the rank of captain after two years' service as lieutenants, thus establishing the status of the acting assistant surgeons as *officers*. In later interviews and correspondence, the Surgeon-General expressed approval of the provisions of the Association's bill providing for travel-pay, admission to soldiers' homes, and preference as candidates for the position of assistant surgeons in the Army, Navy and Marine-Hospital Corps, though withholding his approval from other features of the bill, provision for the payment of commutation of quarters, during absence on leave, and gratuity-pay.

With every disposition to work in harmony with the Surgeon-General, the Legislative Committee of the Association at once drafted another bill, embodying both the bills offered by the Surgeon-General (with slight amplifications) and their own, with certain suggestions of the Paymaster-General's office, and introduced it as a substitute for all other pending bills as being by far the most complete, most equitable and best. This bill (H. R. 11,077; Sen. 4,323) is now in the Military Committee of each House, and deserves and should have the immediate and cordial support of the medical profession and of the medical press of the country.

Sarcoma Ovarii.—Alexander Roxburgh (*Glasgow Medical Journal*, December, 1899) reports 4 cases of sarcoma of the ovary. An unmarried woman, aged 28, whose previous health had been very good was taken with pain in the epigastrium and left shoulder, greatest immediately after ingesting food. Weakness gradually came on, and 2½ months after this there were gastric disturbances and vomiting. The vomiting occurred 3 or 4 times a week, and spontaneously ceased after about 2 months. No blood was vomited. She rapidly lost flesh, and diarrhea was now a marked symptom. Menstruation was normal for 8 months after the onset. About this time there was bulging of the lower part of anterior wall of thorax; the area was dull on percussion, and painful. The area of dulness increased rapidly and soon occupied the entire lower part of anterior chest-wall. An exploratory incision was made and the tumor examined. The patient died a week later. A necropsy showed that the tumor involved the left lobe of the liver, the stomach, the left kidney, and the diaphragm, penetrating the latter to invade the left lung. The left ovary was enlarged, spherical and hard. A microscopic examination of the ovary showed it to be completely transformed into a round-celled sarcoma. Case 2.—A single woman, aged 23 years, whose previous health had been good, was taken with headache and pain in the epigastrium, which came on immediately after taking food and lasted several hours. Vomiting occurred on but two occasions, no blood being in the ejecta. About 8 weeks after the first symptoms appeared, the abdomen began to enlarge. Respiration became difficult, vomiting and diarrhea came on. There was considerable bodily weakness. Menstruation up to this time had been normal. There was a hard, irregular swelling in the left breast. Three months after the onset a large mass could be felt on each side of the abdomen just above Poupart's ligament. About this time there developed blindness, deafness, convulsions, loss of control of bladder and rectum. These symptoms abated after 8 days, the patient dying soon after. A necropsy showed that a sarcoma had invaded the following organs: Sternum, pericardium, omentum, mesentery of small intestine, hepatic splenic flexures of the colon, both kidneys, both ovaries, and the mesenteric glands. Case 3.—A female child, aged 4 years, first complained of weakness and was confined to bed. Soon after the abdomen was found to be enlarged. The abdomen was tapped and seven pints of dark fluid were drawn off, but quickly returned. On palpation a hard, irregular tumor could be made out in the left hypochondrium. Under nitrous oxid the abdomen was opened and the fluid drained off. The foreign growth could be plainly felt, and some fragments from the omentum revealed the sarcomatous growth. The patient died on the following day, having lived but 2 months after the onset. Case 4.—A female child 3 years old, whose previous health had been good, developed swellings of the breast and abdomen. The lungs were normal. A discharge of clear fluid from the vagina was present from the beginning. Ascites was present and a tumor could be palpated in the lower part of the abdomen. On operation the fluid was drawn off, and the tumor, which was the enlarged and transformed right ovary, was removed. It weighed 3½ pounds. The child died soon after, living but 4½ months after the onset of the disease. A microscopic examination showed the tumor to be a sarcoma. [M.B.T.]

Correspondence.

POPULAR EVENING OF MEDICAL SOCIETIES.

By G. S. BROWN, M.D.,
of Birmingham, Ala.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN reference to the suggestion for "The Popular Evening of National Medical Societies," permit me to say that The Medical Association of the State of Alabama devotes the second evening of each annual meeting to such purpose. The special order of business for that evening is the orator's and monitor's addresses, and the public always attend in force. We regard it as a very important evening, as it is absolutely our only opportunity of ever reaching the public ear.

DELAYED SEPARATION OF THE UMBILICAL CORD.

By JOHN C. SPENCER, M.D.,
of San Francisco, Cal.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

As a matter of subsidiary interest, I wish to report a case, in which the separation of the umbilical cord was unusually delayed. The child, a girl, was delivered with forceps, as a result of inertia, on February 22, 1900, after a labor lasting 16 hours. The child weighed 7½ pounds at birth.

A period of malassimilation of artificial nourishment, continuing up to the first of the present month, may have been a factor in the failure of the stump of the cord to separate. However that may be, on April 10, 47 days after delivery, there being no apparent indication that the mummified and aseptic remnant of cord would separate, I amputated the same through living tissue on the proximal side of a moderately well-defined line of demarcation, which had been visible from the outset. The stump healed perfectly, the ligature separating on the fourth day. The mother, a multipara, had been the subject of ventrosuspension and perineorrhaphy, at the hands of Dr. Beverly MacMonagle, nearly 2 years previously. Gestation was without any unusual features. A slight perineal tear was immediately repaired. Involution was complete. The unusual features in the cases of both mother and child seem to make them of possible general interest.

MEDICAL MISSIONARIES.

By J. M. WITHROW, M.D.,
of Cincinnati, O.
Dean of the Laura Memorial Women's Medical College.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

APROPOS of the subject of Medical Missionaries in Foreign Fields, which has been discussed briefly in your correspondence columns recently, let me add a line.

The Laura Memorial Women's Medical College, of Cincinnati, has for several years been granting free tuition to women who attest their willingness to serve in the foreign missionary field as physicians. This feature of the college work has brought many women so disposed to the institution, and I beg to add my testimony to the consecration, energy, strength, and attainments of these medical missionaries. We graduated two years ago two Japanese women, ho returned to Japan for missionary work. We have never had better students nor have we ever graduated women who were better practitioners than these Japanese. They passed the rigid examination submitted by the Japanese Government in such a creditable manner, that the Government has signified its willingness to admit all future graduates of the institution to practice upon the presentation of our diploma, and without examination.

We have sent many other young women abroad, and the universal verdict has been that their work and their attainments have been above the average. I am, therefore, satisfied that not only is there a very inviting field abroad for this work, but that those going are for the most part amply able to do credit to the institutions that graduated them.

A CASE OF ACUTE HYPERTROPHIC CIRRHOSIS OF THE LIVER IN A BOY OF 7 YEARS.

By J. T. BRINGIER, M.D.,
of Burnside, La.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

O. B., white, male, 7 years old, first complained of being indisposed on April 20. I saw him one week later and noted abdominal distention, slight jaundice, and area of dulness increased downward.

Despite conservative treatment and exclusive milk diet, he grew progressively worse. At midnight, on May 11, he was seized with convulsions that continued without intermission to the time of his death, three hours later. During the second and third weeks the jaundice became more marked and the abdominal distention greater, but at no time did he require to be tapped. At this stage of his illness the lower border of the liver extended as far down as the crest of the ilium. There was also complete stenosis of the gall-ducts with obstinate constipation. There was never any rise of temperature. He took nourishment well, slept well, and complained of no pain.

This boy's father died of hepatic cirrhosis (alcoholic) when the child was but a few months old. There is no history of syphilitic disease. The child had been in perfect health since he was a year old.

THE HOMEOPATH WHO DOES NOT RESTRICT HIMSELF TO HOMEOPATHY.

By CHAS. S. MACK, M.D.,
of La Porte, Ind.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

AM I right in thinking that there is less criticism than there used to be of the man who identifies himself by name with homeopathy though he does not in practice restrict himself to homeopathy? A view which has interested me may, I think, interest some of your readers. Should this view be found erroneous, it would seem still to show that one who accepts rational medicine and empiricism as well as homeopathy may identify himself by name with homeopathy without being guilty of anything worse than a mistaken opinion. Briefly stated the view is that *similia similibus curantur* is the law of a cure which, as to process, differs from any other cure, and transcends the possibilities of rational medicine or of intelligently practised empiricism. If this particular cure differs from any other, it is evident that one may consistently accept homeopathy, and at the same time accept rational medicine and empiricism—attempting in any given practice of homeopathy a cure different from that which he attempts either in any given practice of rational medicine or in any given practice of empiricism. It seems

to me that one who believes in homeopathy may properly identify himself by name with it, not to imply that he believes in it any more than in the rest of medicine, but because, believing that *similia similibus curantur* is the law of a cure which transcends the possibilities of rational medicine or of intelligently practised empiricism, he would show his colors and make it known upon which side he stands in the important question of opinion whether there really is such a cure with *s. s. c.* as its law.

To here define what I believe to be the particular cure of which *s. s. c.* is the law, and to show why this cure (if it really exists) may be said to transcend the possibilities of rational medicine or those of intelligently practised empiricism, would be to repeat the essence of a letter which you kindly published in your issue of September 10, 1898.

STATE CARE OF LEPROSY.

BY E. S. GOODHUE, M.D.,
of Los Angeles, California.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN the discussion of a paper entitled "Notification and State Supervision of the Tuberculous," by Dr. Joseph Matteson, read before the Chicago Medico-Legal Society, December 2, Dr. H. N. Moyer said:

"In discussing the subject of the control of tuberculosis, there has been not a little narrow reasoning based on the idea that it was only necessary to catch and kill the germ of tuberculosis in order to stamp out the disease. This conception of the public-health duties is reflected in the laws which it is urged should be adopted in the prevention of this malady. They include quarantine, notification and other equally drastic measures. . . . The failure of attempting to stamp out tuberculosis by quarantine and segregation is shown by the efforts which have been made in Hawaii for the past 25 years to banish leprosy.

"During all this period the Sandwich Islands have tried to enforce a law compelling lepers to live upon an island separate from their friends. Every effort is made to detect cases of leprosy, and as soon as found they are sent to the island. Most of those who have studied leprosy on the islands agree that all these efforts have failed—that leprosy is now as common as it has ever been. This is due to the fact that people have no fear of the leprosy, that cases are concealed as long as possible, and that in this class of infections quarantine is of little value. In diseases in which duration is short, and the period of danger of infecting others is comparatively brief, then segregation may be useful. Such is not the case with tuberculosis. The histories of leprosy and tuberculosis are quite parallel."

To say I am surprised that a man of Dr. Moyer's ability and general information upon medical subjects should make such statements as the preceding is to put it very mildly. Were the printed report not entirely reliable, I should be inclined to believe that Dr. Moyer had been misquoted. He is free to offer any opinions upon the subject of State supervision and segregation that he may choose, for a man may believe what he pleases and say what he likes in this country, but facts are facts always and everywhere. Perhaps a lawyer may be excused for strengthening his position by broad, unsupported statements, his object being to influence the jury, but it seems to me that on scientific matters, especially in medical science, we must lay aside our prejudices and preferences, and treat with the naked, and, may be, unpleasant truth. We cannot, even for the sake of showing why we don't believe in segregation, afford to deal ignorantly, loosely or unfaithfully with any fact.

As a student under Dr. Moyer, I learned to respect his opinion, but in this case I cannot take either opinions or statements, for his "narrow reasoning" is "based on the idea" that in Hawaii segregation has been a failure. The truth is, wherever and whenever segregation has been practised against leprosy the disease has decreased. This is shown by the reports of all eminent leprologists, although I acknowledge that many medical men, chiefly British physicians, have tried to *prove* that leprosy is not contagious, and that segregation is a useless law. Believing the former, the latter is a consistent stand to take. But to acknowledge that a disease is contagious and then to oppose regulations against the spread of that disease, is certainly *inconsistent.*

Speaking of leprosy in Europe, an eminent English leprologist says:

"With extraordinary rapidity, considering the nature of the infirmity, it began to disappear simultaneously with the adoption of the strict measures that were put in force, the disappearance being as rapid and complete as the onset of the disease amongst the populations had been swift and intense."

I have before me the reports of physicians in various foreign countries, showing the necessity of segregation; reports based upon statistics that demonstrate the efficacy of enforced law in diminishing the spread of the disease. There are many "opinions" and "beliefs" to the contrary, but they are very similar to those expressed by Dr. Moyer, and have about as much basis. I will not go into a long review of the history of leprosy and the effect of laws controling it, although such a review could be made convincing; but shall confine myself to the subject of segregation in Hawaii, where I was stationed as a government physician and came into intimate contact with lepers. And, instead of giving my own opinions, based upon actual experience with lepers and leper laws, I shall quote from the "Report of the President of the Board of Health," issued every two years by the Hawaiian government, and containing the reports and recommendations of the different physicians scattered over the group, limiting myself to the answers to the question put to each physician:

"Leprosy. Its increase or decrease. Observations made which may be of general interest or of scientific value."

William O. Smith, President of the Board of Health, says:

"The segregation of lepers and providing for those at the settlement has been carefully attended to. It is gratifying to report that there are indications that the disease is becoming less prevalent. The reports of the Government physicians afford much encouragement on this subject. And the disposition to conceal persons afflicted, or suspected of having the disease, is much less apparent. *There are now very few lepers outside of the settlement at Molokai.*"

Italics are mine.

C. B. Reynolds, executive officer of the Board of Health:

"The work of collecting for medical examination persons suspected of having leprosy has been carried out in a very satisfactory manner by the agents of the Board on the different islands, and I am glad to be able to say that the feeling of repugnance hitherto existing against the leper settlement has almost entirely disappeared from among the afflicted ones."

After giving a table of death-rates from 1889 to 1895, R. W. Meyer, agent of the Board for Molokai, says:

"This apparently decreasing death-rate is probably due to some extent to lepers being sent now in the earlier stages of the disease, and to the better care and medical attendance which they receive now compared with former years."

Dr. Henry W. Howard, physician for Honolulu:

"Leprosy, I think, is decidedly on the decline in the district of Honolulu, as it surely is throughout the whole group. The number of persons brought before the Board of Examiners continues to be large, but it is the exception now to see

new cases, *most of them being of long standing, having been secreted by their friends.*"

Dr. D. Campbell, Waimea, Kauai:

"Leprosy is not so prevalent as it was owing to there being fewer centers of infection."

Dr. St. Gynlais Walters, Lihue, Kauai:

"The number of cases of leprosy developed during the last 21 months is less than usual, therefore I may say that this disease is on the decrease. During the last few years there has been very little trouble in securing suspects. They seem to realize that they will be treated with fairness, and of late I have frequently had native Hawaiians come to me voluntarily asking me to examine them, stating that they wish to know if they are lepers or not."

Dr. John Weddick, Kawaiahau and Hanalei, Kauai:

"The number of lepers in district greatly diminished, owing to many being sent to Honolulu to the Board of Health, and subsequently to Molokai. In this connection I humbly beg to state that, in my opinion, the majority of suspects should not be allowed to stay at home, living in intimacy with their friends and relatives. They should have a place set apart for them at Kahili, and go under the treatment of the new expert to be appointed by the Board of Health."

C. A. Peterson, Ewa, Oahu:

"In regard to leprosy, whether on the increase or diminishing, I cannot surely say. The cooperation of the police is necessary in these cases. Having been unable to catch even a glimpse of one of these afflicted ones, the impression remains that they are few, and hence easily concealed."

Dr. Richard Oliver, resident physician, Leper Settlement:

"There has been no falling off in the number of lepers seeking medical advice; on the contrary, the daily sick list has steadily increased, showing that the bulk of the lepers are more disposed than formerly to profit by foreign medicine."

Dr. A. Mouritz, Resident Physician, Mapulehu, Island of Molokai:

"Leprosy has rapidly declined and the chief factor in causing its diminution is undoubtedly 'active segregation.'

"There remain only three cases in the whole district, and these are suspects; they have been examined on several occasions by the eminent physicians who comprise the examining board, and still pronounced suspects, which is proof of the mildness of their disease. The condition of the disease in these three suspects illustrates mild type, slow progress or no progress visible, the disease being purely local; all the three have the atrophied and palsied hand peculiar to nerve-leprosy. The leprosy is quiescent, which must indicate a less severe type than what prevailed some years ago. Nodular leprosy used to be the most prevalent form; it is the primary form, it rarely delays its course, but progresses slowly to a fatal termination. Nerve-leprosy is a modified or secondary form; differs materially in degree from nodular leprosy; is less active, and hence less infective. It very seldom happens that nodular leprosy aborts, not so nerve-leprosy, which not infrequently aborts; the atrophied and palsied hands, the sole lesion caused by the disease in many cases remaining in a stationary condition for years. Ten years ago I lived at Kalawao; the segregation of lepers was not very active, those that were segregated had the disease of long standing; within five years the majority were dead. The lepers at the settlement in 1895 present this difference; They have been segregated in the early stages, the disease is mild, they will probably live ten years or more, hence no great diminution in the population at the settlement will be speedily apparent. It has been said, 'There is now just as much leprosy as ever.' I decline to accept this statement in the face of the fact that in the past, leprosy has been an unknown quantity; at the present day, leprosy is a fairly well known quantity; furthermore, there is a material difference in the degree of severity. At the present date the bulk of the cases segregated are mild, whereas 10 years ago severe cases comprised the bulk. If segregation had been as effective then as now, the leper population would have been near 2,000. Ten years ago mild cases were left at large in the population, and were an unknown quantity, whereas today he most rigid segregation can produce only mild cases; severe cases are to be found, but rarely, at the present day. The first 20 years of vacillating segregation produced 3,076 lepers. The last 9 years of more active segregation has gathered up 1,932. In January last (1895) the removal of the *Kamainas* (native landholders) from the leper settlement caused the bulk of the people to migrate here, and they are now scattered up and down this district, and any fresh cases of leprosy will probably be directly traceable to these people."

This report of Dr. Mouritz, who is an able physician actually residing on the leper island, bears specially upon Dr. Moyer's statement that "Most of those who have studied leprosy on the islands agree that all these efforts have failed." With 4,000 lepers scattered over the group, the Hawaiian government began to segregate, at first in an inefficient way, retarded often by ignorant and designing officers, but gradually lessening the number of lepers until, in 1895, the President of the Board of Health can say: "There are now very few lepers outside of the settlement at Molokai." And yet a wide-awake physician in the wide-awake city of Chicago says that leprosy in Hawaii "is as common as ever"!

In the 34 years during which Hawaii has practised segregation, the law has been really enforced in the last 14 only.

The same results have followed similar enforcement of judicious laws elsewhere, and in leper countries where such laws have not been made, the disease has gone on spreading. And where it has not increased, it has lived on, perpetuating itself at the expense of the lives of each succeeding generation. It would appear reasonable to take measures to stamp out such a controlable curse, if not for fear of its increasing (which it may never do to an alarming extent in this country), then to get rid of its presence altogether.

Dr. Chas. Davison says in his report for the district of Lahaina, Maui:

"I know of no positive cases of leprosy in this district at present. None of the school children show any signs of the disease, and as they range from 5 to 18 years of age, and are some 800 in number, I think I am justified in considering the disease on the decline."

Dr. R. J. McGettigan, Hana, Maui:

"Having been only a short time in the district I am unable to judge from personal observation as to the increase or decrease of leprosy, but old residents of the district give as their opinion that if anything there is a slight decrease."

Dr. B. D. Bond, Kohala, Hawaii:

"Leprosy though little seen or heard of in the district, has not shown in the last two years the decrease that was to be hoped for. But inasmuch as each individual case has to be ferreted out and brought from concealment, often in a state of full devleopment, this is not to be wondered at."

L S. Thompson, Hilo, Hawaii:

"Leprosy has about disappeared in this vicinity. I have, I think, sent but four cases to Honololu during the past two years, and I know of but one suspect remaining, and his case is so uncertain that after being under my supervision for a number of years I have my doubts as to there being any good reason for suspecting him longer."

"Dr. E. V. LeBlond, Puna, Hawaii:

"I think there should be rigid laws in reference to the disposition of the effects of apprehended lepers. A native has no scruples against wearing the cast-off clothing of his exiled brother, or sleeping in his unclean bed. Leprosy is certainly on the decrease in Puna district. You may notice by my reports that I have a few suspects on my list now and 21 months ago I had none; but this is only because they come out to me now, whereas before they were hidden away."

All the reports of government physicians for the year ending December, 1895, except one, express great encouragement. The exception states:

"As to leprosy I cannot say whether it is on the increase or decrease. In North and South Kona it seems to me that new cases are just about as prevalent today as they were three or four years ago."

The biennial reports from 1889 up to the present are full of the same cheering information; the testimony of careful observers who are forced to acknowledge by what they see about them that leprosy is slowly but surely passing away in Hawaii. In the report for 1895, as physician for Koloa, Kauai, I made the following recommendations:

"It appears to me, since the absolute removal of leprosy from among us has been and still is the object of all effort put forth by this government, more rigid measures should be used in seeking out the sources of infection, namely, individuals affected with leprosy. So long as these remain, either as old cases hidden away or as newly developed or developing ones not yet recognized by the laity, we shall have extension, and that indefinitely. New germs are located in new soil by the victim just sent off; and while we diminish the spread of the disease, we cannot absolutely prevent infection. Considering the nature of the malady, and its almost mysterious methods of propagation, we must look upon every individual afflicted with it, no matter at what stage of development, as a menace to the community and the nation. Hence, it would seem wise to locate every person that shows any suspicion of the disease, and to do this by a systematic, persistent, and thorough examination of all persons liable to develop leprosy. After all that has been said and done, it does certainly seem worth our while to use every means to stamp out the disease, even if the methods are somewhat arbitrary. As it is, every physician does his best in his district to discover whatever lepers may be there, and as each one is brought to light, accidentally or through some officer, the physician sends it off. In the meantime new germs left by the old case are taking root, and the process is continued as long as chance favors, perhaps until several new individuals are infected.

"There are in each district some lepers living among friends, and these are doing their part to perpetuate leprosy in Hawaii. Last week I sent a leper to you. She has been living four years at least among her people, in the intimate way common to the race. Before she became a leper she lived with lepers; they went to Molokai, but she and the disease remained. If we have a right to segregate lepers, we have a right to search for them where they may be found, and no justifiable opposition can be raised."

Plantar Reflex.—Horatio C. Wood (*University Medical Magazine*, April, 1900), in discussing an article in the spring number of *Brain*, 1899, by Dr. James Collier, disagrees with the latter as to the value of the toe, or plantar reflex, in making a diagnosis of organic lesion in the central nervous system. Collier supported Babinski's claim that there are two forms of plantar reflex, viz, the adult and the infantile, and that in certain diseases there is a reversion of the adult to the infantile form, making it possible to locate, within certain limits, the seat of lesion. Wood, after making experiments on both adults and children, finds the plantar reflexes so irregular and uncertain as to render them of little value in establishing a basis for diagnosis. [M B.T.]

Hernia of the Vermiform Appendix.—John H. Jopson (*University Medical Magazine*, April, 1900) reports a case of hernia of the appendix in a man 57 years of age. The previous history was an incomplete right inguinal hernia for 5 years. Sharp, intense pain diffused over the abdomen, but localized in the right inguinal region, was the first symptoms. This was followed by nausea and vomiting. Under ether the tumor disappeared, and there was partial cessation of symptoms. Three days later a tumor like a pencil could be felt and on operation the gangrenous appendix was found. The hernial opening was well above the internal ring. The cecum could not be brought down sufficiently to enable the operator to remove the appendix, so an incision was made over McBurney's point and the appendix removed. The patient died from shock. [M.B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Loving Cup for Dr. Ulrich.—The fiftieth anniversary of the Delaware County Medical Society was celebrated May 27, when a silver loving cup was presented to Dr. W. B. Ulrich, of Media, by the members of the society. Dr. D. M. McMasters, of Ridley Park, made the presentation speech, referring to the fact that Delaware County was among the first medical societies to enroll a woman in its membership, and that Dr. Ulrich had from the first championed their cause.

Vital Statistics of Philadelphia for the week ended May 26, 1900:

Total mortality 424

Diseases.	Cases.	Deaths.
Pneumonia 58, congestion of the lungs 3,		63
Pulmonary tuberculosis		43
Heart-disease 37, fatty degeneration of the heart 2, inflammation of the heart 2 . .		41
Nephritis 24, uremia 5		29
Inanition 15, marasmus 11, debility 3		29
Apoplexy 12, paralysis 4, softening of the brain 3		19
Diphtheria 16, membranous croup 1 . . .	88	17
Carcinoma 12, sarcoma 2, tumor 2		16
Convulsions		16
Gastroenteritis 14, cholera infantum 1 . . .		15
Measles		14
Bronchitis		12
Inflammation of the brain 10, congestion of the brain 1		11
Casualities 9, burns and scalds 1		10
Typhoid fever	66	6
Scarlet fever	59	2
Senility 8, peritonitis 7, cirrhosis of the liver 5, septicemia 5, pertussis 5, influenza 4, jaundice 4, erysipelas 3, suicide 3, atheroma 2, diarrhea 2, appendicitis 2, pericarditis 2, edema of the lungs 2, rheumatism 3, surgical shock 2, abscess of the lungs 2, alcoholism 1, asthma 1, diabetes 1, cerebral dropsy 1, intermittent fever 1, pulmonary hemorrhage 1, gastric hemorrhage 1, homicide 1, hernia 1, pleuritis 1, hepatitis 1, intestinal obstruction 1, cerebral sclerosis 1, sore mouth 1, tetanus 1, ulceration of the stomach 1.		

Philadelphia County Medical Society.—At a meeting held March 23, DR. LEVI J. HAMMOND exhibited a specimen of **tumor** of the **abdominal wall.**

DR. HENRY W. CATTELL demonstrated some **kromoscopic slides prepared from fresh specimens,** and exhibited some **pathologic specimens preserved by Kaiserling's method.**

DR. J. P. CROZER GRIFFITH read a paper, entitled **Percentage and laboratory feeding of infants in health and disease.** He stated that in case it is necessary to give a baby artificial food, the percentage-method should be adopted, as it always gives by far the best results. It is always good to begin with low percentages, lower than are supposed to be present in mother's milk: the sugar, fats, and proteids, can then be increased as occasion seems to warrant. The percentage-method has the great advantage, that if any one particular element disagrees with the infants its proportion can be altered without disturbing the others. Several illustrative cases were cited to demonstrate the importance, the necessity in some cases, of knowing just how much of each of the constituent parts of the milk the baby is getting, and of the marked improvement in the infant's condition following even slight modifications. In the discussion, DR. T. S. WESTCOTT spoke of some details in the modification of milk, and, agreeing to the importance of knowing the proportion of each of the constituents of the milk, recommended the home modification which he had usually found efficacious. He gave a useful formula for the home modification. DR. ALFRED HAND, JR., spoke also of some of the features of infant feeding. DRS. CHARLES F. NASSAU, W. R. WILSON, D. E. LONGAKER, and JOHN M. SWAN also participated in the discussion.

DR. LEWIS S. SOMERS read a paper, entitled **The use of adrenal extract in the treatment of hay fever,** which will be published in a future number of the JOURNAL.

Pathological Society of Philadelphia.—At a meeting held May 24, DR. A. A. ESHNER presented the specimens from a case of **cerebral hemorrhage with ruptured aortic leaflet.** The patient was a man, aged 43 years, who was known to have heart disease, and who suddenly developed right-sided hemiplegia with aphasia. Attention was directed to the fact that as in this case, hemiplegia may be due to hemorrhage in the presence of conditions that seem to warrant the diagnosis of cerebral embolism.

DR. M. P. RAVENEL presented for Dr. Leonard Pearson and himself the specimens from a case of **pneumonomycosis in a cow due to the aspergillus fumigatus.** But 80 cases of aspergillar infection could be found in literature, and the opinion was generally expressed that the condition is always a secondary infection. Recently, however, it has been demonstrated that the affection may be primary, and such was the case reported. Clinically two forms may be distinguished. The first resembles pulmonary tuberculosis, with the exception that the tubercle-bacillus is absent, whereas the aspergillus is present; the second resembles emphysema, with areas of consolidation and bronchitis. Intermediary forms also occur. The cow whose lungs were exhibited, had had a cough for a number of months and was thought to have tuberculosis, but she failed to react to tuberculin. She died a short time after, and the necropsy revealed well-marked lesions of aspergillosis. These were described in detail, and microscopic sections, cultures of the organism, and photographs exhibited. DR. SIMON FLEXNER referred to a false membrane from a nose that he had examined and which revealed the presence of the aspergillus in large numbers.

DR. JOSEPH MCFARLAND presented some **cultures and tissue-preparations showing the plague-bacillus,** and read an account of the natural history of the organism. He also detailed the results of some experimental investigations that he himself had undertaken.

DR. A. O. J. KELLY exhibited a specimen of **papillomatous epithelioma of the pelvis of the kidney,** and referred to the literature of the subject.

DR. SIMON FLEXNER read a paper entitled **The nature and the distribution of the new tissue in cirrhosis of the liver,** and exhibited a number of specimens stained according to recent methods.

DRS. E. P. DAVIS and H. F. HARRIS exhibited a specimen of **chorioepithelioma** which, though it had given rise to extensive metastasis, had not involved the uterus.

NEW YORK.

Smallpox.—The State Board of Health has received notice that smallpox exists at Tarrytown and at Oneonta.

Death of Dr. Fessenden N. Otis.—Dr. Fessenden Nott Otis, formerly a professor in the College of Physicians and Surgeons, New York, and well known by the urethral instruments he has invented, died in New Orleans on May 24. His home is at 5 West Fiftieth street, New York. He was born in Ballston, N. Y., and graduated from the New York Medical College in 1852. In 1872 he was president of the American Dermatological Association. He died in his seventy-sixth year.

Trained Nurses' Aid Society.—The Trained Nurses' United Aid Society of America, incorporated in 1899, held its first meeting at the office of the society, 15 West Forty-second street. The object of the society is to provide relief for trained nurses who are detained from duty by illness or accident, together with the payment of a small death benefit. A trained nurse under 50 years of age, in active service and in good standing, who has a diploma showing not less than two years' training in a hospital, is eligible to membership.

New Beth-Israel Hospital.—This hospital, which was founded in 1890, has since that time been occupying somewhat antiquated and wholly inadequate quarters at 206 East Broadway. Here there are only 28 beds, so that during the past year, out of 824 patients actually in need of hospital care, 349 had to be turned away because of lack of room. On Sunday afternoon, May 27, the corner-stone of a new building was laid at Jefferson and Cherry streets. The new hospital is to be five stories high, and is to cost $115,250. It will have a modern equipment and accommodations for 100 patients, but this will be none too much for such a densely populated quarter of the city.

Roosevelt Hospital.—According to the twenty-eighth annual report of the Roosevelt Hospital, $152,677.95 were spent last year for the maintenance of the hospital, and for repairs and improvements, an amount which is nearly $8,000 in excess of the previous year. There were 2,752 patients treated in the wards, only 411 of whom were paying patients. There were 4,051 ambulance calls, showing how the work of the hospital is increasing. Commenting upon this, the report says that since 1881 five new departments have been added, and that whereas twenty years ago 59 employes were sufficient, the work of the hospital now requires a force of 200.

Physician Dies From Chloral.—Dr. Charles Smith Collins died at his home, 140 West 103d Street, New York, on May 20, from a dose of chloral which he had taken the previous night to induce sleep. He was 38 years of age, and formerly practised in Sing Sing. His wife said that he had recently taken on several occasions some sleeping-draught because of pain and insomnia brought about by neuralgia of the heart. He had retired early on the last evening of his life, tired out after a hard day's work, and after tossing about in bed for some time, had arisen and taken some chloral. Later, the wife was awakened by his labored breathing, and although she at once summoned a physician, her husband was dead when medical aid arrived. It is thought that Dr. Collins guessed at the quantity which he took, instead of measuring it exactly, and in this way took an overdose.

New York County Medical Association.—At the meeting held on May 21, the greater part of the evening was devoted to a **Symposium on organotherapy.** DR. WILLIAM H. BATES considered **The therapeutics of the suprarenal capsule.** Incidentally he referred to the remarkable fact that while one tenth of a grain of the extract had been known to produce the maximum physiological effect, two ounces had done nothing more. He dwelt on the great value of this extract in conjunctivitis, rhinitis, hay fever, and in operations on the nose and throat. He quoted Dr. H. H. Curtis as having found it exceedingly beneficial in cases of laryngeal phthisis. DR. WILLIAM M. LESZYNSKY considered the **Therapeutics of the pituitary body,** more especially with reference to its influence on akromegaly. The results obtained by different investigators in this field he characterized as so contradictory as to be without value. It had only been used empirically, and, he believed, wholly irrationally. DR. HERMANN W. BIGGS spoke of the **Therapeutics of the thyroid gland.** After speaking of the value of thyroid therapy in cretinism, he classified the conditions in which thyroid had proved of use in the following manner: (1) Exophthalmic goiter; (2) various affections of the skin, notably psoriasis, eczema, alopecia, and lupus; (3) goiter; (4) in certain forms of insanity; (5) in obesity; (6) in cases of retarded development of children; (7) in tetany; and (8) in a number of general conditions, such as chlorosis, anemia, syphilis, and arteriosclerosis. The results in lupus were not unlike those observed after the administration of tuberculin. Goiters were usually benefited unless they were largely fibrous. In the treatment of obesity the dosage at first should be small, and a careful watch should be kept for the first symptoms of thyroidism. DR. S. SOLIS COHEN, of Philadelphia, discussed **the therapeutics of the thymus gland.** He stated that he had himself seen a number of good results from the use of this gland in cases of exophthalmic goiter, though he had recently discarded it because he found he could do still better with suprarenal extract. He now belived that the best of all was a combination of thymus and suprarenal extracts. Thymus gland when injected into the veins causes extensive clotting; hence the remedy had been tried and recommended as a styptic, and as a remedy in hemophilia. A few observers claimed to have seen benefit from the use of thymus in leukemia, rickets and rheumatoid arthritis. DR. JOHN B. SHOBER, of Philadelphia, spoke of **the therapeutics of the mammary and parotid glands.** Of the former, he uses tables representing 20 grains of fresh mammary gland of the sheep. Its action is allied to ergot, though more powerful; hence it had been especially useful in controling the hemorrhages associated

vith fibroids of the uterus. He uses a similar extract of the parotid gland of the sheep, and finds that it has a wonderfully sedative action in cases of ovarian neuralgia not dependent upon serious pelvic disease. Such cases were, of course, not very numerous. DR. OLIVER T. OSBORNE, of New Haven, expressed his belief that **exophthalmic goiter** is the result of hypersecretion of the thyroid, and that it was perfectly reasonable to suppose that the secretion of this gland might be markedly altered without any material change in the size of the gland. The gland begins to atrophy just at the time when persons normally put on flesh. The fact that 0% of all cases of myxedema and of Graves' thyroid disease re women, he endeavors to explain by the hypersecretion f the thyroid taking place at each menstrual period and vith each pregnancy. As physiology teaches that the mount of thyroid secretion normally distributed through he system daily is very small, it would seem that the dosage f thyroid extract that had been generally employed was far n excess of what it should be. He believed that cases of iantism would become akromegalic if they lived long nough. It was important to remember that the pituitary ody consists of two parts—the hypophysis and the infundibulum—and that these two portions have dissimilar properes. Laboratory experiments at Yale had proved that when ne suprarenal extract was given by the mouth, or even ypodermically, it did not raise the blood-pressure, though his result was quickly attained when the extract was injected nto the veins. DR. FRANCIS J. QUINLAN extolled the **virtues f suprarenal extract in nasal surgery,** both because f its good immediate effect, and because of its freedom from ad ultimate results.

NEW ENGLAND.

Maine Medical Association.—The following is the ientific program of the Forty-eighth Annual Meeting to e held in Portland, Me., June 13, 14 and 15:

JUNE 13.

Meningitis," S. J. Bassford, Biddeford. Discussion opened by A. H. Weeks, Bar Mills; H. P. Merrill, Portland; A. K. P. Meserve, Portland; Daniel Driscoll, Portland.

Surgical Practice in the Country," C. B. Sylvester, Harrison. Discussion opened by W. K. Oakes, Auburn; F. H. Gerrish, Portland; W. D. Williamson, Gorham, N. H.; F. C. Thayer, Waterville.

A New Operation, suggested for Obstructive Dysmenorrhea," W. L. Cousins, Portland. Discussion opened by S. C. Gordon, Portland; A. Palmer Dudley, New York; J. A. Donovan, Lewiston; C. W. Bray, Portland; Alfred King, Portland.

Lithemia," J. D. Cochrane, Saco. Discussion opened by F. W. Searle, Portland; Edwin M. Fuller, Bath; Richard D. Small, Portland; J. E. Walker, Thomaston.

The Subjective Consciousness in its Relation to Practical Therapeutics," J. G. Gehring, Bethel.

Evening Session.

The Diagnostic Features of Cutaneous Syphilis, Illustrated with the Stereopticon," George Henry Fox, New York.

JUNE 14.

The Therapy of the Future," Edw. J. McDonough, Portland. Discussion opened by Charles O. Hunt, Portland; Augustus S. Thayer, Portland; Alfred Mitchell, Brunswick.

Tuberculosis," A. E. Bessey, Waterville. Discussion: "Early Diagnosis of Pulmonary Tuberculosis," Addison S. Thayer, Portland; "Clinical Treatment of Tuberculosis," D. A. Robinson, Bangor. General discussion opened by N. M. Marshall, Portland; B. F. Sturgis, Auburn; E. H. Hill, Lewiston.

The Management of Contagious Diseases by Local Boards of Health," Charles D. Smith, Portland. Discussion opened by A. G. Young, Augusta; Prof. F. C. Robinson, Brunswick; H. D. Brooks, Surgeon U. S. Marine-Hospital Service, Portland.

Asthenopia and Glaucoma of the Climacteric," H. T. Clough, Bangor. Discussion opened by E. E. Holt, Portland; C. E. Norton, Lewiston; J. F. Hill, Waterville; J. W. Bowers, Portland.

The Modern Cesarean Section an Ideal Method of Treatment for Placenta Prævia," A. Palmer Dudly, New York. Discussion opened by Geo. H. Cummings, Portland; W. B. Small, Lewiston; C. E. Williams, Auburn; H. H. Brock, Portland.

The Value of Bacteriology to the General Practitioner," F. N. Whittier, Brunswick. Discussion opened by Charles D. Smith, Portland; Addison S. Thayer, Portland; E. T. Neally, Bangor; W. H. Kimball, Portland.

Gall-Stones," S. C. Gordon, Portland. Discussion opened by A. Palmer Dudley, New York; S. H. Weeks, Portland.

Evening Session.

nnual Oration—"The Etiology of Cancer," J. Collins Warren, Boston.

CHICAGO AND WESTERN STATES.

Disinfection of all Chinese Quarters.—Chief Sanitary Inspector Young has instructed two inspectors to watch the Chinese habitations for the arrival of newcomers from any other city on account of the possible transmission of bubonic plague. The inspectors will disinfect by wholesale the Chinese district in this city.

Emergency Hospital in Chicago.—At a meeting of the National Emergency Association, recently held, Dr. Gertrude Wellington stated that she had appeared before the Finance Committee of the City Council to plead for the establishment of an emergency hospital in the down-town district. The Finance Committee expressed their willingness to recommend the appropriation of a sum to aid in the undertaking, and named $2,000 as the amount that could be spared, with a share in $3,000 now given annually to St. Luke's and Mercy Hospitals.

Study of Criminals.—To discover whether there are any features on criminals which are common to that class will be the object of the investigation to be made by the child-study department of the Chicago Board of Education. Each inmate will undergo a thorough and systematic examination in accordance with the methods employed in the child-study department. It is expected that this work will take about a month, and that when it is finished much interesting information regarding the class of boys who are in the school will have been obtained.

Formaldehyde as a Preservative.—This is said to be the most dangerous of all adulterants as a preservative for milk. Vigorous protest has been raised from milkmen and preservative-makers, who wish the people to believe that formaldehyde is not only harmless, but positively healthful. The stand taken by the Health Department against the use of formaldehyde will go a long way toward stopping the practice of poisoning the milk intended for the nourishment of little children, but prompt action by housewives and mothers in ceasing to deal with all milkmen whose milk stands the test of time for too long a period would settle the whole difficulty.

Treatment of Consumptives.—In commenting on the report from Boston that the Health authorities there had determined to disinfect every house containing a consumptive patient, and to begin a campaign against the contagion, Health Commissioner Reynolds is quoted as saying that it is a mistake to try and make a consumptive feel that he must be an exile or a leper to be shunned by everybody. The best way is to get the patient to believe that he can be cured, and that he can also be of use to the community by preventing the spread of the disease. If consumptives would deposit their sputa in a paper and then burn the paper, there would be little fear of contagion.

Chicago Medical Society.—At a meeting, held May 23, MR. H. B. GURLER, a leading dairyman, spoke of the **proper management of a dairy farm** and described the precautions that should be taken in producing the marketing milk. He declared that absolutely pure milk could be kept on ice for two weeks and still be fresh and sweet. DR. A. H. BAKER spoke on the **inspection of herds by veterinarians.** It is now a well accepted fact that dairy cows must be examined by competent state veterinarians at least once a year. No animal is more susceptible to disease than the average dairy cow. Every little indisposition of the cow, and, indeed every different mental state, has its effect on the milk. A change of diet will have its immediate effect. The only way to obtain a good milk-supply is to have healthy cows. The only way to be assured of the health of a cow is by the annual tests of veterinarians. The tuberculin-test will show immediately whether or not the cow tested is diseased, and the best proof of its reliability is found in the fact that only 2% of the cows killed were found to be without disease. There is no doubt about the advisability of having the State conduct these annual tests of the dairy cows. HEALTH COMMISSIONER REYNOLDS spoke on the **city inspection of milk.** In speaking of the results of milk inspection by the city, he said: "When the inspection of milk was begun by the city it was found that 45% of the milk sold in the city was below the standard. Now, only

10% is below the required grade. The great trouble with the system is that it does not prevent the adulteration of milk by second and third hand dealers. The people must be instructed as to the quality of milk, and must remember that they cannot hope to buy good milk for a small price." DR. W. S. CHRISTOPHER spoke of the **feeding of milk to infants.** Personal experience had taught him that there were children whose constitutions were such that milk had the effect of poison on them. He advocated feeding fresh beef-juice to children who were thus constituted.

SOUTHERN STATES.

The Johns Hopkins Hospital School for Nurses.—The graduating exercises were held Friday, June 1. The class numbered 24. Addresses were made by President MacAllister and Mr. Wilmer.

Johns Hopkins Hospital Medical Society.—At a meeting held May 21, DR. JAMES CARROLL, of Washington, reported **Three cases of gas-bacillus infection.** The first was a young woman admitted to the Columbia Hospital in labor, whose general condition was good immediately after delivery, but who rapidly developed signs of infection and died within 47 hours. The second case was one of complicated gunshot fracture of the femur, and the third was a young woman who came to the hospital with history of a miscarriage a few days previously, which had been followed by a curetting of the uterus for retained placenta. The autopsy findings in these cases were given in detail, together with a careful study of their bacteriology. DR. BROWN read a paper on the **Bacteriology of the infections of the urinary tracts in women.** From the results of his work, which was most carefully conducted, the following conclusions might be deduced: First, in all cases of infection of the bladder the cause of the cystitis is the introduction into the bladder, usually by catheter, but also occasionally, apparently, by blood or lymph currents from the rectum, of microorganisms. In the great majority of cases, however, a certain amount of trauma of the bladder seems also necessary in order that infection may be set up. Second, many of the symptoms of cystitis of a mild degree; pus-cells in the urine, and, by cystoscopic examination, a distinct reddening of the vesicle trigonum may be caused entirely by a hyperacidity of the urine,—this apparently being in many cases one of the manifestations of hysteria or some form of neurosis. Third, in the great majority of cases of acute cystitis in women the microorganism causing the infection is one which either renders the urine more acid or, at least, presents its normal acidity, *i. e.*, microorganisms which in their growth do not split up the urea. Fourth, the commonest cause of acute cystitis in women is the colon-bacillus, this being due probably in part to the short distance between the anus and the vulva, and in part to the short length of the urethra in women. Fifth, in chronic cases again an acid urine was found in a great majority, and the colon-bacillus was the most frequent cause. As to pyelitis, it may be said that all cases are probably due to micro organisms introduced either by an ascending infection from the urethra and bladder, or carried to the kidney by the blood or lymph currents. Second, while a diagnosis can be best made by renal catheterization we can reach a very definite conclusion regarding the source of infection by a careful urinary examination, and especially from a comparison of the grade of the pyuria with the amount of albumin present,—a marked discrepancy in favor of the latter pointing almost certainly to the infection being renal. Third, in those cases in which the urine is acid, the colon-bacillus and the tubercle are the most common provoking causes, while in the cases of alkaline pyelitis the Bacillus proteus vulgaris is the commonest cause. To be able to thoroughly understand the subjects of cystitis and pyelitis, to make a correct diagnosis, to inaugurate and carry out a rational line of treatment and to give a correct prognosis, a careful clinical and bacteriological study of the urine is absolutely essential. In discussion of this subject, DR. HUGH YOUNG referred to some work of a similar character he had been conducting upon male patients, and stated that he had found a much greater variety of organisms in his cases than those spoken of by Dr. Brown. The predominating cause, both in the acute and chronic cases in the male, seems to be the Staphylococcus pyogenes albus. DR. WELCH said he was somewhat impressed by the fact that the organisms mentioned and which do little harm elsewhere in the body should produce so mu disturbance in the bladder and the urinary tract. He l lieved it must be due to the nature of the trauma or the ve reduced powers of resistance on the part of the patien DR. HUNTER said that the same point had occurred to hi but from a little different standpoint, and he reported 3 ca of infection of the bladder and kidney by very large quan ties of the streptococci, in none of which had the clini disturbance been very marked.

MISCELLANY.

The Röntgen Society of the United States h been organized, and is to be represented by the *Americ X-Ray Journal*, of St. Louis, Mo., as its official orga This society, which is the only one of its kind in Am ica, is national in character. The annual dues are $5.0 the *Journal* free. A regular meeting of the Society w be held in December, 1900, in New York City. Ma able papers have been promised by eminent men in t country and abroad, and a very successful scientific meeti is assured. There will be a large and interesting exhibiti of x-ray, photo- and electrotherapeutic apparatus, rad graphs, etc., during the meeting of the Society. The cha man of the Committee of Arrangements is Dr. Monnel, New York. The Society will be represented at the Int national Congress of Medical Electrology and Radiology Paris, France, by Dr. Price, of Cleveland, O. Particulars all interested will be given by the secretary, J. Rudis Jicinsk M.D., Cedar Rapids, Ia.

Changes in the Medical Corps of the U. S. Arm for the week ended May 26, 1900:

WAKEMAN, Major WILLIAM J., surgeon, is relieved from duty at Santa Mesa Hospital, and will report to the commandi officer, First Reserve Hospital, for duty.

REYNOLDS, Captain FREDERICK P., assistant surgeon, is relie from duty as brigade surgeon, Fourth Brigade, Second Divisi Eighth Army Corps, and will report to the commanding offic First Reserve Hospital, for duty.

HUGHES, M. E., acting assistant surgeon, is granted leave for month, with permission to visit the United States.

BLOCK, WILLIAM H., acting assistant surgeon, will proceed to H vana, Cuba, and report to the president of examining board examination for appointment as assistant surgeon, U. S. Arm

WEBBER, First Lieutenant HENRY A., assistant surgeon. The or directing him to proceed to Baracoa, Cuba, is revoked, and will report for duty at Camp R. S. McMenzie, Puerto Princi Cuba, relieving Acting Assistant Surgeon Luther S. Harvey.

HARVEY, LUTHER S., acting assistant surgeon, will proceed to Ba coa, Cuba, for duty, relieving Acting Assistant Surgeon Mil Vaughan.

VAUGHAN, MILTON, acting assistant surgeon, will proceed to Santi de Cuba, for duty in that city.

BONAR, R. M., acting assistant surgeon, will proceed to Honolu H. I., on the U. S. transport "Logan," reporting there to commanding officer, Camp McKinley, for duty, relieving Act Assistant Surgeon Donald McLean, Jr.

MCLEAN, DONALD, JR., acting assistant surgeon, will proceed to S Francisco, Cal., and report to the commanding general, depa ment of California, for further orders.

MCCOWN, THOMAS B., acting assistant surgeon, is assigned to d on the U. S. transport "Flintshire" during the voyage of t vessel to the Philippine Islands, to sail about May 15.

ALEXANDER, JAMES A., acting assistant surgeon, will proceed Matanzas, Cuba, and report to the commanding general, dep ment of Matanzas and Santa Clara, for assignment to duty.

TURNER, MOLINEAUX, acting assistant surgeon, is relieved fr duty in the division of Cuba, and will proceed from Sagua E racks, Sagua la Grande, Cuba, to Washington, D. C., report to the Surgeon-General of the Army, for annulment of contr

REPETTI, JOHN J., acting assistant surgeon, is assigned to and report for temporary duty with troops on the U. S. transp "Logan," to sail about May 16.

ROBERTS, WILLIAM, acting assistant surgeon, will proceed fr Washington, D. C., to Tampa, Fla., and report by telegrap the Adjutant-General of the Army for further orders.

ROBERTS, WILLIAM, acting assistant surgeon, upon the complet of the duties assigned him at Tampa, Fla., will proceed to H vana, Cuba, and report to the commanding general, divisio Cuba, for assignment to duty.

MACY, FRED. S., acting assistant surgeon, will proceed from Son ville, Mass., to San Francisco, Cal., and report to the comma ing general, department of California, for assignment to dut

PURSELL, FRANCIS J., acting assistant surgeon, will proceed fr Utica, N. Y., to San Francisco, Cal., and report to the c manding general, department of California, for assignment duty.

HARRIS, HERBERT I., acting assistant surgeon, is relieved from d at Walker, Minn., to take effect when his services are no lon required with the troops at that station, when he will proc to Fort Snelling.

ALLOWAY, JAMES H., acting assistant surgeon, now on temporary duty at the general hospital, Presidio, is relieved from further duty on the U. S. transport "Sheridan," and will proceed to Seattle, Wash., and report for duty on the U. S. transport "Rosecrans," relieving Acting Assistant Surgeon Robert E. Caldwell.

ALDWELL, ROBERT E., acting assistant surgeon, will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

MPSON, MAXWELL S., acting assistant surgeon, is granted extension of leave for 15 days.

Changes in the Medical Corps of the U. S. Navy r the week ending May 19, 1900:

ALTON, T. C., medical director, detached from duty at the Naval Laboratory, Brooklyn, N. Y., and from other duty May 20, and ordered home to wait orders and retirement May 31, at 62 years of age.

RAISTED, W. C., passed assistant surgeon, orders to the "Mayflower" revoked. When the "Detroit" is placed out of commission detached and ordered home and directed to hold himself in readiness for orders to sea.

ITH, G. T., passed assistant surgeon, detched from the Naval Laboratory and Department of Instruction, Brooklyn, N. Y., June 14, and ordered to the "Mayflower" June 15.

STIGAN, G. D., passed assistant surgeon, detached from the Boston Navy Yard, May 29, and ordered to temporary duty on the "Pensacola" and then to the Asiatic Station via the "Gaelic."

AVIS, E., assistant surgeon, detached from the Naval Hospital, Brooklyn, N. Y., May 29, and ordered to temporary duty on the "Pensacola" and then to the Asiatic Station via the "Gaelic."

ENNEDY, J. T., assistant surgeon, detached from the "Independence" June 4, and ordered to the Asiatic Station via the "Gaelic."

IPPETT, T. M., assistant surgeon, detached from the "Oregon," and ordered to the "Newark."

OUGLAS, S. W., pharmacist, detached from the "Wabash" and ordered to the Key West Naval Station for such duty as may be assigned.

URD, I. N., pharmacist, is relieved from duty at the Key West Naval Station.

URD, I. N., pharmacist, upon reporting of relief, detached from the Key West Naval Station and ordered to the "Wabash."

Changes in the U. S. Marine-Hospital Service, r the 7 days ending May 24, 1900:

OODWARD, R. M., surgeon, to proceed to Puerto Rico on special temporary duty. May 24.

AGER, J. M., passed assistant surgeon, relieved from duty at Cincinnati, Ohio, and directed to proceed to Norfolk, Va., and assume command of the service. May 19.

CMULLEN, JOHN, assistant surgeon, bureau order of April 2, 1900, directing Assistant Surgeon McMullen to assume command of the Tortugas Quarantine, temporarily revoked, and directed to report to medical officer in command of that station for duty. May 24.

ERR, JOHN W., assistant surgeon, bureau order of May 7, 1900, directing Assistant Surgeon Kerr to proceed to Hong Kong, China, for duty, suspended, and directed to report to medical officer in command, San Francisco Quarantine (Cal.), for temporary duty. May 19.

HERESCHEWSKY, J. W., assistant surgeon, relieved from duty at Havana, Cuba, and directed to proceed to New Orleans, La., and report to medical officer in command for duty and assignment to quarters. May 21.

MESSE, J. W., assistant surgeon, bureau order of May 7, 1900, directing Assistant Surgeon Amesse to proceed to Honolulu, Hawaii, for duty, suspended, and directed to report to medical officer in command, San Francisco Quarantine (Cal.), for special temporary duty. May 24.

ILSON, R. L., assistant surgeon, to report to medical officer in command, San Francisco Quarantine (Cal.), for duty. May 18.

ERRY, T. D., assistant surgeon, upon being relieved from duty at New Orleans, La., to proceed to Havana, Cuba, and report to Surgeon H. R. Carter for duty. May 21.

ARLE, B. H., assistant surgeon, relieved from duty at Detroit, Mich., and directed to proceed to the San Francisco Quarantine (Cal.), and report to the medical officer in command for duty. May 18.

LOYD, B. J., assistant surgeon, relieved from duty at Chicago, Ill., and directed to proceed to San Francisco Quarantine (Cal.), and report to the medical officer in command for duty. May 18.

OLDSBOROUGH, B. W., acting assistant surgeon, granted leave of absence for 2 days. May 17.

EVENSON, J. W., acting assistant surgeon, to assume temporary charge of the service at Cincinnati, Ohio, vice Passed Assistant Surgeon J. M. Eager, relieved. May 19.

ETMORE, W. O, acting assistant surgeon, relieved from duty at the Immigration Depot, New York, N.Y., and directed to report to the medical officer in command, Cape Charles Quarantine (Va.), for duty and assignment to quarters. May 24.

OEHRIG, A. M., hospital steward, to report to medical officer in command, San Francisco Quarantine (Cal.), for special temporary duty. May 22.

ICHARDSON, S. W., hospital steward, to report at Washington, D. C., for special temporary duty. May 23.

Foreign News and Notes.

GREAT BRITAIN.

The Royal Society is about to elect into its distinguished body Dr. Patrick Manson, C.M.G., Physician to the Colonial Office, whose work with regard to the role of mosquitos in the transmission of malaria is thus hall-marked; and Dr. Leonard Hill, joint-secretary of the Physiological Society and late assistant professor of physiology in University College, London. Dr. Hill has written an excellent manual of physiology, and is at present lecturer on that subject at the London Hospital. Mr. J. J. Lister, a Cambridge physiologist, is also on the selected list.

An International Congress of Gynecology and Obstetrics has been announced to be held in London some time in 1902. Representative gynecologists and obstetricians of other nations will do well before taking steps to "adhere" to this congress to see how far the British organizing committee has been able to obtain British support. With two exceptions, and one of these was accidental, every past and present teacher of obstetrics at the London hospitals has refused to consider the organizing committee properly composed. This means that the twenty best-known and most representative gynecologists and obstetricians of London will not lend their aid to an international congress to be held in London, so that as things at present stand the outlook is unfavorable.

The Sanitary Institute of London have arranged to hold a conference on the housing of the working classes at the Institute, and in connection with it an exhibition of models and designs will be formed in the Parkes Museum of the Institute. The conference will be held at the end of July, and will continue for two or three days, probably those immediately preceding that on which the Sections of the Annual Meeting at Ipswich of the British Medical Association begin (August 1). Papers will be read and discussed in the mornings, and visits to typical buildings will be arranged for the afternoons, and also demonstrations of the plans and models.

Plans and models coming under any of the following heads will be accepted:

Unhealthy areas, and improved areas; Urban dwellings on the system of self-contained flats, associated flats, family houses, poor men's hotels, common lodging houses, shelters; Suburban dwellings; Rural dwellings; Hop and fruit pickers' temporary dwellings; Model estates, villages; Models and plans illustrating the application of buildings acts and regulations.

Silver and bronze medals will be awarded by the Institute for improved designs.

The Sanitary Institute have also accepted an invitation from the Société Française d'Hygiène to hold a conference in Paris on Tuesday, Wednesday, and Thursday, August 7, 8, and 9. The date of meeting has been so arranged that it will follow the conference and exhibition on the housing of the working classes to be held at the Institute, and the annual meeting of the British Medical Association, and immediately precede the meeting of the International Congress of Hygiene and Demography in Paris. Matters relating to municipal sanitation and other sanitary work will be discussed in the mornings, the afternoons being left free for visits (which the Société Française d'Hygiène will arrange) to important sanitary works. The French society will also provide a reception room for the members and associates of the Institute, so that they may be able to meet together during their stay in Paris. Foreign guests wishing to join the conferences of the Sanitary Institute in London or in Paris can obtain further particulars from Mr. E. White Wallis, F.C.S., secretary, The Sanitary Institute, 744 Margaret Street, London, W., to whom all communications should be addressed.

Queen Victoria at Netley.—The aged Queen of England is doing everything in her power to show how complete is her sympathy with her soldiers in the present war. This was the real meaning of her recent sojourn in Ireland; while the manner in which she has laid herself out to write personal letters to many who have lost their relatives, to entertain at Windsor all who have returned after distinguishing

themselves, and to visit the service hospitals where most of the wounded are congregated, is beyond praise for its energy and kindness. On May 16th she made her second visit to Netley Hospital, where, since the war began, no less than 3,426 men have been admitted and have received treatment. The Queen made a complete tour of the wards; entered into conversation with many of the wounded; personally promised that one "Tommy," who said he had not received a gift of chocolate, should have a box sent to him; distributed flowers brought from the Frogmore Gardens near Windsor Castle; and remarked not very enthusiastically upon the nature of the pillows served out to the invalids. We may be sure that the need for a little reform thus hinted at as the result of the Queen's inspection will be recognized at once by the authorities.

At the last meeting of the Council of the **Royal College of Surgeons of England** Mr. Lambert Lack was awarded the Jacksonian Prize. Mr. Lack is the gentleman whose work upon the artificial protection of cancer was seized upon and misinterpreted last year by the lay press, it being reported all over the world that he had discovered the germ of man's worst physical ill, and if we remember right, the specific to combat it also. The meeting was rendered additionally interesting by the presence at it of Sir William MacCormac, looking none the worse for his arduous experiences with the British field forces in South Africa. It is believed that Sir Thomas Smith will resign his seat upon the Council, or rather will not seek reelection when his time expires, next July; and the death of Mr. Davies-Colley, to which we have already referred, makes another vacancy. Two other vacancies will occur automatically. Two candidates are all ready in the field for the four seats: Mr. John H. Morgan, of Charing Cross Hospital, an excellent and popular surgeon, who was once a great athlete, and Mr. J. Bland-Sutton, of Middlesex Hospital, whose work on tumors is one of the most sound as well as most interesting contributions to modern pathology.

The General Medical Council.—The General Medical Council, writes a frequent correspondent, commences its summer sitting for 1900 at the end of May, and by all accounts it has before it a heavy program. The Midvives' Bill will still have to be considered, for the Council have been placed by the legislature in a somewhat awkward position. They only approved the bill with certain reservations; the amendments that they revived have been none the less exhibited to the House of Commons as thoroughgoing supporters of the existing measure. The Council will certainly have to decide in conclave what they should do to correct a misapprehension of their attitude which may have tended considerably to facilitate the passage of the bill through the House of Commons; and their thoughts will instinctively turn toward attempting to get a pledge from the Duke of Devonshire that only a measure which meets the approbation of the Council shall be sanctioned by the House of Lords. For the bill still awaits the imprimatur of the House of Lords, where the Duke of Devonshire is a very big man. He is also Lord President of the Privy Council, and the Privy Council, as the body to which the General Medical Council owe direct allegiance, will certainly desire to see medical views duly adopted. When the clinical midwives question is done with, the Council will have to consider the question of the advisability of making the preliminary examination for entrance into the medical profession much harder. A point upon which all special authorities on medical education are agreed is that the early training of the medical student should be of a higher stamp, but experts on education generally, who have been asked by this Council to devise a scheme for raising the matriculative tests, have reported that these tests cannot be raised without causing a serious diminution in the number of medical students. As to a great extent the General Medical Council represents the corporations and universities rather than the mass of the medical profession, and as all educational bodies desire lots of students and consequently lots of fees, it is easy to see that the General Medical Council will embark with reluctance upon any scheme that may curtail the number of students. Yet, some of the most thoughtful and conscientious members of the Council are sure that the standard of preliminary education at present exacted of the British medical student is inadequate; while the profession at large will welcome any reform that looks like leading to a thinning of the ranks in their overcrowded calling. As has already been intimated there is excellent material for debate here. The only fear is lest the General Medical Council, a most loquacious body, should use up all their energies in talking and come to no conclusions whatever—save to adjourn the question until a more convenient time.

CONTINENTAL EUROPE.

Free admission to the Paris Exposition will be granted to the members of the International Medical Congress during the week of the Congress, August 2 to 9. To secure such admission, members will receive a special card by applying to the office of the Congress, 21 rue de l'Ecole de Médecine.

Obituary.—DR. EDWIN VAN MILLIGAN, formerly professor of ophthalmology in the Imperial School of Medicine in Constantinople.—DR. A. MILNE EDWARDS, professor in the Museum of Natural History of Paris.—DR. HEINRICH BOSE, formerly professor of surgery in the University of Giessen.—DR. APOSTOLI, a distinguished physician of Paris, and well known for his writings on electrotherapeutics, aged 53 years.—GEORGE VINER ELLIS, F.R.C.S., emeritus professor of anatomy, University College, London, April 25, aged 88 years.

Influenza and its Treatment.—According to the *Lancet*, at a recent meeting of the Academy of Medicine, M. Huchard read a paper upon the present epidemic of influenza, especially upon those abortive forms which are so common at present. The attacks are characterized by an absence of fever but are accompanied by various neuralgias and depression both bodily and mental. In other cases, abortive pneumonias occur; there is no fever, but there is congestion of the bases of the lungs, or else a bastard pleurisy with diminished respiratory sounds. M. Huchard considered that all these symptoms could be put down to some affection of the pneumogastric nerve. The respiratory form is not signalized by any very definite symptoms, and the patients go about their usual work, thus exposing themselves to grave dangers. Sometimes the only symptom observed is a rise in temperature lasting for about 2 days, without any abnormal pulmonary signs. In other cases, the temperature is raised, but the pulse is not quickened. These masked forms of influenza of the ambulatory type are especially dangerous, for the sufferer takes no care of himself, and the influenza-infection opens the door to infections of another kind, so that the organism is very subject to the danger of invasion by the bacilli of pneumonia or the staphylococci or streptococci, for which Pfeiffer's bacillus prepares the ground and the virulence of which it intensifies. In time of influenza, then, preventive measures should be taken: antisepsis and asepsis of the body-cavities should be used; antiseptic lotions should be used for the mouth, the nose, and the throat, and blistering agents should be avoided as opening the door to infection. For intestinal antisepsis, reliance should be placed on a milk-diet, which is preferable to medicinal antiseptics; it also acts favorably on the liver and kidneys. Quinin should be given in large doses in the form the bromohydrate, and as much as nearly 19 grains (1.25 grams) may be given if there is fever, and if not from 7½ to 11 grains (0.5 to 0.75 of a gram) may be given both as curative and preventive. Ten centigrams (1½ grains) of the watery extract of ergot, and the same quantity of bromohydrate of quinin may also be given in the form of a pill, and 10 of these may be taken per diem. Where nervous symptoms are marked, glycerophosphate of lime, or, still better, strychnin sulfate may be given. Antipyrin should be used very sparingly, and with the greatest care, or, better, not at all. M. Hayem did not recommend milk. It was a depressing diet, and influenza was a very weakening complaint. He could not understand M. Huchard recommending this to relieve the digestive organs, and at the same time recommending ergot and quinin, which were both digestive irritants.—M. Laborde agreed that antiseptic lotions for the nose and throat should be used. He recommends the solution of carbolic acid of the strength of 1 in 200.

Society Reports.

ASSOCIATED HEALTH AUTHORITIES OF PENNSYLVANIA.

Seventh Annual Convention, held at Mechanicsburg, May 23 and 24.

[Specially reported for THE PHILADELPHIA MEDICAL JOURNAL.]

THE first session of the Associated Health Authorities of Pennsylvania began at 2 30 P.M., Wednesday, with CROSBY GRAY, Esq, Superintendent of the Pittsburg Bureau of Health, in the chair.

DR. H. B. BASHORE, in a paper on **Rural Hygiene,** said the healthiest place is the large city (except Philadelphia and Pittsburg). The old oaken bucket is all very well in poetry, but the ordinary city water has about 75% less disease in it. Mention was also made regarding the incomplete system of quarantining contagious diseases in township districts and the great difficulty experienced by municipalities in combating diseases originating in adjacent territory. Of what use is it to isolate cases of scarlet fever in the city, when residents of the country in infected garments are free to travel in crowded cars and engage in business and so frequent stores in the city? The State Board of Health tried at the last legislature to meet such conditions, but the legislature, as a substitute, empowered the school directors to act, if they were so inclined. DR. R. S. MAISON stated that "it is plain that there are conditions under which the Township Act is practically inoperative, and outside intervention is necessary."

PROF. W. H. ALLEN showed the **changes necessary in the system of State health** to make it really effective, *i. e.*, to substitute compensated officers for the present volunteers, for notifications of contagious diseases and to establish a bureau of vital statistics. He urged that the control of the water-supplies be placed under the State Board of Health, and the State as a whole be taxed for river inspection. This should be done before Philadelphia and Pittsburg get their filtration plants, or else these cities would have no interest in the matter and would not help. Philadelphia's typhoid bill alone would control every river in the State. The legislature was denounced in the strongest terms by MR. ED. S. WAGONER, president of the Mechanicsburg Board of Health, for the lack of support given to the State Board of Health. He compared the scanty appropriation made to this all-important body with amounts received by other States, that of Pennsylvania being the least.

A paper on **School Hygiene** was read by A. J. BEITZEL, Principal of the Mechanicsburg School, in which he referred to the kind of education of the mind which results in neglect of the body. A sound mind can only exist in a sound body. A law compelling medical inspection of schools was urged.

MISS DORA KEEN, of Philadelphia, gave an interesting review of the **medical inspection of the schools** of that city begun in 1897. In some instances children were found too ill to be at school. Many are a source of contagion to others; many are hampered in school work by defective sight or hearing, many suffer deterioration of health during school life, in consequence of faulty conditions of light, ventilation and sanitation of the schools.

DR. BENJAMIN LEE, in a paper on **"recent state legislation for the protection of the health and lives of school children,"** referred to the rapid advancement of women in an official capacity in the domain of public education. Woman is a natural born sanitarian, whereas man must be taught.

Reference was made to the law which says that school boards may organize as boards of health. Any board that will accept such responsibility and burden can accomplish great things, but not many seem willing, when it is known that but 46 representing 7 counties exist in the State, 15 of these in Allegheny County.

C. HERBERT OBREITER, ESQ., of the Lancaster Township School Board, gave the workings of the law, and referred to its faulty construction in the lack of a penal clause, the right being given to a director to impose fines but not to imprison. He said that the law should be made mandatory.

The annual address before the State Board of Health was made by PROF. A. C. ABBOTT, M D., on Wednesday evening.

Every section of the State was represented. On the morning of the second day the delegates were taken on a drive through the surrounding country. A visit was made to Gettysburg and the battlefield.

The officers elected for the ensuing year were: President, ex-officio, Governor William A. Stone; first vice-president, Crosby Gray, Superintendent, Bureau of Health, Pittsburg; second vice-president, Moritz G. Lippert, C. E., President, Board of Health, Phœnixville; third vice-president, Dr. H. H. Whitcomb, President Board of Health, Norristown; secretary, Dr. William B. Atkinson, Philadelphia; treasurer, Jesse C. Green, D.D.S., Board of Health, West Chester.

GERMAN SURGICAL CONGRESS.

Twenty-ninth Annual Session, Held at Berlin, April 18, 19, 20, and 21, 1900.

Specially reported for THE PHILADELPHIA MEDICAL JOURNAL.

[Concluded from page 1169.]

Operation for Contusion of the Abdomen.—V. ANGERER (Munich) has operated in 9 cases for rupture of the intestine in the past 4 years, with 2 recoveries. The prognosis is much influenced by the amount of time between the injury and operation; operation should be undertaken as soon as possible in the case of gunshot or stab-wounds; in the case of subcutaneous injuries of the liver, kidney, etc., the diagnosis is very difficult, and spontaneous recovery may occur without operation. The symptoms may change decidedly in 24 hours. Subcutaneous injury is particularly dangerous; shock has little diagnostic value; if it continues for several hours, it should not be considered true shock, but is probably caused by a lesion of internal organs. The pulse is usually weak, often frequent, and in case of peritonitis, it becomes high; increase of pulse and temperature indicate septic peritonitis. The clinical picture is often obscured by the use of morphin. Pain may be entirely absent. Early disappearance of liver-dulness is to be expected only in cases in which the rupture is near the liver, and continued liver-dulness may not indicate that there is no rupture. Bloody stools indicate probable injury of the mucous membrane without perforation. In all doubtful cases laparotomy is indicated. Statistics show that of 162 cases of subcutaneous rupture of the intestine only 11 have been saved and several have recovered with fistulas. One should not hesitate to operate because of shock, which is often the sign of beginning peritonitis. Ether-narcosis in the case of shock is not dangerous. More die because of hesitation to operate than from other causes. The free use of salt-solution is always necessary; irrigation is preferred to sponging. In septic conditions eventration should be practised to permit better cleansing. A longitudinal rupture should be sutured transversely. In case of complete tear of the intestine anastomosis with Murphy's button should be performed.

Discussion.—REHN (Frankfurt am Main) operated in one case of suspected perforation 9 hours after the injury, and found instead of perforation a tetanic contraction of the intestine. EICHEL (Strassburg) thinks it advisable to withhold food entirely until the diagnosis is certain; the pulse is of great importance. HAHN (Berlin) believes that in every case of rupture of the intestine resection is necessary. LAUENSTEIN (Hamburg) states that patients with peritonitis bear operation poorly, hence the necessity for early operation. He has waited in some cases with very sad results, but in other cases he has operated early with even worse results. In many cases of injury thrombosis of the mesenteric vessels results.

Isolation of the Intestine by Anastomosis for Volvulus.—V. BERGMANN (Riga) thinks in cases of volvulus the operation is usually begun too late. The differential diagnosis is often very difficult and is possible only after opening the abdomen. Distention of the central end of the intestine is often present. Intestinal anastomosis is often very successful. He has operated in 46 cases and 14 have recovered. The earlier the diagnosis the better the result.

Simplification of Gastroenterostomy and Entero-enterostomy.—CREDÉ (Dresden) operates with the use of 3 silver plates; 2 of these, with a rubber plate between them, are inserted in the intestine; 1 is placed in the stomach; then they are all fastened by silk thread. After 5 or 6 days the plates ulcerate through and they are passed by the rectum in about a week. He has performed 18 operations with 2 deaths.

Resection of Volvulus of the Sigmoid Flexure.—STEINTHAL (Stuttgart) reported a case in which he did not in the first place perform the radical operation, but 14 days later recurrence followed and resection was undertaken. The patient made an excellent recovery.

Invagination and Congenital Cyst.—SPRENGEL (Braunschweig) reported a case in which invagination of the ileum into the cecum resulted from a congenital cyst of the intestinal wall.

Gastroenterostomy.—KEHR (Halberstadt) reported a case in which he was obliged to perform the operation three times. He prefers the Murphy button to suture. He presented two children, each 6 months old, in which he had performed gastroenterostomy for congenital stenosis of the pylorus. v. EISELSBERG (Königsberg) reported gastroenterostomy for benign stenosis of the pylorus. KÖRTE (Berlin) demonstrated an ulcer of the jejunum which was found after the operation of gastroenterostomy had been performed for ulcer of the stomach. The perforation was found at the necropsy. STEINTHAL (Stuttgart) reported another case in which ulcer of the duodenum had followed gastroenterostomy. In all, 5 cases of this kind have been reported, including his own. PETERSEN (Heidelberg) reported 3 cases of volvulus following posterior gastroenterostomy. All but one of the operations were performed with Murphy's button. He believes that a twist of the intestine is easily brought about when the button is pressed together; this accident should be carefully avoided.

Bone Grafting.—GROSSE (Halle) presented a child who had had a defect of the tibia. A piece of bone obtained from an amputation had been inserted and had united perfectly.

Inflammatory Tumors of the Omentum.—BRAUN (Göttingen). Very often tumors form in the abdomen after operations which produce symptoms of pain, stenosis, or pressure, and they remain for months. For the prevention of such formations one should handle the omentum with the greatest possible care. **The Surgical Pathology of the Omentum and Mesentery.**—FRIEDRICH (Leipzig). Extensive resection of the omentum is not usually followed by unfavorable symptoms. Friedrich has tried the effect of removal of large portions of the mesentery on various animals; he found bad results almost invariably following, such as necrosis of the liver, the formation of ulcer in the stomach, etc. He demonstrated several preparations showing such results. It is difficult to draw conclusions from this as to the conditions in man. KRAUSE (Altona) demonstrated an intestinal anastomosis forceps. KÖRTE (Berlin) demonstrated a specimen of obdurator hernia. GOEPEL (Leipzig) presented 2 patients in which he had used silver wire netting to close hernial openings. BESSEL-HAGEN (Charlottenburg) in operating for umbilical hernia advises splitting the rectus sheath for a distance of 8 or 10 cm. and sewing the middle of the muscle-border together. GOTTSTEIN (Breslau) presented a man of 48 on whom he had performed laryngectomy. The patient had a pseudo-voice as a result of union with the pharynx. v. BERGMANN (Berlin) presented a patient upon whom he had operated for carcinoma of the rectum by the sacral method 5 years previously. He believes the result to be permanent in this case. HOFFA (Würzburg) presented 3 patients upon whom he had operated, performing extirpation of the sternomastoid muscle by Mikulicz method for wry-neck. He uses this method in only very difficult cases. **Teratoid Tumors of the Abdomen.**—LEXER (Berlin). After a discussion of this subject a girl of 11 was presented with a tumor of this kind in the upper air-passages.

Experiments in Disinfection of the Hands.—SARWEY (Tübingen) finds from experiments that perfect disinfection of the hands is impossible by any method thus far devised. The method by means of hot water, tincture of green soap and alcohol, with the use of soap containing powdered stone, is sufficiently satisfactory. In the discussion several members expressed their belief in the necessity for the use of rubber gloves. KATZENSTEIN (Berlin) demonstrated an apparatus for disinfecting catheters with formaldehyd. In the discussion several members expressed their belief that boiling or the use of superheated steam was necessary for efficient disinfection.

The Pathology and Treatment of Gangrene of the Lower Extremity.—BUNGE (Königsberg) has investigated various forms of gangrene and in all cases has found thickening of the intima with increase of the elastic elements. He showed microscopic preparations with the presence of sclerotic plaques which tended to develop at the region at which the arteries branched, thus hindering the collateral circulation. The treatment in most cases is purely surgical. In case of gangrene which is extending rapidly we should not wait too long for the line of demarcation. Iodin may do good in cases possibly due to syphilis, and baths may be combined with this treatment with benefit.

The Suture of Bloodvessels.—PAYR (Gratz) has experimented with animals, using an absorbable metallic tube of magnesium. The time required for absorption of a tube weighing 0.1 gm. is about 3 weeks.

Discussion.—v. BERGMANN (Berlin), asked if thrombosis never occurred about the tube. PAYR stated that he had found thrombosis, but it had never caused obliteration of the vessels; later he had used the tube externally. CHULMSKY (Breslau) stated that the use of magnesium as an absorbable material was not new: he had devised an intestinal anastomosis button of this kind.

BAHR (Hannover) read a paper on **coxa vara,** devoting considerable attention to the etiology.

The Value of Orthopedic Corsets.—VULPIUS (Heidelberg) bases his opinions on experience in the use of the corset in 800 cases. The corset comes in consideration in tabes, spondylitis, and scoliosis. In tabes the effect of the corset has not been sufficiently studied. In spondylitis the corset is indicated first at the period of recovery, it guarantees fixation and relief through extension. In suitable cases the effects of treatment are very satisfactory. RUBINSTEIN (Berlin) presented several x-ray pictures of breaks from direct force. WOHLGEMUTH (Berlin) discussed the pathology and treatment of fractures of the greater tuberosity of the humerus. He advises treatment with the arm bandaged in the position of abduction and outward rotation.

Hematemostasis Without Ligature; Angiopressure.—HOLLANDER (Berlin) instead of using a ligature applies ordinary German hemostatic forceps and then applies a pressure forceps. For 6 months he has used this method experimentally and in practice with satisfactory results. SAMTER (Königsberg) has investigated the causes of habitual luxation of the shoulder-joint, in one case in which there was a reduplication of the capsule, which had healed near the site of rupture. MOST (Berlin) has investigated the retropharyngeal glands and lymph passages and he finds several lymph glands which may give rise to retropharyngeal abscess.

Hematometra.—William Gardner (*The Montreal Medical Journal*, January, 1900) reports the case of a woman, 51 years old, who had had 2 full-term births and 1 miscarriage. The last child was born 11 years previously and the patient ceased to menstruate 2 years ago. She had suffered for several years from prolapse, and had worn a cup-and-stem pessary. She complained of abdominal enlargement and occasional pain, but the latter was never severe. The hypogastrium was distended by a very firm, smooth, round, almost immovable, insensitive tumor. The cervix was raised to the level of the upper margin of the pubes against which it pressed. The diagnosis was obscure, the growth being inconsistent with either myoma, or solid tumor of the ovary. So rapid a growth indicated malignancy. Operation showed the uterus impacted in the pelvis, from which it was raised with difficulty. Supravaginal amputation was done. The uterus was slit open, it was found to be symmetrical, and it contained more than a pint of partially clotted, dark, blood. Gardner is of opinion that the wearing of the pessary had caused an inflammation and adhesion of the cervix, occluding its orifice, and leading to the accumulation. There was no malignancy. Recovery was prompt. [M.B T.]

Festschrift

IN

HONOR OF WM. HENRY WELCH, M.D.,

Dedicated to Him by His Pupils on the Twenty-fifth Anniversary of His Doctorate.

1. A Contribution to the Study of the Pathology of Early Human Embryos. FRANKLIN P. MALL.
2. On Urea in Some of Its Physiological and Pathological Relations. C. A. HERTER.
3. The Direct Action of Nicotin upon the Mammalian Heart. HENRY G. BEYER.
4. The Effects of Shaking upon the Red Blood-Cells. S. J. MELTZER.
5. The Bloodvessels, Angiogenesis, Organogenesis, Reticulum and Histology of the Adrenal.
6. Specific Degenerations of the Cortical Arteries. HENRY J. BERKLEY.
7. The Regeneration of the Crystalline Lens. ROBERT L. RANDOLPH.
8. The Histology of Acute Lobar Pneumonia. JOSEPH H. PRATT.
9. Bilateral Cholesteatomatous Endotheliomata of the Choroid Plexus. GEORGE BLUMER.
10. Concerning the New Formation of Elastic Fibers, Especially in the Stroma of Carcinomata. HERBERT U. WILLIAMS.
11. Cirrhosis of the Liver of the Guineapig Produced by a Bacterium (Bacillus coli communis) and its Products. GEORGE H. WEAVER.
12. On the Muscular Architecture and Growth of the Ventricles of the Heart. JOHN BRUCE MCCALLUM.
13. Some Observations upon the Surgical Anatomy of the Gall-bladder and Ducts. GEORGE EMERSON BREWER.
14. A Case of Plexiform Neuroma of the Eyelid (Rankenneurom). HARRY FRIEDENWALD.
15. A Case of Multiple Myeloma. JAMES H. WRIGHT.
16. The Development of the Musculature of the Body Wall in the Pig, Including Its Histogenesis and Its Relations to the Myotomes and to the Skeletal and Nervous Apparatus. CHARLES RUSSELL BARDEEN.
17. A Variety of Adenocarcinoma of the Uterus. THOMAS S. CULLEN.
18. A Bacteriological and Microscopical Study of Over 300 Vesicular and Pustular Lesions of the Skin, with a Research upon the Etiology of Acne Vulgaris. T. CASPAR GILCHRIST.
19. The Frequency and Significance of Infarcts of the Placenta, Based upon the Microscopic Examination of 500 Consecutive Placentae. J. WHITRIDGE WILLIAMS.
20. A Contribution to the Knowledge of the Bacillus aerogenes capsulatus. W. T. HOWARD.
21. On the Intravascular Growth of Certain Endotheliomata. W. G. MACCALLUM.
22. The Cultivation of Amebae. CASPER O. MILLER.
23. The Bacillus Pseudo-Tuberculosis Murium; Its Streptothrix Forms and Pathogenic Action. DOROTHY M. REED.
24. Experimental and Surgical Notes upon the Bacteriology of the Upper Portion of the Alimentary Canal, with Observations on the Establishment There of an Amicrobic State as a Preliminary to Operative Procedures on the Stomach and Small Intestine. HARVEY W. CUSHING and LOUIS E. LIVENGOOD.
25. The Origin, Development and Degeneration of the Blood-vessels of the Human Ovary. JOHN G. CLARK.
26. The Gonococcus. A Report of Successful Cultivations from Cases of Arthritis, Subcutaneous Abscess, Acute and Chronic Cystitis, Pyonephrosis, and Peritonitis. HUGH H. YOUNG.
27. The Histogenesis of the Cellular Elements of the Cerebral Cortex. STEWART PATON.
28. Experimental Pancreatitis. SIMON FLEXNER.
29. Chronic Hypertrophic Gastritis of Syphilitic Origin, Associated with Hyperplastic Stenosis of the Pylorus. JOHN C. HEMMETER and WM. ROYAL STOKES.
30. A Case of Adenocarcinoma Which Originated in the Submucous Glands of a Trachea-like Formation Found in a Sacral Teratoma. WM. H. HUDSON.
31. On Hydromyelia, in Its Relations to Spina Bifida and Craniorhisis. E. BATES BLOCK.
32. Experimental Disseminated Fat Necrosis. EUGENE L. OPIE.
33. Multiple Hyperplastic Gastric Nodules Associated with Nodular Gastric Tuberculosis. CLARIBEL CONE.
34. On Serum Substitutes with Special Reference to Asiatic Cholera. ARTHUR BLACHSTEIN.
35. Endocarditis Due to a Minute Organism, Probably the Bacillus Influenzae. MABEL F. AUSTIN.
36. On the Microscopic Alterations Met with in the Tissues from a Case of Chronic Diffuse Nephritis, Terminating with Symptoms of Landry's Paralysis. LEWELLYS F. BARKER.
37. Model of the Medulla, Pons and Midbrain of a Newborn Babe. FLORENCE R. SABIN.
38. A Contribution to the Surgery of Foreign Bodies. W. S. HALSTED.

1.—This paper is based upon the study of 50 **pathologic human ova** which have been collected by the author during the past six years. Nearly all of the embryos were cut into serial sections, thus permitting of a more careful study than is possible from that of the external appearance alone. So far as possible, additional data were obtained from the physicians from whom the specimens were obtained, and these proved to be of much value. The paper discusses the following subjects: 1. Arrested development of the embryo with continued growth of the ovum. 2. Degeneration of the embryo, leaving only the umbilical cord. 3. Ova, normal in form, without embryos, and uterine moles. 4. Vesicular forms of pathologic embryos. The discussion is followed by an appendix giving the main data of all of the normal embryos known, as well as a detailed description of each of the pathologic specimens considered in the communication.

2.—The physiologic portion of this paper deals (*a*) with the experiments which were undertaken with a view to comparing the capacity of different types of kidney in the **excretion of urea,** and (*b*) with the experiments relating to the nature of the cell-activity concerned in the excretion of urea. The pathologic section is devoted to a record of experimental observations on the following subjects: (*a*) The toxic action of intravenous infusions of watery solutions of pure urea, especially in dogs and monkeys, (*b*) double nephrectomy and its effects upon the content of the blood, muscles, liver, and brain, (*c*) insufficiency of urea in the course of renal disease, (*d*) the **relation of an excess of urea in the blood** (literal uremia) to uremic states. Evidence is brought forward in this section of the paper which indicates that a large excess of urea in the blood is capable of giving rise to disturbances which manifest themselves clinically, although in some examples of conditions included by clinicians as uremic it is quite clear that urea can play no part in occasioning the symptoms.

3.—This paper gives an account of some experiments made upon the isolated heart of the cat with **nicotin in blood** in different degrees of strength; it also describes the effects of nicotin on the dog's apex on which two experiments were made; finally, several experiments are recorded in which nicotin in blood was allowed to run through the coronary vessels while the heart was in a state of fibrillation. The experimental evidence brought out seems to warrant the following conclusions, namely: 1. Nicotin acts as a powerful stimulant on the vagus nerve-endings as well as on the accelerator or augmentor nerve-endings of the heart. 2. It increases both the tonus and irritability of the muscular fibers of the heart; and, lastly, causes the contraction of the coronary vessels.

4.—The conclusions reached are as follows: 1. Shaking of even a very short duration has a detrimental effect upon the red blood-cells, which manifests itself by an early separation of the hemoglobin followed by a rapid breaking down of the stroma into dust. 2. The process of defibrination is invariably very injurious to the life of red blood-corpuscles. 3. Prolonged shaking of the blood with a granulated insoluble substance turns the red blood-cells into fine dust. Cells of different animals show different degrees of resistance. The destruction is due to a molecular shock and not to a gross injury. The continual shaking beats together again the fine dust into large granules and dust. Possibly the molecular destruction is characteristic of organized elements. 4. Certain degrees of shaking can also prolong the life of the red cells, but the degree which is favorable to the life of the cells of one species of animal may be detrimental to the cells of another species. These relations present a special instance of the general law formulated by the writer for the **relations of vibration to all living organisms;** for each individual form of life there is a minimum degree of vibration which is indispensable and another degree which presents the maximum limit.

5.—The **adrenals** are situated in what may be termed the vascular crossroads of the abdomen, for within a few centimeters of them the large trunks which supply almost all of the abdominal viscera are given off. Most of these contribute to the circulation of the glands which may be divided into three systems of vascular units, supplying respectively the capsule, cortex, and medulla. In the capsule, there is an arterial and a well-marked venous plexus. From the former the branches which supply the entire organ are derived. The bloodvessels of the cortex consist in the main of parallel capillaries with transverse anastomoses which empty into the venous tree of the medulla; while the arteries supplying the medullary substance pass entirely through the cortex to

ramify in the medullary portion of the gland, giving off in their course arterioles and capillaries which empty finally into the branches of the venous tree, or into medullary veins which join them. The venous tree itself flows into the lumbar vein at the hilum of the gland. This complex vascular system, following partially known laws, can be traced by means of injected embryos in its gradual evolution from the simplest to more complex stages, until finally the adult arrangement is reached. Curiously enough, the medulla is developed outside of the cortex and grows into it after the latter is well-formed, the various steps in this transposition being beautifully shown in stained or injected adrenals of embryo pigs. Of especial interest is the fact that simple mechanical displacements may lead to anomalies of structure in the adult gland, occurring during the migration of the medulla, which are unintelligible in the adult organ unless viewed in the light of their formation. The framework of the adrenal is made up of reticulum which can be studied best by some of the destructive methods. The reticulum fibrils have a definite arrangement in relation to the cells and bloodvessels, which they support and hold in position. Finally, the architecture of the adrenal is described most fully from the conditions found in the dog, where such varieties of structure as transposed cortex or misplaced medulla are explained by the ingrowth of the medulla as followed in the organogenesis of the gland in a series of embryo pigs

7.—The object of this work was to ascertain whether the **lens** of the rabbit is **regenerated after its extraction**—whether, in other words, a new lens is formed. The conclusions are as follows: 1. Regeneration of the lens in the rabbit's eye occurs only when some portions of the lens are left behind in the extraction. 2. Removal of the lens in capsule is followed by a negative result. 3. Panophthalmitis is followed by a negative result. 4. The volume of the regenerated lens may be equal to that of the original lens. 5. The regenerated mass is lenticular, though sometimes it is ring-shaped and at other times it is semilunar. 6. The reason why positive results occur so much less frequently than negative ones, is because we are unable to protect the animal from infection after the operation. 7. Theoretically one would suppose that the longer the animals were allowed to live the greater would be the volume of the regenerated mass. This, however, was not the case in these experiments. In one instance when an animal was killed, 15 months after the extraction of its lens, the regenerated lens was about equal in size to that seen in another case where the rabbit was killed after 6 weeks. 8. A mild iritis, lasting for a week or 10 days after the operation, is conducive to a successful result. This may be explained by the increased vascularity of the parts which lie next to the lens. The second portion of the paper is devoted to a consideration of the works of Wolff and Erik Müller. The former made the statement that the lens of the triton (salamander) is regenerated from the iris epithelium, and Müller confirmed Wolff's results. The author made fresh observations and reaches the following conclusion: 1. In the case of the newt, extraction of the lens is followed by its regeneration. 2. Regeneration occurs even when the lens has been removed in its capsule, so that the new lens must take its origin from tissue having a different physiological value; and as the experiments of Wolff have shown, this structure is the iris.

8.—This study is based upon 50 cases of **lobar pneumonia.** Early in the disease the alveoli contain many cells almost identical in appearance with the so-called transitional cell of the blood. They are usually slightly larger than the polynuclear leukocyte, and contain an irregular vesicular nucleus, surrounded by a rim of protoplasm, containing either a few granules or none at all. In a case in which death occurred 11 hours after onset, there were great numbers of these cells in the exudate and no polynuclear leukocytes. Large phagocytic cells are found in all stages of the disease, but in greatest number in gray hepatization. The inclusions consist chiefly of polynuclear leukocytes and lymphocytes, more rarely of red blood-corpuscles. These phagocytic cells probably play an important part in resolution. Similar cells are found in the lymphatics, in the pleural exudate, and in the bronchial lymph nodes. The fibrin is not formed by a degeneration of the alveolar epithelium, but comes exclusively from the exuded blood-plasma. The lymphatics are involved late in the disease. There is proliferation of the endothelium, and they become distended with cells, serum and fibrin. Early in the disease there is no infiltration of the interstitial tissue. In patients dying during the second week there is often a great infiltration with lymphoid and plasma-cells As a rule the longer the duration of the disease the greater the number of plasma-cells.

9.—The **tumors** which form the basis of this report were attached to the **choroid plexus of the lateral ventricles** in a man, aged 59, a chronic alcoholic. The tumors averaged from 1.8 x 2 to 2.2 x 1.5 cm. The microscopic examination showed that the first changes were in connection with the endothelium of the perivascular lymph-spaces. This is followed by a gradual thinning of the walls of the spaces and a subsequent escape of blood into them. Cholesterin crystals appear in the infiltrated tissues. Finally a proliferative process in the connective tissue, resulting in the formation of young connective-tissue and giant-cells, takes place. The author concludes that there exists in man a class of cholesterin containing tumors similar to those not infrequently seen in the horse and differing entirely from the ordinary human basal cholesteatomata.

10.—Our knowledge of the condition of the **elastic fibers** in normal and pathologic tissues has recently been much improved by the discovery of selective staining processes. Weigert's method was used by the writer with most satisfactory results. A review of the literature of the subject shows that newly formed elastic fibers have been found in the intima of the arteries in arteriosclerosis and endarteritis, in chronic productive inflammations of the serous membranes, in cirrhosis of the liver, in chronic interstitial nephritis, and in certain scars and tumors of the skin. Williams endeavored to determine whether newly-formed elastic fibers constituted a part of the stroma of carcinoma. Thirty-seven carcinomas growing in various organs were studied, with the following conclusions: 1. When the stroma of carcinoma is itself of new formation it is usually free from elastic fibers. 2. Newly formed elastic fibers may occur in the stroma, though rarely, and they are likely to be fine in quality and small in number. 3. The tumors, in which newly formed elastic fibers occurred, either contained a large amount of connective-tissue stroma, or the newly formed elastic fibers were in connection with preexisting elastic elements of the original parts.

11.—The injurious agents which act acutely upon the liver affect the cells of the liver and bile-ducts, the character and strength of the agent determining the decree of injury produced. Only two substances which act in a chronic manner stimulate the growth of connective tissue. An important factor in determining the effects of **injurious agencies upon the liver** is to be found in the peculiarities of the tissues of the individual. The organism studied belongs to the group of colon bacilli. Living cultures and those which had been devitalized by heat, when injected into guineapigs, produced extensive cirrhoses in the liver of the animals. The early changes were in the form of necrosis, the connective-tissue proliferation following a little later.

12.—By the study of **embryonic hearts** of various ages, macerated in nitric acid, the organ was found to consist of several layers of muscle, the course of which is described in some detail. Nearly all the fibers begin in the auriculoventricular ring of one ventricle, and end in the papillary muscles of the other. Those fibers which begin near the outside of one ventricle end near the inside of the other ventricle. The thin superficial layers being removed, the left ventricle can be unrolled so that its cavity and papillary muscles are exposed. This shows it to be a flat band of muscle continuous with the muscle-fibers that cross over in the septum from the right ventricle. Grouping these layers together it is clear that the heart in the embryo is a scroll-shaped band of muscle with tendons at each end. As it grows older the layer of muscle passing over in the septum remains comparatively thin, while the ventricular walls increase greatly in thickness. The growth takes place mainly near the inside of the ventricular walls, as shown by the presence of karyokinetic figures near the endocardium, and by the fact that the muscle-cells in this situation are younger in an actively growing heart than those near the surface of the organ. These growing points must, therefore, be at the two ends of the unrolled heart. The heart, then, resolves itself into a flat band of muscle with a growing point at either end.

13.—In this paper are given the results of 160 **dissections of the gallbladder region** in the adult human subject. Noting numerous variations from the normal, and certain rather striking abnormalities which were of decided surgical interest, Brewer extended his studies far beyond the limit originally intended. In addition, numerous observations were made on the size of the gallbladder, the length and caliber of the ducts, the surgical relations of the duodenal orifice of the common bile-duct, and an effort was made to establish certain landmarks by which the common duct may be rapidly located through an incision in the duodenum. Observations were also made with a view to establish landmarks by which the operator could rapidly locate and accurately mark out the position of the principal nerve trunks likely to be injured by an incision through the abdominal wall in this region. In this paper are also included observations upon the distribution of the hepatic artery, illustrated by 50 figures of actual dissections, showing numerous variations and many anomalies of interest to surgeons accustomed to operate in this region.

14.—The patient, female, was 16 years of age. The abnormality was first noticed when she was a few months old. Two operations had been performed when she was a child. The right upper lid was greatly hypertrophied, especially in its temporal part; the lower lid but slightly affected. There was almost complete ptosis, and the thickness of the lid was greatly increased. Firm, round, and corded masses could be felt under the skin, and could be followed back into the orbit. At the operation, fine white threads characteristic of the growth were found and removed. The growth was easily freed from the orbit with a blunt instrument, and was found to extend much deeper into the orbit than was expected. The tumor was found to consist in great part of masses of whitish fibers varying greatly in thickness and weighing seven grams. Sections showed the characteristic appearance of **neuroma.** Everywhere there were found smaller and larger nerve bundles imbedded in a framework of connective tissue. Some—for the most part smaller—bundles showed nothing abnormal. Others again presented varying degrees of hyperplasia of the endoneurium and perineurium with the nerve-elements placed more or less centrally, or with a few scattered axis-cylinders in the periphery. There were other bundles again in which the hyperplasia was still greater, and in which it was difficult to recognize any nerve-elements whatever.

15.—The case is one of **multiple tumor-formation primary in the red bone-marrow** and widely distributed throughout this structure. The cells making up the tumor are very like or identical with "plasma-cells," a normal constituent of the red bone-marrow. The conclusion that the neoplasm has arisen from an abnormal proliferation of these cells seems warranted and, further, that it is this cell alone that proliferates extensively in myeloma.

16.—The investigation considers the **development of the intrinsic thoraco-abdominal musculature from the myotomes** in the pig's embryo. The histological changes taking place in the musculature are described, as well as the early relations of the musculature to the nervous and skeletal apparatus. Three periods are recognized in the development of the musculature: 1. The period during which the myotomes expand dorsally and send ventral processes into the **membrana reuniens.** The cells, both of the mesial and the lateral plates of the myotome, are shown to be converted into muscle-fibers. 2. The period during which the tissue of the myotomes becomes utilized in the formation of the muscles characteristic of the adult. Segmentation is shown to persist only where the muscle-tissue remains throughout united to the vertebrae or the ribs. The peripheral nerves are shown to develop independently of the myotomes, and to become associated directly with the musculature only after the muscles have become differentiated. 3. The period during which the muscles expand, become perfect in internal structure and are shifted into the relative positions characteristic of the adult. Cell multiplication takes place during the first two periods and during the early part of the third. Cell-division takes place by mitosis in round, undifferentiated "myoblasts." From these the muscle-cells are developed by elongation of the cell-body, nuclear multiplication by direct division, and fibrillar differentiation of the protoplasm. The differentiated muscle-cells do not divide to form new cells. During the third period, however, many of the muscle-cells undergo retrograde metamorphosis.

17.—In the uterus we have three distinct varieties of epithelium: the squamous epithelium of the vaginal portion, the very high cylindrical, pale-staining epithelium lining the cervical canal and the racemose glands, and the cylindrical, ciliated epithelium of the body. From these 3 distinct kinds of epithelium, 3 definite varieties of carcinoma develop. Almost all **carcinomas of the uterus** may be classified under one of the 3 varieties: (1) Squamous cell carcinoma of the cervix; (2) adenocarcinoma of the cervix; (3) adenocarcinoma of the body of the uterus. The case reported differs materially from any that Cullen has yet seen. The patient was 76 years old. There had been no hemorrhages at any time and, notwithstanding the extent of the growth, the symptoms were of only one year's duration. The entire uterine cavity was involved. The surface presented also dome-like elevations instead of the papillary or tree-like growths so common both in adenocarcinoma of the cervix and body. Another marked feature was, that notwithstanding the advanced age of the patient, the uterus was of the size of a 3-months' pregnancy. On histologic examination the growth was found to be glandular in type. The glands were large and lined by one layer of high cylindrical epithelium, the nuclei of which rested directly on the basement membrane; the gland-cavities contained a homogeneous material that took the hematoxylin stain. In other words, both the glands and their contents resembled those found in the cervix.

18.—Stained films and cultures were examined from the lesions. A summary of the results is as follows: **Impetigo contagiosa.**—From the 17 cases examined the Streptococcus pyogenes was obtained, and in 10 cases it was in pure culture. In 7 cases the Staphylococcus pyogenes aureus also grew. The disease was reproduced in 3 cases by inoculating with a pure culture of the Streptococcus obtained. **Ecthyma.**—Two cases yielded pure cultures of Streptococcus pyogenes. **Staphylococcia or folliculitis staphylogenes.**—Sixteen cases examined: Two cases yielded pure cultures of Streptococcus pyogenes; in 5 cases S. pyogenes albus was also present; in 7 patients the S. pyogenes aureus was present in pure culture. **Tricophytosis.**—In a case of tinia barbae, 1 culture yielded a pure growth of Tinia magalosporon ectothrix, whereas in the second culture the S. pyogenes aureus was also present. By isolation experiments, it was proved that the fungus was pyogenic and that therefore the pustular lesions of tinia barbae may be produced by the fungus alone without the presence of the ordinary pus-organisms. The same results were proven in a case of tinea circinata, where pustules were present, and a pure culture of the Tinea magalosporon endothrix was obtained. It was also shown that the same fungus was the cause of pustular lesions on a boy's scalp. **Furunculosis.**—From 20 cases pure cultures of the S. pyogenes were obtained. **Scabies.**—Nine cases; the Staphylococcus pyogenes grew in pure culture in 4 cases; in 2 cases the S. pyogenes aureus was also present; the albus being present alone in the ninth case. From beneath scales of pediculosis capitis and corporis, cultures of Streptococcus pyogenes and S. pyogenes aureus and albus usually combined. The S. pyogenes aureus grew in pure culture from 3 cases of sycosis vulgaris. The pustular lesions of syphilis were shown, with 2 exceptions, to be due to mixed infections of the Streptococcus and S. pyogenes aureus and albus. Cultures were negative in 2 cases of herpes zoster (vesicles), 2 cases of sebaceous cyst, 15 cases of dermatitis venenata (vesicles), 4 cases of pernio (vesicles), 3 cases of erythema multiforme (vesicles), and 1 case of pemphigus pruruginosus. **Eczema.**—Nineteen cases; in cultures from 6 vesicles, 5 were sterile, while 1 showed the S. pyogenes albus. In 13 cases of eczema madidans, 5 gave the Staphylococcus pyogenes aureus alone, 4 yielded the albus, and 2 were sterile after wiping the surface of the lesions. Out of the 10 cases of pustular eczema, 2 gave the S. pyogenes aureus, 4 showed the albus, 2 cases yielded both aureus and albus, and 1 was sterile. **Acne vulgaris.**—This disease yielded the best results; 96 lesions from 54 patients were examined, 54 cultures being sterile; 31 showing from one to many colonies of Staphylococcus pyogenes albus, and 11 giving pure growths of a bacillus in glycerin-agar. All the smears from the pus showed bacilli. This bacillus grew slowly *en masse* in glycerin-agar. The

colony at first was creamy white, later it became pinkish, then almost black in one very old culture. It grew on glucose-agar without forming gas; grew in bouillon, invisibly on potato; grew fairly well on blood-serum, but not in Dunham's, or milk. It did not decolorize by Gram's stain, was motile and branched. It killed mice and guineapigs.

20.—Howard reports 13 cases of **Gas-bacillus invasion,** which he divides into three groups: Group 1. Bacilli entering the body through the genitourinary tract—2 cases. In 1 there was cerebrospinal meningitis and brain-abscessses, both containing gas-cysts and general gaseous emphysema, due to B. aërogenes capsulatus. In the second case, with abscess of the prostate, chronic cystitis, pyonephritis and gascous emphysema, the bacillus was concerned in the renal lesions. Group 2. Bacilli entering through the biliary tract —2 cases. In 1, the gas-bacilli was limited to the gall-bladder and liver, and in the other—a case of typhoid fever—there was general gaseous emphysema, best marked in the liver and biliary tract. Group 3. Bacilli entering through lesions of the stomach and intestines—9 cases, comprising the following lesions as the portal of entry: Strangulated hernia; necrosis of the stomach with gas-blebs (typhoid fever); crushing injuries, involving the gastrointestinal tract; intestinal ulcers (typhoid, 2 cases, lymphosarcoma, 1 case); and postmortem disintegration of the stomach and ileum (4 cases).

21.—McCallum, after reviewing the records of several similar cases in literature, gives the clinical history and autopsy protocol of a case of intravascular endothelioma which occurred at the Johns Hopkins Hospital. The tumor of the testicle was incompletely extirpated and at the autopsy, several months later, the extension along the spermatic vein could be traced into the vena cava, filling it with translucent, papillary masses which extended into the heart. Large, metastatic nodules were found in the lungs, liver and elsewhere. The tumor was shown to spring from spaces with endothelial lining, thought to be the lymphatic spaces. The proliferation of these cells produced not only cyst-like cavities but complicated cell-masses. Especial interest attached to the relation of the tumor to the bloodvessels, as the intravascular, papillary masses generally hung free in the blood, and were overgrown by the endothelium of the vessels.

22.—Cultures were made in sterilized Erlenmeyer flasks with water containing a small percentage of organic matter. In all of the cultures living bacteria were present. The fact that **encysted amebae** withstand drying was taken advantage of to eliminate from the cultures those protozoic forms which do not withstand drying. Algae were eliminated by excluding the light from the cultures. The amebæ were gathered from various sources; of these some have been cultivated since 1889. Some cultures containing encysted amebæ had been dried for 6 years without killing the amebæ. Some of the amebæ cultivated did not encyst. Of those encysting, 2 varieties have been studied: One forming spherical cysts—A. spherocystis; and the other forming irregularly shaped cysts—A. irregularia. In the culture of A. spherocystis, oval cysts resembling coccidia in many respects are found at times, and there are also occasionally present sharply defined, consecutive bodies. It is still a mooted question whether Amebae spherocystis, coccidiae and the crescents are not phases in the development of the same organisms. Those who cultivated amebæ only describe them as multiplying by division, but in the fluid cultures there are appearances which seem to indicate that amebæ also multiply by segmentation.

23.—A study of the B. pseudo-tuberculosis murium first isolated by Welch in 1894, and described by Kutscher in Germany in 1896. This paper deals with the cultural properties of the organism previously undetermined, with the study of the conditions under which the organism varies from its usual form of a simple rod in giving off side branches, and with the nature of the pathologic lesions in the animal body. It is shown that the bacilli branch in the body and in artificial media and that in the body aggregations of bacilli appear, which resemble the "Drüsen" of actinomyces. The nodules in the tissues differ from true tubercles, in being composed of bacteria and not of proliferated or emigrated body-cells.

24.—From numerous clinical observations upon the character of the **peritonitides consequent to perforating wounds of the alimentary canal,** it seemed probable that the severity of the infection bore a distinct relation to the situation of the perforation and that the favorability of the prognosis was proportionate to the nearness of the lesion to the stomach. This suggestion, originating from clinical data alone, was the occasion of a series of experimental observations upon animals and human beings relative to the bacteriologic features of the alimentary canal, especially of its upper portion. A great scarcity of microorganisms was found to be the invariable rule in the neighborhood of the duodenum of the 35 dogs and rabbits which were examined under varying dietary conditions. With certain precautionary measures, such as sterilization of the ingesta and a fast of a few hours, a condition of amicrobism could almost without exception be brought about in the stomach and upper portion of the intestine of a healthy animal. The principles established by this experimental work have been proved to be adaptable to surgical needs in that, under a certain dietary regime, the upper portion of the alimentary canal can be rendered practically free from microorganisms in anticipation of operative work on the stomach and upper intestine, so that exposure of the lumen of the canal is unattended by risks of ensuing peritonitis.

25.—The **study** was begun **with** the **ovaries** of the lower animals, such as the dog, rabbit, guineapig, sheep, and pig, but with unsatisfactory results, and only after the injection of the generative organs of a monkey was a suggestive clue to the circulation secured. Beyond this point it was difficult to proceed; and only after the injection of a very large series of ovaries from individuals, ranging in age from a 6-months fetus to a woman many years beyond the menopause, were final conclusions reached. The various vital phenomena have been considered which transpire within the follicle from its embryologic origin and progressive growth to the time of its disappearance, either through an obliterative process or through its rupture, organization as a corpus luteum, and final retrogression as a corpus fibrosum. Theories have been advanced concerning the development of the ovary, the differential signs of sex, the descent of the ovary, the cause of ovulation, the synchronism of ovulation and menstruation, the mechanism of rupture of the mature follicle, and the final cessation of ovulation.

26.—This report represents a study of **unusual infections of the gonococcus** occurring at the Johns Hopkins Hospital during the past 4 years. Gonorrhea is first considered, and a complete tabulation is given of the 10 cases in which pure cultures of the gonococcus have been obtained from diseased joints. Five cases of subcutaneous abscesses due to the gonococcus are presented, together with a careful review of the literature showing the great rarity of such cases. A case of general suppurative peritonitis, in which the gonococcus alone was grown from the peritoneal exudate, is detailed. In the discussion of gonococcal cystitis, a review of the literature shows that only 2 cases of acute cystitis in which the organism of Neisser was obtained in pure culture from the voided urine, and 1 case in which by aspiration of the bladder pure cultures of the same coccus were obtained from the urine, are recorded. In the others it was found on coverslip preparations. A case of chronic alkaline cystitis of 4 years' duration, due to the gonococcus alone, accompanied by a double pyonephrosis, due to the same organism, is presented.

28.—The study upon which this paper is based consists of a series of experiments carried out upon dogs in which injections of acids, alkalies, and other chemicals, as well as bacterial cultures, have been made into the duct of Wirsung and the interstitial tissue of the pancreas. By the several procedures employed, hemorrhagic, suppurative, necrotizing and chronic indurative **pancreatitis** have been produced. There has been frequently associated with these conditions fat-necrosis both in the peritoneal cavity and in the distant fat. The several forms of pancreatitis produced have been considered in their relation to pancreatitis in human beings. The histology of the lesions is also described, and a comparison is drawn between the changes found in the experimental cases and those described in human beings. Attention has been paid to the cause of the fat-necroses with the determination that in all, the fat-splitting ferment, in quantities demonstrable by chemical test, existed.

29.—The most important pathologic changes noted in

cases of **gastric syphilis** are ulceration, necrosis, and atrophy of the mucous membrane, with a marked interstitial increase of the connective tissue of the submucous coat. Large, fibrous bands also extend into the muscular coat of the organ. The case which the authors of this article report, gave a definite history of syphilis. The patient showed an absence of free and combined HCl, and pyloric stenosis was suspected. A surgical operation was performed for the relief of the symptoms, and the patient died one month later. The autopsy showed general infection with the Bacillus pyocyaneus and Staphylococus aureus, and the stomach was found shrunken to about one-third of its natural size. There was marked pyloric obstruction, without tumor or ulcer. The submucous coat was thickened and the mucous membrane coarsely granular in appearance. Microscopic examination showed atrophy of the glands of mucous membrane, with the formation of villous-like projections, or diffuse formation of young fibrous tissue. The submucosa showed a marked thickening due to the presence of fibrous tissue with many areas of lymphoid cells, especially about the smaller veins. This fibrous tissue extended to the muscular coat, and in places the peritoneum was thickened. The bloodvessels showed multiplication of the intimal cells but no other marked changes. The changes were most marked at the pylorus, but were apparent in sections taken from various portions of the organ. The history of the case and the changes described justify the belief that the entire pathologic process in the stomach was of syphilitic origin.

30.—A case of **adenocarcinoma** which developed from the submucous glands of a trachea-like formation found in a sacral teratoma is reported. Among the fetal structures found in the teratoma are the trachea, the esophagus, the posterior spinal ganglia, and other structures resembling normal physiologic tissues. The special interest in this communication centers in the malignant changes which were found to exist in the tumor. Reported cases of malignancy in teratomata are exceedingly rare, by far the largest number of such cases being of the epidermal type. The case here reported, and one other, are all the reported cases of **teratomas** in which malignancy has originated from glandular structures. The surgery of teratomas is also considered, and the removal of these tumors is advised in every case where such operations can be performed with safety to the patient.

32.—The **relation of fat-necrosis to lesions of the pancreas** was studied experimentally in cats. If the outflow of pancreatic secretion is completely obstructed by ligating both pancreatic ducts, foci of fat-necrosis are produced and may be widely disseminated. In two instances, in which the animals lived 25 and 20 days after the operation, almost the entire abdominal fat was opaque—white and necrotic, and foci of necrosis were found in the subcutaneous and pericardial fat. The presence of a fat-splitting ferment was demonstrated in the necrotic fat. In other instances, in which the animals lived a shorter time, less extensive necrosis resulted. Assuming that after duct-ligation gradual diffusion of pancreatic juice or of the fat-splitting ferment occurs, the attempt was made to hasten the diffusion by stimulating, after ligation of the ducts, the secreting activity of the gland with pilocarpin. After the death of the animal extensive necrosis of the abdominal fat with foci in the pericardium was found. To test the ability of the fully formed pancreatic juice to cause necrosis of fat, the duodenal end of the organ was transplanted in such a way that the secretion was poured into the subcutaneous tissue of the abdominal wall; typical fat-necrosis resulted. The condition essential to the production of focal fat-necrosis is the penetration of the fat-splitting ferment of the pancreas into living fat, and the lesions of the pancreas associated with fat-necrosis are such as permit this diffusion into the surrounding tissue. The widespread necrosis occasionally observed in man and in animals may be reproduced experimentally by conditions which favor diffusion of the ferment.

33.—A case of **tuberculosis of the stomach** occurring in the course of a general miliary tuberculosis is reported. Besides the tuberculous infection of the stomach, gastric lesions of an unusual character were also found. Small granules and occasional larger, rounded nodules, varying in size from that of a pinhead to that of a pea, projected from the surface of the stomach. Upon microscopic examination these nodules presented several histologic types. There were: (1) Nodules due to connective-tissue overgrowth or to irregular, fibrous contraction; (2) atypical glandular nodules; (3) nodules specifically tuberculous. The connective tissue nodules are doubtless a feature of chronic gastritis, which was present. The atypical glandular nodules possess, in part, the features of a neoplasm; in part, the features of a simple hyperplastic growth. Glandular hyperplasia seems more probable because there are present in the mucous membrane simple, proliferating gastric tubules, irregular groups of two, three or more tubules, larger, irregular collections, and the circumscribed nodules themselves, all having a similar general structure, and all, no doubt, an expression of the same pathologic process. The tuberculous nature of some of the nodules has been shown beyond question by both the histologic and bacteriologic examination. Between the tubercles and the hyperplastic glandular nodules no direct relation could be traced.

35.—In three cases of **endocarditis** which have come to autopsy, a minute bacillus was found which differs from any of the bacteria previously described as the cause of the disease. The bacillus is identical in its peculiar morphologic characteristics with the B. influenzae of Pfeiffer. Cultures were not obtained. The organism is very minute. It stains with the basic anilin dyes, but rarely uniformly; usually the poles of the bacillus take the stain more intensely, giving the appearance of a diplococcus. Great numbers of the organisms were found in the coverslip preparations made from the diseased valves, and in sections of the recent vegetations, and in one case clumps of bacilli were found also in the lung alveoli. No other microorganisms were present. While failure to obtain cultures forbids definite conclusions as to the nature of the organism, it seems very probable from the evidence obtained that it is the B. influenzae. This is of especial interest in connection with the many clinical reports of endocarditis occurring as a complication of influenza. The clinical histories of the three cases are given with the histologic and bacteriologic studies of the tissues obtained at autopsy.

36.—The paper records a case of **chronic diffuse nephritis** which for two weeks before death presented the symptoms of **acute ascending paralysis.** At autopsy there were small, red, granular kidneys; an acute, terminal, hemorrhagic colitis, due to the Streptococcus pyogenes, was present. The microscopic examination of the brain and cord revealed lesions in the nerve-cells and in the bloodvessels. The lumbar cord was most affected, but there were alterations as high as the cerebral cortex. Not only were the motor cells involved, but alterations were also met with in the nerve-cells of the nuclei of the dorsal funiculi in the medulla oblongata.

37.—The article contains a description of a **model of the medulla, pons and midbrain of a newborn babe** made after the wax-plate method of Born. It was prepared from a series of horizontal sections stained by the method of Weigert-Pal, and it reproduces in three dimensions the various structures of the region so magnified that they can be seen and easily handled. The model illustrates the form and position of each tract, the course of development being thereby suggested. The fact that the medial and lateral lemnisci, which form the main sensory tracts, are closely related in form to the other structures, while the pyramidal tract has but little or no influence in moulding the other parts, is emphasized. The cerebral nerves and their nuclei are described and grouped according to their position and form, and these groups also illustrate the course of development. The most curious and interesting form, perhaps, met in the model is that of the inferior olivary nucleus, its gyri and sulci being clearly indicated. The relation of the medulla oblongata to the spinal cord is also illustrated. The mode in which the white and gray matter continue into the medulla, the changes these undergo, and the intrinsic structures of the medulla, pons, and midbrain are in turn considered.

Medical Officer of Health.—There is a bill before Parliament to make the office of medical officer of health a permanency, and one that gives its owner a right to a pension. The bill is a good one, speaking generally, but if the medical officer of health is to have his appointment thus stable, he should give up all other practice, and live upon his public salary, which, by the way, should be made adequate.

The Latest Literature.

British Medical Journal.

May 12, 1900. [No. 2054]

1. Remarks on Plague in the Lower Animals. FRANK G. CLEMOW.
2. An Account of some Researches into the Nature and Action of Snake Venom. ROBERT HENRY ELLIOT.
3. Milk Poisoning in Malta. T. ZAMMIT.
4. Beri-Beri. FRANCIS CLARK.
5. Notes on Ocular Leprosy. ARTHUR NEVE.
6. Accidents and Injuries Caused by Lightning. OSCAR DUNSCOMBE HONIBALL.
7. Hematuria as a Cause of Miscarriage. J. S. JAMESON.
8. The Constituents of Haffkine's Antiplague Vaccine. S. MALLANNAH.
9. Poisoning by Castor-Oil Seeds. L. T. R. HUTCHINSON.

1.—Clemow gives a general discussion of the occurrence of **plague in the lower animals** and their importance in the dissemination of the disease. It is known that monkeys occasionally have plague, but they do not seem to have very much influence in spreading the disease; rodents are particularly susceptible, and it is well established that rats have plague, and frequently spread the disease. They may contract the disease from the soil, from grain, from tissues of other animals, including the bodies of human beings dead of plague, from infected rags, clothing, or dressings, and from infected insects. There is some probability that fleas spread plague from human beings to rats, and then the rats spread the disease further. It is, however, uncertain how rats spread the disease to human beings, and the extent to which they transmit the disease is not known. It is possible that rats by being carried on trains and wagons, and perhaps also on ships, may transmit the disease a considerable distance. Mice are susceptible to plague, but apparently play little part in carrying the disease under natural conditions; squirrels also get the disease rarely, and probably have little part in carrying it. The same is true of guineapigs, porcupines, marmots, and rabbits. [D.L.E.]

2.—Elliot records some interesting observations. His chief point was to investigate the question of some change taking place in **snake venom** when ingested, which makes it innocuous when taken in this way. He found that pancreatic digestion destroyed the harmful properties of venom to a very considerable extent; that is, that when venom and trypsin were kept together for 3 hours, and then injected, no serious results followed, He also gave venom by the mouth to rabbits, and subsequently injected venom subcutaneously. He found that if the injection were given soon after the venom was taken, it seemed to intensify the effects of the injection, hence venom seemed to pass into the general circulation, probably in an altered form. It is probable that if sufficient time is given, this will produce some immunization, and it seems probable that it takes the organism some time to deal with these small but altered doses of venom, which gain entrance through the gastrointestinal tract. If venom is introduced into the circulation soon after, the result will be more serious than if none had been ingested; if some time elapses, probably some immunity will have been produced. [D.L.E.]

3.—Zammit reports some observations on an epidemic of **milk-poisoning.** There were in one village symptoms of poisoning in 5 families consisting of 12 persons; 2 children died. The postmortem examination showed nothing but congestion of some of the viscera. Subsequently in another village 17 persons living in 5 different houses were attacked with symptoms of severe gastroenteritis and collapse, the symptoms coming on always about 3 hours after taking milk which was supplied by one milkman from one can. Families that got milk from the same man but directly from the goats supplying it showed no symptoms. The goats were entirely healthy, but although the cans had been washed they had a sour odor, and bacteriologic examination of them showed a bacillus which had all the characteristics of the Bacillus enteritidis sporogenes. This shows the importance of investigation of the milk cans in such epidemics, and also the danger of conveyance of poisoning through imperfectly cleansed cans. [D.L.E.]

4.—An epidemic of **beri-beri** occurred in a foundling-house. There had been one or two cases in a blind asylur nearby, the inmates of which came in contact with the chi dren in the foundling-house. Sixty-nine cases occurred, an only 27 healthy children were left in the house. Two of th patients with beri-beri died, the remainder were improving The children attacked were all between 4 and 7 years of ag Their hygienic surroundings were good, and the diet was ex cellent. All those attacked slept on the ground floor. Ther was a possibility of the infection having come through sur gical dressings, but this was very questionable. No case occurred after the removal of those infected. [D.L.E.]

7.—Jameson reports a case in which **hematuria** occurre in 2 successive pregnancies. This was so profuse during th first **pregnancy** and anemia became so great that artificia labor was induced to relieve the strain on the kidneys. Th patient made a rapid recovery, and about a year later, agai being pregnant, the hematuria gradually increasing, prema ture labor set in and she was delivered of a child apparentl of 7 months' growth. As in the previous instance, with th emptying of the womb, all symptoms disappeared and sh made an uneventful recovery. A careful examination ha since been made and nothing abnormal could be detected i the size or position of either kidney, and the urine is abso lutely normal. She enjoys exceptionally good health. [W.K.

8.—Mallannah found that after filtering **Haffkine' fluid** the sediment contained a proteid, and protected rab bits when given in large doses. The filtrate gave a proteic reaction, and small doses protected. By Brieger's metho he isolated the immunizing substance. This did not seem to be a proteid; it was a gray, amorphous substance soluble i water. This is an extracellular substance and is apparentl formed in the substance of the bacilli and then thrown ou probably when the bacilli disintegrate. There is also a pro teid produced which causes suppuration. This is an intra cellular substance. Induration does not occur after th injection of the extracellular immunizing substance, but doe after the intracellular. This coincides with the observatio that suppuration does not occur in plague excepting whe the bacilli are dying or disintegrate, that is, when the dura tion of the disease is long. [D.L.E.]

Lancet.

May 12, 1900. [No. 4002.]

1. Ptosis of the Liver and the "Floating Lobe." FREDERIC TREVES.
2. Summer Diarrhea, with Special Relation to Causatio and Prevention. F. J. WALDO.
3. The Diagnosis and Prognosis in 100 Cases of Double Op tic Neuritis with Headache. R. T. WILLIAMSON an E. ROBERTS.
4. A Study of the Heart-wall in Diphtheria, Rheumati Fever, and Chorea. FREDERICK J. POYNTON.
5. A Case of Ruptured Liver; Successful Operation on Pulseless Patient. THOS. CARWARDINE.
6. Mastoid Disease, Acute Otitis Media and Pyemia, Occur ring in an Epileptic as a Result of Injury. R. A WILSON.
7. Intestinal Obstruction Due to Gallstones. E. W. PALL
8. A Mishap with Carbolic Acid. C. H. L. JOHNSTON.
9. Simultaneous Excision of Both Mammae, with Axillar Glands, for Cancer. HERBERT SNOW.
10. A Case of Combined External and Internal Strangulatio ALBERT CARLESS.

1.—Treves states that little is known as to the causes o **ptosis of the liver** and **floating lobe**; it is much mor common in women, and often occurs in people of feeble mus cular development, with flabby, abdominal wall; tight lacin is not thought to be an etiologic factor. There may be n symptoms at all, but in some instances vague pains radiat from the abdomen to the back; there may be dyspepsi nausea, vomiting, flatulence, constipation, and temporar jaundice, from flexion or compression of the bile-ducts. A cites may result from compression of the portal vein. I the abdomen above the umbilicus, a large, rounded movabl tumor with the characteristic notch may often be felt. Floa ing lobe is a projection downward from the right lobe of th liver. It is seldom recognized during life before operatio In many of the reported cases, the floating lobe has been a tended with subjective symptoms, such as pain, backach nausea, constipation, dragging sensations, digestive disturb

ances, and the like. In the operative treatment of floating lobe, three measures have been carried out: the lobe has been excised; it has been sutured to the anterior abdominal wall; and the distended gallbladder, with which the condition is often associated, has been treated by cholecystotomy. The operative treatment of ptosis of the whole organ has consisted in the fixing of the organ in place by means of various schemes of suturing. To these measures, the name of "hepatopexy" has been given. [M.B.T.]

2.—Waldo defines **summer diarrhea** as an acute specific disease, characterized by gastrointestinal disturbance and general sepsis. It is doubtless of microbial origin and perhaps of mixed nature. It does not seem to be due to the same agencies that produce enteric fever, as the sanitary regulations that control enteric fever do not markedly affect summer diarrhea, and the one may flourish in regions where the other is comparatively rare. The other portions of the lecture are devoted to a general discussion of the affection. [D.L.E.]

3.—Some remarks with regard to the diagnosis and prognosis in 100 cases of **double optic neuritis with headache** are given in tabular form. Brain-tumor, verified by necropsy, was present in 27 cases, and in 27 other cases the same condition was present, but no necropsy was obtained. Abscess, meningitis, toxic conditions and blood diseases are mentioned among the other causes of this affection. In 19 cases there was headache and double optic neuritis without localizing symptoms and with no evidence of syphilis. Recovery, with blindness, occurred in 8 cases, with impaired vision in 3 cases, and with good vision in 8 cases. Brief notes of the last-mentioned cases are given. In 10 out of the 100 cases the patient recovered completely from the headache and general cerebral symptoms and regained perfect health, but the optic neuritis was followed by atrophy and complete blindness. In the face of this terrible termination it is thought that simple trephining of the skull and the removal of bone, without any interference with the brain, as suggested and practised by Horsley for the relief of optic neuritis and pressure symptoms, is a method of treatment worthy of more frequent trial when vision is failing markedly. [M.B.T.]

4.—Poynton reports his investigation of the **heart-wall** in two cases in which death had been caused by **rheumatism** and **diphtheria,** respectively. Marked myocardial changes were found in the latter. In the former there was pronounced fatty change, some cellular exudate in the connective tissue, and recent pericarditis. Evidently the myocardial changes were the direct result of the rheumatic poisoning. Similar myocardial changes were found in a case of fatal chorea, and in four other cases of rheumatic fever. The clinical importance of such observations is in the demonstration that they offer of the frequent probability of serious cardiac mischief in rheumatism when there are evidences of heart trouble but none of valvular lesion, and they show the importance of attention to the heart in such cases. This is particularly true in children. [D.L.E.]

5.—A man of 25 had a case of glass, weighing half a ton, fall upon him, crushing him against a wall. The injury was followed by collapse, pain, and tenderness in the upper part of the abdomen, and increased liver-dulness. He became almost pulseless within 3½ hours after the injury. Intravenous injection of saline solution was given, and the abdomen was opened. It was found full of blood, and across the under surface of the liver was a laceration extending from the gallbladder to the posterior part. As suture was impossible the laceration was packed with iodoform gauze, and the wound was approximated. The patient remained pulseless nearly 30 hours, but gradually recoved. During convalescence there was copious discharge of bile-stained fluid. Carwardine has been able to find but 4 cases of recovery after **operation for ruptured liver.** A table of these cases is given. [M.B.T.]

6.—A man of 37 had been struck on the head several years previously, and since that time he had had pain over the right mastoid process. After another contusion a purulent discharge from the right ear appeared, and a typhoid temperature developed. The man's condition became progressively worse. An accumulation of pus in the left elbow-joint was evacuated, but death followed. [M.B.T.]

7.—A woman of 80 years had symptoms of acute **intestinal obstruction** of 6 days' duration, which were completely relieved by the passage of a **gallstone** measuring a little over an inch in diameter by ¾ of an inch in thickness. [M.B.T.]

9.—Snow reports the simultaneous excision of both breasts and removal of the axillary glands for carcinoma, occurring in a woman of 41 years. [M.B.T.]

10.—A man of 49 years, who had had a right inguinal **hernia** for some years, was taken with symptoms of **strangulation** which it was found impossible to relieve by inoperative means. Operation was performed and the constriction at the neck of the sac was incised; it was then found possible to draw down the outer end of the coil of intestine and the end appeared healthy. The inner limb it was impossible to either draw down or push back, and it was evident that some abnormal condition was present. A free incision was made, and it was found that the cause of strangulation was a **cicatricial band** within the abdomen. The intestine seemed gangrenous; about two feet was resected and union with Murphy's button was performed. He made a good recovery, but did not pass the button until about six weeks after the operation. [M.B.T.]

New York Medical Journal.

May 26, 1900. [Vol. lxxi, No. 21.]

1. The Instruction of the Hospital Corps, U. S. Army. WILLIAM H. WILSON.
2. Septicemia Among Young Chickens. LEO F. RETTGER.
3. Report of a Case of Hematuria due to Renal Carcinoma. With Endovesical Photographs. FREDERIC BIERHOFF.
4. A Summer Plaster-of-Paris Jacket for Pott's Disease. R. TUNSTALL TAYLOR and SMITH HOLLINS MCKIM.
5. A Study of the Application of the Galvanocautery in the Nose. BEAMAN DOUGLASS.
6. The General Characteristics of Ray Fungi and their Relation to Certain Bacteria. LUDVIG HEKTOEN.
7. Physical Training in School and Home. HENRY S. PETTIT.
8. On the Dietetics of the Convalescent Stage of Fevers. ADOLPH RUPP.
9. Treatment of Anal Chancroids. MARTIN A. H. THELBERG.

2.—Rettger reports an **epidemic of septicemia** among young **chicks.** It did not affect grown chicks at all, but of 17 of the young chicks only 3 were not affected; of those affected, all but 3 died. He isolated a bacillus which resembled the bacilli of fowl and hog cholera, but it was motile, the colonies on gelatin differed, the staining was homogeneous, and the bacillus did not stain so readily. Also the colonies on agar had not the peculiar rosette form. [D.L.E.]

3.—Bierhoff describes a case of **carcinoma of the kidney** in which there had been repeated attacks of **hematuria.** The diagnosis was in doubt, but cystoscopy showed that the blood came purely from the ureter, and clots protruding from the ureter were photographed. Nephrectomy was done, and the patient recovered for the time entirely. He considers cystoscopy reliable and free from danger if properly performed. [D.L.E.]

4.—As a plaster jacket over the abdomen offers no osseous support, McKim suggests leaving off as much plaster over the abdomen as possible by making a window in the cast, thus making the bandage cooler and lighter. [M.B.T.]

5.—As a result of the study of microscopic specimens, Douglass finds that the cautery is a destructive element even more powerful than the knife; it destroys physiological tissue as completely as if it were removed from the body; its effects extend, unlike those of the knife, to a region beyond its limit of application; it is subject to all the dangers of surgical accident which come from using the knife, with the single exception of hemorrhage; and besides the ordinary surgical dangers, it has special dangers of its own—that is, to furnish a nutrient pabulum for bacterial growths. When used in the hands of a novice or carelessly, it is capable of producing a subsequent atrophic condition worse than the original disease; its present method of use by linear cauterization is theoretically incorrect. Nevertheless, the cautery in special and selected cases, used by a proper method and in the hands of a careful operator, may accomplish its legitimate work better than can be done by cutting methods. [M.B.T.]

6.—Hektoen gives an interesting review of the work upon the **ray fungi.** He decides that they may be considered a

complete group closely related to the simplest molds and to the bacteria, to the latter chiefly through the bacillary forms and atypical and polymorphous ray fungi. He discusses the position of the tubercle-bacillus. Branching, thread-like, and bulbous forms of tubercle-bacilli have been repeatedly described. There has been much discussion as to the class to which these organisms really belong. He considers that for the present it is best to use the word tuberculomyces in describing these organisms, or the fungus of tuberculosis. It belongs apparently in the group of the atypical acid-proof ray fungi. [D.L.E.]

7.—Pettit believes that exercise should be made compulsory in every **school and college.** Wisdom should be used in allotting to the different pupils the exercise to be used. If a routine method is used, or if the children are allowed to chose their exercises for themselves, undoubtedly bad results will often ensue. He believes, however, that **gymnasium exercises** are more systematic and scientific than any other form. Exercise should be made systematic and progressive. [D.L.E.]

8.—Rupp notes that we must consult the tastes and the pecuniary condition of patients in choosing the **dietary** of **convalescents** as well as prescribing according to scientific regulations. Carbohydrates are extremely important because they provide such a large amount of energy. Foods that are too dense should not be given as they are more indigestible. The absorption and digestibility of some foods may be increased by sipping water, either plain or carbonated, when the food is eaten. It must be remembered that insomnia may be due to either overloading or emptiness of the stomach, and taking a glass of milk will probably overcome the latter. [D.L.E.]

9.—In the treatment of anal chancroid Thelberg believes that heroic cauterization, together with the use of orthoform as a local anesthetic and antiseptic, produces a pronounced and painless curative effect, such as nothing else will afford. [M.B.T.]

Medical Record.

May 26, 1900. [Vol. 57, No. 21.]

1. Remarks on Some of the Conditions Simulating Appendicitis and Peri-Appendicular Inflammation. E. G. JANEWAY.
2. Contribution to the Treatment of Rupture of the Parturient Womb—With a Critical Review of the Vaginal Operation. A. V. WENDELL.
3. Loss of Hair; A Clinical Study Founded on Three Hundred Private Cases. GEORGE THOMAS JACKSON.
4. Cellular Specificity and its Bearings on Neoplasms. B. H. BUXTON.
5. Note on the Treatment of Chronic Heart Disease by the Artificial Nauheim Baths. A. MAYER.

1.—Janeway enumerates the conditions which may be mistaken for **appendicitis.** He directs especial attention to neuralgia in the region of the appendix to renal colic, particularly when protracted and febrile, to cholecystitis, to perforation of duodenal or other ulcers along the gastrointestinal tract, and to other conditions. He had seen a case of carcinoma diagnosed appendicitis, and operation arranged; the patient died before operation. He has also seen the same plan undertaken several times in renal colic. Typhoid fever is not unlikely to resemble appendicitis, and sometimes tonsillitis with severe pains in the iliac region is called appendicitis. Diseases of the internal genitalia also may simulate this affection. [D.L.E]

2.—Wendell reports 3 cases of **rupture** of the **parturient uterus,** and discusses the method of treatment, with a critical review of the vaginal operation. His conclusions are as follows: In threatened uterine rupture the woman is to be delivered at once by the method which does not increase the excessive intrauterine tension. After rupture occurs, delivery by the natural passages is permissible only if the uterine injury is not aggravated thereby. If the true conjugate diameter of the pelvic inlet measures less than 8 cm., a completely intraperitoneal fetus should be delivered by abdominal section. But if the conjugate diameter measures 8 cm. or more, the uterus should be removed by vaginal hysterectomy and the child delivered by the feet through the natural passages. If life is detected in the child after the mother's death, the postmortem section should be performed. The uterine tamponade is useful only as a dressing to prevent intestinal prolapse or to retain reposited loops of intestine within the abdomen until the case can be submitted to operation. Conservative surgery exposes the woman to the serious risk of subsequent rupture, and should therefore not be elected unless expressly commanded by the patient or immediate relatives. Vaginal suture is open to the objection that bleeding arteries in the parametrium are apt to be overlooked. When laparotomy becomes necessary for the birth of the fetus, the uterus is to be removed by supravaginal amputation, with the extra or intraperitoneal treatment of the stump, according to the exigencies of the case or ability of the practitioner. Vaginal hysterectomy is the elective procedure in all cases, but should be supplemented by abdominal section whenever necessary. [W.K.]

3.—After studying 300 cases of loss of hair, Jackson has reached the conclusion that **baldness** is more common in men than in women. Contrary to the statements of the comic papers, it seems to be more common in unmarried men. Most of the patients are found to lead indoor lives, and almost all of them belong to the intellectual class. Usually the loss of hair begins before the thirtieth year. In woman, it usually constitutes a general thinning; in men, it affects the top of the head. Dandruff is usually a factor in the causation; heredity is active also, and the tendency seems to run in sex. When complicating diseases are present, they are usually those that affect the general nutrition. The treatment recommended is improvement of the general condition, the use of a 10% ointment of precipitated sulphur in cold cream, with or without salicylic acid, 3% to 5%, or a dram to the ounce of extract of jaborandi. After using this until the dandruff is controled, the scalp is massaged. The prognosis is bad, if distinct baldness is already present. A bad family history is unfavorable. [D.L.E.]

4.—There is no evidence that muscle and nerve-cells can undergo metaplasia. Change in their environment results in death. Epithelial cells very readily undergo metaplastic change, and certainly the columnar and stratified epithelium can scarcely be regarded as distinct species. They are very imperfectly differentiated, and readily proliferate, degenerate, or undergo metaplasia. The 3 forms of sustentative tissues, cartilagenous, fibrous, and osseous, are not distinct species; they readily undergo metaplastic interchange and may multiply entirely lawlessly. The chief differentiation between the sustentative tissues is practically in the intracellular substances and not in the cells themselves. [D.L.E.]

5.—Nauheim baths may be prepared at home. The results from their use, if properly carried out is quite the same as that obtained from the baths at Nauheim. Mayer recommends a mixture, composed of 30 pounds of sea-salt, 10 ounces of potassium chlorid, 30 ounces of calcium chlorid, 8 ounces of magnesium chlorid, well mixed, and kept free from moisture; 3 pounds of this mixture is to be added to 30 gallons of water, the quantity gradually increased until 5 pounds are added. The temperature at first should be 95°, later reduced to 85°, the duration of the bath at first 5 minutes, gradually increased to 15 or 20 minutes. The treatment should be continued, as a rule, over several months. Mayer investigated upon his own person the effect of the artificial bath, and found that it caused a reduction of the pulse-rate from 76 to 62, and, although his cardiac and liver-dulness were normal, the cardiac dulness increased nearly half an inch, and the liver-dulness somewhat more. [It seems scarcely possible that a normal heart reduced its volume in this way. It seems very probable that the effect upon the heart-dulness was the result of the stimulation of respiration rather than of change in the size of the heart. D.L.E.]

Medical News.

May 26, 1900. [Vol. lxxvi, No. 21.]

1. Cystitis Papillomatosa. FREDERIC BIERHOFF.
2. Medicinal and Non-Medicinal Remedies; with Points on Hydrotherapy, Diet, and Massage, in Certain Diseases Attended with High Temperature. CHARLES E. PAGE.
3. Organotherapy in Tabes and Other Nervous Diseases. MARTIN A. H. THELBERG.
4. A New Method for Retroperitoneal Drainage of Pyosalpinx, with a Report of FIVE Cases. LEON F. GARRIGUES.

5. Inaugural Address. EDWARD D. FISHER.
6. Three Cases of Subcutaneous Capillary Hemorrhages in Epilepsy. CHARLES J. ALDRICH.

1.—Bierhoff says that **cystitis papillomatosa** occurs in the female as a form of chronic cystitis. Its symptoms are frequent urination, more or less pain, and tenesmus, while the urine may be either clear or cloudy. Bleeding does not occur spontaneously, but may result from instrumentation. The seat of the disease is at the trigone and it consists of discrete villi which spring from a base of inflamed mucous membrane. In using the cystoscope the diagnosis of the condition may be made with a certainty if the cystoscope is armed with a ureteral catheter and this later instrument is made to pass over the suspected area when it will be seen to disappear between the villi. Bierhoff reports 3 cases of this form of cystitis. [G.B.W.]

2.—Page calls attention to the inadequate instruction furnished by most medical schools in **massage and hydrotherapy.** He thinks that the ignorance of the regular practitioner in these branches is a potent cause for the success of the irregular practitioners in many cases. He reports a case of typhoid fever in which hydropathy with occasional doses of salipyrin resulted in much relief and ultimate recovery. In cases of influenza, a disease he regards as due to "flannels and food," that is overclothing, he gives wet-packs, stops all feeding until convalescence is established, and occasionally sponges the patient with a weak solution of acetic acid. This treatment with the addition of salipyrin occasionally aborts the case in from 3 to 6 days. [J.S.]

3.—Thalberg reports a case of locomotor ataxia with characteristic symptoms complicated by enlarged and sensitive prostate, in which nearly all the symptoms were relieved by 12 injections of **Poehl's spermin.** It does not appear, however, that the patient can be regarded as cured. Also a case of paralysis agitans in which hypodermic injections of spermin appeared to have a soporific effect, and, according to the patient, relaxed the rigidity, enabling him to obtain better rest. He also noted an invigorating effect. [J.S.]

4.—Garrigues reports 5 cases in which he employed a new method of **retroperitoneal drainage for pyosalpinx.** The operation is performed in the following manner: An incision is made at the uterovaginal junction, beginning just behind a transverse line drawn through the cervix on the side corresponding to the pyosalpinx, and carried backward, following the contour of the cervix for ¾ of an inch. This incision is made close to the uterus and extends through the thickness of the vaginal wall. In making this incision the uterus is pulled down and the vagina made tense with bullet forceps. The left forefinger is now introduced through the incision if the inflammation is on the right side, or the right forefinger if it is on the left. The forefinger is gradually pushed higher, keeping close to the side of the uterus, thus separating it from the cellular tissue. Next the junction of the posterior culdesac and the uterus, close to the broad ligament, is reached; from now on it is important to use care in manipulating so as not to tear the peritoneum. It usually strips off readily from the uterus, but when the inflammation is of long standing this is not always the case. Continue stripping off the peritoneum until the origin of the Fallopian tube is reached. The upper portion of this opening should be between the uterus and the folds of the broad ligament, and the space should be large enough to admit the index-finger with some room to spare. The tube should be opened at this point if it is a prominent part of the sac. If, as is usually the case, the greatest bulge is more external, the finger separates the layers of the broad ligament until the most prominent point is reached. A pair of blunt forceps, curved on the flat, is now introduced with the other hand, and, while an assistant presses on the pyosalpinx from above, is pushed into the lumen of the tube under guidance of the index finger, and opened, thus allowing the pus to escape. [W K.]

5.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1005.

6.—Aldrich records 3 cases of **epilepsy,** in the first one of which it was noticed after the attacks, which were usually nocturnal, that the chest, shoulders and neck were covered by minute **capillary hemorrhages.** These were more distinct and numerous after the severe attacks. In the second case the patient had had three attacks, the first occurring during anesthesia for a slight surgical operation, and was followed by hemorrhagic ecchymoses on the eyelids and the conjunctiva. During the third, subconjunctival hemorrhages also occurred. The third case had occasional violent seizures, following which capillary hemorrhages appeared in the skin of the chest and neck. In all of these cases hemophilia, syphilis, and similar diseases could be excluded. [J.S.]

Boston Medical and Surgical Journal.

May 24, 1900. [Vol. cxlii, No. 21.]

1. Some Thoughts on Medical Education. FREDERICK C. SHATTUCK.
2. The Ideal Ration for an Army in the Tropics. EDWARD L. MUNSON.
3. On Ischemic Paralysis and Contracture of Muscles. AUGUSTUS CHARLES BERNAYS.

1.—Shattuck, in an address before the students of Washington University of St. Louis, called attention to the difficulties under which medicine labors in America on account of the very general separation of medical schools from hospitals, and the necessity for the former sometimes to elect men to their faculties rather on account of their clinical opportunities than their ability in medicine. He thinks the medical schools will be greatly benefited by association with the universities and believes that those institutions in which special attention is devoted to graduate instruction have a beneficial effect upon American medicine. He makes some suggestions regarding the details of **medical instruction.** [J S.]

2.—Munson, continuing his article upon the **tropical ration for the army,** discusses the relative value of fats and carbohydrates. The latter he considers to be markedly superior to the former, on account of the readiness with which they are assimilated by the stomach. Fats have a tendency, moreover, to stimulate the liver, and thus predispose to excessive bile-production and to congestion—both serious factors in tropical life. He proposes a dietary which has approximately the following composition: Protein, 100 grams; fats, 65 grams; carbohydrates, 650 grams; nitrogen, 16 grams; total carbon, 392 grams; fuel value, 3,491 calories; nutrient ratio (protein to energy), 1 to 8. He suggests 4 dietaries, in accordance with these conditions, and we give the first and fourth. *Dietary No. 1:* Fresh beef, 10 ounces; flour, 18 ounces; beans, 2.4 ounces; potatoes, 16 ounces; dried fruit, 3 ounces; sugar, 3½ ounces. *Dietary No. 4:* Fresh fish, 14 ounces; soft bread, 20 ounces; rice, 4 ounces; potatoes and tomatoes, 16 ounces; dried fruit, 3 ounces; sugar, 3½ ounces. These 4 dietaries may be alternated, and thus provide a sufficient variety and a sufficient amount of energy for even exhausting tropical service. [J S.]

3.—Bernays says that the subject of **ischemic paralysis and contracture of muscle-tissue** is of the utmost practical importance, as it explains fully the bad results which so often follow the use of tight bandages and of plaster of paris improperly applied. It has been shown both experimently and clinically that inhibited nutrition will give rise to the loss of irritability of the muscle, paralysis, and finally rigor. These follow about as well when blood which has been deprived of its oxygen is passed through the tissues as when no blood at all flows through the vessels. The microscopical changes found in the tissues of the ischemic muscle are an irregular arrangement, and there is thickening of the fibers, with a disappearance of their nuclei. Vacuoles also appear in some of the fibers, and there is often a gelatinous infiltration, with loss of the transverse striae. Finally the tissue which was once muscle undergoes cicatricial contraction. There is no therapeutic procedure which restores the lost muscle, and the only operation which holds out any hope of improvement, after the contactile tissue is once gone, is to resect a small portion of the diaphysis of the bone of the limb involved. This will lessen the tension and give what little muscle is left a chance to act. [G.B.W.]

Journal American Medical Association.

May 26, 1900. [Vol. xxxiv, No. 21.]

1. Carcinoma in Early Life. [With Special Reference to Earlier Methods in Intravitam Diagnosis. WALTER L. BIERRING.

2. Experiments and Observations in Scarlet Fever. W. K. Jaques.
3. Distilled Water as Food. Ephraim Cutter.
4. Chronic Constipation a Symptom Resulting from a Disordered State of the Sympathetic Nervous System; Its Cause and Cure. Charles E. Stewart.
5. Pathology of Criminal Abortion. Maximilian Herzog.
6. Complete Occlusion of Bowel. Dwight E. Cone.
7. Quinin Amblyopia. M. Coplan.
8. Report of Unique Case of Appendicitis, with Some Remarks on Treatment. James T. Jelks.
9. Medicine as a Business Proposition. G. Frank Lydtton.

1.—Nine cases of **carcinoma in early life** between the ages of 23 and 35 are reported. Successful abdominal hysterectomy was performed on a woman of 23 for epithelioma of the cervix. In a second case a squamous-celled epithelioma was removed from the left labium majus of a patient of 26. In a third case epithelioma of the right lower eyelid was removed from a man of 28. In the fourth case a necropsy revealed adenocarcinoma of the greater curvature of the stomach, the patient being a man of 30. In the fifth case a man of 32 had epithelioma of the right side of the face. In the sixth case a woman of 34 was operated upon for carcinoma of the colon just above the sigmoid flexure. Death resulted from peritonitis after 5 days. In a seventh case an acinous carcinoma of the right breast was removed from a woman of 34. In the eighth case an exploratory operation revealed a carcinoma the size of a child's head in the hepatic flexure of the colon of a man of 35. The patient died shortly after the operation. In the ninth case, necropsy revealed an adenocarcinoma of the rectal wall in a woman of 27. The literature of the subject is discussed. [M.B.T.]

2.—From a study of many cultures from **scarlet fever** cases Jaques concludes that the crescent-shaped germ described by Wynkoop and the **diplococcus** of Class are different forms of the same germ. He has examined from 600 to 1000 cultures from inflamed throats each year for 6 years and he finds that fully 80% of the cultures contain this coccus. [M.B.T]

4.—Stewart believes that the drugs which are almost universally used for the relief of **constipation** are one of the chief causes of this trouble. In the treatment, diet is one of the first factors to be considered; it should be as nearly aseptic as possible. On account of the tendency of animal food to undergo putrefactive changes, as little meat should be used as possible; nuts and legumes may be used in the place of it. The patient should use no liquid with his meals. Manual and mechanical abdominal massage is a very valuable aid in strengthening the abdominal and visceral muscles and electricity may be used in many cases with good results. Exercises calculated to develop the body as a whole, especially the abdominal muscles, are of great importance. [M B.T.]

6.—A woman of 63 had been subject to bilious attacks ever since she could remember. She was taken with symptoms of obstruction of the bowel and death resulted after about 8 days' illness. At the necropsy a constriction $\frac{5}{8}$ of an inch in length and $\frac{3}{4}$ of an inch in diameter was found at the junction of the transverse and descending colon. This constriction completely occluded the lumen of the bowel. [M.B.T.]

7.—A boy of 3 was given about 30 grains of quinin in 24 hours for the relief of malaria; this caused **quinin amblyopia**; strychnin was used and gradual recovery followed. In a second case a woman of 30 had received 150 grains of quinin in 28 hours which caused total blindness of both eyes. Under the use of strychnin and digitalis the woman recovered full sight in 8 days. [M.B.T.]

8.—A woman had suffered for several days with abdominal pain. Operation was performed, and a search was made for some cause of obstruction. This was not found, but there was a septic peritonitis. The feature which is considered of special interest is the fact that with general septic peritonitis there was normal pulse and temperature. [M.B.T.]

9.—Lydston believes that it is safe to assert that the practice of medicine, from a business standpoint, is a failure. One of the most potent causes of professional poverty is the mania of the doctor for a pretense of success. Other causes of failure which are discussed at some length, are lack of judgment of human nature, the college hospital and dispensary evils, the tendency to hero worship, the inconsistencies and absurdities of medical ethics, and the superabundance of medical colleges. If one half of the colleges were wiped out of existence there would be still more than enough to supply the demand for physicians. [M.B.T.]

American Journal of the Medical Sciences.

February, 1900. [Vol. cxix, No. 2.]

1. Some Cases of Dilation of the Stomach. John H. Musser and J. Dutton Steele.
2. The Surgical Treatment of Acute Puerperal Sepsis, with Special Reference to Hysterectomy. Hiram N. Vineberg.
3. A Case of "Family Periodic Paralysis." James J. Putnam.
4. The Increasing Prevalence of Cancer as Shown in the Mortality Statistics of American Cities. G. Betton Massey.
5. Narcolepsy. A Contribution to the Pathology of Sleep. D. J. McCarthy.
6. A Critical Summary of Literature on the Influence of Heredity on Deafness. W. Scheppegrell.

1.—Musser and Steele report seven instances of **atonic dilation of the stomach** in young students. In all of the cases the signs of motor insufficiency were more or less marked. The authors state that in the diagnosis of motor insufficiency the following signs should be looked for: 1. The presence of undigested food or fluid in the stomach fasting over night. 2. The manner of inflow and outflow of water when the stomach-tube is used. The water flows in with great ease, causing a whirlpool in the funnel, and is removed with great difficulty. 3. Inspection of the abdomen. This was not of much value in the authors' cases, although held of some account by other writers. 4. The absence of peristaltic waves seen through the abdominal wall, and the impossibility of invoking them by stimulation. This is a point in favor of the view that the dilation is due to weakness of the gastric muscle. 5. The relaxed condition of the stomach-walls on palpation through the abdomen, upon which Riegel and Allbutt lay stress, the authors were unable to determine. 6. Evidences of fermentation of the stomach-contents, as the eructation of gas or bitter material; muscular weakness; lack of mental activity; insomnia; inability to work; lessened power of concentration. There were also in their cases muscular pains and twitching, and in one tetanoid spasms occurred during lavage. 7. The urine is concentrated and small in amount. In all of their cases the appetite was good, the thirst moderate, and the bowels usually constipated. In **determining** the **size** and **position** of the **stomach**, they consider inflation of the stomach with air through the stomach-tube by means of an ordinary Davidson syringe to be the easiest and most satifactory method. A valuable but not absolutely reliable sign is the amount of water that can be passed into the stomach. The maximum capacity of a normal stomach is variously estimated at from 1500 to 2600 cc. In the cases reported the gastric secretion was not disturbed to any marked degree. In the differential diagnosis it is necessary to exclude pyloric obstruction. As to the causes, mental strain, confined life, improper food, and chronic gastritis, seem to predispose to motor insufficiency. In their own 7 cases the etiologic factors were grouped as follows: (*a*) Myasthenia caused by chronic gastritis from the abuse of alcohol and tobacco, 4 cases; (*b*) myasthenia from deficient innervation, 2 cases; (*c*) myasthenia, probably of congenital origin, 1 case; (*d*) myasthenia occurring in the course of acute disease, 1 case. [D.R.]

2.—Vineberg's paper on **acute puerperal sepsis** may be summarized as follows: 1. Puerperal sepsis is wound fever or wound infection, and wound infection in the female genital canal, as elsewhere, calls for surgical measures, such as free drainage, irrigation, and the removal with a sharp instrument of any debris or exudate that may form on the surface of the wound. These means failing to accomplish the desired result, ablation of the diseased organ or organs as a *dernier ressort* is indicated. 2. In a given case of puerperal sepsis a thorough search is to be made of the whole of the genital canal in order to determine the site of the original infection. 3. If this is situated in the uterus, curettage, drainage, and irrigation are to be employed. In 95% of the cases of puerperal sepsis nowadays met with this plan of procedure will be all that is necessary to bring about a cure. 4. In the re-

maining 5%, roughly speaking, these measures will not be efficacious to arrest the progress of the infection, as will be evidenced by the pulse, temperature, general course of the disease, and sometimes by local signs. An exploratory laparotomy is then indicated, the further course to be guided by the pathological lesions found. In most of these cases total hysterectomy will be required. 5. When large collections of pus form and are so situated that they can be readily reached either with a vaginal incision or with one above either of Poupart's ligaments, no time should be lost in resorting to surgical relief. When, however, they are not so favorably situated, judicious delay is advisable, with the hope that ultimately the pus may be evacuated without the risk of soiling the general peritoneum. [W K.]

3.—Putnam reports a case of **periodic palsy** in a young man, aged 24 years, of good health, and of rather unusual muscular development and strength. The first attack occurred at the age of fourteen, and since then at intervals of from 1 to 7 months, with slighter attacks interspersed between them. The seizures usually occurred on Sunday or Monday, a periodicity seen also in other cases. The attacks come on rapidly, the patient generally going to bed in his usual health, and awaking in the morning unable to move hand or foot. In the severer seizures the paralysis is so complete that the patient can move but few muscles, only those of the lips and eyes. Sensation was said to be perfect. The attacks vary in length from a few hours to 2 or 3 days. As regards predisposing causes, the only one which impressed the patient as important was the taking of too much food. During one of the seizures the electric reactions were tested, and no response was obtained in the deltoid, biceps, or quadriceps femoris. The kneejerks, abdominal and plantar reflexes were absent. During the intervals the electric reactions were normal and the kneejerk was present. The blood did not show the lymphocytosis observed by Taylor. Putnam speculates upon the nature of the process, which he does not consider, as others have done, as due to some toxic action upon the nervous system; instead, he seeks for the cause in a disturbance of the correlation between different parts of the nervous system, or between the tissues and the fluids that nourish them, and assumes that there is a **disturbance of the physiologic coordination of impulses** going to the muscles, leading to an increase in the inhibitory function of the nervous system. Putnam seems to share the view of Oddi that there are no centers endowed with the sole function of inhibition—that inhibition, as well as dynamogenesis, is a fundamental function of the nervous system. But the true nature of inhibition will only be understood after an exact knowledge of the essence of nervous force has been obtained. [D.R]

4.—There is an **increase of the mortality from cancer** in all of the large cities of the Union. The greatest increase has occurred in San Francisco, where the ratio has crept up from 16.5 cases in 100,000 population, in 1866, to 103.6 cases to 100,000 population, in 1898. In the city of Boston the rate has trebled in the 24 years between 1863 and 1887. The combined cancer mortality of the seven largest American cities, exclusive of Chicago, has doubled in 28 years. Massey believes that there are at least 100,000 persons suffering from cancer in the United States at the present time, and states that during 1898 there were 49,800 deaths from that disease. [D.R]

5. — McCarthy reports several interesting cases of a **morbid tendency to sleep.** The first case was seemingly one of narcolepsy, but upon a close examination it proved to be one of hysteria. In the second patient there were hysteria and neurasthenia, and possibly also the beginning of melancholia, as factors in the production of the sleep. Illustrations are given of morbid sleep in petit mal and from arteriosclerosis and uremic poisoning. McCarthy does not believe that **narcolepsy** is a distinct disease. Cases that are not hysterical are due to epileptoid states or to conditions dependent upon toxemia and disturbed cerebral circulation and nutrition. [D.R.]

6.—The author uses the term "deafness" in the present article to include cases in which the defect is sufficient to prevent the child's acquiring speech in the normal manner. There are two forms of deafness—congenital and acquired. **Congenital deafness** is not of common occurrence, many of the cases being so considered for lack of evidence to the contrary. On the other hand, some cases of congenital deafness are attributed by the parents to disease, because they are loath to admit that the child was born with an abnormality. The author has come to the conclusion that in about two-thirds of the cases the deafness is acquired, leaving one-third as congenitally deaf. The tests usually applied to determine deafness are a table-gong, used by Hartmann; clapping of the hands, used by Toynbee; Galton's whistle, by Hediger; and a harmonica with a range of five and one-half octaves, by Urbantschitsch. Those which the author has found most successful are the following: A snapper, similar to that used in teaching telegraphy, but of larger size; a whistle of high pitch, containing a ball to change the vibrations; bells, something like those used by bicyclists. He has by these means demonstrated hearing in those found totally deaf by other aurists. If deafness develops before the age of 7, whatever speech exists is apt to be lost, mutism resulting. Mutism, it should be remembered, is practically always the result of deafness. Nevertheless, parents are apt to bring their mute children to have the mouth or tongue examined, in the belief that the defect lies there. Scheppegrell believes that deaf-mutism, like cretinism, is influenced by locality, being quite common in mountainous regions; heredity also has an influence, children inheriting certain peculiar formations of the ear; it is sometimes the result of catarrhal disease, and a predisposition to such diseases in certain families is by no means unusual. He considers deafness as not being a disease, but merely a symptom, and decides that for that reason intermarriage between two deaf persons does not necessarily increase the tendency in the offspring, where the deafness is the result of different conditions in the two parents. On the other hand, Bell believes that the influence of heredity in these cases is so strong that intermarriage will evolve a distinct race of deaf-mutes; but the experience of Mathison, who examined 661 mute children in the Ontario Institute for the Deaf and Dumb at Belleville, is quite the reverse of this. The records of the Pennsylvania Institute for the Deaf and Dumb show that in the cases of its graduates twenty couples have married, sixteen of whom were known to be congenitally deaf. At the time of this report twenty children had been born to these couples, two of them being deaf. This number is small, yet it is a proportion of 10%, while the ordinary ratio of deaf-mute children born of parents not so affected is about one in 1,500. The majority of writers believe that **consanguineous marriages** furnish a decided predisposing element in congenital deafness. The frequent occurrence of nervous diseases among children of consanguineous marriages is well recognized, and deaf-mutism is sometimes one of these manifestations; but all statistics agree in showing that the number of cases of deaf-mutism resulting from the marriages of deaf-mutes who are not blood relations is not excessively large. As a preventive measure against the increase of deaf-mutism from this source, however, deaf-mutes of different sexes should be separated as much as possible, one from the other, as this association encourages marriage, by which the tendency to this affliction is increased. The marriage of deaf-mutes between whom blood-relation exists, even to a distant degree, should be strongly interdicted. [D.R.]

Münchener medicinische Wochenschrift.

February 13, 1900. [47. Jahrg., No. 7.]

1. A State of Inflammation of Serous Membranes. R. HEINZ.
2. Total Stenosis of the Pylorus from the Corrosive Action of Lye. A. HADENFELDT.
3. The Etiology and Therapeutics of Episcleritis Periodica Fugax. W. STÖLTZING.
4. Epileptic Attacks During Recovery from Typhoid Fever. F. MÜHLING.
5. Hydrorrhœa Ovarialis Intermittens (Hydrops Ovarii Profluens). The Theory of the Tuboovarian Cyst. MAX NASSAUER.
6. An Improvement in Doléri's Dilating Uterine Sound. E. TOFF.
7. Rosin's Method of Determining the Reducing Power of the Urine. L. SPIEGEL and K. PERITZ.
8. The Use of Gelatin to Arrest Cholemic Hemorrhage after Operations on the Gall System, with Remarks on Poppert's Drainage of the Gallbladder. HANS KEHR.

1.—Heinz has studied changes produced in the pleura and peritoneum after the **injection of turpentine and iodin.** We have reviewed a paper on the same subject by the author on a former occasion [see PHILADELPHIA MEDICAL JOURNAL, 1899, Vol. III, p. 773). After the injection of an emulsion of turpentine, there are noticed small, isolated, purulent foci. Regarding the origin of these, it appears at first as if they were due to the outwandering of leukocytes, produced by the chemotactic action of the turpentine; but such is not the case. The purulent foci are in part covered with endothelium, and are therefore under the surface. Moreover, they contain remains of the fixed tissues, as well as leukocytes. It follows, therefore, that the emigration of the leukocytes occurs into the tissues. Whether there is also an emigration of such cells on the surface is still in doubt. The injection of Lugol's solution produces an abundant deposit of fibrin. Regarding the origin of the latter, the author found that the fibrinous mesh-work was deposited chiefly on the endothelial surface, and therefore was an **exudate.** In other places the endothelial cells covered the fibrin, evidently having been lifted up by the exudative stream. The exudate is poured out also into the tissues, takes the specific fibrin stain, and can readily simulate a tissue that had undergone a fibrinoid degeneration, as claimed by Neumann. If iodin (Lugol's solution) is injected into the peritoneal cavity, the intestines become adherent by fibrin as early as 12 hours afterwards; and after 48 hours the adhesions are so firm that they can be separated only with force. At the points of adhesion, the endothelium is destroyed, and such destruction seems to be a prerequisite for adhesions to take place. For the purpose of producing adhesion of serous surfaces, as in the case of pleurisy, hydrocele, etc., Lugol's solution is better than the tincture of iodin, as the alcohol in the latter causes an unnecessary destruction of the tissue-cells. [D.R.]

2.—A child **swallowed** a quantity of **caustic potash solution,** and 3 weeks later an esophageal stricture could be detected. Also there was a gradually developing abdominal meteorism, which, however, in the course of 8 days, gave place to abdominal effusion. Vomiting was present, and, in the beginning, numerous fecal movements. There was no increase of peristalsis, little pain or tenderness, no fever, quickened pulse, and considerable emaciation. Various possible diagnoses were made, but at the operation the following conditions were found; enormous **dilation of the stomach,** which after puncture and evacuation of contents, contracted almost to its normal size; the pylorus was thickened, the posterior portion resembling granulation-tissue, while the anterior is more yellowish in color; the finest probe could not pass through the lumen of the pylorus. The puncture-opening in the stomach was closed and a gastro-enterostomy done. The patient recovered well from the operation, and gradual dilation of the esophageal stricture was carried out until he was as well practically as before the accident. [G.B W.]

3.—Stöltzing reports a case of **episcleritis periodica fugax** occurring in a man 64 years of age. The disease had lasted for some 5 years and he had suffered from over 100 different attacks of the malady. There was always injection of the bloodvessels; only once a small episcleritic nodule was found. When the attacks lasted for a week the condition resembled more the ordinary episcleritis. Characteristic was the sudden change in the position of the congestion. The case was practically cured by the use of potassium iodid. [G.B.W.]

4.—Report of a case of **typhoid fever** in which on twentieth day of convalescence **epileptic convulsions** occurred. [D.R.]

5.—Nassauer reports the result of a careful study of hydrorrhea in an article running through 3 issues of this journal, Nos. 7, 8, 9. In No. 7 (February 13) he gives a detailed clinical history of a case of hydrorrhea in a woman, aged 34, the account covering a period from February 25, 1898, to November 9, 1899, and then describes the anatomical condition of the tumor when finally removed. In article 9, of February 20, he reviews the literature of hydrorrhœa ovarialis, quoting from Spencer, Wells, Anderson, West and others, chiefly tending to show that this condition is the outcome of a tuboovarian cyst. The rarity of it appears in the fact that Martin out of 500 cases of salpingitis had seen tubal hydrorrhea only 4 times. There are 3 theories as to the etiology of the tuboovarian cyst; ovulation theory (Richard), catarrhal theory (Veit, Burnier) and combination of both (Rosthorn). In the concluding article (7, February 27) Nassauer explains fully his theory of the origin of the tuboovarian cyst, which he thinks begins in an infection, usually gonorrheal, of the ovary, causing a small abscess, and such changes in the ovarian tissues that the ripened follicle is retained and becomes an ovarian or follicular cyst. After the union of cyst and abscess there is eventually a rupture through the adherent tubal wall, thus forming a true tubal ovarian cyst, the fluid secretions of which are expelled at intervals through the vagina and designated hydrorrhœa ovarialis intermittens. [W.K.]

6.—Toff briefly states the advantages of his improvement of the intrauterine sound. [W.K.]

7.—The authors point out that Rosin's method for the determination of the reducing power of urine with permanganate of potassium (see PHILADELPHIA MEDICAL JOURNAL, March 3, 1900) is entirely unreliable. [D.R.]

8.—(Conclusion.) Kehr says that if we desire to permanently cure our patients we should not be satisfied with simply incising the **gallbladder** and draining, but should palpate and sound the bile-ducts. His methods of treating diseases of the gallbladder are as follows: In acute seropurulent inflammations with dilated gallbladder, establish a fistula by stitching the gallbladder directly to the abdominal wound, in acute seropurulent inflammations with a shrunken gallbladder, it is best to insert a drainage-tube making the so-called "waterproof drain," in the so-called recurrent type, the whole of the gallbladder should be removed in the interval between the attacks. [G.B.W.]

February 20, 1900. [47. Jahrg., No. 8.]

1. The Effect of Spinal Puncture and the Removal of Cerebrospinal Fluid in Chronic Hydrocephalus. J. A. GROBER.
2. Rider's-bone. J. A. ROSENBERGER.
3. A Case of Friedreich's Disease. C. WICKEL.
4. The After-Treatment of Severe Abdominal Operations. STEINTHAL.
5. Angina with Endocarditis. ROEGER.
6. The Treatment of Ophthalmia Neonatorum. A. LAMHOFER.
7. A Case of Acute Pancreatitis. HANS DOERFLER.
8. The Connection Between Scrofulosis and Trauma. S. BACH.
9. Tuboovarian Cysts. MAX NASSAUER.

1.—Grober has treated two cases of **chronic hydrocephalus** in children by **lumbar puncture**, the cases being tapped 25 and 12 times respectively. [D.R.]

2.—Rosenberger reports 3 cases which, in consequence of horseback-riding, developed such severe **pain** in the **patella** that they could neither ride nor stand. The pain was most severe along the inner side of the patella and was due to pressure from tight riding-breeches. The patella will not stand pressure long because of the lack of fat, which might act as a cushion, between the bone and the skin. When a bone lies directly beneath the skin, much pressure will cause pain that soon becomes unbearable. In the patellar pain from riding there are no objective symptoms, and the cases all do well as soon as the causative element is eliminated. [G.B.W.]

3.—The author reports a case of **Friedreich's ataxia** in a boy of 12 years and 4 months. The disease probably began as early as the second year of life. No other members of the family were affected, and etiologically there was nothing in the family history except phthisis on the part of the father. [D.R.]

5.—In 120 cases of **tonsillitis, heart-murmurs** were noted in 24, or 20%. In 24 instances of herpetic inflammation of the tonsils and the neighboring parts, heart-murmurs developed in 13. Of the 24 cases of heart-murmur the murmurs developed in 10, while the patient was in the hospital, in 4 on the second day, in 4 on the third, and in 2 on the fourth day. In those who entered the hospital with a murmur, the latter became distinctly louder during their stay. In 8% of the cases the heart-murmur became permanent, indicating that there had been a true inflammation of the endocardium. In one of the patients venous thrombosis occurred on the leg. [D.R.]

6.—Lamhofer does not believe in the use of **silver nitrate** in **ophthalmia neonatorum,** claiming better

results by less irritating methods. He treats these cases by carefully nursing and feeding the child, protecting the eye from all possible injuries, and cleansing the eye with lukewarm sterile water every one or two hours. Weak boric or alum solutions may be substituted for the plain sterile water. [G.B.W.]

7.—The peculiar feature in this case of **acute pancreatitis** which affected a corpulent woman of 50, is the occurrence of agonizing pains in the back, radiating into the legs, and simulating double sciatica. The appearance of sugar in the urine, and the very rapid, fatal course, suggested to the author the diagnosis of acute pancreatitis. The bowels were confined, and the ascending and descending colon greatly distended with gas. At the autopsy acute suppurative pancreatitis and necrosis of the pancreas were discovered. There was apparently no fat-necrosis. The dilation of the colon, for which no cause was found, was attributed to paralysis of the sympathetic nerves behind the pancreas. [D.R.]

8.—Bach says that **trachoma** and **scrofulous ophthalmia** frequently are neighboring affections, that they often closely resemble each other, and that trachoma almost always is found in persons with a scrofulous diathesis, and in these persons runs a much severer course. He goes on to say that trachoma is not a disease due to a distinct organism, but may be caused by many different kinds when the proper predisposing conditions are present, and these conditions are to be found in the scrofulous individual. [G.B.W]

February 27, 1900. [47. Jahrg., No. 9.]

1. Alexin; Its Specific Bactericidal and Hemolytic Action. H. BUCHNER.
2. The Treatment of Lupus and Skin-Diseases by the X-Rays. R. HAHN and ALBERS-SCHÖNBERG.
3. A Case of Lipoma of the Intestines. FLORIAN HAHN.
4. A Case of Vesiculation from Hysterical Self-Injury. J. EVERSMANN.
5. A Rare Case of Radioparalysis is Cured by Exposing and Stretching the Nerve. HANS BRAUNINGER.
6. The Method of Treating Tuberculosis of the Lungs with Hypodermic Injections of Oil of Camphor. DR. ALEXANDER.
7. Tuboovarian Cysts. MAX NASSAUER.

1.—In a lengthy and somewhat obscure article, Buchner enunciates his views regarding the bactericidal and hemolytic properties of the blood. The **alexins**, both the bactericidal and the hemolytic, are nonspecific substances. For the production of a specific bactericidal or hemolytic action, another body is necessary, and that is the so-called antibody (Antikörper), which, unlike the alexins, resists the action of moderate heat. The **alexins** are **proteolytic ferments,** and are products of the animal body, probably of the leukocytes. The specific antibody acts directly on the bacteria or red blood-corpuscles, and prepares them for the destructive action of the alexins. Both, therefore, act directly on the bacteria or red cells, and it is not necessary to assume that they in any way act upon each other. Buchner does not accept Ehrlich's lateral-chain theory of immunity *in toto*, and believes that the antitoxins are not the results of the liberation of lateral-chain molecules from the body cells, but are transformed constituents of the bacterial cells, red corpuscles, or toxins introduced into the body. [D.R.]

2.—The action of **x-rays** on the normal skin is a most variable one, uncertain in its action even on the same individuals. Generally, however, the fair skins escape any untoward action, whereas the brunettes are apt to have redness of the skin, excoriations, and even gangrene. If the skin does react after a longer or shorter exposure to the x-rays the following symptoms are usually developed: 1. A yellowish coloring, gradually shading to a light red, as in the earlier stages of acute hyperemia. This red gradually deepens in color, while the patient may experience some itching and prickling. The subjective symptoms increase in severity and the part may become edematous, and palpation will show more or less infiltration. Vesicles may form which, on breaking, leave small excoriations of the skin. Healing from their edematous condition is very tedious, though the formation of cicatricial tissue is very rare. **Lupus**, under the influence of the x-rays, heals in two ways. If the patient is sensitive and dermatitis occurs, the whole of the exposed surface, both the diseased and normal portions, becomes an excoriated and edematous area, in which, however, no lupus nodules can be found. When the dermatitis heals the lupus has disappeared. If, however, the normal skin-reaction does not take place, generally the lupus nodules gradually dry up and disappear under a crust, the eczematous condition of the skin having first given place to a normal condition. In some few cases the nodules at first become more prominent and are surrounded by a reddened area. A crust then forms and the nodule dries up and disappears. If ulcerations are present they heal remarkably fast. In some cases the healing of the lupus is not always so rapid and easy, and it is often of service to use other methods, such as electrolysis and ointments in connection with the x-ray exposures. [G.B.L.]

3.—Hahn reports a case of intussusception of the small intestine caused by an **intestinal lipoma**. The patient was a man, 43 years of age, who, beginning with symptoms of gastrointestinal catarrh, gradually became worse until he was operated for supposed intussusception. The operation verified the diagnosis, but after reduction of the invagination, a tumor was felt growing on the inside of the intestine. A portion of the gut containing the growth was resected and the patient made a good recovery. Examination of the specimen showed 4 lipomas growing from the submucous tissue and covered by mucous membrane. Also on the serous surface of the intestines there was an irregular fatty tumor about the size of a walnut. [G.B.W.]

4.—A young woman was brought into the hospital with large blisters on the back of the hand and forearm, and with evidences of old blisters on the legs and elsewhere. After careful observation, a cantharidal plaster was found in the patient's pocketbook, which she had concealed, and on clandestine removal of this, the vesiculation ceased. The case was evidently one of hysterical self-injury, although there were no other signs of hysteria. [D R]

6.—Alexander praises the use of **camphor injections in phthisis** and to read his descriptions, which are freely interspersed with exclamation marks, camphor is the most wonderful remedy in the world. He gives it in the following way: Febrile patients receive once daily .01 to .03 grams of camphor during a period of weeks or months. Afebrile patients receive either the same dose, or once daily for four days .1 of a gram of camphor, the injection being repeated after eight days. [D.R]

Berliner klinische Wochenschrift.

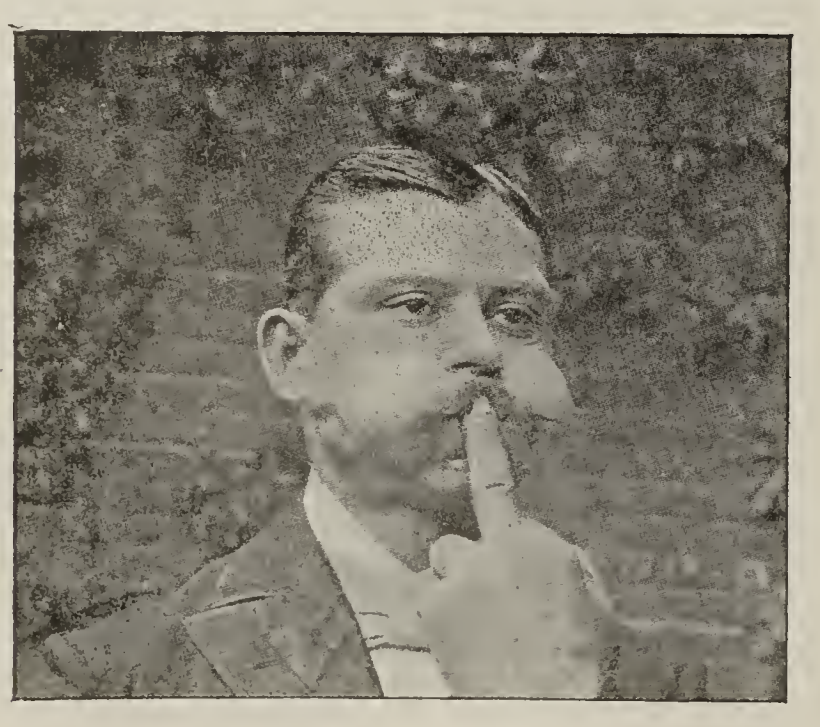
March 12, 1900. [37. Jahrg., No. 11.]

1. The Development of Our Knowledge of Inflammation in the Nineteenth Century. E. PUMFICK.
2. The Prevalent Diseases and Sanitary Conditions in South Africa. W. KOLLE.
3. The Etiology and Radical Operative Treatment of Ozena. NOEBEL and LÖHNBERG.
4. The Pathology and Treatment of Fissure of the Anus. O. ROSENBACH.
5. Glassblower's Mouth and its Complications. SCHEELE.

2.—A very entertaining address, in which Kolle touches upon the present **South African War** and the ethnologic, climatic, and hygienic conditions of South Africa. He believes that while English jingoes and promoters may have had something to do with the war, ethnologically and politically it was unavoidable and necessary, and he predicts that although England may conquer, South Africa will always remain Dutch. The climate in South Africa presents great variations; all possible climatic conditions indeed exist. The mortality among Europeans is far less than in the best regulated cities of the Continent. Tuberculosis plays a very unimportant role. Regarding municipal and state sanitation, the conditions are on the whole very satisfactory. There are a number of good hospitals in Cape Town, Port Elizabeth, Grahamstown, Johannesburg, Kimberley, Bulawayo, and Bloemfontein; and there are three leproseria, accommodating 1500 patients, and two asylums with 1000 insane. One of the great questions is that of the **water-supply**, and the majority of the diseases which are prevalent depent upon the inadequate supply of good drinking water. It is extremely difficult to secure deep water in sufficient quantity, and it is necessary to use the surface water which is of course more or less contaminated. House filtration has not been able to accomplish much, particularly with reference to

typhoid fever, which is a plague in South Africa, and is at present decimating the garrison of Bloemfontein. **Malaria** manifests itself in very obstinate forms, principally of the tertian variety. Mosquitos are disseminated all through the country, and in the summer time it is impossible to sleep anywhere—except perhaps in Cape Town—without mosquito-netting. Nevertheless, some of the districts in which the mosquito plague is at its worst, are entirely free from malaria. The author is inclined to think that this is because the species of mosquito found in those localities are not the ones that are concerned in the transportation of that disease. Smallpox, formerly a scourge, is gradually being eradicated by vaccination. The plague, yellow fever, and cholera have not been able to obtain a firm foothold in the country. Although plague had been imported, it made no headway, because the country, except the seaports, is entirely free from rats. Ships are not allowed to land at public docks, but must discharge their cargoes at sea in order to prevent the importation of plague-infected rodents. Bilharzia and Anguillula anemia are very common, and claim numerous victims. Scurvy is extremely prevalent, particularly among the negroes. Pellagra is almost unknown, despite the fact that a large proportion of the population subsists on maize. Syphilis is the scourge of the blacks, and forms of the disease are seen that are scarcely ever met with elsewhere at the present day. As already stated, tuberculosis is rare, and leprosy is common. Kolle believes that in the case of the latter the infection is conveyed through the rubbing of infected material into the skin. South Africa is one of the best **health-resorts for consumptives,** and Cecil Rhodes has been instrumental in the establishment of a large sanitarium at Kimberley. The negroes suffer much from acute pulmonary diseases, pneumonias, etc., which are very fatal among them, probably because nearly all are confirmed alcoholics. The mortality among the children of Europeans in the cities is very large, and from the same cause as in Europe—bottle-feeding. As among the Boers it is the custom for women to suckle their children, the mortality is much less; in addition, the number of children per family is large, and varies from 12 to 24. Hence the rapid increase of the Boer population. A very weighty question in South Africa is that of animal diseases, among these being the hematuria of cattle, a form of malaria, a peculiar horse-sickness, and the tsetse disease; anthrax is also very widespread, and perhaps the greatest scourge of all is the rinderpest. Koch has found a fairly good vaccine for this in the bile of animals dead of the disease, and Kolle has succeeded in securing even a better method of vaccination. [D.R.]

4.—Rosenbach considers **fissure in ano** a pathologic condition of the innervation of this region, the spasm of which may be compared to nervous dysphonia, nervous cough, etc. He advocates massage and manipulation to relax the spastic condition. The patients should be taught to introduce the finger into the rectum and make rotary and other movements; later the rectal tube is used; at the same time the bowels must be carefully regulated by the administration of proper drugs. In this way improvement is usually brought about within 4 or 5 days, and Rosenbach states that he has cured numerous cases of fissure by this form of treatment. [M.B.T.]



5.—Scheele describes **glassblowers' mouth** and reports 2 cases of this condition which he found among glassblowers, and also among musicians who blow certain forms



of wind instruments. These 2 patients came from a factory which employs 40 hands, so that the frequency may be estimated at about 2.5% of all glassblowers. The condition is described as a hernial-like out-pocketing of the muscles of the cheeks, also frequently combined with emphysema of Steno's duct; the epithelioma of the mucous membrane is peculiarly influenced, giving rise to the so-called *plagues opalines.* In the lax condition the pocket of the buccal mucous membrane has the form of an egg; when distended it becomes ballooned out and one can feel with the finger trabeculae on the inside of the cheek. The manner in which the condition is produced is easily understood when we consider that the normal pressure of expiration amounts to 6 or 9 mm. of mercury, while with glassblowers the pressure ranges from 90 to 110 mm. of mercury. Together with this out-pocketing there is likely to be a disturbance of hearing and cramp-like contraction of the muscles of the cheek. Photographs of two patients are reproduced. [M.B.T.]

March 19, 1900. [37. Jahrg., No. 12.]

1. Antipyresis. LIEBERMEISTER.
2. The Cures of Pulmonary Tuberculosis in the Charité Hospital During the Last 10 Years. SCHAPPER.
3. Tuberculin and the Early Diagnosis of Tuberculosis. FRANKEL.
4. The Development of Our Knowledge of Inflammation During the Nineteenth Century. E. PONFICK.
5. The Etiology and Operative Treatment of Ozena. NOBEL and LÖHNBERG.
6. Remarks on Professor Martin's Paper on the Treatment of an Umbilical Cord. W. GESSNER.

2.—There has been in the Charité Hospital at Berlin a gradual **reduction in the mortality from pulmonary tuberculosis,** from 54.2% in 1889-90, to 34.3% in 1898-99, a reduction of 20%. The factors that have brought about such a favorable result are: (1) the patients present themselves earlier than formerly; (2) the possibility of making the diagnosis earlier; (3) the better care; and (4) the improved methods of treatment. One case is described in which a bilateral tuberculosis was cured in the Hospital. The time required was 177 days, only ten days more than are required at Davos. [D.R.]

3.—Tuberculin is a most sensitive **reagent in tuberculosis,** and whenever it produces general and local reaction the conclusion is warranted that tuberculosis exists. The diagnostic use of it is carried out as follows: The normal temperature of the patient is determined by means of three

hourly measurements. If no fever is present the injections are made, beginning in adults with 1 mgr., in children with ½ mgr., and in cases of lupus with $\frac{1}{10}$ mgr. After the injection, the temperature is measured every three hours. A rise of 5°C. is indicative of a reaction. If there is no local or general reaction, a second injection is given from three to four days later, a fivefold dose being used. If this is not productive of a reaction a third injection is given three to four days later, a tenfold dose being employed. For adults 1 cgr. is the highest dose to be employed. Any patient that after such injections shows neither a local nor a general reaction is free from tuberculosis. No harm results from the injections, either for the healthy or for the tuberculous. They are best used in hospitals, but may be employed in ambulatory practice. There are occasional errors, tuberculous patients not reacting, and persons without tuberculosis showing the reaction, but such events are exceedingly rare. The injections are especially to be used in those diseases in which an early form of tuberculosis may exist, as in chlorosis, and the scrofula of childhood. In suspected surgical tuberculosis the reagent is also of great value. [D.R.]

6.—Gessner states that the method described by Martin in the issue of February 9, 1900, is but a modification of that advanced by him in the *Wochenschrift* of November 10, 1897. [W.K.]

Deutsche medicinische Wochenschrift.

March 1, 1900. [26. Jahrg., No. 9.]

1. The Early Diagnosis of Pulmonary Tuberculosis. ERNST LEVY and BRUNS.
2. A New Method of Physical Diagnosis. EDOUARD WEISZ.
3. Pathology and Treatment of Cataract. BÄHR.
4. Ophthalmoscopic Findings in Lepers. E. v. DÜRING and FRANTAS.
5. Etiology of the Heart. HANS HERZ.

1.—The present article was instigated by the recent one of Brieger and Neufeld. The present authors insist upon the **importance of animal experiments in the diagnosis of tuberculosis.** They emphasize the fact, however, that any one method of diagnosing tuberculosis will fail in many cases. Sometimes the clinical appearance of the case is the best indication of its nature, while at other times the discovery of tubercle-bacilli in the sputum, or of tuberculosis in animals injected with the sputum, is the best method of making the diagnosis. A single test of sputum for tubercle-bacilli is not sufficient, and they believe that it is always important to take the whole 24-hour amount of sputum, as they have often noted that tubercle-bacilli are present only at certain times of the day, particularly in incipient cases. They wash the sputum repeatedly in sterile salt-solution, rub it up well, and inject from ½ to 1½ cc. into guineapigs, intraperitoneally. At times the animals die within a few days from purulent peritonitis, chiefly caused by the diplococcus of pneumonia. To overcome the possibility of this they heat a portion of the sputum for 10 minutes at 60° C. It is well, however, to inject the unheated sputum in order to tell whether a mixed infection is present, and if so, the nature of it. That very minute numbers of bacilli are sufficient to cause tuberculosis in injected animals is shown by the experiments which are here reported. The authors took 2 öses full of sputum, rubbed this well with 20 cc. of bouillon, and then diluted it afterward so that the amount injected in some experiments amounted to as little as $\frac{1}{10000}$th of a cc. of sputum, or $\frac{1}{400000}$th of a mg., and even with this extremely minute quantity tuberculosis resulted. [D.L E.]

2.—Weisz has observed that when persons speak there is a projection of the intercostal spaces throughout the whole area of the chest lying over the lungs, and that this disappears where dulness begins. This may be used, he believes, to **limit the border of the lungs.** It must be borne in mind that there is an inspiratory protrusion in the interspaces, and that they sink in during expiration; therefore it is important that examination should be carried out somewhat deliberately, and that the patient should speak slowly so that respiratory efforts may not give confusing results. The phenomenon is most marked anteriorly in the parasternal and mammillary portions of the second, third, and sixth intercostal spaces, and posteriorly between the scapula and axilla at the upper border of the spleen and liver. Sometimes the stomach, owing to distention with gas, gives an intercostal phenomenon during phonation; this does not occur with an empty stomach. The dulness may be really a little lower than the intercostal phonatory phenomenon would indicate in case the dulness lies beneath a rib; the intercostal phenomenon would then have its lower limit in the interspace immediately above the upper border of the solid organ. On the contrary, it may at times reach in places lower than the dulness, and then gives the true indication of the border of the lung; in the latter instance there are portions of lung projecting downward over the solid organ which are too thin to be evident by percussion. The patients should be examined with the light falling upon them from one side. Daylight is best, and should not be too brilliant. The phenomenon is most evident in young people or children, and particularly in those with thin chest-walls and broad intercostal spaces. Short words beginning with the letters K or D give the best results when spoken. The importance of this phenomenon in pathologic conditions is not yet determined, and Weisz merely suggests that it be studied further before a definite opinion is given concerning it. In some cases of pleurisy with effusion he has observed that the phenomenon was present, apparently because of the transmission of the waves through the pleural fluid. [D.L.E.]

3.—Bähr says that among patients with **lamellar cataract,** changes of the teeth are present in 58.4%, convulsions in 40.4%, and general rachitis in 36%. Discission is the best method of treatment, affording better results than iridectomy, as far as the vision is concerned and causing less traumatism. He reports 8 cases. [G B.W.]

4.—During and Frantas hold that it is possible to differentiate between leprosy and syringomyelia by the peculiar condition of **the fundus oculi found in leprous patients.** At first this was doubted by the generality of medical men, but lately the work of these two men has been verified by other investigators. The condition which seems to be almost pathognomonic of leprosy is the presence of a large round spot and a number of yellowish-white spots in the neighborhood of the vessels around the macula. They report ten cases. [G.B.W.]

5.—Herz finds **active dilation of the heart** frequent in the later years of life as a result of obesity and abdominal plethora. It is quite frequent in acute infectious diseases, in gout, intoxications, and the like. Subjective symptoms are often absent, but may consist of palpitation, a feeling of unrest, in the chest slight sense of compression, and pain, which may be of varying severity. The subjects show at times extreme nervous irritability, general unrest, and often have difficulty in getting to sleep. Objectively the cardiac impulse is found widespread and often has a deliberately heaving character. Herz insists upon a distinction between mere forcible apex-beat and widespread forcible impulse. The latter always indicates increased labor on the part of the heart. Percussion usually shows some increase of the dulness. The results upon auscultation vary. There are often systolic murmurs which are very variable in character, but valvular insufficiency is uncommon. Examination of the pulse is important; it is full, with a large wave, and of about normal frequency, but shows a striking tendency to increased rapidity as the result of slight causes of irritation. There is often a marked tendency to congestion of the head with frequent epistaxis. The condition is to be diagnosed chiefly from passive dilation and hypertrophy; from the former by the large pulse and the lack of evidence of cardiac insufficiency, from hypertrophy by the frequent disappearance of all symptoms and by the deliberate forcible impulse. The treatment shoud be chiefly removal of the cause, and if nervous influences are active the use of sedatives. The prognosis is good unless the cause cannot be removed. It is of great importance to recognize the condition, as early treatment may result in entire cure and prevent the development of graver changes. [D.L.E]

March 8, 1900. [26. Jahrg., No. 10.]

1. A Case of Simultaneous Extrauterine and Intrauterine Pregnancy. HERMES.
2. Nephrotomy. EGBERT BRAATZ.
3. A Piece of Bone in the Right Lung for 4 Years. GUSTAV KILLIAN.

4. The Treatment of Displacement of the Uterus. G. ZEPLER.
5. A New Instrument for Applying Vibration Massage. A. EULENBURG.

1.—Hermes adds another to the list of reported cases of simultaneous intra and extrauterine pregnancy. His patient presented the typical symptoms of ectopic gestation and was operated upon on September 5, 1898, for the relief of that condition. The left tube was found to be the seat of the rupture. The right tube was normal. A tumor the size of an orange was removed from the injured tube. Before the patient left the hospital a normal pregnancy was diagnosed, and on the 17th of the following April she was delivered of a female child and made a good recovery. [W.K.]

2.—Braatz reports a case of **tuberculosis of the kidney,** which at first was taken for movable kidney. As a result of this later diagnosis nephrorrhaphy was done, but with little relief from the symptoms. The kidney was cut down upon a second time and split open for its whole length. Following this there was relief from pain, etc., for 3 years, but at the end of this time the pain returned with even more than its previous severity. A third operation was necessitated and the kidney removed. The appearance of the organ after its removal was entirely different from that seen at the second operation. After its removal it was small and irregularly shrunken and also several caseous deposits were found scattered through its substance. At the previous operation no tuberculous deposits were detected and the kidney was normal in size. Careful examination, however, demonstrated that tuberculosis did exist at the time of the second operation and that several caseous centers, which had been near the cut when the above mentioned section of the organ was made, had healed up and the process had remained latent until new centers of disease had developed. [G.B.W.]

3.—Killian describes the case of a man of 42 who aspirated into his lung in March, 1896, a splinter of bone. He had had severe and protracted attacks of cough immediately after, and since the time of the accident had had repeated elevations of temperature. He had had right-sided pleurisy and chronic bronchitis, and his general health had failed decidedly. When examined there was some impairment of resonance over the left apex with rales, which gave a suspicion of tuberculosis, but bacilli were not present. There was also dulness over the right lung between the fourth and eighth ribs. Killian attempted to examine the man with the laryngoscope, but was unable to see down the trachea. He then tried direct bronchoscopy, but found this unsuccessful. He then thought that it was possible by lateral bronchoscopy to see the foreign body, so he introduced the bronchoscope between the back teeth with the head held far back and turned somewhat toward the side. By this means he was able to see a grayish body at the entrance of the right bronchus. The secretion of mucus was so excessive, however, that he could not make any attempt to remove it with the aid of sight; he therefore introduced his bronchoscope down to the level of the foreign body, and grasped the latter with a pair of forceps, depending upon touch only to guide him. In this way he secured a piece of bone 15 mm. long and 11 mm. broad. The man recovered fairly good health, though a few rales were still heard in the lower part of the right lung; the dulness, however, vanished. Killian does not think that even a delay of years is sufficient to contraindicate **direct removal of foreign bodies from the lung.** [D.L E.]

4.—Zepler advocates what he calls the "orthopedic treatment for displacements of the uterus" by means of the "transverse pessary." He believes that the stretching of the tissues composing the vaginal walls, will react upon the broad and round ligaments in such a manner as to correct malpositions. He thinks that the watchword of the orthepedic gynecologist should be individuality; and that each case should be scientifically subjected to that form of stretching of the tissues that will the most benefit its peculiar form of displacement. Celluloid is the material recommended for the transverse pessary. [W.K.]

Centralblatt für innere Medicin.

April 14, 1900. [21. Jahrg., No. 15.]

1. Some Remarks on Aspirin. F. FRIEDEBERG.

1.—Friedeberg makes some remarks upon aspirin. This is a new salicylate preparation, which is said to have the same effects as other salicylic preparations without causing the unpleasant consequences that the ordinary salicylates do. It is acetyl-salicylic acid. It crystallizes in white needles. It is easily soluble in alcohol, with difficulty in water. It has a pleasant, slightly acid taste. It is said to cause no disturbance of the stomach because it passes the stomach unchanged, and is broken up only when it reaches the intestine. It is also said to have no unfavorable effects upon the heart, does not cause deafness or ringing in the ears, and exanthemata of the skin do not follow its use. Friedeberg reports some cases of acute rheumatism which responded at once to its use. He has found it of little value in chronic rheumatism and in gout, but in some cases of neuralgia, particularly when following iufluenza, in sciatica and in migraine it was very valuable, it was very useful also in pleurisy with effusion. It is, however, an expensive drug, and cannot be used widely until the price is reduced. [D.L.E]

Centralblatt für Gynäkologie.

March 10, 1900. [24. Jahrg., No. 10.]

1. Forceps in Mortua. Living Child. Remarks upon Death during Labor, and Delivery in an Erect Position on Account of Orthopnea. A. E. NEUMANN.
2. A Metreurynter. EDUARD PREISS.

1.—Neumann adds one more to the 3 cases already mentioned in No. 4 of the *Centralblatt*, of a **living child delivered by forceps after the mother's death.** This one occurred in the practice of Dr. Koerbitz in the year 1869, and is remarkable because the birth of the child was at least 15 minutes after the mother's death, the longest time in any of the other cases being 10 minutes. Neumann also reports a case in which the patient, who was suffering greatly from orthopnea, was supported in an erect position upon an operating table while the child was delivered. This somewhat relieved the pressure upon the breathing and the patient ultimately recovered her life, he believes, being saved by this procedure. [W.K.]

2.—Preiss has contrived a new instrument as an improvement upon the usual form of **colpeurynter,** and especially adapted for the use in cases of placenta previa, also in eclampsia, because of the ease and rapidity with which the necessary dilation is effected. He has used it for some years with most satisfying results. [W.K.]

March 17, 1900. [24. Jahrg., No. 11.]

1. Upon Decapitation with Carl Braun's Key-Hook. KARL A. HERZFELD.

1.—Herzfeld discusses at length the comparative merits of Zweifel's Trachelorhekter and Carl Braun's Schlüsselhaken, or keyhook, with an illustrated description of the method of using the latter instrument. [W.K.]

March 24, 1900. [24. Jahrg., No. 12.]

1. The Necessity for an Improvement of Carl v. Braun's Decapitation-Hook. RICHARD V. BRAUN-FERNWALD.

1.—Braun-Fernwald contributes a full discussion of the subject of decapitation and the instruments devised for the execution of this operation and reports several cases. [W.K.]

Sundry French Journals.

1. The Influence of Alcoholism Upon Depopulation. RENE ARRIVÉ. (*Gaz. Heb. de Méd. et de Chirur.*, March 4, 1900. 47me Année, No. 18. (Paris Thesis, 1899–1900, No. 142.)
2. A Study of Scapalothoracic Amyotrophies in the Course of Pulmonary Tuberculosis. PAUL CARCASSONNE. (*Gaz. Heb. de Méd. et de Chirur.*, March 4, 1900. 47me Année, No. 18.) (Paris Thesis, 1899–1900, No. 171.)
3. A Contribution to the Study of Typhoid Orchitis. PIERRE CHALON. (*Gaz. Heb. de Méd. et de Chirur.*, March 4, 1900. 47me Année, No. 18. *Paris Thésis*, 1899–1900, No. 168)

4. Floating Kidney and Enteroptosis. Godart-Dauhieux. (*Gaz. Heb. de Méd. et de Chirur.*, February 18, 1900. 47me Année, No. 14.)
5. Cardiac Symphysis Developing in an Adolescent. Pierre Merkleu. (*Sem. Méd.*, February 21, 1900. 20me Année, No. 8.)
6. Disinfection in Measles. Vallin. [*Sem. Méd.*, February 21, 1900. 20me Année, No. 8.]

1.—In a work upon the **influence of alcoholism upon depopulation,** Arrivé concludes that alcoholism does not injure the power of fecundation when the husband and wife are not themselves the issue of an alcoholic stock; but sterility is often seen in hereditary alcoholics of the first generation and increases in the following generations. Alcoholism seems to lead an increase in the number of twin pregnancies. The premature birth of the products of conception is a consequence of the alcoholic intoxication of the parents. Alcoholism is more frequent among men and they are those that transmit their sex and their type to their children; whence the high proportion of boys. Alcohol seems to be a more active abortifacient than the toxin of tuberculosis. It increases the number of stillbirths and is an important cause of infant mortality. Young hereditary alcoholics die most frequently of meningitis, of convulsions, and of congenital weakness. In a generation of young hereditary alcoholics, the mortality of the boys is greater than that of the girls, in consequence of the greater liability of boys to fix the morbid heredity transmitted by an intoxicant father. The descendants of an alcoholic couple are very often physically and mentally degenerate. The stigmata of degeneration that are commonly shown are: Constitutional weakness which predisposes the hereditary alcoholic to tuberculosis; malformations of various kinds, onanism, deafmutism, neuroses, convulsions, epilepsy, hysteria, and imbecility. [J.M.S.]

2.—In the course of **pulmonary tuberculosis** a form of amyotrophy localized to the muscles in the neighborhood of the pulmonary lesion may be observed. It manifests itself by deformities, by functional troubles, by modifications of the mechanic and electric excitability of the muscles and by muscular hyperesthesia. According to Carcassonne, the course of the **atrophy of the scapulothoracic muscles** coincides with the evolution of the subjacent lesions; unilateral if the lesion is unilateral or more marked on the side on which the lesion is farthest advanced. It may be an early phenomenon and is then of great diagnostic importance; either serving to direct the attention to an apex believed to be healthy and giving rise to a suspicion of tuberculosis, or adding a new element of possibility to an uncertain diagnosis. The pathogenesis of this form of amyotrophy is the same as is that of the arthropathic amyotrophies; the change in the nerve-fibers of the pleura reacts upon the spinal cord by a mechanism that may be variously interpreted as a reflex action, as a retrograde degeneration, or as a reaction at a distance. The lesion of the cord is not always appreciable on account of the imperfections of the methods of staining, but it has been demonstrated (Klippel). The atrophy of the scapalothoracic muscles should be treated by respiratory gymnastics and by electricity. [J.M.S.]

3.—Chalon has studied a relatively rare **complication of typhoid fever, orchitis.** Young subjects are the ones usually attacked, generally during convalescence. The inflammation may be due to the bacillus of Eberth or to one of the secondary microorganismal infections. The bacillus of Eberth may reach the testicle either through the urethra or through the blood-paths. The trouble is usually seen on the right side only, and it may involve the epididymis, the testicle, or both. The disease may terminate in resolution or suppuration; it is not fatal; but often destroys the function of the affected gland. [J.M.S.]

4.—Godart-Dauhieux has studied **movable kidney and enteroptosis** and draws the following conclusions: 1. Repeated pregnancies are the most important cause of diminution of abdominal tension and consequently of enteroptosis. 2. Age also increases this condition, and its role in the production of enteroptosis appears to be undoubted, even in nullipara. 3. Neither repeated pregnancies nor age act in the same way in the pathogenesis of movable kidney. 4. Enteroptosis, a condition for the production of which diminution of the abdominal tension is the essential element, is not always accompanied by nephroptosis and *vice versa*. 5. On account of the absence of parallelism in the frequency of enteroptosis and movable kidney in relation with etiologic factors as important as age and pregnancy, it must be admitted that the pathogenesis of enteroptosis is not identical with that of movable kidney. 6. The causes that determine the production of nephroptosis seem to be independent of changes in the intraabdominal tension. [J.M.S.]

5.—Merkleu reports the case of a young lad, about 16 years of age, who belonged to a rheumatic family and who had had many attacks of rheumatism and of chorea since his fourth year. He had had symptoms referable to the heart, and after careful study of the case the author was able to conclude definitely that aortic regurgitation was present. It appeared not less evident that **cardiac symphysis** was also present. The following symptoms point to aortic regurgitation: pallor, general pulsation of the vessels, particularly marked in the neck, the dome-like raising and lowering of the apex-beat, an aortic diastolic murmur, an hypertrophic dilation of the left ventricle, Conijan's pulse, double murmur in the femoral arteries, and capillary pulse. The signs of adherent pericardium are presumptive, but not pathognomonic. Of these, the first is abnormal movement in the precordial region. These movements may be wave-like, but one in particular, the systolic retraction of the apex, is confined to the immediate neighborhood of the apex. Second, hypertrophy and dilation of the heart in young patients. Third, the fact that the area of cardiac dulness does not vary with the different positions of the body and the constant position of the apex. These three signs were present in the patient under consideration. Treatment benefited the condition, but the patient had an attack of influenza from which he died. The autopsy confirmed the diagnosis of cardiac symphysis and aortic insufficiency from valvulitis. The symphysis was complete and was complicated by external pericarditis and by mediastinitis. [J.M.S.]

6.—At a meeting of the **Académie de Médecine** held February 13, 1900, Vallin read a note in which he called attention to the increase of **deaths caused by measles** in Paris; statistics show that measles is the most fatal of all the infectious diseases. Whilst the number of deaths from typhoid fever, diphtheria, whooping-cough, scarlet fever, etc., have been diminishing for the past 5 years, the list of the victims of measles has steadily increased; in 1898 there were 865 deaths and in 1899, 904 deaths. This difference appears to be due to the more frequent use of vigorous disinfection in the course of and following those diseases the declaration of which is obligatory. If measles is not placed in the list of these diseases it is because the virulence of the microorganism is transient and because disinfection would be too late to be efficacious. It is necessary to note, however, that the contagion of measles does not lose its virulence as quickly as has been supposed and that death does not proceed from the attack itself, but almost always from one of the complications of the disease, of which bronchopneumonia is the most common. This latter complication is due to the presence of the streptococcus and it is this microorganism that makes the admission of a patient, even with a mild attack of measles, into the ward of a children's hospital dangerous. This microorganism is more formidable in this disease when the respiratory mucous membranes have lost their protective ciliated epithelium and when the disseminated areas make the inoculation of all pathogenic microorganisms more easy. Consequently, if **disinfection** is useless **against measles** itself it will not be powerless against its complications. [J.M.S.]

Prostatectomy.—Sinclair White (*The Quarterly Medical Journal*, February, 1900) reports the case of a patient, 54 years old, suffering from enlarged prostate. The symptoms had persisted for about 5 years, during which time he had twice had lithotrity performed, and had had suprapubic cystotomy performed for the removal of calculi. Retention of urine persisted and calculi again formed. White finally operated, doing suprapubic cystotomy. There were removed 34 phosphatic calculi, and the middle lobe of the prostate, which was much enlarged, was cut away till all obstruction to urinary discharge was removed. The man made a good recovery, and the bladder, which had become atonic, regained its normal tone. [M.B.T.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Vomiting in Heart-Disease.—J. Mitchell Bruce (*Treatment in Practical Medicine*, 1900) writes: Vomiting is a distressing symptom in cardiac disease which often requires individual treatment. It may arise in three ways at least: From mechanical congestion of the stomach, with catarrh and even hemorrhagic erosion of the mucosa; from the use of digitalis or its allies, other irritant medicines, or unsuitable food; and from purely nervous disturbance, though the pneumogastric. Vomiting forms a link in the vicious circle which may ultimately prove fatal, and if it refuses to yield it accelerates the end. We have here to face a great practical difficulty: the food and drugs with which we have planned to restore the action of the heart are loathed; they aggravate the sickness by being rejected if taken; they depress the circulation and increase the nervous and general vital exhaustion. In severe cases the best plan is to remove them altogether for several hours or even a whole day, trusting entirely to a teaspoonful of brandy-and-water at intervals; or to feed by the bowel and give digitalis and strychnia tentatively under the skin. Small sips of quite hot water, champagne, or brandy and soda-water may be allowed; and diluted prussic acid, bismuth-sublimate or cerium-oxalate and calomel cautiously administersd. Ice is apt to increase flatulence and distress. Short of rectal feeding and hypodermic medication much can be done in less urgent cases by giving strong meat-essences, peptonized milk or koumyss in small quantities closely repeated, stimulants in sparkling forms, potassium-bromid in an effervescing mixture, and small doses of calomel, which is rarely rejected and relieves portal and gastric congestion by free purgation. The chief difficulty lies with digitalis. It ought not to be lightly given up; the form of preparation may be changed or strophanthus substituted, or caffein. By the third day relief may be looked for if drugs of this class are persevered with and retained.

Gonorrheal Orchitis.—Chevillot (*Gaz. des Hôpitaux*, November 28, 1899) has obtained excellent results from the daily application of the following ointment:

R.—Methyl salicylate	3 drams.
Extract of belladonna	48 grains.
Lard	9 drams.

Intestinal Antiseptics in Typhoid Fever.—Anders (*Therapeutic Gazette*, April 15, 1900) believes that it is futile to address antiseptic remedies to the bacillus of Eberth or its toxins, or to the intestinal lesions. The claims put forth by some clinicians that typhoid fever may be aborted in this manner are sadly in need of confirmation. The principal indication for the use of antisepsis is the meteorism which owes its origin to decomposable material in the prima via. It has been his habit for a number of years to prescribe intestinal antiseptics throughout in cases of enteric fever, except in a small minority of light forms. He usually prescribes salol, but in cases in which marked distention of the bowel is present as a symptom of the typhoid state, he prefers turpentine. Assuming milk to be the principal article of food, he advises the use of HCl in small doses after each feeding, with a view to supplementing defective gastric secretion in cases in which meteorism is a pronounced symptom. In typhoid patients who are robust, the employment of calomel during the first few days of the fever is to be advised and encouraged. An agent of acknowledged worth as a hepatic stimulant, its value as a disinfectant of the gut, it must be recollected, is also considerable. Moreover, it serves to remove retained decomposable material, "and so places the bowel in a favorable condition for the subsequent maintenance of antisepsis." (R. H. Quill.) He has repeatedly observed that its employment in this manner was followed by a milder course of the disease than is ordinarily encountered. While he does not recommend laxatives to unload the bowels for their eliminative effects, except in the early stage, he has observed that saline laxatives given in divided doses until the evidences of their action are obtained are powerful to cut short the intermittent form of fever, sometimes seen late in protracted cases. That secondary bacterial invasion from the intestinal tract sometimes occurs, for which the debilitated state of the body furnishes the golden opportunity, is indubitable; and on this theory he has been led to use saline laxatives with gratifying results. The diarrhea in typhoid fever is sometimes ascribable to the irritating properties of residue from improper and overabundant feeding. Under these circumstances a mild laxative is followed by amelioration of the intestinal symptoms. When the ulcerative process is largely confined to the colon, which is not uncommonly the case, there is marked tympanites due to overdistention of the colon, and an active diarrhea, sometimes of a dysenteric character, or involuntary discharges of feces. In these cases intestinal irrigation tends to sweep from the bowel both decomposable material and a variety of resultant toxic products. For this purpose the writer prefers solutions of either salicylic acid or mercuric chlorid; the strength of the former not exceeding ½ of 1%, and that of the latter 1 in 6,000. These solutions should be warmed and injected slowly through a soft-rubber fenestrated tube, ordinarily three times a day, and in bad cases every fourth hour.

Suppurating Burns.—Reclus (*Gaz. degli Osped. e delle Cliniche*) recommends the following ointment:

R.—Antipyrin	75 grains.
Boric acid	75 grains.
Iodoform	8 to 15 grains.
Vaselin	10 drams.

The Action upon the Renal Function of Hypnotics Associated with Diuretics.—*The American Journal of Medical Sciences*, for May, 1900, quoting from *Il Policlinico*, No. 9, 1900, states that Pirocchi, having reviewed the literature, attempts to ascertain from laboratory investigation (1) if chloral increases the diuretic power of other substances reported to be capable of promoting a greater secretion of urine; (2) if other narcotics, not studied from this point of view, can, united with diuretics, produce the same effect as chloral; (3) to establish what may be the mechanism of such action; and (4) how much of the diuretic effect of drugs known as diuretics is really due to them and how much to the narcotics used with them in experimental work. The diuretics chosen were caffein, potassium nitrate, sodium nitrate, diuretin and arbutin; the hypnotics were chloral and duboisin sulfate. The conclusions reached were that chloral constantly increased the diuretic action of caffein and arbutin, sometimes, but not always, that of diuretin and potassium nitrate, but has no effect in conjunction with sodium nitrate. As to whether other narcotics increase the action of diuretics as does chloral, the researches of Cervello and Lo Monaco prove this to be true for curare and paraldebyde, and these observations add duboisin sulfate to the list. These prove that duboisin sulfate always increases the diuretic action of caffein, sodium nitrate, diuretin, and arbutin, and sometimes that of potassium nitrate. The mode of action of the associated hypnotic and diuretic is explained by a new hypothesis, which will be presented in a future study. To determine how much diuretic effect is obtained as diuretics *per se*, and how much comes from the associated narcotic, the following statements are made: Caffein, itself a weak and uncertain diuretic, is reinforced by narcotics. All of the diuretic effect attributed to sodium nitrate, potassium nitrate, and arbutin is due to the narcotic. A part of the diuretic effect of the diuretin is due to the narcotic; but, on the other hand, this remedy acts vigorously upon the renal secretion. So far as these experiments go there is practical advantage in the following associations: Chloral and caffein, chloral and arbutin, duboisin sulfate and diuretin, duboisin sulfate and sodium nitrate, duboisin sulfate and arbutin.

Carbolic Acid and Common Salt as Disinfectants.—Mackenzie, Health Officer of Leith (*Public Health*, May, 1900), writes that carbolic acid, although so well accredited by so many masters, will not do everything, and to do anything it must be intelligently handled. With the anthrax spore test it fails, like most others; but the range of its efficiency is wide enough for most practical purposes. For disenfecting walls by washing and rubbing, it may be sufficient,

but in the practicable solutions it is certainly less reliable than the hypochlorites, or corrosive sublimate or formaldehyd. In a paper on the molecular conditions of aqueous solutions of disinfectants, as regards their efficiency, Scheurlen states that 1% solution of carbolic acid, or of cresols, in water, failed to destroy Staphylococcus pyogenes aureus in 5 minutes; but 1% solution of carbolic acid with 24% of common salt, destroyed the same organisms in 1 minute. He found also that 1% of carbolic acid with 12 and with 20% of common salt, and ½% as well as 1% of cresol, with 13 and again with 19% of common salt destroyed anthrax spores in 3 days at latest, while these solutions without the addition of the salt had hardly the slightest effect upon the spores. These are striking facts. Surgical habits have, the author remarks, had a good deal to do with the uncritical belief in the high disinfective potential of carbolic acid.

Hay Fever and Acute Coryza.—Wetherby (*Medical Council*, November, 1899) recommends the following formula:

℞.—Heroin..... 1 grain.
Atropin sulfate..... 1/25 grain.
Caffein citrate..... 15 grains.
Salophen ..... 75 grains.

Make into 15 capsules. One four times daily.

Trigeminal Neuralgia Treated with Galvanism.—Dubois (*Bull. Générale de Therapeutique*, November 8, 1900) reports a case of tic douloureux in a man aged 40, who, for 10 years, had received no benefit from drugs, and who was promptly relieved by galvanism. Although 26 years have elapsed since the treatment was instituted, there has been no return of the symptoms. The plan of treatment was as follows: The negative pole was placed on the neck, opposite the superior cervical ganglion, the positive pole, divided into three terminals, was placed over the supraorbital, infraorbital, and mental foramina. Three times a week, for a year, a current of from 12 to 15 milliampères was passed for 7 minutes. Three other cases were subjected to the same treatment, and of these, 2 were apparently cured, while 1, who had been operated on five times, failed to receive benefit from the treatment.

Weak Digestion Occurring in Convalescents.—H. C. Wood (Wood and Fitz's *Practice of Medicine*) recommends:

℞.—Nitrohydrochloric acid..... 2 drams.
Water..... 1½ ounces.
Strychnin sulfate..... 1 grain.

Mix and add:

Comp. tinc. of cardamom } enough to
Comp. tinc. of gentian..... } make 6 ounces.

Dessertspoonful in water after meals.

This solution is a very elegant stomachic tonic, which can be used in cases of general debility, with failure of appetite, and digestion occurring during convalescence, and at other times. When there is a tending to diarrhea, the following modification will be found very useful:

℞.—Dilute sulphuric acid..... 2 drams.
Sirup of ginger..... 1 dram.
Strychnin sulfate..... 1 grain.

Mix and add:

Compound tincture of gentian..... 2 ounces.
Tincture of cinnamon..... 3 ounces.

Dessertspoonful after meals.

Duotal (Creasote Carbonate).—Pollak (*Wiener klinische Wochenschrift*, No. 3, 1900) reports his experience with this drug in phthisis. Thirty-two persons altogether took the drug for 2 months each, 2 of them being ambulant patients. In 5 of these cases, the duotal was stopped after 3 weeks, because the appetite grew worse. In all the other cases, there was a marked improvement in appetite. In the 2 ambulatory cases, there was increase of weight, in 14 days, of 3½ pounds, and 3 1/10 pounds, respectively. The mode of administration was as follows: During the first 4 or 5 days, a single dose of 7½ grains was given once daily after dinner. Then the dose was doubled. A few days later, 22 grains was given daily, divided into three doses. Finally, the daily amount was slowly increased up to 60 to 75 grains, and at this point was maintained for a considerable period of time. Considering its effect upon appetite, duotal is to be recommended as a valuable aid to the general dietetic and hygienic treatment.

The Treatment of Syphilis by Mercuriol, According to Ahman's Method.—Hall (*Therapeutic Gazette*, May 15, 1900) at a recent meeting of the Manchester Therapeutical Society, made a communication on the treatment of syphilis by mercuriol according to Ahman's method. Mercuriol is an amalgam of mercury, aluminum, and magnesium containing 40% of mercury. Mann objects to terming it an amalgam, on the ground that globules of metallic mercury may be seen in it by a lens. This, however, would only show that in the specimens examined, an excess of mercury was present, or that the amalgamation was imperfect. In the form of mercuriol the globules of mercury are in a much finer state of subdivision, and therefore more readily volatilized, it being assumed that the inhalation of the volatilized mercury is the mode of action of mercury when applied to the surface of the body. The mercuriol is placed in a cotton bag, which is fastened around the patient's waist; those shown by Hall were of cotton, with a twill surface outside, and a soft, smooth lining inside. A full course of treatment required 20 powders of 75 grains each, of these one was placed in the bag on each of the first five nights, and afterwards one every other night. Hall had obtained satisfactory results by these methods, and therein has been more fortunate than some others who have tried it.

Tannigen in Diarrhea.—Manasse (*Therapeutische Monatshefte*, Heft 1, S. 27, 1900) reports 18 cases of acute catarrhal diarrhea with very favorable results. No untoward effects were observed. The dose for infants is 2½ grains, for older children 4 or 5 grains, three or four times a day.

Vomiting Following Cough of Phthisis.—J. Mitchell Bruce (*Treatment in Practical Medicine*) recommends: 1. A gastric sedative and stomachic:

℞.—Dilute hydrocyanic acid..... 3 minims.
Sodium bicarbonate.....15 grains.
Aromatic spirits of ammonia..... 5 minims.
Compound infusion of gentian to make ..... 1 ounce.

Three times a day five minutes before meals.

2. A gastric sedative powder:
℞.—Bismuth subnitrate.....20 grains.
In a little milk or water three times a day three hours after meals, or to be added to each dose of (1).

3. Gargle throat with fresh effervescing soda water.

4. A counterirritant to stomach: Cantharidal plaster 1½x1½ inches. To be applied to epigastrium, and the resulting blister dressed.

Abortive Treatment of Gonorrhea by Protargol.—Ahlstrom (*Hygeia*, December, 1899, and *The Medical Review*, April, 1900) states that provided he sees a case of gonorrhea within 8 days from the outset, he can abort the attack. For the first 5 days he employs a 2 to 4% protargol solution, and during 5 days following 1 to 2%. Two injections of about 5 to 10 grains are given daily, and the solution is kept within the urethra for from 10 to 15 minutes each time. He supports his statement by results obtained in 100 cases. Gonococci were present at the commencement in every case, and the efficacy of the protargol was judged by the date of their disappearance. In 63 cases they were not found after the first day, in 15 not on the third day, and in 9 not at the end of seven days. Thirteen cases gave a negative result, but of these several yielded to a repetition of the treatment, and in the remaining the complications were few and slight.

Oxaluria.—Christian (*Therapeutic Gazette*) recommends:

℞.—Strychnin sulfate..... 1 grain.
Dilute phosphoric acid..... 2 ounces.
Fluid extract of coca, to make..... 6 ounces.

Teaspoonful three times a day.

Original Articles.

THE HOSPITALS FOR THE INSANE AND THE STUDY OF MENTAL DISEASES.*

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[Concluded from page 1192.]

LONG ago Magendie said, "*La medecine est une science a faire.*" Medicine is a science which remains to be created, a science whose future is far greater than its past. If psychiatry must have a working hypothesis, what better one could it choose than that expressed in this maxim? The acceptance of this truth would mean general appreciation of the double responsibility of every hospital for the insane: (1) The actual care of the patients within its walls, and (2) the imperative duty—hitherto so sadly neglected in this country—of fostering an active interest in the scientific study of insanity, in the hope that in the course of time the spread of this serious menace to the welfare of humanity may be in some measure abated. Nor do we wish to criticise the alienists too harshly for their shortcomings; to their honor be it said they have been more sinned against than sinning. In too many instances the niggardly policy of State legislatures has placed the appropriation of public money available for use at the hospitals so low that only the bare necessities were obtainable, and the medical and nursing staffs were sadly crippled. Among the medical superintendents were to be found men possessing scientific ambitions which they had neither the time nor the opportunity to cultivate. Unquestionably in many instances their sins of omission may be attributed to their environment, to the spirit of the times—so long an obstacle in the way of careful scientific clinical and laboratory work in American general hospitals—to limited means, and often to a ridiculously small supply of medical and nursing assistants. Recognizing these discouraging features which have marred the progress of psychiatry in the United States, and giving honor to those who have struggled unselfishly and earnestly to break down the barriers, it nevertheless remains impossible to compare the amount of energy expended in this country to facilitate the study of insanity with that shown in Germany, France, Switzerland, or even in poverty-stricken Italy.

It is now about 90 years since the first hospitals for the insane were built in Germany and in this country. Since that time, in or near every medical or university-center in Germany institutions have been established, where scientific work of the most advanced character in psychiatry is being done, and has been done for the last half-century. Why should not this be also the case in our own country?

In the Sheppard and Enoch Pratt Hospital there will be a laboratory with the necessary apparatus for the psychologic and clinical examination of patients, and also for the study of pathologic material. In the scheme of organization the importance of the laboratory has not been unduly emphasized. There is a tendency at present among those who formerly regarded a laboratory as a scientific playroom and an expensive luxury, but not an integral and indispensable part of every hospital for the insane, to go to the other extreme and try to atone for the lack of careful clinical examinations and histories by looking upon the laboratory as a place of refuge, where the sins of omission of the clinicians may be expiated by the aid of the microscope and the microtome. "Men sought for gold," said Burdach, in reference to the old alchemists, "but a more useful material was found. As a result of the efforts expended in the vain quest for gold, there developed the methods of modern science." It is needless to say that the clinical observations in many of the hospitals for the insane are not recorded with sufficient method to render the notes made on the physical condition of the patient of much practical value. Some have been disappointed that the laboratory was not found to contain the philosopher's stone, by the magic touch of which they would suddenly be enabled to see clearly the solution of all those problems that can only be worked out by adopting logical methods and by the expenditure of a considerable amount of energy. But surely no one contends that the development of the clinical or pathologic laboratories has made the taking of careful clinical histories of less importance. On the contrary, the more exact the observations in the laboratory, the more methodic should be the clinical notes. The laboratory is only one link in the chain, and blood-counts, involved chemical analyses of the urine, or the cutting and staining of sections, can never atone for the absence of the careful hourly and daily study of patients. The clinical history is the cornerstone on which the laboratory must rest. The laboratory, equipped with microtomes and microscopes and all the other necessary paraphernalia, where the director is expected to say from his examinations alone what is the matter with the patient, and to draw deductions as to etiology, prognosis, and even treatment, is an excellent school for the making of "bricks without straw." On the other hand, it is imperative that there should be a laboratory in every hospital for the insane. France disregarded for a time the importance of this side of medicine, and the center of the most advanced scientific thought moved to Vienna. One example is sufficient to show what the laboratory has done to throw light upon the nature of one of the most dreaded and common of mental diseases, the so-called "disease of modern civilization."

From the day that Thomas Willis[3] first described in a very vague manner the symptoms of the paretic, workers in the laboratory have little by little collected those facts which have interpreted and made intelligible the observation of the clinicians, and which form the basis upon which our present conception of paresis rests. It is true that paresis is still an incurable disease, but the present knowledge of the condition is none the less an eloquent witness to what carefully combined clinical and pathologic study can do. The diagnosis of paresis, provided a careful detailed examination is made, is not much more difficult than is the diagnosis of typhoid fever, nor is the possibility of error in the diagnosis greater. The recognition of paresis is now possible long before the patient has become a source of danger to himself or to society at large. A few years ago it was said in most of the textbooks that the general duration of paresis was from 2 to 4 years. That at present, cases lasting from 8 to 10 years are not at all uncommon, only shows that the diagnosis is made from 6 to 8 years earlier. Is it altogether a

* Read by invitation at the meeting of the Philadelphia Neurological Society, March 26, 1900.

[3] De anima brutorum; Amsterodami, 1672, Cap. ix, p. 280.

vain hope to cherish that the time will soon come when parcsis will be recognized at such an early period in the disease that treatment will be not altogether futile?

As a rule, the work of the pathologist has been more methodically done than has that of the clinician, and the significance of many facts discovered by the former can only receive their full interpretation when the clinician has done his full duties. The pathology of mental diseases has advanced to such a degree that it can be said that there is no form of insanity for which actual structural changes of the nervous system cannot be demonstrated.[4] It is the imperative duty of the alienist, by the exercise of greater care in the examination of cases, to try to show the relation of the disturbances in function, or the symptoms of the disease to the known structural changes. No one doubts that typhoid fever can be and should be prevented. To acquire this knowledge it was primarily important that it should be known what cases really belonged to this category. As soon as it was known that the ulcer in the intestine was pathogenic of typhoid, it was possible at once to study the condition intelligently, with the result that today it can be said that the occurrence of every case of typhoid is a crime.

Not until the various clinical pictures, which are at present grouped together under the general title of mental diseases, can be referred to their correlated structural changes, not in the brain alone, but in the other organs as well, will alienists be in a position to study intelligently the causes of these conditions.[5] For the fulfilment of this task the future gives bright promises; but the undertaking is one in which the clinicians must be more actively engaged, and must see to it that their methods of observation and of recording what they see are conducted in the same spirit as is the work in the laboratory. Perhaps the most important function of the laboratory consists in the introduction of the scientific spirit into the wards, or in other words, to make practical men of the clinicians. Some will say that this is taking the bull by the horns, for there are doubtless quite a number who agree with an acquaintance of mine who has said, "There are two kinds of doctors, the scientific and the practical." Darwin attributed his success as a scientist to the "love of science," unbounded patience in long reflecting over any subject, industry in collecting facts, and a fair share of invention, as well as common sense. Cannot the future of medicine and psychiatry be entrusted to those who endeavor to cultivate similar mental traits, or do the so-called practical men think that the love of one's profession, patience, industry, invention, and common sense are to be superseded by other and better mental traits? Should not the clinician, who is full of the true scientific spirit, record and estimate the importance of the very earliest symptoms which are not seen, or are ignored as trivial by the so-called practical man? Certain it is that in many cases the former will make his diagnosis early and often in time to avert some disaster. Those who are interested in the welfare of humanity should wish for the advent of the time when the number of scientific clinicians shall have greatly multiplied. Science implies methodical and accurate observation. Cannot the opponents of science, and at the same time of common sense, tell us for the benefit of humanity whether a still shorter and more royal road to that learning which seeks to alleviate "a mind diseased" has been found, than the straight and narrow road along which only those who keep their eyes open, and note down methodically and accurately what they see, can walk in safety? The so-called practical men of their day are often guilty of making a noise to divert attention from their own shortcomings. This class called Harvey "cracked brained," opposed the teachings of Pinel, and refused to listen to Pasteur, because he was not a practising physician. This same class was satisfied with "the moral-theological conception of insanity," which was generally accepted at the beginning of this century, and bitterly opposed the scientific investigations of Nasse and Jacobi,[6] who were among the first to call attention to the fact that insanity was merely the symptom of a bodily disease. "The practical man," says Huxley, "has an unexpected resemblance to one of Milton's angels. His spiritual wounds may be as deep as a well and as wide as a church door; but beyond shedding a few drops of ichor, celestial or otherwise, he is no whit the worse." Will psychiatry as well as clinical medicine in America awaken at last to the realization of the fact that in every other department of science, "the man who is guided by rule of thumb" has long since been relegated to obscurity? "There is only one kind of knowledge and one way of acquiring it," and only ignorance of this fact can possibly interfere with the peaceful acceptance of this belief.

To furnish and run a laboratory takes money, and a laboratory fully equipped for the investigation of mental diseases necessitates a large outlay. Laboratory apparatus can always be bought. The guns can always be forged, but the men behind the guns cannot always be relied on. In every hospital for the insane accommodating 100 patients, there are enough clinical problems and sufficient pathologic material to occupy the undivided time and attention of at least 10 well-trained and enthusiastic investigators. Among these should always be included the members of the resident staff, consisting of permanent officers, internes, and clinical assistants, who in every institution should be sufficiently large to permit the careful clinical investigation and study of every patient and the daily recording of intelligent notes on all physical manifestations and mental changes. The minute the clinical histories begin to give evidence of the absence of daily notes, the value of the record of the case is incalculably impaired. Again and again, one is told that certain cases are important and that certain other cases are of no value for purposes of study. This is the common excuse offered for the patchwork character of too many histories, or for the absence of clinical notes of the "uninteresting" cases.

Adolph Meyer, in the sixty-ninth annual report of the Worcester Lunatic Hospital, p. 22—a report that should be in the possession of all who are interested in the progress of psychiatry—shows what a stumbling-block to the future progress in the study of mental diseases is supplied by this invidious distinction. "Observe all patients with the same accuracy; let psychiatry profit by the experience of internal medicine; search for distinctive features of disease-processes, and distrust any system which leaves out the majority of patients as now classified, or classifies only by *main force*."

[4] Nissl, *Münchener med. Wochenschrift*, 1899, S. 1453.

[5] "The Teaching of Psychiatry," Henry M. Hurd, *The American Journal of Insanity*, vol. lvi, No. 2

[6] Beobachtungen über die Pathol. u. Therapie der mit Irresein verbundenen Krankheiten, 1830.

A great many chemists in dealing with the theory of fermentation had definite opinions as to what facts were essential, and limited their study to these. Fortunately, Pasteur having first announced that he "had no opinions on the subject, but would investigate," collected all the details that others had omitted, and allowed the facts to tell their own story. Would that connected and detailed clinical histories were more often permitted to tell their own story in their own way!

The first question that Dr. Brush is anxious to solve is not how can the greatest show in the way of microtomes, microscopes, and psychologic apparatus be made, but how can the best and most enthusiastic students be given sufficient opportunities at the Sheppard and Enoch Pratt Hospital to render them anxious to work in the wards and in the laboratory? The failure to solve this fundamental problem is the rock which has wrecked the prospects of more than one institution.

It has often been said that the services of the best and most enthusiastic students can be secured at a very low money-rate provided that sufficient opportunities for study are afforded. Tell every assistant when he enters the hospital that his duties are purely medical, so that he may no longer feel that when he begins his studies as interne all his scientific hopes must be left behind. Dignify his position by the assurance that his time and energy will be devoted to the study of insanity. Do not permit other nonmedical duties to absorb the greater part of his time. Are not the problems to be solved in connection with mental diseases of sufficient interest and importance to call for the exercise of the greatest intellectual activity and liberty? In England and in the United States, in the case of hospitals for the insane, the time and the opportunities given to the medical staff for the careful study of the patients who come under their care are inexcusably limited. Although the conditions in the institutions in Germany are very much more favorable than those found in England or America, even in certain institutions in that country the spirit of indifference is not unknown. In a recent address, Kraepelin,[7] after referring to the way in which the energy and time of members of the medical staff are often consumed in the performance of nonmedical and often trivial tasks, says, "We have had, and still have, in our hospitals for the insane, men who combine the highest practical and scientific capabilities. Their very presence shows how great would be the activity in our hospitals if such men had the power and the opportunity given to them to work with higher ideals in view." Following in the steps of Worcester and McLean, Dr. Brush, with the hearty cooperation of the trustees of the Sheppard and Enoch Pratt Hospital, hopes to inaugurate a new era for the South in the study of mental diseases.

The scientific work of the institution is not to be confined to the laboratory, but careful clinical observations will be made and recorded daily. The duties of the members of the staff will be so arranged that each one will feel the importance of his work in relation to the whole scheme of development, and will be given time and opportunity to work upon those problems, to the solving of which, in the interest of humanity, the institution was dedicated. It is to be hoped that the day is not far distant when other hospitals of this character will have the courage of their convictions, and, following the example of Germany, will discontinue the practice of making the medical staff responsible not only for the treatment of the patients, but also for the supervision of their amusements and occupations. To prescribe the character and amount of the amusement and occupation of the patients is an essential part of the duty of the medical staff, but the detailed carrying out of these therapeutic measures should devolve upon the nonmedical officers. In all the prominent institutions in Germany, Switzerland, and Austria, this provision is made and the medical staff is thus given more time to devote to clinical and laboratory work. It is imperative that there should be ample provision for taking detailed clinical histories, and what is of equal importance, each member of the staff should have time to devote to investigation either in the ward or in the laboratory. Nor should it be forgotten that in order to accomplish satisfactory results the clinicians connected with such institutions should be at the same time men thoroughly conversant with laboratory methods. In passing it may be noted that an excellent measure has been drafted by a committee appointed by the New York Legislature to the effect that no assistant should be appointed in any of the State hospitals for the insane, who has not had a laboratory training.

Another problem of importance has presented itself in connection with the work at the Sheppard and Enoch Pratt Hospital. How can an institution of this character be kept in touch with the best that is being thought and done in this line of work? "Home-keeping youths ever have homely wit," and hospitals for the insane, which are generally at some distance from the centers of medical activities, have very good reasons for keeping this saying in mind. Unless each member of the medical staff is kept in constant and intimate connection with the scientific work that is being done outside of the walls of the institution in which he lives, there is great danger that he may become narrow and prejudiced. Anatole France has called the attention of alienists to the following fable: A concave and a convex mirror met and exchanged views as to the accuracy of their reflections of nature. Each mirror was so satisfied with its own surface that the two indulged in mutual recriminations, until a passing geometrician assured the contending parties that each reflected according to the laws of optics, and that the reflections of the one revealed certain facts which could not be seen in the reflections of the other. The concave mirror may hang in the ward and the convex mirror in the laboratory. The criticism of workers in other institutions is constantly needed to perform the duties of the geometrician.

At the Worcester Hospital for the Insane, there is an excellent system in practice by which assistants are appointed to serve as internes for a year. The first six months is devoted to work in the laboratory and during the remainder of the year these residents serve as clinical clerks. In this way men are not only trained to take charge of work in other hospitals, but owing to the continual infusion of fresh blood, a genuine interest is aroused and kept alive in the ward and in the laboratory. These resident assistants also perform a considerable amount of the routine work, with the result that the permanent members of the staff have opportunities for interesting themselves in various lines of investigation. The importance of this arrangement can hardly be overestimated. The minute a resident in any hospital feels that his time is so occupied with routine duties that he can no longer keep abreast of the times in his own line of work, both by reading and by observation,

[7] Die psychiatrischen Aufgaben des Staates.

he becomes more or less indifferent to the work that is being done about him, and this indifference, in time, must inevitably react on all the staff. But in addition to maintaining a general interest in the study of mental diseases, it is highly necessary that each individual member of the staff should always cultivate and maintain a special interest in the solution of some definite clinical or laboratory problem. The noncombatant in a battle is apt to lose courage, even though he is a brave man, and the alienist who is not trying to solve some definite problem, and thinks only of the general bearing and tendency of psychiatry, does not gain heart or interest by simply calling to mind the fact that countless problems still await solution. Of all the sins that can beset an institution, indifference is the worst. Better far to be cold or hot. The manufacturer of false theories is bad enough, but the sin of the Laodiceans deserves a double condemnation. It is the hope of Dr. Brush and the trustees that graduates in medicine who have decided to choose the specialty of psychiatry as a profession, or who wish to do special research work along lines involving psychiatrical or neurological problems, will be received as temporary residents, and will be given opportunity to work under direction in the wards or in the laboratory. The establishment of fellowships of an annual value of from $300 to $500 would be of the very greatest usefulness, since the holder of a fellowship would be actively engaged in following out some special line of research. In this way that incalculable incentive to good work—an atmosphere—would pervade the whole institution, since no one can fail to appreciate the great stimulus of simply living where research work is being done. The great practical value of fellowships has been demonstrated in the various departments in the Johns Hopkins University, as well as in other institutions.

A word must be said in reference to the work of the physiological chemist in connection with the study of mental diseases. The safest place at present for such an investigator is in the physiological or chemical laboratory, for there he will find greater protection from the loud clamor for the publication of practical results. Such an investigator needs to work, as Pasteur said, "undisturbed in the serene peace of the laboratory," where there is less temptation to try and find the immediate practical significance of every new fact as soon as it is brought to light. The same is true, but in a less degree, of the psychologist. Undoubtedly the psychologic examination of patients should be a part of the routine examination of every patient in a hospital for the insane, provided such an examination is a supplementary part of every clinical record, and is not allowed to divert the attention from the purely medical history and examination.[8] In all our institutions for the insane which are near college or university centers, the advice and the practical aid of well-trained psychologists could easily be obtained in the organization of the psychological department. The medical profession has had its attention called more than once to the pressing need of establishing psychopathic hospitals in all our large cities. Dr. Petersen[9] has shown how these hospitals could be made to represent the very highest development of the study of psychiatry. All who are interested in the study of mental diseases long for the day when this country shall follow the example of Germany, where the psychopathic hospital is a natural sign of growth in the development of psychiatry—an indisputable evidence that science in Germany has reached its years of discretion. The work of Kraepelin, Flechsig, Forel, Wernicke, is sure to be continued, because the development has been a natural and not a forced one. In the United States it should be remembered that the mere change from swaddling clothes to trousers does not fit the individual nor the institution for the performance of the duties of adult life. An eminent physiologist, who visited this country a few years ago, in giving his impressions of what he had noted in a certain laboratory, said that he was impressed by two facts—first, that the laboratory had the best equipment he had ever seen; and secondly, that he had never heard of any work which had been done in that institution.

Are we simply to sit down and wait for the coming of the psychopathic hospital, or are we to make the best possible use of present opportunities? Believing the latter to be the only true course, it is the intention at the Sheppard that everything possible shall be done at once to improve the method of taking clinical histories, and to facilitate and render intelligible the work in the clinical and pathological laboratories. When this is accomplished; when what must always be considered the "base of supplies"—the general medical and neurological examination—is protected, then the psychological work can be and will be begun with safety.

In this paper little or no mention has been made of the advances in psychiatry in the United States. While the battle has hardly yet begun, one does not care to speak of victory. The realization of weakness may often be the greatest source of strength. It is not making an advance to simply recall the fact that the time and energy expended in the serious study of insanity in this country is lamentably small. There is not a single hospital for the insane in the United States which could not take up a position greatly in advance of the one it occupies, if the medical staff were simply given time and encouraged to make the very best use of all their opportunities.

It is needless to say that reference has been made to the purposed changes at the Sheppard and Enoch Pratt Hospital, not in order to gratify any spirit of local pride, but to invite your criticism of the plan sketched, that, profiting by this criticism, the advance may be made in as orderly and as successful a manner as possible. When we are brought face to face with any of those problems upon whose solution depends "the prosperous voyaging of humanity," local prejudices and ambitions give way to deep-felt solicitude as to whether the best thing is being done at the proper time and in the best possible manner. In this spirit, too, the question can be asked, Is the new departure of the Sheppard and Enoch Pratt Hospital to be regarded as a movement of only local importance, or is it to be a signal for a general advance all along the line? The future of the study of mental diseases in America will be bright or dark according to the answers given by the governing boards of hospitals for the insane to two questions: (1) Will these institutions demand and employ only the best, most skilled and earnest workers they can find? and (2) having obtained their services, what will these institutions give in return in the way of time, opportunities, and facilities for the working out of those problems, upon the solution of which depends so largely the prosperity and happiness of the whole human race?

[8] The Advancement of Psychiatry in America. Presidential Address to the American Medico-Psychological Society, June, 1895. Edward Cowles.
[9] *Medical News*, vol. 76, No. 3.

DIAGRAMS OF THE GENITO-URINARY TRACT, WITH A TABLE FOR KEEPING RECORDS.

By RAMON GUITERAS, M.D.,
of New York.

Consideration of the Diagrams.—These two diagrams are taken from a dissection made at the New York Post-Graduate School, and, although they are not as typical as some others, they nevertheless represent an average dissection of the parts, having been taken from the body of an adult who died from some other disease than one of the genito-urinary tract.

Fig. 1 represents the posterior part of the organs, and presents a somewhat better view of the genital apparatus than Fig. 2, which is intended to exhibit more particularly the urinary part of the genito-urinary tract. In Fig. 1, the kidneys are shown intact, with the ureters running from their pelves down to the bladder, where they enter, forming the angles at the base of that important section, known as the trigone. The seminal vesicles and the dilated ampullæ of the vasa deferentia are seen on the rounded neck of the bladder, and the latter can be traced from this point down to the epididymes and testes below.

One cannot help being impressed, on looking at these diagrams, by the length of the ureters, and the vasa deferentia, and to one not familiar with anatomy it appears strange to see them so long, when it is remembered that the ureters extend from the pelves of the kidneys, which are only about 2 inches above the umbilicus, down to the neck of the bladder, just below and behind the pubes, and the vasa deferentia from the testes, which are usually not more than from 2 to 3 inches below the perineum, to the neck of the bladder, just above it. This, of course, is accounted for by the windings they have to make in their course; the ureters extending down straight only as far as the brim of the pelvis, where they are obliged to accommodate themselves to the posterior curve of the cavity, in order to gain access to the position where they open into the base of the bladder, while the vasa deferentia have a straight course only as far as the upper boundary of the inguinal canal, where they pass through the internal ring down over the brim of the pelvis to a corresponding position in the region of the trigone.

In Fig. 1 we observe a remarkably well-defined prostate, showing the manner in which it surrounds the neck of the bladder. Its separation from the seminal vesicles is much more apparent than we are led to believe from feeling these parts through the rectum, as in that case the anterior rectal wall, together with the connective tissue and fat, forms a soft pad about the parts which tends to blend them into a number of soft folds and elevations. The membranous urethra and the bulb with Cowper's glands also present a striking appearance owing to the peculiar relations which they exhibit when seen from behind. In the remainder of the figure, however, the penis with its crura and urethral outline has nothing of special importance as compared with that of the anterior view, as shown in Fig. 2.

In Fig. 2 the kidneys, bladder, and urethra are split open. In the kidneys there is but a rough outline of their pelves and parenchyma shown. The ureters leading down from them are not seen at their lower ends where they pass behind the bladder wall, but their mouths are seen in the base of the opened bladder and are purposely enlarged to make their position clearer. The split prostatic urethra, with the openings of the prostatic ducts, is clearly exposed, as are the membranous, bulbous, and pendulous portions. The vasa deferentia, like the ureters, are hidden from sight as they reach their resting-place on the posterior wall of the bladder shown in the preceding figure.

These diagrams are valuable as figures on which to illustrate what is found in interesting cases of the genito-urinary tract, and in connection with this is presented a list of questions, or headings, that have been tabulated by myself for use in my private practice and clinics, and which covers the history of the disease and the examination of the patient.

It must not be thought that these tables are used in recording all varieties of genito-urinary diseases, as the variety known as venereal are not of sufficient interest from a surgical standpoint to be considered. The cases that are recorded in this way are those of the highest type of genito-urinary surgery, such as the surgical diseases of the kidney, bladder, urethra, prostate gland, seminal vesicles, epididymes, and testes.

Name..... Diagnosis..... ....No .....
Address.....Age ..... M..... S..... W.....
Date..... Occupation..... Nativity.....
Family History .....
.....
.....
Past History .....
.....
.....
Present History.....
.....
.....
Principal Symptoms.....
Discharge .....
Frequency of Urination.....
Pain .....
Urine (pus, blood) .. ..

EXAMINATION.

External { Kidneys..... / Suprapubic..... / External Genitals.....
Glands .....
Internal (rectal) { Prostate ..... / Seminal Vesicles..... / Bladder .....
Urine { Clear or Cloudy Color..... Reaction..... Odor..... Sp. G..... / Shreds..... / Albumin..... Sugar..... Pus..... Blood..... Urea..... / Crystals..... Casts..... / Epithelium .....
Remarks on Urine .....
Instrumental Examination.....
Urethra .....
Bladder .....
..... Residual Urine.....

Consideration of the Table of Questions.—The age of the patient is important, as pointing to the probability of certain troubles, as is also his former habitat and occupation. The family history is of great value, especially as indicating the possibility of tuberculous troubles so common in these organs, or of a malignant growth which occasionally occurs. The past history should be also carefully noted, as in no class of cases do we have chains of symptoms leading up to the diseases under consideration in such marked groups as in the affections of this tract. The present history is naturally the one that indicates most directly what we are to look for in order to make our diagnosis.

The symptoms that are most commonly noted by a patient are written below the history. They are frequency of urination and pain, and urethral discharge. Urine and defecation are also here inserted, the former because the description the patient gives of it is generally an indication as to whether it is normal or not; for instance, if he says that it is thick, turbid, foul smelling and settles to the bottom of the vessel on standing, it would point to its containing pus, especially if this condition of the urine has been associated with pain and frequency for some time. Blood may also be noticed by

the patient as discoloring the urine or appearing with or just after urination. The question regarding defecation is also of importance, as a movement is accompanied by pain in acute prostatitis, by a loss of semen in prostatorrhea, or by a feeling of weight, discomfort and pain in inflammation of the seminal vesicles. The question as to the principal symptom leading him to apply for treatment is most important, as it gives us an idea of what

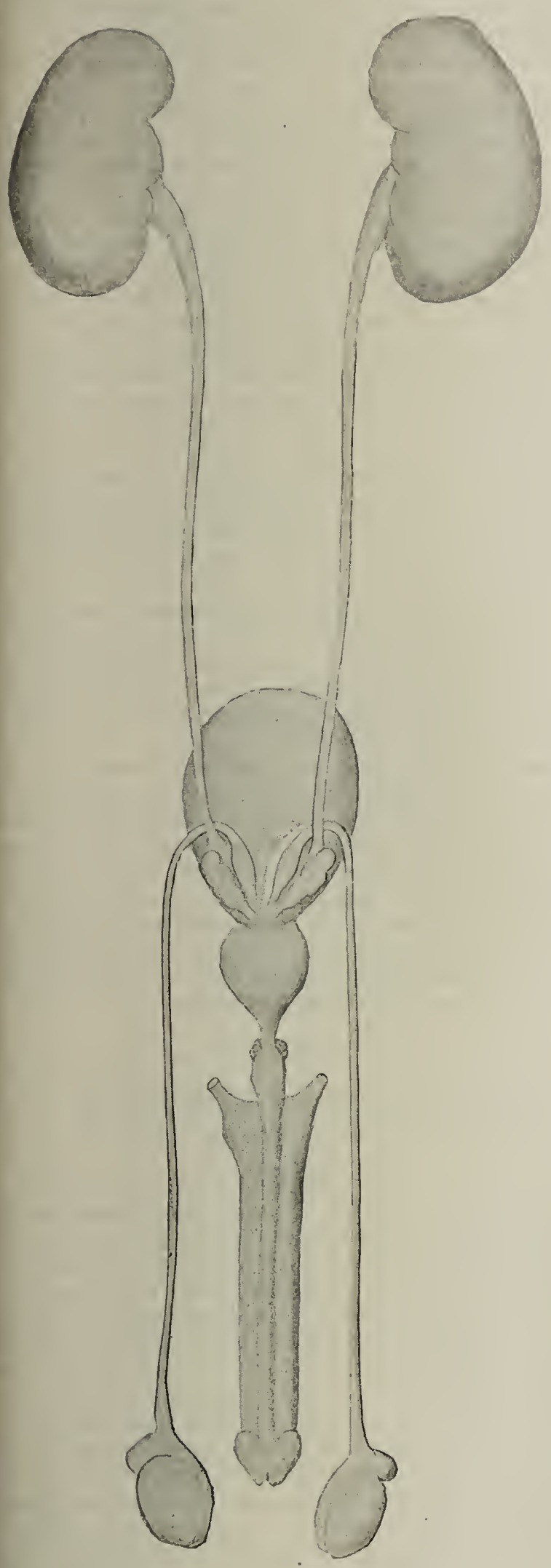


Fig. 1.

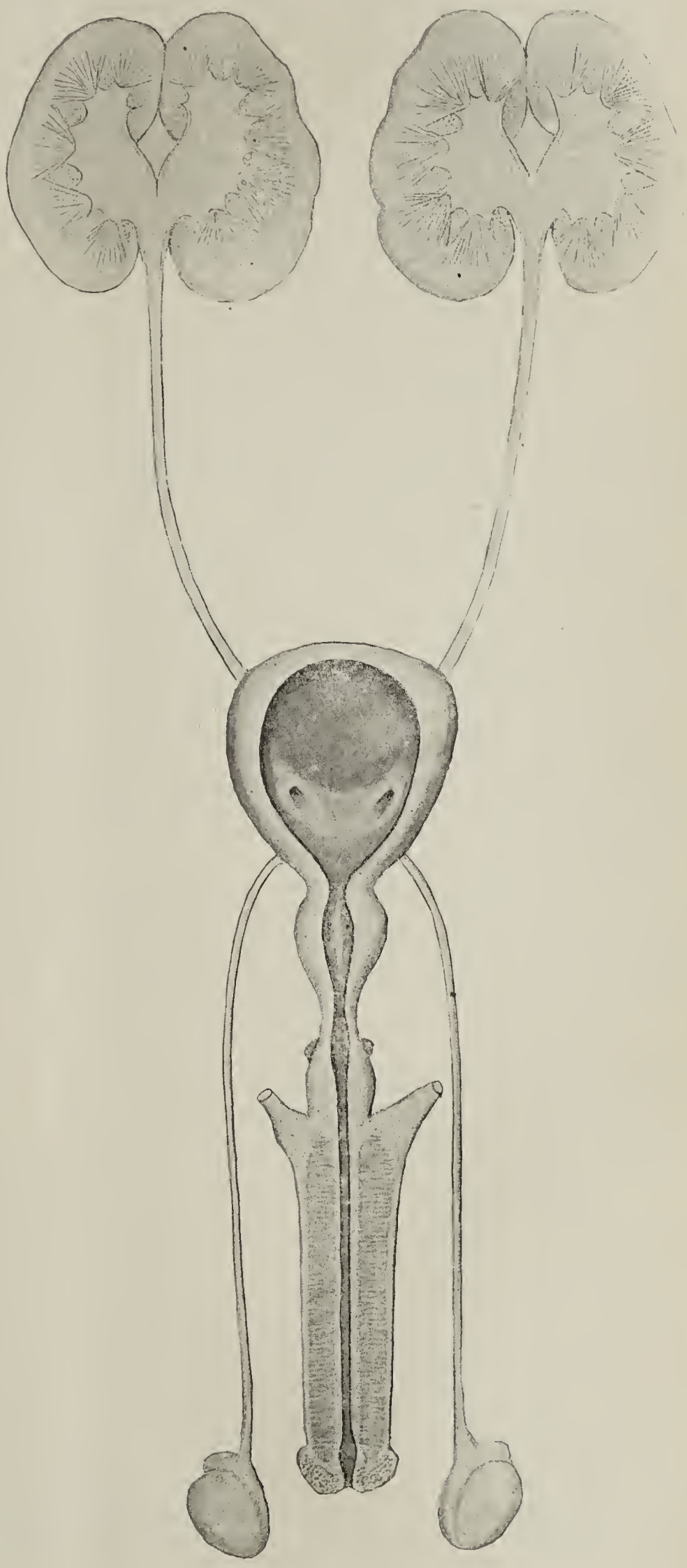


Fig. 2.

is principally upon the patient's mind, and his personal view of the case.

The external examination is next in order. We first attempt to outline the kidneys by palpation. If they are normal this is very difficult to accomplish, but if they are abnormal, and there is some surgical trouble they can be generally felt, and pressure over them may give rise to pain and tenderness. In my experience the variety of kidneys that we are more often called upon to treat are the tuberculous, the calculous, and the so-called surgical, and in these cases the organ is usually tender and increased in size. In marked cases of hydronephrosis, pyonephrosis, and cystic kidney the mapping out of the organ is even easier.

We then pass to the suprapubic region, which we percuss and palpate. Percussion will enable us to detect a full bladder as in retention, and palpation will assist us in discerning the degree of dilation.

We next examine the external genitals, the penis, the testes, epididymes and cords, which will enable us to notice change in their size and consistence, and will perhaps throw some light upon some more obscure trouble, as, for instance, a phimosis might account for nervous irritability, or a tuberculous nodule of the epididymis might lead us to think that a cystitis not traceable to any other cause is of tubercular origin.

The internal genitals are examined by rectal touch, noting the size, the consistence and the shape of the prostate, which will give most important information as to whether it is the cause of an obstructive cystitis, or whether it is itself the seat of some destructive lesion, as an abscess or tubercle. The seminal vesicles are also outlined, if possible, and their size, shape and thickness are noted. The presence of pain upon pressure is also ascertained as well as the formation of constriction-bands which interfere with their function. Bimanual pressure is also made upon the bladder, which would show tenderness in case of inflammation of its wall, a thickened mass if a tumor were present, or a hard and movable body in case of stone.

Three important steps now remain to complete the examination, namely, the exploration of the urethra by instruments, the exploration of the bladder, and the analysis of the urine. It is advisable to have the patient call again for the instrumental examination for two reasons, firstly, because it will enable us to put him under the influence of an urinary antiseptic before his next visit, in order to preclude the possibility of giving him an attack of urinary fever, or infecting his bladder on the introduction of instruments; and, secondly, because by the time of the next examination we will have a complete urinary analysis, and will, therefore, be enabled to give a better fortified opinion of the case, as we will then have history, urinary analysis, and the record of his examination from which to make the diagnosis.

We, therefore, direct the patient to pass his urine into two glasses, and note the odor and general appearance, whether light or dark, thick or thin, clear or cloudy, and whether there are shreds present. The urine is then analyzed chemically and microscopically and the result entered on the record. If, however, the patient does not care to make more than one visit and only comes for an opinion, the urine having been passed, and its general appearance noticed by the examiner, a catheter is introduced to see if any residual urine remains, and an instrumental examination is then immediately made of the urethra and bladder. If he does make the second visit, however, and this analysis has been made we note the general appearance, reaction, specific gravity, and the presence of pus, blood, epithelium, crystals, and casts.

The variety of epithelium is of the greatest importance, as it frequently gives strong presumptive evidence as to which part of the urinary tract is diseased, and the extent to which the inflammation has invaded the tissues.

The exploration by instruments of the urethra and bladder completes the examination. The patient is first directed to urinate, after this a catheter is introduced to see if any residual urine is present, and if any is found the amount is noted, as it would indicate urethral obstruction, atony, or a local or central paralytic condition. The urethra and bladder should be washed out and about 6 ounces of clear fluid left in the bladder. The urethra is then examined by sounds, bougies à boule, and the olivary bougies, to ascertain its size and the presence or absence of obstruction. If there is a gleety discharge and no stricture is present the urethra should also be examined by the endoscope to ascertain its source.

The bladder may then be examined if necessary, for stone by the searcher, or by the cystocope to ascertain the condition of its wall and to see whether anything abnormal, as pus or blood, is coming down through one of the ureters.

The examination having been completed and a tentative diagnosis made, the line of treatment indicated is recorded on the back of the card and changes made on subsequent visits are appended. If an operation is performed it is described and a pathological report of anything removed is added.

Conclusion.—This case blank, which I have been in the habit of using by the way of routine in this special line of work in private practice, hospital wards and clinics for some time, has taught me to study my cases more carefully, and to keep more uniform records than ever before. The two skeleton pictures of the genito-urinary tract enable me to make still more complete records, by allowing me to draw upon the various organs any pathological conditions found, or to indicate enlargements and irregularities in them.

THE REGISTRATION OF TUBERCULOSIS.

BY LAWRENCE F. FLICK, M.D.,

of Philadelphia.

THE first step in an orderly scheme for the prevention of tuberculosis is registration. This seems so self-evident that it looks like a useless waste of words to say anything in its favor. Yet, strange to say, there has been a storm of opposition to the measure within the ranks of the medical profession itself. Why has there been this opposition?

A careful review of the various and many arguments which have been made against registration seems to warrant the conclusion that the opposition has been largely due to fears and prejudices, born of erroneous ideas concerning the contagiousness of tuberculosis. Some of these ideas are the outgrowth of medical traditions and others the illegitimate offspring of the new science of bacteriology. Heredity and the old-time views about the etiologic relationship between cold, want, grief and consumption still befog the mind

of the average physician whose medical education antedates the last decade even though he has accepted some of the new views which bacteriology has forced upon him. He may admit that consumption is contagious under certain circumstances and even that it plays some part in the etiology of every case, but he sticks to his old fetich, and claims that heredity plays the greater part, and that if it were not for cold, want, grief, and such like, contagion would after all amount to nothing. He admits the existence of the tubercle-bacillus because he can see it, or because others in whom he has confidence have seen it, but he looks upon it rather as an effect than a cause, and if a cause, merely a secondary one. Of the physicians who no longer worship at ancient shrines, a fair number are zealous converts to bacteriology, who allow their imaginations to run wild. They calculate the number of consumptives in the land, the number of bacilli which each consumptive expectorates per minute, per hour, and per day, the aggregate number of tubercle-bacilli which must exist in the land; they expatiate upon the presence of the tubercle-bacillus everywhere, in the house, in church, in school, on the street, in street cars, in railway cars, in sleeping berths, indeed in every spot inhabited by human beings; and the medical skeptic, who also has a place in the profession and who has not given much thought to the subject of bacteriology, with good horse-sense, concludes that if all this is true, consumption cannot be contagious because if it were everybody would have to die of it.

The attitude of the medical profession to the doctrine of the contagiousness of tuberculosis is one of passive adhesion, of assent rather than of understanding. Not until the entire medical profession has a clear-cut idea of what is meant by the contagiousness of tuberculosis can we hope to have unanimous support of the profession for the registration of tuberculosis; and not until we have unanimous support of the profession can we overcome the natural repugnance of the people to what they are disposed to look upon as unnecessary espionage in such an innovation. For the consideration of registration it is therefore necessary to first go into the subject of the contagiousness of tuberculosis.

Tuberculosis is a contagious disease, and not an infectious one; and right here we have the first source of misunderstanding. Owing to the loose manner in which the words contagious and infectious have been used in medical literature, a great deal of confusion has arisen. A contagious disease is one in which the disease-germ goes from one host to another without passing through an intermediary host or culture-medium; or in other words a disease in which the pathogenic organism usually does not reproduce itself outside of the host upon whom it maintains its parasitic existence. The parasite in such a disease is always conveyed from one host to another, either by direct contact, or by indirect contact, through fomites. An infectious disease, on the other hand, is one in which the parasites may have an intermediary host or at least may reproduce itself in an intermediary culture-medium. As an exemplification of the difference between a contagious and an infectious disease, we may take smallpox and malaria. The germ which produces smallpox is always conveyed from one host to another, either directly or indirectly through fomites, such as clothing, articles which have been handled by an host, or a room which has been occupied by him. So far as we are able to judge, from clinical data, it does not reproduce itself outside of a host, and when it enters a new host it is in the same generation as it left the preceding one. For the prevention of smallpox all that is necessary, therefore, is to prevent the host from coming in contact with susceptible persons and properly sterilize all fomites with which he has been in contact. In malaria, on the other hand, the organism does not pass directly from one host to another, nor indirectly through fomites. It does not even necessarily pass in the same generation; but, after reproduction in an intermediary host of another species, or some such medium as water or soil, may pass into a new host in a generation far removed from the organism which was given off from the old host. In the prevention of malaria, therefore, we have to go beyond the patient and his environment to the intermediary host or medium if we wish to accomplish our purpose. Scarlet fever, measles, and chickenpox are other examples of contagious diseases, while typhoid fever, yellow fever and cholera are examples of infectious diseases. Malaria is purely contagious, while typhoid fever is probably both infectious and contagious.

Tested by the diseases which are types of contagion and infection, tuberculosis is strictly a contagious disease, because the tubercle bacillus has usually no intermediary culture-medium or host, but goes directly from one host to another. When the bacillus is given off from a tuberculous subject it may maintain its existence for a long time in the necrosed tissue in which it is thrown off, but its cycle of life is suspended and is only resumed when it finds lodgment in congenial soil, which ordinarily is a new host. It may find congenial soil and all the conditions necessary for colonization in an artificial culture-medium, but in practical life such a medium is not apt to be supplied except when specifically prepared for it in the laboratory. In its transmission from person to person the necrosed tissue in which it is given off, plays a very important role. This tissue dries up and becomes pulverized and in this fine dried state cachés the bacillus, so to speak, until chance carries it into a new host. So long as the bacillus is protected by the necrosed tissue it maintains its viability and is capable of taking up its cycle of life in a new host, but when the elements reduce the necrosed tissue to elementary principles and release the bacillus from its confinement it speedily succumbs to the germicidal powers of light and air.

In practical life the contagion of tuberculosis is confined to necrosed tuberculous tissue which has not been devitalized and is restricted to places and things which are contaminated with such tissue. Naturally the intensity of the contagion is in proportion to the intimacy of the contact: (1) In the immediate environment of the tuberculous subject—his room, his clothing, his bedding, furniture, etc.; (2) the things which he handles—utensils, implements, articles of merchandise, etc.; (3) places and objects which he comes in casual contact with. In every sense tuberculosis is contagious; in no sense is it infectious.

There is of course an individuality and a limitation to the contagiousness of tuberculosis. It will not do to base one's idea of the contagiousness of tuberculosis upon an abstract idea of contagion or upon a conception of the contagiousness of smallpox, measles, scarlet fever, or any other contagious disease which long since has been recognized as contagious, and for the prevention of which measures have been established. Smallpox, measles and scarlet fever, as in fact all the exanthemata, are intensely contagious, because their

contagion is given out from all parts of the body and contaminates everything in the immediate vicinity of the person suffering from them. They all, moreover, are very acute diseases, having short incubation-periods, and running their courses in comparatively short periods of time. Their contagious nature is so manifest as to inspire fear and apprehension, leading to extreme and radical measures for their prevention. Out of them has grown the abstract idea of contagion, and hence it is somewhat difficult to elucidate the concrete idea of the contagiousness of tuberculosis or of any other disease which differs radically from them. Even in the professional mind the contagiousness of a disease is measured, perhaps unconsciously, by them. In tuberculosis the contagion is given off through a single channel, and that a restricted one. The disease runs a very slow course as a rule, having a long incubation-period and passing through many series of attacks. Inasmuch as the tubercle-bacillus cannot maintain its viability long without the protection of necrosed tissue, and inasmuch as the necrosed tissue, by reason of its gross and repugnant character, is apt to be disposed of in one way or another, immediately upon being thrown off, the chances of contamination of the environments of a patient, for an equal period of time are very much less with tuberculosis than with the exanthemata. Were the duration of tuberculosis no longer than that of smallpox, measles, and scarlet fever, the contamination of environments would probably lack sufficient intensity to give successful implantations; but what is wanting in intensity in tuberculosis is made up for in duration, so that by gradual accessions the contamination becomes as intense in the end as with the exanthemata. The chief difference between the contagiousness of tuberculosis and that of the exanthemata, from a practical point of view, therefore, lies in the time required for the contamination of environments and fomites to a potency capable of transmitting the disease to others. Momentary contact may convey smallpox, but it takes prolonged exposure to convey tuberculosis. With the exanthemata, a room that has been occupied but an hour, an implement or utensil which has been handled but once, food which has been merely in the presence of a person affected, may convey the disease; with tuberculosis it is necessary that a room shall have been occupied for a considerable length of time, that implements and utensils shall either have been used a great deal or smeared with necrosed tissue and that food shall have necrosed tissue mixed with it, in perceptible quantity, before a successful implantation is likely to take place.

The relative potency of contagion or the degree of contagiousness of a disease may probably be measured best, for practical purposes, by the number of successful implantations, in a given period of time, long enough to allow for the idosyncrasies of the disease. To make a comparison between tuberculosis and the exanthemata on this basis, requires a long period, because of the slow progress of tuberculosis, the long time necessary for the establishment of efficient contamination, and the mild immunity which is set up on the one hand; and the rapid course of the exanthemata, the speediness with which efficient contamination is established, and the intense immunity which is set up on the other. Twenty years, or the average length of a generation, probably would be a fair period for the comparison. Let us in this way compare tuberculosis with scarlet fever which is admittedly one of the most contagious diseases. In Philadelphia, between the years 1868 and 1888, there were 51,014 deaths from consumption, which is only one form of tuberculosis, and 9,024 deaths from scarlet fever. Admitting that 75% of all cases of tuberculosis are fatal, which is, I think, an overestimate, and that only 10% of all cases of scarlet fever are fatal, which is probably an underestimate, we will have had in Philadelphia during that period, 68,-018 cases of tuberculosis of the lungs and 90,210 cases of scarlet fever. If we would add other forms of tuberculosis to the cases of tuberculosis of the lungs, we would probably find that the number of successful implantations of tuberculosis exceeded the number of implantations of scarlet fever. What is true as between tuberculosis and scarlet fever is equally true as between tuberculosis and the other exanthemata.

Objection will no doubt be made to this comparison by men who admit the contagiousness of tuberculosis, but claim that contagion is only one of many factors in the etiology of the disease. But is the objection logical? Whatever factors may enter into the etiology of tuberculosis, besides contagion, there can be no doubt about contagion being the only essential factor. It is no more possible to have a case of tuberculosis develop without contagion than it is to have a case of scarlet fever develop without contagion. A disease cannot be contagious and noncontagious at the same time. If it is due to organic life it must be contagious or infectious, and can never be anything else; and if it is not due to organic life it can never be contagious or infectious under any circumstances. If we admit at all that tuberculosis is due to organic life and is contagious, logic compels us to admit that every case of tuberculosis which arises must have sprung from another case and that there must have been unbroken contact between the old case and the new. Exposure, want, grief, overwork, close confinement, malnutrition, etc., may act as predisposing causes, but they cannot produce the disease without the tubercle-bacillus and without contagion. Besides, predisposing causes play a role in the etiology of all diseases alike; and whatever modification they may legitimately bring to our ideas of contagion, apply to all contagious diseases alike and can have little bearing upon the registration of such diseases for the purpose of prevention.

With the exanthemata registration has been practised long since. The justification of it lies in the right of the government to protect the individual against avoidable danger to life; the necessity for it lies in the necessity of governmental control of (1) contact between the well and the sick, and (2) proper sterilization of fomites. Now, what is there in the justification and rationale of registration of the exanthemata that does not apply with equal force to tuberculosis? The exanthemata set up an avoidable menace to life; so does tuberculosis with the advantage on the side of tuberculosis in that it is more easily prevented than any of the exanthemata, except smallpox. With the exanthemata control of contact between the well and sick is necessary for prevention; the same is true of tuberculosis, except that, in tuberculosis, control involves fewer hardships. With the exanthemata control as now exercised means quarantine by forcible isolation in a hospital, or placarding of houses. Whatever may be said in support of such harsh, odious methods of controling contact in the exanthemata, they are certainly unnecessary in tuberculosis. Control of contact does not necessarily mean estoppel of contact, but may mean

regulation of contact; and regulation of contact may be more efficient in the prevention of disease than estoppel, because it is more humane and more likely to have the cooperation of the afflicted. For tuberculosis removal of patients to hospitals without quarantine would be ample regulation of contact for preventive purposes. Most consumptives would be glad to go to a hospital for treatment. Tuberculosis usually runs a considerable time before the patient begins to give off contagion. During this time the keen edge of sorrow at being stricken with disease is worn off somewhat, and the question of going to a hospital assumes a less forbidding aspect. The hope of recovery, which lingers to the last in the breast of the consumptive, likewise makes for willingness to go to a hospital, and this will be true to a greater extent when it becomes generally known that hospital treatment gives the best chances of recovery. If sanatoriums were established in mountains for incipient cases, and hospitals in or near large centers of population for advanced cases, many would seek admission, and the majority could be induced to enter. In such institutions patients could be made innocuous by prompt sterilization of necrosed tissue and scrupulous cleanliness of lips, hands, and fingernails, so that free intercourse with friends and relatives could be permitted, thus relieving prevention of all harshness and odium.

For tuberculous subjects declining to enter sanatoriums and hospitals, contact could be sufficiently controled for preventive purposes by the enforcement of explicit rules dealing with the sterilization of necrosed tissue and the maintenance of personal cleanliness. Among the intelligent and well-to-do, the enforcement of such rules might be safely entrusted to the family-physician, but with the ignorant and poor it would have to be assumed by the Board of Health. A proper penalty for nonobservance of rules would be commitment to a sanatorium or hospital. Legal authority, supplemented by kind, sympathetic and persistent effort at instruction, together with such material aid as would be necessary among the very poor, would go a long ways towards preventing the spread of tuberculosis.

In practical life control of contact for the prevention of disease necessarily falls short of its aim and must be supplemented by sterilization of fomites. This holds good with tuberculosis even to a greater degree than with other diseases. Contagion is kept alive during the interval between hosts by necrosed tissue, and the necrosed tissue of tuberculosis is grosser in character than that of most other contagious disease and therefore more difficult to devitalize. For this reason the methods which have been found efficient for the sterilization of rooms which have been occupied by exanthematous patients are inefficient for the sterilization of rooms which have been occupied by consumptives. Nothing short of the most thorough cleansing, by which every particle of necrosed tissue is removed from a room will suffice for the sterilization of a room which has been occupied by a consumptive. Such a cleansing requires the supervision of an expert and is likely to be too expensive to be given voluntarily by either the tenant or the landlord.

With tuberculosis, fomites are a frequent means of spreading the disease. Family relationship probably gives rise to 50% of implantations; house-contamination to 25%; contamination of clothing, utensils, implements, and food to 15%; and casual contact and all other forms of contamination to 10%. The approximate correctness of these figures can be demonstrated by anyone who cares to take the trouble to look into the history of a large number of cases. In 1889 I made a careful study of all cases of tuberculosis which ended in death during the year 1888 in the Fifth Ward of the city of Philadelphia. Of 83 persons with probable tuberculosis, about which I was able to get definite information, I found that 48 had died in houses which had previously been occupied by tuberculous subjects. Of the 35 persons who died in uncontaminated houses, I found that 7 had the disease when they moved into the houses in which they died, 5 had lived in lodging-houses, 2 had been associated with consumptives in business, 1, although reported from an uncontaminated house, had really died in a contaminated one, and 1 had died of syphilis. Without the cooperation of the victims of the disease I was able to trace contagion in the majority of the cases. A singular fact which came out in this investigation was, that of the 48 persons who died in contaminated houses, only 5 bore the same name as the preceding victim in the same house. For some years I have been making careful inquiry into the history of cases which come under my observation with a view of determining exposure to contagion, and in nearly all cases I have been able to trace contact, and in about the order which I have named. It is proper for me to state, however, that I base this assertion upon a general impression and not upon figures.

Much misdirected effort for the prevention of tuberculosis is being made at the present time, because of the pooh-poohing on the one hand, and the groundless fears on the other, which have grown out of the prevalent errors upon the subject. Agitation for the enactment of laws against spitting, for the prohibition of marriage by consumptives, and for the destruction of tuberculous dairy-cattle are some of the forms which this effort is taking. Spitting is a vile habit, but to the consumptive is a necessity. Spitting in public places, in street-cars and upon sidewalks should be prohibited, but on the score of cleanliness and decency, instead of the prevention of tuberculosis. The tuberculous sputum which is ejected out of doors, whether on the sidewalk or the streets, and even that which is ejected in street-cars and public places, will not account for 10% of the implantations of tuberculosis. Sunlight, air, and water are mortal enemies of the tubercle-bacillus, and the majority of human beings require prolonged exposure for successful implantation. Cornet's investigation into the death-rate of the street-cleaners of Berlin bears out this. Although the street-cleaners of Berlin hold their positions for life, they show one of the lowest death-rates from tuberculosis of all classes of workingmen of that city. From my experience with tuberculosis among the working-classes I am inclined to think that street-car conductors would make an equally good showing. Consumptives should not marry, not on the ground of prevention of the disease, but for the preservation of the life of the individual. As a rule married life is prejudicial to recovery from tuberculosis. When a tuberculous subject has recovered there is no longer an impediment to his marriage, for not only is tuberculosis not hereditary, but in all probability tuberculosis in the parent tends to produce immunity in the offspring. The extermination of tuberculosis among dairy-cattle is highly commendable as an economic agricultural measure, but not as a measure for the prevention of tuberculosis among human beings. While

tuberculosis is frequently conveyed from human beings to animals, it is not yet certain that it is often conveyed from animals to human beings. All this effort in the wrong direction prevents effort in the right direction, and discredits preventive medicine.

Without registration the prevention of tuberculosis cannot be placed upon a scientific basis because the requisite data cannot be obtained. Registration is necessary in order that (1) contact may be controled; (2) the creation of fomites may be prevented; (3) fomites may be sterilized, and (4) innocent parties may be given an opportunity to protect themselves against contamination in dwelling places. Many cases of tuberculosis are undoubtedly contracted in contaminated houses, and this mode of distributing the disease cannot be stopped in any other way than by registration.

ASTHMA.

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BY the term asthma, I understand the condition of spasm of the bronchial tubes with bronchial and peribronchial hyperemia, approaching or amounting to inflammation, accompanied by rales upon both inspiration and expiration, with great difficulty in breathing. The term is applied to the paroxysm alone, which returns at regular or irregular periods. While regarding asthma as an affection of the bronchi, of spasm of the tubes, with structural lesion of the mucosa, I recognize also a second form, an affection of the par vagum, either at its root or at some remote part of its course, or of the fibers of other nerves that connect with the par vagum, without apparent bronchial lesion or of any lesion anywhere beyond the par vagum. All other so-called forms of asthma I would exclude from the definition as tending to obscure the subject.

Asthma occurs mostly in the summer season, and prevails to a relatively greater extent throughout the Mississippi valley than elsewhere in the United States. The mortality is maximum in warm climates.

The greatest number of cases of asthma coming under my observation have followed pneumonia. In one case under my care the affection was caused by the pressure of a goiter upon the pneumogastric. In another case, the cause was evidently the involvement of nerve terminals in a cicatrix of the turbinated body. Hartnack suggests a specific germ, resident in the bronchi, as an organic base in the etiology. Some rhinologists have written that asthma always depends upon nasal affection. But this view was never accepted by the conservative portion of the profession, and, from the first, nasal reflex was opposed by the most distinguished rhinologists, by Krause, Von Heyden, and numerous others, as well as by Professor A. L. Loomis and other able writers in general. We shall probably find it difficult to follow certain modern observers to their conclusion, that all or even a large proportion of cases of asthma are due to some deformity of the nasal fossae (Charles H. Knight). Unfortunately, this class of cases is not so numerous as it was believed to be a number of years ago (A. Jacobi). The primal cause of asthma does not reside in any special peripheral organ (J. N. Mackenzie). Lermoyez, in an exhaustive article, has observed that asthma has followed operative procedures within the nose. Vasomotor paresis of the bronchial mucosa has been suggested as a cause of asthma. It is a conjecture, incapable of demonstration. The mucosa of the bronchi bears no anatomical resemblance to the mucosa of the nares; consequently, vasomotor paresis of the latter mucosa cannot be simulated by the former. An extreme degree of turgescence of the pituitary membrane often occurs suddenly, and may as suddenly disappear. The reason of this, as anatomy shows, is that the veins of the nasal mucosa, covering the turbinated bones, is a cavernous structure, and the membrane is erectile. The anatomy of the bronchial membrane is entirely different.

In the classical pictures of asthma as drawn by the great clinicians, Watson, Trousseau, Romberg, there are no symptoms of hay-fever. Asthma presents two pathological elements: (1) Nervous spasm of the bronchial tubes; (2) hyperemia of the bronchial and peribronchial tissues, approaching or amounting to inflammation.

The general pulmonary tissue, as well as the bronchial tubes throughout, are elastic, and tend naturally to contract. The elastic nature of these tissues promotes physiologic rest.

Thin laminae of cartilage are traceable into bronchial tubes, the diameter of which is only one-fourth of a line. The fibrous coat, elastic fibres and unstriped muscular fibers are continued into the smallest ramifications of the bronchi. The lobular bronchial tubes become changed in structure, lose their cylindrical form, and are continued as irregular passages through the substance of the lobule, their sides and extremities being closely covered by numerous saccular dilations, the air cells. The air sacs are arranged in groups of five or six, which spring from the dilation of a single tube. At the termination of the bronchial tubes, in the intercellular passages, their constituent elements become changed, their walls are formed by an interlacing of longitudinal elastic bundles with fibrous tissue; muscular fibers disappear, and the mucous membranes become thin and delicate and lined with squamous epithelium.

Loomis, Flint, Chr. Jakob, Alonzo Clark, Niemeyer, Bosenthal, Salter, Trousseau, and all the great authorities for over a century, have considered asthma to be a spasm of the bronchial tubes. Martin[1] believes that asthma is a spasm of the fine bronchioles, those that are about to join the alveoli.

The experiments of Dr. Williams, in which he proved the contractility of the bronchial tubes, by evoking their spasmodic contraction upon application of the galvanic current, are so clear and convincing as to require no further coufirmation.

During a paroxysm of asthma, there is always exaggerated pulmonary resonance, and the intercostal spaces are drawn in to an extraordinary degree, and not only the intercostal spaces but all yielding parts bounding or lying contiguous to, the chest cavity. The physical signs of asthma change their seat with considerable rapidity. This fugitiveness and migration of normal and morbid sounds show that the bronchial spasm itself is constantly changing its seat. What else than spasm of the tubes can account for the patchy and rapidly changeable distribution of sounds in asthma? All admit spasm of the urethra, and spasm of other muscular and elastic tubes, and why deny spasm of the bronchi?

Spasm of the bloodvessels of the mucous membrane

[1] *British Medical Journal*, December 24, 1898.

of the bronchial tubes, even if capable of demonstration, could not produce the phenomena of asthma.

Dr. Gee, in his Lumleian lectures of last March, suggested that inflamed tubes are not easily contracted by spasm. I agree with Dr. Gee, and have, for a number of years, considered not inflammation of the bronchial tubes, but hyperemia of the peribronchial tissues, and of the irregular, intercellular, nonmuscular passages, as the most prevalent underlying pathologic condition exciting spasm of the larger muscular tubes.

There is a form, the neurotic form of asthma, that appears to be pure spasm of the tubes, without any visible organic lesions anywhere. Pure nervous asthma may be excited by mental influence, irritation of the pneumogastric nerve or pressure upon its trunk. It is possible that asthmatic attacks, causing exhaustion of nerve force, weaken the brain-centers, disturb their nutrition, lessen their power of resistance and render them more irritable. Add to this cause of depression and irritability, in some persons, a congenitally weak nerve-center, and we find engendered a most intractable variety of the affection.

A great variety of peripheral influences depress the nerve-centers, as superheated rooms, bad air, draughts, etc. Also, where the nerve-trunk, or some of its filaments, become engaged in inflammatory action, etc. May not irritability in the bronchial nerve terminals lead to degeneration of the bronchial capillaries, or to trophic changes in the tubes, thus tending to the perpetuation of asthmatic paroxysms?

Vasomotor spasm and vasomotor paralysis, both being due at times to a weakened, irritable, or disorderly function of the par vagum, may we not in the same individual have vasomotor spasm alternate with, or be followed by, vasomotor paresis?

The pathognomonic features of asthma which render its diagnosis certain consist of great difficulty of breathing, occurring in paroxysms, at regular or irregular periods, with rales upon both inspiration and expiration, rales all mixed up, rales changing rapidly their location, with suppression of the normal vesicular murmur. Difficult breathing involves all the physical signs.

The physical condition represented by dry rales is diminished caliber of the air tubes at certain points, and especially in consequence of spasm of the bronchial muscular fibers. Taken in connection with other signs and symptoms, dry rales are pathognomonic of asthma (Prof. A. Flint). In my own experience, in most cases, the attacks begin dry; and in some instances, under my observation, there was no expectoration at all.

In pulmonary edema there is dulness on percussion; in asthma extra resonance; liquid, bubbling, stationary rales in edema; in asthma the rales are dry and constantly change position and character; profuse watery expectoration in edema; absent in asthma (Prof. A. L. Loomis).

There is little wheezing in cardiac dyspnea (Prof. Loomis).

Respirations are much increased in frequency in capillary bronchitis; and not in asthma (Prof. A. Flint).

Fluctionary hyperemia, diffuse hyperemic swelling, vasomotor turgescence, capillary bronchitis, emphysema, fixation of the diaphragm, do not account for the symptomatology in asthma, and must be carefully differentiated.

Hay fever is not asthma. Hay fever is most frequent among the rich and educated; asthma among the poor; hay fever is more prevalent among men; asthma more common among women; a morbid condition of the nasal mucosa is always present in hay fever; in asthma, bronchial hyperemia is usually present—nasal affection is not essential. In hay fever various pollen are always present as an exciting cause; asthma does not depend upon pollen, but arises from a great variety of causes, as exposure to draughts, superheated rooms, indigestion, etc.; hay fever is a summer and autumn complaint; asthma prevails throughout the year. The prognosis is good. Most asthmatics recover.

The treatment of asthma embraces two considerations: (1) The cure of the paroxysm; (2) the prevention of its return. To cure the paroxysm, the bold administration of morphin is advised by the best authorities; ipecac; and inhalation of chloroform, and of the fumes of burning niter and stramonium.

In the New York *Medical Record* of September 25, 1880, I detailed the case of a lady, aged 50 years, a life-long asthmatic, who suffered continuously from April 1 to May 10, confined to her room, confined to her chair, and, at last, semiconscious, extremely weak, with face and limbs swollen and her head fallen forward on her chest, I feared dissolution. Morphin, nauseants, antispasmodics, everything, had failed. At this point I decided upon a therapeutic innovation, and, for the first time, applied counterirritation over the course of the par vagum (vide *Medical Record*). Relief followed so rapidly and absolutely that ever since I have considered this one of the most important of all therapeutic measures. This method was afterwards reported upon, with gratification, by Dr. John M. Lee, of Pittsburg, and other observers, and has since been mentioned in the writings of Prof. A. L. Loomis and other authors, at home and abroad.

Of late, in cases of severe and protracted paroxysms, as well as in the interim, I have advised the *local use of strychnin*. This measure which I here advocate for the first time, a measure mentioned by no other author, is based upon the fact that the local application of strychnin is of great advantage in inflammation of mucous membranes, and of especial advantage in asthma, when applied to the trachea and bronchi. Strychnin increases arterial tension, promotes capillary circulation, and relieves capillary congestion. It counteracts the paretic state of the local bloodvessels in chronic inflammation. It is rapidly absorbed from the mucous membrane and powerfully assists other measures in asthma. It imparts to the spirits remarkable buoyancy, adds tone to the muscular fibers of the bronchi, and relieves the spasm. I advise the local use of strychnin by intralaryngotracheobronchial injections, from $\frac{1}{50}$ to $\frac{1}{20}$ of a grain, pro re nata, not oftener than twice in 24 hours.

The internal administration of euphorbia, eucalyptus, chekan, quebracho, have given poor results. Lobelia is dangerous. Cocain applications to the nasal mucosa it is impossible to condemn too strongly.

To prevent the return of the paroxysms, the various underlying pathologic conditions must be sought for, and, if possible, removed.

There are two great clinical groups, to one or the other of which, all cases of asthma may be assigned, to wit: (1) Those in the tall, slender, anemic persons, (2) those in the short, fat, neurasthenic persons. It is obvious that these two classes require different management. Those of the first group are above the average height; below the normal weight; pale, poorly developed, with misshapen chests, weak muscles, and enfee-

bled resistance to climatic changes; colds are contracted readily, and bronchitis is of frequent occurrence. Those of the second class are below the average height; above the normal weight; florid, fat, easily winded; thoracic walls and abdomen are often covered with fat; flabby muscles; weak cardiac action; torpid liver; sluggish bowel; highly colored urine; sedentary habit; skin sensitive to draughts, and bronchi readily congested. The extremes presented preclude reasonable hope of permanent relief until after correction of the physical defects.

In consideration of a large number whose chests are narrow and contracted, and of small respiratory capacity; and having due regard, also, to another large class of *clientele* in the upper walks of life, whose daily mode is an absolute repudiation of all that physiology demands, I insist with all the force of large clinical experience, and beyond that of any other author, that exercise be given a larger share than heretofore in the therapy of asthma.

The forms of exercise which I here suggest for the organs of respiration, for the purpose of developing the chest and increasing the vital capacity, are unique in that they require no paraphernalia. Voluntary muscles being arranged in groups of flexors and extensors, are meant to antagonize each other. Therefore, taking advantage of nature's arrangement, it is submitted as natural that these muscles should be pitted against each other, and that all artificial means of exercise, as with dumb-bells, be adjudged not only unnecessary, but subversive.

The chief muscles concerned in respiration are the deltoid, which raises the arm; and the pectoralis major assists in drawing it forward and upward. The rear fibers of the deltoid, assisted by the teres major and latissimus dorsi, draw the arm downward and backward. When the deltoid has raised the arm to the horizontal position, its further elevation is effected by the serratus magnus and trapezius. The pectoralis major draws the arm forward upon the chest. The pectoralis minor and subclavius draw the ribs upward, expanding the chest. The serratus magnus assists in elevating the ribs, dilating the chest. The pectoralis major and serratus magnus are both powerful muscles in forced inspiration. The latissimus dorsi assists the pectoralis major in drawing the arm inward and backward. In forced inspiration the diaphragm contracts, descends, and the cavity of the thorax is increased from 2 to 3 inches in the vertical direction.

Exercise 1: Stand erect, shoulders square, arms pendent, hands close to sides, palms to median line, hands open Make the muscles of the arms tense as possible. Turn palms forward; then, alternately, flex and extend the forearms upward at the elbows until in line with the shoulders, and return to first position. Strengthens biceps and triceps.

Exercise 2: Assume first position but with palms backward, alternately flex and extend forearms at elbows forward and upward, until knuckles are close to shoulders and return to first position. Strengthens triceps, biceps, deltoid.

Exercise 3: First position; raise both arms outward, full length, in line with shoulders, palms upward, alternately flex each arm toward the head until the hand is above the shoulder, and return. Also vary by flexing and extending both arms simultaneously. Strengthens deltoid, biceps, triceps.

Exercise 4: First position; extend both arms as in 3, but with palms downward, flex the forearms downward and inward under the arms with fingers pointing to the armpits. Strengthens deltoid, biceps, triceps.

Exercise 5: First position; raise both arms forward, full to front until the hands meet in line with chin, elbows straight. Throw both arms backward, horizontally, well to rear, in line with shoulders, and return to front. Also vary by throwing both arms downward, perpendicularly, and as far to rear as possible, palms pointing backward, return to front. Strengthens deltoid, pectoralis major, teres major, latissimus dorsi.

Exercise 6: First position; flex both forearms forward, upward; then from flexed elbow, alternately raise each arm in a vertical line with body, extending arm full length above the head. Also vary by extending both arms simultaneously. Strengthens biceps, triceps, deltoid, serratus magnus, trapezius, teres major, latissimus dorsi.

Exercise 7: First position; raise arms alternately, forward extended full length, then upward until in line with top of head. Also vary by raising both arms simultaneously. Strengthens deltoid, pectoralis major, serratus magnus, teres major, latissimus dorsi.

Forced inspiration being maintained, while going through the above exercises, strengthens the diaphragm, serratus magnus, and pectoralis major. The voluntary muscles should be made tense, and kept so, while going through the exercises. Exercise should be daily, systematic, vigorous, but never to the point of violence,

The benefit of the above exercises upon asthmatics is better to be seen than told.

Farther, to prevent the return of the paroxysms, the chief indications are for

1. Removal of all exciting causes.
2. Removal of all toxic influences, rheumatic, gouty, renal, malarial, irritating plants (ragweed, goldenrod, ailanthus, honeysuckle), irritating dust (hay, feathers, Chinese matting, ipecac), irritating animal odors (horses, dogs, cats, rabbits), acid fumes, the atmosphere of close, warm rooms.
3. Restoration of general good physiologic conditions of digestion, respiration, circulation, nervous system, cutaneous surface.
4. Removal of reflex irritations, nasal, rectal, uterine.
5. Relief of bronchial hyperemia, bronchitis.
6. Repair of emphysema.
7. Climatic suggestions.

Many well known clinical facts pertaining to the nature of asthma are not constantly made use of in its treatment. Asthmatics should wear woolen undergarments throughout the year. The skin of asthmatics being generally atonic requires stimulation; one good means being by salt-baths and friction. It is also particularly important that the digestive organs be put into perfect condition. Iodids and hypophosphites have given me good results in bronchitis. In emphysema, the best effects which I have seen I have produced by the Waldenburg apparatus. In regard to climatic preference, I know of no rule—what suits one patient cannot be depended upon for another.

SIPHONAGE OF THE PARTITIONED BLADDER FOR THE INDIVIDUAL KIDNEY URINES.[1]

A New Instrument.—The Separate-Urine Siphon.

By ANDREW J. DOWNES, A.M., M.D.,
of Philadelphia.
Gynecologist to St. Mary's Hospital.

So great has been the progress of renal surgery, that, though scarcely more than 20 years old, it has now but one requisite to make it nearly ideal, namely, an easy, harmless, painless, and practical method of obtaining

[1] Read before the Philadelphia County Medical Society, February 27, 1900.

the individual kidney urine. With the advent of ureteral catheterization, so successfully performed by Kelly and others, it seemed that individual kidney action, especially in the female, would not be often an unknown quantity, yet the proportion of cases in which study of the individual kidney urine precedes renal surgery even in the female is quite small. In the male, who requires kidney surgery as often as the female, the separate kidney action, prior to the introduction of the Harris urine segregator, was not obtained, all told, in 100 individuals. Corresponding to the lack of attention to this preliminary and unquestionably necessary detail, renal surgery has been more or less unscientific and faulty.

Catheterization of the ureters in the female through the air-distended bladder and in the male through the catheterizing cystoscope does not solve the problem. My experience teaches me that such catheterization is not simple work, and this agrees with the observation and experience of many others. It is distressing to the patient and not free from danger of fresh kidney lesions. It certainly has indications such as sounding the ureter for stricture or stone, detecting stone in the pelvis of the kidney, setting up artificial renal colic for diagnostic purposes as advocated by Kelly, and other uses; but, for obtaining the individual kidney urine, it must be supplanted by a more practical procedure.

The most practical and useful method, up to the present time, for obtaining individual kidney urine has been by means of the Harris urine segregator, so-called. Not a few surgeons of large experience, who had not catheterized the ureters, did succeed in obtaining the separate urines by means of this device. In the short period that has elapsed since its introduction, notwithstanding its imperfections, an increasingly large number of cases of renal surgery have had through its use, the individual kidney action studied as a most useful preliminary measure.

I began the use of the Harris urine segregator early in 1899 and have had a varied experience. In one case I used it 10 times prior to a nephrectomy for advanced tuberculous disease of the left kidney and through its use succeeded in finding a time when the other kidney, itself diseased, was doing work sufficient to warrant the removal of its mate, which was so badly involved as to only secrete 0.3% of urea. The remaining kidney, prior to operation, was secreting urine practically normal in reaction, quantity, specific gravity, and urea. On boiling, fully one-third of the bulk of this urine was made up of albumin; no casts were found. As a result of the operation the patient gained 30 pounds in 3 months. The operation and results were due to the fact that the urines could be obtained so often and in such quantity as to select a proper time for operating.

In a case of pronounced floating kidney, with marked unilateral pain, a study of the urine obtained by this device made me decide on nephro-fixation in spite of the fact that the capsule was very much thickened, adherent, and contained numerous white patches that might lead one to the diagnosis of tuberculous kidney.

Another patient, a male of 40 years, had suffered from calculous nephritis since 1884, and in June, 1899, had a perinephritic abscess which ruptured through the diaphragm and then refilled. I opened this abscess in the loins while the patient was almost moribund. Subsequently a radiograph confirmed the diagnosis of a very large calculus. With this history, the necessity of knowing the individual kidney action was essential. I succeeded in using the Harris urine segregator with the assistance of ethyl bromid and obtained, in one hour, from the left kidney 1 dram of pale, watery, purulent urine, containing 0.6% of urea, while, at the same time, the right kidney passed $2\frac{1}{2}$ ounces of pale, amber urine, with a specific gravity of 1.008, and containing 1% of urea. The indications were against nephrectomy. On operation a greatly enlarged pus-distended kidney was found, having its pelvis filled by a large mass of small calculi, almost completely blocking the ureter. Notwithstanding pyuria, the patient is in better health than for years and living; perhaps because I did not do a nephrectomy.

In another case, I obtained 3 ounces of bloody urine from one side and $2\frac{1}{2}$ ounces of light-colored urine from the other without the admixture of any blood, as evidenced by the microscope.

In many other cases I have used a Harris segregator and in all of them I have obtained a positive separation of the urine. Yet, with increasing experience, I found it an imperfect instrument. Its use is distressing to the patient. One can very easily make a mistake and lose the separation so that an admixture is obtained. It is complicated in so much as it requires suction apparatus. Its caliber is too large. Mistaken adjustment of the apparatus may cause temporary occlusion of a ureter, as in one case in which I obtained no urine from one side for 30 minutes. Coincident with nonappearance of fluid from the right side, there was pain of increasing severity in the right renal region. After the lapse of 30 minutes a readjustment of the apparatus freed the right ureter and I had as much urine from the right side as had already been passed from the left. Other objections might be cited. During the use of the segregator I one day found to my agreeable surprise that the suction apparatus could be dispensed with in part and the instrument be used as a siphon. It is, however, an extremely imperfect instrument to use in this manner, and its success when so used is probably accidental. I decided to make, if possible, a separate-urines siphon that would discharge urine from the partitioned halves of the bladder, practically from the mouths of the ureters and at the rate that the urine enters the bladder. Delivered thus, without any suction other than siphonage, the urines, coming into contact with an extremely small portion of the bladder-wall, are practically free from bladder contamination, especially if we first wash the bladder as a whole and then each half before collecting urines.

The instrument I advocate is made of two parts, a

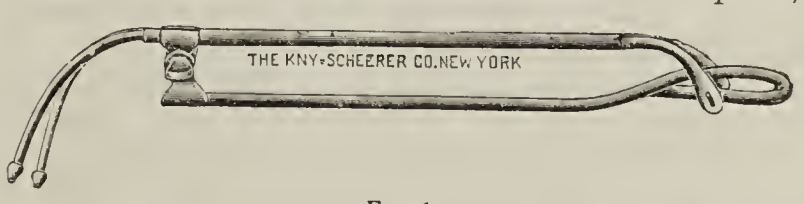


FIG. 1.

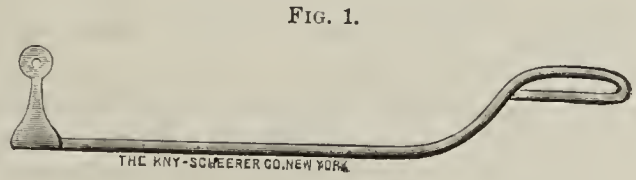


FIG. 2.

double-barrelled bifurcating catheter of small caliber (13 American scale), and a partition-rod which elevates the bladder-wall between the catheter ends for fully $2\frac{1}{2}$ inches. The partition-rod differs for the sexes and is attached to the end of the shank of the catheter by a small fixed clamp and thumbscrew. The properly se-

lected position of the partitioning rods is maintained by tightening the screw. The urines enter the instrument through the small openings in the sides of the dilated ends of the beaks. Each beak has only one opening, and each opening is either immersed or, with the removal of fluid, is closed through siphon-suction on the bladder-wall, which, therefore, acts as a valve, intermittently opening when the ureters have emitted sufficient urine to lift off or displace the valve-acting mucous membrane of the bladder in direct contact with the small opening in the beak. Intermittent siphonage will thus continue indefinitely while the instrument is in place. Movement of the beaks during the introduction of the instrument into the bladder is prevented by a little fixation-pin. The technic of using this instrument is as follows:

The bladder is thoroughly irrigated and then half filled. The double catheter is then introduced, the outer ends being closed, so that the bladder cannot empty. The beaks are turned to rest horizontally on the floor of the bladder, which is now allowed to empty. The partition-rod is then introduced into the vagina, or in the rectum in males, and attached loosely to the clamp. The left hand approximates the shafts of the catheter and partition-rod, while at the same time the beaks are turned downwards, each into its own sulcus in the sides of the bladder formed by the partition. With the beaks turned into the sulci, the shafts of the catheter and the partition are brought as close together as possible without producing pain. At this point, the clamp is fixed by turning the thumbscrew. The individual halves of the bladder are now washed out. Urine will follow the irrigating fluid. The flow is allowed to proceed uncollected for a few minutes until we are sure undiluted urine is passing. Then the flasks are placed into position under the siphoning ends and the urine collected. The siphon-catheter should emerge from the bladder on the level, or better, with a slight ascent and the ends should be below the level of the beaks in the bladder to assure siphonage. For maintaining the proper level of the catheter a simple stand with a sliding rod is of use.

As the instrument will naturally be compared with the Harris segregator the following differences will be noted: A much smaller caliber as a whole. A simpler curve at the beak end. A longer and more certain bladder-partition. One definite fixed relation between the beaks and the partitioning medium. The absence of all unnecessary suction apparatus. The absence of a spring for elevating the partition. The introduction of a new feature, siphonage alone, for the withdrawal of the individual kidney urine.

This instrument was first used February 6, 1900, on a male, 60 years old, who had a moderate degree of enlargement of the prostate gland, as evidenced by rectal examination and the presence of one ounce of purulent residual urine. This patient, some years ago, had a stone crushed in his bladder. Four years ago he had nephrotomy performed for pus in his left kidney. I obtained his individual urines with little or no distress to him during 35 minutes. Ten days before using this instrument, I had failed to enter his bladder with an instrument of the same caliber as the Harris segregator. It was the ease with which the siphon was used and the individual urines obtained from this patient, from whom by no other known instrument it could have been obtained, that caused me to continue the simplification of the instrument. The further step in the improvement that I am now demonstrating, was used in four wome in St. Mary's Hospital last week. They were new case applying to my service for diagnosis. Without prelim inary preparation, each patient was placed upon th examination-table, the bladder irrigated and the siphoi used for one hour without complaint and without subse quent distress. Subsequent irritability at the vesica neck noticed in most patients after the use of the Harri instrument did not occur in these cases. One of thes patients was two months pregnant, another septic fron retained secundines. In each case the separation wa proved after the collection of sufficient urine by the in troduction of a small amount of methylene-blue solu tion into one side of the bladder. The urine from thi side for a brief period came blue without any stai whatever on the other side.

Since reading this paper I have used the urine siphoi on 3 other cases, a girl of 19 years, who has a tende movable left kidney; a young woman of 26 years, wh passes small calculi which come from the left kidney and a married woman of 38 years, very stout an nervous, on whom I have since in one sitting per formed left lumbar nephrofixation and abdominal myo mectomy.

PROGNOSIS IN FRACTURES.[1]

BY CLINTON B. HERRICK, M.D.,
of Troy, N. Y.

Clinical Professor of Surgery, Albany Medical College; Visiting Surgeon, Tro Hospital; Consulting Surgeon Leonard Hospital.

AUTHORS generally agree that simple fractures "d well," and while commenting upon the more or les severe complications that may occur to interrupt th course of repair they do not emphasize to the prope degree the more frequent result of disturbance of func tion in the part as a direct and natural result of th process instituted by nature to restore the continuity o the fractured bone.

Compound fractures, fracture of the skull, with con sequent injury to the brain, fracture of the vertebra with possible lesion to the spinal cord, and fracture o bones of the trunk which are closely related to import ant organs of the body, in every instance have a doubt ful prognosis, on account of the complex injury, an the complications arising as a direct result of the forc or other influence operating at the time the injur occurs.

The fact that there is any doubt regarding the futur of simple fractures, either as to life or function, is no so thoroughly appreciated as it should be, and to thi class of simple fractures of the long bones my pape will be limited, in order to bring to notice the variou complications in these cases, and by illustrations fron personal experience show the importance of giving guarded prognosis at the very outset.

A few years in contact with fracture cases will con vince any observer that they are the most unsatisfactor conditions one can cope with, and the proportion o those that are followed by perfect repair and perfec function represent but a small number of those treated This is also emphasized in the fact that suits for mal practice more often follow fracture cases than any othe class of injuries for which we are called upon to trea

Certain fractures in certain individuals will ordi narily be followed by apparent, and to all purpose perfect results. If, however, a guarded prognosis i

[1] Read before the Troy Medical Association.

given at the first instance, an imperfect result will not reflect against the opinion or skill of the surgeon, and otherwise a success beyond that anticipated will certainly stand to his credit.

The process of repair in broken bones consists of an outpouring of a material which is destined to cement effectually the parts together. This substance being at first fluid in character, and soft for some time thereafter, readily pours over the site of injury, and finds its way into all the irregularities of the bone, making no distinction whatever as to preserving the normal contour, or the anatomical depressions, and eminences. As this material hardens and accumulates at the site of fracture, it consequently increases the diameter of the bone, and in a certain way resembles the "wipe" that the plumber uses in repairing a break in a lead pipe. This callus, as it is called, is to a great degree permanent, so that we have at once an unnatural condition of the parts as a direct and certain result of the repair of the fracture. As we shall see, this in itself is the cause of much of the trouble following fractures, and which from the very nature of things cannot possibly be avoided.

Let us take the simplest form of fracture,—that of the shaft of the humerus, or femur. If the line be transverse, with no overriding of the fragments, which is the exception, the resulting callus will be the minimum, but yet sufficient to disturb the relations of muscles, vessels and nerves which course near the shaft, and are crowded aside by the presence of the callus. This disturbance is frequently sufficient to give rise to painful conditions lasting some time subsequent to complete union. On the other hand, the more frequent lesion of an oblique fracture with overriding of the fragment, assisted by muscular contraction, and the device is yet to be invented that will replace the ends of the bones into perfect apposition, and keep them there until united. On account of this impossibility the callus forms over an enlarged area, there is more of it, there is necessarily some slight deviation in the line of the shaft, and an amount of shortening in the extremity commensurate with the overriding of the fragments. It is the usual experience to have these cases followed by quite tender calluses, neuralgic pains in the extremity, and disturbance in the function of the part due to inflammatory adhesions in the fascial coverings of the surrounding muscles. While these conditions almost invariably diminish and fade away in the course of time, yet in many instances they continue to fret the patient, who cannot be made to understand that such is the unavoidable outcome of the injury, and who is too often ready to doubt the skill of the surgeon who attended the case. I have remarked that overriding fragments cannot be perfectly restored. When fracture occurs in the fibula or one bone of the forearm, having the fellow bone act as a restraint against the muscular contractions of the extremity, the apposition of the fragments may be correctly made and retained. But in cases in which both bones of the leg or arm, or the shaft of a bone is broken, with the fragments overriding, experience has proved to me that perfect apposition is impossible by means of any external form of dressing or apparatus.

Let us now transfer our site of fracture from the shaft of a bone to the proximity of, or into, a joint, and how manifold become the conditions possible to occur as a direct or indirect result of the injury. First comes the callus; the inevitable necessary bond of union becomes the stumbling-block in the way of freedom of motion according to the line and amount of such. In simple hinge-joints like the knee and ankle, the limitation of motion is not so liable to be marked, but in complex articulations as the wrist, elbow, hip, or shoulder, it may be said that perfect freedom of motion is never attained subsequent to a fracture at or near such joints. In the shoulder the callus prevents the uplifting of the arm without carrying the scapula with it. In the elbow the irregular outline of the interlocking bones is so disturbed that complete flexion and extension is seldom attained. In the wrist, limitations of motion are noticed very often in flexing or rotating, and in fact, no case of Colles' or Potts' fracture has been ever known to result so perfectly as not to be distinguished at a glance. In addition to the mere fact of enlargement at or near the joint on account of the callus, is the condition of interference, which the same callus exercises upon the neighboring muscles, vessels, and nerves, which are in this locality more superficial, and bound closely together to permit of easy motion to the joint. The distortion of the locality by the callus disturbs the relations of these parts very materially, and by pressure upon the vessels often gives rise to edema and permanent swelling of the distal portion of the extremity, pain and numbness caused by the pressure upon the nerve-trunks, and, worse than all, a paralysis due to the same cause.

On account of the close proximity of the main artery of the extremity to many joints, it is not rare for the fractured end of the bone to injure or cut off the vessel, leading on to sloughing in the distal portion, or to gangrene. These conditions are not always noted at the time of injury, and to all appearances the case does well until later devlopements prove the true condition.

Marked atrophy frequently occurs as a result of the long confinement in splints, and consequent disuse of the extremity, which not only disables the patient for a much longer time than expected, but by the shrinking of the muscles, the skin becomes flabby and drawn, and the aspect of the extremity is much distorted, giving the individual the impression that there is a decided deformity as a result.

Individual conditions in the patient, regarding their powers of resistance and recuperation, many times give rise to complications unlooked for. Neuralgic and rheumatic diatheses add their influences in increasing the pains consequent upon a fracture, and in prolonging the same after permanent union has occurred; in fact, these subjects frequently become walking barometers noting every change in the weather by pains in the region of the old fracture. Syphilitic, tuberculous and rachitic individuals will often present unexpected complications in various forms of necrosis, suppuration, large and soft calluses, and nonunion. Poorly nourished subjects may have dissolution instead of recuperation, and in such an individual a simple fracture may be the primary cause of conditions fatal to life. In not a few cases noted, persons have been permitted to bear weight upon and otherwise to use extremities which have suffered fracture and have been treated through the ordinary period of time, and with apparent solidity of union, only to find that the part gradually and without notice has become misshapen, the condition looming up suddenly enough to startle the surgeon who has been assured that all was doing well. In no other fracture is this so apt to be the case as in the Potts, which always presents a large callus, and being onesided, adds

its ugliness to the distortion brought on by too early use of the extremity.

Finally, if we escape all the foregoing conditions, are we certain to get union at all? Fractures should be firmly united in from 8 to 12 weeks, but even in healthy adults the number of instances of nonunion reach quite a number. In individuals who are in some way in impaired health this condition occurs more often, either accompanied with little or no callus, or associated by a large soft callus which does not become rigid, and results in vicious union. When nonunion does occur the patient is very prone to lay the reason for it at the door of the surgeon. While methods of treatment for such have been marked by fair results, yet it is a condition which is most disastrous both to function and to life. Out of 656 cases collected by Norris in which operative or other measures were employed for relief, 223 failed, and of this number 19 succumbed. Amputation had to be resorted to in 29 cases.

The conditions noted do not represent all the complications or ills that may befall a fracture case, but each of them have been encountered in the course of, or at the termination of, treatment of fracture cases in which every method known to modern science has been bestowed upon the case, and no neglect nor carelessness intruded at any point. Altogether it shows that disturbance of function in a part which has suffered fracture is very apt to result, and while every possible care should be given these cases and every one of the ordinary complications apprehended and forestalled as well as can be, poor results will be the lot of every practitioner. So far as life is concerned there is also a vague doubt, for of 8,667 cases of all varieties of fracture treated in the Pennsylvania Hospital from 1850 to 1874, 1,196 died.

In spite of the somewhat gloomy picture framed in this paper it remains a fact that a goodly number of cases of fracture of the long bones result very favorably so far as function is concerned; that is to say, the disturbance at or about the site of lesion is not severe enough to appreciably interfere with ordinary motion in the part, so that the younger practitioner need not be dismayed at the numerous pitholes and quagmires that stand in the way of success.

It is, however, highly important that the patient be made acquainted with the exact state of affairs at the outset, and also aware of the complications in order that a perfect understanding may exist and the possibilities of censuring the surgeon eliminated. I believe that fractures should take their place with the more serious, rather than classed as simple injuries, for if so regarded an increased degree of diligence will be accorded, results be improved, and the odium of failure be removed.

That which is once broken can never be restored without blemish. The callus of a fracture, like the scar of an injury or operation-wound, remains as a permanent memorial of the condition. No man should ever say to a patient that his leg or arm will be just as good as ever, for it cannot be, or will not be. Rather let him anticipate the surety of a permanent defect, as a natural consequence of the broken bone. Consider the case thoroughly at the start according to the location, at or away from a joint, or other complication, and in every instance give a guarded prognosis to the end that the individual understands the uncertainty of a positive result, and the surgeon preserves his reputation against distrust, censure, and malpractice suits.

A Second Tubal Pregnancy Within a Year.—E. R Smith (*Southern California Practitioner*, April, 1900) reports the case of a woman, 27 years of age, several years married and never previously pregnant, who, after missing a menstrual period, was taken suddenly ill. Her physician curetted the uterus. This appeared to afford partial relief for about a month, when she was operated on by Smith and a right tubal pregnancy removed. The patient recovered, but 9 months later was similarly attacked after missing a menstrual epoch. The symptoms persisted and she was operated on a second time. This time a left tubal pregnancy was found, rupture and hemorrhage into the broad ligament having occurred. In both instances the operation was done through the abdominal wall. The patient is now apparently well. [M.B.T.]

Separation of the Epiphysis of the Lower Extremity of the Humerus, and Dislocation Forward.—Russell S. Fowler (The *Brooklyn Medical Journal*, April, 1899). A girl, aged 9 years, fell and struck the palm on the floor, causing an injury in the vicinity of the elbow-joint. The arm was swollen and within 25 degrees of complete extension; the wrist and forefingers could be moved. There was fulness in front of elbow. The relation of the epicondyles to the olecranon was normal. Neither the trochlear surface nor capitellum could be felt. The arm could be fully extended but not fully flexed. There was little crepitus, and that was not normal. Reduction was easily effected, but as readily recurred. The arm was put in extension with anterior and posterior splints and two compresses. The patient had to be admitted to the hospital about 10 days after the accident, with the absence of radial pulse, and the hand and arm cold and pale. The arm was examined under an anesthetic and the position of the epiphysis was fairly good. The presence of callus and swelling pressing on the brachial artery had caused the disturbed circulation. The arm was dressed at a little less than a right angle and the patient remained in the hospital for a month. When discharged the epiphysis was in fair position, and there was some motion of the joint. The motion of the joint subsequently increased and the arm regained its normal strength. [M.B.T.]

Gallstones—Four Recent Cases.—Hunter McGuire (*Virginia Medical Semi-Monthly*, November 24, 1899) reports 4 cases operated on for gallstone. Case I. A woman, aged 30 years, and unmarried, gave a history of frequent attack of pain beginning in the region of the gallbladder, then becoming diffuse over the abdomen, and finally centering in the right iliac region. There was no jaundice nor elevation of temperature. It was difficult to make a differential diagnosis between appendicitis and gallstone. An incision was made over the appendix and that organ was found inflamed and filled with fecal concretions. A second incision was made over the gallbladder, strong adhesions broken up, and a single gallstone found and removed. Case II. A woman, aged 41, and unmarried, gave a history of a slowly enlarging mass in the region of the gallbladder. There was tenderness but no acute colicky pain nor jaundice. There was at times an elevation of temperature which suggested pus. On operation the distended gallbladder was found to contain 6 ounces of fetid pus. A large stone was found and removed. Case III. A woman, aged 40, and married. She gave a history of a freely movable tumor, which could be rolled about in the abdomen, pushed down to Poupart's ligament and across to the left iliac region. She had never had jaundice, pain, tenderness, nor rise of temperature. Differential diagnosis between a loose kidney and a distended gallbladder was difficult. On operation the tumor was found to be a greatly distended gallbladder, which on being opened was delivered of almost a quart of clear mucus. A large stone was found and removed. Case IV. A woman, aged 35 years, and married. Gave a history of acute attack of abdominal pain, which recurred in a month. There was great tenderness at McBurney's point, some rise in temperature but no jaundice. She was operated upon for appendicitis but the appendix and all pelvic organs found normal. The hand was carried to the under surface of the liver and the gallbladder found impacted with stones. A second incision was made and the stones removed.—In all these cases the cut edges of the gallbladder were stitched to the parietal peritoneum at the wound, and a biliary fistula established, which healed by granulation. All the patients recovered. [M.B.T.]

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The Atlantic City meeting of the American Medical Association has been noteworthy because of the exceptionally delightful weather during the entire week, the absence of all complaint and discomfort as to hotel accommodations, and the harmony characterizing the work of general and special organizations. The scientific results have been up to the average. There was the same plethora of papers offered, again proving how necessary it is that the officers of sections should weed and choose and limit according to their judgment and conscience, and regardless of personal influences. Dr. Keen made an admirable presiding officer, and "politics" hardly put in an appearance at the general sessions. The schemer for office can hardly be killed off suddenly, but it was evident that a praiseworthy suspicion preserved the Association from the customary brutal public exhibition of himself. The members of the Association are evidently determined hereafter that the wirepuller must be rebuked, and that the office must seek the man.

Perhaps the greatest source of congratulation was the conspicuous absence of the "come-and-take-a-drink man." We have even heard that at the banquet of that remarkable organization, the Association of Medical Editors, apollinaris was the favorite beverage, and that a distinction between obscenity and wit was attempted. Prince Hal is plainly becoming conscious of his kingly mission and the day of the Falstaffs has passed. It is a pity that the prince has been so long in deciding this matter.

The President's address and the orations of Professors Rodman and Vaughan, to the publication of which in full in our present issue we call especial attention, were conspicuous examples of scientific and literary excellence.

The report of the Trustees showed great progress in the business and financial conditions of the Association, and in the success of its journal. If a friendly journal were permitted to make a suggestion it would be that the financial exhibit of the trustees should at last justify the abolition of the habit of mulcting the local profession for certain expenses which the Association itself should bear. This would most effectually stifle just complaint and leave the choice of meeting-places free and untrammeled by money considerations.

The registration up to Thursday evening was over two thousand.

Selfish use of subordinates by physicians occupying superior positions in hospitals and medical colleges is a growing abuse, which needs recognition and cure on the part of trustees and faculties. There has reached us the knowledge of several instances in which rankling hatreds have resulted from it, and deep injuries have been inflicted on the institutions. The plan of such men is to play with the natural ambition of subordinates and still hold them for 10 or 20 years in inferior places, opposing their promotion, and extracting from them a huge mass of work, all used for the personal advantage of "the chief." Clinical and literary drudgery is demanded, for which the drudge gets no credit, and the weary years slip away. Perhaps at last another servant is given the place, and the old one is ruthlessly dropped. Complaint is stifled by the excuse that the ability of the assistant was not up to the mark. How much better were a generosity and honor that should obviate politics, command unfailing gratitude, and cement together high and low in one guild of strivers for a common noble purpose. Helpfulness to young and capable men by advancing them in official positions never yet harmed a capable chief, the institution, nor the profession. Cunning selfishness always injures all three.

The rage for rapid operating is fortunately much less prevalent than in former times, especially before the introduction of anesthesia. However, there seem to be certain operators who still pride themselves more on rapidity of operating than on their judgment in the proper selection of cases for operation or on the results which they obtain. This state of affairs is deplorable, and should meet no encouragement from reputable physicians. No doubt there are emergency cases in which the rapidity of operation counts for much in the recovery of the patient, but these are the great exceptions. The three great factors which have made the success of modern surgery what it is, are: the introduction of anesthesia; the careful prevention of infection; and improved methods in the control of hemorrhage. Without anesthesia, of course, the two latter would be practically impossible, for they involve long, tedious operations with the utmost care in dissection and manipulation. The operator who is trying to break a record is almost certainly careless about the thoroughness of antisepsis or asepsis and about con-

troling all of the blood-supply in the way which is so essential for reducing shock and promoting rapid recovery. Morever, careful dissection and manipulation is practically impossible with a man who hurries his operation, and haste without good cause, if it results in death from neglecting to tie a small artery or from injury to the intestine or bladder, is criminal. The support of the surgeon comes chiefly from the general practitioner, and in selecting his surgical consultant the physician should be careful to choose a man who places the value of his patient's life far above any foolish pride in rapidity or showiness of operation.

Famine in these days of steamships and railways and in a country that is naturally highly productive is a phenomenon to arrest the startled attention. In this country there are thousands of people, with incomes of hundreds and even of thousands of dollars a day, while in India two cents a day would prevent a death from starvation. According to late reports there are in that country about six millions of famishing men and women on the government relief-work. The magnitude of this fact and the awfulness of the suffering is apalling. Then when we inquire into the fundamental causes of the Indian famine we are shocked to find that it is due to the beneficence of English rule. In establishing peace the British government has prevented the hideous wars whereby the increase of population was kept down. Even famine doubtless produces far less suffering than the former wars and brutality. But without these wars the population increases each year by many millions. The Malthusians may smile grimly at the theorists who fondly think the Master's law can be explained away by science and civilization. It might do so were it not for prolificity. But the smile does not lessen the pathos of the terrible fact. After the *pax Britannica*, after law and right have worked their fateful destitution, one finds that the next most powerful cause of famine is disease, and the rapidity with which famine produces disease hurriedly completes the vicious circle. There are today a thousand million people in the world whose greatest civilizing need is medical missionaries. As a profession we are doing nothing to supply this need. We will not even give medical education free to those who beg to give their whole lives in self-sacrificing medical labor.

Pathologic Conditions Found in Meat Inspection.—In the excellent work done by the partly organized Section on Pathology of the American Medical Association at Atlantic City, a most interesting and valuable contribution was that of Dr. D. E. Salmon, Chief of the U. S. Bureau of Animal Industry. He presented fresh specimens got at the various principal abattoirs of the United States, and brought in cold storage to Atlantic City, of the principal diseases found in meat-inspection. This exhibit of the actual diseases as seen in their natural condition was especially instructive t the members of the Association. Dr. Salmon's result are based upon the inspection of more than 64,000,00 animals at time of slaughter. The Federal meat-in spection service has been in operation about nine year and has reached a stage of development and an approacl to uniformity of procedure which justifies the utiliza tion for scientific purposes of its records and of some o the material which is found.

To give some idea of the frequency of disease in ou meat-producing animals, statistics have been prepare covering two years, ending June 30, 1899. The num ber of cattle examined was 8,831,927. Of these, 19,45 entire carcases, and 23,106 parts of carcases wer condemned. Taking the parts of carcases, 12,641 wer affected by bruises or injuries, 7,120 by abscesses, 3,02 by actinomycosis, 268 by tuberculosis, 11 by tumors, by hydatids, the remainder by circumscribed inflamma tion. Of the carcases wholly condemned, 7,015 wer affected with tuberculosis, 5,172 by actinomycosis, 2,53 by anemia, emaciation, etc., 2,227 by bruises and in juries, 598 by septicemia, 384 by pneumonia, 268 by peritonitis, 222 by pyemia, 212 by icterus, 205 by ab scesses, 166 by Texas fever, 95 by advanced pregnancy 90 by enteritis, 44 by cancer, 42 by gangrene, 24 by metritis, 15 by recent parturition, 1 by anthrax, and the remainder (144) by tumors and inflammations o various organs.

The number of sheep inspected was 11,110,776. O these, 8,394 carcases were wholly condemned and 65 were partly condemned. Of those partly condemned 379 were affected by bruises and injuries, 133 by abscesses, 91 by hydatids, 41 by the *Œsophagostoma columbianum*, 4 by scabies, and 3 by tuberculosis. Of the entire carcases, 2,345 were affected by anemia and emaciation, 1,696 by bruises and injuries, 667 by tuberculosis and pseudotuberculosis, 550 by abscesses, 464 by pneumonia, 422 by uremia, 371 by septicemia 370 by icterus, 256 by pyemia, 204 by pleurisy, 171 by ascites, 154 by scabies, 131 by advanced pregnancy 118 by hydatids, and the remainder (395) by local inflammation, fever, parasites, tumors, and cancer.

The number of hogs slaughtered under inspection was 44,841,779. Of these, 106,555 carcases were wholly condemned, and 58,491 were condemned in part. The carcases, parts of which were condemned, were affected as follows: Bruises or injuries, 37,167; tumors, 7,853; abscesses, 7,338; hydatids, 1,971; tuberculosis, 1,583; mammitis, 1,313; pleurisy, 1,119; actinomycosis, 47. The carcases wholly condemned were affected as follows: Hog cholera and swine plague, 85,904; tuberculosis, 4,021; icterus, 2,298; pyemia, 2,065; abscesses 1,847; pneumonia, 1,709; advanced pregnancy, 1,570; septicemia, 1,463; bruises and injuries, 1,294; tumors, 1,099; inflammation of organs in the abdominal cavity, 1,500; anemia and emaciation, 536; recent parturition, 321; fever, 267; scabies, 113; actinomycosis, 43, *Cysti-*

cercus cellulosæ, 60; hydatids, 23; cancer 9. The remaining 313 were mostly affected by skin-diseases, gangrene, and inflammation of the various organs.

The number of condemnations per 10,000 animals slaughtered was:

	CATTLE.	SHEEP.	SWINE.
Whole carcases ...	22	7.5	24
Parts of carcases	26	0 6	13
Total	48	8.1	37

Of the whole carcases of cattle condemned 26% were affected with actinomycosis and 36% with tuberculosis. Of the parts of carcases of cattle condemned 13% were affected with actinomycosis and 1% with tuberculosis. Nevertheless these diseases are surprisingly rare, as only 8.1 carcases per 10,000 animals were condemned for tuberculosis, and 9.2 per 10,000 for actinomycosis. Tuberculosis is one of the principal diseases of swine, but is found only in 1.3 carcases per 10,000 animals. Tuberculosis in sheep is a rare disease. Including tuberculosis and pseudotuberculosis, which are given together in the reports, there are specified but 6 per 100,000 sheep inspected.

The beef-cattle which come from large abattoirs are singularly free from tuberculosis, only 1 animal in 1,500 or 2,000 being affected to an extent to cause condemnation of any part of the carcase. Dairy cattle may be affected to the extent of 5% to 10%! In Europe, the slaughter-house statistics show from 20% to 50% of all cattle slaughtered to be affected with tuberculosis.

The specimens of special interest are those showing tuberculosis localized and generalized, actinomycosis of various organs, pseudotuberculosis of sheep, the nodular diseases of sheeps' intestines (esophagostoma), *Cysticercus bovis*, *Cysticercus cellulosae*, and echinococcous disease (hydatids).

Inaccuracies in References.—Although we have before alluded to this subject, repetition is hardly likely to become unnecessary. Among the crimes of which the medical writers are only too frequently guilty that of inaccurate reference is the most exasperating. It is easy to understand how this occurs. It is unfortunately true that many articles that are quoted are seen only in abstract, and unfortunately there are many writers who lack the moral courage to state this fact. Whenever this is the case, the possibilities of inaccuracy are doubled. It is bad enough when only the page or volume is at fault, but when, as is unfortunately not uncommonly the case, the journal itself is miscalled, the difficulties of the searcher become almost insuperable. It should be the invariable rule that writers either refer to the original article and take particular pains to see that the reference is accurate or, if quoting from an abstract, give the reference to the abstract as well as to the original article itself in order that the blame for inaccuracy may be placed where it belongs. It is not even sufficient to do as Oppenheim in his recent article upon tumors of the brain has done with commendable frankness, that is, to state that a certain number of the articles have been read only in abstract, for he gives the original references and no indication as to where the abstract from which he quotes may be found.

The Case of Ward vs. St. Vincent's Hospital.—This important case has just been decided in New York in a trial by jury, and a verdict of $10,000 rendered for the plaintiff. We have already commented on the case several times, and now that it is decided we merely wish to call attention once more to its important points. The plaintiff, a woman, entered the hospital as a private patient, agreeing to pay $25 a week for a room and $3 a day for a trained nurse. While the patient was under the influence of ether for the purpose of undergoing an operation, the nurse, who was not a graduate but only a pupil, placed a hot-water bag against her leg and caused a severe burn. This burn kept the patient in bed for a long time, it is alleged, and ultimately required an operation; and has resulted, so it is stated, in permanent disability. At the first trial the judge decided in favor of the hospital on the ground that it is a charitable institution; but this decision was reversed by the appellate court, which held that the hospital in this case was working for profit and could be held for breach of contract. This decision had the effect of remanding the case to a lower court for trial; and now, after long delay, and two trials before a jury, a verdict has finally been rendered in the plaintiff's favor.

If we are correctly informed, this case establishes an important precedent, since no similar verdict has ever before been rendered against an endowed hospital, conducting a large charitable work. The prejudice in favor of such hospitals is undoubtedly very great in the courts, as well as outside of them; but this important verdict will be a notice to them that when they work for profit (as most of them do) they are liable for breach of contract just as is any other corporation. About the substantial justice of this decision we presume that most reasonable men will not cavil. The case, as reported, appears to have been a most aggravated one; and the hospital authorities, while having a measure of our sympathies for suffering so severely through the fault of an employe, would perhaps have acted more wisely if they had promptly recognized their moral and legal obligations instead of attempting to shield their institution behind a merely sentimental plea. Hospital authorities in some instances have the commercial instincts well developed, and they are not necessarily to be blamed therefor. There is a constantly increasing demand upon them by the affluent classes for their services. They encourage this and profit by it, and members of the profession encourage it and profit by it, too. If a part of a hospital's work is to be conducted as a professional business for gain, the

fact should be recognized that the institution assumes responsibilities as well as reaps profits.

Medical Sermonets, No. 17. Progress and Compromise.—There are two classes of minds that busy themselves with bettering the world. Roughly, they may be called the compromisers and the noncompromisers. The rest of the world, describe them as one will, are not interested in bettering anything, either world or self, being rather devoted to the arts of laziness and cunning. Both the compromisers and the noncompromisers, at least at first, conceive of progress and reform as desirable and possible, and both set about its realization; of course, they soon learn that neither the world nor human nature can be made over suddenly, that only slow and even circuitous advance is feasible, and that circumstance and condition must modify methods and delay consummations. So far both have kept together; now, however, the noncompromiser begins to grow wild-eyed and loses his temper; he despairs, snarls, criticises, becomes nihilist, spouter, pessimist, fad-rider—in a word deserts the cause, because it cannot be brought about as if by miracle, and because he is too shallow to study facts, too conceited to modify his own mental bias and prejudice, too indifferent to the ideal to pursue it through difficulties. His little flirtation with the goddess was the boys' calf-love, soon degenerating into puerile pouts and selfish sulks at her coldness and at the first glimpse of the trials he must undergo. But the compromiser at his first rebuff begins a study of the facts and conditions, and seeks to utilize or to circumvent them. If he is a true man he makes a sharp distinction; he will not compromise as to the ideal, he will not abate his love for it, or his belief in its attainability, but he will compromise as to the means of reaching it. This fact distinguishes him from his hobby-riding and nihilistic brother. The one, frightened by the task, despairs of the ideal, and "saves his face" by egotism or lazy renunciation, or by groaning and railing at the evil of the world. The other, more brave and less selfish, clings to the glory of the ideal and sturdily sets out to attain it. The compromise of the first consists in renunciation and defeat; he compromises both as to ideal and method. The second compromises only as to method while clinging to the ideal and determined to bring about its realization however difficult or postponed; *by him alone is progress effected.* The other is a worse foe of medical reform and of progress than the out-and-out quack. There is more hope and help to be got from the wizard-oil man and the patent-medicine humbugger than from the crazy fad-rider and extremist who comes near to making the words progress and ethics a stench in the nostrils of all good and sensible men. For the downright quack may be converted, but neither reason nor religion has any influence upon the man so crazed with conceit that he would wreck his profession or the world rather than change his opinions or adapt them to the conditions of success.

Apply this truth to any aspect of professional science and life, and illustrations throng before the eyes. Apply it, for example, to medical journalism.

Calendar of Meetings of Philadelphia Medical Societies for the week ending June 16, 1900:

Thursday, June 14—Pathological Society.

Death of Dr. Truman W. Miller.—Dr. Miller died May 31. He was 60 years of age. He was born in Seneca, N. Y., March 2, 1840. He received his early education at Obart College, Geneva, N. Y., from which he was graduated. Subsequently he studied at the College of Physicians and Surgeons in New York City. In 1862 he was appointed medical cadet, U. S. A., and was promoted to A. A. Surgeon in 1863. The same year he received his degree of M. D. from the Geneva Medical College. For a number of years he was surgeon to the Cook County Hospital; consulting surgeon to St. Joseph's, the German, and Alexian Brothers' Hospital; surgeon to the Maurice Porter Memorial Hospital, and surgeon of the Grand Trunk Railway Company and the Union Traction Companies. He was a member of all of the local medical societies, the State Medical Society, and up to the time of his death was a trustee of the American Medical Association.

Society Report.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J June 5–8, 1900.

[Specially reported for THE PHILADELPHIA MEDICAL JOURNAL.]

General Sessions.

[Reported by H. L. B.]

FIRST DAY.

THE general sessions of the American Medical Associatio were held in the Marine Hall of Young's Pier, DR. W. W KEEN, of Philadelphia, presiding. REV. FREDERICK J. STAN LEY opened the session with prayer. DR. J. F. MARCHANI of Canton, O., in behalf of the physicians of his city, the presented to Dr. Keen, the president of the Association, handsome souvenir carved from wood taken from the ol McKinley homestead in Canton.

Governor Voorhees was to have delivered the first addres but was absent, and the Acting Governor of the State an President of the State Senate, HON. H. M. JOHNSON, we comed the Association. MAYOR F. P. STOY and DR. THOMA S. REED, of Atlantic City, also made brief addresses of we come.

DR. PHILIP MARVEL, of Atlantic City, read the report of th committee of arrangements, and DR. WM. J. HERDMAN, Ann Arbor, Mich., in his report of the general business com mittee, presented several resolutions relating to the working of the Association, which were adopted. The text of th **annual address** of the president of the Association, D W. W. KEEN, which was delivered at this time, appears i full in this issue of the JOURNAL.

The report of the treasurer, DR. HENRY P. NEWMAN, Chicago, showed a gratifying increase in membership an receipts. The receipts for the year ending December 3 1899, were over $39,000. The cash then on hand amounte to $13,556.56, and this, together with a loan of $3,000 an $10,000 in Government bonds, gave a total of assets $27,396.86.

The secretary, DR. GEO. H. SIMMONS, of Chicago, reporte that a copy of the Code of Ethics had been given to ever medical student graduated this year. He recommended th general adoption of the metric system. A letter from th secretary of the Wayne County (Mich.) Medical Society urging interstate reciprocity in the matter of licenses t practise medicine, was read.

DR. U. O. B. WINGATE, of Milwaukee, reported for th Committee on Department of Public Health that the mai work of the committee had been in reference to quarantin regulations and legislation.

DR. H. L. E. JOHNSON, of Washington, D. C., reported fo the Committee on National Legislation, mentioning a num ber of bills recently presented to Congress, which the com mittee had favored.

DR. E. ELIOT HARRIS reported for the Special Committe on Revision of the Constitution and By-Laws.

DR. REYNOLDS, of Kentucky, made a motion that two mem bers from each of the various sections and the army an navy corps be appointed for the third Pan-American Medic Congress, to be held in Cuba this year.

By resolution offered by DR. WM. J. HERDMAN, and adopte the name of the General Business Committee was changed t General Executive Committee.

Dr. Edward Jackson, of Denver, Col., was elected on th Committee of Prize Essays for ensuing year. The Executiv Committee urged a decrease in the number of papers o section programs, which are often so overcrowded.

SECOND DAY.

The **Oration on Surgery** was delivered by DR. W. RODMAN, of Philadelphia. The full text of this appears i this issue. The **Oration on State Medicine,** delivere by DR. VICTOR C. VAUGHAN, of Michigan, is also produced i full in the JOURNAL for this week.

After the report of the General Executive Committe

Dr. T. J. Happel, of Tennessee, read the report of the Board of Trustees. This report showed the finances of the Association to be in an excellent condition. The receipts for the year ended December 31, 1899, were $109,115.33, the total expenditures were $93,609 40, of which $77,641.01 was for the Journal of the Association. The total amount invested in United States bonds and the Indianapolis loan is $13,812.50, and the total cash on hand was $14 355.51, making an aggregate of $28,168 01 in the treasurer's hands January 1, 1900. Recent expenditures, however, leave a real balance at present of only $4,131.36 available for debts.

The report of the Committee on the American Medical Association Medal was read by Dr. George M. Gould, of Philadelphia. Six essays were submitted to the committee, and the one recommended by the committee was entitled **Quantitative Tests for Proteolysis,** by A. L. Benedict, A.M., M.D., of Buffalo, New York. The Association accepted the committee's report. Dr. Jackson was appointed on the committee for the ensuing year.

The report of the award of the N. Senn Gold Medal was next read by Dr. W. L. Rodman, of Philadelphia. The winner was the author of the essay entitled **Exstrophy of the Bladder,** Dr. F. Frederick Connell, of Chicago.

The Committee on the Reorganization of the Army and Navy Medical Corps, of which Dr. Thomas H. Fenton, of Philadelphia, is chairman, failed to report.

Dr. J. C. Wilson, of Philadelphia, chairman of the Rush Fund, reported new contributions during the year, from various medical societies, of $938 01, and a total on hand of $11,330.05.

Third Day.

After reading of the minutes and announcements by P. Marvel, of the Committee of Arrangements, J. M. Allen, the third vice-president, took the chair. John A. Witherspoon, of Nashville, Tennessee, delivered the **Oration on Medicine.** This will be published in a future number of The Philadelphia Medical Journal.

The secretary of the General Executive Committee next reported. The resolution of L. B. Tuckerman, that the National Legislative Committee, in conjunction with the Special Committee on the Reorganization of the Army and Navy Medical Corps, cause to be drafted a bill providing for adequate instruction in hygiene and sanitation in the National military and naval academies, was adopted.

The recommendation that the prize medal be open for competition to members of the Association only was adopted.

The committee endorsed the action of the Prize Medal Committee, and accepted the medal offered as a model for future medals. It was resolved to appropriate $500 annually for the encouragement of scientific research, provided no one individual prize exceed $100.

The name of the Section on Neurology and Medical Jurisprudence was changed to Section on Nervous and Mental Diseases.

The Report of the Nominating Committee, read by Dr. Stone, of Minnesota, was unanimously adopted, and the following officers were declared elected for the ensuing year:

President, Charles A. L. Reed, of Ohio; first vice-president, A. W. Calhoun, of Georgia; second vice-president, Col. Woodhull, of Maryland, U. S. Navy; third vice-president, Philip Marvel, of New Jersey; fourth vice-president, W. E. Quine, of Illinois; treasurer, Henry P. Newman, of Illinois; secretary, Geo. H. Simmons, of Illinois; assistant secretary, Wm. Davis, of St. Paul; librarian, Geo. Webster, of Illinois.

Board of Trustees.—Miles F. Porter, of Indiana; E. Fletcher Ingals, of Illinois; W. L. Rodman, of Pennsylvania; to fill the vacancy caused by the resignation of Charles A. L. Reed, James M. Mathews, of Kentucky.

Judicial Council.—James R. Guthrie, of Iowa; G. B. Gillespie, of Tennessee; R. C. Moore, of Nebraska; Ida J. Heiberger, of District of Columbia; John B. Roberts, of Pennsylvania; Charles L. Rodman, of Connecticut; L. L. Jepson, of West Virginia.

The Address on Surgery—John A. Wyeth, of New York; the Address on State Medicine—John M. Kober, of District of Columbia; the Address on Medicine—N. S. Davis, Jr., of Illinois.

Place of Meeting—St. Paul, Minnesota.

Committee of Arrangements—John F. Fulton, chairman, of St. Paul.

The newly elected president, Dr. Reed, being called away by telegram, was now installed and made a short address of acceptance. The special committees followed. The Committee on Revision of Constitution and By-Laws reported. The resolution that men graduating from four-year medical schools only should be eligible for membership to the Association after 1901 was adopted. Under miscellaneous business Dr. Denslow Lewis, of Chicago, brought before the Association the matter of the publication of his paper, read at Columbus last year, and made a motion that the Association should vote a special order for its publication in the *Journal of the American Medical Association.* The matter was referred to the General Executive Committee to be reported Friday.

Fourth Day.

After the reading of the minutes of Thursday's session, and report of the Committee of Arrangements, the elections of officers of sections was announced as follows:

Surgical.

Chairman, A. J. Ochsner, Chicago; secretary, Martin B. Tinker, Philadelphia.

Diseases of Children.

Chairman, Samuel W. Kelley, Cleveland; secretary, Wm. E. Darnall, Atlantic City.

Diseases of Women.

Chairman, Harry P. Neuman, Chicago; secretary, C. S. Bonnifield, Cincinnati.

Neurology.

Chairman, W. P. Tomlinson, St. Peter, Minn.; secretary, F. S. Pearce, Philadelphia.

Ophthalmology.

Chairman, J. A. Lippincott, Pittsburg, Pa.; secretary, E. C. Ellett, Memphis, Tenn.

Materia Medica.

Chairman, N. S. Davis, Jr., Chicago; secretary, J. N. Upshur, Richmond.

Laryngology.

Chairman, John Nahand Mackenzie, Baltimore; secretary, George C. Stout, Philadelphia.

Cutaneous Medicine.

Chairman, W. L. Baum, Chicago; secretary, R. R. Campbell, Chicago.

Stomatology.

Chairman, R. R. Andrews, Cambridge, Mass.; secretary, Eugene S. Talbot, Chicago.

Practice of Medicine.

Chairman, J. M. Anders, Philadelphia; secretary, W. Britt, Philadelphia.

Business Committee.

A. E. Baldwin, Chicago; G. V. I. Brown, Milwaukee; M. H. Fletcher, Cincinnati.

Physiology and Dietetics.

Chairman, Elmer Lea, New York City; secretary, R. Harvey Cook, Oxford, Ohio.

State Medicine.

Chairman, Ernest Wende, Buffalo, N. Y.; secretary, J. H. Hurty, Indianapolis, Ind.

Dr. Denslow Lewis, of Chicago, brought up the matter of the publication of his article on **Gynecologic consideration of the sexual act.** The executive committee reported against the publication of the article, which report, after considerable discussion, was adopted. The committee

also reported in favor of continuing the pathologic exhibit from year to year, under charge of the newly-formed pathologic section, and that $500 be appropriated for the exhibit. The resolution was adopted.

The pathologic exhibit was one of the features of the meeting. It comprised over 1500 specimens and photographs, under the direction of Dr. Frank B. Wynn, of Indianapolis, secretary of the unofficial committee on pathologic exhibit, and of the provisional pathologic section. The idea originated three years ago with the Indiana State Medical Society, and was this year, for the first time, made part of the work of the Convention, though unofficially, and will hereafter be a permanent part of the work, under the newly-formed pathologic section. The exhibition is intended as a practical, interesting and instructive object-lesson to the members of the Association, and embraces a large number of specimens of almost every pathologic condition. The chief features were the collection of gross specimens of the lungs, heart, liver, kidneys, intestines, etc.; the 95 specimens of diseased meats, showing trichinosis, actinomycosis, cholera, etc.; and a large collection of photographs and skiagraphs, the microscopic and bacteriologic exhibit, and the sanitary exhibit of the Marine Hospital. The specimens were furnished by colleges and specialists from all over the country.

The work of the National Committee on Legislation was approved. This committee has recommended a number of bills lately before the Senate, and suggested a number of new bills regarding national medical affairs. Adjourned.

Section on the Practice of Medicine.

[Reported by J. M. S.]

FIRST DAY.

The Chairman, GEORGE DOCK, of Ann Arbor, delivered the Chairman's address, which appears in this issue.

GEORGE M. GOULD, of Philadelphia, read a paper entitled **A system of personal biologic examinations the condition of adequate medical and scientific conduct of life,** which will appear in a future number of the PHILADELPHIA MEDICAL JOURNAL.

C. N. B. CAMAC, of New York City, read a paper entitled **Hospital and ward clinical laboratories.** Rarely is any one finding in medical science the open sesame to the secrets of disease. The clinical laboratory makes no claim other than that it may add its fraction to the whole in the estimation of the changes in disease processes. The workshop of the clinical diagnostician is the sickroom, the bedside, and the ward. Those who object to the establishment of clinical laboratories do so on one of the following grounds: 1. Diagnosis is satisfactorily made without these tests. 2. The laboratories require too much space. But it is found that an area of 6 by 6 feet or at most 10 by 10 feet is ample and all that is requisite is a table and a window. Gas and running water are helps; but the alcohol-lamp and the ordinary wash-bottle can be made to do. 3. The cost of establishment and maintenance is too great. Three hundred dollars will fully equip one of these ward laboratories, including a microscope with an oil-immersion lens and a cabinet for instruments and reagents. This laboratory should be kept clean on account of its proximity to the beds of the patients. Fifty dollars per year is ample to cover the running expenses. 4. The tests require too much time and are too difficult. In order to overcome this objection internes should be appointed to all hospitals, whose sole duty it should be to attend to this side of ward work. Among the advantages of this method of laboratory work may be mentioned: 1. The increase in the number of competent observers that such routine work would develop. 2. The production of accuracy in diagnosis and in treatment. 3. The accurate taking of records. Such a method may, with profit, be applied to dispensaries. In this way clinical pathology will become the link between the clinician and the pathologist.

M. HOWARD FUSSELL, of Philadelphia, read a paper entitled **Examination of the blood, its value to the general practitioner.** The vast majority of physicians do not make blood-examinations unless they are suggested by the consultant. In some cases, the blood-examination is as important and in other cases it is more important than the examination of the urine, and it is already acknowledged that an examination of the urine is necessary in every case. As a general practitioner, he examines the blood in all obscure cases. As a result of such an examination: 1. The physician will avoid administering iron to a patient because the face is pale; since pale people are not all anemic. 2. It will be found that patients with flushed faces often have decided reduction of the hemoglobin and of the number of red blood-corpuscles. 3. Patients with cardiac and pulmonary symptoms are sometimes diagnosed as cases of organic disease, when a blood-examination would reveal chlorosis. 4. Blood-examination will positively indicate the presence or absence of malaria. 5. The diagnosis between leukemia and other organic conditions, such as tuberculosis and carcinoma of the stomach, may be made. 6. The blood-examination combined with the Widal test will diagnose between typhoid fever and malaria; or, possibly, show a combination of the two diseases. 7. Counting the leukocytes will often give satisfactory results in clearing up obscure conditions. The physician does not need to take a microscope to the bedside of the patient: if the diluting tube is surrounded by a rubber-band the blood may be preserved for a long time and the counting may be done at leisure. WILLIAM OSLER, of Baltimore, said that he had been impressed by the value of the ward laboratories. They are essential to the hospital and to the dispensary. The benefit of a clinical laboratory to the patient in the dispensary, where the diagnosis should be made, is inestimable.

SIMON FLEXNER, of Philadelphia, read a paper entitled **Dysentery.** The paper treated of the results of the study of cases of dysentery made in the army hospitals in Manila during the summer of 1899. The dysentery in the tropics does not conform to a single type. It is a mistake to think that tropical dysentery is always amebic in origin. Three groups of organisms have been thought to be the cause of the disease: (1) The pyogenic cocci; (2) the Bacillus coli communis; and (3) the Ameba coli. Amebic dysentery is not confined to the tropics, and the status of the Ameba coli in the production of the disease has undergone a change because the organism can be found in the normal stools. Tropical dysenteries occur in which the Ameba coli is not present. These cases are acute in character, lasting from 6 to 8 days, or they may run into a chronic form. Secondary lesions, such as abscess of the lungs and the liver, are rare. A bacillus was found in these cases which was not the Bacillus coli communis. This organism is not found in the normal intestine and a blood-serum from a patient with the acute form of the disease agglutinates a pure culture of the organism. In the early stages of the disease the organism is present in large numbers; but, as the disease becomes more chronic, it diminishes in number, and later may disappear entirely. The bacillus agrees with a microorganism obtained from the stools of patients suffering from dysentery in Japan by Shiga, the Bacillus dysenteriæ. The lesions of the acute form of dysentery are different from those of the ordinary amebic dysentery. Small animals may be rendered immune and animals that were immunized in November last are still alive. It seems to be possible to produce a preventive serum.

JOHN H. MUSSER, of Philadelphia, read a **Note on tropical dysentery.** A soldier, aged 32 years, had been in Puerto Rico for 15 months, and for 8 months of that time had had dysentery. The disease was characterized by colitis and proctitis, prostration and emaciation, pigmentation of irregular degree but of uniform extent. The skin presented many boils and purpura was present. The stools contained no fresh blood and but little mucus. The mouth had the appearance of a malignant case of scorbutus. There was no periodicity in the intestinal symptoms. The blood of this patient agglutinated a pure culture of the bacillus of Shiga which was brought by Flexner from Manila. The patient died and at autopsy it was found that the anatomic changes in the intestine were very slight. WILLIAM OSLER, of Baltimore, had also seen a case in the person of a soldier from Puerto Rico. The blood of this patient also agglutinated the bacillus of Shiga. An attempt was made to agglutinate this organism with blood-serum from cases of amebic dysentery without result. This seems to indicate that there are 2 types of dysentery. He thought that the epidemic of dysentery that is at present raging in Japan might be like those epidemics that are seen in jails and hospitals in this country occasionally. NORMAN BRIDGE, of Los Angeles, asked Dr. Flexner whether typhoid fever might not occur coincidentally with this form of dysentery? Or, if this does not occur, will the blood of the dysenteric

patient agglutinate the typhoid bacillus? He had seen a patient from Cuba with symptoms like those of Musser's patient, whose blood gave a perfect Widal reaction. The blood of another patient with similar symptoms failed to give the reaction. HUNTER, of Minneapolis, had seen 2 cases of dysentery in one of which the Ameba coli was found and in the other of which no amebae were found. The symptoms were similar to those of Dr. Musser's patient. WOODHULL, of the United States Army, said that it was the policy of the army surgeons to return dysenteric patients to the United States as soon as possible, because they did not convalesce rapidly in the Philippines. MURPHY, of Missouri, had seen 3 cases of amebic dysentery in patients who had not been away from the United States. VICTOR C. VAUGHAN, of Ann Arbor, had studied cases of dysentery bacteriologically and had only found the Bacillus coli communis, although these studies were made when technic was not as exact as at present. In the camps in the Southern States during the Spanish War there were cases of dysentery characterized by the passage of fresh blood. The number of chronic cases, however, was small. During the Santiago campaign, the dysenteric patients did not pass fresh blood. These cases were apparently benefited by strychnin hypodermically. WILSON, of Pennsylvania, had seen 2 cases in soldiers of the 10th Pennsylvania Volunteers. The patients did not pass blood and did not have fever. The disease in one lasted for 6 months. FLEXNER said that the epidemics in jails and hospitals may be identical with the disease that he had seen in Manila. It is important that in every epidemic now, no matter how small, bacteriologic examination should be made and the agglutinating properties of the blood be studied. He offered to give cultures of the bacillus of Shiga to anyone who was interested in the work. The organism looks very much like the Bacillus typhosus. There is no reason why typhoid fever and dysentery might not exist at the same time. There is undoubtedly more than one kind of tropical dysentery. In the type of the disease under discussion, liver complications are uncommon, while they are very common in the amebic form. The Bacillus coli communis can do damage to the intestines, but it is probably not responsible for epidemics of dysentery. MUSSER said that the cases of tropical dysentery under his care were afebrile.

J. C. WILSON, of Philadelphia, read a paper entitled **Serumtherapy in croupous pneumonia.** Croupous pneumonia is due to infection with the pneumococcus through the respiratory tract. Toxins may enter the circulation and produce a septicemia. The sera produced up to the present are antiinfectious, although it is hoped by DR. MCFARLAND that in time a serum will be found that will benefit the symptoms. In the German Hospital, in Philadelphia, the antipneumococcic serum was used in 18 cases of croupous pneumonia, but it was not used to the exclusion of other treatment. The injections were given in the majority of instances immediately after admission to the ward. There were 2 women and 16 men in whom the treatment by injections of serum was used. They varied in age from 15 to 48 years. They were admitted to the ward from the first to the sixth day of the disease. The temperatures ranged from 101.2° to 105°; the pulse-rate varied between 90 and 128. Albumin was present in 15 cases, casts in 9, and blood in 1. There was leukocytosis in 13 cases. The pneumococcus was found in 15 of the cases. The serum, which varied between 7 and 53 days in age, was given hypodermically over periods varying from 6 hours to 8 days. Total doses of from 22 cc. to 460 cc. were given. The effects seemed to be better when a recent serum was used. After the injections the temperature became lower, the pulse slower, the pain less, and the patient felt better. Four of the patients died. Defervescence occurred by crisis or by rapid lysis. The duration of the attack did not seem to be lessened or the defervescence hastened. In a series of 20 cases treated at the Pennsylvania Hospital at the same time without serum, four died. A. O. J. KELLY, of Philadelphia, reported the case of a man, an alcoholic, aged 35 years, who was admitted on the fourth day of an attack of pneumonia of the right lower lobe. On the day after admission the left lower lobe became consolidated, and 20 cc. of antipneumonic serum were given every 3 hours for 7 doses. The leukocytes were at first diminished, but later increased. The autopsy confirmed the clinical findings. The serum was of no avail in this case. ROCHESTER, of Buffalo, gave serum from a blister on a patient that was convalescent from pneumonia to a patient ill with the disease. There was improvement for 24 hours. He thinks that the evidence points to the future development of a therapeutic agent of value. NEWTON, of New Jersey, asked for the details of preparation of the serum. JOSEPH MCFARLAND, of Philadelphia, said that he regretted that up to the present time there is no method of measuring the strength of the serum. The serum is prepared by administering live cultures of the pneumococcus to horses. The organism is difficult to grow, and the measure of the toxin is not accurate. The organism is kept virulent by growing it alternately on artificial culture media and in the rabbit. The nature of the serum is uncertain; it may be antitoxic or it may be antimicrobic, possibly the latter. It is probable that the serum may be used for other microorganisms than the pneumococcus. He believes that the use of serum from convalescents is unreliable. It is possible that the serum should be injected into the bloodvessels in order to produce the desired result.

W. BLAIR STEWART, of Atlantic City, N. J., read a paper entitled **The influence of sea-air and sea-water on disease.** The purest air is on the sea. The presence of iodin is doubtful, but ozone is surely present. Atlantic City is on an island of pure sand, 5 miles from the mainland and 20 miles from tidewater. The Gulf Stream makes a difference of from 10 to 20° in the temperature as compared with other places in the country. The great effects of the air are seen on the nervous system and on the digestion. The author spoke of the class of patients that are benefited by residence in such a place. Salt-water baths are in reality medicated baths and should only be used in an intelligent manner and, for patients, under the direction of a physician. He spoke of the physiologic effects of surf-bathing. The least exhausting form is to lie in the water between the shore and the point of breaking of the waves. A person should leave the bath when the exhilaration is at its height. Surf-baths should be taken 3 hours after eating, and a meal should not follow until reaction is complete. Warm salt-water baths should be taken in a warm room and should not last longer than 10 minutes.

SECOND DAY.

T. J. HAPPEL, of Trenton, Tennessee, read a paper entitled **Pseudo (?), or modified (?) smallpox.** The paper was based on the personal observation of 200 cases and on the inspection of 100 additional cases as county health-officer. In the first cases seen none of the patients had been vaccinated. The premonitory symptoms of backache, headache, and fever were present; but as soon as the eruption appeared the fever disappeared and the patients felt perfectly well except for some slight discomfort caused by the presence of the eruption, which in some of the cases was confluent in character. All patients that were exposed were vaccinated; but only two escaped the infection. Patients that were vaccinated in childhood also contracted the disease. The pustular stage of true smallpox was absent; there was no itching; there were no crusts, no scars, and no mortality. The author considered the disease not to be true smallpox. JAMES J. WALSH, of New York, called attention to the fact that Senator and his pupils believed in the existence of a disease that is intermediate between varicella and variola. He thought that these cases might correspond to such an intermediate stage. JAMES, of Missouri, had seen similar cases, but in them he was able to demonstrate the efficiency of vaccination in preventing the contraction of the infection. CHAPMAN, of Ohio, said that he had seen the disease. According to his experience the majority of the patients were adults and the majority had been vaccinated during childhood, but not since. He does not think the disease is varicella and is of the opinion that, unless vaccination is systematically carried out, the country will experience a severe epidemic of smallpox. CORLETT, of Ohio, believes that chickenpox and smallpox are distinct diseases and that there is no intermediate stage. WOODWORTH, of Ohio, said that vaccination protected in the cases seen by him. He called attention to the fact that cases of smallpox following vaccination often resemble varicella. STEWART, of Philadelphia, said that he considered that the cases reported by Dr. Happel were not cases of smallpox, nor were they cases of chickenpox; but that they should be classed as some form of vesicular exanthem. HAPPEL said in closing that none of the cases presented the typical

appearance of smallpox. He wished to go on record as a thorough believer in the efficiency of vaccination as a preventive measure against smallpox.

EUGENE WASDIN, of the United States Marine-Hospital Service, read a paper on **Yellow fever, its nature and causes.** He believes that the Bacillus icteroides is the cause of yellow fever. The infection takes place through the respiratory tract and secondary infection may then soon arise. The toxin produced by the growth of the bacillus has a marked potency and a preventive serum is probably possible. The Bacillus icteroides was present in 85.7% of autopsy cases. The bacillus produced the disease in the lower animals. The Bacillus X of Sternberg and the Bacillus icteroides are distinct microorganisms; the former being, probably, a member of the colon group. The domestic animals may be a factor in the spread of the disease, since it has been carried spontaneously from inoculated to noninoculated animals. The Bacillus icteroides is an artificially pathogenic organism; it is profoundly influenced by temperatures at or below the frost mark, and at such temperatures loses its toxic, septic, and specific properties. This fact explains the cessation of the disease on the appearance of frost. The disease is airborne, it first attacks the respiratory tract and the resulting intoxication produces the first symptoms. The organism may then pass into the circulation and develop its septicity. The fulminating cases are sterile because the bacillus has not passed into the blood. The guineapig is resistant to the infection, but other rodents, particularly rats, are susceptible. These animals may be active in the propagation of the disease. FLEXNER, of Philadelphia, said that while the facts expressed in the paper seem to be well authenticated, before they can be accepted as undoubted they must be confirmed by future observations. The propagation of the disease by the lower animals is at present merely an hypothesis. Animal experiments do not actually reproduce the normal conditions pertaining to an infectious disease, because the animals are overwhelmed by huge doses of the organisms. The effect of the natural method of spread of the disease should be studied on the lower animals. WASDIN said that in his work the animals had been infected by the insufflation of lycopodium powder containing small quantities of bouillon culture of the organism, so that the conditions were as near normal as possible. Animals in an adjoining room to the one in which the insufflation experiments had been made took the infection and died, the organisms having undoubtedly reached them through the air. In answer to GERRY, of Boston, he said that one attack of yellow fever does not necessarily protect against a second attack of the disease. Undoubted instances of second attacks of yellow fever are on record.

WILLIAM OSLER, of Baltimore, offered a resolution of regret for the death of JAMES T. WHITTAKER, of Cincinnati, which was adopted.

THIRD DAY.

A paper by JESSE W. LAZEAR, of the United States Army, entitled, **Pathology of malarial fevers; structure of the parasites and changes in the tissues,** was read by the secretary, FUTCHER. The author described the method of making cover-slip preparations of the blood for the study of the malarial organisms, for the details of which the reader is referred to the original paper. He then described the microscopic appearances of the tertian, quartan, and estivoautumnal parasites throughout their cycles of development. In the latter type of organism there is a sexual development; the male form is furnished with a flagellum, while the female form is devoid of any such appendage. Observers have seen the male form penetrate the female parasite.

W. S. THAYER, of Baltimore, Md., read a paper entitled, **Etiology of malaria with special reference to mosquitos,** summarizing recent work on the mosquito as an agent in transmission. This work shows that the mosquito is able to remove the parasite from the human body; that the parasites develop by sexual methods in the stomach-wall of this host; that, thence, passing into the venomosalivary gland, the parasite, in the form of sporozoids, may be inoculated into uninfected individuals and produce the disease. These results have been confirmed by the author and his associates in Baltimore. The parasite undergoes an asexual cycle of development in the human body and a sexual cycle in the body of the mosquito of the genus Anopheles. Investigations will finally show that mosquito-bites are the only means of transmission. Investigations seem to show that mosquitos are always present in a malarial district or else the cases occurring in such a district are imported. Further, the observations seem to show that the mosquito acquires the parasite only from man. The early spring cases are all relapses, which decrease in number in June, and the new cases begin in July, when the Anopheles begin to bite. Prophylaxis requires that patients be isolated under mosquito netting and that the mosquito larvas be killed.

L. O. HOWARD, of the United States Department of Agriculture, gave a lantern demonstration of the **Structural and other differences between the several mosquitos of North America.** The slides shown illustrated the life history of genus Culex, the life history of the genus Anopheles and the biologic difference between the two genera. The eggs of the Culex are deposited in a raft-shaped clump, while those of the Anopheles are distinct. The larva of Anopheles is dark, while that of Culex is light. The respiratory siphon of the Anopheles is short, while that of Culex is long. The larva of Culex has a big head and a small body, while that of Anopheles has a small head in proportion to the size of the body. The Anopheles larva feeds at the surface of the water, while the larva of Culex feeds on the bottom, coming to the top of the water periodically to breathe. The note of Culex is high pitched, while that of Anopheles is about 4 tones lower. The genera Megarinus and Psorofora should be investigated.

A. E. WOLDERT, of Philadelphia, read a paper entitled **Inoculation of malarial fever through the agency of the mosquito, with some sections and dissections of the mosquito. Etiology of malarial fever and some observations made in the South several years ago.** The paper dealt with the varieties and the anatomy of mosquitos. Among the agents for destroying mosquito larvas it was found that a solution of tobacco in kerosene oil was the most efficient.

A paper by CHARLES F. CRAIG, of the United States Army, entitled **Some typical cases of estivoautumnal and tertian malarial fevers, with a study of the parasites observed in the blood,** was read by the secretary of the section, DR. FUTCHER. The paper described the symptoms, temperature-curves, and course of cases of quotidian and of tertian estivoautumnal malaria. Small doses of quinin will cause the temperature-curve and the symptoms to become so changed that the disease cannot be recognized as malaria. The infection by two forms of parasite will also produce abnormal temperature-curves. The paper described the differences in the microscopic appearances of the two forms of parasite.

FRANK A. JONES, of Memphis, Tenn., read a paper on **Clinical observations in malaria.** In the Mississippi swamps cases of malaria, chronic from the start, are often seen. When the patient who has this form of malaria goes to a nonmalarial district chills will develop in from 24 to 48 hours. A patient coming from a nonmalarial district into a malarial district often puts on fat and suffers from boils during the winter, which he thinks is due to the malarial poison. In the swampy regions pneumonia is common and the attacks are irregular and fatal. Cases of pernicious malaria are common. The negro seems to be immune to malarial paroxysms. Hemoglobinuria is the end-product of neglected malaria; it is more frequent after the occurrence of the first frost, and at that season of the year it is more fatal than at other seasons. In cases of hemoglobinuria paresis of the bowels is common. Quinin is dangerous in such attacks. Attacks of true splenic leukemia are due to malaria.

WM. BRITT BURNS, of Deckerville, Ark., read a paper entitled **Malarial hemoglobinuria.** The author has found the estivoautumal parasites in the blood in all cases of malarial hemoglobinuria that he has seen, 16 in number. He is an advocate of the use of quinin in the disease. He has seen it in full-blooded negroes.

In *discussion*, WILLIAM KRAUSS, of Memphis, Tenn., said that hemoglobinuria following malaria is a syndrome if not a distinct disease, and that it is not a mere symptom. The condition is not a toxic one. There must be some substance in the blood that allows quinin to produce the condition, since that drug sometimes will and again will fail to produce it. The attack of hemoglobinuria usually kills the parasites

in the blood, which accounts for the fact that they are seldom found. There has never been a malarial toxin described. The determining factors in the production of the condition are: (1) Neglect of an old malaria; (2) the superposition of a new attack of the disease; (3) some indiscretion; (4) constipation and hepatic stasis; and (5) change to a nonmalarial climate. The speaker had never found the parasite in the tissues of a patient dead of the disease. THAYER, of Baltimore, said that Romanowsky's stain is an important advance in clinical hematology. He has not been able to find a quotidian estivoautumnal parasite. Nephritis and pneumonia are common in malarial negro patients. In some cases of malarial hemoglobinuria quinin does harm, while in other cases it does good. A rule is suggested for the administration of the drug; when the parasite is found active in the blood of the sick patient, give quinin; when the plasmodium is not found, do not give it. WESLEY, of Chicago, said that he had seen chronic malaria in the negro soldiers who had returned from Santiago. DAVIS, of Chicago, asked whether the Anopheles migrated. If this insect does not migrate, how can the disappearance of the disease and its reappearance in a given locality be accounted for? In answer to this question HOWARD said that there was no evidence that the Anopheles migrated of itself, but that it was frequently carried from place to place in public conveyances. Finding a suitable place for breeding in a new locality it would then become a resident. The Anopheles has been found from 1,500 to 2,000 feet above the level of the sea.

Prolonged Fevers of Obscure Origin.—ROBERT B. PREBLE, of Chicago, is of the opinion that many continued fevers are manifestations of sepsis and that they may be due to the pus cocci, the pneumococcus, the gonococcus, or the Bacillus pyocyaneus. The cases may be either systemic or focal. They may be classed as cardiac, pulmonary, gastrointestinal, hepatic, renal, osteoarthritic, hematolytic and nervous. He described symptoms of the various forms. Such cases were formerly diagnosed typhoid fever or typhomalaria. The differential diagnosis is best made by blood-examination. Cases of so-called malignant endocarditis may be a manifestation of sepsis. Many of the joint diseases that are now diagnosed as rheumatic and the condition known as peliosis rheumatica are probably also septic manifestations. The treatment should be symptomatic and supporting. ROBERTS, of Syracuse, asked whether the reader would exclude typhoid fever if the Widal and the diazo reactions were absent? BISHOP, of New York City, said that he was of the opinion that same of these obscure cases might be atypical cases of typhoid fever. If they were it would be possible to determined definitely by resort to serum diagnosis. N. S. DAVIS, Jr., of Chicago, advised those who had to do with all forms of febrile disease to watch for endocarditis, especially in these atypical septic conditions. Many cases of malignant endocarditis have not been such from the start, but are instances of endocarditis engrafted upon some septic disease. PREBLE said that he would not make a diagnosis on the presence or absence of the Widal reaction alone. A large number of these cases recover. He would not exclude the terms rheumatism, purpura, etc., from the nomenclature, but would instruct students that these conditions are probably not entities but symptoms of septic conditions. KRAUSS, of Memphis, Tenn,, and FAVILL, of Chicago, also took part in the discussion.

Pathology of Rheumatism.—DAVID RIESMAN, of Philadelphia, says that the facts pointing to the infectious origin of the disease are: (1) The fever; (2) the chill; (3) the occasional epidemic outbreaks; (4) the seasonal and climatic influence; (5) the character of the complications, which are those of the infectious diseases; (6) a demonstrable portal of entry for the virus in many cases, such as the tonsils, otitis media, operations in the nose, felon, furuncles, fistula in ano, and vaccination; (7) the occurrence of acute endocarditis; and (8) the direct transmission of the disease from the mother to the fetus. Bacteriologic examinations seem to lead to the conclusion that acute polyarthritis is an entity caused by a single agent as yet to be discovered. The anaerobic bacillus of Achalme seems to be the most promising of the organisms yet isolated from the diseased tissues. The joint changes found in the patients dead of acute articular rheumatism resemble those seen in other acute infectious processes. The early changes in the heart-valves, according to the investigations of Achalme, are swelling and edema with the occurrence of mast-cells in the tissue of the valve.

Rheumatism and the Prevention of Heart Complications.—JAMES J. WALSH, of New York City, thinks rheumatism includes a series of closely allied processes. It is possible that the acid reaction of the blood is a protective process on the part of nature. The disease is one of low mortality. The use of the salicylates has reduced the severity of the symptoms, but does not seem to lessen the frequence of the occurrence of heart complications. The salicylates are not specifics; the German school holds that antipyrin lessens the frequence of the heart complications. Rest is the most important element both in the prevention and in the treatment of the cardiac complications. Potassium iodid has some influence for good on the valvular lesions in their incipiency. Endocarditis is one of the essential elements of the condition, not a true complication.

The Relations of Chorea and Rheumatism.—CHARLES W. BURR, of Philadelphia. There is frequently a history of rheumatism in cases of chorea More frequently there is a history of joint or of general pain. Rarely chorea occurs during an attack of acute rheumatism. Children who have had chorea are more apt, in adult life, to have acute rheumatic fever than those that have not had chorea. At autopsy in subjects dead of chorea the one lesion that is invariably found is valvulitis. Rheumatic angina frequently precedes chorea. The coincidence of the diseases is not so frequent to justify saying that chorea is a rheumatic disease. Rheumatic affections may possibly predispose to chorea.

Heart in Rheumatism.—DELANCEY ROCHESTER, of Buffalo, thinks rheumatism is undoubtedly an acute infectious process. Endocarditis is seen in 60% and pericarditis in 10% of all cases. Myocarditis occurs in all cases of pericarditis, often in cases of endocarditis, and is sometimes found to exist alone. In myocarditis complicating rheumatic affections the papillary muscles are the first structures to become involved. The soft systolic murmur heard at the apex and over the body of the ventricle and not transmitted very far toward the axilla is probably due to the involvement of the musculi papillares. The occurrence of endocarditis or of pericarditis is no contraindication to the salicylic-acid treatment.

Pathogenesis and Clinical Features of Arthritis deformans.—A. O. J. KELLY, of Philadelphia, said the disease presents joint, muscle, and constitutional lesions. The nervous and the bacterial theories are the most important and reasonable yet advanced to account for the symptoms, but neither entirely covers the case, although it is probable there is a germ of truth in each. Arthritis deformans is an infectious trophoneurosis. The bacteria which probably possess a selective tendency to affect certain joints, become lodged there, producing local lesions, and elaborating toxins that are taken up by the blood and produce the other symptoms of the disease. The acute cases of the disease are decidedly infectious in type clinically.

Discussion.—F. A. PACKARD, of Philadelphia, said that rheumatism now covers many diagnostic sins, just as dropsy did at one time. Rheumatism is not a local disease. Arthritis, endocarditis, etc., are not rheumatism. Acute articular rheumatism is a well-defined series of signs and symptoms produced by an unknown etiologic factor, with a great tendency to attack the serous membranes, notably the endocardium. Arthritic diseases may be classified as (1) acute articular rheumatism; (2) acute infectious arthritis, seen in gonorrhea and in scarlet fever; (3) chronic infective arthritis, seen in children; (4) rheumatoid arthritis; (5) the spinal arthropathies, and (6) the arthritis of gout. The endocarditis that presents growing pains in the history should not be called rheumatic endocarditis. The term rheumatic pleurisy is a mistake, since the condition is not always rheumatic. Rheumatism is not a nervous disease. The lactic acid theory is not tenable. Articular rheumatism is an infectious process that may be caused by one of various microorganisms entering the system, often from the throat. JOHN H. MUSSER, of Philadelphia, said that acute articular rheumatism is undoubtedly an infectious process. Many joint cases are of toxic origin. In many cases skin lesions, which may be of gastrointestinal toxic origin, are associated with joint lesions. J. M. ANDERS, of Philadelphia, said acute articular rheumatism is not an arthritic disease; it is unquestionably infectious. The cardiac complications are

always infectious and will be found to be due to a toxin. Chorea and rheumatism are not etiologically related. The endocarditis of chorea is not necessarily rheumatic endocarditis. It is going too far to think that all murmurs in chorea are organic; they may be functional. If in the course of chorea a murmur develops accompanied by fever, he would say that that murmur was organic. Rheumatism is a febrile disease. Cases of secondary acute articular rheumatism are rare, and if such cases do occur, the primary affection should be carefully noted. The differentiation of acute articular rheumatism and osteomyelitis is important. To prevent the cardiac complications, he combines the salicylic acid and the alkaline treatments. CHARLES G. STOCKTON, of Buffalo, considered acute articular rheumatism to be an infection. The infectious neurotrophic theory of arthritis deformans is very reasonable. There are undoubtedly inherent conditions in certain individuals that invite the localization of the disease-process. L. F. BISHOP, of New York City, believes that there is a disorder of the chemistry of the body, a disorder of the processess of nutrition as well as an infectious aspect in the development of joint diseases. We obtain better results by classifying these diseases according to this system; (1) Infectious arthritis, as acute articular rheumatism; (2) arthritis due to chemic changes as gout, and (3) arthritis due to nutritional changes, as arthritis deformans. These 3 classes of changes may exist in the body coincidently. Chorea has been too definitely defined; chorea major is a different disease from Sydenham's chorea. Very few of the murmurs of the cases of chorea that he has seen are organic. Chorea may be complicated by infectious processes and it is these cases with the infectious element that develop cardiac lesions. H. B. FAVILL, of Chicago, said acute articular rheumatism has both a toxic and an infectious side. The confusion of classification is due to the endeavor to group different conditions under one head. BIRNIE, of Maryland, said that in his experience, no drug had any influence on the courses of acute articular rheumatism. Rest in bed, hygiene, and nursing are the best methods for the prevention of cardiac complications. Potassium and iron iodids are useful. MCCASKEY, of Fort Wayne, Indiana, considered rheumatoid arthritis a toxemia of unknown origin, possibly from the gastrointestinal tract. He has used potassium iodid by cataphoresis with satisfactory symptomatic results. It may be more proper to use some antiseptic solution by cataphoresis. S. SOLIS-COHEN, of Philadelphia, said acute cases of rheumatoid arthritis affect the large joints, while the chronic cases affect the small ones. In the latter group of cases the joints may be spindle-shaped or they may present lateral deformity. The infectious element is more probable in the acute than in the chronic forms. The definition advanced by Dr. Kelly would better be that the disease is a toxic trophoneurosis. The tincture of ferric chlorid in arthritic cases may be combined with salicylic acid preparations, and seems to prevent heart complications. Alkaline treatment is also valuable. DAVID RIESMAN said that he had used extension in rheumatoid arthritis to prevent the occurrence of deformity in the large joints. In acute articular rheumatism he uses a combination of salicylates and alkalies; gives a milk diet with lemonade; and has the patient sleep between blankets. J. J. WALSH said that if the bacillus of rheumatism should be found to be aerobic, after passing through the lungs it would be more virulent and thus the frequence of left-sided heart disease in the condition might be explained. He believes that in complicated cases the following is the course of events, rheumatism, first, then chorea from a lessened blood-supply to the brain, then rheumatism again. ROCHESTER said that the patient should be kept in bed for from 6 to 8 weeks in every case. The bowels should be kept freely open by the use of rochelle salt. Large doses of sodium salicylate, frequently repeated, should be employed; 30 grains every 3 hours for 3 days has failed, in his hands, to produce a deleterious influence on the heart. Iron is of great importance in the treatment of the accompanying anemia, he advises the use of 30 minims of the tincture of ferric chlorid or 15 grains of the pyrophosphate. He believes that no treatment by drugs will prevent the occurrence of cardiac complications. Strychnin is of great value. KELLY referred to the use of superheated dry air during a long period of time as being beneficial in cases of rheumatoid arthritis. He thinks strontium salicylate better than sodium salicylate because it is less likely to upset the stomach. Pure salicylic acid is als a convenient and satisfactory form in which to administe the remedy.

A Case of Malignant Endocarditis with Recovery —N. S. DAVIS, JR., of Chicago. The patient was a locomo tive fireman, aged 25. The condition was at first diagnose gastroenteritis, then typhoid fever, and later malignan endocarditis. The latter diagnosis was made on account o the persistent cardiac murmur, the absence of the plasmo dium malaria, the absence of the Widal reaction, the septi type of the fever with chills and sweats. The chronic gas tritis may have been the portal of entrance for the infection The diazo reaction was present. The author cited recorded cases of recovery from the disease.

The Relative Importance of Valvular and Muscular Lesions in Diseases of the Heart.—SOLOMO SOLIS COHEN, of Philadelphia. The exact site and nature o the valvular lesions are of less importance therapeutically and prognostically than the state of the cardiac muscle Mitral stenosis with great narrowing is an exception to thi general rule. Aconite is often used in this condition to reduc the excessive muscular effort. The symptoms and physica signs of cardiac myopathy are inconstant, and in the early history of the case may be slight. In the absence of valvula lesions, intermittence or irregularities of the pulse or apex beat, disturbance of rate or rhythm by slight causes, and re current pain, referred to the pericardium, in nonhysteric and nonneurasthenic subjects, are the principal local symptom calling attention to the disease of the cardiac muscle. Tin nitus, vertigo, dyspnea, venous ectases, visceral congestion edema, and other evidences of circulatory disturbance may be slight and escape attention until sought for. There i usually impurity or weakness of the first sound of the heart with approximation of the two sounds in quality or relative accentuation of the second sound; later embryocardia and gallop-rhythm may develop. Gout, syphilis, alcohol and tobacco, lead-poisoning, tea and coffee, sexual excesses mental strain and physical overwork, either in serious pursuits or sports, are among the chief provocatives o disease of the myocardium; apart from those lesions secondary to the acute infections or consecutive to nephritis or valvular disease. Among the acute infections influenza is a frequent cause of cardiac muscle disease The diagnosis between neurasthenia of the heart and disease of the myocardium may be difficult. The chief importance of the subject lies in the avoidance of error. In the prognosis and treatment of valvular disease which may be overtreated or undertreated through failure to estimate properly the condition of the muscle; in the recognition of serious lesion of the muscular structure of the heart in cases that have been supposed to be normal because of the absence of valvular murmurs; in the distinction between organic and muscular lesions and functional disturbance, and in the realization of the fact that the latter may lead to the former; in treatment, judicious regulation of diet, rest and exercise, avoidance of exciting causes, and excesses of any kind, the good functional condition of the skin and eliminative organs are of the first importance. Warm, saline, carbonated baths, and, in some cases, gentle massage and resistance exercises carefully adapted to the individual case, are of great benefit. Nitroglycerin is the most useful single agent of the materia medica. Strychnin, digitalis, adonis, cactus, strophanthus and spartein have their usefulness in individual cases. Arsenic, gold and sodium chlorid and iron are useful tonics. Potassium iodid and mercurials sometimes have special indication. Venesection should be made promptly and sufficiently early in the case of sudden and urgent symptoms of cardiac failure.

A Clinical Study of Myocarditis.—LOUIS FAUGÈRES BISHOP, of New York City. Valvular and arterial disease are modified appreciably by myocarditis. The myocardium is as important as the endocardium or the pericardium in cardiac disease. Myocarditis is eminently a clinical disease. Syphilitic cases are the most acute and often result fatally in young persons. There are 2 clinical groups of the disease, (1) myocarditis due to infectious diseases and (2) myocarditis due to disease of the bloodvessels. The significance of pain in the left shoulder and the left breast is difficult to determine, but in persons past middle life it should lead one to suspect myocardial disease. The chief symptom of the condition is a lack of power of the heart to respond

to extra work. The earliest symptom is irregularity in the force and rhythm of the pulse. The disease is very common in the negro race, probably owing to the tendency of mixed races to degenerative changes. Complete physical rest is important in the treatment of cases of myocarditis. It may be caused by the intemperate use of alcohol, disuse of the muscular system in general, overwork, worry and infectious diseases.

A Plea for a More Rational Prognosis in Cardiac Affections.—J. J. MORRISSEY, of New York City. Diagnosis should not be based solely upon physical signs, but on a consideration of the cardiac efficiency, the presence of hypertrophy, and of the condition of organs far removed from the thoracic cavity, whose relations, while not intimate, yet are closely affiliated with the results arising from an interference with the circulatory system, in consequence of the cardiac disease. Obtain an accurate and comprehensive history of the causation. Closely consider any special features characterizing the case. When a heart-murmur is discovered, do not give a gloomy prognosis upon that fact alone; consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilation or hypertrophy, or both combined. The occupation and temperament of the patient are very essential factors in the prognosis. Murmurs do not invariably mean endocarditis, and a prognosis based simply on the presence of a murmur would be rank injustice to the patient, and demonstrate incapacity upon the part of the physician. A presystolic murmur does not always indicate a mitral stenosis, nor has a so-called musical apex murmur any particular significance in prognosis, indicating as it does, the passage of a stream of blood through a small aperture in the segment of a valve. From the standpoint of longevity aortic stenosis is a favorable lesion. It is usually found in that period when a man should be at the highest point of physical capability, between 30 and 50. It is frequently present as part of a general decay, and then develops in consequence of atheromatous changes taking place throughout the system, but it is more frequently present than has hitherto been suspected without such pathologic manifestations being present. Do not inform a young man between 18 and 25, that he has heart-disease, because you discover some hypertrophy, with no complication, the result in most instances of active exercise. Never hesitate to ask a patient to return for further examination, as the condition then may be entirely different from the original investigation. There are more snap "diagnoses" made in the realm of cardiac affections, than in the study of diseases in any other portion of the body.

Discussion.—FRANK BILLINGS, of Chicago, said that acute ulcerative endocarditis might result in sudden death. In atypical cases it may not present the classic symptoms; emboli may or may not be present. It is difficult to diagnose; but among the symptoms of importance are low blood-pressure and anemia. Myocarditis frequently is due to chronic toxemias. The disease gives rise to nervous symptoms; gastrointestinal symptoms may arise; then dyspnea and oppression supervene, the pulse changes in character and there is evidence of malnutrition. Myocarditis requires early attention. DELANCEY ROCHESTER said that acute ulcerative endocarditis is very difficult to recognize. Leukocytosis is often very marked, and when there is no evidence of a localized collection of pus the occurrence of this phenomon should lead to a suspicion of the disease. He spoke of a case in which the ulcerative process had perforated the interventricular septum without producing a murmur. The changes in myocarditis are the most serious of any heart-lesions and are frequently overlooked. Of the valvular lesions, aortic insufficiency is most dangerous. The presystolic murmur is of less serious prognostic import in cases of mitral obstruction than the diastolic murmur. The condition of the general circulation is very important, since changes in the arteries of the body indicate changes in the coronary arteries. The disappearance of a murmur that has existed for a number of years is serious because it indicates marked changes in the muscle. JAMES B. HERRICK, of Chicago, said that the present tendency was to lay more stress on the heart-muscle than on the valve. The time has passed when a diagnosis of a cardiac condition can be made merely from the presence of a murmur. Besides making a definite diagnosis of a valvular lesion we must go farther and determine the condition of the muscle, because patients with valvular disease can live a long time if the muscle is intact. In cases of acute articular rheumatism it is difficult to speak of the condition of the myocardium. The significance of a murmur appearing in the course of rheumatism is doubtful; it may indicate myocarditis, endocarditis, or hemic change. In the treatment of myocarditis, rest is of the greatest importance. When dilation has occurred and death is imminent, bleeding is of value. JUDSON DALAND, of Philadelphia, spoke of a case of acute ulcerative endocarditis in which there was leukocytosis and said he thought that the sign was of no great value. He spoke of a second case in which antistreptococcus-serum was used, and in which alarming symptoms developed in consequence. HOWARD M. FUSSELL, of Philadelphia, spoke of the importance of other signs than murmurs in making the diagnosis of the condition of a heart. He spoke of loud systolic murmurs at the base of the heart that were transmitted into the vessels of the neck that were not necessarily indicative of aortic stenosis. Heart-lesions, on the other hand, may exist without the appearance of a murmur. The treatment should be based on the condition of the pulse, the size of the heart, the character of the first sound, and the absent or feeble apex beat. He does not think that the costal fringe is a sign of great importance in cardiac disease. BABCOCK, of Denver, said that myocardial changes in rheumatism in children were common. He thinks that the myocardium is the most important factor in the prognosis of a heart-lesion. WITHERSPOON, of Nashville, Tenn., said that in his experience death in cases of aortic stenosis was due to the condition of the bloodvessels, particularly those of the brain. A heart that is compensated needs no treatment. S. SOLIS-COHEN said that the costal fringe is an evidence that myocardial change is possible if not probable. Organic murmurs do not solely mean valvular disease, but may indicate disease of the papillary muscles, etc. Hemic murmurs should be differentiated; they may be vascular or muscular as well as hemic. He is an advocate of venesection in cases of threatened cardiac collapse. L. F. BISHOP said that loud murmurs are often due to dilation of the heart. MORRISSEY said that he thinks that tachycardia and bradycardia are not distinct entities. It is difficult to diagnose between dilation, fatty degeneration, and myocarditis.

In what Relation Does Occupation Stand to Tuberculosis?—W. FREUDENTHAL, of New York City. In 1500 cases of tuberculosis tailors were the most frequently affected, those who work in sweat shops and who live in dark, unventilated rooms particularly. Tuberculosis is a trophoneurosis combined with a vascular insufficiency which produces a favorable seat for the growth of the microorganism. Such favorable soil is frequently produced in the retropharyngeal space.

Diagnosis and Treatment of the Prebacillary Stage of Pulmonary Tuberculosis.—J. M. ANDERS, of Philadelphia. The prebacillary stage is of long duration and signifies the entire time before the bacilli are found in the sputum. During this period the diagnosis is to be made by (1) the use of the x-rays, (2) the application of the tuberculin-test, (3) a careful study of history, symptoms and physical signs; among the most important of the symptoms is a 2-hours temperature-record. This will show an elevation of temperature at a given time daily.

The Importance of Rest in Pulmonary Tuberculosis.—CARROLL E. EDSON, of Denver, Col. The indications for rest in pulmonary tuberculosis are the same as those for rest in joint and bone tuberculosis. Local tissue-rest is very essential, although the obtaining of absolute rest of the lung is difficult. When the body is at rest the respiratory action is lessened, cardiac action is lessened, the temperature is lowered. The rest may be taken in the open air and should be continued for a long time.

Pulmonary tuberculosis; present condition of cases treated during 1898 and reported last year at the Columbus meeting, by C. P. AMBLER. Cases of pulmonary tuberculosis should not be reported cured until a long time had elapsed. Of 46 cases called class "A," 35 were apparently cured, 9 were greatly improved, and 1 was stationary. Of 28 cases called class "B," 6 were apparently cured, 13 were greatly improved, 8 were improved, and 1 died. Of 32 cases called class "C," 9 were

greatly improved, 5 were improved, 6 were stationary, 11 were worse, and 1 died. The treatment was (1) by hygienic supervision, (2) by climatic influences, (3) by medication, (4) by serumtherapy. Cases apparently cured under serumtherapy are less liable to relapse.

Tuberculosis of the Lungs.—A. F. LEMKE, of Chicago, said tuberculous lesions proably never heal by resolution—always by cicatrization; hence in attacking them it is rational to further the natural tendency to cicatrization. Healing of a focus of tuberculosis in the lung is probably always altogether the result of tissue-changes which diminish or inhibit the absorption of proteins derived from the bodies of tubercle-bacilli. Good effects of compression, locally, are brought about by the limitation of areas of disease already existing by favoring fibrosis in and about these areas; by occluding the avenues of dissemination of the virus, and by compressing cavities to enable them to heal mechanically. Other effects of compression are due to rest to the organ as a whole, emptying of secretions, prevention or diminution of absorption of toxic bodies, prevention of secondary infections, and the diminished tendency to hemorrhage. There is no evidence that fresh tubercles can develop in a compressed lung. The average quantity of nitrogen which may be introduced into a pleural cavity without untoward effects is 120 cubic inches. Healthy lung-tissue may be compressed for a year or more and retain its capacity for expansion upon the removal of pressure. Uses of intrapleural injections of nitrogen: (1) curative in pulmonary tuberculosis; (2) palliative—to prolong life for weeks or months, though the disease be too extensive to make recovery probable; to diminish fever and expectoration; (3) to check pulmonary hemorrhage; (4) to compress cavities, tuberculous and others, and establish mechanical conditions that will permit their healing, and (5) to compress the lung just prior to surgical operations.

THOMAS J. MAYS, of Philadelphia, read a paper entitled **Silver injection treatment of pulmonary consumption.** In *discussion* VICTOR C. VAUGHAN, of Ann Arbor, Michigan, said that tuberculosis should be diagnosed in the prebacillary stage if possible if anything is to be accomplished in the way of treatment. He believes that the temperature of tuberculosis is more characteristic than that of typhoid fever; but many things cause it to vary. Rest is one of the great benefits of sanatorium treatment. When the temperature is not high a moderate amount of out-door exercise may be indulged in. Many patients suffering from argyria as a result of the use of silver in the treatment of epilepsy developed tuberculosis. DELANCEY ROCHESTER, of Buffalo, thinks that the spread of the disease may be in a measure accounted for by the habit that tailors and sewing women have of wetting the thread that they use in the making of clothes. S. SOLIS COHEN, of Philadelphia, said that there is a disease before the bacillus gets into the tissues, when the bacillus arrives there is a certain toxemia set up, and then there follows a secondary infection with pus-cocci. In tuberculous patients between 12 noon and 2 P.M. is the time of highest temperature in the incipient cases, except in those cases of inverse temperatures. In cases of reported recovery it is essential to state the time that has elapsed since the cessation of symptoms. KNOPF, of New York City, is glad to know that the idea of a specific climate for tuberculosis had been abandoned. A class of persons almost as frequently affected with tuberculosis as the tailors is that class that are engaged in assorting the soiled clothes in laundries and those that assort rags. The rest-cure should be alternated with gentle exercise or with massage. In order to improve and lessen the number of tuberculous cases it is necessary to improve the housing of the poor by doing away with the present class of tenement houses and replacing them by sanitary dwellings. It is necessary to have special hospitals in every city for the consumptive poor, so that to their tuberculosis they may not have nostalgia added by being sent away from home. NEWLIN, of New Jersey, cited a case that seemed to show that certain cases of anemia presented an evening rise of temperature, similar to that seen in tuberculosis.

FOURTH DAY.

Continuation of the Discussion on Tuberculosis.—C. P. AMBLER said that he was not connected with any sanatorium and that the cases that he reported were cases in private practice. MAYS said that he thought that the doses of silver nitrate that he uses would not produce argyria. He has never seen toxic effects. He believes that no tuberculous patient would throw off the liability to the disease no matter how long he should live; but if a tuberculous patient is relieved of his symptoms for a year he is practically well. LEMKE said cases of pneumothorax end fatally either because too large an amount of air is forced into the pleural cavity or because there is an infection.

Diagnosis of Diabetes.—JAMES B. HERRICK, of Chicago. The crucial test for the existence of diabetes is the finding of sugar in the urine and determination of the permanence or transitory nature of the glycosuria. He spoke of certain symptoms that would lead one to suppose that sugar would be found in the urine. Impotence and psychic disturbance are often early symptoms. Cases are overlooked because there is an error in the technic; the urine may not be examined for sugar, or the sugar may not be present. Casts are frequently found in diabetic urine and usually indicate the development of coma. Such a condition may lead to the diagnosis of uremia. Urines of low specific gravity may contain sugar, and consequently, every specimen should be examined for glucose. It is important to recognize the form of the diabetes. A convenient classification is into (1) mild, (2) severe, and (3) malignant.

Mortality from Diabetes Mellitus in the City of New York during the Decade 1889-1899.—HEINRICH STERN, of New York. In 1860, of the deaths from diabetes, nearly 50%, were in females. The number of deaths from diabetes have been increasing since 1894. The mortality from diabetes is greatest in October, and least in November. The greatest mortality is between the forty-fifth and fifty-fourth years. The mortality in females, 64, after the forty-fifth year, is possibly explained by the degenerative changes following the menopause. In childhood and adolescence diabetes is rare. In the colored population during this period there were only 15 deaths.

Cutaneous Diseases Accompanying Diabetes.—MILTON B. HARTZELL, of Philadelphia, called attention to the fact that in many instances the skin presents pathologic changes accompanying diabetes. The greater number of skin-lesions are inflammatory in character. There may be desquamation from deficient secretion of sweat and serum accompanied by changes in the hair and nails, and by pruritus. Erythema, urticaria, eczema of the genitalia, acne cachecticorum, crops of boils, carbuncle, papillomatosis diabetica, gangrene of the skin, bullous serpiginous gangrene and xanthoma diabeticorum are common skin lesions. Psoriasis dermatitis herpetiformis, abnormal depósits of pigment and purpura are rare. Local treatment is the same as that of similar conditions in nondiabetics, but the treatment of the underlying cause is most important.

Discussion.—S. SOLIS-COHEN, of Philadelphia, dwelt upon the importance of examination of the urine in every case; but every case of glycosuria is not diabetes. A usually unrecognized symptom of diabetes mellitus is bilateral sciatica. JAMES J. WALSH, of New York City, called attention to the fact that diseases that were formerly considered rare are in reality more frequent. The common occurrence of tuberculosis and nephritis in such cases often leads to an error in diagnosis. WATKINS, of New York City, spoke of the increase of the biconcavity of the red blood-corpuscles in advanced cases of diabetes. MORRISSEY, of New York City, said that it was necessary to treat the patient and not the disease. In life-insurance examinations he finds a large number of alimentary glycosurias. Opium is still the standby in the treatment. WAHRER, of Iowa, said that it was easier to diagnose the disease than to treat it. He does not believe in a rigid diet without sugar. A. E. ROUSSEL of Philadelphia, said glycosuria is sometimes an indication of myxedema, which would be benefited by thyroid treatment. He is of the opinion that the diets as laid down are too rigid. OSBORNE, of New Haven, Conn., called attention to the relation between pancreatic disease, myxedema, nervous disease, exophthalmic goiter and diabetes. He also thinks that the diet should not be too rigid. HERRICK said that the apparent immunity of the colored race might be due to the manner of living of that race. He called attention to the rarity of the disease in hospital patients and its frequency in private practice as confirmatory evidence of this influence of living on the disease. He does not believe

in the too rigid enforcement of diet. Stern said 70% of deaths from diabetes occurred in the tenement houses, 15% in hospitals, and 15% in private practice. It is common in the Irish population. He divides the disease into the preglycosuric stage, the stage called diabetes mellitus, and the postglycosuric stage. Diabetes is a plasmolysis; he recognizes it by an increased output of nitrogen in addition to the glucose. The oxybutyric acid is the result of a diet of fat and meat. The existence of Kussmaul's breathing is necessary to the diagnosis of diabetic coma.

Exophthalmic Goiter.—O. T. Osborne, of New Haven, Conn., is of the opinion that the name is a misnomer and suggests the name of Graves' thyroid disease. Of the cases 80% occur in women during the most active period of their sexual life. He believes that the symptoms are due to hypersecretion of the thyroid body. The course of the disease is divided into (1) prethyroid period, (2) period of incipient symptoms, (3) period of active symptoms, (4) defervescence or stage of complications resulting in death. The treatment should be such as to lessen the secretion of the gland. He recommends absolute rest in bed. There is no question of the advisability of removing parts of the gland when pathologic conditions are present. He doubts the value of suprarenal extract, but thinks that thymus gland extract is better.

Discussion.—James B. Herrick, of Chicago, said that there were undoubtedly many patients that have the symptoms of the disease before they consult a physician and before the symptoms fully develop. He is of the opinion that he has seen a patient that was benefited by the increase of fibrosis of the gland following the opening of a cyst of the thyroid. S. Solis-Cohen, of Philadelphia, believes that there is something more than hyperthyroidation in the etiology of this disease. After rest he believes that the best treatment is by extract of suprarenal body. Digitalis is not to be given in every case. Good results have followed the use of $\frac{1}{800}$ grains of hyoscin hydrobromate over long periods of time and $\frac{1}{20}$ or $\frac{1}{10}$ grain of picrotoxin. Ergot has been found useful. Osborne said that the affection properly belonged under the head of functional disturbance.

Treatment of Typhoid Fever with Bacterial in Connection with Other Agents.—James M. Peck, of Arlington, Ky., thinks that in private practice the nearer that the physician can reach the conditions of the Brand method the better will be the results. He uses calomel and chlorin followed by washing the bowel with sterile water. He believes that intestinal antisepsis strengthens the wall of the bowel and prevents sloughing. He reported 77 cases in which the treatment was used, with recovery in every case.

Discussion.—Eugene Wasdin, of the United States Marine-Hospital Corps, said that it was undoubtedly a fact that the bacillus of Eberth caused the disease. Typhoid fever is no more a local disease of the intestines than smallpox is a local disease of the skin. All the acute infectious diseases are produced by agents that are toxic on the one hand, and septic on the other hand. Between these extremes there are all gradations. The typhoid bacillus has little toxicity but is extremely septic, and typhoid fever is a septicemia. He believes that the portal of entry of the typhoid infection is in the majority of cases through the respiratory tract.

Lesions of the Cauda Equina and Conus Medullaris.—Bertram W. Sippy, of Chicago. When lesions of the conus medullaris exist sensation will be impaired in the integument of the penis, the dorsal surface of the scrotum, the perineum, the anus, the inner aspect of the buttocks, and posterior surface of the thighs. He reported 7 cases, of which 1 came to autopsy. He called attention to slipper anesthesia as an indication of these lesions.

Movable Kidney from the Standpoint of the General Practitioner.—A. Marcy, Jr., of Riverton, N. J. The most important etiologic factor in the production of movable kidney is the absorption of the perirenal fat. He prefers to examine for this condition when the patient is in the upright position. The ideal treatment is surgical and nephrorrhaphy in his experience is the most satisfactory operation

Discussion.—Cleveland, of Cincinnati, said that in his experience movable kidney is almost always associated with enteroptosis or gastroptosis and should be classed as a general abdominal condition. He thought that operation would hardly be efficient.

The Antiseptic Treatment of Diphtheria.—D. Benjamin, of Camden, advocates the local application of antiseptics to the false membrane in the throat. In *discussion* Wm. M. Welch, of Philadelphia, said that it is well known that local applications do not kill the organisms in the false membrane.

The Climatology of Arizona.—William Duffield, of Phœnix, said that Arizona is a territory 400 by 350 miles in extent, containing almost every physical feature and variety of climate known. The mean temperature varies from 50.7° to 64° in the different parts of the State. There is very little vegetation except in the irrigated districts. On the plain the mean temperature is 70°; total precipitation is 5.19 inches. Mean relative humidity 49%. There were 245 clear days in an average year. The climate has a maximum of sunshine, a minimum of humidity, and a possibility of constant outdoor life.

Howard S. Anders, of Philadelphia, read a paper entitled **Certain clinical features of influenza recently epidemic.** The paper was based on a study of 128 cases.

Section on Surgery and Anatomy.

[Reported by M. B. T.]

First Day.

The meeting was called to order by the chairman, H. O. Walker, of Detroit, who delivered the annual address: **A retrospect of surgery of the stomach.** In the two decades since Billroth gave the first impetus to gastric surgery great progress has been made. Operative measures may be divided into two great classes: those for benign affections and those for malignant disease. Among the benign affections was mentioned stenosis of the pylorus. For the relief of this condition Walker prefers the operation of pyloroplasty, provided the pylorus is not greatly hypertrophied or bound down by adhesions; in such cases gastroenterostomy is the operation of choice. For the relief of gastroptosis the operation of gastroplication has given good results; operations shortening the ligaments are of doubtful value; gastropexy may be indicated in certain cases. Walker has operated in two cases for hourglass contraction of the stomach. The first patient was a woman of 37 who had suffered with digestive difficulties; a tumor could be felt in the epigastric region. On opening the abdomen a constriction was found near the middle of the stomach giving it an hour-glass form. Partial resection was performed. The patient died on the seventh day following operation. Partial resection was performed on a man of 57 for the relief of a similar condition; death followed on the fifth day from giving way of the sutures. Early diagnosis is highly important in the case of malignant disease, and the stomach specialists have given surgeons much aid in this respect of late years. Pylorectomy is advocated in the case of freely movable tumors. Walker has previously reported a successful pylorectomy; in two other cases his patients died as a result of the operation. If the disease is more extensive gastroenterostomy is indicated. Walker has used Senn's plates, Murphy's button, and simple suture with equally good results. The mortality of this operation has been growing less. In the preparation for operation Walker advises preliminary free purgation, careful attention to asepsis and care in manipulation. It is better to ligate first and then cut than to cut and then ligate as is the usual custom; the approximating sutures should not be drawn so tight as to cause death of the tissues. The operation of total gastrectomy is yet under judgment, Walker has experimented with the operation on dogs. Of 12 operated upon, one died on the table and the others died in from 3 to 48 hours after operation; 2 from sepsis and 9 from hemorrhage and shock. In closing Walker advised exploratory operation in all obscure cases.

Nonperforating Gastric Ulcer with and without Hemorrhage.—W. L. Rodman, of Philadelphia. (See Original Articles this issue.)

Discussion.—Turck, of Chicago, mentioned the spasmodic contraction of the pylorus which may occur specially with hyperchlorhydria as a form of pyloric obstruction in which operation is not indicated. In gastric myasthenia medical means may fail to restore muscular power. Accumulation of mucus which decomposes and causes septic conditions may occur. The pyloric sound was mentioned as a means

for more exact diagnosis. X-ray photographs were shown showing that the sound had passed through the pylorus into the intestine. The general condition of the patient is not always thought of in considering the contraindications for operation: this is the reason why many patients die 4 or 5 days after operation from such causes as renal insufficiency or autointoxication. The importance of skill and perfected technic on the part of the surgeon was emphasized. FENGER, of Chicago, thought that he had discovered a method to avoid the constant vomiting which often follows gastroenterostomy, but vomiting occurred in the fourth patient operated upon by this method, and he finds himself as far from this desirable result as ever. Instead of presenting a paper on this subject as he originally intended, he demonstrated from a series of drawings the position of the palate, epiglottis, etc., during anesthesia. In certain cases in which there is danger of suffocation from the tongue falling back he passes a silk thread around the hyoid bone with which to draw it forward, and he showed that this would give more room for breathing than any other method.

The Diagnosis and Treatment of Cholelithiasis.—W. J. MEANS, of Columbus, O., reported 20 cases that had come under his observation in which the diagnosis of cholelithiasis was made. He operated in 10 of these cases without any mortality. Death resulted in 3 of the 10 remaining cases in which operation was not performed. Gallstones were found at the time of operation in every case but 1. In 4 cases the affection followed typhoid fever. The importance of the following symptoms was emphasized: pain, nausea and vomiting, jaundice, clay-colored stools, high-colored urine, pruritus and tenderness over the gallbladder. In making the diagnosis it should not be forgotten that the disease almost always occurs in patients over 30 years old. Operation in uncomplicated cases is almost free from danger and Means believes that early operation will reduce the mortality almost as much as early operation for appendicitis.

Cholecystectomy with Special Reference to Removal of the Mucous Membrane of the Gallbladder in Certain Cases as a Substitute.—W. J. MAYO, of Rochester, Minn. Total removal of the gallbladder is indicated in most cases of severe traumatic injury, gangrene, phlegmonous processes and in malignant disease. In cases of chronic suppuration or prolonged mucous discharge Mayo recommends removal of the mucous membrane as a substitute for cholecystectomy. The operation is easily performed, it is less dangerous and the results in 7 cases which Mayo has operated upon by this method are excellent. The method of operating in cases in which the gallbladder has been previously drained was also given.

The Importance of Early Operation for Biliary Calculi.—M. H. RICHARDSON, of Boston, believes that gallstones should be removed by operation as soon as the diagnosis is reasonably certain unless some lesion of some other organ of the body makes operation more hazardous than leaving the stones. His own experience has led him more and more to favor early operation. Early operation is attended by almost no mortality; it is but little more dangerous than the operation for appendicitis in the interval. The dangerous cases are those in which cholemia is present; in these cases the danger is as great as in operating for acute appendicitis. Richardson has had 13 deaths and about 100 recoveries following operations on the biliary passages; in but few cases was the operation undertaken early in the attack. All his operations on the common duct were successful. In one case death followed later from malignant disease of the liver. The frequency with which malignant disease of the liver follows inflammatory affections seems to favor early operation. Richardson gave brief notes of his fatal cases. All the patients had suffered from the prolonged mechanical effects of gallstones; in many cases operation was undertaken as forlorn hope: in others there were severe complicating diseases; several of the patients were of an advanced age. Among conditions mentioned as indicating operation are: a single attack of biliary colic in case a faceted stone appears in the stools (if the stone is smooth operation is not indicated); successive attacks of colic even if of moderate severity.

Discussion.—WYETH, of New York, endorsed Richardson's view's entirely. MYNTER, of Buffalo, commended Richardson for calling attention to his fatal cases; these cases are often the most instructive. He mentioned a case in which he removed 565 stones from the gallbladder. One of his patients died from capillary hemorrhage; one died after operation on the common duct. Jaundice is not so important a symptom as some speakers would lead us to believe; it does not appear while stones remain in the gallbladder, but only when they are being passed. Mynter considers intermittent pain and tenderness the most important symptoms and when these are present he operates. As illustrating the difficulties of diagnosis he mentioned two cases: in one of these he operated for appendicitis and found the gallbladder distended with stones; in the second case he operated for gallstones and found the inflamed appendix adherent to the gallbladder. SENN, of Chicago, believes that in the x-rays in the hands of experts we have a certain means of diagnosis of gallstones. Senn considers the removal of the mucous membrane of the gallbladder as suggested by Mayo difficult to accomplish and infected mucous membrane is likely to be left behind. He protests against the extreme views that had been presented with regard to operation in all cases of gallstones as soon as the diagnosis is made and believes that we should operate only in cases in which there is danger to life from the symptoms caused by stone. GRAY, of Jersey City, reported an operation for the removal of several large stones. MARCY, of Boston, mentioned a case in which biliary colic had recurred three years after operation and a gallstone was passed in the stools. He favors Richardson's views as to early operations. In doubtful cases surgeons fail in performing their duty by not operating. DEAVER, of Philadelphia, believes that ultra-conservatism is a dangerous doctrine; late operation will not save lives. He has never yet been successful in diagnosing gallstones by means of the x-rays. In uncomplicated cases he finds operations on the gall-passages easy. WYMAN, of Detroit, believes that the remedial power in cholecystostomy is not generally appreciated. RICKETTS, of Cincinnati, approves of all that Richardson said as regards early operation. The early operation is usually one of the easiest in surgery; late operation with a contracted gallbladder is one of the most difficult. OCHSNER, of Chicago: In every case of death mentioned the fatal result was due, not to the operation, but to the delay. Early operation is comparatively harmless, because practically extraperitoneal, and because the contents of the gallbladder are aseptic. Symptoms referred to the stomach are among the earliest usually mentioned. Mayo's operation of the mucous membrane is theoretically difficult, but practically very easy, and gives satisfactory results. BEVAN, of Chicago, does not agree that all cases should be subjected to operation as soon as a diagnosis is made. In his dissecting-room experience he found gallstones in 16% of all subjects, and in the postmortem room, stones are found in 25% of the patients over 60 years old, yet by no means all of these needed operation for gallstones. GRANT, of Louisville, considers it unwise to operate for conditions which are producing no symptoms. He has not found the x-rays of any value in diagnosis. SUMMERS, of Omaha, Neb., advises passing the finger through the foramen of Winslow when using the Murphy button. MEANS, in closing, stated that he had found the x-rays of no help in cases in which the presence of stone was later demonstrated at the postmortem or at operation. He does not agree with the ultra-conservative views that were expressed, and does not believe that stones exist any considerable length of time without producing symptoms. MAYO stated that he did not advocate operation in 2 stages as some had understood him, but removes the mucous membrane from the bladder in cases in which cholecystotomy has failed to cure. RICHARDSON believes that there is too great a tendency to conservatism among most practitioners; they do not bring their cases to the surgeon until too late to be benefited, and it is necessary to call attention to the need for earlier intervention.

SECOND DAY.

The present status of the Murphy button, by J. B. MURPHY, of Chicago. In Dr. Murphy's absence his paper was read by DR. EVANS. It is now 8 years since the anastomosis button was first used in operating on a human being. Murphy states that he has been so frequently misquoted and misunderstood, and the button has been so frequently improperly constructed and incorrectly used that it is time to consider the actual results which have been attained. Up to

April 1, 1900, one of Murphy's assistants has collected 1,620 cases in which the button has been used, not including 111 cases collected by Murphy in 1895. The mortality has been reduced to 20% and should not be over 10%. Seven hundred cases of gastroenterostomy by Murphy's button have been collected with a mortality of 19%; in 166 nonmalignant cases there were 97.7% of recoveries. Enteroenterostomy has been performed in 750 cases with a mortality of about 19%, and in nonmalignant cases it has been only 14.4%. In no cases is the button of greater value than in cases of strangulation and gangrene requiring resection. Cholecystenterostomy had been performed in but 11 cases previous to the invention of the button, and it was primarily devised for use in this operation. Of late years he has used the button only in cases of irremovable obstruction, but probably it might better be used in many other cases rather than to undertake more extensive operative measures. Considering the fact that operations have been performed in all parts of the world, in many cases by unskilful operators, often in the case of patients in extremis and with imperfectly constructed buttons, it is strange that the results are so good as they are. A historical review was then given of the various mechanical devices which were in use previous to the discovery of the button. Among the advantages of the use of the button which were mentioned were the fact that sutures are not needed which shortens the time of operation, the ideal approximation which is objected, the fact that cicatricial contraction is less likely to occur than after other methods and that the physiologic function of the intestine is not interfered with. To use the button successfully a considerable knowledge of surgery is necessary and most of the unfavorable results are from lack of skill of the operator. The objections to the use of the button are: the danger of the opening becoming occluded, and that it may be retained for a long time. In all the cases collected, but 11 cases of occlusion are reported with only 3 deaths. This danger may be easily avoided by careful attention to diet. In many cases in which it has been thought that the button was not passed it has been found later to not be in the body even in some cases in which operations were undertaken for its removal.

Colostomy for Permanent Fecal Fistula.—J. A. WYETH, of New York, described a method of operating for a thorough understanding of which the drawing that was presented would be necessary. The essential feature is the pulling up of the slack of intestine formed by the sigmoid flexure from below to the region above the point at which it is desired to form the artificial anus. This gives storage room for fecal matter, so that it may be retained for some time, and that the patient will not be troubled with incontinence of feces.

The Treatment of Obstinate Constipation Based on New Points in the Anatomy and Histology of the Rectum and Colon.—J. R PENNINGTON, of Chicago, discussed the anatomy of the sigmoid flexure and rectum at some length and demonstrated a large number of carefully prepared specimens and drawings illustrating the points brought out in his paper. He showed that the sigmoid flexure is not confined to the left iliac fossa as is usually stated in textbooks, but it may occupy the pelvis or extend into the right iliac fossa. The results of a series of careful histologic examinations by Evans, of the University of Illinois, of numerous specimens of the rectal valves were given. These examinations show that the valves may contain mucosa, muscular layer, and serous coat or only part of the normal intestinal wall may be present. An abnormal position of the sigmoid flexure or large rectal valves may give rise to constipation. To relieve this, Pennington has divided the valve with a knife, in one case with resulting peritonitis; he has also used the cautery and the results were not entirely satisfactory. He called attention to an instrument which he calls the valve clip, designed to cut a section out of the valve, and demonstrated a table which is a modification of one devised by Martin. *Discussion.*—TUTTLE, of New York, mentioned 5 cases in which Murphy's button had not been observed to pass, but no harm had resulted. He criticised Wyeth for using the term fistula, and considers the term artificial anus more suitable to designate fistulas established by operative measures. He believes that in his method Wyeth has struck the keynote in preventing constant and uncontrolable fecal discharge. Tuttle commends Pennington's work. FINLAYSON, of Iowa, reported a case of obstinate constipation in which he found the sigmoid flexure entirely on the right side. MARTIN, of Cleveland, stated that 6 years ago he made the researches and employed the methods reported by Pennington as his original work. Nelaton in 1850 and Jacobi in 1862 called attention to the fact that the sigmoid flexure may be located on the right side. Most cases of stricture of the rectum are really hypertrophy of the rectal valve. All cases of idiopathic dilation of the colon should be examined carefully to make certain that they do not arise from this cause. There is no danger in valvotomy if the proctoscope is used, for then we can see what we are doing. PENNINGTON believes that operation as proposed by Martin is dangerous.

Repair After Resection of the Intestine.—W. A. EVANS, of Chicago. The fact that no cases of stricture are reported following operation, in view of the numerous operations of the past 10 years, seems good evidence that such trouble is unusual. Evans has found the amount of scar-tissue that results from such operation to be unusually small; the fibers which give rise to stricture are circular, and these circular fibers are not found in the connective tissue. This is probably due to the fact that in scar-tissue the fibers form in the direction of the tension. In cases operated upon some time previously it is difficult to even find the site of anastomosis. We may conclude from these studies that the dangers of stricture are not great enough to make it necessary for us to consider some other procedure as a substitute for end-to-end anastomosis. WIGGIN, of New York, in his experience has found no difficulty as to stricture following end-to-end anastomosis and he prefers this method of operating. In experiments on animals he has found it difficult to locate the site of union. He prefers to use horse-hair as a suture material, as it is elastic and prevents bad results which may result from swelling. Evans in closing stated that in a number of textbooks the dangers of stricture following end-to-end anastomosis are emphasized, and this led him to make this series of investigations. The dangers are certainly not great.

Appendicitis; Colitis as an Etiologic Factor; the Question of Removal of the Appendix in All Cases Operated Upon.—MILES S. PORTER, of Fort Wayne, Ind., mentioned a case in which appendicitis began with colitis and stated that since then he had seen a number of other cases in which the appendicitis seemed to take its origin in an inflammatory condition in the colon. He believes that a knowledge of this etiologic relation is important as to the prophylaxis of certain cases of appendicitis. In certain cases of appendicitis the patients, if subjected to excision of the appendix, will die, but if simply incision and drainage is practised they will recover. The number of cases of recurrence after incision and drainage without removal of the appendix is comparatively small.

Appendiceal Fistula.—J. B. DEAVER, of Philadelphia, considers fistula one of the most important sequels of appendicitis. External fistulas are those leading to abscess cavities, which are only suppurating sinuses and tend to spontaneous recovery and those communicating with the lumen of the intestine in which there is fecal discharge. Internal fistulas communicate with some of the surrounding viscera. Among the causes mentioned were the cutting out of sutures, particularly in cases in which the cecum is much inflamed, the continued use of a drainage-tube, and particularly a gangrenous condition in cases in which operation has been too long postponed. Deaver believes that many cases of perinephritic abscess arise from abscess of the appendix behind the colon. He mentioned cases in which he had found appendiceal abscesses emptying into the lung, the bladder and the ureter. The most favorable internal fistulas are those which break into the ascending colon or cecum. The treatment of these cases will vary with condition of the patient. As a rule they close spontaneously; they should be kept clean, irritation by syringing, etc., should be avoided and if they persist operation should be performed. If an abscess cavity is present the mouth of the sinus should be opened widely, in some cases it may be scraped, and it should be packed with gauze. For the cure of internal fistula it may be necessary to open the peritoneum, and remove the appendix; in some cases resection and end-to-end suture must be performed. Great stress was laid on importance of the avoidance of fistula by early operation.

Discussion—SENN, of Chicago, has seen more fistulas following operation than without operation, and he does not

believe in operation as a preventive of fistula. Operation in all cases as soon as a diagnosis is made is extreme, and extremes in surgery are dangerous. Ordinary expectant treatment will bring about recovery in 80% of all cases of appendicitis. The operation for fistula is usually dangerous and Senn is conservative about advising it in such cases in which it seems probable from the history that the fistula leads into the cecum. M. PRICE, of Philadelphia, endorses Deaver's views. In 125 operations performed as soon as the diagnosis was made he found pus in all but 2 cases. He advises the use of gauze instead of a tube for drainage. The statement that 80% of all cases recover without operation he believes incorrect and dangerous. DAWBARN, of New York, entirely agrees with Deaver that we cannot be too radical in dealing with the appendix. It is so generally possible to prevent fistula that when it occurs it may be usually ascribed to faulty technic. He advises the insertion of a purse-string suture about necrotic areas in the cecum which seem likely to give rise to fistulas. HAMILTON, of Columbus, believes that most fistulas will recover if a nourishing liquid diet and tonics are given together with massage and care as to cleanliness. MYNTER, of Buffalo, favors the position taken by Deaver. When pathologic conditions are present, such as are found in appendicitis, medical treatment can do no good. He agrees with Porter that in the case of large abscesses, after the fifth day it is best simply to incise and drain. He has found periphlebitis a more important sequel of appendicitis than fistula. KEEN, of Philadelphia, called attention to the discussion on the subject of appendicitis which occurred at the meeting of the American Surgical Association 13 months ago. Two questions were considered: Shall all cases of appendicitis be operated upon as soon as the diagnosis is made? and shall we remove the appendix in every case? Both of the questions were decided in the negative by all present, except Deaver and Hart. In 300 necropsies on patients that had died from causes other than appendicitis, Hektoen found that the appendix had been at some time inflamed in 100 cases, yet these recovered and died from other causes. Each case of appendicitis should be considered by itself, and not only the condition of the patient, but the skill of the surgeon who is to operate should be considered. A surgeon who operates only once in 3 months should not undertake it unless absolutely demanded. As general rules may be stated that no case should pass the second attack without operation; all cases of considerable gravity should be operated upon and in most cases the appendix should be removed. It is rare that fecal fistula does not heal spontaneously. In operating for fistula Keen usually makes the abdominal opening at one side of the fistula, excises, inverts, closes with Lembert sutures, and packs with gauze. MCRAE, of Atlanta, said probably in 75% of all cases recurrence follows if the appendix is not removed. To break up adhesions in every case in which suppuration is present, as suggested by Price, he believes is dangerous. In operations during acute attacks he considers the greatest danger to be ventral hernia, and not fistula as stated by Deaver. Most fistulas close spontaneously. Gauze drainage he prefers to use of the tube. MURPHY, of Chicago, congratulated Deaver on his successes in repairing the defective work of others and his labors to prevent such defective work. Granting that 80% of all patients with appendicitis recover without operation, the results are not so good as after early operation, for probably all but about 2% recover from such operations. This is a saving of 18% of lives over the conservative methods of treatment. The diagnosis is easy in every case within 24 hours, and there are few towns so small that good surgical skill is not available within a few hours. The mortality of early operation is probably not over 1% and that is from primary perforative peritonitis. Murphy has not lost a case that was operated on within the first 24 hours. He believes that we should refuse operation in those cases in which suppurative peritonitis is present; the responsibility for death should then rest with the physician who has allowed the patient to reach such a condition. GRAY, of Jersey City, believes in operation as soon as a diagnosis is made. Any surgeon with common sense and ordinary skill can perform the operation. He pleads for operation in cases of general peritonitis; we should eviscerate on hot towels, sponge the intestines, peel off patches of adherent lymph, wash with salt-solution, and drain freely in such cases. He has saved a number of patients by such treatment. HALL, of Cincinnati, believes that we should give the desperate cases a chance. BOLDT, of New York, operates upon every case, if not moribund. If there is recovery from the first attack there is danger of a second attack, and danger from immediate perforation. FENGER, of Chicago, considers the question of first importance, "How shall we get the patient out of the attack alive?" This is not always best accomplished by operation. Operation in the interval is safest, hence it is best not to operate as soon as the diagnosis is made, if there seems to be a possibility of recovery from the attack. The patient is put in a hospital and carefully watched, and if the symptoms increase in severity operation is performed. ASHTON, of Philadelphia, agrees with Deaver as to the advisability of early operation; it is never possible to tell what the patient's condition will be the next day. LAPLACE, of Philadelphia, thought the mortality too high in appendicitis; every case could be saved at some stage by operation, and this is usually early in the attack. It is never possible to tell whether the infection is caused by a mild or virulent germ and the only safety lies in early operation. OCHSNER, of Chicago, advises withholding absolutely all food and cathartics, thus avoiding nearly all peristalsis which tends to pull away the protecting omentum. If this treatment is followed abscess-formation will not occur in some cases and if it does occur it will be localized and readily, successfully treated. The mortality of operations during the interval is much less than if performed during the attack. PORTER in closing the discussion stated that he is absolutely opposed to breaking up adhesions in case of abscess-formation as suggested by Price. He does not believe that recurrent attacks follow in 75% of the cases in case the appendix is left. Murphy gave a wrong impression when he stated that he would not operate in case of septic peritonitis. We should give every man a chance for recovery, no matter how desperate the case. DEAVER, in closing, stated that he was certain of only two things in connection with the subject of appendicitis; the method of making a diagnosis, and that all cases should be operated upon as soon as a diagnosis is made.

THIRD DAY.

The Treatment of Hernia in Children.—A. J. OCHSNER, of Chicago, gave as predisposing factors of hernia, the existence of the opening of the inguinal canal, weakness of the abdominal wall and hereditary tendency; the influence of a long mesentery is of doubtful importance. Among the exciting causes increased intraabdominal pressure is of great importance; this may be partly due to indigestion, and distention of the intestines with gas as a result of improper feeding; the digestive trouble often causes the child to cry, thus aggravating the condition; pressure may also be increased by straining at stool as a result of constipation, straining because of phimosis, and as a result of coughing. These conditions are much more common among the poor, the children are usually badly nourished, and their tissues abnormally lax and soft. In children, if the hernial sac is kept empty, and the abdominal pressure is removed, the majority are cured spontaneously. To keep the hernial sac empty, put the child in bed with the foot of the bed elevated. Remove digestive disturbances by careful attention to diet, and treat constipation, phimosis, coughing or other causes of intraabdominal pressure. The child is thus relieved of its discomfort, is contented and sleeps most of the time. In this way the majority of cases of hernia can be cured. Operation is indicated if the hernia becomes strangulated, in case of irreducible hernia which becomes adherent to the sac, if the hernial opening is large, and it cannot be retained with a truss, and if accompanied by hydrocele. The operation consists in dissecting out the sac, ligating it, and cutting it away, after which the stump is allowed to retract into the abdomen, and the opening is simply sutured.

Treatment of Ventral Hernia.—M. M. JOHNSON, of Hartford, Conn., believes that ventral hernia occurs in nearly 10% of cases after abdominal operations. Factors influential in its causation are: drainage and granulating wounds, stitch-abscesses, division of the motor nerves, lowered vitality and hereditary diseases. Johnson described his method of operating in which he uses buried kangaroo-tendon sutures with

quilled stay-sutures of silver wire. He reported two bad cases in which he had operated successfully.

Cure of Inguinal Hernia in the Male.—H. O. MARCY, of Boston, said it is scarcely ten years since the radical cure for hernia has become a recognized operation. The various methods of operating need not be considered in detail, but only the essential points of any successful operation. In most hernias except the inguinal variety there is a simple opening, and its closure will give rise to cure of the hernia. The essential point of difference in inguinal hernia is produced by the passage of the cord through the inguinal canal. Under normal conditions Marcy does not believe that a funnel-shaped process of the peritoneum such as is described by many writers exists. Sufficient attention has not been called to the importance of closure of the internal ring in the cure of hernia. Operations in which the cord is passed directly through the abdominal wall and transplanted under the skin are not followed by the best results, as the obliquity of the inguinal canal is a natural protection against protrusion of the abdominal contents. Among the essentials of successful operation were mentioned: free, careful dissection, proper disposition of the hernial contents, careful attention to asepsis, the use of buried animal sutures, closure of the wound without drainage, and sealing the wound with collodion without further dressing.

Discussion.—W. B. DEGARMO, of New York, considers some defect of the abdominal wall the most important predisposing cause of hernia, while constipation is considered the most important exciting cause. He hesitates to operate upon children under 5 years old, for he believes that 95% of them can be cured by the use of a truss. He does not endorse the plan of treatment by putting the child in bed, for this prevents its development. The method of operating first described by Marcy and now generally known as Bassini's method he considers the best. FERGUSON, of Chicago, considers deficiency of the internal oblique muscle at Poupart's ligament the most important etiologic factor in inguinal hernia. The honor of proposing the method for the cure of inguinal hernia belongs to Marcy. MAYO, of Rochester, Minn., believes that the majority of hernias occurring in children can be cured by the method suggested by Ochsner. The most important factor which tends to give permanent cure in operations by Bassini's method is the fact that the scar-tissue is divided into two lines, the first line protected by Poupart's ligament, the second by the thick abdominal muscles. Scar-tissue is always weak and this division is consequently of great value. OCHSNER said that De Garmo's objection to his method of treatment in bed does not hold, as it is continued only 6 weeks. MARCY said that ventral hernia may usually be avoided. He has not had a single hernia in nonsuppurative cases after over 1,000 abdominal operations.

External Drainage of Superficial Lung-Cavities, with Report of Two Successful Cases.—W. L. WILLS, of Los Angeles, Cal. It is difficult to explain why suppurating tuberculous cavities of the lung are allowed to go on to infect the other lung and to produce pyemic conditions, when surgeons would feel justified in operating for such suppuration in any other part of the body. Wills advocates external drainage in such cases, but finds it difficult to get the consent of patients to the operation. He reported the case of a man of 45, who had been losing strength and weight and who had all signs of a tuberculous cavity of the lower part of the left lung. Tubercle-bacilli and elastic fibers had been found in the sputum. Under medical treatment he improved, and refused operation, but returned and consented to operation after his condition became much worse, three months later. An incision was made in the anterior axillary line and the seventh rib was resected; no pus was found in the pleural cavity, but a drainage-tube was inserted. A gush of pus came, 9 days later, simultaneously from the trachea and the wound. After this the temperature fell to normal, and there was free, foul discharge. The patient left the hospital with several discharging sinuses, and when seen about a year later, his sinuses had closed, he had gained 75 pounds in weight and was working hard. Special attention was called to the fact that strong solutions of mercuric chlorid were used for irrigation without poisonous effect, and these were thought to have had something to do with the cure. [Wills has evidently lost sight of the fact that absorption does not take place from granulating surfaces, such as the walls of abscess cavities. M.B.T.] A second operation was reported which was performed by a colleague of the speaker. A slight-built, emaciated man with signs of tuberculous cavity was subjected to resection of the rib, and 3 days later free discharge appeared and the temperature fell to normal. After 8 days the patient left for home much improved. Both patients took the anesthetic very poorly.

Discussion.—MURPHY, of Chicago. If no adhesions of the pleura to the chest-wall are present there is danger in opening the thorax. Puncture with a needle, admitting air, is not dangerous, and the air will produce compression of the lung and evacuation of the abscess-cavity through the bronchi. If adhesions exist the lung should be directly incised instead of being opened with cautery. WILLS in closing mentioned the advantages of California climate for such patients and the importance of getting them out into the air soon after operation.

Surgical Errors of Skiagraphy.—CARL BECK, of New York, reported a case of fracture of the tibia showing the necessity for 2 or more skiagraphs in the diagnosis of fractures. In this case of oblique fracture it was impossible to see any break by a skiagraph taken in the frontal plane, but it was clearly seen in one taken from one side. Without the normal epiphyses are understood they may be taken for fracture, as may also the os intermedium pedis. Several skiagraphs were exhibited.

Diagnosis of Calculous Disease of Kidney, Ureters and Bladder by the X-rays.—C. L. LEONARD, of Philadelphia. If skilfully used the diagnosis by the x-rays is absolutely accurate. Leonard reports 20 cases in which the diagnosis of calculus was confirmed by operation, necropsy, or passage of the stone. Not only is positive diagnosis possible, but a negative diagnosis may be made, thus avoiding unnecessary operation. The x-ray diagnosis is preferable to exploratory operation. Errors are only possible from faulty technic or lack of skill in reading the negatives.

Treatment of Injuries of the Ureter.—B. B. DAVIS, of Omaha, Neb., described a method of ureteral anastomosis which he employed in uniting the ureter in a case in which it was divided while removing an intraligamentous cyst. The lower end of the duct was split for about 1 cm., threaded needles were passed through the walls of the upper end, then through the lower end and on drawing on the sutures the upper end was drawn down and invaginated into the lower end. Later examinations proved that the ureter remained patulous. This method is quicker, simpler, and sacrifices less tissue than that of Van Hook.

Discussion.—KELLY, of Baltimore, commended Leonard's work with the x-rays; in several cases in which he had been unable to locate ureteral stone with wax-tipped bougies, a diagnosis was made by Leonard with the x-rays. He briefly described his method of end-to-end anastomosis of the ureter with a guide, and reported a case in which he freed the bladder from its attachments and sutured it to the psoas muscle in order to get it high enough to anastomose with a short ureter. BEVAN, of Chicago, mentioned a case in which two stones in the pelvis of the kidney and one in the kidney-substance were located by the x-rays. The third stone was found only after some needling, and would not have been discovered had it not been previously located by the x-rays. He considers the x-rays a most valuable means of diagnosis. BOVÉE, of Washington, D. C., considers anastomosis usually the best method of dealing with a severed ureter. Implantation into the bowel is the next best procedure. Over 80 operations of this kind have been reported with a large number of successes. He believes that the dangers of ureteral anastomosis have been overestimated; the function of the ureter is usually completely restored. Out of 21 cases thus far reported, an unfavorable result followed in but one case. GOODHUE, of Dayton, O., reports a case of ureteral anastomosis by Van Hook's method. WINSLOW, of Baltimore, reported having operated on a case several years ago, by a method similar to that described by Davis. BECK, in closing, expressed his belief that the importance of a negative x-ray diagnosis is not sufficiently appreciated. To make such a diagnosis 3 or 4 skiagraphs are necessary. MCARTHUR, of Chicago, called attention to the different intensity of shadows produced by calculi of various chemical compositions. SUMMERS, of Omaha, Neb., mentioned a case in which he found double ureter present at the time of operation. CARPENTER, of San Francisco, in removing an intra-

ligamentous cyst cut out a section about 2 inches long from the ureter; he performed implantation into the bladder and showed button, devised on the plan of Murphy's button, which had been devised for such operations. LEONARD, in closing, emphasized the importance of using a low vacuum tube in diagnosing renal calculi by means of the x-rays, and the necessity for skilful technic. DAVIS, in closing, called attention to the fact that the ureter is apt to be divided in severe, long operations and hence the necessity for a rapid method of repair such as he had described; the operation could be performed in 5 minutes.

Exstrophy of the Bladder with Exhibition of a Case.—AP MORGAN VANCE, of Louisville, Ky. A boy of 17 came under observation for exstrophy of the bladder and hypospadias with all the disagreeable consequences. Operation was performed by sliding triangular flaps from the iliac region without inverting the skin, and after 7 operations at different times extending over a period of 2 years a successful result was obtained. The patient was present for examination.

Discussion.—DE FOREST WILLARD, of Philadelphia, considered the result in this case one of the most admirable he had ever seen. In most cases success is not obtained even after repeated operations. If the skin is turned in, concretions form and give rise to pain and discomfort, sometimes making it necessary to reopen the bladder. He believes that the most satisfactory treatment in these cases is to transplant the ureters into the colon above the sigmoid flexure, thus preventing incontinence of urine. It is best to remove a section of bladder-wall with the ends of the ureters, for in this way the best possible valve is obtained. KELLY, of Baltimore, agreed with Willard that transplanting the ureters into the bowel was the most successful operation. In one case he loosened the sacroiliac joint as had been done by Trendelenburg to aid in approximation. Vance's operation had the advantage of giving a functioning penis. MEANS, of Columbus, has a case similar to Vance's under treatment. HERZEL, of Chicago, has been favorably impressed with the operation of anastomosing the intestine and bladder in such cases. EASTMAN, of Indianapolis, Ind., mentioned a case in which he did nephrectomy on one side and sutured the ureter into the groove of a hypospadiac penis on the other for the relief of exstrophy. The patient is in excellent health. SUMMERS, of Omaha, Neb., mentioned a case occurring in a female in which he performed anastomosis between bladder and vagina, thus obtaining a narrower opening from which to collect the urine. VANCE, in closing, expressed his belief that the case presented was as bad as any case could be and that a similar result could be obtained in any case by perseverance and boldness in dragging on the tissues.

Surgical Asepsis of the Urethra and Bladder.—FERD. C. VALENTINE, of New York. Attention was called to the difficulties of obtaining anything like a sterile condition of the urinary tract; urinary diluents, antiseptic drugs taken internally and injections with the piston-syringe are evanescent in their effects and give only an approach to asepsis. Valentine demonstrated an apparatus which he devised 7 years ago for copious flushing of the urethra. During that time he has invariably practised such irrigation before and after all instrumentation of the urethra and he has not had a single case of urethral fever. He advises autoirrigation by the use of the apparatus also in cases of gonorrhea in which the patient cannot visit the physician regularly and for those obliged to use the catheter themselves for enlarged prostate, etc.

The Treatment of Prostatic Hypertrophy.—PARKER SYMS, of New York, described the pathologic conditions found in these cases and the well-known series of symptoms produced. For the operative relief of this condition, Bottini's operation and prostatectomy are the only procedures which merit discussion. The former operation he has not performed, but he thinks favorably of it; the latter operation he considers one of the greatest achievements of modern surgery. The death-rate has been high, not because of the dangers of operation, but because operation was left as a last resort and undertaken when the patient was unfit for any operation. Operation, to be successful, should be undertaken before the appearance of pain, infection and cystitis. It should not be undertaken on men with atheromatous arteries, unfit for any operation. He advises the perineal operation without suprapubic incision, and he showed a bulb which he has devised which can be introduced into the bladder in a collapsed condition and then filled with air to force the prostate down, so that it is readily accessible for operation.

Discussion.—C. C. THAYER, of Clifton Springs, N. Y., commended Valentine's apparatus, but believed a fountain-syringe might be substituted for it. Local applications offer the best hope in the treatment of urethral affections. GLENN, of Alabama, believes that Valentine is over-enthusiastic in using irrigation, and that it is unnecessary except when there is urethral discharge. YOUNG, of Baltimore, has performed the Bottini operation successfully in several cases and considers it a very valuable method. CHISMORE, of San Francisco: The method of complete enucleation of the prostate commends itself to him as a great advance in the treatment of prostatic hypertrophy. BECK, of New York, agrees with Valentine that irrigation is advisable in all cases of instrumentation of the urethra. ROBBINS, of Detroit, considers urotropin the only internal urinary antiseptic of any value, and considers copious irrigation a valuable procedure. EASTMAN, of Indianapolis, credits Valentine with the introduction of Janet's irrigation method in America. He believes that a large piston-syringe is more easily sterilized, more convenient, and in skilful hands may be more accurately used than the fountain-syringe. BULLITT, of Louisville, Ky., considers Valentine's apparatus unnecessarily complicated; the shield is an advantage. It is impossible to gauge pressure by the piston-syringe and it is not easily sterilized. GRAY, of Jersey City, thinks more favorably of prostatectomy than of Bottini's operation. GUITERAS, of New York, believes that irrigating the urethra and bladder always improves their condition. Autoirrigation should not be advised if there is any obstruction, and irrigation should always be discontinued as soon as there is any discomfort felt. An enlarged prostate should not be enucleated if there is pyelonephritis or arterial disease. The Bottini operation is suited to cases in which there is not great enlargement and in which the obstruction is mainly caused by the middle lobe. The mortality has been placed too high by some writers; in the hands of skilled operators it should not be over 5%, while the mortality of enucleation is never less than 20%.

FOURTH DAY.

The Treatment of Tuberculosis of the Knee-joint.—WISNER TOWNSEND, of New York. The treatment of tuberculosis should be both constitutional and local. The former is too generally neglected; it should consist in careful attention to diet, the use of creosote and general tonics, out-of-door life, and careful attention to the general health. Rest is indicated if the exercise gives no benefit. In the local treatment the joint should be protected from every slight jar. This is best accomplished by the use of the Thomas knee-splint with a high-soled shoe for the opposite side. Plaster-of-paris or silicate of soda may be sometimes used. In any measures to overcome deformity, force should be avoided. Excision in children should not be performed if any other treatment can be substituted on account of the interference with the normal growth of the limb; in adults excision should be performed in the majority of cases. Complicating abscesses should be evacuated and sinuses dissected out or treated by stimulating injections. The limb should be given complete protection for at least 2 years.

Discussion.—OCHSNER, of Chicago, considers constitutional treatment of great importance. After operating on patients who come from a part of Chicago known as "Little Hell," if they return to that section of the city to live the disease often recurs in some part of the body, while if their residence is changed to "Lake View," another part of the city, which is high and dry, though also inhabited by working people, the patient usually recovers permanently. BULLITT, of Louisville, Ky., believes that protective treatment gives better results than operations in these cases. SULLIVAN, of Chicago, emphasized the importance of early diagnosis. If an early diagnosis is made and suitable general and local treatment instituted, excision will be required in but few cases.

Fractures of the Patella.—J. M. BARTON, of Philadelphia. The results of the methods of treatment of fracture of the patella which have been in vogue in the past are far from satisfactory, and surgeons now generally prefer to

operate in case of this injury. Operation is usually deferred to the tenth day after injury on account of the lessened danger of infection, and it may well be undertaken much later. The prepatellar tissues generally get interposed between the bony fragments and it is this that gives rise to nonunion. Asepsis is the point of greatest importance in successful operation; after opening the joint the prepatellar tissues are removed from between the bony fragments, clots are removed and the joint-cavity is irrigated with sterile water, never with an antiseptic solution. The fragments are then united with silver wire, drainage is inserted for 24 hours, and a fixation dressing is applied. Rapid, bony union follows.

Unreduced and Irreducible Dislocations.—ARTHUR D. BEVAN, of Chicago, based his paper on 3 dislocations of the elbow-joint, 1 dislocation of the ulnar at the wrist, 1 dorsal dislocation of the hip-joint, and 3 others not operated upon, and 1 dislocation of the astragulus. In 2 of the cases of backward dislocation of the elbow a fragment of bone was found in the joint, which prevented reduction. In the third case no such bony f agment was found. From his observation of these cases Bevan concludes that operation for reduction of irreducible dislocations of the elbow-joint is justifiable if carried out aseptically; there is generally a fragment of bone in the joint. He prefers double lateral incisions with no drainage; he dresses in a semiflexed position and uses passive motion early. The mortality is less than 5%. In some very old cases it is possibly best to remove the lower end of the humerus. Within the past year, Bevan has had 5 cases of irreducible dislocations of the hip under observation, 3 of these were accompanied with fracture of the edge of the acetabulum. He considers the avoidance of drainage very important, and in 1 case he got union by first intention. In another case an engineer was thrown from his cab, injuring his ankle; the astragalus was twisted to an angle of 90°, and remained in this position for 3 weeks; operation was performed, and a useful joint resulted. Points specially emphasized were: The necessity for the use of the x-rays in diagnosis, the frequency of accompanying fracture, and the importance of not using drainage.

Discussion.—MCLEAN, of Detroit, called attention to the great changes which have recently been made in our methods of treating fractures and dislocations. It is a matter of small importance whether a fracture or dislocation is compound or not as long as the wound of operation is asepti . BLAKE, of Baltimore, agrees with Barton as to the necessity for perfect asepsis in operations for suture of the patella He prefers not to use drainage and not to use the finger in the wound. TINKER, of Philadelphia, called attention to aluminium bronze as a material for wiring the patella. This was introduced by German operators, and is now in almost universal use in Germany instead of silver wire. The advantage of this material is that it is gradually absorbed, the aluminium being acted upon by the normal body-fluids. It is composed of aluminium with a small proportion of copper to give it sufficient tensile strength. X-ray pictures have shown that the wire remains for at least a year, but G rman operators claim that it is eventually absorbed. OCHSNER, of Chicago, prefers to operate immediately, as the patient thus avoids loss of time. He prefers a transverse incision, and uses chromicized gut as a suture-material. The patients are able to walk about in 3 weeks after operation. MEANS, of Columbus, O., has operated upon 9 cases of fracture of the patella by wiring, and has had complete recoveries in all of them. WINSLOW, of Baltimore, has found it necessary to divide the triceps tendon in several cases in order to reduce dislocation of the elbow-joint; perhaps this might be avoided by using double lateral incisions as Bevan suggested. HART, of China, has performed a number of operations for wiring the patella and for reducing dislocations. He described the difficulties encountered in restraining the unintelligent Chinese patients. MCFARLAND, of Pittsburg, does not agree that all cases of fracture of the patella should be treated by wiring. BARTON, in closing, stated that as he wears rubber gloves there can be no great disadvantage in introducing the finger into the wound. He prefers to use nonabsorbable suture-material, for in many cases the joint is used before complete bony union has occurred. BEVAN, in closing, stated that he does not usually advise operation for fracture of the patella, for he has obtained good results without it. In 2 cases treated by conservative methods the x-rays demonstrated that bony union had occurred with a functionally perfect result. He has seen one death and several cases of sepsis following this operation, and believes that no man in general practice should open any joint.

Tetanus Treated with Antitetanic Serum.—J. D. BLAKE, of Baltimore, believes that the essentials in the treatment of tetanus are: seeing patients early and using the serum freely. He has treated five consecutive cases with but one death, much better results than he formerly obtained by other methods of treatment. The amount of serum used was 50, 60, and 70 cc., in the cases which recovered and 40 cc. in a fatal case. The specific organism was found in but two cases. WHITMORE, of New York, mentioned 9 cases which were treated at the Roosevelt Hospital by trephining and injecting the serum, with 7 deaths. BLAKE in closing expressed his belief that the unfavorable results are usually due to the fact that the serum is not used early enough.

Growths in the Frontal Sinus.—W. D. HAMILTON, of Columbus, O. The diagnosis of these cases is difficult and usually impossible until late; a mortality of 33% has been given. Hamilton reported two cases of osteoma which he removed from the frontal sinuses. In one case the bony growth removed weighed 4½ ounces and was exceedingly dense. The second osteoma was considerably softer and was complicated by extensive empyema.

Discussion.—DAWBARN, of New York, advises the use of a round sewing needle as an aid in the early diagnosis of bony growths. Malignant disease causes softening and decalcification and in these cases the needle can be pushed in easily, which is not the case in ordinary bone-tissue. It is best not to crush through the septum into the sinuses for drainage; by curving a probe a drainage-tube can be inserted through the natural passages.

Injuries of the Skull and its Contents.—W. H. EARLES, of Milwaukee, quoted Sir Astley Cooper that "no injury to the skull is too slight to be despised nor too severe to be despaired of." He believes that intervention is more frequently indicated than is generally believed in the cases of fracture of the skull, and specially if there is laceration of the soft tissues and the depression, operation is justifiable.

Laminectomy for Diseases and Injuries of the Spinal Cord.—SAMUEL LLOYD, of New York, reports 15 cases in which he has operated for paraplegia resulting from Pott's disease of the spine. In all, 118 operations have been performed. Operation of itself is not so dangerous, but death usually results later from the tuberculosis process. In advanced cases operation is of little advantage unless the abscess is located posteriorly. Nonoperative treatment should be thoroughly tried, and if not successful, operation should be performed early without waiting for ascending or descending myelitis. Pressure is usually caused by tuberculous debris. Operations in the lower part of the spine show the most favorable results. Chipault has collected 22 laminectomies for tumors with 16 recoveries. Permanent cure is generally not to be expected, because the growths are usually malignant. In case of fracture there is no hope if the function of the cord is destroyed by pulpification. Obliteration of the deep reflexes generally contraindicates operation. We should wait until shock is passed and then operate if there is not complete destruction; if hemorrhage is producing extension of the symptoms; if there is improvement at first and the symptoms become worse later; or if there is full recovery with paraplegia and symptoms developing later, probably from the formation of callus. The mortality of operation is now about 50%, but we should give the patients what little chance there is of recovery.

Discussion.—DAWBARN, of New York City, had no criticism to make, but only desired to emphasize the importance of early operation. He mentioned the case of a girl who fell from a window breaking her back; two hours later operation was performed and a spicule of bone was removed which was sticking into the cord from in front. Terrific hemorrhage was controled by gauze packing, and good recovery resulted; he urges that these cases are in the same category as fractures of the skull and we should not wait for operation. HOUGH, of New Bedford, Mass., reported a case in which he removed the laminas of the sixth and seventh cerebral vertebras for injury. A slight paralysis of the right arm persists, otherwise recovery is perfect. LLOYD, in clos-

ing, emphasized the importance of early operation. We should not cease removing bone until the cord pulsates; if the dura is cyanotic from the presence of blood clot it should be opened and evacuated.

Operations for Injuries of the Median and Ulnar Nerves.—B. B. EADS, of Chicago, reported one case in which he operated to free the ulnar nerves from a cicatrix and 4 cases in which he performed nerve-suture. The results of these operations are encouraging.

Result of Surgery in the Aged.—J. P. TUTTLE, of New York. Old people stand operations better than is generally supposed; Tuttle has operated on 133 patients over 60 years of age; the average age was 69. There were only 3 deaths, all following operations for hernia, 2 resulted from pneumonia, and in the third case operation was performed by mistake on a patient with contracted kidney. Most of the operations were major ones; 38 of them were for hernias, 36 for hemorrhoids. Ether was used as an anesthetic in the majority of cases, chloroform was used in 13 cases and cocain in 30 cases. Albumin in the urine is not a contradication to operation unless there be fatty or epithelial casts. Celerity in operating is important; the mortality is less than 3%.

Discussion—DAWBARN, of New York, believes that the greatest danger is from sepsis in such operations. Old people do not fight suppurative processes well. HART, of China, finds that a man of 75 in China is as old as a man of 95 in America. The lower classes of Chinese stand operations well, probably as a result of their simple methods of living; the aristocrats do not bear operation well. TUTTLE in closing stated that he agreed with Dawbarn's suggestion that the old do not bear suppurative processes well; in his cases those which suppurated required a long time for recovery.

Sarcoma of the Intestines.—C. VAN ZWALENBERG, of Riverside, Cal. Of 13,000 necropsies at the German University of Prague during 15 years there were only 13 cases of sarcoma of the intestine, showing that the condition is relatively very rare. He reports a case in a boy of 5, both of whose parents had died from carcinoma. There was a history of abdominal injury followed by declining health, with no discernible cause but digestive symptoms. A rapidly growing tumor was soon felt in the abdomen; a grave prognosis was given, but exploratory operation was advised. On opening the abdomen 2 growths were found involving ileum and colon near the ileocecal valve; there was intussusception of 3 or 4 inches of intestine. The ascending colon which was affected and a part of the ileum were excised and end-to-end anastomosis by Murphy's button was performed; after 24 hours the patient's condition was good, and now 6 months later he is well and has gained 17 pounds. A microscopic examination proved the growth a round-celled sarcoma. Z. has tabulated 15 cases, all he was able to find in literature. Of these cases of intestinal sarcoma, 10 affected the small intestine; 9 patients were males and 5 females; the ages ranged from 1½ to 51 years; he finds that stenosis of the intestine, which is commonly reported as a symptom of the affection, is rarely present; on the contrary there is generally dilation; the diagnosis is difficult and resection is the only proper treatment.

The Advantages of Retained Catheter.—J. R. EASTMAN, of Indianapolis, Ind., finds retained catheter often the best method of dealing with cases of retention of urine, particularly if the urethra is sensitive. He advises using a large soft rubber catheter which is retained with remarkable tolerance. In one case of traumatic stricture of 13 years' standing with urinary fistula the catheter was retained without disturbance; the fistula healed permanently in 12 days; in another case the catheter was retained 17 days; in a third case of perineal fistula it was retained 65 days with occasional removal and cleansing. The dangers of cystitis from retained catheter have been much overestimated.

Discussion.—E. W. HOLMES, of Philadelphia, agrees with Eastman as to the value of retained catheter. He reported a case of suprapubic cystotomy for the removal of vesical calculus in which a soft catheter was retained for 21 days. LORD, of Omaha, Neb., believes that the retained catheter is contraindicated in case infective processes are present. GUITERAS, of New York, always uses the retained catheter for a few days after external urethrotomy if the urethra is tortuous. He has used the catheter in such cases as long as 2 weeks. It may be used with advantage in case of spasmodic stricture, acute prostatitis, or seminal vesiculitis; it is also useful in cases in which the patient is being broken into catheter life; if there is spasm of the urethra with resulting trauma on passing the catheter, but in these cases the catheter may be plugged until there is a feeling of distention of the bladder. He has also used retained catheter in severe febrile conditions. EASTMAN, in closing, noted that it is often easy to pass a large catheter in cases in which it is impossible to pass a small one.

Nephroureterocystectomy.—HOWARD A. KELLY, of Baltimore, reported a case of tuberculosis of the left kidney, ureter, and the adjacent portion of the bladder, in which he removed kidney, ureter, and the diseased part of the bladder-wall; the specimen was demonstrated. The operation was performed through two incisions; one in the loin, the other median. The patient made a good recovery from the operation, but from a mistake of the house physician in charge, the bladder became distended and ruptured, causing fatal peritonitis. Kelly believes that it is possible to do far more extensive operations for tuberculous processes than has been supposed; removal of the entire disease is essential.

E. W. HOLMES, of Philadelphia, gave an abstract of a paper on the anatomy of hanging which was reported in full to the section on Neurology and Medical Jurisprudence. See reports of this section.

Discussion—MCLEAN, of Detroit, expressed the belief that from a humanitarian standpoint we are not justified in executing fellow human beings, no matter what their crime may have been.

Section on Obstetrics and Diseases of Women.

[Reported by W. K.]

FIRST DAY.

The chairman, W. E. B. DAVIS, delivered the **annual address.** He reviewed the history of gynecology in America and called attention to the recent advance in this specialty. He believes that gynecology and obstetrics should be taught by the same professor, and that the establishment of large maternities would increase materially our teaching facilities along these lines. The development of the specialty is due to the fact that the general surgeon recognizes to be successful in abdominal and pelvic surgery requires a special training—a peculiar tactile sense is necessary in arriving at an accurate diagnosis in these cases. The advances recently made have done much to mitigate human suffering and prolong life. General surgeons make woful blunders in pelvic surgery. It is far easier for the gynecologist to become a general surgeon than for the general surgeon to become a gynecologist. Neurologists often fail to accord the gynecic surgeon his proper place in the treatment of nervous disturbances due to pelvic lesions. He deplored deeply the removal of ovaries when not organically diseased. Too much has been claimed for vaginal section in pelvic disease—it has well-defined limits. In cases of pelvic inflammation do not wait for pus-formation, but make free incision and establish drainage. In fibrous uterine growths, if enucleation can be easily performed it should be employed; however, if the organ is much mutilated, hysterectomy is the preferable procedure. For retrodisplacements of the uterus the Alexander operation is satisfactory. In pus in the kidney, he thinks that the lumbar incision should be used rather than any plan of ureteral treatment. He described the method he employs for closing the abdominal incision.

The first paper was **Value of the angiotribe in vaginal celiotomy,** by J. H. CARSTENS, of Detroit, Mich. He reviewed the history of ovariotomy. One of the difficulties of vaginal celiotomy for this operation is the ligation of the broad ligaments, and thorough hemastasis. He believed that many patients requiring abdominal section can be subjected to vaginal celiotomy by means of the angiotribe. He considers Thumin's instrument the best. In cases of pus-tubes, small ovarian tumors, etc., a small opening is made into Douglas' culdesac, the angiotribe applied, the diseased tissue removed and a gauze drain introduced. No apparent scar is left to show that an operation has been performed. As no ligatures are required there is less danger of sepsis, and the patients make a more rapid recovery. He believes that he saves many lives and lessens materially the

period of convalescence by this procedure. Another point is, that there is no danger of subsequent hernia.

The paper on **Further experience with Tuffier's angiotribe,** by I. S. STONE, of Washington, D. C., was read by title.

The next paper was on **Angiotripsy in abdominal surgery,** by HUGH M. TAYLOR, of Richmond, Va. Taylor has used the angiotribe successfully, and believes the post-operation pain and shock are less severe and less lasting when this instrument is employed. It is easy to use, and he has had no bad results. Has used it in twenty cases, always by the suprapubic route; in only one instance did he experience difficulty in controling hemorrhage. This case was one of necrotic omentum, to which he was compelled to apply a ligature.

HENRY P. NEWMAN then read a paper on **Improved technic in major and minor surgery of the female generative organs.** Since the advent of anesthesia, antisepsis, and hemostasis, great progress has been made in pelvic surgery. The least possible violence should be done to the tissues that will produce a good result. It is particularly true of plastic work that scar-tissue and adhesions often leave a patient worse than before operation. Rapid divulsion of the uterus will, at times, produce a tear, which may impair the function of the organ. Much harm is done by the improper use of the curet. He advocates trachelorrhaphy in cases of cervical injury. The denuded tissues are removed and the flaps are carefully approximated, care being taken to maintain a patulous canal. Newman was the first to introduce the angiotribe into this country; he employs the modified Doyen-Thumin instrument. It is important that the instrument should be of faultless make, and thoroughly tested. It should not be used in attenuated tissues or the omentum. Do not handle the stump after its removal. Do not cauterize the stump. Drainage is not necessary. A pressure of 300 pounds should be exerted for one minute or more. In soft or edematous tissues, the instrument may cut through, as with ligation. The pressure should be equally distributed, and skill and judgment shown in the handling of the instrument.

Discussion.—WATHEN, of Louisville, urged more simplicity in technic. For the past two years he has used only one retractor, and often none. He has never used the angiotribe, and thinks that as much work can be accomplished per vaginam by the clamp, and more speedily than by this instrument. He urges the importance of the employment of the vaginal route in cases of carcinoma uteri. GOFFE, of New York, has used the angiotribe extensively, and considers it a perfectly safe instrument. In two cases of advanced cancer, invading the broad ligaments, it worked satisfactorily even in the cancerous tissues. In a case of cancer of the rectum the instrument was used to pinch off the rectum and its mesentery above the infiltrated area, thereby securing a dry field of operation. He also uses it for the removal of hemorrhoids. GOFFE is a warm advocate of the angiotribe, and believes it has a wide range of application. He uses the Thumin instrument, and has diminished the time of its application to one and a half minutes. BOVÉE of Washington, D.C., thinks the angiotribe is more like a plumber's tool than a surgical instrument. He advocates the abdominal route in the majority of cases, as the vagina cannot be thoroughly asepticised. Does not think the convalescence is shortened in these cases. A number of deaths from secondary hemorrhage have been reported by the French and German operators. He thinks that more of the broad ligament can be removed by the scissors than by the angiotribe. On account of the size of the instrument it cannot be used with precision in the vagina. W. E. ASHTON, of Philadelphia, has no personal experience with the angiotribe. The majority of his work is done by the abdominal route. He prefers leaving the stump, and bringing the broad ligaments together, to give support to the bladder. He called attention to the necessity for a careful technic in uterine curettage. There is danger of laceration of the cervix, when too rapid dilation is performed. Trachelorrhaphy is often done, when amputation of the cervix would be a better procedure. G. B. MASSEY, of Philadelphia, took decided exception to the treatment of ovarian prolapsus by the extirpation of the organ. He thinks that frequently proper treatment of the inflamed and dislocated organ will relieve the symptoms. MCMURTRIE believes that we should not mistake a novelty for an improvement. That the introduction of novel methods of practice are not always an advance. He cannot see the necessity for the employment of the angiotribe, for the skilful application of the ligature has been very satisfactory. A careful study of the comparative data of the two methods is necessary before this question can be satisfactorily settled. PORTER, of Indianapolis, reported a case in which he had employed the angiotribe, and the patient died of secondary hemorrhage. H. J. BOLDT has used the instrument and fails to see any superiority over the ligature. One objection is the time required to operate with it. JOHN C. DA COSTA, of Philadelphia, thinks that too many trachelorrhaphies are done when amputation of the cervix is really indicated. He has never used the angiotribe, as he wants to see what he is doing. In closing the discussion, CARSTENS said he only advocated the use of the angiotribe in selected cases. In cases of cancer he preferred the clamp. NEWMAN claims for the angiotribe the following advantages: expedition, doing away with foreign bodies, or nonabsorbable ligatures in the abdominal cavity, the massing of tissues, and the restoration of the crushed tissues will occur. He employs an additional ligature, if necessary. If bleeding occurs on removing the instrument, reapply or fortify with a ligature.

Personal experience with uterine fibroids, by H. D. INGHAM, of Buffalo, N. Y., was read by title. J. RIDDLE GOFFE, of New York, read a paper on **Myomectomy per vaginam.** He considers that myomectomy is preferable to hysterectomy in uterine fibroid, where all the diseased foci can be removed, and that when myomectomy has been decided upon the vaginal route is preferable to the abdominal in all cases in which it can be employed. The scope of vaginal myomectomy is much wider than is usually thought. If necessary, he makes an anterior and posterior vaginal incision, sometimes dissecting the bladder from the uterus and anterior vaginal wall, in order to extirpate the neoplasms. He described a series of cases in which this method had been successfully employed.

H. J. BOLDT, of New York, read a paper on **Myofibroma uteri,** in which he discussed the clinical symptoms, and degenerative changes in these growths. In some instances quite large tumors may entirely disappear prior to the menopause, during pregnancy or the puerperium; where complex symptoms occur during the history of a fibroid growth, it is usually indicative that a degenerative change is in progress. Indiscriminate operations should not be advised in all cases of fibromyoma. The writer had employed thyroid and mammary extract in the treatment of these cases with very little result.

BOVÉE read a paper on **Arrhythmia cordis complicating fibromata uteri.** He detailed a case operated on by himself in which arrhythmia was a marked symptom, but was entirely relieved 4 weeks after the operation. The varieties of arrhythmia are: (1) the true intermittent, in which the ventricular contractions are uniform in degree, but at regular or irregular intervals; (2) the false intermittent; (3) a variety in which the chief symptom is the pulsus bigeminus; (4) the pulsus alterans; (5) delirium cordis, in which there is irregularity of systolic contraction, and the pulse-rate very fast. He concludes that: (1) arrhythmia cordis is not well understood; (2) as a complication of fibromata uteri it is exceedingly rare; (3) it has a serious import, the degree of which depends upon the condition causing it; (4) its presence as a complication of conditions, requiring surgical operations, necessitates a careful inquiry into its cause before operation is done; (5) it is a contraindication of more or less influence in surgical operations; (6) if not due to severe pathologic lesions, other than that for which the operation is to be done, its presence does not necessarily prohibit operation, but lends additional jeopardy to the patient's recovery. This subject was discussed by PORTER, J. H. WIGGINS, CARSTENS, JOS. PRICE, GUSTAVE ZINKE and WATHEN.

SECOND DAY.

The only paper read during the morning session was **Parturition as a factor in gynecic practice,** by JOHN M. DUFF, of Pittsburg, Pa. By far the greater number of cases of diseases of women are due to faulty and meddlesome obstetrics. At least 50% of gynecologic cases are due to parturition. Eliminating inversion and fistula, the mor-

bid conditions of the pelvic organs are due to (1) sepsis, (2) lacerations, (3) to both combined. The treatment consists of (1) prophylaxis, (2) procedures which will protect lacerations. A rigid observance of obstetric rules will eliminate at least 50% of gynecic cases, due to abortion. Too often a laceration is not repaired for fear the family may reproach the accoucheur for lack of skill in not permitting it Far better tell the family the true condition of affairs, than to allow the patient to go unattended and suffer from the train of symptoms following the laceration. The antepartum and postpartum douching of otherwise healthy women was condemned. Placentæ succenturia and spuria are overlooked etiologic factors in sepsis. He found a spurious placenta in five cases. The systematic employment of ergot after every case of labor is a potent factor in causing pelvic disease. The *discussion* was opened by MORDECAI PRICE, of Philadelphia. Too often sepsis is due to the indiscriminate employment of antiseptics, and in too strong a solution. He has often seen a high temperature due to intrauterine irrigation, which became normal after the irrigation was discontinued. DUNNING, of Indianapolis, had often seen bad results follow intrauterine irrigation with mercuric chlorid employed because of overanxiety. JOSEPH PRICE, of Philadelphia, urged more attention to obstetrics, as the enthusiasm in this line of work is degenerating. He attributes the higher mortality at the present time, in obstetric practice, to the lack of the considerate attention it should receive. The difference in mortality between public and private work is due to the environments of the patients, and the difference in the technic we must pursue in accordance therewith. Each woman should have her own syringe, and not permit any one else to use it. Too often in cases of high temperature the interior of the uterus is not first examined with the finger, but a curet is at once introduced, and an irreparable amount of harm done. To use the curet in this manner is simply guesswork, and under no condition is it to be sanctioned. TUTTLE, of Cambridge, Mass., thinks more attention should be paid to the preparation of the patient for her parturition. Laceration of the cervix and perineum should be carefully sought for, and immediately repaired. A plea was made by ZINKE, of Cincinnati, for more thorough work in obstetrics, and that colleges should endow the chair of obstetrics, so that the occupant thereof can devote his entire attention to the subject, and not neglect it by being dependent on gynecic surgery for his living.

The principal obstetrical advance during the last half-century, by A. H. HALBERSTADT, of Pottsville, Pa. With the exception of anesthesia and antisepsis, there is practically no improvement in obstetrics of today from 50 years ago. He attributed the standstill in obstetrics to the fact that the field of gynecology has proved more attractive. The further employment of anesthetics during parturition was urged, and the profession should not withhold this valuable agent for fear it will lessen uterine contractions, or favor postpartum hemorrhage. If judiciously employed, it is without danger. Anesthesia is especially indicated in eclampsia. He knew of no contraindication to the employment of anesthesia in labor, not even excepting diseases of the heart and lungs. He does not recall, in his large experience a case in which the death of the child could be attributed to the anesthetic. During the eclamptic paroxysms he thinks patient far safer when under an anesthetic than when breathing pure air. He detailed an account of a patient, in whom the right lung was completely obstructed by fibrous deposits, and in addition contained two cavities. The same condition of affairs existed in the right lung, only one-fifth of its structure performing its function. She was under an anesthetic for four hours, during one hour of which forceps were applied. The subsequent three weeks were uneventful, during the fourth she rapidly declined, and died at the beginning of the fifth week. The autopsy revealed the condition. He used this case as a strong argument, that advanced disease of the pulmonary structures was not a contraindication to the administration of an anesthetic in parturition.

The first paper of the symposium on the relation of pelvic and intraabdominal diseases to nervous diseases was **Causal relation intraabdominal diseases bear to nervous disturbances recognized by gynecologists, ignored by neurologists,** by HENRY O. MARCY, of Boston, Mass. He called attention to the apparent and efferent fibers, and the nerve centers. Reference was made to the limited value of deep reflexes. He urged the more systematic study of the pelvic organs of insane women in institutions. The members of the association were advised to read the paper of Buck, of London, Ontario, relative to this subject.

Neurosis due to autointoxication from faulty menstruation, by ARTHUR JOHNSTONE, of Cincinnati, Ohio. All childbearing women have an excessive amount of nutrition stored up in their economy which must be eliminated. When pregnancy exists the secretory organs must rid the body of this excess, if the fetus fails to consume it. The kidneys perform the greater part of this work. When the eliminative organs are in perfect condition, they can handle this excess without any difficulty, hence the secretory organs of every pregnant woman should receive careful attention. During the nonpregnant state, this excess of nutrition is carried off by the menstrual blood. He claims that perfect menstruation drains the system of accumulated poisons. Hence in women in whom menstruation is faulty, there often exists a gouty diathesis. If necessary an operation should be performed, and the patient subjected to a consistent form of treatment, that will restore the menstrual flow to a normal condition. Then the neuroses due to autointoxication from faulty menstruation will disappear.

Traumatisms and malformation of female generative apparatus as cause of insanity, by DR. GEO. H. NOBLE, of Atlanta, Ga., was not only based on his personal observations, but he had written letters to prominent alienists and gynecologists in the United States and their replies were incorporated in the article. One alienist has observed only one recovery of the mental condition following operation. The most frequent variety of tumor found by him in insane women was fibroid. It is not the variety of tumor, however, but the irritation produced by the neoplasm in the uterus, that gives rise to the perturbed mentality. In the Buffalo State Hospital for the Insane, none of the patients gave a history of traumatism of the generative organs, nor could malformations of these organs be demonstrated. This, he thinks, is an exception to the rule in institutions of this kind. Accidents incident to parturition are the most frequent variety of trauma. Absence of the vagina, uterus, or ovaries, etc., are the most frequent etiologic factor in causing insanity. He reported the case of a woman with occlusion of the vagina for 26 years, entirely cured of her insanity by a plastic operation for the relief of her condition. Simple displacements play a more important role in causing insanity than is often credited. He has never observed uterus bicornis, didelphys, etc., in insanity, although such cases have been reported. Less or no stress is laid upon heredity as a causative factor. He has never seen a case of insanity or melancholia cured by operation, but has seen many improved. No special form of insanity follows traumatism and malformations of the generative organs.

Third element in equation between pelvic disease and disturbance in nervous system in women. H. A. TOMLINSON, of St. Peter, Minn., endeavored to prove by suitable argument and statistics that insanity in women is not due to diseased pelvic organs, but to an unstable or defective nervous system. In the capacity of Superintendent of the St. Peter Hospital for the insane, where he has an average of 475 women under his charge, he has had a good opportunity to study such cases. No particular form of insanity is associated with pelvic disease, or menstrual disturbances. No convulsions have occurred in the epileptics at St. Peter's during the menstrual period. He has done five laparotomies in insane women with only one recovery from insanity. Many of the patients now under his care were operated on prior to their admission. The symptoms accompanying pelvic disease and menstrual disorders result from a disturbed nervous system, rather than the cause of such manifestations. He has had cases of insanity in men due to sexual abuse, but no one has suggested operating for the cure of the neuroses in this class of patients. Of three such cases admitted in the past ten years, dementia rapidly supervened after castration. He believes that operative interference in pelvic disease in the insane, is only called for under the same conditions as in the sane, that is, the reasons are purely surgical.

Tuboovarian adhesions; their reflexes. A. L. BEHAN, Canandaigua, N. Y., spoke of the density of the

adhesions between the tube and ovary. Neurasthenia followed more frequently with slight adhesions than when the tube and ovary were tightly adherent.

Pelvic disease as a factor of cause in insanity of females, and surgery as a factor of cure, by E. C. CARPENTER, of Columbus, O. He firmly believes that insane women should be treated the same as sane women, when pelvic disease exists. Reference was made to the idea of the cause of insanity in females half a century ago. The truth of the present ideas have been pointed out by surgical experience. He does not advocate operating on women who have been insane for more than two years.

Interrelation of gynecology and neurology in practice. C. H. HUGHES, of St. Louis, Mo., urged that the neurologist and gynecologist should work together. The former should not entertain the idea that the disturbed mental condition is due solely to the nervous system; neither should the latter think that the unbalanced nervous mechanism is to be entirely attributed to the diseased pelvic organs. Subserous fibroids do not require operation until pressure-symptoms or pain develop. He discourages all operations on insane and neurotic women, unless the organs are diseased and giving rise to marked local symptoms.

Gallstones and diseases of gallbladder and nervous symptoms resulting therefrom, by EDWIN RICKETTS, of Cincinnati, Ohio. He believes that gallstones are an exciting cause in hepatic carcinoma, and in malignancy of the ducts. He alluded to infection of the gallbladder by the Bacterium coli commune, gaining entrance through the common bile-duct. Morphia should not be used to alleviate the pain in these conditions because it too often marks the symptom, and operation is delayed until too late. He cited a few instances in which nervous symptoms had resulted from gallstones, and biliary disease. A plea was made to operate in every case of cholelithiasis as soon as the diagnosis was made. As a result of experiments he felt satisfied that calomel increased the flow of bile.

The *discussion* of the symposium was opened by DR. PORTER, of New York. He operates in insanity and neurotic patients only when the pelvic organs are diseased and giving rise to symptoms. He favors a neurologic consultant in all such cases. G. E SHOEMAKER emphasized the discussion of his predecessor, and believes all diseased conditions giving rise to discomfort should be relieved, resorting to an operation, if necessary. JOS. EASTMAN, of Indianapolis, does not believe that calomel increases the flow of bile, but decreases it. STONE, of Pittsburg, stated that the physicians in charge of insane institutions did not resort to vaginal examinations of the patients under their care, until urged to do so by the gynecologists. He has never seen reflex neuroses follow gallstones. ZINKE, of Columbus, Ohio, said that no woman should be committed to an insane asylum until a vaginal examination has been made. He does not operate unless the diseased structures are giving rise to symptoms. He reported a case of dementia of 18 months' standing following an operation he did for bilateral pyosalpinx. She is now perfectly sane. He related another case, same disease, in which two weeks after the patient declined operation, she became hopelessly insane. CARSTENS, of Detroit, reported a case of menstrual insanity. The patient became insane during each menstrual period. Both ovaries were diseased, and were removed. Instead of being cured as he had promised the family she would be, permanent dementia supervened. J. M. BALDY, of Philadelphia, does not believe that pelvic disease ever causes insanity. Patients suffering from puerperal insanity, in his experience usually recover. PALMER DUDLEY, of New York, thinks that heredity is a causative factor in the insanity of women, but that by far the greater number of these cases are puerperal in origin. A guarded prognosis should always be given. MCMURTRIE laid stress upon examining carefully all the organs in a neurasthenic patient, and not attributing the nervous manifestations to the pelvic organs alone.

THIRD DAY.

Aseptic Minor Gynecology with Demonstrations.—AUGUSTIN H. GOELET, of New York City, insisted on cleanliness in everyday gynecologic work and vaginal examinations; for the protection of both patient and physician. Use clean towel on the pillow of the examining table for each patient, changing it in her presence. He demonstrated a modified perineal pad for office work, and a shield to close the vulva outlet, while the vagina is being distended with the cleansing solution. As an astringent he prefers a solution of iodin, 1 part, in 3 parts of glycerin used on a tampon. This solution does not stain the clothing of the patient. The hands of the physician should be thoroughly prepared prior to each vaginal examination. He demonstrated a portable rubber irrigating bag and emergency case of instruments and a rubber shield to slip over sponge tents to avoid sepsis. In *discussion* J. M. DUFF, of Pittsburg, said more attention should be given to the thorough preparation of the vulva, rather than the vagina. The vaginal secretions do not afford a good habitat for germs. The cervix should also be thoroughly cleansed. L. A. DUNNING, of Indianapolis, thought the preparation referred to in the paper required too much time, and was unnecessary. PORTER, of Indianapolis, condemned the employment of the brush in scrubbing the vagina, because the epithelioma is scrubbed off in places, which will open new avenues for infection.

The morning session was devoted to a symposium on cancer of the female generative organs.

The prophylaxis and diagnosis of cancer of the uterus, by L. S. MCMURTRIE, of Louisville, Ky. Adenocarcinoma of the body of the uterus is at first localized, then spreads. The rapidity of growth in this variety of tumor, is more rapid than in epithelioma. Great importance was made regarding the early diagnosis of malignant uterine disease; this depends upon the touch, sight, symptoms, and the microscope. Reference was made to the necessity of using the curet to obtain scrapings of endometrium, and the removal of pieces from the cervix for microscopic examination. There are no symptoms in the initial stage of carcinoma. Pain, as a rule, does not occur until late in the disease. Great difficulty is experienced at times in differentiating carcinoma of the cervix from hypertrophy, lacerations with erosions, and hemorrhagic endometritis. No cure after the initial stage. Primary cancer of the body of the uterus is rare, the seat of invasion usually being the cervix. Recurrence of the disease invariably follows hysteretomy, even when done early in the disease. He urged the routine adoption of prophylaxis.

Technic of Vaginal Extirpation for Cancer of the Uterus.—R. B. HALL, of Cincinnati, O., strongly advocated vaginal hysterectomy, and the careful preparation of the patient prior to operation. He places the patient in the extreme lithotomy position, and unless contraindicated, always administers chloroform. If cauliflower-excrescences are present, the cautery is freely used, and 10 days later the patient is subjected to a more radical operation. He prefers the employment of ligatures to the clamp method. For this purpose he uses a large size silk twist. Always remove the tubes and ovaries when operating for cancer of the uterus.

Combined abdominal and vaginal versus vaginal hysterectomy for carcinoma, by DR JOHN B DEAVER, of Philadelphia, Pa. The abdominal route offers the following advantages: 1. Affords the only route by which the pelvic glands can be removed. 2. The carcinomatous tissue can be more thoroughly extirpated. 3. Injury to the ureters less liable. 4. Unnecessary to catheterize ureters, a source of renal infection. 5. Secondary hemorrhage not so apt to occur, owing to a more perfect command of the field of operation. 6. Less danger of peritoneal infection. He limits vaginal hysterectomy to (1) early carcinoma confined to cervix or uterine canal (2) Small uterus easily movable. This operation is contraindicated when adhesions, pyosalpinx, ovarian cysts, fibroids, etc., complicate the malignant condition. He always removes the lymphatics, and dissects out the pelvic glands. It is rarely necessary to employ drainage after abdominal hysterectomy, but should it be indicated always do so supravaginally.

Cancer of Uterus.—W. H. HUMISTON, of Cleveland, Ohio, laid stress upon the importance of an early diagnosis being made by the general practitioner, as he usually sees these cases first. Operate immediately and completely. Adenocarcinoma of the body is the only variety of cancer found in this situation, and is the most frequent variety found in the cervix. The epitheliomatous variety is less prone to recur after operation. Recurrence generally due to (1) metastasis; (2) incomplete removal of diseased tissues; (3) by direct implantation of diseased tissue on healthy areas at the

time of operating. He strongly advocates complete removal of the lymphatics. Condemn the vaginal route for attacking this disease.

Treatment of cancer of uterus, by WM. R. PRYOR, of New York City. He detailed a series of statistics in support of abdominal hysterectomy. The primary mortality of all operators following vaginal hysterectomy is 10%; abdominal hysterectomy, 11.5%. But recurrence occurs more often in the former than the latter. He urges the abdominal route, and the removal of the uterus, tubes, ovaries, lymphatics, glands, and the upper third of the vagina (the rectum, when necessary). To avoid recurrence, the cases must be operated on early, and a most extensive dissection done to remove all foci of the disease.

In *discussion* BOLDT, of New York, laid stress upon the difficulty of making a diagnosis when malignancy existed in the supravaginal portion of the cervix. J. M. BALDY, of Philadelphia, prefers the abdominal route. He has never failed to see recurrence of the operation. He prefers to curet the uterus thoroughly and then use the thermocautery freely. G. B. MASSEY, of Philadelphia, spoke of the employment of mercuric oxychlorid in cervical cancer, by kataphoresis. Not only in the pain relieved, but the progress of the disease is checked and the odor eradicated. CARSTENS, of Detroit, Mich., thinks it impossible to dissect out all the affected pelvic glands and lymphatics. JOSEPH PRICE, of Philadelphia, said that in child-bearing women, the malignant disease is usually primarily in the cervix, in spinsters primarily near the fundus. In cases far advanced the curet and thermocautery should be freely used, to obtain the best results; the life of the patient is not only prolonged and rendered more comfortable, but death is made easier. GOELET favors the abdominal route. BYRNE thinks that hysterectomy is contraindicated in beginning malignant disease of the cervix, preferring to do a supravaginal amputation of the cervix. PHELPS condemned the treatment suggested by BYRNE. BONNIFIELD does not think the statistics given favor the more radical operations, in preference to vaginal hysterectomy. ENGELMANN, of Boston, said that Sautier, of Constance, 75 years ago, in a prize essay at Vienna, advocated the method now adopted for treating carcinoma of the uterus

Nephrorrhaphy: a Study of the Remote Results with Remarks on the Technic.—CHARLES P. NOBLE, of Philadelphia. The underlying cause of movable kidney is a deficiency of adipose tissue, especially in the perirenal region. Tight lacing, multiple pregnancies, and falls, occasionally act as contributing causes. His experience embraces 43 operations done for movable kidney. Of these 2 patients died, which would indicate the operation has a definite mortality. The cause of death in 1 case was preexisting chronic interstitial nephritis, in the other evidently pulmonary embolism. Investigations with patient in erect position are valuable. Noble uses nonabsorbable ligatures (silkwormgut) in performing the fixation. The sutures soon becomes encapsulated in a scar-tissue sheath, which, so far as the functionating structure of the kidney is concerned, makes the suture extrarenal. In treatment of these cases he recommends: 1. Careful discrimination in diagnosis in order to separate cases in which movable kidney is a coincidence in a case of neurosis from those in which it is the cause of local and reflex symptoms. 2. Resort to the rest-cure for cases of slightly movable kidney, especially in young women. 3. The employment of symptomatic treatment in cases in which the relation between the movable and the nervous symptoms is uncertain. Nephrorrhaphy should be employed in these cases only after nonoperative measures have failed. 4. The immediate resort to operation in those cases in which local symptoms, such as pain, sense of weight, or symptoms of strangulation are present, and when examination of the urine shows indication of congestion of the kidney, such as the presence of hyalin casts, or albumin.

Resection of the ureter, by HOWARD A. KELLY, of Baltimore, Md. In certain cases the ureter may be accidentally injured, or may be mistaken for a vessel and inadvertently cut. In other instances a deliberate resection of the ureter is performed, as when a cancerous infiltration exists. Determine whether the ureter is a "live or dead one," that is, whether it is conducting urine or not; in some instances the disease process has caused an obliteration of the canal and it has ceased to functionate. The various methods of dealing with an infected ureter, by uretero-ureterostomy ureterocystostomy, etc., were described. Dr. Kelly's instrument—a ureteral guide—for facilitating the operation, was exhibited, and the method of using it illustrated.

Discussion.—DUNNING reported a case in which the ureter had been injured in operating on a broad ligament abscess. He introduced an ordinary uterine sound through the urethra and then through the vesical wall, using it as a guide to carry the injured ureter into the bladder. BOVÉE called attention to many other circumstances under which it was necessary to resort to ureteral surgery—such as in uterovaginal fistula, etc., and other injuries following parturition. He has made a thorough study of this subject and collected 80 cases of ureterocystostomy from literature. The manner of operating depends upon the position and extent of the injury. The chief danger in operating is that too great tension is placed on the delicate sutures introduced. KELLY urged that the members report candidly and fully their cases of ureteral injury, etc., in order that the comparative data may be studied.

The first paper of the symposium on inflammatory disease of the female genitals was on **Senile endometritis,** by L. H. DUNNING, of Indianapolis. He reported 2 cases of elderly women, showing a clinical history similar to cancer. In both, hysterectomy was performed, and a careful microscopic examination revealed, in addition to the decided atrophic changes of senility, the presence of acute inflammatory processes in the endometrium. The mucosa of both cervix and body was involved, and small round-cell infiltration was noted in the muscular structure, although the mucosa was chiefly involved. In one case there was a cystic degeneration of one ovary, in the other a diseased tube and ovary was found. In neither was there any stenosis of the internal os.

Inflammation of Fallopian Tube, with Special Reference to Specific Origin.—J. R. GUTHRIE, of Dubuque, Iowa, reviewed the history of literature on tubal diseases from 1665 to the present time, and described the variety and extent of the inflammatory processes. He considers that the gonococcus is the most frequent and most important bacteriologic factor in the causation of tubal disease. A latent gleet in the male is repeatedly the cause of an acute infection in the female. He believes that the dictum, "once infected, always infected," is almost always true of gonorrhea and that the profession should lay more stress upon the danger of this infection in women. It may remain latent for many years. Microscopic examination is of great value in making accurate diagnosis. Gonorrhea is more virulent and far more dangerous to women than syphilis. He finds that in his own experience from 70 to 80% of the cases are due to this cause.

Tuberculous Peritonitis.—A. H. CORDIER, of Kansas City, Mo., reports 15 cases operated on without a death from the operation. The peculiar symptoms were discussed and the various explanatory theories of the success of operations reviewed. He thinks that any hyperemia short of necrosis exercises a beneficial influence by the influx of lymph which cures the tubercular disease, probably by the development of some chemical agent or antitoxin. This agent is being constantly elaborated in the tissues in some way not clearly understood.

Plea for more free Avoidance of Exsection of the Ovary in Connection with Resection of Diseased Tubes.—PHILANDER A. HARRIS, of Paterson, N. J., claims that the good results which have followed removal of the tubes and ovaries, for disease which was forming in the tubes, can in most cases be secured without sacrificing the ovaries, thus preserving for such patients as much ovarian tissue, menstruation, and consequent ovarian influence, as possible, and not entirely and so often unnecessarily depriving them of the possibility of conception.

Appendicitis Operations in Young Women and Girls.—JOSEPH PRICE, of Philadelphia, compared the frequency of this disease in the two sexes and urged the necessity for early operation. In 9% of his cases the vermiform appendix was involved when the right tube and ovary are diseased. He noted that appendicitis seems to occur in certain sections of the country more frequently than in others.

The *discussion* of the symposium was opened by PALMER DUDLEY, of New York. He reported a series of five cases, in which he had carried out his original idea for preventing the reflex neuroses due to total ablation. He excises a wedge-shaped piece from the fundus of the uterus, then re-

moves a correspondingly shaped piece from the ovary, and transplants it in the opening already made in the fundus. No reflex neuroses have occurred in the patients so treated. One of them has menstruated regularly, and on one occasion became pregnant, the pregnancy being interrupted by a criminal abortion. GEORGE I. MCKELWAY, of Philadelphia, referred to a patient who had recently been under his care during pregnancy. She had been operated on by a New York surgeon. A portion of the ovary and all of the tube on one side, and the ovary and a portion of the tube on the opposite side had been removed. This patient became pregnant, and was delivered at term. She is now pregnant for a second time. WIGGINS, of New York, made a plea, upholding Harris's paper. GOELET is very much interested in the subject of senile endometritis, and urged a microscopic examination of the vaginal secretion of women after the menopause. ENGELMANN cited two instances in which pregnancy occurred due to transmigration of the ovary.

FOURTH DAY.

After Treatment of Laparotomy. — WALTER B CHASE, of Brooklyn, N. Y., discussed at length the results of his experience in closure of the incision, shock, hemorrhage, pain, etc. The interrupted "through-and through" suture is preferable in closing the abdominal incision. To prevent thirst, fill the abdomen with salt solution before closing it. He referred to cases he has had in which malaria complicated the convalescence, and said that the pyrexia of this complication may be mistaken for another condition.

Discussion.—D. S. STONE said that careful inquiry should be made into the history of the patient prior to operation, and if she has been accustomed to taking morphia, it must not be withheld after operating, until she has made a good convalescence. He condemns closing the abdominal incision in layers. W. E B. DAVIS described the method he employs for closing the incision, which is as follows: A silkwormgut suture is introduced through the aponeurosis, muscle, and peritoneum on one side, and then through the peritoneum, muscle, and aponeurosis of the opposite side. The ends are then slipped through a small caliber silver tube, the length of which corresponds to the thickness of the remaining portion of the abdominal wall, above the aponeurosis. A perforated shot is then slipped over the ends of the silkwormgut, and is fastened at the top of the tube, which corresponds with the level of the skin. Superficial, alternating sutures are used to approximate the skin surface. Leave the sutures in a week, then cut the silkwormgut near the shot, remove the tube, then pull out the silkwormgut. BONNIFIELD prefers ext. colocynth. comp. for thirst. For pain he uses codein gr. iii, chloral gr. xxx per rectum. RICKETTS condemned digitalis and nitroglycerin for postoperative rapid pulse, preferring strychnia.

Ovulation and Menstruation not Interdependent Functions.—C. C. THAYER, of Clifton Springs, N. Y., discussed it from the following three points, and cited cases in proof his argument: (1) Ovulation while menstruation did not exist; (2) menstruation without ovulation; (3) conception prior to menstruation.

Contribution to Study of Dysmenorrhea.—GEO. TUCKER HARRISON, of New York City, after reviewing the nervous supply of the pelvic organs, spoke of the importance of this subject to the general practitioner and the gynecologist. He believes that the term dysmenorrhea should be applied only to those cases in which the menstrual blood accumulates in the uterine cavity, necessitating contractions of its muscular walls to empty. All other pains in the pelvis at the time of menstruating are simply neuroses. Menstrual pain in young girls is due to the inability of the uterine cavity to hold the secreted blood, owing to its small size. He called attention to the occurrence of nasal pain at times accompanying menstruation. There are certain areas of the nasal mucous membrane called "genital areas." During this period these areas become painful, are relieved by local applications of cocain, and cured with the cautery. Antipyrin and phenalgin in his hands, have afforded the best results in dysmenorrhea. The former he prefers to give hypodermically 15 to 40 grains at a time. When surgical measures are demanded, he prefers dilation with the graduated bougies, and then using a sharp curet. He ended his paper by making a protest against resorting to removal of the ovaries as a dernier resort for dysmenorrhea, as very few cases are relieved by it.

The last paper, **Treatment of Menorrhalgia (Dysmenorrhea) of Pelvic Origin, by Electricity.**—G BETTON MASSEY, of Philadelphia, prefers the term menorrhalgia for pain accompanying menstruation. He denies that there exists an accumulation of blood in the uterine cavity during menstruation, and if a sound can be introduced into the uterus, then a sufficient opening exists for free drainage. If dysmenorrhea is relieved by pregnancy, it is not due to the distention of the uterus, but rather to a new growth of its substance incurred thereby. A protest was made against forcible dilation of the cervix for the relief of this condition, as a great deal of harm is often done. He prefers the galvanic current for all such cases. In closing the paper, he described the method of applying electricity in this condition.

The above 3 papers were by consent grouped together as a symposium. The *discussion* was opened by ZINKE, who has failed, after an extensive experience, to obtain a good result by the employment of electricity for any disease of the pelvic organs. HERZOG discussed at length his original work in the pathology of menstruation. ENGELMANN has made a study of 5,000 cases of dysmenorrhea, including women of all social classes; from 60% to 70% suffered menstrual pain. In from 30% to 40% great pain was noted. He has also devoted attention to this phenomena in shop-girls, and school-girls. Of the latter class the harder the studies and the more closely they attend to the routine duties of school the more marked the dysmenorrhea During vacation it is very slight. He believes that the majority of such cases are due to a general nervous disturbance, dependent on the environments. LAWRENCE insisted on the fact that dysmenorrhea is not a disease but a symptom *per se*. He does not uphold the theory that an obstructive dysmenorrhea can exist.

Section on Diseases of Children.

[Reported by A. G. E.]

FIRST DAY.

The address of the chairman, EDWIN ROSENTHAL, of Philadelphia, was devoted to a consideration of the **serum-treatment of diphtheria.** He stated that the position held by antitoxin in the treatment of this disease was due to the pediatrist. During the past year he addressed more than 4,000 communications to physicians asking their views on antitoxin. The replies show a practical unanimity regarding the value of this agent. Statistics from the health-boards and hospitals in 157 cities give a mortality of 38% without antitoxin, and 14% when it was used. A comparison of the antitoxins manufactured by Parke, Davis & Co., Mulford, and various other reliable firms showed that all standard makes were good. The laboratories and methods are open to inspection, and the ethical standard of the firms is a high one. The admission of diphtheria-antitoxin to the pharmacopeia should be supported by all. The suggestion was made that the next executive committee investigate typhoid fever. The session was devoted to papers upon feeble-minded children and nervous diseases.

MARTIN W. BARR, of Elwyn, Pa., gave the results of 15 years' study of the **etiology of idiocy and imbecility.** The causes were grouped under heredity, malnutrition, and accident. Statistics were given from his own studies of 3,040 cases, and from other writers showing the effects of heredity. In his own series, 13% had a family history of imbecility, and 5% of insanity. He fails to find consanguineous marriages a cause of imbecility unless there is a neurotic tendency of some sort in the families of the parties who marry. There is a danger in such relatives marrying. Only 1% of his cases came from consanguineous marriages, and he regards such union with but little apprehension when there is no family taint. The law should not lop off the branches of the tree by forbidding these marriages, but should begin at the root by forbidding the marriage of persons having a neurotic taint. Figures showing the relation of various neuroses, and malnutrition following disease as etiologic factors were given. There was a history of phthisis in 9% of his cases, and of intemperance in 3%; under the head of accidents, instrumental delivery seemed to bear a causative relation in 1%.

The care of higher grades of the feeble-minded was the title of the paper of A. W. WILMARTH, of Chippewa Falls, Wis. He classes as higher grade those cases in whom the faculties which enable one to carry on the ordinary social duties of life are defective or wanting. Moral imbeciles also belong to this class. The distinction from a backward child is made by the development of the powers reaching a point where progress is stopped instead of only being slow. Treatment is best carried out in an institution where there is rivalry and the humoring of the family is not present to dull the activity of the child. In the *discussion* LESZYNSKY said thatt the treatment was pedagogical and must be carried out by an institution or by persons at the home. Under the proper conditions such individuals do better at home. J. MADISON TAYLOR said that he formerly believed the home treatment to be the best, but since studying the results of institutions he had changed his opinion. Such cases do better with others of the same degree alongside of them as a stimulus. Great wealth might in a few cases give good results in the home, but for average cases institution training gives much better results.

J. MADISON TAYLOR read for himself and F. S. PEARCE, of Philadelphia, **A study of the circulation in the feeble-minded.** The study was made upon 935 children in the Pennsylvania School for Feeble-minded, the lowest forms of idiots being excluded, and only those taken in which there was a suspicion of circulatory disturbance. Of this number 72 were found to have definite lesions of the heart or vessels; 40 males and 32 females. In the majority of cases the vasomotor system was most at fault. As treatment of cardiac and circulatory defects causes an improvement in the condition of such patients, the recognition of the condition in early life is important. In discussing this question LESZYNSKY stated that he did not consider that Taylor had proved his point. The circulatory disturbance in these cases is more likely the result than the cause of the condition present in the brain.

A. C. COTTON, of Chicago, read a paper upon **Infantile cerebral palsies.** Under this head he classes all conditions of impaired function due to a cerebral disturbance even if there is no motor paralysis present, as in epilepsy, etc. A report of 25 cases was made. Of these 18 were females. The time of onset was before or at birth in 17 cases. Of 11 diplegic cases, 7 were idiots; of 8 hemiplegics, only 2 were idiots. In only 2 cases were there athetoid movements and both of these were diplegics. In one diplegic there was no mental involvement, though other typical symptoms were present. In *discussion* LESZYNSKY stated that every child suffering from epilepsy should be examined for the possible existence of cerebral palsy. A certain number of cases recover partially and attention is not called to the condition until epilepsy develops, when the parents bring the child for treatment. The presence or absence of cerebral palsy has a decided bearing on prognosis in such cases. GRIFFITH emphasized this point and said that physicians often made mistakes by not attributing epilepsy, etc., to cerebral palsy. He called attention to the rarity of tremor as a posthemiplegic symptom. COTTON stated that the percentage of cases of improvement at home is very low, and he was anxious to hear from institutions. One postnatal case, occurring at 6 months of age, has been watched by him, the man now being 24 years of age. He can use carpenters' tools and play in a band, thus being self-supporting.

SECOND DAY.

This session was devoted to the consideration of infant feeding and to diseases of the digestive tract.

A. L. SHERMAN, of New York City, demonstrated a **Home milk modifier.** This consists of a graduated glass measure having 7 sides or panels. One panel is graduated for ounces, the other 6 have various percentage formulae. Nothing is more accurate except laboratory modification, and the simplicity of the method is its valuable point.

J. N. BYRNE, of New York, read a paper upon the **Causation and relative frequency of typhlitis, perityphlitis and appendicitis in infancy and childhood.** Few cases of typhilitis or perityphlitis are primary. Inflammation of the appendix is always accompanied by more or less inflammation of the peritoneum. Foreign bodies do not play the role in the causation of appendicitis that they were formerly supposed to do. The infrequency of stricture of the appendix before the twentieth year of age raises the question of its later frequency being due to inflammation or to physiological retrograde changes in the organ. Evidence points to the latter. Many cases of intestinal trouble, "biliousness," etc., are due to disease of the appendix.

LOUIS FISCHER read a paper on **Milk supply and control at the Kaiserin Friedrich Hospital** by ADOLPH BAGINSKY and PAUL SOMMERFELD, of Berlin. The arrangement of the stables, care and feeding of the cows, etc., was given in detail. The hospital now has a stable of its own as well as controling several milk dealers. Reliance is placed on chemical examination of the milk as a test. The cows are fed on dry fodder. Potatoes, slops, etc., are likely to cause diarrhea, and milk from such cows has a toxic effect upon the children using it. The milk is filtered and put in cans in the dairy adjoining, drivers and other employees not cleansed for the purpose not being allowed to enter this building. All cows are tested by tuberculin. At the hospital the sole duty of one maid is to prepare the milk for the infants. Both the full and mixed milks used are sterilized in bottles for 30 minutes at a temperature of 100° to 101° C. The writers do not approve of the criticism against the sterilization of milk. If Barlow's disease comes from sterilized milk it is from that which has been kept for a length of time in storage. Pure milk does not agree with dyspeptic children, and dilution is absolutely necessary.

Infant feeding was the subject presented by ALEXANDER MCALLISTER, of Camden, N. J. Our present knowledge of chemistry has failed to produce a synthetic breast milk, advance being needed in this direction. A plea was made for a closer adherence to nature's methods. Two conditions must be met—an alarming disinclination of mothers to nurse their babies, and the clamor for supremacy in the sale of artificial foods. Babies nursed by mothers may or may not be as fat as those reared artificially, but they are robust. Cow's milk furnishes many chances for infection. If the mother cannot wholly nourish the child, partial breast-feeding is of great value even if only once in 24 hours. Before giving up and adopting other means of feeding, stimulate the mother's secretion as much as possible, remembering that nutritious food is a better galactogogue than any drug. When cow's milk must be used, modification is *necessary*, but clean milk is *imperative*. Attention to the getting of clean milk is much more valuable than copying various formulas for modifying it.

W. P. NORTHRUP, of New York City, presented a paper upon **Infant Feeding; accidents and incidents.** Accidents may arise from the very exactness used in the feeding. The modifying of milk for infants' use places a great responsibility upon the physician, and he must remember this when adopting his formula. A case of scurvy followed by rickets was detailed. This was due to the formula not being changed for months at a time. He thinks that many babies are being given milk which is behind their age in its strength. His ambition is to gradually increase until full milk is used at 8 to 10 months of age. Fat, sugar, and proteids should be advanced together.

The *discussion* on infant-feeding was opened by HENRY D. CHAPIN. He stated that what was gained biologically was lost chemically in the sterilization of milk. In hospital use he has abandoned sterilizing, as the infants fed on such milk invariably get thinner. Percentage-feeding has not solved the question, and physicians have gone too far in its use. The most important question is that of getting the fats and proteids in a form which can be digested by the infant. The less manipulation given cow's milk the better are the results. While laboratory feeding is an advance, its disadvantage is the excessive amount of manipulation required. After being separated the fine emulsion cannot again be obtained by mixing. The plan now used by Chapin is as follows: He insists on the milk being bottled at the farm and delivered to the family in the original bottle. If proper cleanliness is observed at the farm (and this should be looked after), the milk is started absolutely clean and is not manipulated. The milk is allowed to stand in quart bottles until the cream rises, nine-tenths of the butter-fat coming to the top. The distinct line of the cream should be looked for to prove that no milk has been put in since the bottle was first filled. By means of a cylindrical ounce dipper on a long

handle, the contents of the bottle are then removed, beginning at the top. The first 9 ounces from the top of a quart bottle contains 12% butter-fat, 4% proteids, and 4% sugar. The first 15 ounces contains 8% butter-fat, and the same percentage of proteids, and sugar. Many samples have been assayed and give the above proportion with great uniformity. In this way but little manipulation of the milk is made, and a percentage which is accurate enough is obtained. The mother can do this, which is of great importance. Rules have been made too abstruse, a professor of physics and chemistry and a laboratory being necessary to carry them out. Hence mothers get disgusted and buy artificial foods. After a trial of all diluents, gruels are preferred. These are dextrinized in nearly all cases. Instead of saying so much fat should be given, watch the stools. Attention has been given to the wrong end of the baby. Watch the diaper end more carefully. VICTOR C. VAUGHN agreed that the very fine modifications of milk are often unnecessary and even unjustifiable. Sterilization and pasteurization alters milk to some extent. The chief proteid changed by a high temperature is nucleoalbumose. The point is not definite, but at 158° it is but little changed and at 160° the change is quite marked. Diarrhea is often due to failure in sterilization. The colon-bacillus is variable in virulence. Again the bacillus is destroyed, but its toxin is not, a temperature of 356° having no effect on the toxicity of some samples. Hence no amount of sterilizing will render such milk fit for infant feeding. WILLIAM L. STOWELL stated that bad results were at times due to a failure to distinguish between the therapeutic effect and the nutritional value of modified milk. The former may be kept up and the latter lost sight of in an infant. He prefers to arrive at whole milk when the infant is 6 months of age. Attention was called to two points: 1. Infants can and will digest large quantities of casein. 2. Many physicians do not modify milk rapidly enough to keep up with the age of the child. JACOBI said that if any one had come to the session with the impression that he could learn positively how to feed children he was disappointed, for different advice had been given by each speaker. He advised each physician to use his own brains, as it is wonderful how handy brains are in the practice of medicine. Most practitioners are diluting with cereals and this is the best method. Nine out of ten babies cannot digest pure milk. When milk is once separated it can never be made into milk again. Mother's milk is not exactly the same at all times, yet infants thrive on it. Hence there is some mistake in the statement that modified milk must have just such a percentage on such a day. Nature is more generous than are doctors' theories. A normal baby will pass out undigested material when using its mother's milk. Good has been done by boiling, sterilizing, etc., but we are overdoing our theories. J. P. C. GRIFFITH believes that sterilized milk is capable of producing scurvy, yet he believes in the process under certain circumstances. He has also seen 4 cases of scurvy due to a faulty use of laboratory milk, but he is a great believer in the use of laboratory milk. Judgment must be used in cases. HENRY KOPLIK said that a distinction must be made between healthy children and those that are not quite well. Milk is easily contaminated, and mothers should be taught to keep it clean. He believes it is, and always will be, a human impossibility to get cows' milk that is absolutely clean. For a diluent he does not use cereals in health but water. If the child be sick an effort is made to use something that will agree with it.

E. H. SMALL, of Pittsburg, reported a case of **Gastro-intestinal hemorrhage in the newborn.** The delivery of the child was by forceps. When 34 hours old there was a discharge of blood from the mouth and rectum, and at intervals of a few hours three other discharges from the rectum occurred. The nature of the affection was discussed, the fact that more cases occur in institutions than in private practice pointing to an infection as the cause. There are probably changes in the blood or vessels or both. The differential points between this affection and hemophilia were pointed out.

WM. E. DARNALL, of Atlantic City, read a paper upon **The clinical significance of stools in diarrhea of infants.** The following types were discussed: the green, brown or muddy, leaden, whitish-gray, mucous, and the dry pasty. In the treatment hygiene is of vital importance. In addition to this, treatment falls under three heads: elimination, disinfection, feeding.

The regular topic for the afternoon was then taken up—the consideration of contagious diseases. **Shall children be kept from measles and exanthemata usually incident to children?** was the subject of the paper of C. F. WAHRER, of Fort Madison, Iowa. It is best to quarantine against some diseases because their mortality is great and the tendency to acquire them diminishes with age. Such are scarlatina, diphtheria, variola, pertussis, etc. In the case of measles the disease is less severe in childhood and more severe after puberty. Epidemics among adults in camps, mines, etc., are productive of great harm. Hence it is not always best to keep children from being exposed to the disease. It should be guarded against in hospitals, crowded tenements, etc. There is no good reason why healthy children above 2 years of age should not be exposed.

In the *discussion* GRIFFITH did not agree with this view. In one large foreign hospital the deaths from measles were more than from either diphtheria or scarlet fever. FISCHER would not allow children to catch measles if he could prevent it. He finds serious complications, as otitis media and empyema, to be too common to warrant this. Laryngeal stenosis is a complication that is fatal in many cases, 20 of 25 cases he intubated ending in death. DR. SCHAMBERG stated that the mortality from measles was greater than was generally supposed. In Philadelphia during the past year it was greater than the mortality from either diphtheria or scarlet fever.

HENRY KOPLIK, of New York City, read a paper on **Rötheln: a distinct affection apart from measles and scarlatina, and its differentiation from these exanthemata.** Rötheln has been doubted as an entity by some writers, but it can be proved to be such. It resembles measles and is often mistaken for that disease. The rash appears on the face as a papular rash of deep rose-color, as a rule discrete, with crescentic outline. It spreads rapidly over the body, its appearance on the buttocks and thighs being regarded of diagnostic importance. In from a few hours to a day it fades. A real desquamation has never been established by Koplik. Unlike measles, rötheln is not a disease of the mucous membranes, and the cough, coryza, etc., of measles are never seen. The conjunctiva is injected, as in grip, but there is no photophobia. Children do not generally complain of the tonsils, which are injected, but adults do. As to the soft and hard palates, streaks and spots of eruption have been reported as occurring in these locations during the disease. He has also observed this in epidemics, but the point emphasized is that these spots are absolutely not characteristic of rötheln, and hence of no diagnostic importance. The red spots with bluish-white center characteristic of measles are absent, so the buccal mucous membrane is of negative diagnostic value. There may be no temperature-rise in rötheln. If there is a rise it is generally at the onset of the disease whether the eruption be out or not. The temperature may drop while the eruption is still present. A study of the lymph-nodes was made in 12 cases. The glands of the neck, axilla, and groin were distinctly enlarged. In rare cases of measles this alsooccurs, but so rarely as to make them of diagnostic importance in rötheln. This enlargement of glands often persists after the eruption has disappeared and sometimes lasts for weeks. The spleen is not enlarged. In discussing this paper GRIFFITH said he had repeatedly seen desquamation in cases of rötheln. He does not find the temperature-charts characteristic, although the glands are enlarged more than in measles the cervical glands are often enlarged in the latter and are found if looked for. DR. KOPLIK said that he ruled out the cervical glands when making the diagnosis of rötheln, referring only to those of the axillae and groin which are diagnostic. He has never seen severe complications with the disease. He isolates cases, letting the children run in the street as soon as the rash disappears in summer, but keeping them indoors for a week in winter.

JAY F. SCHAMBERG, of Philadelphia, read a **Clinical and pathologic study of rash of scarlet fever, with special reference to origin and character of desquamation.** The clinical appearance of the rash of scarlet fever was described as being made up of generalized erythema, punctated spots, "gooseflesh," papules due to inflam-

mation instead of contraction of the hair muscles, and miliary vesicles. These vesicles are present in the vast majority, if not all, of the cases of scarlet fever, sometimes being so marked as to suggest some other disease. In some cases the vesicles are not seen with the naked eye, but are found in large numbers by the aid of the microscope. The vesicles appear more often in severe rashes and are more copious in cases of intense eruption. The intensity of desquamation is directly proportionate to the amount of vesiculation present. Too much stress has been placed on desquamation as a diagnostic point in disease, the process only being the termination of some other stage. The persistence and character of the desquamation is of more importance than is its mere presence. Desquamation is the result of the vesicles pushing off the epidermis. Conclusions reached are: 1. The color of the rash varies in individual cases. Occasionally it is scarlet, but more often a dull red with an element of brown present. 2. The rash consists of puncta, vesicles, and "gooseflesh" papules. 3. Vesicles are more common than ordinarily supposed. 4. Desquamation begins at the summit of the vesicles and enlarges.

In *discussion*, WAHRER said that descriptions of rashes were very good, but it was hard to give an idea of them to others. Clinical experience was worth all descriptions, and was the only way one could learn to differentiate. Dr. SCHAMBERG, in answer to questions, stated that he had examined the glands in 100 cases of scarlet fever, and found enlargement to be constant. He has also noticed white spots on the gums in measles, but they occur as well in scarlet fever. He thinks they are really a desquamation of the epithelium, which is whitened by infiltration. They are not diagnostic of measles.

ANNIE S. DANIEL, of New York City, gave a **Demonstration of specimen of fatal fetal ichthyosis, with complete pathologic and bacteriologic examinations.** The child was born of a healthy Sicilian peasant, labor occurring two weeks before anticipated. The woman had had 4 normal pregnancies and 1 abortion. The child weighed 5 pounds, cried constantly, could not suckle, and died when 27 hours old. Pathologically the same lesions were present that have been reported by other observers. No cause for the condition could be found.

JOHN LOVETT MORSE, of Boston, read a paper upon **Fetal and infantile typhoid.** It has been proved that the typhoid bacillus can pass through an abnormal and possibly a normal placenta, and thus infect the fetus. The lesions in fetal typhoid cases are general rather than local, as might be inferred from the nature of the infection. This being through the blood primarily it is of the nature of a septicemia from the beginning. This septicemia accounts for the large mortality of fetal typhoid. Infection of the fetus does not necessarily follow infection of the mother. The intestine of the fetus is not functionating, hence the classical lesions of typhoid are not found in it. Regarding infantile typhoid there is no obvious reason why the disease is more rare during the second year, but such is the case. During the first year when the infant is nursed, chances of infection are less, but chances seem greater during the second year when milk is used in large amounts. However, the disease is either uncommon or is unrecognized. It is hard to differentiate between the lesions of enteritis and typhoid. Pathologic studies and tests by serum reaction should be carried out in large series of cases to determine the frequency of typhoid in infants. The symptoms are essentially the same as in adults, except that they are lighter.

In the *discussion* J. C. WILSON emphasized the necessity of using the modern methods of research to find the pathological lesions in certain clinical conditions. He finds the mortality of enteric fever to be decidedly less in children, at least in cases where the symptom-complex justifies the diagnosis of enteric fever. Many cases can be decided only by the application of modern methods of investigation, especially the serum-reaction. He recognizes 3 types of the disease—the fetal, the infantile, and the adult. One difficulty in recognizing the infantile type comes from the fact that this type occurs at times in adults, and the adult type is occasionally found in infants. GRIFFITH believes typhoid fever is much more prevalent in infants than is generally thought. The mistake is made in looking for the adult type when the infantile form is different in its symptoms. More cases in infants will be found since the serum-reaction has come into use. Infantile typhoid cannot be called a rare disease now. He finds the mortality less than in adults. MORSE stated that in childhood the mortality was less than in adults, but that in infants under 2 years of age statistics and his own experience showed a higher mortality. Present data as to the frequency of the disease in infants are unreliable. Research needs to be made.

THIRD DAY.

LEOPOLD F. HAAS, of New York City, reported two cases of **Diabetes mellitus in children,**—a girl of 9 and her brother of 5 years. Both had adenoids and enlarged tonsils. There was a family history of tuberculosis on both the paternal and maternal sides. The girl had peliosis rheumatica in addition to the diabetes. The boy had been run over by a bicycle before the disease appeared. A possible etiologic relation between peliosis rheumatica and diabetes mellitus was suggested. The history of tuberculosis was also considered significant. In discussion STEIN said that the pathogenesis of the disease was not so obscure as supposed, it being an affection of the nervous system, especially of the brain. It has nothing to do with diabetes mellitus in older persons. Operative procedure is the best treatment, spinal puncture, trephining, etc. LAUTENBACH stated that adenoids are mentioned in every section. They seem to be indicative of some systemic condition. They might serve a useful purpose in diagnosis, etc., if we only knew what they meant.

Purpura Hæmorrhagica or Scorbutus; a Clinical Sketch.—HENRY E. TULEY, of Louisville, Ky. The case was clinically a typical one of scorbutus, but also had symptoms of purpura hemorrhagica. The child had been fed at the table and could hardly have had true scurvy. He thinks the term purpura hæmorrhagica should not be used as the affection so-called is a modified form of scorbutus. In *discussion* GRIFFITH said that purpura is just such a word as jaundice and the diseases in which it occurs shade into each other. Sometimes the rash is purpuric, again it is erythematous or urticarial.

Value of blood-examinations for diagnostic purposes, by J. BRANDEIS, of New York City. Diseases were divided into 3 classes: (1) Those in which blood-examination is essential to a diagnosis; (2) those in which it is an aid to diagnosis; (3) those in which it helps determine the prognosis. In the *discussion* MORSE stated that many diseases had been given which were not common to children and the same conclusions would not answer owing to the difference of blood-diseases in children. The different forms of corpuscles, especially the nucleated, do not have the serious significance in children that they do in adults. Leukocytosis also occurs much more easily in children. In cases of serous pleurisy in adults he has found no leukocytosis and thinks the sign is of no value.

LOUIS FISCHER read for S. WEISS, of Vienna, a paper on the **Differential diagnosis between abdominal typhoid and appendicitis, by means of iodin reaction; report of case.** The solution used is Ehrlich's iodin gum-solution.

R.—Iodi sublim..... 1.0
Kali iodati 3 0
Aqua destill.....200.0
Gummi arab. q. s. ad consistentiam syruposam.

A drop of blood is pressed between cover-glasses to get as thin a film as possible and allowed to dry in the air. A drop of the solution is then added to the slide and the specimen is ready for examination. The blood from a healthy person gives the following reaction: The red corpuscles stain a dark-yellowish color, the leukocytes being a lighter color and their nuclei appearing as lemon-colored, very glossy bodies. Normal blood also contains brown granules (extracellular glycogen). If suppuration be present in the body the blood gives a different reaction. The extracellular glycogen is considerably increased. The leukocytes assume a brownish hue of varying intensity, being a dark reddish-brown in some cases. This coloration may be general or in fine or coarse granules which are plainly distinguishable from the remaining yellow cell-bodies. The probability of a connection between this reaction and suppurative processes in the body is based upon the following facts: (1) The reaction disappears in a few days after the incision of an abscess;

2) the reaction begins at the same time as does disintegration of infiltrated tissue, *i. e.*, the formation of an abscess. The reaction does not appear if inflamed infiltrate undergoes resorption instead of suppuration. The iodin-reaction affects almost exclusively the polynuclear neutrophiles, never appearing in the eosinophile. Notes were given of a case simulating typhoid fever. The iodin-test gave the pus-reaction. Operation revealed an appendiceal abscess, which was evacuated.

CARL BECK, of New York City, reported 3 cases of **hydrencephalocele.** In one the skiagraph showed the nasal bones separate from the frontal and pushed down. Two of the three are living after operation. The prognosis in hydrencephalocele is getting better under thorough asepsis.

FREDERICK A. PACKARD, of Philadelphia, read a paper upon **antecedents of valvular heart disease in children,** which was based upon the analysis of the previous illnesses in 75 cases of endocarditis in childhood with especial reference to the various infections. In 3 of the 75 cases no history of previous illness was obtainable. Of other diseases there was a history of rheumatism in 34 cases, chorea 18, scarlet fever 11, cerebrospinal fever 2. His conclusions are that in many instances endocarditis must be attributed to such minor affections as coryza, skin affections, gastrointestinal disturbances, etc., instead of to the diseases more commonly supposed to be causes. A careful examination of the heart should be made after the occurrence of these diseases as well as after the severer affections.

Symmetrical Development; or, Does our Present School System Develop the Highest Powers of the Child?—E STUVER, of Fort Collins, Colo. The physical, intellectual, and moral powers of the child should be developed at the same time. Teachers should have a more thorough training before beginning their work. They should understand the physiology of the brain and the development of the mind. There should be more enthusiasm in the work of teaching and less routine. Too many studies are given children at one time. More attention should be given to object-teaching, outdoor work in this line being of great value, mentally and physically. More time should be devoted to manual training. School sessions and recitations are generally too long and too many examinations are given. Whipping has been superseded by cruel and dangerous punishments.

School Break-Downs.—J. HENRY BARTLETT, of Philadelphia, made reference to an article in a first-class monthly which claimed that 16,000 children in five large cities had been compelled to leave school in one term because of breaking down in health. The belief that this result, as claimed, is due to the present school system is unwarranted. Causes other than school life, which play a large part in ill health causing the child to leave school, were considered. The principal ones are diet and haste in eating, lack of exercise, and the hours of sleep. These all occurring during the developmental period, cause deterioration in the child's condition. Whatever the school strain may do it has a host of allies. In some cases the school may be a safety valve where the evil effects of some of the other influences may be set aside. A thorough study of the developmental processes needs to be made to get at the bottom of what the writer of the article in question calls a crime. The school system is good in many ways; too many examinations, etc., are simply an overdoing of a principle, and are not essentially a condemnation of the principle itself.

Care of the Ear in School Children.—LOUIS J. LAUTENBACH, of Philadelphia. Statistics show that 7% of pupils have deficient hearing in both ears, and from 13 to 25% in one ear. Young children are especially liable to ear-disease, because the eustachian tube is open. An examination of the nose and throat is necessary when the ear is affected. A systematic examination of the hearing of all school children should be made. In this way the parents are helped, and the physician gets to see the patient earlier and is more likely to be successful in treatment.

Discussion.—WAHRER said the physician lacked the cooperation of the municipal authorities in dealing with this question. He has little sympathy with kindergartens in the way of getting children to work earlier. They are sent to school too early now and are taught too much in the beginning. He would abolish competitive examinations. Some children can do work easily and win prizes and first place without trouble. Others cannot and feel it a disgrace. Educate children according to their capacity and ability to use knowledge. Every child should be examined by the family physician before it is sent to school. E E. GRAHAM said that he doubted if developmental processes should be made the basis of the break-downs in school children. Developmental processes are natural and should not be blamed. Put the blame where it belongs—in the school. The system of fortnightly grading was condemned. The strain on medical students when examination comes but once yearly was cited and compared with these examinations of children every few weeks. The strain coming so often and on young children is productive of evil results. SUTHERLAND, of Nebraska, thinks the evils of our school system can be overcome, partially at least, by instituting two processes, viz: (1) Make the qualifications of teachers greater; (2) Allow them more latitude in their function, by both the parents of their pupils and by the school board. ALLPORT, of Chicago, spoke regarding the system of examination of the eyes and ears of pupils which he has originated. This system is now working well in Chicago, and is being adopted by other towns. He has never known a school board refuse its adoption when it was intelligently presented. The tests are thoroughly unobjectionable to both pupil and parents. They are not obligatory; when a defect is discovered the pupil need not go to any definite physician nor to any at all. The test costs practically nothing, $200 for Chicago with its 250,000 pupils. About 33% of children have defective eyes and 50% need treatment for eyes or ears. ROSENTHAL stated that medical inspection in Philadelphia extended only to acute and contagious diseases. The family physician has great influence with parents, and should not criticise medical inspectors, which has been done. LAUTENBACH commended the German school system. He thinks good results will come from physicians working to have teachers given more power. He would not recommend having physical examinations under the control of school physicians, as they would be antagonized by the profession and by the public.

A. CAMPBELL WHITE, of New York City, gave a **Demonstration of liquid air,** and spoke of the results of a year's use of this material in medicine at the Vanderbilt Clinic. A case for carrying the air was shown. In this it would last for several hours. It is now used as a spray and in a bulb as a cautery. It will not kill germs, but suspends their activity for a long time, they being brought back to normal only with great care. The question is whether this temporary suspension of vitality will not enable the body to completely destroy them. The effect of liquid air on human tissue is to cause a temporary local anemia followed by a great hyperemia. If the cold has been intense enough a slough follows. No pain is caused by its application, only a slight tingling being felt. Anesthesia lasts for some minutes. In an operation recently done for correcting a deformed hand, a perfect result was obtained, primary union being secured. When the substance is applied over the spinal ends of nerves in neuralgia or herpes zoster the pain is at once stopped. Small ulcers may result from this in old people of low vitality. Boils can be aborted by completely freezing and pricking in several places. It is the best form of treatment for carbuncle. Spray is introduced into the openings and then externally. A dry absorbent dressing is applied, as very free bleeding follows. The good effect is thought to be due to the extreme hyperemia which follows. In the clinic it is used for the cautery almost exclusively. Liquid air greatly relieves the pain and odor of cancer, and it is thought that early treatment may cure epithelioma. Experiments are now being made to determine the value of the vapor in the reduction of temperature. Results from the external uses mentioned have been very gratifying during the year it has been in use.

FOURTH DAY.

Athrepsia Infantum; Diagnosis and Treatment.—LOUIS FISCHER, of New York. Improper assimilation of food causes a lowering of the vitality of the child. The greater number of cases occurs in bottle-fed children. Whenever a nursing child ceases gaining in weight, examination of the breast-milk should be made and cow's milk substituted if necessary. The best form is not sterilized or

pasteurized milk, but good, clean, raw milk; aim at sterilizing cow and stable and utensils rather than the milk. Constipation is a great trouble in athrepsia and changing to cow's milk often stops this. The dried albumen of egg has given good satisfaction as an accessory food in these cases.

The secretary read for JOSEPH TRUMPP, of Munich, a paper upon **Intubation in private practice and its perfection.** Statistics from 55 operators in Europe and America give 5,470 intubations with a recovery-rate of 35% before antitoxin was used and of 82% since its use. In Europe there is a decided opposition to the practice of intubation outside of hospitals. Trumpp argues for this, however. Previous practice should be made upon the cadaver or on animals. Explain to the parents the differences between the bloodless and the bloody operations, meaning by the latter tracheotomy. As to the caliber of the tube, if there is no special indication for a smaller one, use that which will just pass. Rubber tubes are preferred instead of metal.

ALEXANDER KLEIN read for JAMES BOKAY, of Budapest, a paper upon **Injuries due to intubation.** Injuries are classified under: (1) Those which occur during intubation; (2) those caused by the presence of the tube; (3) those due to extubation. In 1,200 cases only 4 resulted in formation of a false passage. Such cases are usually fatal. The sitting posture is advised for intubation.

Discussion.—W. M. WELCH, of Philadelphia, said that the safest place for intubated patients was the hospital. He prefers metal tubes as they are not so liable to receive a deposit. In one case the tube was pushed down when removal was attempted. As the child was not suffering, tracheotomy was not done and after a time the tube was coughed up. He is not so much in favor of antitoxin as are some physicians and thinks the statistics regarding it and intubation are not reliable and fair. All patients in the Municipal Hospital receive antitoxin, but its results have not come up to his expectations. Their mortality in intubation cases is 58%. RIGG, of Pittsburg, finds that the best way to lessen the danger of intubation in private practice is to train a competent nurse in the use of the tube and to keep her in constant attendance upon the patient. This makes the safety approach that of hospital cases. His results from intubation are not so satisfactory as some operators report, as he finds that the membrane usually extend below the tube. The most important question in antitoxin treatment is that of its early use. WHITE, of New York City, said that not so much reliance should be placed on statistics regarding antitoxin, as epidemics might be mild or severe. Each physician can judge of its effect for himself by seeing cases in which it is not used and those in which it is employed. Patients are benefited by intubation even though the membrane extend below the tube, as the greatest difficulty in breathing comes from the upper part. The dyspnea from the membrane low down is more like that of pneumonia and not so urgent. FISCHER uses antitoxin as he would any drug of which he knows the effect. The first dose is 3,000 units, repeated in 24 hours, if necessary. He advocates the use of rubber-tubes in intubation and condemns the practice of forcible extraction by external pressure. ROSENTHAL adheres to Dwyer's methods and tubes. In every case in which he used rubber tubes the child died. Italians always require 2 or 3 numbers higher than the scale would give. He advises large doses of strychnin in cases of prolonged intubation. In extubation do not try to find the tube. Pass the instrument along the finger and into the tube as if it could be seen and grasped exactly. This method will always succeed. Use no pressure, but withdraw instantly when the tube is entered. He always cuts off the silk and allows the child to lie as it pleases. Cases of croup in measles are very severe. WELCH said that he had lately seen many cases of croup in measles, and that they are very fatal. The question is whether it is diphtheric. The Klebs-Löffler bacillus is not always present. The croup is not necessarily due to the formation of an exudate, but in many cases seems to be caused by intense congestion of the mucous membrane.

FERD. C. VALENTINE, of New York City, read a paper upon **Surgical circumcision.** Illustrations showing the technic were distributed. Anesthesia is generally needed. None but physicians should do the operation, as it is a surgical measure and surgical asepis should be used. Religious liberty would not be interfered with by this rule and laws should be enacted to this effect In answer to questions, Dr. Valentine stated that fewer circumcised than uncircumcised men came for genitourinary treatment, The question of advising the circumcision of every male child is a large one, and he does not think it wise to advocate this procedure publicly. He would circumcise in every case when asked by parents to do so.

Section on Neurology and Medical Jurisprudence.

[Reported by C. A. O.]

FIRST DAY.

The first session of the Section was held on Tuesday, June 5, 1900, at 3 P.M. HUGH T. PATRICK, of Chicago, chairman of the Section, made an interesting address in which he spoke of the small number of cases reported in this particular branch of medicine. He mentioned the limited amount that was written on the treatment of cases coming under this head, and advocated a reform along this line.

The first paper was by HERM. H. HOPPE, of Cincinnati, in which he reported **Several operations for brain-tumors and cysts,** which were for the most part successful, two cases having died from shock, which in these operations is always severe. Ninety percent. of these cases are said to have optic neuritis. STEARN said in discussion that he considered shock part of the operation, and treats the patient before he recovers from the anesthetic by transfusion, enema, and hypodermic injections of strychnin. HERTELL does not believe in classifying blood-cysts as tumors. He thinks that most cases of reported sarcoma are probably glioma. He believes a pathological examination should be made in all cases where a specimen can be obtained.

WM. G. SPILLER, of Philadelphia, reports **A case resembling one of Raynaud's disease, with microscopic examination.** The case was reported clinically by Duhring in 1892, and by Sinkler in 1897, with many symptoms of general nervous disorder. A burn on the left arm healed after the formation of vesicles for 4 years. Vesicles then appeared on the right fingers, gangrene and loss of the fingers following. The diseased condition found in the nerves and arteries of the amputated arm lead Dr. Spiller to reach the following conclusions: 1. Gangrene may be caused by endarteritis obliterans. 2. Alterations of nerves alone without alterations of the vessels is believed to be a cause of gangrene. We need possibly more evidence of this. 3. Gangrene may cause degeneration of the vessels, especially of the portions near the gangrenous area. 4. Gangrene is less liable to cause degeneration of nerves except of the portions within or near the gangrenous area. 5. Sudden closure of bloodvessels causes degeneration of the nerves nourished by these vessels. If the vascular disease is of a chronic type the nerves may escape, but do not always do so. 6. Degeneration of nerves may be a cause of degeneration of bloodvessels. While distinct lesions of the nerves and vessels were found in this case, Spiller showed that it was impossible to determine whether these lesions were secondary or primary. Only a few similar cases have been reported.

DR. INGLIS, of Detroit, read a paper on the **Dual action of the brain, and its relations to dexterity and double consciousness.** Pathologic cases demonstrate that it is possible for a man to retain his personality and mental activity in whom one-half of the cerebrum is destroyed. The author contends that we habitually do in health what we can do in disease. Habitually we do our thinking with one-half of the brain, the other half being usually inert. There is a dominant half. This dominant half is the half upon which speech-processes are organized. Evolution of one-half has resulted from the necessity of saving energy. Righthandedness is not an accident but a physiologic need of rapid and easy performance of the most delicate adjustments. To attempt to make a left-handed boy righthanded is a physiologic crime. We ought rather to endeavor to train one side to its utmost. Double consciousness is the result of change of the dominant half. Many degenerates are ambidextrous. Granting that we do our thinking with the dominant half, mental ambidexterity tends to mental confusion. Confusional insanities may be explained as conflicts for supremacy between nearly equal

half brains. Paranoiacs may carry on a practically useful life with the dominant half, yet may build up in a strongly active subdominant half systematized delusions. The paranoiac lives a life-long dream—is liable to have the subdominant half suddenly take control. By the fullest development, both by manual and literary training of one-half of the brain, we tend to make the dominant half securely dominant. We ought to endeavor to make righthanded people fully right-handed. The recognition of the subject of this paper opens up suggestions for the treatment by hypnotic suggestion of certain forms of insanity.

Richard Dewey, of Chicago, read a paper on **Therapeutics of travel and change of scene in nervous and mental diseases.** Dewey reported many cases in which travel or change of scene had been employed without resulting in benefit or with apparent injury. Other patients have been observed who were incurable from the start, *e. g.*, victims of paresis who have been traveling with the hope of benefit and the result was sometimes disastrous—explosions of maniacal excitement in public places, death in a foreign land, etc. Again cases of melancholia have been encountered in which suicidal impulses developed while traveling. Notwithstanding the old maxim, *coelum, non animam, mutant, etc.*, in nervous and mental disorders, it is true that change of scene aids change of thought. Travel and change of scene are almost universally recommended and tried, and if without discrimination, harm must result in a proportion of cases. It is not possible to say that travel is desirable for any particular form or forms of nervous and mental disease and yet as a general proposition it would be found that travel is contraindicated in cases of great physical exhaustion or with serious physical complications; also states of mental fatigue and exhaustion rendering observation and study of new objects wearisome; also cases where ample means of comfort are lacking, cases of mental diseases, patients with suicidal tendencies, delusions of persecution and suspicion, active mania, melancholia, or dementia, would be unsuitable for travel; also nearly all cases of epilepsy. McBride believes those patients with nervous and mental diseases should not travel until they have practically recovered, and in these cases it is generally beneficial.

Second Day.

The afternoon session of June 6, 1900, was opened by a paper on **Morphinism from the standpoint of a general practitioner,** by T. J. Happel, of Trenton, Tenn. The practitioner in the country and the smaller towns has a better knowledge of his patients' habits than does the physician in a large city. He is able to trace family histories through three or four generations with accuracy. The statistics given by such a physician are almost as accurate as hospital records, for it is a well-known fact that the morphin habitue will both lie and steal to obtain the drug. The amount of opium imported into this country far exceeds the demand caused by increase in population. In 1860 the United States imported 72,000 pounds of opium, in 1893 nearly 1,000,000 pounds, an increase of sixteenfold in 40 years, with an increase of about twofold in population. The vice grows rapidly. High living and the efforts to keep pace with those more able physically and financially soon causes a demand for a stimulant and a dose of morphin is used; relief being obtained, it is again demanded, and in a short time the confirmed habitue results. Patients using morphin do not become sterile. Where the father is the user of the drug the children begotten have not been many in the family. In the case of the mother abortions have been common. Where the children have been brought to full term many have died from nonclosure of the foramen ovale. One case is reported in which the mother had been a morphin habitue, the children of three successive pregnancies had died about the third day. A fourth child was born which showed all the effects of morphin that the three before it had done. The mother at that time was using 17 grains of morphin per day. The child was given full doses of paregoric and the cyanosis disappeared; after one month the use of opiate was discontinued. The rationale of the nonclosure of the foramen ovale is easily understood, for opium delays all changes in the human economy, and the nutrition furnished the child is vitiated. If the patient honestly desires to abandon the drug it can be gradually withdrawn without much discomfort. Substitutes, such as papin or strychnin, may be used. The morphin habit is not transmitted except as in the case referred to, but a peculiar state of the nervous system results which demands either alcohol or opium. Cases were reported which prove this to be true.

The second paper on **Medicolegal relations of opium inebriety** was by T. D. Crothers, of Hartford, Conn. He stated that opium-taking in this country was increasing and that questions of responsibility were becoming more frequent in court. How far is a man addicted responsible? He disregards obligations, is not truthful, commits crimes of selfishness, nutrition is impaired, the senses are not acute, he is pessimistic, egotistic and everything is subservative to the use of the drug. The conclusions may be grouped as follows: First, an increasing number of cases where opium is associated with crime calls for a medical study with some authoritative legal rulings. Second, both medical experts and judges hesitate to recognize irresponsibility from opium-taking alone and attempt to explain the phenomena by other theories. Third, any general study of these cases brings about the fact of disability; often the crime is purposeless. Fourth, the use of opium falls most severely on the higher brain-centers of consciousness and right and wrong. Fifth, there should be no question of the incapacity of opium-takers to execute bills and contracts. Sixth, the medical profession should insist that a degree of insanity exists in all these cases, then a legal recognition will follow.

A. D. Bevan, of Chicago, read a paper entitled **Traumatic neurosis from the standpoint of a surgeon.** From Bevan's experience he disbelieves in the existence of such a disease as traumatic neurosis, which he thinks is purely imaginative. In the discussion that followed the general opinion was opposed to the view of Bevan. J. Hendrie Lloyd reported a case of paralysis due to traumatism.

Carpenter, of Columbus, Ohio, reported a case of **Cranial injuries and insanity.** The man was an alcoholic, not an epileptic. The base of his skull was fractured at the base. He soon began to show mental disturbances, remaining demented for some time. He had no meningeal disease, but had severe frontal headache, finally fever and convulsions, dying six months after the injury. Autopsy showed fatty degeneration of heart, lungs and liver. Fluid blood was found in the sinuses and hemorrhage between the dura and bones of skull. Pus was found beneath the arachnoid and also in the ventricles. In this pus a short, thick bacillus was found. Carpenter exhibited the skull. The occipital bone was fractured, also the petrous portion of the temporal bone. The mode of infection was probably through the Eustachian tube to the internal ear. Alcohol was the predisposing cause, the fracture the exciting cause of this insanity. About 2% of all cases of insanity are said to be due to fracture.

Wharton Sinkler, of Philadelphia, then read an interesting paper on **Prognosis and treatment of traumatic neurosis.** The first question asked of a physician when called to examine a case of this kind is concerning the prognosis, and this depends upon a number of circumstances and conditions, and first we must determine what is meant by "traumatic neuroses." Some writers consider the traumatic neuroses as a separate class of nervous diseases, making a distinction between them and traumatic neurasthenia and traumatic hysteria. It is generally considered that the traumatic neuroses include all the diseases of the nervous system either functional or organic which result from accidents either through injury or shock. The character of the disease, length of time it has lasted, previous health of patient, and heredity should always be inquired into. The question of litigation probably exerts an evil influence, for in most cases of injury from railroad accidents, etc., the patient seeks compensation. He is encouraged by friends and lawyers and all his symptoms magnified. As long as litigation is pending little improvement can take place. Railway surgeons believe that this is an imaginary disease, but most neurologists hold that simulation is rare, but exaggeration frequent. The truth, as usual, lies between the two extremes. The opportunities for proper treatment will have much to do with the prognosis in such cases. Treatment should be begun as early as possible, and the influence of litigation eliminated. The treat-

ment of organic neuroses arising from trauma does not differ from that depending upon injuries. The "rest treatment" is considered the best and should be carried out thoroughly in every particular. The patient should remain in bed and should not arise even for the calls of nature. A trustworthy nurse should be employed to make the patient's toilet, and in some cases feed him. The points to be attained are, improvement in general nutrition and quality of blood, and to give entire repose to the nervous system. The rest treatment is not an infallible cure for all cases of neurasthenia and hysteria, and in those cases where it fails a change of climate and mode of life is often beneficial. The seashore agrees well with cases of neurasthenia. In patients who are unable to afford a thorough course of rest-treatment it is better to insist upon sending the patient to a hospital. Hydrotherapy is of great value in traumatic hysteria and neurasthenia either with the rest treatment or alone. When other means fail it is justifiable to use hypnotism, but the relief is seldom permanent. Drugs are of little value in these cases. Hematonics are indicated, and arsenic and strychnin helps to improve the nervous system. If a hypnotic must be given, it is best to give trional or chloralamid. After a sufficient period of rest gentle gymnastic movements should be used.

THIRD DAY.

GUY HINSDALE, of Philadelphia, reported a very interesting case of **Aphasia,** which existed nearly a year and a half. The patient could not distinguish between objects, but could read the papers and histories with ease. He was also afflicted with pulmonary tuberculosis, was sent to Southern California and is now much improved in health. F. S. PEARCE believes that tuberculous paralysis is more liable to recovery than that caused by blood-clot. MCBRIDE mentioned a case who went through all the forms of aphasia and finally recovered completely. W. G. SPILLER referred to a case of word-blindness, in which the brain appeared perfectly normal, and to other cases in which carcinoma had been found in other parts of the body, but many times no lesion can be found.

A study of cerebral syphilis. JAS. H. MCBRIDE, of Pasadena, Cal. Syphilis may be the remote or direct cause of all nervous diseases. Syphilitic insanity is liable to manifest itself in many forms. Mania is apt to be brief; the same is true of melancholia. The most common mental symptoms of syphilitic brain-disease are those of loss of mental power. In some cases loss of mental power with confusion, in others attacks of depression with periods of excitement, while others show systematized delusions. Cases were mentioned to illustrate the different forms of syphilitic insanity, and to show how irregular the symptoms may be, and in how many ways the insanity may manifest itself. Insanity may come on very soon after the disease is contracted—in one case mentioned, as early as the third month. The patient may expect a return of the symptoms in the declining vigor of old age. The patient always fails to return to his normal vigor; this is shown by the frequent headache, neurasthenia, heart-failure, etc. All forms of syphilitic insanity simulate a premature senility, the higher faculties failing first in the slow-developing forms of insanity. BROWER finds an early manifestation to be arterial degeneration, not in the radial alone, but in many vessels. The prognosis is always bad in these cases. TOMLINSON believes the anterior cerebral artery and its branches to be first involved, and that mental trouble is more common in the secondary stage than is generally supposed. It is the stage of rapid connective-tissue proliferation, while the third stage is not. PATRICK and SPILLER both hold that the nervous symptoms of the second and third stages cannot be differentiated.

C. C. HERSMAN, of Pittsburg, read a paper on **Post-anesthetic paralysis.** Paralyses frequently follow anesthesia and are attributed to the anesthetic by many physicians, but it is generally admitted that in many cases it is due to the patient's position on the operating table. They may be divided into for classes: central, hysterical, reflex, and peripheral. Central palsies following immediately the anesthesia are usually due to hemorrhage. Hysterical paralysis is very rare and may be due to moral shock. Reflex paralyses are rare and are characterized by exaggerated reflexes, persistent atrophy and diminution of electric excitability, possibly purely accidental. Peripheral palsies are most frequent and most important. The nerves most frequently involved are the branches of the brachial plexus caused by the elevation of the arms. The upper branches are more frequently involved on account of the acute angle causing indirect pressure. The deltoid muscle and muscles of the legs are frequently involved due to the extremity hanging over the edge of the table. Electricity and massage are considered the best treatment. The prognosis is good if there is no degeneration.

Treatment of Neurasthenia.—DANIEL R. BROWER, of Chicago, believes that more advancement has been made along the line of the pathology and diagnosis than the therapy of this disease. Neurasthenia is an exhaustion of the neurones, the effect of defective metabolism, a pathological fatigue arising most frequently from gastrointestinal autointoxication. The vasomotor system is first to show the effects. Rest both mental and physical is the best treatment, yet he believes that absolute rest is not necessary in many cases. If the case is severe, from 4 to 6 weeks of absolute rest is sufficient. Weir Mitchell's plan with isolation, massage, faradic electricity and special diet. Partial rest is all the majority required, they should go to bed early, sleep late and take a rest of from 1 to 2 hours at noon. The diet should be nitrogenous. Sugar, and sugar-producing articles used in small amounts; beef, mutton and eggs with milk is sufficient. The predigested foods are of great benefit, preferably malted milk and somatose. Tea and coffee may be used, but not in excess. Electricity is of great value; in absolute rest cases general faradism is necessary, beginning gently at the extemities and extending gradually over the entire body. The partial rest cases should have static electricity, this form is a sedative, tonic element and a promotor of normal vascular tension. Hydrotherapy favors elemination and promotes sleep. Massage given gently at first is very beneficial. Toward recovery, light exercise should be taken, but care should be exercised not to overtax the body.

D. I. WOLFSTEIN, of Cincinnati, reported a case of **Combined sclerosis of the Lichtheim-Putnam-Dana type,** and exhibited specimens of the cord in sections stained and mounted by different methods. The cord showed no macroscopic changes of any significance, no areas of softening, no shrinkage, and no meningitis. The microscopic examination has only been made up as high as the upper cervical levels. There is marked degeneration in the posterior and lateral tracts. The degeneratin in the posterior tracts is not strictly systemic. In the upper cervical levels, the degeneration involves all of Gall's tract and a part of Burdach's, though there is always an area of healthy fiber between the posterior cord gray matter and the area of degeneration. The degenerated area is V-shaped, and between the apex and the posterier commissure there is healthy tissue. The septomarginal areas are degenerated. Lessauer's zone and Clark's column appear somewhat involved in places. The degeneration of the lateral tract is extensive, greatest in the cervical region, less and less downward, but present even in the sacral levels. The direct pyramidal is spared. In the upper levels, the direct cerebellar is involved, apparently. Histologically, there are the usual changes, as shown by Burr. The writer looks upon the affection as primary nerve-degeneration, and his specimens do not support Nonne's views as to multiple areas of softening due to vascular changes.

D. J. MCCARTHY, of Philadelphia, reported a case of **Migraine with the consideration of heredity.** The trouble was very severe, was limited to the left side of the head, which was drawn toward the left shoulder. The upper visual field is entirely cut off. The patient is neurotic and the mother of 6 children, who are all sufferers with one exception. One boy has varicose veins, another Raynaud's disease; the hands intensely cyanotic; in another there is defective closure of the foramen ovale. One girl is a bleeder, one hysterical, and one apparently normal. PATRICK mentioned a case of defective vision in the upper third of the field especially to color. She has had ophthalmic migraine for years.

Differentiation of Chorea and Disorders simulating it—A. A. ESHNER, of Philadelphia. There appears to be some etiologic relationship between chorea and articular rheumatism. They are both probably acute infectious diseases. Chorea is a self-limited disease and the choreic

movements are peculiar and distinctive. The disorder should be differentiated from so called habit-chorea or habit-spasm or spasmodic tic, from so called chronic or senile chorea and from incoordinate movements of hysteric origin.

Evolutional and Involutional Types of Disease.—Ed. E. Mayer, of Pittsburg. The different epochs of life are factors of great moment in the production and in the exacerbation of nervous instability. Each crisis in life determines new impulses, thoughts, and actions, and influences even the physical and mental condition of a normal individual. It is important to notice slight mental and motor symptoms of childhood, morbid fears, depression, and exhaustion of this age. The transient mental symptoms attendant upon each crisis with their distinctive cause and effect were carefully treated. The effects of inherited strain were reviewed and an analysis made of the difference between nervous temperament, taint and degeneration. A differentiation was also made between normal and pathologic senility.

Diagnosis of hysteria from organic disease of the brain was discussed by Chas. K. Mills, of Philadelphia. Some diseases were mentioned which were frequently confounded with hysteria such as tumor, hemorrhage (especially cerebellar) meningitis, latent abscess, etc. A case was reported in which even when the patient was placed on the operating table there was doubt in the minds of eminent physicians present as to whether the disease was not hysteria. A tumor was removed by Dr. Keen. Affections of the brain in which the diagnosis of hysteria is occasionally made, but not so frequently as in the first list are: Acute toxemias with mania or confusional insanity, malarial hemiataxia (probably due to encephalic poisoning), disseminated sclerosis, hereditary or family affections chiefly cerebral, such as Huntingdon's chorea, cerebellar ataxia, and hebephrenia. Too much stress is sometimes laid on the absence of headache, vertigo, optic neuritis, temperature-changes, etc., the general symptoms of brain-tumor, and the presence of some which should be absent. The diagnosis is best made by observing historical evolution of the case, attention to special symptoms of brain-tumor such as deep reflexes, optic neuritis and ankle-clonus and mental symptoms in the case of cerebral hemorrhage.

Technic of the "Rest Cure" with Indications and Contraindications for its Use.—John K. Mitchell, of Philadelphia. The chief indications for its use are physical failure combined with nervous instability or lowered morale, together with absence of serious organic disease, as in cases of anemia, anorexia, emaciation, emotional tendencies, exaggerations of symptoms, deceit or untruth about symptoms, morbid desire for sympathy, and many such conditions. It is contraindicated in acute diseases and by the disposition of some cases. Treatment should be begun as soon as possible, preferably in a private house or in a hospital if a private room and a nurse can be obtained. If the case has to be sent to a ward about twice the length of time is necessary to accomplish the same result. A sanatorium is not a good place, as the patients are allowed to converse too freely. Dr. Mitchell seldom employs the nurse that comes with the patient. She must be enthusiastic, agreeable to the patient and intelligent. She should never be allowed to talk to the patient of her symptoms. The isolation of the patient should be complete, neither letters nor visitors allowed. The period of isolation should be judged by results, say 6 or 8 weeks, but many months may be necessary. Toward the end a few letters may be read and written. The patient at first may be fed by the nurse if necessary and should lie flat, one or two pillows only allowed. If the patient is feeble start with the milk diet; no stress is laid on taking large quantities at first, full meals can be taken later. Massage should be begun about the third day for a period of 50 or 60 minutes. The nurse may rub the patient at night to promote sleep. The faradic current is sedative and may be used in the evening. For insomnia the drip sheet, hot pack, massage, electricity; hot food, milk or broth, not tea, may prove of value. Care should be taken not to get the patient up rapidly; 10 days may be necessary to accomplish this.

Fourth Day.

Hereditary Subnormal Color-perception. — F. Savary Pearce, of Philadelphia. It has been proved that there is a physical basis for this aberration of the sense of sight. Lowered color-perception occurs less frequently in women than in men. By some it is said that only 1 woman in 3,000 and 1 man in 25 is subject to perversion. This difference is probably due to cultivation. Deaf and dumb persons have a peculiar nicety in the perception of the sense of color. It is very likely a compensatory epiphenomenon, just as the blind are said to be more acute in acoustic and touch perceptions Consanguinity in ancestral marriage has been long known as causative to a marked degree. The general law is that sons of daughters whose father was color-blind are most likely to be the same, although there are exceptions to this law. All who have seen many color blind will have noticed that it was in their mother's family that other cases were found, being frequently assured that this or that cousin on the mother's side was also color blind. This peculiar law is all the more interesting since we find that it is the same in reference to the heredity of other physiologic abnormities or defects. A case was reported which showed the relation of color-blindness to other tendencies toward degeneration. A seaman had lost his position because he was unable to distingush red from green. Of his children 1 had chorea; 1 daughter was very nervous; 1 suffered from lateral curvature and another had a lowered degree of appreciation of red and green. The patient finally became insane, was sent to an asylum and died 8 months later. On autopsy it was found that there was no organic disease of the brain.

G. W. Drake, of Hollins, Va., believes that **The simplest explanation of the functions of the nervous system** is to base all its phenomena on hypothesis of existence of specific energy peculiar to nervous tissue. He wishes to give this energy a distinctive name, and to assign it a place with the natural energies. It was better that Röntgen's discovery was named x-rays than to have had no name; would it not be well, therefore, to name this peculiar energy **neuricity,** from the Greek neuron, as electricity was named from electron. He believes in teaching that impulses liberate neuric energy which is conducted by nerve-fibers to the brain, rather than that impulses are conducted to the brain from external organs. The functions of the brain are often confounded with the faculties of the mind, and as a consequence, cerebral are misnamed mental diseases. Some doubt seemed to arise as to the differentiation of brain and mind. Dr. Levi suggested it should be settled as was the question concerning a definition for each of the following words: mind, matter and spirit.

What is mind? Never matter.
What is matter? Never mind.
What is spirit? That is immaterial.

The Necessity of More Universal Knowledge of the Treatment of Morphinism.—A. J. Pressey, of Cleveland, Ohio. The medical profession was divided into three classes with reference to the different views of morphinism and its treatment: (1) Those who consider that the addiction has produced a diseased condition of nerve-centers and that by well-directed scientific treatment the patient may be restored to health; (2) those who believe that once in morphin always in morphin; and (3) those who look with little or no sympathy upon the unfortunates and consider the use of the hypodermic a mere habit that can be readily discontinued. The first two classes were well represented in the section today. Morphinism is a curable disease; he reported several cases that had been under his care and by careful systematic treatment had recovered. There were relapses in several, but that is not an argument that they were not cured. Relapses occur in many diseases, but that is no reason why we should refuse to treat them. Many physicians do not believe in treatment and have advised morphin habitues not to resort to it. This is certainly very wrong, as Pressey reported several cases as having been successfully treated after having been so advised.

Discussion.—Campbell, of New York, believes that the morphin habit cannot be cured, and states that in a large experience with that class of patients he does not know of one that did not finally drift back to the old habit. Dunham finds hydrobromate of hyoscin a good substitute for morphin in treating cases.

Effect of Alcohol Upon the Nervous System.—Albert E. Sterne, of Indianapolis, Ind., differentiated the acute from the chronic form. Either could, and did exert a direct and an indirect influence upon the central nervous organs, acting both physiologically (*i. e.*, functionally and pathologically

(*i. e.*, structurally). As an example of the acute influence of alcohol upon the brain and cord, he records a unique case presenting peculiar motor symptoms of a paramyotonic type, characterized by extremely frequent convulsive attacks in which all the muscles of the body and limbs took part. The contractions were of a toxic nature, occurring every few minutes. The trunk and limbs became rigid, speech difficult. Mastication, swallowing, and breathing were also affected. No sensory symptoms were shown, the internal organs and secretions were normal. A hysterical malady could be excluded. The patient was under close observation, and could be carefully studied and controled for several weeks. Recovery resulted. The case bore close relation to the experimental observations of Dehio and Stewart, who demonstrated cellular changes in the cortical elements, the Purkinje cells, and the multipolar cells of the cord in animals suffering from acute alcohol poisoning. In chronic alcoholism the changes were structural in character, notably affecting the walls of the bloodvessels. Secondarily, the nerve-tissues were involved. The close relation of apoplexy to this condition was dwelt upon, special stress being placed upon the fact that no healthy bloodvessel ever became ruptured, save as the result of trauma. Whenever apoplexy occurred, without injury, the bloodvessel must have been previous diseased. It is not the man who occasionally becomes intoxicated who gets into trouble, but the man who drinks much and never gets drunk, or he who is nearly always drunk, that becomes a candidate for disease. His bloodvessels early grow less elastic and more brittle, his chances of apoplexy and consequent infirmity increase, his nerve-tissues show slight vitality, and his will-power and moral force are weakened. Among his offspring are many cases of degeneracy, of epilepsy, of idiocy, and of insanity.

A case of **gastric vertigo** was reported by G W. McCaskey, of Fort Wayne, Ind., who believes it to be a case of true vertigo, although many symptoms show that the origin may be cranial. Patrick believes that a case of true vertigo cannot arise from stomach or intestinal trouble.

The last paper of the session was on the **Anatomy of hanging, with some recent observations on electrocution,** by E. W. Holmes, of Philadelphia The majority of persons hanged die from apnea and not from broken neck He mentioned the peculiar manner in which some persons commit suicide by hanging and gave the experience of persons who have been rescued before death came He makes five divisions of the process : 1. Asphyxia. 2. Cerebral congestion 3. Cerebral anemia. 4. Neuroparalysis. 5. Shock and cerebral congestion. Death usually occurs in 6 or 7 minutes, although in some cases very much longer is necessary.

Materia Medica, and Pharmacy and Therapeutics.

[Reported by W. C.]

First Day.

The opening address was delivered by Leon L. Solomon, of Louisville, Ky., the chairman of the section. Citing his own practice he brought before the section the importance of attendance upon one section. This led up to a resolution about to be presented to the General Session, providing that no member of the association shall read papers before more than one section. This action might be counted on to advance the scientific value of each section. Dr. Solomon then rehearsed the history of the section, pointing out the great advances that had been made and the value to the profession of the knowledge set before them through the papers and discussions of the section. This, he showed, is but a natural result of the important position which the materia medica and therapeutics occupy in relation to medicine. He then reviewed the latest results in the use of serums. The earlier part of the address was devoted to a summary statement of the general principles of serumtherapy. This was followed by a topical consideration of the several serums. Antidiphtheritic serum received high commendation. Antitetanic serum will probably reach the position of diphtheria antitoxin so soon as it becomes possible to diagnose tetanus before the clinical symptoms make their appearance. Antipneumonic and antirabic serums and tuberculin are as yet in the experimental stage.

Prof. A. B. Lyons, a delegate of the American Pharmaceutical Association, was introduced and spoke of the need of arriving at some definite action as to the **status of certain articles claiming a place in the materia medica.** He discussed the action taken by the Pharmaceutical Association and hoped that the section would take such action as would bring the two associations into united action. An epitome of the National Formulary is now being prepared by the Pharmaceutical Association. Another matter which calls for action is to fix the standard of advertisements admissible to medical publications and particularly to the journal of the association.

Henry P. Loomis, of New York, has been called home by urgent business, and after a vote taken by the section the secretary read Dr. Loomis's paper on **The treatment of acute alcoholism by large doses of digitalis.** In acute alcoholism there is a marked tolerance of large doses of this remedy. Cases were cited where the dosage was ½ ounce of tincture of digitalis every 4 hours for 3 doses. If necessary, another series of 3 doses was begun at 6 hour intervals. The effect of the treatment is shown by narcosis. The results have proved most satisfactory. The failures were those of confirmed alcoholics of advanced years and anemic condition.

T. D. Crothers, of Hartford, Conn., read a paper presenting **Some dangers from the use of narcotics in young persons.** It was maintained that a drug addiction may be established and remain for many years as a dormant or latent diathesis, and suddenly may take on the active form. This was illustrated by the history of cases in which the interval between the use of the narcotic drug and the outbreak of the habit amounted to several years. It was argued from the comparative frequency of cases in which the connection may be traced that it must be a common fact, although not always recognized, and may be held to account for otherwise inexplicable instances of suddenly active drug additions. The paper was interestingly discussed by Dr. J. M. Allen, who suggested that an explanation of the cases cited might be found in heredity and family history. He also raised the question whether or not the hypodermic syringe had been a curse not only to the profession but to the world at large. He expressed himself as profoundly thankful that his own hypodermic syringe was for the greater part of the time out of order. The discussion was continued by several speakers, who for the most part favored the opinions expressed by Dr. Crothers.

L. Faugères Bishop, of New York City, read a paper entitled **Plea for greater simplicity in therapeutics.** It was set forth that simplicity possessed many great advantages. To the physician it lifted from his memory the need to master a complicated pharmacopeia. To the patient the advantage includes ease of administration and diminution of disagreeable physiologic symptoms. True science benefits by the charity of the prescription and the opportunity to study plainly the effect of any given drug by itself. The author criticised adversely the use of certain ready-made stock preparations.

Therapeutic progress was discussed in the paper of J. Tracy Melvin, of Saguache, Colo., who led his review of his subject along the line that as yet the action and effect of very nearly all the official drugs has not yet been scientifically determined and made clearly known to the profession at large. To this he added a statement of the diversity of the strength of ordinary drugs. From these basal statements he passed to an approving mention of alkaloids.

The two proceeding papers were *discussed,* the opening statement being made by N. S. Davis, Jr., of Chicago, who said that while simplicity in pharmacy is on many accounts advantageous, yet he was not prepared to advocate the use of single drugs. Standardization is a principle to be established by cordial and harmonious action of the Association and the American Pharmaceutical Association. The discussion was continued by Frank Woodbury, of Philadelphia, O. T. Osborn, of New Haven, Conn, C. C. Fite, of New York, Warren B. Hill, of Milwaukee, and Prof. A. B. Lyon. Much attention was given in this discussion to the necessity of clinging to the importance of the materia medica which provides a sheet anchor in the flood of proprietary preparations and much of the more regular new remedies.

N. S. Davis, Jr., of Chicago, presented the result of his experience with the **Dietetic treatment of diabetes.** The critical point of the disease is to be found in

connection with the carbohydrates. In some cases the carbohydrates may be permitted in the diet; in certain cases the carbohydrates must be used. The effect of the diet is to be watched through urinalysis. The diet which prevents glycosuria cannot be long-continued. Good results may be obtained by intermittent special diet, either once a week, or for a week or so from two to six times in the year; and in general a patient whose cure seems to be effected should return at intervals for urinalysis and special diet as may be indicated. The common articles of food were then discussed in their relation to the diet of diabetic patients and suggestions were made of substitutes for articles of food contraindicated in the diet of diabetics.

SECOND DAY.

The business of the section opened with the discussion of the two papers on diabetes which were read at the close of the preceding session. In this discussion part was taken by PROF. O. T. OSBORNE, of the Yale Medical School, ALLEN, of Missouri, D. R. BROWN, of Chicago, and the chairman of the section, LEON L. SOLOMON.

Pharmacology of the Nitro-sugars, by PROF. C. R. MARSHALL, of Dundee, Scotland, was received by mail and read by title and referred.

The Chairman introduced PROF. REMINGTON and MR. WILLIAMS, delegates from the Pharmaceutical Association, and extended to them the privileges of the floor.

J. M. ANDERS, of Philadelphia, discussed **Gastrointestinal remedies in typhoid fever.** The Brand method of treatment and the administration of carefully regulated diet may under favorable conditions render the use of drugs unnecessary. While water is highly necessary during the whole febrile stage, it must be used in the proper way and at the proper times in relation to the gastric secretions. The value of intestinal antiseptics was indicated. Properly speaking there is no medical treatment of typhoid.

FRANK WOODBURY, of Philadelphia, read a brief abstract of his paper entitled, **Brief note on ointments and some of their medical applications.** The abstract afforded a number of practical hints as to the advantage of using this semisolid liniment as a vehicle for certain agents of medication. Attention was called to the liability of the ointment base to become infected, lard is particularly obnoxious to such infection, cocoa butter and purified wool fat are far preferable.

In connection with the same subject of medication through the skin THOMAS F. REILLY, of New York, read a paper on the **Present views on the use of unbroken skin as an absorbing medium.** After a review of the theory of the subject and a summary statement of what has been done practically up to the present the author presented a careful digest of the results and necessary treatment in the use through inunction of salicyl and iodin compounds, guaiacol, quinin, creosote, silver and mercury.

A still further contribution to the same subject was the paper by A. BERNHEIM, of Philadelphia, on **Indiosyncrasy against mercury: a case of erythema mercuriale.** After rehearsing the well-known facts of the existence of idiosyncrasy against many articles of diet or medicine the author collated and digested the references to idiosyncrasy against mercury contained in the medical literature. This introduced the particular case which he selected for report. The patient, a woman of 50, had on three former occasions suffered from the use of mercury, and when she consulted the author for treatment of a scarlatiniform erythema of marked extent, great pain, and scaling off of skin. The trouble was due to the use of mercury in blue mass.

The *discussion* was opened by PROF. REMINGTON, who commented upon the value of cacao butter as an ointment base. In passing he urged that care should be practised to avoid the common mistake of pronouncing and spelling the word cocoa. Among other topics he mentioned the value of study directed to the danger of toxin infection of ointment bases, the conditions which admit of the use of collapsible tubes, and the nature of mercurial soap. The discussion was continued by PROF. LYON, of Detroit, from the pharmaceutical side, and by several physicians.

F. G. WHEATLEY, of North Abington, Mass., addressed the Section on **the metric system** and argued that if the system were only followed in practice as it had been accepted in theory, clinical results would have a far higher scientific value.

E. W. MITCHELL, of Cincinnati, Ohio, proposed for consideration the **Preventive treatment of migraine.** The theoretical causation of migraine provided an easy introduction to the presentation of a series of typical cases together with the statement in each case of the characteristic symptoms and the method of treatment. Interest was added to the quite general discussion of the paper through the participation of YARNALL, of Washington, who reported himself as a chronic sufferer from migraine and gave a very vivid account of the symptoms. UPSHUR, of Richmond, Va., cited in illustration the case of the distinguished surgeon, Hunter Maguire, in whose case the lithemic condition is due to excessive nerve-strain.

S. SOLIS COHEN, of Philadelphia, addressed the section on the **Role of drugs in the management of consumption.** First in importance is the hygienic management of the patient. Second, to learn what we can do with drugs. In consumption we have to recognize a fundamental impairment of nutrition even before the infection of the Bacillus tuberculosis, and followed by the tertiary infection of the streptococcus, and the latter is most commonly the cause of death. It is necessary to uphold the nervous system which is fundamental to resistance on the part of the body. Next comes the circulatory system. To these systemic conditions drugs are but secondary, still drugs are well worthy of careful study. These the speaker took up in turn and with brief yet incisive statement reported on the action and value of each. Results should not be looked for too quickly, chronic diseases require chronic treatment. The point to which he directed attention is not that it is the use of any one drug, but the intelligent choice of a group of trustworthy agents which mark the proper use of drugs in consumption.

Another paper on consumption followed that of A. M. HOLMES, of Denver, Colo., on the **Importance of early recognition of tuberculosis.** The author proposed a system of classification based on histology. According to this plan the first stage, the pretuberculous, exhibits no lesion or tubercle-infection, but a soil fertile for bacilli; the second stage, that of early incipiency, marks the first presence of the lesion and infection but before bacilli are found in the excreta; the third stage shows a greater or less advance of the conditions which began to be established in the preceding stage and with the presence of bacilli in the excreta. On this system of classification it becomes easy to report the early stages of the disease, and affords a clue to the method of treatment which is most fitted to each case.

The *discussion* of the two papers on consumption was opened by W. H. THOMPSON, of New York City. Tuberculosis falls into two classes so strongly marked as to be almost two distinct diseases, uncomplicated tuberculosis and the complicated form. The former cannot exist in the human lung, but is found in the peritoneum. Pulmonary consumption and tuberculosis are two entirely distinct infections. There can be no antitoxin, for the disease is clearly one that cannot be self-limiting, it produces nothing which can limit it. When does the infection occur? Nobody knows. But pathologists are now holding more and more generally to the opinion that the infection is most commonly received in infancy and lies dormant for many years until the appearance of the characteristic pulmonary consumption. It seems safe to say that against the tubercular infection we have almost practically nothing. In continuation of the discussion UPSHUR illustrated the importance of hygiene by citing the case of the negro in the South; as a slave practically free from consumption, now in the first and second generations since slavery the march of consumption is so great as to warrant the feeling that the solution of the social problem lies in consumption, which bids fair to reduce the negro to the same unimportant position in this country as the Indian.

The paper on **Heart tonics** was read by J. N. UPSHUR, of Richmond, Va., and afforded a careful study of the applicability of various drugs which have been used as a heart tonic. This of necessity involved the ratification of certain loose definitions of what a heart tonic really is.

By invitation WILLIAM H. THOMPSON, of New York, was in attendance as the guest of the section. His paper is entitled **Classification of medicines based on the**

time required to produce their effects. The grouping of drug agents has always been a bugbear to the medical student and to the practitioner. Most classifications are both annoying by reason of needless intricacy and equally misleading by grouping in immediate proximity substances which are of widely different effects. Now what we want is a classification based on some fundamental distinction. To illustrate the distinction in time the attention was directed to the difference between the work done by six weeks on mercurials in syphilis and by a cathartic in a case of constipation. A further difference lies in the fact that the mercury is inert save in the presence of disease, the cathartis will act equally on the athlete or the consumptive. From such examination of different agents the classification begins to open into structural and functional medicines, that is respectively the disease medicines and the symptom medicines. The former class should never produce symptoms, the second always produce symptoms. Of disease medicines there are two classes, those which are substances natural to the body, restoratives; and those which are substances not natural to the body, alteratives.

THIRD DAY.

Therapeutics of croupous pneumonia, by J. M. ALLEN, of Liberty, Mo. Within the last half century there have been three different conceptions of the therapeutics of the diseased condition, with all of which he had enjoyed practical familiarity. With the exception of digitalis the only remedies which have been carried over from the past to the modern treatment are such as are germicidal, for it is now recognized that the disease is of germ origin. The author furnished a systematic account of the remedial agents which in the present knowledge of the etiology of the disease have been found of most value, and presented the results of his experience in varying dosages and combinations. In the discussion of the paper WARREN B. HILL, of Milwaukee, brought into prime importance the fact that pneumonia is due to a mixed infection and reported on treatment. MELVIN, of Saguache, Colo., carried on the debate with a statement of the prevalence of the disease in the high altitudes of the mountain region and of the agents which had been able to give good results.

The section passed a resolution addressed to the committee on revision of the pharmacopeia to **standardize galenicals** as far as practicable and in particular to adopt a standard solid extract and a solid fluid extract of every vegetable drug commonly administered internally, such galenicals to be of identical name but not necessarily prepared with identical excipients or by identical methods, to be of uniform strength as regards the average crude drug, the liquid preparation being of 50% or 100% strength, the solid of 100% or 200% as may be deemed advisable.

Therapeutics of vertigo, by J. LEONARD CORNING, of New York City. This condition is readily induced artificially by derangement or perversion of perception and a general type is that of rotary vertigo. This artificially induced vertigo affords a ground on which to comprehend vertigo as it is induced by pathologic conditions. The determination of the reaction time may be conducted by methods and devices familiar to experimental psychology.

Increasing the value of codliver oil by the addition of free iodin and free phosphorus, by LOUIS J. LAUTENBACH, of Philadelphia. Before the introduction of the Moeller process in 1853, all the oils were contaminated through the products of putrefaction of the liver tissue. We are yet far from being in a position to explain the therapeutic efficacy, but the values of the properties of codliver oil have been recognized for ages. There is reason to regard the old oil as more efficacious. This had led to the effort to fortify the steam-prepared oil.

Irrigation of the colon as a therapeutic measure, by GEORGE J. LOCHBOELER, of Washington, D. C., reviewd the progress of colonic irrigation and set forth the physiologic reasons for its employment. He cited his cases in which the measure had been employed with great success and showed how the value of the treatment had been demonstrated by the most recent advances in therapeutics. In *discussion*, D. R. BROWER, of Chicago, remarked that the profession at large paid too little attention to this highly valuable therapeutic agent. PROF. OSBORNE, of Yale, repeated the remark with particular reference to the surgeons, and rehearsed in brief the arguments which make it incumbent to practise high injection and colonic flushing after operation.

D. R. BROWER, of Chicago, read a **Protest against the use of proprietary remedies.** The profession is being flooded with articles covered by a triple system of patents; they are, for the most part, byproducts of German color works, they amount to more than 2,000 distinct articles, they appear in from 20% to 26% of prescriptions. They are expensive, they are sold in this country at three to four times their prices in the land of their manufacture, their effects are unknown. The author called for such action as will prevent the triple patenting of drug remedies.

In *discussion* N. S. DAVIS, JR., of Chicago, said it would be necessary to proceed in a very conservative manner, for there is a respectable class of such agents which have much value and cannot be replaced. J. M. ALLEN gave hearty approval of the point made by the essayist, and went even further to the extent of saying that he disapproved of fixed combinations and compounds in medicine. DR. BERNHEIM, of Philadelphia, took issue with the statement that these goods sold in this country at higher rates than in Germany and cited comparative prices of antipyrin to show that they are practically the same. PROF. LYON spoke of the necessity to secure and preserve the ideal of the pharmaceutic profession.

PROF. O. T. OSBORNE read a paper on **Therapeutic application of organic extracts** with particular reference to the thyroid, the thymus, the pituitary, and suprarenal. In the case of the thyroid the study and determination of its therapeutic properties is aided by the fact that the pathology of the gland itself can be held under study. In a rapid summary the author commented upon each of the conditions under which thyroid is employed and indicated what the procedure should be. With thymus the mode of employment is as yet in the empirical stage. Pituitary gland has been employed to advantage in cases of giantism and akromegaly. Of suprarenal extract it is safe to say that when used intravenously the effects are positive, when used by the mouth the results yet remain problematical.

JOHN V. SHOEMAKER, of Philadelphia, addressed the Section on a case of **Addison's disease** and his treatment with the suprarenal extract, being a synopsis of the paper which he presented for publication. The treatment was for a time successful but ultimated in failure.

The *discussion* of the two papers brought out careful statements of a few cases each in which several individual physicians had employed one or other of the organic extracts. No one seemed to incline to make a general statement of the value of the extracts, the results of the extract in the several cases showing the most marked variation.

J. C. CULBERTSON, of Cincinnati, read a paper on **Psychic therapeutics,** which pointed out after what manner and to what degree the physician becomes himself a valuable therapeutic agent, in other words the personal influence of the physician over his patient. Often drugs are less needed than the potent power of the physician in laying down rules for the conduct of the case with placebo adjuncts. It is the systematic use of the personal influence of the physician that gives any foundation to Christian Science and faith cure. Eliminate this one powerful agent and there is nothing left of a visionary vagary.

FOURTH DAY.

The paper of E. M. HOUGHTON, of Detroit, on the **Pharmacologic assay of drugs and its importance in therapeutics** was presented to the section at the opening of its session and by request of the section it was read by C. T. MCCLINTOCK, of Detroit. The author referred to the need of assay in the case of such drugs, represented by the heart-tonics and many glucosides, as are not amenable to the ordinary chemical methods, and briefly recited the method by which the pharmacologic assay of such drugs is physiologically carried out on the lower animals. The medical profession is familiar with this method as practised in the case of the antitoxin of diphtheria. The importance of such assay will be recognized when it is recalled that some of the most violent poisons are included in this class of drugs, that chemical assay will not avail to standardize the preparations of

these drugs, and therefore that grave dangers may be caused in the practice of medicine.

On motion of Dr. Dickinson, of St. Louis, it was resolved that the section expressed the unequivocal disapproval of the use by members of the Association of all proprietary preparations of unethical composition, and entirely approved refusing to such compounds the privilege of appearing in the advertising pages of the *Journal*. The hope was expressed that hereafter such preparations be excluded from exhibition-space at the meetings of the Association.

Prof. Joseph P. Remington, of Philadelphia, reported on the United States Pharmacopeia of 1900 and detailed the composition of the revision committee and the policy pursued in their researches.

Thus concluded a valuable and instructive session, The attendance at the section meeting has been of the most satisfactory kind, the papers have been of a high class and the discussions have elicited much instructive information The business was conducted with promptness, and as a result the schedule for each session was followed on time. There were 48 distinct titles; of this number 9 were read by title by consent of the section when the authors had presented satisfactory excuses; 10 were stricken out through failure of the authors to be present or offer excuse; one was refused as being in contravention of the ethics of the section, and 28 were read and fully discussed.

Section on Cutaneous Medicine and Surgery.

[Reported by J. F. S.]

First Day.

The Chairman of the Section, L. D. Bulkley, presented his address entitled **Recent advances in dermatology which are of service to the general practitioner.** The subject was reviewed from the point of view of progress in dermatology in general, and cutaneous therapeutics in particular. New observations are constantly being made and hitherto unknown affections described. Blastomycetic dermatitis has taken its place among well-recognized dermatoses. The number of drugs capable of producing rashes is constantly on the increase, and now includes nearly all of the commonly employed medicaments. The chief factor in the production of these rashes is idiosyncrasy. A well-marked eruption is frequently seen in influenza, and this may be scarlatiniform or morbilliform in character. Associated with catarrhal symptoms the diagnosis of measles may be erroneously made. Much research has been carried on in bacteriology of the skin, but so far the results have not been of a positive character. Seborrheic eczema may prabably be traced to microorganismal origin. It is too soon, however, to make any statements concerning ordinary eczema. Alopecia areata may be due to microbic invasion and may also be a trophoneurosis, there being probably two varieties of cases. Pus-organisms are present in numerous skin affections, but are not necessarily the cause thereof. The soil as influenced by local nutrition and innervation and the general health of the patient ought never to be lost sight of as a factor of great importance in the production of or protection from certain cutaneous diseases. Concerning therapeutic advances the greatest conservatism is necessary. Alleged results must not be too quickly accepted as proven. Adverse results from the use of new remedies should be reported as faithfully as favorable ones. Of the new drugs of value mentioned in the address of the same chairman four years ago, some had since fully established their value, whereas others have not. Resorcin and ichthyol have more than held their value. Alunol, betanaphthol and europhen have also demonstrated their value. Hydrogen dioxid is useful in removing patches of chloasma and in bleaching superfluous hairs upon the face. It also seems to interfere somewhat with the vitality of these hairs, so that after long use the hair-growth may become lessened. It is also of value in various ulcerative skin-affections. Medicated soaps are slowly assuming a limited place in dermatology. In injudicious hands they may do considerable harm. Phototherapy has been employed by Finsen and since by others in the treatment of lupus vulgaris. The early reports have been extravagantly favorable. I do not think that many dermatologists are enthusiastic over the method. Our hopes may prove illusive as they did with Koch's lymph. Röntgen-rays have now been used by a number of clinicians in the treatment of lupus with alleged good results. It is yet too early to be certain of its value. The prognosis as to duration in x-ray burns should be guarded. The method of Lang, of Vienna, who excises areas of lupus and restores the part by plastic operation, is often followed by good results. The hypodermic treatment of syphilis continues to be recommended. A new method, alleged to give good results, is to wear a bag about the chest containing mercury, which is added in the dose of one dram a day. As suggested by Wielander, the mercury is supposed to become volatilized and enters the system through the respiratory tract. In *discussion*, Yarrow, of Washington, D. C., extolled the **hypodermic treatment of syphilis,** which method he employs as a routine. The sozoiodolate of mercury is preferred and is given 2 or 3 times a week for 2 years. M. B. Hartzell, of Philadelphia, made reference to a new treatment of lupus erythematosus. This consisted in the use of large doses of quinin sulfate, 25 to 30 grains daily. This often produced rapid and undoubted improvement. After reaching a certain stage, however, the improvement ceased. He believed quinin to have a more decided effect upon the disease than any other known remedy. This observation was confirmed by W. T. Corlett, of Cleveland, Ohio, who stated that with large doses of quinin internally, and plain alcohol locally, he had secured better results in lupus erythematosus than with any treatment previously employed by him. Dr. Wm. L. Baum, of Chicago, spoke of the place of hypodermatic medication in the treatment of syphilis. It was not to be used as a routine method, but only when it was desired to produce a profound mercurial impression upon the system. He believed no preparation to be superior to an aqueous solution of the bichlorid of mercury.

A. W. Brayton, of Indianapolis, read a note on **Herpes gangrenosus.** He had previously reported this affection as occurring in three generations. The lesions appeared as small areas of erythema upon which were developed vesicles or blebs which rapidly became gangrenous. The sloughing of the eschars produced large granulating ulcers. He looked upon the disease as a trophoneurosis. He also reported a series of cases of **keratosis palmaris** occurring in 37 members of a family in three generations. Upon the hands and feet were perhaps several thousand closely-packed horny elevations resembling somewhat broken-off toothpicks imbedded in the skin. The writer was inclined to view the condition as closely allied to ichthyosis hystrix.

Jay F. Schamberg narrated the history of a woman who had been for 9 months the subject of a **gangrenous affection of the skin,** beginning as multiple areas of redness which became necrotic over night. Sloughing would occur in a week, giving rise to numerous deep ulcers. The condition was progressive as was evidenced by hundreds of scars upon the patient's body. The affection belonged to the class known as multiple idiopathic gangrene of the skin. Schamberg suggested this as a more appropriate title than herpes gangrenosus for Brayton's case. The name was accepted.

Second Day.

Jay F. Schamberg read a paper entitled **A peculiar progressive pigmentary disease of the skin.** The patient was a lad of 15, who had had for 5 years reddish-brown pigmentary patches upon the legs and wrists. The primary lesions of the disease were reddish puncta resembling grains of cayenne pepper. These were followed by brownish-red and later brownish-yellow staining. The disease has been slowly spreading for the past five years. There was entire absence of itching, burning or pain. Under the microscope there was apparent a dense circumscribed cell-infiltration, in the papillary layer of the corium, most intense in the immediate neighborhood of a sweat-duct. The histologic appearances were those of a subacute inflammatory disease. No similar disease is recorded in dermatologic literature. L. D. Bulkley said that the presence of small papules followed by pigmentation suggested the possibility of the case being an aberrant type of lichen planus. Schamberg could not reconcile such a diagnosis with the entire absence of itching, the nonelevation of the lesions, their lack of infiltration, and the course of the disease.

Successful Treatment of Skin-cancers without

Operation. H. W. STELWAGON, after using nearly all of the caustics advised in the treatment of epithelioma, preferred an arsenic paste. This drug exerts an elective influence upon diseased tissue, sparing in large part the normal structure. The scarring after the use of arsenic is therefore often inconsiderable. The use of an arsenical paste is painful, but this may be in a measure mitigated by the addition of cocain to the water used to make up the paste. The writer had received an impression that the addition of orthoform, which had been advised for the relief of pain, in some way interfered with the caustic action of the arsenic. GOTTHEIL, of New York, indorsed the remarks of Stelwagon as to the superior results from the use of arsenic. Such caustics as nitric acid, caustic potash, etc., destroy healthy and diseased tissue alike, and are therefore apt to lead to a greater degree of scarring. Arsenic in 33% to 50% strength applied for 24 to 36 hours, does not destroy sound tissue. It causes an intense inflammation, which breaks down the recent neoplastic cells, whilst the older normal cells survive. SHERWELL, of Brooklyn, prefers cureting, followed by the application of a 50% solution of the acid nitrate of mercury, which is allowed to cook the tissues for five minutes. Arsenic is not so painful at first, but the pain gradually increases until it becomes intolerable. With acid nitrate of mercury the pain is severe for a short time, but it then gradually ceases. In epithelioma, involving such regions as the external ear or the penis, the knife is preferable. CORLETT, of Cleveland, has during the past 8 or 9 years used electrolysis in all of his cases of skin-cancer. He has never had a recurrence after such treatment. Small growths can usually be destroyed in one sitting. The cicatrices are extremely satisfactory. CHARLES ALLEN, of New York, believes that all caustics commonly employed for cancer are good, but that arsenic is the best, particularly in deep growths. He advises the admixture of orthoform for the relief of pain, and gives the following formula: Arsenic 1 to 2 parts, orthoform 1 part. The two are to be well rubbed together and sufficient water added to make a paste. A. W. BRAYTON, of Indianapolis, prefers cureting followed by the application of pure carbolic acid, and this in turn by the acid nitrate of mercury. The carbolic acid acts as a local anesthetic and relieves the pain of the acid nitrate of mercury.

M. L. HEIDINGSFELD, of Cincinnati, read a paper on **Leukonychia** (or white spots in the nails), in reference to some etiologic and pathologic considerations. He finds from a careful review of the literature, that only 5 cases of leukonychia totalis, where the nails turn white in their entirety, have thus far been reported. There have been only 2 cases of leukonychia striata,—chalky-white parallel streaks on the nail-surface—reported, and he has personally observed 7 well-marked cases during the past 18 months. He ascribes the cause to slight trauma of the matrix in most cases, which is induced in most instances by the unskilful use of the cuticle knife. The right hand almost invariably shows greater involvement than the left, which is explained by the fact that the left is relatively less skilful in using the instrument. He accounts for the disparity with former records by the fact that this instrument is rather new, and somewhat "American." The point of this instrument, in the process of trimming away the cuticle and pushing back the posterior nail-folds, works injury to the underlying bed of matrix cells, inducing a pathologic change whereby they fail to undergo normal physiologic keratinization, retain their cubical outline, and become so changed in refractive power that they are no longer translucent, but reflect light and thus produce the chalky white streaks or spots in the nail-substance. They consist of imbricated layers of cells, running downward and forward, and occupying the upper, middle or lower third of the nail (vertical thickness), according as the posterior, middle or anterior portion of the matrix is involved in the pathologic process. Each plane of cells is a single stria, and corresponds to a trauma of definite duration. The striae are broadest at their centers, and this area is point of greatest disturbance. He refuted the popular and almost universal opinion that the process is due to an infiltration of air on theoretic grounds, and stated that in his microscopic investigations, he had never discovered the slightest evidence for such a hypothesis. He showed a number of interesting photomicrographs. Leukonychia is occasionally induced by causes other than trauma; viz., typhoid, multiple neuritis, anemia, etc. If the cause is constant, it induces a leukonychia totalis; if intermittent, leukonychia striata or punctata.

Syphilis as a Non-Venereal Disease.—L. D. BULKLEY, of New York, made a plea for the legal control of the disease. In 1494 and 1495 syphilis was widespread in Europe. That it was regarded as a plague and not a venereal disease stringent, and often cruel methods were adopted to suppress it. According to the best authorities syphilis is on the increase. It constitutes at present 11% of all the cutaneous diseases seen by the dermatologist. Sturgis some time ago estimated that 50,000 persons were infected every year in the city of New York. Syphilis as a nonvenereal disease may be contracted: (1) In innocent wedlock, marital syphilis; (2) by heredity; and (3) as an extragenital or innocent infection. Fournier says 25% of all females in his private practice contracted syphilis innocently. In 75% of his married patients he could trace the infection to the husband. The writer had seen nearly 200 cases of extragenital chancres during 20 years of practice. They may be contracted through: (1) Domestic or industrial pursuits (such as infection through use of eating utensils, pipes, clothing, towels, etc.); (2) nourishment of children (suckling syphilitic children); and (3) professional body-service to the sick (transference of the disease to the operator or patient, or transference by the physician and through the mediation of instruments, etc.). In this country there are no sanitary safeguards against syphilis. Abroad, syphilitic patients may be detained in hospitals set aside for such diseases. The first step should be to place syphilis among the contagious diseases which are controled by health-boards. It should be considered just as criminal to knowingly or wittingly transmit syphilis as it would to transmit smallpox. The disease should not be looked upon as a venereal disease, but as a contagious disease which may strike in an innocent manner any member of the community. The subject of the regulation of prostitution is a secondary consideration. As long as syphilis is regarded by the medical profession as a venereal disease, no legislative restrictive measure will be taken.

Discussion.—ALLEN, of New York, said we should begin by looking upon syphilis as a disease frequently nonvenereal in character. Some measures should be taken so that those who seek admission to public hospitals in the early stage of the disease could be detained until there was no further danger of their transmitting the disease. Two-thirds of his cases of syphilis have had no relation to the sexual act. CORLETT, of Cleveland, considers the association of syphilis with venereal disease the main difficulty in the way of legislative action. He has seen in the past 20 years 20 cases of professional syphilis in physicians. Physicians should be obligated to report syphilis just as is done in the other infectious diseases. ERNEST WENDE, of Buffalo, believes that restrictive legislation in regard to syphilis would meet with great difficulties. SCHWARTZ, of the Rhode Island State Board of Health, regards legislation for syphilitics beset at the present time with difficulties, but believes that syphilis should be regarded as a contagious disease. GOTTHEIL, of New York, does not look with favor upon reporting syphilis as a contagious disease. The effort to have tuberculosis reported in New York was meeting with difficulties. It must be remembered that the contagious period of syphilis is entirely indefinite. Physicians would never report private cases and the control would be ineffective. Syphilis is in the process of spontaneous amelioration. BULKLEY stated that he had mentioned nothing concerning the reporting of cases of syphilis. He believes the entering wedge should be to make it a criminal offence to wittingly transmit syphilis.

Acute Suppurative Folliculitis of the Scalp.—WM. S. GOTTHEIL, of New York, reported 2 cases, although the first was under observation such a short time as to preclude a presentation of its history. It was in the main the same as the second case. A Russian girl, aged 16, had three weeks before coming under observation, a small, painful blister upon the scalp, which subsequently ruptured. The neighboring hair-shafts were thrown off with the crust. Later there developed several new blebs and tender indurated lesions upon the back of the head. At this time there were perhaps a dozen nodules on the vertex. The patient lost sleep and appetite, and became weak and peevish. When seen by Gottheil she presented upon the scalp, pea to quarter-dollar-sized, reddened, slightly depressed bald areas.

There were also papules and papulo-pustules perforated by hairs. Nearly all the follicles were affected and the entire scalp was edematous. Under the microscope no fungus could be found. Under appropriate treatment a full restoration of the hair took place. But two cases similar to this disease appear to be on record.

Clinical Study of Pityriasis Versicolor.—CHAS. W. ALLEN, of New York. Many statements are made in textbooks in reference to tinea versicolor which are open to contradiction. It is stated that this disease does not occur in infants, that it never affects the palms or soles, that it does not attack the face, etc. His clinical experience would not permit him to subscribe to these statements. He has during the past few years observed several cases of tinea versicolor extending on to the face. The patches on exposed surfaces appear to be darker than on covered regions. The writer gives the following differential test for the more accurate diagnosis of tinea versicolor from other affections and for noting its exact extent when it exists. When Lugol's iodin solution is painted upon a patch of tinea versicolor it takes a deep mahogany stain, deeper than that taken by the normal skin or the skin in other cutaneous affections.

Pemphigus of the Mucous Membranes of the Mouth.—WM. L. BAUM, of Chicago. A man, aged 25, had an eruption of large blisters upon the dorsal surface of the tongue. There was no pain and but little inflammatory areola. Three distinct attacks occurred at intervals of about 6 months. The last attack became gradually well under the local use of a 1:3000 solution of bichlorid of mercury. Cases of pemphigus limited to the mouth are of considerable rarity.

J. A. FORDYCE, of New York, exhibited a number of most interesting **photographs illustrating rare manifestations of syphilis** and affections likely to be confounded with this disease.

The evening was devoted to a lantern-slide exhibition of clinical and photomicrographic pictures. HEIDINGSFELD exhibited a number of interesting slides illustrative of diseased conditions of the nails. CORLETT, of Cleveland, exhibited a number of photographs of smallpox, measles, röthelm, etc. SCHAMBERG, of Philadelphia, demonstrated a number of photographs of smallpox and conditions apt to be confounded therewith.

Section on Laryngology and Otology.

[Reported by S. B.]

FIRST DAY.

The chairman, CHRISTIAN R. HOLMES, of Cincinnati, opened the proceedings by delivering an address, in which, while congratulating the members of the section on the increased importance that was attached to their specialty, he imposed on them the necessity of upholding the association of which the section was a branch. Even yet all that could be desired was not done in the way of teaching laryngology and otology, but in the United States as well as in Europe, steady progress was being made in this direction. Much valuable literature had, moreover, been contributed in recent years on the subject in question, and a large number of useful instruments and modifications of old ones had been introduced. There was still need of a good hot-air apparatus. Many devices had been put on the market, but he had not seen any that answered all the requirements. Touching on the preparations which laryngologists had occasion to use, he acknowledged the good properties of suprarenal extract, but said it was still to a certain extent on probation, and its field of usefulness was limited by the tendency to secondary hemorrhage which was apt to follow its employment.

Relation of Laryngology to General Medicine.—An address on laryngology and its relation to general medicine was delivered, by invitation, by J. SOLIS-COHEN, of Philadelphia. He had, he observed, nothing new or striking to say upon the subject; but the chairman's address and the varied character of the subjects on which papers were to be read showed the necessity of some generalization. The close relation of laryngology to general medicine was much more generally recognized than it was but a comparatively short time ago, when, by all except an enlightened few, the laryngoscope was regarded as little more than a scientific toy. Now in several of the universities the systematic study of laryngology was considered essential to the preparation of students for general practice, and in not a few others it was a favorite subject among the elective branches. The increasing demand for knowledge regarding affections of the larynx and the organs immediately connected with it must soon culminate in its recognition as a necessary element of medical education; laryngologists should certainly be satisfied with nothing less. While thus insisting on the importance of the specialty, and the necessity of its being studied by those who intended to become general practitioners, he was equally emphatic in maintaining that it was necessary for those who aimed at becoming specialists to have very considerable preliminary experience in general practice. Many specialists, on account of their want of general medical training and practice, were mechanicians rather than physicians, and the results were many injudicious operations as well as explorations. On the motion of EMIL MAYER, of New York, a vote of thanks was awarded to SOLIS-COHEN for his address.

A case of **unusual injury to the larynx,**—comminution of thyroid cartilages due to a bullet whose point of entrance was in the frontal bone—was reported by EMIL MAYER. After entering the frontal bone the bullet crushed through the superior maxilla, cut through the soft palate, struck the hyoid bone, then deflected, comminuting thyroid cartilages, entered the esophagus and dropped into the stomach, and was eventually passed by the bowels. Resulting stenosis caused complete aphonia and apnea, necessitating tracheotomy. Intubation long continued, resulting in restoration of the voice and ability to breathe for hours with tracheotomy-tube closed. The method of intubation, including an entirely new and original device by the author for that purpose, was explained in detail, the instruments employed being exhibited.

Papilloma of Larynx.—A paper on this subject was presented by E. T. DICKERMAN, of Chicago. After describing the character of the growth, he referred to the frequency of its occurrence in children under 10 years of age. He proceeded to speak of the difficulties of examination and diagnosis, and concluded by discussing various forms of treatment, with special reference to intra- and extralaryngeal methods of operation.—An **Unusual papillomatous growth in the larynx** was described by JAMES S. GIBBS, of Philadelphia. The papers were discussed together, and led to the expression of a great variety of opinions as to the best method of treatment, among the speakers being JONATHAN WRIGHT, of Brooklyn; MACKENZIE, of Baltimore; STILLSON, of Seattle, Wash.; and MAYER, of New York.

Three cases of angina epiglottida anterior were reported by C. F. THEISEN, of Albany, N. Y. The affection, he remarked, was rare, there being only comparatively few cases reported. Michel gave it its name in 1878. Under the affection the surface of the epiglottis becomes very much inflamed and swollen. There may be some redness of the vocal cords as well, but as a rule the larynx itself is not much involved, at least there is no marked swelling of laryngeal mucosa. These cases, the author said, must be distinguished from a series of cases described by Burnett, to which he gave the name of acute miasmatic epiglottidis. Angina epiglottida anterior is a form of edema of the larynx limited to the epiglottis and usually strictly to the anterior surface. In one of the cases reported the edema was so considerable as to interfere seriously with respiration. The author gave details of the bacteria discovered which he thought threw some light on the etiology of the affection. EMIL MAYER said he did not think the affection was so rare as had been suggested, though not always called by the same name; and MACKENZIE, following on the same line, said there were a great many different kinds of edema of the larynx, each originating in a different infection. Many of them were due to alcohol; but, on the other hand, the latter remarked, it was to be remembered that it was to an edema of the larynx that the death of Washington was traced.

A paper on the **Care and use of instruments,** showing the necessity of knowledge as to how to care for edged instruments, and the best methods of cleansing and keeping them in good condition, was read by A. DEVILBISS, of Toledo, O. No person, he maintained, should be allowed to practise surgery until he had learned some mechanical trade, and every college should have a teacher qualified to instruct students in the use and care of surgical instruments. The

reader of the paper gave some practical suggestions as to the honing of knives, sharpening of saws, etc.

The proceedings of the section were brought to a close for the day by **lantern exhibitions,** given by GEORGE C. HOUTE, of Philadelphia, showing **embryonic defects of the nose, throat, and ear,** together with their causes, and by M. H. CRYER, of Philadelphia, showing the mode of infection of the maxillary sinus. Votes of thanks were given to both doctors for their exhibitions.

SECOND DAY.

A new atomizer was exhibited by GEORGE F. COTT, who explained its uses in the treatment of laryngologic and other affections. It is operated by compressed air, and is simply worked.

R. W. SEISS, of Philadelphia, read a paper on the **atrophic pharynx.** He explained that he made no special claim to originality in the views he advanced on the subject, but only desired to show the necessity that existed for more accurate classification of diseases of the nose and throat. The etiology of pharyngeal atrophy, like that of so many other diseases, was practically unknown, and the treatment was limited to the palliation of the symptoms, the prevention of the spread of the microbes, and the stimulation of the unaffected parts of the organ to greater activity. Astringents of all kinds, and especially silver nitrate, were likely to aggravate the disease. He found good results follow spraying, massage, and packing with medicated preparations. Internal medicine was seldom of any use. In the discussion which followed, general agreement was expressed in the author's views on treatment, while the uncertainty as to the etiology of the disease was admitted.

The present status of the antitoxin-treatment was discussed by SAMUEL E. ALLEN, of Cincinnati, Ohio. He referred to the enormous amount of work that had been done in recent years in serumtherapy, and said the result had been the addition of a great deal of valuable information to their knowledge of the origin of diseases, as well as to the best methods of curing them. Taking the diphtheria-bacillus as typical he showed the extent to which the medical profession and humanity were indebted to the bacteriologists. It was now definitely known that there were bacilli which were peculiar to diphtheria. They were, however, of so many different kinds that they might be spoken of as a group, and there was another group which were called pseudodiphtheric because they resembled the actual diphtheria-bacilli in every thing except the fact that they were comparatively harmless. Bacteriologists, while thus facilitating the making of a correct diagnosis, had done much towards showing them how a state of immunity could be produced. Serumtherapy was only another proof of the truth of the saying that there was nothing new under the sun; for it was simply a practical application of the principle that that which produces a disease often cures it. The important thing to remember in regard to antitoxins was the necessity of using them early and in sufficient quantity, for they did not cure, they only prevented the spread of the disease. Any harm done by the use of antitoxins was due to some substance outside of the serum. This showed the necessity of using perfectly reliable serums, of which many were now made.

The relation between audition and circulation of blood. H. STILLSON, of Seattle, Wash., described experiments made with the view of ascertaining the etiologic factors in the causation of tinnitus—*e. g.*, tinnitus due to tubal edema; tinnitus increased by brushing cuticle in region supplied by trigeminal nerve, by pressure over mastoid bone, with increase in pitch and decrease in hearing acuity; tinnitus produced and increased by hanging head down and in pressing against floor; tinnitus increased by oscillating head on its horizontal or vertical axis, with a decrease in hearing acuity; and tinnitus increased by nodding, but to a much less degree.

Some points in the **diagnosis** of **syphilis** of the **upper air-passages** were described by GEO. L. RICHARDS, of of Fall River, Mass. Syphilitic affections of the upper-air tract were very rarely met with as primary lesions, but commonly as secondary, and frequently as tertiary manifestations in constitutional syphilis. The areas involved were the pharynx and tonsillar region, nose, and larynx. As observed by nose and throat specialists, the tertiary stage was the type most frequently seen, since the secondary stage had usually been under the observation of a general practitioner. He showed that the tertiary manifestations were frequently overlooked or improperly interpreted, and that they might occur at very variable times after primary lesions, from months to many years. Late manifestations should be grouped with tertiary so far as treatment was concerned. In all such cases he used mercury and potassium iodid, which yielded good results in the tertiary as well as in other stages of the disease. The difficulty of diagnosing syphilis and the necessity of always suspecting its presence were the points principally emphasized by the discussion.

Some remarks on internal and external operations for chronic frontal sinusitis were contributed by R. C. MYLES, New York, who exhibited and explained the use of a number of instruments. He showed that many cases of the affection in question could be easily cured through this use, but that it was impossible to lay down any general rule as to when it was necessary to make an external incision. His remarks were illustrated by the exhibition of sections. A paper on **ear diseases in childhood and infancy** was read by J. HOMER COULTER, Chicago.

Notes on two cases of **voluntary laryngeal whistling** were given by G. HUDSON MAKUEN, of Philadelphia.

[To be concluded.]

IN the **Provisional Section on Pathology,** American Medical Association, DR. A. P. OHLMACHER, of Gallipolis, Ohio, read a paper on **Morphologic variations in the pathogenic bacteria, with two pronounced examples.** He called attention to the necessity of exhaustive studies in bacterial variation, both morphologic and physiologic. Data bearing on this point must be accumulated and analyzed. The further progress of pathologic mycology largely depends on this knowledge. We are superficially acquainted with some of the factors concerned in microbic variation which are demonstrable in the laboratory, but we know almost nothing of the factors at work to modify bacteria in their parasitic or saprophytic surroundings. The recognition of morphologic variation is a matter of considerable practical importance, as errors in bacteriologic diagnosis are easily made; as, for example, in the diphtheria culture-test, where the diagnosis largely depends upon morphologic characteristics. It is absurd for anyone in our present ignorance to say that this or that particular form of the diphtheria-bacillus is more or less pathogenic or non-pathogenic. He cited two striking personal observations, the first that of a streptococcus, obtained from a follicular tonsillitis, which grew on Löffler's medium, into rods of diverse shapes and sizes, with spindle-like swellings, clubbed ends, spherical ends, etc. Had it not been for the linear continuity of these irregular forms, the organism would readily have passed for the diphtheria-bacillus, and in places where the chains were disturbed and broken in preparation this resemblance was most deceptive. In broth the organism took a regular streptococcoid form with small diplococcoid members of the chain. Transferred to Löffler's medium the bacilli-like form reappeared. This transformation was repeated seven times. In the other case a pure colon-bacillus culture was obtained from a gangrenous cholecystitis and cholangitis. In the original smears, a wonderful variation in shape and size was shown from minute coccoid or diplococcoid forms to remarkably long threads, often weaving themselves into tangled masses of considerable size. The irregularity was retained in great part in the early pure cultures from the gallbladder, liver, and heart's blood, and only after several transfers in broth did the bacillus resume the ordinary morphology of the colon group.

Original Articles.

THE ENDOWMENT OF MEDICAL COLLEGES.[1]

By W. W. KEEN, M.D., LL.D.,

President of the American Medical Association at the meeting in Atlantic City, June 5, 1900.

Two duties seem to me to devolve on the President of the Ameriean Medical Association in his annual address. First, to consider the condition of the Assoeiation with any suggestions that may be made for improvement, and, secondly, to take up some subject of professional interest which may be properly considered before the chief representative medical body of the United States.

In pursuanee of the former, it is a great pleasure to me to congratulate the Association on its marked prosperity. The American Medieal Association now numbers about 9,000 members. A large number truly, but when we consider that there are over 100,000 regular physieians in the United States, it is strange and anomalous that this Association should eomprise less than one in ten of these physicians. I eall your attention to this important matter in order that every member of the Assoeiation during the eoming year shall try at least to induee another fellow physician to join the Assoeiation and thus double its numbers and, far more, double its influenee for good.

Secondly.—The Journal of the Association.—One of the most important functions of the Association is the publication of the *Journal of the American Medical Association.* Here, again, I have only words of encouragement. The number of subscribers to the Journal is about 15,000. A number, undoubtedly, in excess of that of any other medical journal in the United States, and I suspect only surpassed by the *British Medical Journal,* whieh publishes over 21,000 copies weekly. But, it is not only on the number of subseribers that the Association is to be congratulated, but espeeially on the quality of the papers published in the Journal. It is, however, not only idle words of vague praise that we should bestow upon the trustees and the able editor of the Journal, but we should recognize that never before in the history of the Journal has it been so well eonducted, its pages so filled with admirable original articles and its influence for everything that makes for the best in medicine so potent as at present.

Thirdly.—The Rush Monument Fund.—Dr. Albert C. Gihon resigned at the last meeting as the Chairman of the Rush Monument Committee. It seemed to me that his successor should be a physician rather than a surgeon, and from Dr. Rush's native city. Aecordingly, I appointed Dr. James C. Wilson to the vaeancy.

The Committee report actually in hand a little over $11,000. This sum is too large to go backward, and it is not enough to go forward. In the hands of various State organizations, and possibly others, there are several thousands of dollars, I believe, which have been pledged to this Fund. I recommend that aetion be taken, looking to the early completion of the Fund. All the more is this suitable, when we remember that there will be erected in the city of Washington this year, or early next, a costly monument to Hahnemann, for which Congress has given a site.

Fourthly.—The Antivivisection Bill.—Early in the session of the present Congress, there was introduced into the Senate, Bill No. 34, eommonly called the Anti-vivisection Bill. The immense detriment that this would work both to man and animals was so evident that I deemed it my duty as your President to take the most active steps to prevent its becoming a law. I sent out letters to the president and secretary of every State medical society in the country, to prominent members of the profession in every State, to a large number of influential men in the profession all over the eountry, and to college presidents, and others who eould direet public opinion, and by all means in my power strove to arouse a public sentiment against the bill. I wish to bear publie testimony to the enthusiasm and the unanimity with which my appeals were received. The profession in every part of the eountry responded nobly and exercised a wide, and I believe an enduring influenee on senators and representatives in establishing and eonfirming their judgment against the inhumanity of any such bill.

In response to a communication addressed to the Chairman of the Senate Committee on the District of Columbia, a hearing was granted in Washington before the sub-committee having charge of the bill, at which both the friends and the opponents of the measure were present and presented their arguments. Among those who spoke against the bill were Drs. William H. Welch, Henry P. Bowditeh, H. A. Hare, William Osler, Mary Putnam Jaeobi, Geo. M. Kober, Howard A. Kelly, D. E. Salmon, Brig.-Gen. Geo. M. Sternberg, Surgeon-General United States Army, and Bishop Lawrence of Massachusetts, and myself. Certainly a more able array of speakers could hardly have been obtained, and I wish in your name, and in the name of humanity to thank them for their self-sacrificing help.

Although in two prior Congresses the Committee on the District of Columbia had unanimously reported in favor of the bill, I am happy to say to you that the present Committee has so far changed its views that I have reason to believe that the bill will either slumber in eommittee or be reported negatively. While it is to be hoped that this is the end of the present bill, it is by no means eertain that it is the end of the agitation of those who are blind to the progress of medicine and, therefore, to the dictates of humanity, but I have no doubt that the effort will be renewed at some future time. If this should take place, I commend to the then President of the American Medical Association the duty of opposing the bill with all the vigor whieh he can use.

Among the important contributions to antivivisection literature evoked by this discussion, none is more valuable than the letter addressed to the Chairman of the Committee on the Distriet of Columbia in opposition of the Bill by President Eliot, of Harvard College, which I venture to read to you:

Harvard University.

Cambridge, March 19, 1900.

"Dear Sir:—I observe that a new bill on the subject of vivisection has been introduced into the Senate, Bill No. 34. This bill is a slight improvement on its predecessor, but is still very objectionable. I beg leave to state very briefly the objection to all such legislation

1. To interfere with or retard the progress of medical discovery is an inhuman thing. Within fifteen years medical research has made rapid progress, almost exclusively through the use of the lower animals, and what such research has done for the diagnosis and treatment of diphtheria it can probably do in time for tuberculosis, erysipelas, cerebrospinal meningitis, and cancer, to name only four

[1] President's address, Fifty-first Annual Meeting, American Medical Association, Atlantic City, June 5-8, 1900.

horrible scourges of mankind which are known to be of germ origin.

2. The human race makes use of animals without the smallest compunction as articles of food and as laborers. It kills them, confines them, gelds them, and interferes in all manner of ways with their natural lives. The liberty we take with the animal creation in using utterly insignificant members of them for scientific researches is infinitesimal compared with the other liberties we take with animals, and it is that use of animals from which the human race has most to hope.

3. The few medical investigators can not, properly, be supervised or inspected or controlled by any of the ordinary processes of Government supervision. Neither can they properly be licensed, because there is no competent supervising or licensing body. The Government may properly license a plumber, because it can provide the proper examination boards for plumbers; it can properly license young men to practise medicine, because it can provide the proper examination boards for that profession, and these boards can testify to the fitness of candidates, but the Government can not provide any board of officials competent to testify to the fitness of the medical investigator.

4. The advocates of antivivisection laws consider themselves more humane and merciful than the opponents of such laws. To my thinking these unthinking advocates are really cruel to their own race. How many cats or guinea-pigs would you or I sacrifice to save the life of our child or to win a chance of saving the life of our child? The diphtheria-antitoxin has already saved the lives of many thousands of human beings, yet it is produced through a moderate amount of inconvenience and suffering inflicted on horses and through the sacrifice of a moderate number of guinea-pigs. Who are the merciful people—the few physicians who superintend the making of the antitoxin and make sure of its quality, or the people who cry out against the infliction of any suffering on animals on behalf of mankind?

It is, of course, possible to legislate against an improper use of vivisection. For instance, it should not be allowed in secondary schools or before college classes for purposes of demonstration only; but any attempt to interfere with the necessary processes of medical investigation is, in my judgment, in the highest degree inexpedient, and is fundamentally inhuman.

Very truly, yours, "C. W. ELIOT."

HON. JAMES MCMILLAN.

Coming from such a high source, I cannot but feel that it will carry conviction, both by the force of its statements and the lucidity of its logic. I call your especial attention to the ground taken by President Eliot that it is the antivivisectionists who are inhumane and cruel to the last degree, because they would condemn both man and animals to suffering and death by impeding the progress of medical science.

Fifthly.—MEMBERS OF THE ASSOCIATION.—By its constitution, the members of the Association consist, first, of delegates; secondly, members by invitation; thirdly, permanent members, and fourthly, members by application. I wish to invite your attention to the desirability of limiting the members by invitation to foreign delegates, eminent foreigners whom the sections may desire to invite to read papers and take part in the discussion, to members of the medical staff of the Army, Navy and Marine-Hospital Service and to the occasional visiting physicians from our possessions outside of the limits of the United States proper. It has been the custom in most of the sections to invite medical men of distinction who are not members of the Association to read papers before the sections. Some of these gentlemen have been even openly hostile to the Association, and yet year after year have had the courtesies of the Asso-ation extended to them. They have availed themselves of these privileges and advantages and yet not only privately, but sometimes publicly, have expressed their hostility to the Association.

It seems to me that the time has now come when this practice should cease. Membership in the Association is open to every American, and any one who does not choose to avail himself of the privileges and advantages of membership by joining the Association should be debarred from them.

During the present year I have sent a courteous circular letter to each person so invited by the various sections, but not a member of the Association, enclosing a form of application and inviting him to become a member of the Association. I am glad to say that a very large number have availed themselves of the opportunity of doing so. The Constitution prescribes that the members by invitation shall be invited by "the meeting after an introduction from and being vouched for by at least 3 of the members present or 3 of the absent permanent members;" and in the order or business, the third order is the "reception of members by invitation." No such formality, it seems to me is desirable. The extending of such an invitation to distinguished foreigners and others that I have suggested may well be left in the hands of the sections, with the exception, it might be, occasionally of persons of unusual distinction.

Sixthly.—SECTION ON PATHOLOGY AND THE PATHOLOGICAL EXHIBIT.—One of the important features of the American Medical Association is to promote the scientific side of medicine. It has seemed to me that the Association was not fulfilling its duty to scientific medicine in one important particular. There is scarcely a more important branch of modern medicine than pathology and bacteriology and yet no section for the consideration of these subjects is provided for. Although it was not authorized by the Association, I had such confidence in your intelligent and hearty co-operation that I ventured to ask a number of gentlemen to act as a provisional or unofficial committee to organize a Section of Pathology and Bacteriology under the chairmanship of Dr. Ludvig Hektoen, of Chicago. These gentlemen have ably performed their task and they have presented a most attractive program. You will be asked to authorize the formation of such a section officially, and I cannot doubt what your action will be.

In connection with this, I also appointed a provisional or unofficial committee on a pathological exhibit in charge of a committee, of which Dr. Joseph Stokes, of Moorestown, N. J., is the chairman. Dr. Frank B. Wynn, of Indianapolis, has acted as secretary of both committees. I but ask you to visit the adjoining exhibit to be convinced of how faithfully and intelligently this committee has performed its task. They communicated with a large number of medical schools, museums, and individuals and have met with a most hearty response from all sides. They did not deem it wise that the exhibit should be either by States or by institutions, lest there should be aroused a rivalry, which would in some sense smack of egotism, and lead to further disaster, but asked all to subordinate their individual and institutional interests to the broad general interests of science.

Seventhly.—THE ANNUAL EXHIBIT.—The management of the annual exhibit is a matter of considerable importance to the Association. The exhibit is an important financial aid to the local committee which has charge of the meeting of the Association. So far as I know there are no rules governing the charges, the classes of exhibits or other regulations by which this committee may be guided. Each new committee is a law unto itself. It has seemed to me that if there could be a permanent committee on the annual ex-

hibit, this would be of great advantage, especially if the committee were made up, in part at least, of those who had had experience with former exhibits. It would seem to be desirable that each year the chairman or some other member of the committee on the last exhibit should be added to the committee to replace one of the earlier members, who would retire. I recommend, therefore, that such a committee to have charge of the exhibit at the annual meeting be appointed this year, that this committee shall have power to add to its numbers and nominate a chairman who shall reside in the place at which the succeeding meeting is to be held and as many other local members of the committee as may be deemed necessary to carry on the work. The general committee could formulate general rules governing the exhibit and the local committee could carry out the details.

Eighthly.—The Sections.—The work of the sections has been, heretofore, in many respects admirably done. The tendency to correlate the papers which are presented under certain specific heads and to select one or more important topics for consideration inviting a few distinguished speakers to open the debate, which is then thrown open to all, has been marked in the last few years. The advantages of such a course are so obvious that I trust the chairmen, secretaries and executive committees of the various sections will hereafter strive for even more important debates and more important results than have been thus far achieved. Room should certainly be reserved for a certain number of volunteer papers, but to allow the major part of the time of the sections to be taken up by a mass of heterogeneous papers on unrelated topics would be a great misfortune.

The policy of the Journal, also, in connection with the various papers read before the sections is an important one. Papers vary greatly in their merit and importance, and it would seem to me that to the trustees and the editor of the Journal should be confided the entire responsibility of selecting the more important papers for publication in full and of presenting the less important in longer or shorter abstracts. The example of the *British Medical Journal* may well guide us in this matter.

I ventured to correspond with the chairmen and secretaries of the various sections as to the hour of the section dinners. Very frequently this has been fixed at nine o'clock, an hour which was too late for the usual dinner and too early for a second dinner. Moreover, when the dinners are fixed at so late an hour, if they are to be followed by after-dinner speeches, the hour at which the sections can break up and seek a much-needed rest is so late that it interferes seriously with the work of the succeeding day. Almost without exception, the officers of the sections preferred the usual dinner hour, about seven o'clock, both for material and intellectual reasons. It is often difficult to arrange this matter with the hotels at which the dinners are usually given, but the Association, I think, might rightly insist as but a single evening is occupied by these dinners, that for the one occasion the hotels who profit so largely by the meeting should accommodate the Association in this matter.

Ninthly.—The Committee on the Thirteenth International Medical Congress.—Early last autumn Prof. William Osler, who had been requested to organize the American Committee on the coming International Medical Congress, invited the President of the American Medical Association, and the Presidents of the various associations of medical specialists to form a committee to assist in organizing the International Medical Congress which is to assemble on August 2 in Paris. This committee, and especially its chairman and secretary have done the work exceptionally well. Of course, there is need of money for printing, postage, and clerk hire. At a recent meeting in Washington, the various societies represented by their chairmen, were invited to contribute $25 each toward the expenses of the committee. As this will scarcely meet the expenses, I recommend that an appropriation of $50 be made from the funds of the American Medical Association toward the expenses of this committee.

Endowment of Medical Schools.

Turning, now, from the affairs of the Association, I wish to say a few words in reference to a subject of paramount importance which I am sure will appeal to the sympathies of all present; namely,—the need for endowments for medical schools.

The tide of charity in the United States has reached a remarkable height. The Chicago *Tribune* publishes an annual list showing that in 1894 the charitable gifts and bequests in the United States amounted in round numbers to $20,000,000; in 1895, to $29,000,000; in 1896, to $34,000,000; in 1897, to $34,000,000; in 1898, to $24,000,000; and in 1899, to the enormous sum of nearly $80,000,000.

But a small portion of this charity, however, has been bestowed upon medical schools. It is mostly to colleges, theological schools, hospitals, museums, and libraries, that the principal amount has been given. The cause for this, I think, has been chiefly the vicious method in which all our medical schools were formerly conducted. They were practically joint-stock companies organized for the benefit of the Faculties. As Prof. Bowditch has said, one might as well expect the public to endow a cotton-mill as to endow such a school. The day of these private enterprises is now, happily, nearly past. The respectable schools of medicine are now conducted by trustees, a body of men wholly apart from the Faculties, who manage the affairs of the medical school just as they would those of a university, taking control of the income and expenditures of the school, placing the professors and other teachers upon salaries and conducting the affairs of the institution on broad lines of educational progress. Partly as a result of this change, chiefly through the medical faculties, and largely, I am glad to say, as a result of the influence of the profession exerted through this Association, the courses of study at the medical schools of today, and therefore, the necessities of the student are so wholly different from those of 25 years ago, that it may be well termed a new era in medical education. As a consequence of the broadening and lengthening of the medical course of study, the cost of medical education has enormously increased. The public at large do not at all appreciate this changed condition and even you, members of the profession itself who may have graduated many years since, scarcely appreciate to its full value the difference. As a consequence, the fees of the students, which can scarcely be raised beyond the present amount, are wholly inadequate for providing a proper medical education, and the medical school appeals, as does the college and the theological school and the technical school, for wise and liberal endowments in order to provide this suitable education. "There is no branch of education,"

says President Eliot of Harvard, "which more needs endowment. Medical education is very expensive, because it has become, in the main, individual instruction. Large lectures and crowded clinics are seen to be of really very limited application, so that year by year the medical teaching becomes more and more costly."

What were the necessities of a medical school 25 years ago? Two lecture-rooms, in which seven professors talked, a dissecting-room, and, if possible, a clinic, which was occasionally but rarely in a college hospital. Practically the instruction which the student obtained, with the exception of dissecting, was limited to "book-knowledge" and "ear-knowledge." The student was not brought into contact with any patients or any concrete facts, observations, or experiments. He only listened to what his teachers said about them. Millions were given to hospitals in which the sick were treated, but only sixpences to medical schools, in which the men who are to care for their future patients were trained. "Spain," says Lyman Abbott, "in the late war had nineteenth-century guns and sixteenth-century men behind them. We know what came." Our splendidly equipped hospitals are the nineteenth-century guns. Insufficiently trained doctors are the sixteenth-century men. The time has eminently come when the "men behind the guns" must equal in efficiency the weapons with which they do the fighting.

To perform a tracheotomy and rescue a child suffering from diphtheria is a dramatic occurrence which appeals to everyone. To conduct a long series of experiments in the laboratory by means of which the cause of diphtheria shall be found and the necessity for a tracheotomy avoided, appeals only to the educated few; yet the service done by the operation is a service only to the one patient who may be rescued by the knife, while the other is a service to hundreds and thousands of patients for all time who will escape both the knife and the disease. Yet, such a series of experiments in preventive medicine brings no reward in money, a limited reward in fame, and only its largest reward in the consciousness of giving a great boon to humanity, for which it never can pay.

The era of the man who simply listened to what his teachers had to tell him and then went on his way, as a "rule of thumb" man is, happily, past. This is the era of the trained man and the trained woman, and training means opportunity provided by the community and time, labor and money given by the man.

Let us look for a moment at what a medical school now needs. It stands for two things: First, "thing-knowledge," instead of "book-knowledge" and "ear-knowledge," teaching the facts of modern science, by scientific methods; that is to say, methods of precision. But secondly, no medical school should be content simply with imparting the knowledge that exists. It should push back the boundaries of ignorance and by research add to existing knowledge.

In the accomplishment of the first duty of the medical school, there are required, first, didactic lectures. I am not one of those who believes that the day of the didactic lectures is past. "Never," said President Faunce, of Brown University, in his notable inaugural, "never shall we be able to do without the personality of the teacher flaming with enthusiasm for knowledge, pressing up the heights himself and helping the student on."

In the 156 medical schools in this country there are, perhaps, over 1,500 members in their Faculties. In all of them are inspiring teachers flaming with enthusiasm, for a not inconsiderable proportion may properly be so described, and the influence of such enthusiastic teachers is felt by the entire class. One or two such men in every school make a good Faculty. Beside the didactic lectures, a good working library and a reading or study room is a requisite. And it is a matter of no little encouragement that in the reports of the Commissioner of Education for 1898, 72 medical schools reported 151,433 volumes in their libraries.

Secondly.—The great difference between the modern method of teaching medicine and the older method consists in *laboratory instruction* and *clinical instruction*, both of which must be *individual*. Laboratories are very costly. They require buildings, equipment, and assistants. The number of laboratories required in the present day in a fully equipped medical school is astonishing. First, the dissecting-room—the anatomical laboratory, and along with this a laboratory of histology, and another which may be combined with it, a laboratory of embryology. Next, a physiological laboratory, in which each student will not become an accomplished physiologist, but will become familiar with physiological methods and be trained in exact and careful observation; a laboratory of chemistry and, combined with it, especially, a laboratory of physiological chemistry; in the department of materia medica, a laboratory of pharmacy, in which the student will not become a good pharmacist, but will learn the essentials of pharmacy so that he will not make, at least, gross mistakes, which, otherwise, would constantly occur. Still more important is a laboratory of pharmacology, in which he will learn the action of drugs and be prepared rightly to use them. In obstetrics, a laboratory of practical obstetrics and obstetrical operations is essential. In surgery, he needs a laboratory in which he shall be taught all the ordinary surgical operations. In pathology, he needs a laboratory of morbid anatomy, a laboratory of bacteriology and a laboratory of hygiene. The mere statement of this catalog of 13 laboratories will enforce the fact that an enormous expense not only for the installation, but also for the running expenses will be required. To show what one university abroad does, Professor Welch has stated (Higher Medical Education and the Need for its Endowment, *Medical News*, July 21, 1894) that the Prussian Government expends outside of the salaries of professors in the University of Berlin alone over $50,000 annually! What American medical school can show anything approaching an endowment which will provide such a sum?

And what has not the laboratory done for us within the last few years? It has discovered the cause of tuberculosis, tetanus, suppuration, cholera, diphtheria, bubonic plague, typhoid fever, erysipelas, pneumonia, glanders, and a host of other diseases; it has shown us how to avoid all danger from trichina so that our entire commerce in hog-products is conditioned upon the laboratory; it has shown us how to banish suppuration, erysipelas, tetanus, and pyemia from our hospitals and reduce our death-rates after operations from 50% or 33%, to 10%, 5%, 1%, and often even fractions of 1%; it has given us a really scientific hygiene in which we no longer guess but know; it has shown us the role of the mosquito in malaria, of the rat in bubonic plague, of the fly in typhoid fever; it has given us the power to say to diphtheria "thus far shalt thou go and no farther;" it will give us the power to utter a paean of victory over typhoid, cholera, bubonic plague, tuberculosis, yellow fever, cancer, and

other such implacable enemies of the human race;—and yet there are those who would stay this God-given hand of help!

And the laboratory has had not only its devotees but its heroes. Listen to the story of but one. Dr. Franz Müller, of Vienna, was one of those who in his investigations of the bubonic plague in 1897 contracted the dreaded disease from the bacilli in his culture-tubes. When he became certain that he was infected he immediately locked himself in an isolated room and posted a message on the window pane, reading thus:

"I am suffering from plague. Please do not send a doctor to me, as, in any event, my end will come in 4 or 5 days."

A number of his associates were anxious to attend him, but he refused to admit them and died alone, within the time he predicted. He wrote a farewell letter to his parents, placed it against the window, so it could be copied from the outside, and then burned the original with his own hands, fearful lest it might be preserved and carry the mysterious germ. Can you find me a finer example of self-sacrificing altruism? Was ever a Victoria Cross more bravely won?

But the establishment of laboratories with their attendant expenses is not the only improvement in our medical curriculum. Every well-conducted medical school requires a large hospital in connection with it. Here must be installed again a fourteenth laboratory of clinical medicine in which all the excretions of the body will be examined, tumors studied, cultures and blood-counts made, or else the patients in the hospital, from the modern point of view, are neglected. It is not too much to say that a patient requiring such examinations, be he the poorest of the poor, has his case more scientifically studied, more exactly measured, more precisely treated than most rich patients in sumptuous homes.

Again, the individual instruction to which President Eliot referred is now carried out in all of our best medical school hospitals by the establishment of small ward-classes, by whom or before whom the patients are examined, prescribed for and operated upon by the professor or instructor, each student bearing a part; and so, by having his investigations directed, his powers of observation cultivated, his mistakes pointed out, his merits applauded, the student graduates from the medical school equipped as none of us, alas, ever had the opportunity for. All of these laboratory and ward classes imply an enormous increase in the number of assistants, young men striving not only to perfect themselves, but, by teaching, to forge to the front so that the best men will win in the struggle for preferment.

Again, the course of study has been prolonged from two years, as it was until 20 or 25 years ago, to four years, and in addition the terms have also been lengthened. When I was a student the course of study consisted of two sessions of about 19 weeks each, or 38 weeks in all. Now the course consists, as a rule, of four sessions of 32 weeks each, or a total of 128 weeks, an increase of 90 weeks, nearly $3\frac{1}{2}$ times as much as 25 years ago. In 1885, 103 schools had courses of two years, and 5 schools courses of three years. In 1899, 2 schools had courses of two years, 10 of three years, and 141 of four years. (Monographs on Education in the United States, No. 10, Professional Education, James Russell Parsons, Jr., Department of Education for the U. S. Commission to the Paris Exposition of 1900, p. 11).

It can be easily seen that from this additional time required another source of expense has arisen in addition to the increased number of assistants. The time given to teaching by members of the faculty, as a rule, has been more than tripled, as compared with 25 years ago. In addition to this, professors in charge of laboratories must practically give their whole time to the work and are precluded, therefore, from any income from practice. These men must receive salaries sufficient for them to live upon.

Surely this statement of the difference between the education given 25 years ago, which required but little expenditure of money and resulted in considerable incomes, and the modern methods of education in the laboratory and the hospital, as well as the lecture-room, which require enormous expenses, is an ample reason for large endowments.

But, the function of the medical school, as I have said, should not be limited merely to the imparting of existing knowledge. No school is worthy of the name that does not provide for greater or less research work by which substantial additions to our knowledge may be made and the facilities and the results of the healing art made more efficient for the welfare of mankind. Twenty-five years ago there were practically few young men who were fitted for research work, especially laboratory work. Now every well-equipped school has attached to it in one way or another a score or more of young men who are eager for work, longing for the opportunity for usefulness and distinction if they can only obtain a bare living. When in my own school I look around me and see these young men thirsting for opportunities for usefulness and distinction, I am often heartsick at our want of facilities for this purpose, and I long with an intense longing for some wise and munificent friend of humanity who will endow postgraduate scholarships, fellowships and laboratories for just such an end. Our hospitals do a magnificent work in charity, helping the sick and the forlorn, the weak and the suffering in a way which appeals to the charitable instincts of our fellow-countrymen, and to this appeal they have responded most generously. *But I venture to say that the medical school which trained a Lister, a Pasteur, a Koch, has done more for humanity than all the hospitals of this country combined.* The modest laboratory at Würtzburg consisted chiefly of a Rhumkorff coil, and a Crooke's tube—and Röntgen. Other Röntgens and Listers we have among us if we but knew it. These are the men who are the world's real illustrious heroes.

It is especially in these days that in America we need such researches, for our tropical possessions have brought us face to face with new problems which we can only justly meet by the most careful investigations. It is to our credit that several of our medical colleges have already established schools of tropical medicine, which show that the profession, as well as the public, are rising to the level of our responsibilities and duties.

It is also a cheerful sign of the times that at Harvard a School of Comparative Medicine has been established, which will lead to other similar schools in connection with our medical colleges for the broad study of disease both in man and in the lower animals. All such knowledge should be correlated, and we may well learn from the diseases of animals how to care for man, as thus far we have learned chiefly from the diseases of man how to care for animals. The endowment of this school with the modest sum of $100,000 is an omen of future good. So too, the somewhat similar school at Buffalo bids fair to add immensely to our knowledge and therefore to our ability to heal.

What now has the American public done for the medical school? Let us contrast it with the endowments in theology. Our academic institutions have such an enormous sum total of endowments that I do not even consider these. Let us, however, compare theology and medicine, remembering that theology is almost wholly a literary study, dealing not with the facts of nature, requiring no laboratories and no large corps of assistants and therefore conducted at a minimum of cost. In 1898 (United States Education Report) 84 theological schools reported endowments of $18,000,000, and 71 schools do not report this item; 19 out of 151 medical schools report endowments of $1,906,072. Five theological schools have endowments of from $850,000 to $1,369,000 each. Yet in 1899 there were only 8,000 students of theology for whom this enormous endowment was provided as against 24,000 students of medicine. Each theological student had the income of an endowment of $2,250 provided for his aid, each medical student the income from $83. As against 171 endowed chairs of theology there are only 5 in medicine.

I do not grudge a dollar to the theologian, but I plead for his medical brother, that, with a vastly more expensive education he shall have a reasonable provision made for his training. I have already indicated to some extent the direction which these endowments of medical schools should take. They may be classed in three categories: *First*, the endowment of professorships. By doing this the salary of the professor would be made available for the other wants of the school. The endowment may well take the form of a memorial, either of the generous donor, or, still better, of some distinguished former occupant of such a chair whose name would always add luster to it.

Secondly. The endowment of the laboratories which, as I have indicated, are so costly, both in their installation and in their yearly expenses.

Thirdly. The endowment of postgraduate scholarships and research fellowships, these being intended especially for those who will devote their time to original research. Students cannot take much time for original research; their regular studies will absorb all their energies. Research must be done chiefly by young graduates under the direction of stimulating and energetic members of the faculty.

It is not, I trust, too much to hope, if not now, that in the near future the American Medical Association will set a fruitful example by giving each year "Scientific Grants in aid of research." The first object of the Association must be, necessarily, to place itself on a strong financial basis. It should own its own building, its printing and publishing plant, and, as soon as possible, should have a reserve fund of considerable proportions. Nothing conduces to the stability and conservativeness of any institution like a good bank balance. The British Medical Association has today an excess of assets over liabilities of nearly $380,000, chiefly invested in its building at 429 Strand, London. The American Medical Association has made a fair start with a surplus of over $27,000 last January, and, with its large and, let us hope, rapidly increasing membership, it will before long assume a rank second only to the British Medical Association. Last year (*British Medical Journal*, 1899, ii, p. 219) the Scientific Grants Committee allotted £741, or somewhat more than $3,500, for research work, distributed to three research scholarships, the holders of which were paid $750 each a year, and 33 grants in aid of research work, varying in amounts from $25 to $100. Among those to whom grants were made occur the well-known names of Beevor, Vaughan Harley, Kanthack, Luff, Manson, Noel Payton, and Risien Russell. I should hope that the American Medical Association might even now begin by a modest appropriation, say of $500 a year, which should be allotted by the trustees, or by a special Committee on Scientific Grants, after a careful investigation of the merits and the character of the person to whom such grants were made. No grant should exceed $100, or possibly even, at first, $50 in amount. The results of such grants would be not only absolute additions to our knowledge, but the cultivation of a scientific spirit which would permeate the whole profession and elevate its objects and aims.

In pleading for these endowments of medical schools, it is but a plea for a return to the profession of a tithe of what they have given. Two years ago I carefully investigated the value of the services rendered to the poor in the city of Philadelphia by the medical staff of the Jefferson Medical College Hospital alone, and I found that 129 medical men were then attached to the hospital and their services, calculated on a very moderate basis of the ordinary fees, I valued at over $500,000. To a profession which gives so freely of that which is most difficult to give, its own life-blood, surely the public for its own protection may give reasonable endowments to its medical schools. It will be returned to the community tenfold in better educated, better trained and more successful doctors. More devoted, self-sacrificing men and women they never can have.

GASTRIC HEMORRHAGE.*

By W. L. RODMAN, M.D.,
of Philadelphia.

Professor of Principles of Surgery and Clinical Surgery, Medico-Chirurgical College.

Permit me in the first place to express my profoundest gratitude to the Association for the distinguished honor conferred in placing the surgical oration for 1900 in my hands. It is with more than diffidence that I approach so great a responsibility, being keenly alive to my own shortcomings, and having for the nonce a quickened memory of the brilliant addresses made upon former occasions by many of my illustrious predecessors.

Instead of reviewing the advances made in the entire field of surgery during the past year—a task which could, at best, be only cursorily done in the time that I feel warranted in occupying—I have chosen to consider the subject of hemorrhage from the stomach in its several phases, as being more likely to interest a mixed audience, such as we have, comprising specialists, general practitioners, and surgeons. Furthermore, the lack of attention given the subject justifies the selection.

Gastric hemorrhage of whatever nature was, until recently, looked upon as strictly a medical affection, and was treated upon the same general principles underlying the treatment of many other internal hemorrhages. This is still true of many—indeed most cases of gastrorrhagia—but, as we shall endeavor to show, is not the case with others which are treated by a combination of medical and surgical means, and others still which should be met by prompt operative procedure.

Our purpose will be best subserved by enumerating

* Oration in Surgery, delivered at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5–8, 1900.

the different varieties of gastrorrhagias, showing how they are to be diagnosticated, and giving the treatment to be pursued in the more important varieties.

Hemorrhage from the stomach may result from ulcer of the stomach, duodenal ulcer, gastric carcinoma, cirrhosis of the liver, vicarious menstruation, post-operative hematemesis, purpura hemorrhagica, miliary aneurysms, aneurysms of the aorta and other vessels, leukemia, typhoid, yellow, and other infectious fevers, valvular disease of the heart, and various kinds of traumatism.

It will only be practicable to consider the most important and frequent causes of gastric hemorrhage.

Gastric ulcer is the most common disease of the stomach producing hemorrhage—occurring in 5% of the entire population, according to Ewald[1] and others high in authority.

Hematemesis occurs in at least 50% of all cases of gastric ulcer, and many authorities estimate it as present in 80%. It is, too, fatal in 8% of the cases in which it occurs, according to the conservative estimate of Leube,[2] and we cannot question that it is indirectly fatal in a much greater number of cases by anemia and its remote consequences.

Many authorities who might be quoted place both the frequency and mortality of hemorrhage higher than Leube does, and very few as low. Therefore, its prompt detection and proper treatment are of the greatest importance. The recognition of gastric hemorrhage resulting from ulcer is usually readily made on account of the previous diagnosis in the case; but if the patient is seen at or subsequent to the hemorrhage for the first time its association with the other classical symptoms of ulcer, particularly pain and vomiting after eating, leave little room for doubt. While there will be pain, vomiting, and gastrorrhagia in carcinoma of the stomach, the differences furnished by the two diseases are so marked that doubtful or border-line cases will be rare.

Pain, which is common to both, is more influenced by the taking of food in ulcer, and the local tenderness upon pressure is decidedly more circumscribed, so much so that the patient will point at it with the tip of his finger, rather than with the entire hand. This is a valuable sign, and is insisted upon by J. M. DaCosta.[3] It is usually felt with the greatest intensity from one to two inches below the xiphoid cartilage, and directly opposite, near the heads of the two last ribs, will be found a second painful spot. The pain of ulcer is often relieved at once by emesis if it empties the stomach. This is not the case with the pain and vomiting of carcinoma.

The character and amount of the ejected blood, however, will usually give prompt and positive evidence of its source and the cause underlying it, making it needless to question and physically examine a patient who should be kept quiet during, and for some time after, a hemorrhage. Bleeding in carcinoma is rarely so free as in ulcer; the amount of blood lost being more frequent, in small quantities, and of the characteristic coffee-grounds appearance. It does not resemble pure blood as it does in ulcer even though mixed with food. The presence of hydrochloric acid—perhaps an excess of it, or hyperchlorhydria—in the ejected matter is as characteristic of ulcer as its absence and the presence of lactic acid are of carcinoma. Ulcer is more frequent in females under 40, whereas carcinoma occurs more commonly in men past middle life.

If an examination of the case is allowable, the presence of a palpable tumor will be more often encountered in carcinoma than in benign ulcer, but I would emphasize the fact that a decided tumor may and did exist in quite a number of the forty benign ulcers thus far excised. On account of the tumor all of the operators thought that they were operating for malignant disease, until the microscope showed differently, and in every instance the subsequent clinical history has confirmed the verdict of the microscopist. Our distinguished president, Dr. Keen,[4] was one of the first to do partial gastrectomy for a benign ulcer which caused quite a marked tumor through the abdominal wall. The patient recovered promptly and is still—ten years after the operation—in perfect health. Others have had the same experience, as will be seen by reference to my paper read before the American Surgical Association, May 1, reporting all operated cases up to date.

Treatment.—Formerly the treatment of hemorrhage from gastric ulcer was uniformly by ice, astringents, and opium, combined, of course, with rest. This should properly be the treatment still for the first hemorrhage in all cases; for the second, possibly; but not for subsequent ones, for recurring hemorrhage, like appendicitis, will sooner or later prove fatal, and should, like that affection, be treated radically; and to carry the parallelism further, the best time to operate is between attacks. With two hemorrhages coming close together we may assume that as in appendicitis there will be a third attack, and if anything is to be attempted surgically it should be done when the patient is in fairly good condition, and not in the collapse of hemorrhage.

Before taking up operative procedures it might be well to refer to the treatment of gastrorrhagia by copious enemata of hot water, as advised and practised with such happy effect seemingly by Tripier.[5]

In several cases which had resisted all the usual medicinal and dietetic treatment, Tripier secured prompt and abiding results by hot enemata repeated twice and thrice daily. The water should be injected at a temperature of 112° F. to 120° F. There can be no doubt, he says, that the hemorrhage came from the stomach, duodenum, and points high up in the alimentary tract. Hot water acts reflexly.

Tripier has also found that hot enemata promptly check intestinal hemorrhage in typhoid fever, as it will bleeding from the rectum, sigmoid, and large bowel. We use hot water to check external, uterine, and other hemorrhages; and so superior is it to ice that one rarely sees the latter used. It certainly should be preferred in rectal and other intestinal hemorrhages where the water can come promptly in contact with the bleeding points. We also know that with the patient in proper position, points higher up in the alimentary canal may thus be reached, and the bleeding capillaries or arterioles influenced directly by the best of hemostatics—heat.

There is also evidence to show that it acts reflexly, and may in this way control duodenal, even gastric hemorrhage.

Plunging the hands in hot water will at times quickly arrest bleeding at the nose, as will ice applied to the head. This surely must be reflex.

Another and good reason for using hot water per rectum in the manner advised by Tripier is, that if nothing more is done, shock is combated in the best possible way, as it is easy to add salt to the water in proper proportion to make normal salt-solution.

Hot water should also be taken in small quantities by the stomach. It is my belief that it will be both

less likely to excite vomiting, and more certain in its hemostatic effects than ice.

Favorably as I look upon the proposal to use hot water in the ways indicated in both gastric and intestinal hemorrhage, anatomy and pathology must not be forgotten, and it should be clearly understood that hot water can do no more in internal hemorrhages than is to be expected in external ones. If the bleeding is capillary or the open arterioles of very small size, prompt hemostasis may result; whereas, if an artery or vein of any size has been opened we may expect much less from any treatment which depends for its success upon the formation of a firm clot in the mouth of the bleeding vessel, than we usually can in external hemorrhage. In the latter we usually have complete section of a bloodvessel which favors retraction and contraction of its coats—nature's best means of arresting hemorrhage, favoring as they do the formation of a clot.

In hemorrhage the result of disease, however, we have very generally a lateral opening made into the caliber of the bloodvessel, and the ability of the latter to contract and retract within its sheath is no greater, but actually less, than that of a vessel incompletely cut across. Occasionally, it is true, ulcerative action will as completely divide a bloodvessel as if it were done by a knife, but such cases are exceptional, as will be shown by a careful study of 55 fatal cases of gastric and duodenal hemorrhage collected and reported by M. Savariaud[6] in his very complete thesis.

Of 55 autopsies collected from various sources, and reported by Savariaud (none were operated upon), there were:

Ulcerations of the splenic artery	17	cases
" " " coronary artery	6	"
" " " pancreatico-duodenal	7	"
" " " gastric arterioles	10	"
Branches of the coronary vein	2	"
Other veins	2	"
Vessel not determ ned	2	"
No vascular orifice visible	4	"
Vessel not mentioned	4	"

Hematemesis frequently occurs as the result of duodenal ulcerations, and as it is at times impossible to differentiate between gastric and duodenal hemorrhage, we have included the seven cases of duodenal ulcer. Furthermore, gastric and duodenal ulcerations frequently coexist and the treatment of both is essentially the same.

The splenic artery and vein have been opened by the same ulcer as occurred in the case of Gaillard.[7]

Contrary to what might with reason be expected, there is no constant relation between the size of the vessel and the amount of or rapidity with which the blood is lost. It is impossible, therefore, to diagnosticate with any degree of certainty the source of the hemorrhage, and an opinion at best is only a guess based upon probabilities anatomic and pathologic. He who said "the end of all philosophy is a learned doubt" must have been a medical man thinking of gastric hemorrhage.

The subjoined table is also from Savariaud:

Vessel.	No. of cases.	Sudden death.	Rapid death.	Survived considerable time.
Heart	4	1	1	2 (3 days)
Aorta	2	1	1	1 (10 days)
Hepatic	2	1	1	1 (10 days)
Splenic	17	3	7	7 (2 to 8 days)
Coronary	6	1	3	2
Pancreatico-duodenal	6	1	3	2 (8 to 15 days)
Arterioles	10	1	1	8 (4 to 15 days)
Small veins	4	1	1	2 (7 to 11 days)
Invisible veins	3	2	1	1 (21 days)

It will also be seen from this table, based upon autopsies where careful examinations were made, that death may be sudden in capillary hemorrhage, or delayed ten days when there is an opening as large as a haricot bean into the aorta. (Grunfeld's case.) This uncertainty of diagnosis is a strong argument in favor of surgical intervention before it is too late to be of use.

I would emphasize the fact shown by the above table which is based upon accurate postmortem examinations that large and rapidly fatal hemorrhages may occur from capillaries. These observations have also been borne out in many of the operative cases herewith reported, for in at least seven (7), while the bleeding was free it could not be located. So then, having in mind the usual source of hemorrhage in gastric ulcer, and that it is from vessels of rather large size in nearly four-fifths of all fatal cases the uncertainty and utter unreliability of the ordinary medical means employed will be apparent.

Measures adapted to the treatment of capillary hemorrhage may often succeed, and of these we believe hot water to promise the most; but as one would not think of treating hemorrhage from the radial artery or vein by such means, one should think less of doing so here with vessels of equal and even greater size involved, with nature's best means of checking hemorrhage made impossible for the reasons already given.

It is therefore manifest that hemorrhages following the superficial erosions of the gastric mucous membrane—the "ex ulceratio simplex" of Dieulafoy—rather than the gastrorrhagias following the "ulcus simplex" of Cruveilhier, which is essentially a perforating process, stand the best chance to be arrested spontaneously by nature, or to be cured by the routine medicinal and dietetic treatment.

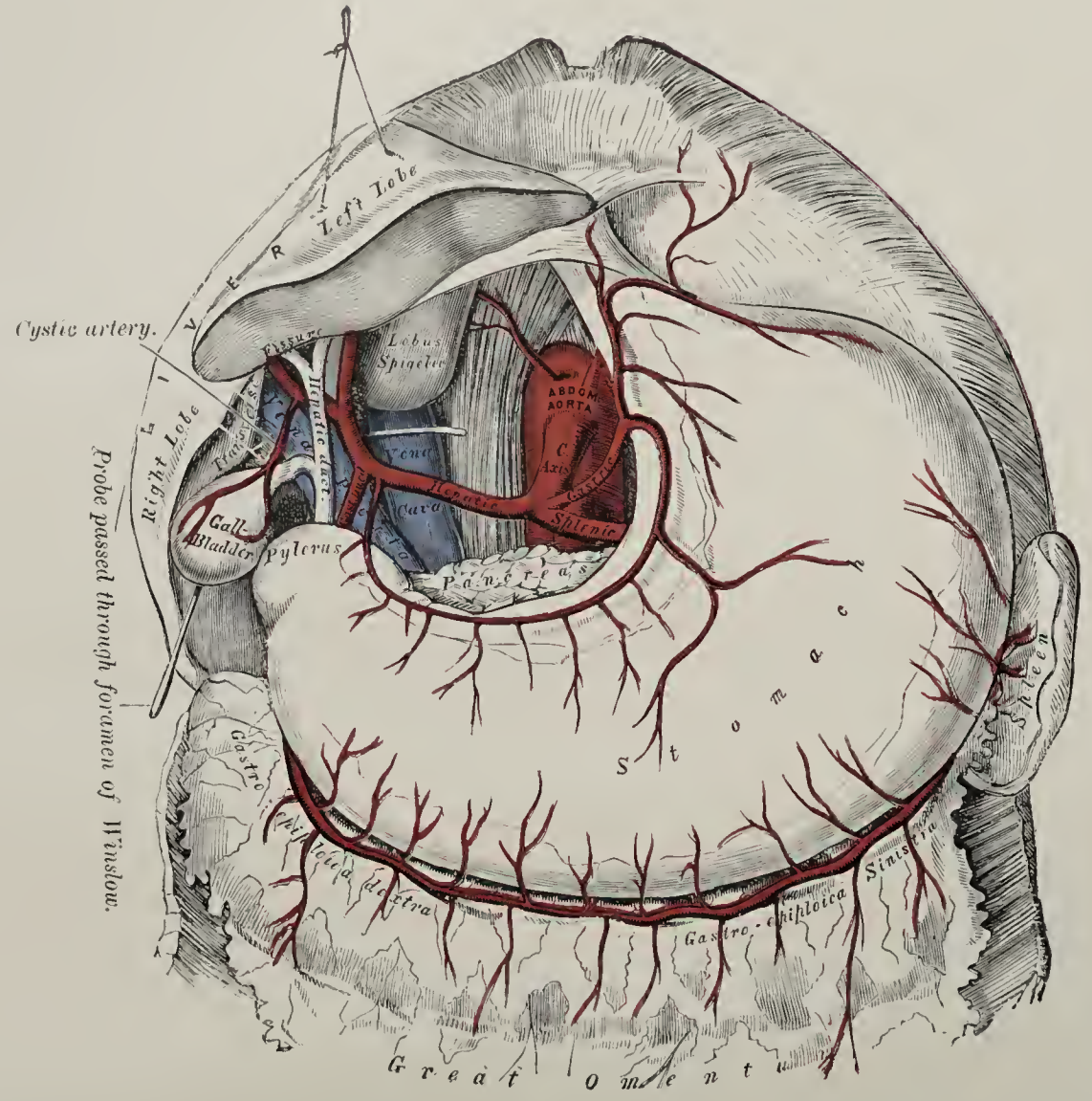
The hemorrhage may undoubtedly be just as free in the superficial as the deep ulcers, but the difference is in the size of the bleeding vessels. As there are only capillaries and arterioles in the gastric mucous membrane, hemorrhage from such vessels could be reasonably expected to yield to measures impotent in the presence of bleeding from a coronary or splenic artery. Representing, as they do, less than 20% of the fatal hemorrhages, there is every reason to believe that bleeding from capillaries and arterioles will constitute a very much larger percent., possibly a majority of nonfatal gastrorrhagias. I have collected, so far as I know, every published case of operation for bleeding ulcer, and to them added many reported to me in personal communications for the first time. A careful study of my tables does not enable me to say definitely the number of cases in which the bleeding came from arterioles. It does, however, justify the statement that it is a large percent.

Having exhausted all of the ordinary medical means for arresting hemorrhage, should such cases be treated as external hemorrhage, viz., the bleeding vessels cut down upon and ligated?

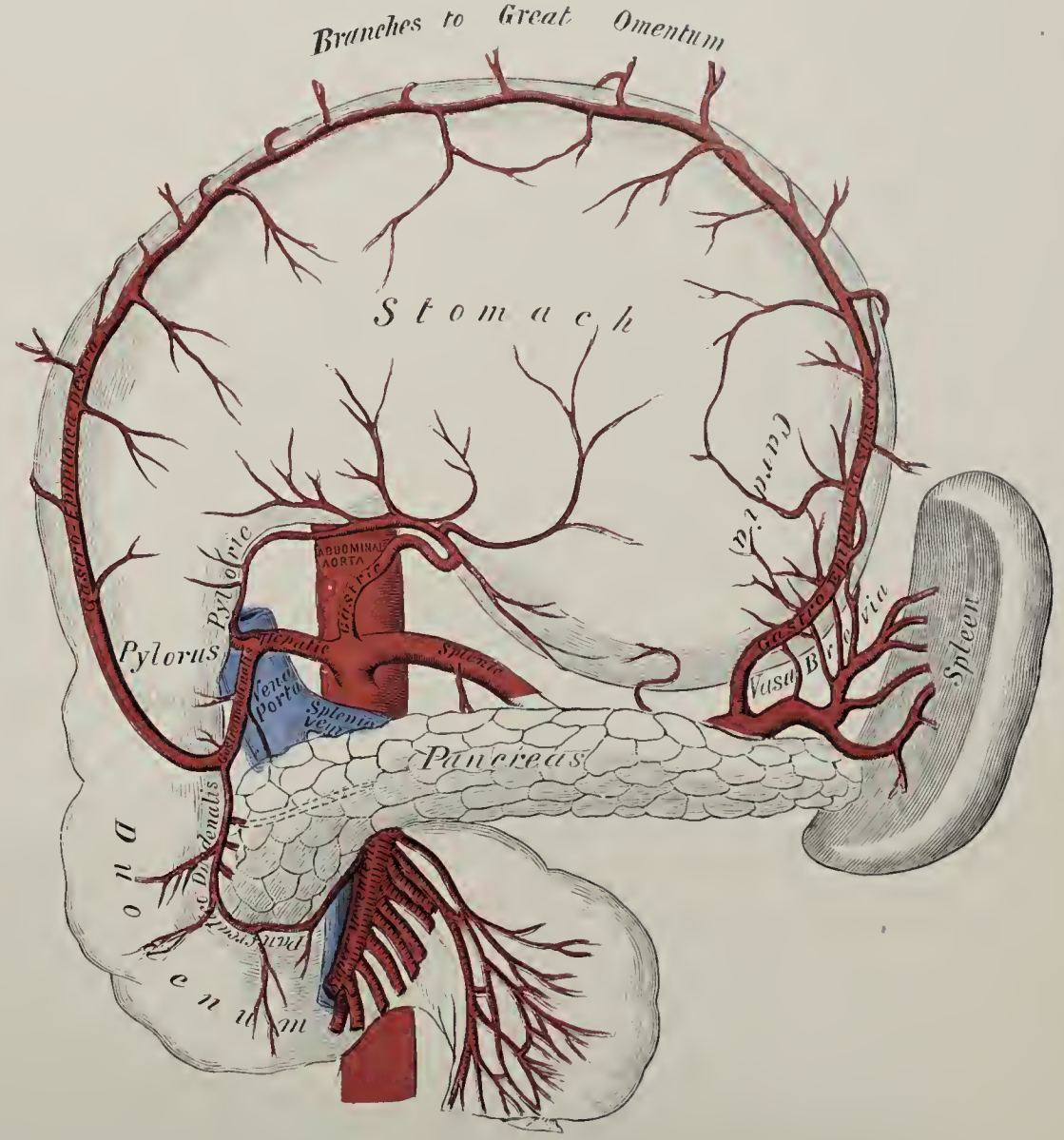
There are now a sufficient number of cases upon record to justify the statement that better results will be secured by judicious interference than by a policy of inaction hitherto invariably followed. By this I would not be understood as advocating the opposite plan of interference in every case—far from it.

Up to a certain point there is substantial agreement between physicians and surgeons, and I may say here that the idea of arresting hemorrhage from gastric ulcer by surgical means occurred to a physician and surgeon at the same time.

In all cases of small but frequent hemorrhages, which

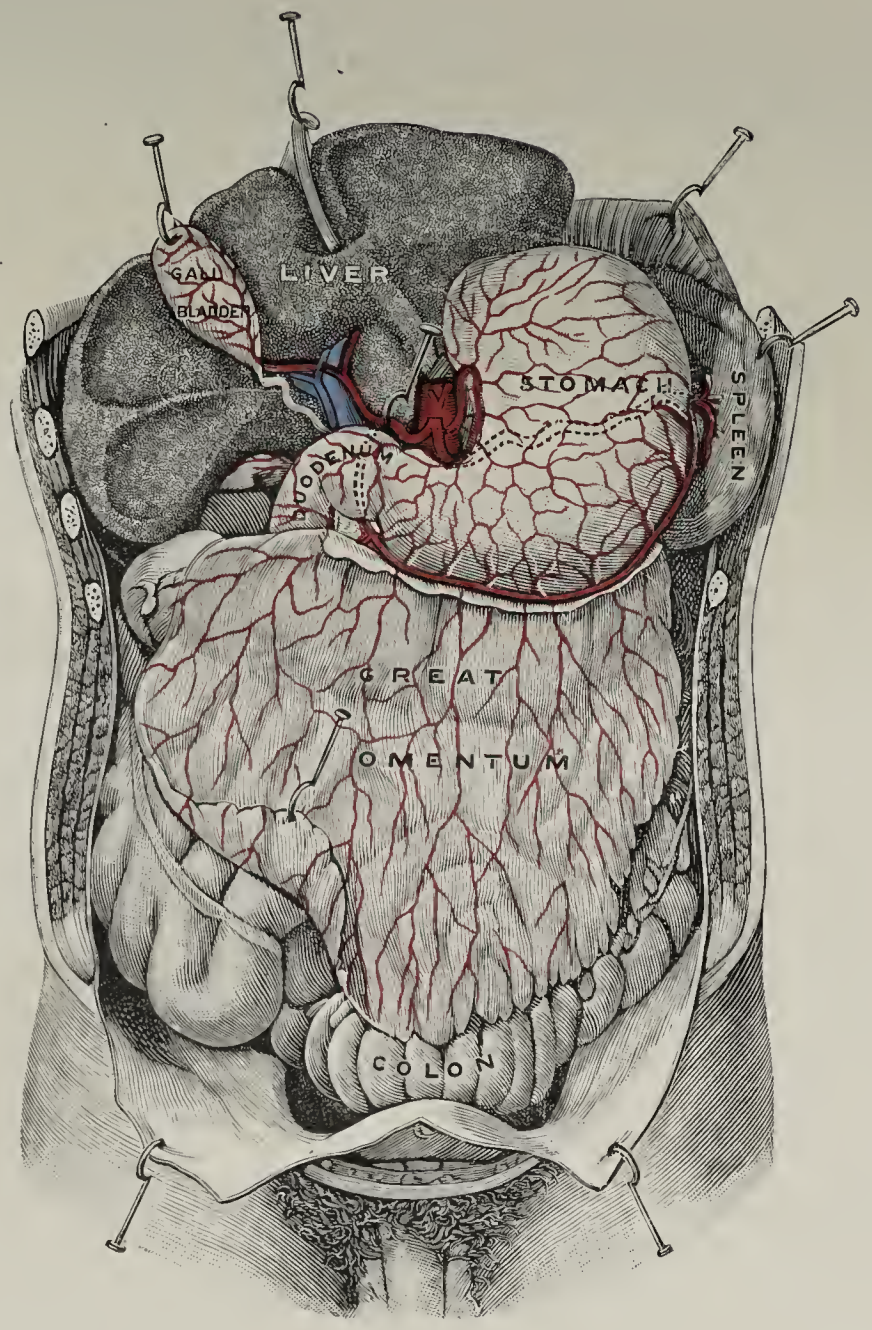


Showing Extrinsic Arteries of the Stomach. (From Gray's Anatomy.)

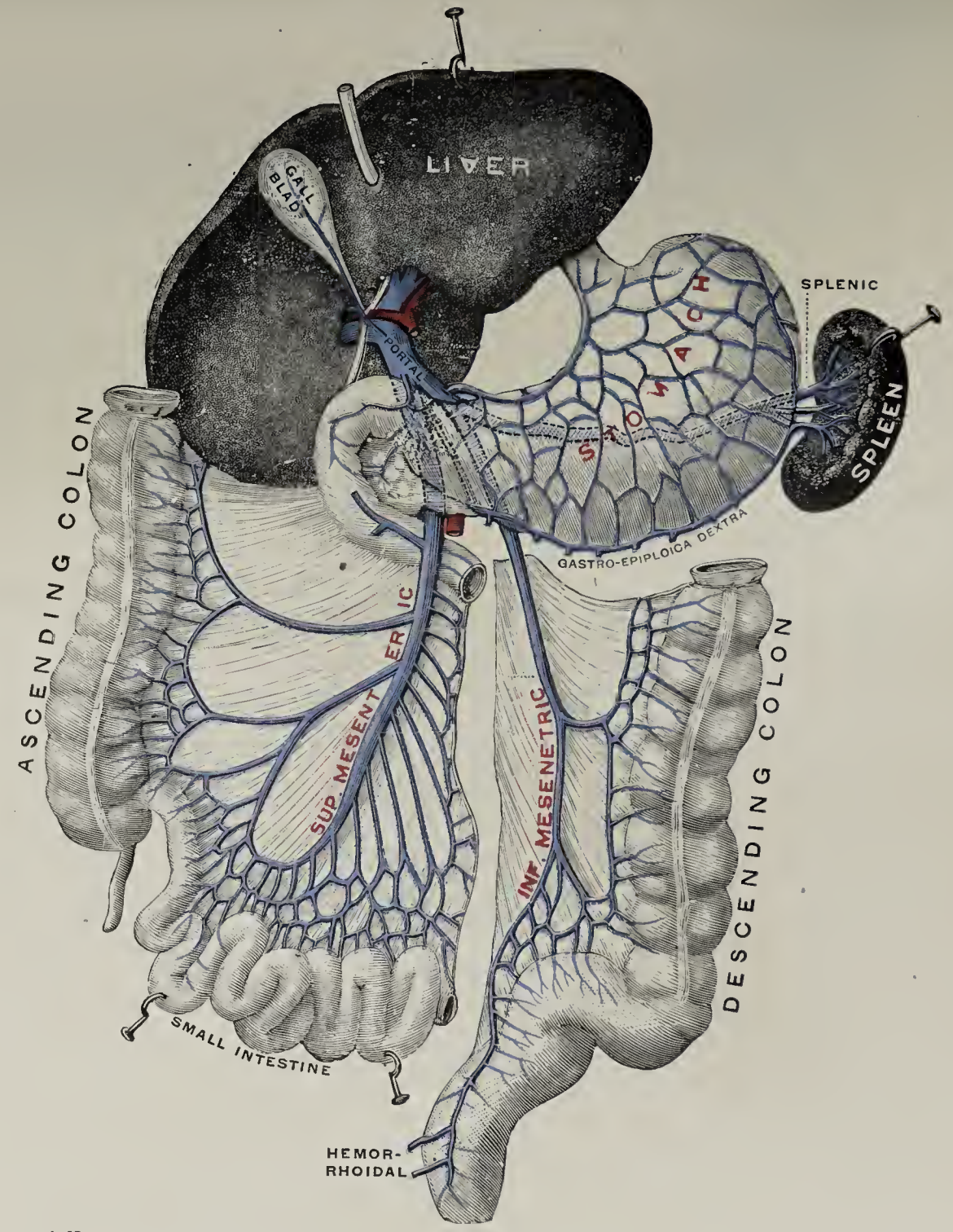


The Celiac Axis and its Branches, the Stomach having been raised and the Transverse Mesocolon removed. (From Gray's Anatomy.)

To illustrate Dr. W. L. Rodman's articles on Ulcer and Hemorrhage of the Stomach.



Arteries of the Stomach, Liver, and Great Omentum.
(From Gerrish's Anatomy.)



Portal System of Veins. (From Gerrish's Anatomy.)

To illustrate Dr. W. L. Rodman's articles on Ulcer and Hemorrhage of the Stomach.

slowly but almost surely destroy the patient, recourse should be had to timely operation. If there is at the same time gastrectasis, the indication for operation is absolute, as dilation stretches the ulcer, prevents healing, and favors bleeding.

The results, too, of operations for chronic hemorrhage have been more than encouraging, and should, without question, lead to earlier and more frequent surgical intervention.

There have been 31 operations for frequently recurring, or what might be called chronic hemorrhages, with 6 deaths, or a mortality of 19.3%. This is, under the circumstances, an excellent showing when it is remembered that it represents but little more than the average mortality given in a large number of operations upon the stomach for nonhemorrhagic ulcers.

Mr. Robson[8] reports 188 operations for gastric ulcer (nonhemorrhagic and nonperforating) with a mortality of 16.4%, which is about the same conclusion reached by Heydenreich,[9] Tricomi,[10] and others who have written upon the subject.

He later on gives the mortality of operations for chronic hemorrhage as 10.5%. Manifestly gastroenterostomy, pyloroplasty, or other operations upon the stomach should not give a better prognosis on account of the presence of hemorrhage as a symptom. The good showing now made for recurring hemorrhage will be still better when physicians generally recognize that if delayed operations are justifiable, early ones are better, and should, therefore, be encouraged at a time when the chances of success are correspondingly brighter.

Operations for acute hemorrhage in general do not so imperatively call for surgical intervention, but when this is said, it is saying nothing more than is true of external hemorrhage.

In the present state of our knowledge, we cannot say that operation should ever be done during the first hemorrhage or the ensuing shock.

Likewise, if seen after the hemorrhage, when the patient is successfully rallying from shock, a policy of nonintervention is not only permissible, but best.

Dieulafoy[11] advises surgical intervention after the first hemorrhage if as much as half a liter of blood is lost, and insists upon operation if the bleeding is repeated within 24 hours. One of Diculafoy's cases was successfully operated upon by Cazin after the first hemorrhage. There has been, however, a rather general condemnation of too early operation by surgeons, from Mikulicz, the first to operate for hemorrhage in 1887, to Keen, Hartman, Heydenreich, and Robson, none of whom have advised operations in acute hemorrhage. Certainly surgeons cannot be accused of too great alacrity in operating for gastric hemorrhage when none have been so radical as a physician.

If the hemorrhage is repeated within a short time the burning question will present itself to the physician first, to the surgeon next—shall a policy of "masterly inactivity" be longer pursued?

To this question a majority would still answer "yes," believing that the chances offered by nature are better than those given by surgery. I am satisfied that during a second serious hemorrhage inaction should govern, or that only medical means be used; but as soon as bleeding ceases, the patient has rallied from shock and is in good condition, something should be done to prevent what are reasonably certain—other hemorrhages. This is even less radical than what we should do in external hemorrhage, and as has been said, nature has less chance to arrest spontaneously bleeding from vessels opened by ulcerative action.

I am thoroughly convinced from a careful study of all reported operative cases up to date, that none were operated too early, but many too late.

It is certainly the duty of the physician to summon surgical aid as soon as the second hemorrhage begins if he has not already done so, that everything may be in readiness to seize upon a propitious time for interference before a third attack.

It is easy to believe that several cases in my tables were lost by delaying operation until after the third and fourth hemorrhage. Per contra, there have been quite a number of successful operations after the second and third hemorrhage, operation having been done in a condition of extreme anemia in all of them, as the cases of Roux, Robson, Cazin, Andrews, and two of Armstrong's cases.

There have been 32 operations for acute hemorrhage with 13 deaths, or 40.6% mortality; a much better showing than was made by Mr. Robson, who reported a smaller number of cases, and included also among them cases of vicarious menstruation and postoperative hematemesis, neither of which has any direct etiologic or other connection with gastric ulcer.

It will be seen from a glance at the tables herewith appended, that many operative procedures have been carried out in the treatment of gastrorrhagia, and to those sufficiently interested to study them, the symptoms, condition found at operation, method of operation, and result of each case are given.

I wish here to give full credit to my assistants, Drs. W. Hersey Thomas and Stillwell C. Burns, for most valuable assistance rendered in the collection of data and preparation of tables.

It will not be my purpose here to review the merits of all of the many operative procedures that have been undertaken for the arrest of gastric hemorrhage. This would interest surgeons chiefly and they will find all information desired in the tables herewith presented, or in an analysis of them by myself in a paper read before the American Surgical Association on May 1, last.

Of the dozen methods practised the three best are pylorectomy or partial gastrectomy according to site of ulcer, gastroenterostomy, and ligature en masse of the gastric mucosa. The first is ideal surgery, preventing possible perforation and malignant degeneration; the second is practical and oftentimes the best surgery, stopping hemorrhage and favoring cicatrization of the ulcer by putting the stomach at rest; while the third is frequently the most desirable way to end an exploratory gastrotomy when the site of the bleeding vessel was unknown until the stomach was opened. Each method has given good results, but for many reasons the second has been preferred in a majority of instances, and of the many ways of performing gastroenterostomy the posterior or Von Hacker's method with the Murphy button has been and should be generally chosen.

Carcinoma.—While hemorrhage per se as a symptom of gastric carcinoma has not, so far as I know, led to an operation, there can be no doubt that in certain cases it will be either so free or of such frequent recurrence as to make one desirable.

Resection, if practicable, is best, but gastroenterostomy would not only arrest the bleeding, but usually delay the inevitable end, and bring about a decided amelioration of all the distressing symptoms. Indicated as it often is in advanced carcinoma without hemorrhage, the

TABLES EMBRACING ALL CASES FOUND IN LITERATURE OF OPERATIONS

Compiled with the assistance of

NO.	OPERATOR.	SEX. AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
1	Abbe. *a.*	F.	. . . . .	One month previous to admission had vomited thirty ounces of blood.	Epigastric pain, vomiting, slight abdominal rigidity.	Chronic gastric ulcer.	. . . . .
2	Andrews, E. Wyllys. *a.*	F. 38.	. . . . .	For two years had had constant boring pain, located beneath xiphoid cartilage, greatly increased by food.	May 28, 1898, the patient collapsed from sudden profuse gastric hemorrhage. This was repeated the following day.	Gastric ulcer.	May 30, 1898.
3	Andrews, E. Wyllys. *a.*	M. 36.	. . . . .	Patient had suffered for several years from cardialgia and nausea. July 15, 1898, sudden profuse gastric hemorrhage.	Pain in the epigastrium constant. Severe hematemesis.	Gastric ulcer.	Sept. 26, 1898.
4	Armstrong, G. E. *a.*	F. 35.	. . . . .	Repeated copious hemorrhages from stomach for 7 days. Previous health good. No symptoms of gastric ulcer. Medicinal treatment had no effect upon the hemorrhages.	Blanched mucous membranes. Fingernails white. Dyspnea on slight exertion. Temperature on admission, 102⅘° F.; pulse, 136; respirations, 44.	. . . . .	. . . . .
5	Armstrong, G. E. *c.*	F. 46.	. . . . .	Suffered from indigestion for 8 or 10 years. Diagnosis of ulcer made 9 years ago, at which time she had a slight hemorrhage from stomach.	Pain, vomiting and recurring hematemesis.	Gastric ulcer.	Oct. 12, 1899.
6	Armstrong, G. E. *c.*	F. 31	. . . . .	. . . . .	Indigestion, pain in stomach for two years. Repeated vomiting of small quantities of blood.	Gastric ulcer.	Dec. 15, 1899.
7	Armstrong, G. E. *a.*	F. 27	. . . . .	Symptoms first appeared in 1892.	Pain in epigastrium with vomiting appearing about an hour after eating. In 1895 hematemesis one teacupful. November 1899, second attack of hematemesis (16 ounces). January 3, 1899, half a chamber vessel full. February 24, 20 ounces. Patient blanched. Respirations somewhat gasping. March 20, vomited 4 ounces of blood.	. . . . .	Mar. 30, 1900.
8	Bircher. *c.*	F. 36	Servant.	Cause of trouble, sausage intoxication. Trouble had lasted two years.	Repeated gastric hemorrhages, palpitation, frequent belching. Vomited all solid food. Bowels moved once a week. Symptoms worse since influenza in 1890.	Dilation of stomach with ulcer.	Dec. 14, 1891.
9	Cazin. *a.*	. . .	. . . . .	No previous gastric symptoms.	Profuse hematemesis October 7, 9, 16. Red blood-corpuscles 1,600,000.	. . . . .	Oct. 16, 1897.
10	Cazin. *a.*	. . .	. . . . .	One acute hemorrhage from stomach.	. . . . .	. . . . .	. . . . .
11	Curtis, B. F. *c.*	M. 37	. . . . .	April, 1893, man began to suffer epigastric pain after eating. A month later vomited food, mucus, coffee-ground matter. He admitted gonorrhea, venereal ulcers and alcoholism.	Pain relieved by vomiting. No improvement on washing out stomach. State of marked emaciation. Patient unable to work. Entered hospital in March 1894.	Pyloric obstruction probably benign in character.	. . . . .
12	Czerny. *a.*	. .	. . . . .	. . . . .	Acute gastric hemorrhage.	Gastric ulcer.	. . . . .
13	Czerny. *a.*	. . .	. . . . .	Patient brought to clinic in a highly anemic state. On arrival at hospital had several violent hematemeses. Pulse was so weak that operation was postponed until 2 days later, when it was decided to operate in spite of persistent hemorrhages.	. . . . .	Gastric ulcer.	. . . . .
14	Czerny. *c.*	. . .	. . . . .	Hemorrhage had occurred a short time before operation.	. . . . .	Pyloric stenosis.	. . . . .
15	Czerny. *c.*	. . .	. . . . .	Hemorrhage had occurred a short time before operation.	. . . . .	Pyloric stenosis.	. . . . .
16	Czerny. *c.*	. . .	. . . . .	Hemorrhage had occurred a short time before operation.	. . . . .	Pyloric stenosis.	. . . .
17	Czerny. *c.*	. . .	. . . . .	Hemorrhage had occurred a short time before operation.	. . . . .	Pyloric stenosis.	. . . . .
18	Elder. *a.*	F. 42.	. . . . .	No previous gastric symptoms. Sudden vomiting of a large quantity of blood (10 ounces). Notwithstanding rest and medicinal treatment hematemesis continued to occur at intervals during the following day and night. On the afternoon of third day at 3 P.M. she vomited 12 ounces of blood.	Repeated and uncontrollable hematemesis.	Gastric ulcer.	At 5 P.M. on the 3d day of the attack.
19	Elliot. *a.*	M. 47.	His work entails constant pressure of tools on abdomen.	Markedly tubercular family history. Moderate drinker. Diseases of childhood, rheumatism. Morning cough for thirty years. Subject to attacks of indigestion.	For the last three months constant pain in epigastrium, not relieved by food. Five days ago vomited two quarts of thick brown matter. Since then he has had coffee-ground vomit.	Gastric ulcer with recurring hemorrhage.	. . . . .

FOR ACUTE AND CHRONIC HEMORRHAGE COMPLICATING GASTRIC ULCER.

DRS. STILLWELL C. BURNS and W. H. THOMAS.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
No ulcers discovered at time of operation.	Gastrotomy.	Temperature continued to rise, and a few hours before death she had a recurrence of the hematemesis. Postmortem several shallow ulcers were found on the anterior and posterior walls.	Death.	*N. Y. Medical Journal*, May, 1891.
Ulcer 12 m.m. in diameter found on posterior wall, and deeply eroded.	Ulcer drawn forward so as to form the apex of a cone, around the base of which a strong ligature was tied.	Patient has remained well up to the present time.	Recovery.	*Annals of Surgery*, 1898, p. 393.
Small erosion on posterior wall, which bled profusely on handling. Similar erosions found at three other points.	All these points were ligated off with large silk and the stomach wall closed.	Patient stood operation well. Rectal feeding continued for two weeks. Continued to suffer from gastralgia until he left the hospital, November 3, 1898. No hematemesis.	Recovery.	*Annals of Surgery*, 1898.
No deeply-excavated ulcer was found, but blood was seen oozing frem three different places, which looked like linear fissures.	Hemorrhage stopped by application of the Paquelin cautery, Abdominal incision closed without drainage.	Stomach-feeding begun following day. From this time on she took nourishment by mouth, although rectal feeding was continued for 5 days. The woman is now quite well, has perfect digestion, and is leading an active life.	Recovery.	*British Med. Journal*, 1899, p. 1087.
Deeply-excavated ulcer on lesser curvature 2 inches from pylorus. Blood flowed freely from several points around margin.	Excision of ulcer. Opening which extended through pylorus closed as in Heineke-Mikulicz pyloroplasty.	The patient is making a good recovery. Three weeks after operation she is taking considerable quantities of food without pain or vomiting.	Recovery.	*Montreal Med. Journal*, vol. xxviii, 933.
Failed to find the ulcer.	Pyloroplasty.	Patient made an excellent recovery. Later returned to hospital with a recurrence of symptoms, excepting hematemesis. She has been treated medicinally since her return and is slowly improving.	Recovery.	Not reported. Details sent in private letter to author.
On opening anterior wall, found blood oozing from several small points which were discolored. At cardiac end of stomach was an area, 2 inches square, situated on anterior wall, which was dark, superficially eroded, and from which blood oozed rapidly and in considerable quantity from 6 or 8 points.	All bleeding and eroded surfaces touched with a broad Paquelin point. A pyloroplasty was then done and the abdomen closed without drainage.	Convalescence to date, smooth and afebrile. She is now taken solid food. Has no pain or nausea. She is evidently making blood.	Recovery.	Not reported. Details sent in private letter to author.
Circular constriction about the pylorus. Stomach dilated.	Gastroplication.	No vomiting, no succussion splash since operation. Discharged January 5, 1892. Gastric disturbances had entirely disappeared. Followed case for 2 years. No return of symptoms.	Recovery.	*Correspondenzblatt für Schweizer Aerzte*, 1894, No. 18.
Stomach normal in appearance. Four lenticular erosions on posterior surface in the neighborhood of the greater curvature.	Erosions sutured with catgut.	Discharged in the latter part of December in perfect health.	Recovery.	Reported by Dieulafoy in *Presse Medicale*, 1898, p. 31.
. . . . .	Ligature of ulcer en masse.	. . . . .	Recovery.	*Lancet*, London, 1898, i, 335.
Ulcer found encircling pylorus. Ulcer measured 2 inches from intestinal border to gastric border.	The incision was extended in the long axis of the pylorus, and entirely through the diseased into healthy mucous membrane and then joined transversely (Heineke-Mikulicz pyloroplasty) with silk sutures.	Fed for 4 days per rectum. Then swallowed liquid food. No vomiting or pain after operation. Pathologist's report showed no evidence of malignancy.	Recovery.	*Annals of Surgery*, August, 1894.
. . . . .	Partial excision and gastroenterostomy.	Checked the hemorrhage immediately.	Recovery.	Reported by Petersen in *Deutsche Medicin. Wochenschrift*, 1899, No. 24-25.
. . . . .	Simple gastroenterostomy performed in 12 minutes. Ulcer not sought for.	Hemorrhage stopped permanently as though a hemostat had been applied.	Recovery.	Reported by Petersen in *Deutsche Medicin. Wochenschrift*, 1899, No. 24-25.
. . . . .	Pyloroplasty.	Hemorrhage permanently cured.	Recovery.	Reported by Petersen in *Deutsche Medicin. Wochenschrift*, 1899, No. 24-25.
. . . . .	Gastroenterostomy.	Hemorrhage permanently cured.	Recovery.	Reborted by Petersen in *Deutsche Medicin. Wochenschrift*, 1899, No, 24-25.
. . . . .	Gastroenterostomy.	Hemorrhage permanently cured.	Recovery.	Reported by Petersen in *Deutsche Medicin. Wochenschrift*, 1899, No. 24-25.
. . . . .	Gastroenterostomy.	Hemorrhage permanently cured.	Recovery.	Reported by Petersen in *Deutsche Medicin. Wochenschrift*, 1899, No. 24-25.
Deeply excavated ulcer 1 x 1½ inches found on lesser curvature. In the center of its base was an open artery from which blood was oozing freely.	Catgut ligature was carried through the base of the ulcer, just beneath opening in wall of vessel, on a curved needle. This arrested hemorrhage completely. Additional sutures were carried across the floor of the ulcer and the edges approximated. The abdomen was closed without drainage.	Patient died from acute anemia on the following day. At the autopsy it was found that no bleeding had occurred after the operation.	Death.	Reported by G. E. Armstrong in *British Med. Journal*, 1899, p. 1087.
Pyloric obstruction complete, or nearly so.	Excision of pylorus and all diseased tissue, which included one-fifth of stomach, including the whole of the lesser curvature.	Stood operation well. Was fed per rectum. On third day awoke in pain. Temperature rose to 101°F. Pulse 102. He gradually sank and died. Cause of death not positively determined.	Death.	Reported by E. G. Cutler in *Boston M. & S. Journal*, 1897, page 54.

TABLES EMBRACING ALL CASES FOUND IN LITERATURE OF OPERATIONS FOR

NO.	OPERATOR.	SEX. AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
20	Foulon and Ravaud. *a.*	M. 40.	. . . . .	Symptoms appeared at 18. Hematemesis at 22 years. Several hemorrhages since that time, almost mortal. Permanent milk diet.	Since the onset of hematemesis has had all the symptoms of gastric ulcer. Symptoms of progressive pyloric stenosis. Extreme weakness. Patient had a fresh, very copious hemorrhage and suffered violent pain.	Gastric ulcer. Pyloric stenosis.	June 9, 1892.
21	Gilford, Hastings. *?.*	F. 19.	Servant.	Had three attacks of dyspepsia in course of two years, accompanied by epigastric pain and vomiting, and on two occasions hematemesis.	Sudden acute abdominal pain, with tenderness over the whole epigastrium ; vomiting.	Gastric ulcer.	. . . . .
22	Gilford, Hastings. *c.*	F. 30.	. . . . .	Subject to severe anemia when 18 years of age, but never had any form of dyspepsia.	Hemorrhage the one and only symptom.	. . . . .	. . . . .
23	Gilford, Hastings.	F. 32.	Servant.	History of long periods of nausea, vomiting, pain and bleeding.	At the time of operation in addition to these symptoms there were also signs of pyloric stenosis.	Gastric ulcer, Pyloric stenosis.	. . . . .
24	Grad, Hermann. *c.*	F. 32.	. . . . .	Had been ill for the past two years.	After taking food had pain, nausea, and vomiting, with occasional hematemesis.	Gastric ulcer.	. . . . .
25	Greer, W. Jones. *c.*	F. 28.	. . . . .	Symptoms of gastric ulcer for 10 years.	Nausea, vomiting, and pain more or less severe, of daily occurrence. Occasional profuse hematemesis.	Gastric ulcer.	Oct. 10, 1899.
26	Guinard. *c.*	M. 32.	. . . . .	Symptoms had lasted for the last 8 years.	Repeated hematemesis and dilation of stomach.	Pyloric ulcer.	Jan. 28, 1892.
27	Hartmann. *a.*	F. 30.	. . . . .	. . . . .	Patient had profuse hematemesis.	. . . . .	Dec. 10, 1895.
28	Hirsch. *a.*	F. 25.	. . . . .	Symptoms of ulcer for the last 4 years.	Great emaciation. Intense anemia. Profuse hematemesis in January and March.	Gastric ulcer.	Mar. 14, 1896.
29	Jonas, A. F. *c.*	M. 31.	Laborer.	Had indigestion nearly 4 years.	For the last year repeated attacks of hematemesis, gastric pain obstinate constipation, occasional vomiting.	Ischochymia. Pyloric stenosis. Chronic gastric ulceration.	. . . . .
30	Jonas, A. F. *c.*	F. 21.	Servant.	. . . . .	For 8 months severe attacks of hematemesis. All kinds of food cause pain. Stomach enlarged.	Ischochymia. Pyloric stenosis. Chronic gastric ulceration.	. . . . .
31	Jonas, A. F. *c.*	M. 32.	Butcher.	Father died of stomach trouble of 15 years' duration. Oldest brother complains of stomach trouble. The patient has had gastric disturbances for 15 years. About 3 years ago he vomited small quantities of blood which increased in amount.	Painful and resistant thickening below right costal arch. Pylorus palpable as an indurated mass. Seems that the stomach is greatly distended with gas and fluid.	Ischochymia. Hemorrhage due to chronic ulceration. Nonmalignant pyloric stenosis.	. . . . .
32	Keen, W. W. *a.*	F. 21	. . . . .	Previous good health. For 2 or 3 days before this attack had suffered with discomfort at pit of stomach.	Nov. 20, 1892. Sudden vomiting on two occasions within 24 hours, of between 3 and 4 pints of bright red blood. March 3, vomited suddenly 2 ounces of pus. From 1893 to 1897 had four attacks of moderate hematemesis.	Ulcer of stomach.	March 15, 1898.
33	Korte W. *a.*	. . .	. . . . .	Profuse hemorrhage some time before operation.	A fresh hemorrhage demanded operation.	. . . . .	. . . . .
34	König, Jr. *c.*	. . .	. . . . .	. . . . .	Continual hematemesis.	Gastric ulcer.	. . . . .
35	Küster, E. *a.* *c.*	F. 23	Daughter of day laborer.	Subject to daily vomiting for years. Periods of improvement and aggravation succeeded each other until October, 1893, when hematemesis occurred on several occasions.	Vomiting profuse. Hematemesis. Inanition from pyloric stenosis. Gastric dilation.	Gastric ulcer. Pyloric stenosis.	August 4, 1894.
36	Küster, E. *c.*	M. 42	Stone mason.	Healthy until his 36th year, when he commenced to have pain and frequent vomiting. On Jan. 12, he entered hospital. Shortly after this gastric hemorrhages occurred.	Pain in epigastrium, vomiting, hematemesis. Stools black. Lower border of stomach 3 inches below navel.	Gastric ulcer.	June 27, 1894.
37	McArdle, J. S. *c.*	F. 24	. . . . .	For 2 years had vomited after meals. Hematemesis present. Laparotomy was done once before for this condition, but no effort was made to treat ulceration.	Pain, vomiting, hematemesis.	. . . . .	. . . . .
38	Mixter, S. J. *a.*	M. 57	. . . . .	Four and a half years ago began to vomit blood which continued for 30 days. Eleven months later had the same kind of an attack.	Pain immediately after eating. Vomiting of food and blood.	. . . . .	Sept. 18, 1888.
39	Michaux. *a.*	F. 30	. . . . .	No previous gastric symptoms.	Profuse hematemesis October 20, 22, 23, 25.	. . . . .	Oct. 26, 1897.

ACUTE AND CHRONIC HEMORRHAGE COMPLICATING GASTRIC ULCER.—CONTINUED.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
Pylorus and first portion of duodenum transformed into an enormous callous mass, adherent to neighboring organs. First loop of the duodenum was protruded through a slit in the transverse mesocolon.	Posterior gastroenterostomy. The jejunum was drawn down below the transverse mesocolon and the circumference of the gastric orifice was fixed to the lips of the mesenteric incision.	Pain has entirely disappeared. Patient eats well, has gained in strength, and has never had a return of the hematemesis.	Recovery.	Doyen: *Traitement chirurgical des affections de l'estomac*, page 382.
Ulcer found on greater curvature on anterior aspect of stomach.	Excision of ulcer by a partial gastrectomy. Two rows of sutures of silkwormgut closed the stomach.	Vomiting and retching continued after operation and lasted until her death, which occurred thirty-two hours after operation.	Death.	*Guy's Hospital Reports*, vol. liii, 1896.
Stomach explored but no lesion found.	Gastrotomy.	Attacks of faintness and hematemesis occurred and the patient died nine days after operation. Postmortem showed a large ulcer on posterior surface.	Death.	*Guy's Hospital Reports*, vol. liii, 1896.
Stomach bound down by adhesions. No obstruction at the pylorus, but stomach was hourglass-shaped. No active ulcers found.	Stenosis dealt with after the manner devised by Heineke-Mikulicz,	Patient did well for one month. At this time a sudden hemorrhage, despite all efforts to stop it, caused her death. Postmortem three very chronic-looking ulcers were found in the dilated first part.	Death.	*Guy's Hospital Reports*, vol. liii, 1896.
Ulcer found on anterior wall near cardiac orifice, about half an inch in diameter.	Excision of ulcer by a partial gastrectomy.	After the operation the patient improved steadily. For first few days was fed per rectum, then food by mouth was cautiously given. Recovery slow but uneventful.	Recovery.	*Medical Record*, N. Y., 1899, lv.
Stomach dilated. Pylorus thickened. Thickening principally on the anterior surface, probably a large ulcer. Several other dark spots were seen on anterior surface, probably other ulcers. No adhesions.	Gastrojejunostomy.	Patient did well. Convalescence complicated on the fourteenth day by femoral thrombosis. All pain, sickness, discomfort have gone and she is gaining flesh rapidly.	Recovery.	*Brit. Med. Jour.*, Mar., 1900, p. 574.
. . . . .	Anterior gastroenterostomy.	This was followed by a rapid disappearance of all symptoms and a gain in weight.	Recovery.	Reported by Comte, *Medical Week.*, vol. iii, No. 39, p. 459.
An induration was found one centimeter from pylorus.	Gastroenterostomy.	Patient died the following day. No peritonitis. After specimen had been some time in Muller's fluid a small erosion was found.	Death.	Table of Savariaud.
. . . . .	Exploratory gastrotomy. Digital palpation failed to reveal ulcer.	Weight increased 24 pounds. Hemorrhages returned later.	Recovery.	*Berliner klin. Woch.*, 1896, p. 847.
Pyloric obstruction. Ulcer found in the line of pyloric incision.	Excision of ulcer. Heineke-Mikulicz pyloroplasty.	. . . . .	Recovery.	*Western Med. Review*, vol. ii, 1897.
. . . . .	Heineke-Mikulicz operation carried out.	. . . . .	Recovery.	*Western Med. Review*, vol. ii, 1897.
Pyloric wall $\frac{5}{8}$ of an inch in thickness. Palpation revealed nothing further. Stomach could not be brought out of incision.	Heineke-Mikulicz operation. Gauze drainage.	Case looked promising for 3 days. On fourth day died very suddenly. Postmortem showed stomach enormously dilated. It contained a gallon of bloody fluid. Large number of very small ulcers found with innumerable little cicatrices. Immediate cause of death hemorrhage from innumerable small ulcers.	Death.	*Western Med. Review*, vol. ii, 1897.
Nothing revealed at operation save that the muscular and peritoneal coats externally could be pinched up and separated from the mucous membrane with unusual ease.	Exploratory gastrotomy and excision of suspicious spot of ulcerated mucous membrane.	Severe hematemesis a few days prior to operation. Anemia so profound that operation was delayed until general condition improved.	Recovery.	PHILADELPHIA MEDICAL JOURNAL, May, 1898.
Stomach adherent to pancreas. Small ulcer to left of vertebral column. Impossible to remove it on account of location.	Cauterization with thermocautery. Spurting of blood from an ulcerated vessel arrested by sutures with great difficulty.	Patient died on eighth day. Autopsy showed ulceration of splenic artery.	Death.	*Berliner. klin. Wochenschrift*, 1897, p. 369.
Ulcer situated near the pylorus.	Resection.	The resulting cicatrix caused obstruction and the abdomen was opened again, and a gastrointestinal anastomosis made. A third celiotomy was made necessary by the closure of this opening.	Recovery.	PHILADELPHIA MEDICAL JOURNAL, April, 1899. p. 929.
Ulcer 5 centimeters deep near greater curvature. Floor of ulcer, as large as half a dollar, contained a cherry stone. Pylorus could not be discovered by the finger.	Cauterization of ulcer with thermocautery. Subsequent gastroenterostomy.	Hematemesis and pain ceased completely. Patient rapidly increased in weight.	Recovery.	*Verhandlung der deutschen Gesellschaft für Chirurgie*, 1894, No. 51.
A tumor was felt on the posterior wall of stomach near the pylorus. A flat ulcer the size of a five-cent piece was seen. Pyloric canal somewhat distorted.	Ulcer cauterized with thermocautery, and a gastroenterostomy performed.	Patient did well. August 9, had gained 10 pounds.	Recovery.	*Centralblatt für Chirurgie*, 1894, No. 51.
Pylorus pushed to the right and lower than usual. One and one-half inches from this point a three-inch scar extended. Chronic ulceration.	Gastroenterostomy.	She takes the coarsest food without experiencing any pain. No hemorrhages from stomach or bowels since operation.	Recovery.	*Dublin Journal of Med. Science*, Feb., 1900.
Pylorus much thickened. Owing to the very firm adhesions nothing could be done.	Exploratory gastrotomy. Nothing else attempted.	Postmortem showed an oval ulcer on the posterior wall, which had eroded the pancreaticoduodenalis artery.	Death.	Reported by W. W. Gannett in *Boston Med. Journal*, 1889, p. 38.
Stomach apparently healthy at the time of operation.	Gastrotomy. Ulcer could not be found.	Hemorrhage recurred. Death took place on the fifth day. Ulcer as large as a 50-cent piece on posterior surface only involving the mucosa. An eroded arteriole was found in its center.	Death.	Reported by Dieulafoy in *Presse Médicale*, 1898, p. 31.

TABLES EMBRACING ALL CASES FOUND IN LITERATURE OF OPERATIONS FOR

NO.	OPERATOR.	SEX. AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
40	Mikulicz. *a.*	F. 20	Factory girl.	Symptoms of 1 year's standing. For the last 8 days hematemesis provoked by the ingestion of the smallest quantity of milk.	Pain, vomiting, hematemesis. Inanition. Pulse 140. Temp. 100.4° F.	Gastric ulcer.	Feb. 13, 1887.
41	Mikulicz. *c.*	M. 38	. . . . .	. . . . .	Symptoms of ulcer for 1 year. Hematemesis.	Gastric ulcer.	Dec. 5, 1889.
42	Mikulicz. *c.*	F. 21	. . . . .	. . . . .	Symptoms of ulcer for 8 years. Repeated hematemesis.	Gastric ulcer.	April 22, 1894.
43	Mikulicz. *c.*	F. 42	. . . . .	. . . . .	Symptoms of ulcer for 7 years. Repeated vomiting of blood.	Gastric ulcer.	Nov. 15, 1894.
44	Monod. *a.*	. . .	. . . . .	. . . . .	Copious hematemesis. Dilation of stomach.	Gastric ulcer.	. . . . .
45	Murphy, J. B. *c.*	F. 51	. . . . .	Symptoms of 14 months' duration.	Emesis, hematemesis, emaciation.	Gastric ulcer.	Summer of 1899.
46	Price, J. *c.*	F. 31	. . . . .	Typical history of benign ulcer. She for a year prior to operation had frequently recurring small hemorrhages.	Hemorrhage, pain and progressive emaciation.	Gastric ulcer.	. . . . .
47	Price, J. *a.*	F. 37	. . . . .	Hemorrhages frequently repeated in Europe and after emigration this conntry, where she was operated on largely on this account.	She had a fresh hemorrhage about three weeks before operation leaving her pale and anemic, so much so in fact that the operation was postponed for a time until she became in better general condition.	Gastric ulcer.	. . . . .
48	Pringle, *a.*	M. 38	Vanman.	For some time has had colicky pain in the bowels. For one week prior to admission had been drinking more than usual. Admitted April 28, 1898, on account of severe and sudden hematemesis.	Hematemesis profuse. Heart-sounds feeble. Pulse 120. Pallor very great. Black tarry looking stools. No pain.	. . . . .	April 21, 1898.
49	Robson, Mayo. *a.*	M. 38	. . . . .	Very weak and anemic. History of severe hemorrhage, repeated twice in week.	. . . . .	Chronic gastric ulceration with dilation.	. . . . .
50	Robson, Mayo. *a.*	M. 36	. . . . .	History of ulcer for more than a year. Great loss of flesh and strength.	Severe hematemesis followed in 24 hours by a second attack. Pulse 150. Very anemic. Feared death if bleeding recurred.	. . . . .	. . . . .
51	Roux. *a.*	M.	Brewer.	. . . . .	Hematemesis, one liter, one half liter, several days before operation.	. . . . .	. . . . .
52	Roux. *a.*	F.	. . . . .	. . . . .	Profuse hematemesis. Extreme weakness.	. . . . .	. . . . .
53	Rydygier. *c.*	M. 48	. . . . .	Gastric disturbances for 6 years.	Hematemesis on several occasions.	. . . . .	1894.
54	Salzer. *a.*	M.	. . . . .	Had a pyloric resection 5 years ago for pyloric stenosis. Appetite good, well nourished.	Taken suddenly with violent vomiting of bright red blood.	. . . . .	June 27, 1899.
55	Spencer, W. G. *a.*	F. 37	. . . . .	For 11 years had had hematemesis without other symptoms. Present attack culminated after several small vomits, in one of 1½ pints, half of which was pure blood.	Sudden faintness. Acute anemia. Partial unconsciousness.	Gastric ulcer.	Nov. 23, 1898.
56	Spencer, W. G. *c.*	F. m'dle age.	. . . . .	. . . . .	Hemorrhage the one important feature.	Pyloric stenosis. Dilation of stomach.	. . . . .
57	Tubby, A. H. *a.*	M. 27.	. . . . .	Previous to August, 1898, had enjoyed good health. At this time he began to suffer from nausea and heaving. Hematemesis occurred on the following dates: September 13, large amount of blood (not measured). September 16, 30 ounces caught and measured. September 20, 40 ounces. September 21, 20 ounces. He probably lost altogether one-third of the total weight of blood in his body.	Uncontrollable gastric hemorrhages.	. . . . .	Sept. 21, 1898.
58	Tuffier. *a.*	M. 30.	Railroad employee.	Entered hospital for hematemesis. Had suffered from gastric disturbances for more than 10 years. A month ago the first hemorrhage from stomach occurred, followed by others on the same day, all of which were abundant. Two days before coming to hospital had three copious hematemeses. The day before the operation there was considerable melena.	. . . . .	Gastric ulcer.	Aug. 10, 1898.
59	Tuffier. *c.*	F. 25	. . . . .	. . . . .	Uncontrollable hematemesis.	. . . . .	. . . . .
60	Tuffier. *c.*	M. 39	. . . . .	. . . . .	Uncontrollable hematemesis, which led to a grave cachexia.	. . . . .	. . . . .

ACUTE AND CHRONIC HEMORRHAGE COMPLICATING GASTRIC ULCER.—CONTINUED.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
One liter of blood in the stomach. Round ulcer on posterior wall 8 to 10 millimeters in diameter. Pyloric stenosis. Stomach dilated.	Cauterization with thermocautery and pyloroplasty.	Death 50 hours after operation. Autopsy showed peritonitis localized about the pylorus. Sutures held well. Hemorrhage not reproduced. Duodenal ulcer coexisted.	Death.	*Arch. f. klin. Chirurgie*, xxxvii, 79.
Ulcer of posterior wall involving the pylorus.	Cauterization of ulcer. Gastrorrhaphy.	Death from shock during the evening of the day of operation.	Death.	Marion's Thesis, Paris, 1897.
Small ulcer at lesser curvature. Erosion of coronary artery.	Resection of ulcer, curettage, perforation, suture.	In perfect health 3 thirce years after operation.	Recovery.	Marion's Thesis, Paris, 1897.
The pancreas was invaded. The hemorrhage from one artery (not mentioned) considerable.	Cauterization. Gastrorrhaphy.	Died from shock during the evening of the day of operation.	Death.	Marion's Thesis, Paris, 1897.
The ulcer occupied the pylorus.	Anastomosis by Murphy's button after retrofixation of the large omentum and colopexy by Doyen's method.	Rapid recovery followed. Button passed on twelfth day.	Recovery.	Reported by J. R. Comte, *Medical Week.*, vol. iii, No. 39, p. 459.
Abscess on posterior wall not disturbed.	Gastrojejunostomy. (Woelfler.)	Has gained very much in weight. All symptoms have subsided.	Recovery.	Not reported. Details sent to author in private letter.
Ulcer found at pylorus on posterior wall.	Partial gastrectomy. Removal of ulcer and part of gastric wall, 1 x 3 inches.	Recovery uneventful. Is still living. No symptoms of stricture since operation.	Recovery.	Not reported. Details sent to author.
The ulcer was located on the anterior wall near cardia.	Partial gastrectomy. A portion of the stomach wall as large as the hand was removed with the ulcer.	Recovery uneventful. She is still in good health. No microscopic examination made.	Recovery.	Not reported. Details sent to author.
Nothing abnormal found on interior or exterior of stomach. Transverse colon distended and dark looking, apparently from blood in its interior.	Exploratory gastrotomy. Nothing found.	Patient died 1½ hours after operation. Four inches from the pylorus is a small depressed area, the size of a three-penny piece. In the center of this is an oblique opening into a large branch of the gastroepiploic artery.	Death.	*Glasgow Med. Journal*, vol. li, 1899, p. 5.
. . . . .	Gastroenterostomy.	. . . . .	Recovery.	*Lancet*, March 10, 1900, p 683.
. . . . .	Gastroenterostomy.	Died on the tenth day of peritonitis. No recurrence of bleeding.	Death.	*Lancet*, March 10, 1900, p. 683.
Circumscribed ulcer on lesser curvature near pylorus.	Excision of ulcer. Ligation of arteries of lesser curvature.	Patient lived for several years. Owing to reverse of fortune committed suicide. Postmortem showed old erosion of coronary artery.	Recovery.	*Congrès de Chirurgie*, 1893, p. 40.
Ulcer at lesser curvature.	Double ligation of arteries of lesser curvature.	Hemorrhage was going on at the time of operation. Patient 3 years after operation in perfect health.	Recovery.	Table of Savariaud.
A loop of small intestine adherent to pylorus. The endeavor to detach it resulted in perforation af point occupied by ulcer.	This perforation having been temporarily closed, the pylorus was resected and the open end of the duodenum was brought into wound in stomach.	At end of seven weeks the patient had gained 11 kilograms in weight and digested all his food.	Recovery.	Reported by J. R. Comte in *Medical Week.*, vol. iii, No. 39, p. 459.
Stomach markedly adherent to anterior abdominal wall. Finger could not detect any abnormalities of surface or density of the gastric mucosa.	Exploratory operation. Gastric fistula maintained for 30 days.	Died 32 days after operation. Beginning phlegmon of anterior abdominal wall and mesentery from leakage. Fresh ulcer found on anterior abdominal wall. Eroded arteriole was found which proved to be a branch of the coronary artery.	Death.	Reported by Eiselberg, *Arch. f. klin. Chir.*, 1889, p. 833.
Puckered induration found 2 inches from greater curvature, at junction of middle and pyloric thirds, with a pulsating artery running to it about the size of the supraorbital, with a corresponding vein.	Arteries and veins ligated and supposed ulcers tucked inwards by a double row of continuous sutures.	January, 1900, came spontaneously to show herself in excellent health, not having had any hematemeses since operation. One week later she had sudden profuse vomiting of blood, 2 pints or more. February 27, 1900, a gastrojejunostomy was done, from which she entirely recovered.	Recovery.	Not reported. Details sent in private letter to author.
. . . . .	Pyloroplasty.	. . . . .	Recovery.	Not reported. Details sent in private letter to author.
Patient almost moribund. Operation performed after transfusion and stimulation. On the posterior wall of the stomach a spot was found, thin in the center and indurated peripherally. Radiating from it were, 3 or 4 thrombosed vessels. Patient at this time became collapsed.	A portion of the stomach wall, corresponding to the whole extent of ulceration, was pinched up hurriedly into a fold and a continuous purse-string suture passed through this fold at the base, approximating mucous membrane to mucous membrane. The sutures were applied near the pylorus and one inch from the lesser curvature. Abdomen filled with normal saline and then closed.	He rallied after the operation. On the 23d he vomited, but no blood was found in the vomitus. At no time did his pulse fall below 150 per minute and his temperature remained subnormal. He died September 30, 9 days after operation. Autopsy showed that the ulcer had been secured. There was no blood in the stomach or intestines.	Death.	*British Med. Journal*, 1899, p. 1267.
The transverse colon was distended, black and opaque, being filled with blood. The ulcer was recognized across the posterior surface of the pylorus. The existence of a large group of lymphatic glands along the lesser curvature was also discovered. The first loop of jejunum was filled with blood, none being in the stomach.	Gastroenterostomy (von Hacker's method.)	Death occurred five days later from subacute general peritonitis. Autopsy showed a perforation the size of a dime on the posterior surface of the pylorus. Sutures were intact.	Death.	Details sent in private letter to author.
An induration was found situated at pylorus and encroaching upon the anterior surface of the stomach. Patient too cachectic to allow of resection.	Gastroenterostomy.	Since the operation the patient has never vomited.	Recovery.	*La Semaine Médicale* p. 482.
At the level of the lesser curvature an indurated portion was felt, adherent to liver.	Gastroenterostomy.	Patient died from accidental septic complications, the nature of which were determined at the autopsy. There was gangrene of that portion of the liver which had been adherent to the lesser curvature.	Death.	*La Semaine Médicale*, p. 482.

TABLES EMBRACING ALL CASES FOUND IN LITERATURE OF OPERATIONS FOR

NO.	OPERATOR.	SEX AND AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
61	Tuffier. *c.*	F. 40	Working woman.	Entered the hospital for hematemesis. Digestion for some time had not been good. Seven days before admission she suddenly experienced severe pain in left hypochondrium radiating to back. She vomited blood several times.	Pain, hematemesis, dilation and tenderness on pressure.	Gastric ulcer.	August 6, 1898.
62	Tuffier. *c.*	M. 42	Quartermaster.	Entered hospital for hematemesis. For 3 years has had at infrequent intervals small hematemeses. Eighteen months ago had severe gastrorrhagia and vomited a pint of blood. This hemorrhage was renewed several hours later. The following day he had another hematemesis, after which he improved. Six months ago hematemesis, not so severe as the preceding ones.	. . . . .	. . . . .	Feb. 10, 1898.
63	Van Kleef. *a.*	F. 37	. . . . .	Had suffered with gastric disturbance for 15 years. Came under my care in 1876.	Dilation of stomach. Periods of violent gastralgia. Vomiting. Several severe gastric hemorrhages.	Gastric ulcer. Pyloric stenosis.	Jan. 27, 1882.

Acute and chronic cases are designated by "*a*" and "*c*" respectively, under name of operator. Several cases are borderline ones, but we have tried both acute and chronic. One case is not counted in either class (Guilford's, No. 21).

presence of the latter as a symptom should be an additional reason for surgical intervention.

Cirrhosis.—Hemorrhage into the stomach is a frequent symptom in cirrhosis of the liver, and death resulting therefrom cannot be considered as rare.

Preble,[12] of Chicago, has recently reported 60 cases of fatal hemorrhage, 3 in his own practice, 1 in that of a colleague, and 56 collected from literature. The diagnosis in all was verified by autopsy. After a careful analysis of these cases, a full history of each being given, he draws some interesting and striking conclusions:

1. Fatal gastrointestinal hemorrhage is an infrequent but not rare complication of cirrhosis of the liver.
2. In a great majority of the cases the cirrhosis is atrophic, but it may be hypertrophic.
3. In one-third of the cases the first hemorrhage is fatal; in the other two-thirds the hemorrhages continue at intervals over a period varying from a few months to several years, the maximum given being eleven years.
4. In one-third of the cases the diagnosis can be made at or before the time of the first hemorrhage. In the other cases the diagnosis cannot be made at all or only after a few months or years, during which time other symptoms of cirrhosis have developed.
5. Esophageal varices are present in 80% of the cases, and in more than one-half of the 80% the varices show macroscopical ruptures, and it is probable that many other ruptures would be found if the varices were tested by injection of air or fluid.
6. Fatal hemorrhages occur in cases which show no esophageal varices, and they are probably due to the simultaneous rupture of many capillaries of the gastrointestinal mucous membrane.
7. The hemorrhages in this class of cases are usually preceded by other symptoms of cirrhosis, but the first symptom may be a fatal hemorrhage.
8. In 6% of the cases which show esophageal varices was the cirrhosis typical, *i. e.*, showed ascites, enlarged spleen, and subcutaneous abdominal varices.

It is certainly interesting to learn that the diagnosis of cirrhosis can be made in only one-third of the cases at the time of the first hemorrhage. A study of Preble's cases along with those collected by Savariaud[13] impresses one with the possibility of an unexpected and fatal gastric hemorrhage in the course of either a latent gastric ulcer or cirrhosis.

I am also impressed with the belief that several of the cases reported as having been operated upon for diffused or capillary hemorrhage complicating ulcer were really instances of venous hemorrhage into the stomach on account of an obstructed portal circulation due to cirrhosis. Such cases do not and cannot give as good operative results as in ulcer.

Treatment.—It has been suggested that as esophageal varices are the cause of a large per cent. of the gastrorrhagias complicating cirrhosis, pressure should be made upon the ruptured varix or varices by introducing a rubber bag into the esophagus and distending it with water or air. This suggestion, so far as I know, has not been carried out. The objections that one can urge against it are manifold:

1. It is questionable if pressure can be sufficiently protracted in this way to be of benefit.
2. In only 6% of the cases showing esophageal varices was the cirrhosis typical, and therefore easily diagnosticated. It is certainly unsafe to formulate a treatment which at best has only a chance to reach a comparatively small number of cases.
3. The esophageal veins are part of the systemic, while those returning blood from the gastric mucous membrane are of the portal circulation. Therefore it would seem a priori that dilation of the esophageal veins could not occur until there was primarily marked dilation of the venules of the gastric mucosa, and secondarily enlargement of the connecting veins between the two systems.
4. Hemorrhage from the stomach may result from so many causes that nothing in the way of surgery short of gastrotomy, which discloses the source of the hemorrhage, or gastroenterostomy, which, by draining the stomach and placing it at rest, may stop the bleeding—would seem to be indicated.

There can be no reasonable doubt, however, that operations for gastric hemorrhage in cirrhosis have a less promising future than the same procedures in bleeding ulcer; for in the former there is, in addition, that general hemorrhagic tendency that makes bleeding from any situation most difficult to arrest. We have all realized this, and know how hard it is to permanently

Acute and Chronic Hemorrhage Complicating Gastric Ulcer.—Continued.

Conditions found at operation.	Operation.	Remarks.	Result.	Reference.
Stomach and duodenum dilated, pylorus permeable. Neither tumor nor lymphatic enlargement at any point.	Gastroenterostomy. (von Hacker's method.)	The patient left the hospital September 1, 1898, her appetite and digestion being very good. No hematemesis.	Recovery.	Details sent in private letter to author.
A slight induration accompanying a slight constriction of the pylorus noticed.	Posterior gastroenterostomy.	Patient improved rapidly. At no time has he had any trouble with his stomach since operation. The patient, who was a syphilitic, followed rigorously the specific treatment under which he had been placed. March 15, 1900, in excellent health.	Recovery.	Details sent in private letter to author.
Pylorus very much contracted. Round ulcer 1 centimeter in diameter on anterior wall.	Resection of the pylorus.	Patient made an excellent recovery and gained in weight.	Recovery.	*Centralblatt für Chirurgie*, 1882, Band ix, 46.

to classify them as accurately as could be done from the information given One case of Küster's (Case 35) is so doubtful that it could be classed as being

control the epistaxis of a cirrhotic patient. Still, while mindful of the difficulties in the way of success, I believe that with limitations surgical intervention may properly be considered. No operation has as yet, so far as I know, been deliberately performed where the diagnosis of cirrhosis has been made. Several of the cases reported and operated as hemorrhagic ulcers may have been—probably were—instances of cirrhosis.

A study of Preble's cases makes it sufficiently clear that in many instances it is simply impossible to diagnosticate between the hematemeses of ulcer and cirrhosis. One of them, Case 36, a young woman in her usual health, suddenly vomits a large amount of blood. A diagnosis of ulcus ventriculi was made without reservation. At autopsy it was found to be a marked case of cirrhosis, and no evidence whatsoever of ulcer could be discovered. The opposite error can as easily be made, as was evidenced by Preble's report of two cases seen at the Cook County Hospital with Drs. Walker and Ochsner. "Both were men between forty and fifty years, hard drinkers for many years. Both vomited a large amount of blood while at their usual work and in their usual health. Neither had any gastric disturbances other than could be referred to the chronic alcoholism. In both the physical examination was negative. There was no change in the hepatic dulness, no splenic tumor, no ascites, no superficial varices, no localized or diffused epigastric tenderness. The hematemesis continued over a few days to death. Were they cases of gastric ulcer of obscured cirrhosis of the liver? The general condition of the patients was so good as almost to exclude any thought of carcinoma. The age, sex, and lack of gastric symptoms spoke against ulcer. The negative physical examination spoke against cirrhosis. Fatal hemorrhage from either cause is rare. The postmortem examination showed that both were cases of gastric ulcer, and the eroded vessel could be seen on the base of the ulcer. There was no suggestion of any change in the liver."

Vicarious Menstruation.—There has been a more or less general sentiment, if not positive conviction, on the part of a majority of the profession, that vicarious menstruation may manifest itself in the way of hematemesis. Such was, too, until recently the general teaching, and there are not wanting those who still believe in the possibility of such an occurrence. If it does happen one would naturally think that it should do so in young women whose ovaries and tubes have been removed, or in women submitted to hysterectomy, the appendages being left, and who cannot therefore menstruate in the natural way. I have written to fifty prominent gynecologists and surgeons to learn if they had seen, and if so how frequently, instances of vicarious menstruation showing itself by hematemesis following removal of the appendages, uterus, or both.

Nearly all have answered, and it is a significant fact that only two have reported (each a single case) affirmatively. Yet these operations are very common, one of them having been for many years probably the most frequently practised surgical procedure.

Many of the writers have expressed a positive conviction that vicarious menstruation does not occur.

It would seem, therefore, that what has hitherto been a vague impression with most of us is not corroborated by a careful examination of a large number of cases where it should if it ever occurs.

Postoperative Hematemesis.—I cannot find in any of the textbooks on surgery at my command, reference to postoperative hematemesis. It must therefore be rare.

Mayo Robson,[14] in his Hunterian Lectures, states that he has encountered it in 7 cases of his own, 2 being fatal, and refers to a similar experience of Eiselberg who reported to the Surgical Society in Berlin the details of 6 cases. It is significant that nearly all of the cases reported by Robson and Eiselberg were instances of operations upon the intestines, omentum, and structures adjacent to the stomach. The anesthetic could not have been responsible for the vomiting of blood, for in one of Mr. Robson's cases cocain was used, and a cholecystotomy for carcinoma of the bile-ducts, completed in 15 minutes. In several other cases there was no vomiting after the operation. Robson states that in 6 of the cases the omentum was ligated, and in another it was probably contused. He also says that "in an experiment on an animal multiple hemorrhages into the stomach followed twisting of the omentum."

Mr. Robson has also kindly given me, in a letter, details of a case of stab-wound of the abdomen. He says: "I explored the abdomen for a stab-wound, and as the patient was vomiting blood I expected to find a wound of the stomach, but discovered no perforation of the stomach-walls, though I had to ligate the superior mesenteric vein, the

patient making a satisfactory recovery. The hemorrhage was doubtless due to bruising of the mucous membrane without rupture of the peritoneal coat." The explanation given of the hematemesis in this patient is satisfactory and rational, and could not well have resulted in any other way. I do not, however, understand why operations upon the omentum should cause postoperative hematemesis, as I can see no anatomical explanation for it. At first it would seem theoretically that twisting the omentum might force into the venules of the mucous membrane an amount of blood which they could not accommodate, and some weak vessel give way causing hemorrhage into the stomach, notwithstanding the great capacity of veins to undergo enormous dilation without rupture.

I have, with the assistance of Drs. Burns and Woody, experimented upon 4 dogs, endeavoring to, if possible, cause hemorrhage into the stomach by rapid and severe traumatism not applied to the stomach itself.

In the first experiment a large dog was chloroformed, the omentum twisted into a rope, ligated high up, and then resected. The stomach was at once cut into and there was no suggestion of even hyperemia from cardia to pylorus. The stomach was then removed, tacked upon a board and photographed at once by Dr. Kassabian, who was present for that purpose.

In experiment number 2, a medium-sized young dog was chloroformed, the omentum twisted rapidly into a rope, and ligated high up. In addition, I squeezed the spleen and pancreas so forcibly that I ruptured the former to a slight extent, hoping by the compression to force enough blood from these organs whose blood-supply is so intimately connected with that of the stomach, into the gastric mucosa to cause rupture of some of its vessels.

The stomach was immediately opened and found to be perfectly normal in every respect, quite as much so as in case No. 1.

In experiment No. 3 the dog was chloroformed, the omentum twisted into a rope, and the small intestines were compressed and squeezed for more than would, or could be done in any operative procedure; Dr. Burns, at the same time compressing the liver so as to interfere with the portal circulation. The stomach was then rapidly opened and found perfectly normal. The dogs were not allowed to come from under the anesthetic, and in all the stomach was quite empty, food having been withheld for some hours.

In experiment No. 4 a medium-sized dog (female) was chloroformed, the omentum twisted into a rope, ligated high up and resected. The wound was then closed with ordinary aseptic precautions, and the animal



Arterial blood-supply of the interior of stomach. (Original.) The arteries were well injected with plaster, the stomach removed and tacked upon a board and photographed. As soon as the mucous membrane became dry, the vessels in the submucosa were prominent.

C. A.	Coronary artery.	G. E. D.	Gastroepiploica dextra.	C.	Cardia.
A. W.	Anterior wall	G. E. S.	Gastroepiploica sinistra.	G. C.	Greater curvature.
P. W.	Posterior wall.	P.	Pylorus.	L. C.	Lesser curvature.

made a rapid and painless recovery. There was no vomiting of blood, or blood in the feces at any time during the 3 weeks that the dog was kept under close observation in the laboratory. It ate well soon after coming from under the chloroform, and never had a bad symptom.

Of the 50 surgeons written to, only 9 have seen postoperative hematemesis. Three operators, Johnston, of Richmond; Parrish. of Philadelphia; and Wathen, of Louisville, have each had 1 case of gastrorrhagia following hysterectomy. All occurred within a week after operation, 1 being fatal.

Clarke and Noble, of Philadelphia, have each seen fatal hemorrhage from duodenal ulcers after operation. The former does not give the exact nature of the operation, but it was intrapelvic. Noble states that his patient was a woman, about 60, operated for ventral hernia. Hemorrhage that was quickly fatal occurred on the tenth day after operation. Autopsy showed a marked duodenal ulceration.

Noble and Wathen have each had a fatal case of hemorrhage after nephrorrhaphy.

Noble operated upon both kidneys in a young woman. Death occurred on the twelfth day as a result of hemorrhage from the stomach and bowels. No autopsy was allowed.

Wathen's patient was a highly neurotic young woman. She began vomiting blood more than a week after operation, and died 2 or 3 days later. No autopsy.

Johnston has also reported cases of hematemesis following operations for ovarian tumor with a twisted pediele, suppurating ovarian cyst, strangulated hernia, and extrauterine pregnancy. The first 3 were fatal and accompanied with general peritonitis; the last recovered.

Three others have seen postoperative hematemesis, but it followed operations upon the stomach itself; these were apparently cases of secondary hemorrhage and are, therefore, excluded.

I have been particular to make inquiries as to the frequency of hematemesis after hernia operations, as Robson and Eiselberg have both seen it. Of the 50 surgeons written to, only two have encountered it, and one of the cases was a strangulated hernia with general peritonitis. The other was the case operated for ventral hernia, and who died from a demonstrated duodenal ulcer.

In more than a hundred herniotomies—strangulated and nonstrangulated cases—I have never encountered it. It is possible to quote from only a few of the many surgeons communicated with.

W. T. Bull, of New York, writes: "I have never seen hematemesis after any operation. I fancy I have had 350 herniotomies."

W. B. de Garmo, of New York, writes: "I have never seen in any of my own cases one of hematemesis following operation. In replying to your second question I would say, I have done 653 herniotomies; of these 573 have been by the Bassini method for the cure of inguinal hernia."

W. B. Coley, of New York, says: "I have never seen a case of postoperative hematemesis. I cannot tell in how many cases I have removed omentum, but in a large number. You could say that in over 700 cases of hernia operations I have never seen it."

J. M. T. Finney, of Baltimore, writes: "In my own personal experience, I cannot recall an instance of postoperative hematemesis following hernia, or any other operation in which the omentum was involved, nor have known of any taking place in the Hopkins Hospital."

The sum total of all the hernia-operations done by the fifty surgeons to whom I have written must be many thousands, and yet but 2 cases of postoperative hematemesis are reported, and each has been satisfactorily explained, one dying of general peritonitis, following strangulated hernia, the other from a duodenal ulcer demonstrated at autopsy. All of the cases seen by Robson and Eiselberg followed intraabdominal operations, such being also the case with all postoperative hematemeses reported by American surgeons, excepting 2 cases, where nephrorrhaphy had been done. In doing nephrorrhaphy, the peritoneum may, in the first place, be incautiously opened by the most careful operator, and secondly there is always a considerable amount of traumatism necessary to force the kidney into the lumbar incision. It is not, therefore, difficult to understand how a hematoma may easily be produced by the great abdominal pressure oftentimes necessary to bring the kidney into view, and how, furthermore, this extravasation may occasionally cause sapremia, septicemia, or peritonitis, according to circumstances. All septic conditions favor disintegration of the blood-corpuseles, and predispose to hemorrhage from mucous surfaces. The gastric mucosa is particularly liable to congestion in conditions of sepsis, both on account of the marked tendency of the thin and more or less disintegrated blood to settle in the internal organs, and the vomiting and retching so frequently present. We have, I think, in this a satisfactory explanation of the rare hematemeses following abdominal operations, and have shown that even violent traumatism to the omentum, intestines, spleen, pancreas, and liver, did not produce immediate hemorrhage into the stomach in any of the dogs experimented upon, and it does not seem unreasonable to suppose that delayed hematemesis will usually depend upon disintegration of the blood due to sepsis.

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CONCLUSIONS REACHED AFTER A STUDY OF TYPHOID FEVER AMONG THE AMERICAN SOLDIERS IN 1898.[1]

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It is well known that typhoid fever prevailed extensively among the American soldiers assembled at State and National encampments during the brief war between the United States and Spain in 1898. In August of that year a board, consisting of Major Walter Reed, U. S. A., Major E. O. Shakespeare, U. S. V., and the writer, was appointed at the request of the Surgeon-General for the purpose of ascertaining the causes of the existence and spread of typhoid fever in the National encampments, and of suggesting means of its

[1] Oration on State Medicine before the Fifty-first Annual Meeting of the American Medical Association at Atlantic City, N. J., June 5-8, 1900.

abatement. In accordance with instructions, this board visited the National encampments and inspected most of the regiments. While doing this, we interviewed medical and line officers, and obtained as far as possible the sanitary and medical history of each regiment. After completing this tour of inspection, we spent about eighteen months in going over the medical records of these commands. In this work we have accumulated a vast amount of information, which we have embodied in our final report to the Surgeon-General. Since much of this information may be useful to the profession, and as the report is not likely to be published soon, I have concluded that I cannot better serve you today than by presenting some of the more important results reached in this investigation. In doing this, I wish to state that I am responsible for any failure that I may make in these statements, as this paper has not been submitted to my colleagues on the Board. It will be necessary for me to condense my remarks in the form of conclusions, stated somewhat dogmatically, and dependent upon the full report for further elucidation. These conclusions I will proceed to give as follows:

1. *Every regiment in the United States service in 1898 developed typhoid fever.*

This is true of both volunteer and regular commands. I am aware of the fact that some regiments have claimed freedom from typhoid fever, and it is true that the sick rsports of more than one command fail to show any evidence of this disease: but by carefully tracing the sick to hospitals, we have been able to find one or more cases of typhoid fever in every regiment. The claim is made by an assistant surgeon of one of the Pennsylvania regiments that there was not a case of typhoid fever in his command, but the records of the Philadelphia hospitals show that certain cases sent from this regiment proved to be typhoid fever. It is true that this regiment, which was engaged in guarding powder works in New Jersey and Delaware, had relatively few cases of typhoid fever, but it did not altogether escape this disease. Official statements that certain commands escaped typhoid fever have been made. General H. V. Boynton, chairman of the Chickamauga and Chattanooga National Military Park Commission, in his report to the Secretary of War, under date of October 17, 1899, makes the following statement:

> At the time the camp was abandoned, it is true that there was much sickness, and that a condition approximating panic prevailed with many officers and surgeons. There were large numbers of fever patients in the hospitals. Seven battalions of troops—four, colored, under Colonel E. L. Huggins, of the 8th U. S. Volunteer Infantry, and three, white, under Colonel L. D. Tyson, of the 6th U. S. Volunteer Infantry—were left at the camp. The strictest sanitary measures were at once adopted by these officers, and were also rigorously enforced, both as to the camp sinks, the cooking of food, and the eating of trash, and the drinking of slop. The result was that notwithstanding they were encamped in the same sections of the Park (Chickamauga) where the departing troops had been, not a case of fever developed in either of these forces; nor did a death incident to camp-disease occur.

This positive statement from one so high in authority needs careful investigation. Moreover, it will be of special interest to inquire somewhat in detail as to whether or not these regiments, by the practice of strict sanitary precautions, were able to encamp in Chickamauga Park, which at that time was widely contaminated with matter specifically infected with typhoid fever without developing one or more cases of the disease.

The 6th U. S. Volunteer Infantry assembled at Knoxville, Tenn., where it was mustered into the service of the United States, July 14, 1898. It remained in this camp until July 31. While at this place it had a most excellent supply of water, that furnished West Knoxville. Fecal matter was deposited in sinks, which were fairly policed, the contents being covered with dirt and lime twice a day. The health of the command seems to have been good, but soon a case of typhoid fever appeared. Very shortly after the regiment had been mustered in, one man, an athlete, who had been traveling about the country, complained of being ill and was granted sick furlough. This proved to be a case of typhoid fever. This command reached Chickamauga Park about 11 o'clock on the night of July 31. It rested for the night near the Second Brigade of the Second Division of the Third Army Corps. The next morning it was moved near the water-tower upon ground quite remote from that occupied at the time or previously by any command. On the morning of August 1, eight men reported at sick-call, but none of these proved to be serious. I have studied the records of this regiment carefully, and find no evidence of typhoid fever in it after it reached Chickamauga until August 24, when a private from Company C was sent to the hospital of the First Division of the Third Army Corps. This case was diagnosed "malaria," and the man remained in hospital only five days when he was discharged on furlough, but at the expiration of his furlough he was unable to return to his regiment. The probability is that this was a case of typhoid fever. On August 27 another case of so-called "malaria" was sent to the same hospital, and was furloughed four days later. This man also was unable to return to duty when his furlough expired. From September 1 until the regiment left Chickamauga, numerous cases of recognized typhoid fever were sent from this command to the Sternberg Hospital One man admitted to this hospital on September 1, died September 5, and was probably in the second week of the disease at the time of death. This man was a sergeant and had never failed to appear at sick-call in the morning with the men from his company. He expressed solicitude about himself two days before he was sent to the hospital, or, to be more explicit, on August 29. From August 24 to October 4, the date when this regiment left Chickamauga, 98 cases of protracted fever were sent from this command to Sternberg Hospital. Eighty-six of these were diagnosed as typhoid fever, 11 as malaria, and 1 as dysentery. The man who was admitted to hospital September 1, and who died September 5, was the first case of recognized typhoid fever occurring in this regiment after it reached Chickamauga. The appearance of this case caused considerable solicitude, and the regiment again changed its location and its water-supply. However, as has already been seen, typhoid fever did not abate. On October 4, as has been stated, this regiment left Chickamauga and proceeded to Puerto Rico. Typhoid fever continued to develop during the voyage and after reaching the island.

The 8th U. S. Volunteer Infantry consisted of a regiment of colored troops, recruited largely in Kentucky, and was stationed at Fort Thomas until it went to Chickamauga Park on October 8. In the August report of this command, there is one case of recognized typhoid fever. In the September report there are no cases of recognized typhoid fever, and only five cases diagnosed as malaria, and only one of these was off duty

for more than ten days. The October report shows two cases of recognized typhoid fever. The initial date of one of these cases was October 1, before the regiment left Fort Thomas; the initial date of the other was October 25, while the regiment was in Chickamauga Park. The November report shows no cases of recognized typhoid fever; but two cases diagnosed as malaria were of more than three weeks duration, and six cases of fever, undiagnosed, are reported, and none of these had returned to duty up to December 31, 1898.

2. *More than 90% of the volunteer regiments developed typhoid fever within eight weeks after assembling in the State encampments.*

It is impossible to fix any exact date on which the several regiments assembled at their State encampments. However, as the first call for troops was issued April 20, 1898, it must follow that at the earliest all regiments assembled at State encampments during the last week of that month. Bearing this in mind, our report will show that the great majority of the volunteer regiments developed one or more cases of typhoid fever within 8 weeks after assembling at the State encampment.

3. *Most probably all of the regular regiments developed typhoid fever within less than eight weeks after going into camp.*

When war with Spain was proclaimed the total strength of the standing army of the United States was 27,000 officers and men. These troops were scattered at about 100 military garrisons. All of the soldiers were well housed, and their quarters were, from a sanitary standpoint, in good condition. At each garrison the water-supply was above suspicion, and the disposal of waste was such as not to endanger the health or the life of the soldiers. There was no epidemic at any post, and the army was reasonably free from infectious diseases except those of venereal origin. The number of cases of typhoid fever among the 27,000 officers and men during the first 4 months of 1898 was distributed as follows: In January, 9 cases, with 1 death; in February, 3 cases, with 1 death; in March, 4 cases, with no deaths; in April 6 cases, with 1 death. During the last week of April and the first week of May, 1898, the regular regiments were assembled in National encampments and placed under canvas.

The following table shows the dates of going into encampment, and of the appearance of first cases of recognized typhoid fever in certain regular regiments:

Command.	Date of going into encampment.	Date of first case of recognized typhoid fever.
2d U. S. I.....	April 22, 1898	May 28, 1898
4th U. S. I.....	April 22, 1898	May 18, 1898
6th U S. I.....	April 22, 1898	May 19, 1898
7th U. S I.....	April 24, 1898	May 26, 1898
13th U. S. I.....	April 23, 1898	May 8, 1898
16th U. S. I.....	April 22, 1898	May 20, 1898
22d U. S I.....	April 22, 1898	May 29, 1898
24th U. S I. (Col.).....	April 20, 1898	May 28, 1898
25th U. S. I. (Col.).....	April 20, 1898	May 28, 1898

4. *Typhoid fever not only appeared in every regiment in the service, but it became epidemic, both in the small encampments of not more than one regiment, and in the larger ones consisting of one or more corps.*

The statement has been made that the epidemics of typhoid fever in our National encampments in 1898 were due to crowding together large numbers of men. The 3d North Carolina Volunteer Infantry at its isolated post at Fort Macon, North Carolina, developed typhoid fever before it was sent to Knoxville, where it became a part of the Second Division of the First Army Corps.

When we reached Knoxville, Tenn., in our round of inspecting the troops we were informed that the 4th Tennessee was encamped near that place, where it had been since mobilization and that it was wholly free from typhoid fever. A personal investigation showed the following facts: This regiment assembled June 28, although it was not mustered into United States service until about the middle of July. On August 12, Ernest Martin, who had not been well for a week preceding this time, was admitted to the regimental hospital. On August 15 he was furloughed home, and on September 11 he died at his home in Nashville, Tenn., of typhoid fever. From the date of this first case up to the time of our inspection (September 14, 1898) there had been in this regiment not less than 11 well-marked cases of typhoid fever, although none had been so diagnosed by the regimental surgeon.

The 15th Minnesota, at its regimental encampment, at the Fair Grounds, at St. Paul, Minnesota, and the 35th Michigan, at Island Lake, Michigan, developed epidemics of typhoid fever. Other instances might be cited, but these suffice to show the truth of the statement that the disease became epidemic in small as well as large encampments.

5. *Typhoid fever became epidemic in camps located in the Northern as well as in those located in the Southern States.*

Some medical officers have placed stress upon the fact that Northern men were transferred to the Southern States in the summer time, and have attached considerable importance to the influence of non-acclimatization in the production of the epidemics of typhoid fever. In answer to this, we need only to call attention to the fact that the 15th Minnesota, 35th Michigan, and the 203d New York furnished large numbers of cases of typhoid fever, practically all of which developed before they crossed the Mason and Dixon line. There is nothing more certain than that the prevalence of typhoid fever among the troops in 1898 was not due to geographical location.

6. *Typhoid fever is so widely distributed in this country that one or more cases are likely to appear in any regiment within eight weeks after assembling.*

We have no reliable data concerning the extent to which typhoid fever prevails in this country, but from the number of deaths due to this disease, we can fairly estimate the number of cases. The following figures may give us some idea as to the chance of infected men being found in each volunteer regiment. In making these calculations, we will figure on the number of cases of typhoid fever in New York City. This city is selected because it is not subject to epidemics of this disease, and, in fact, is believed to be unusually free from it. Supposing that typhoid fever is no more deadly in New York City than it is in Hamburg (and there is no reason for believing it is), then 299 (the number of deaths from typhoid fever in New York City in 1897) is about 7.5 per cent. of the total number of cases of typhoid fever that occurred in that city in the year given. On making this computation we find that there probably were in New York City in 1897 3,986 cases of typhoid fever. It is safe to say that at least $\frac{4}{5}$ of the cases of this disease occur in individuals of military age (between 18 and

45). This means that in 1897 there were in New York City 3,188 cases of typhoid fever among those inhabitants who were from 18 to 45 years of age. The Government census for 1890 gives the population of New York City at that time as 1,515,301. A police census made in April, 1895, indicated a population of 1,849,866. I will be liberal in my calculation and suppose that the population of New York City in 1897 was 2,000,000. In round numbers, the number of people between 18 and 45 years of age is one-half the total population. On this basis the number of people of military age in New York City in 1897 may be placed at 1,000,000; (this, of course, includes both males and females). Had this 1,000,000 people of military age been divided into regiments of 1,300 each, they would have furnished 769 commands. We have seen that the number of cases of typhoid fever in New York City among people of military age was probably 3,188, and if these had been evenly divided among the regiments of 1,300 each, each command would have contained at least four persons who in all probability would develp typhoid fever during the year. I make no claim that the above-given figures are accurate. I have presented them simply for the purpose of showing the chances of there being men infected with typhoid fever in every regiment of volunteers. I think that it must be admitted that there is not much difficulty in accounting for the origin of typhoid fever in our national encampments. With this disease as prevalent as it is throughout the country, it is more than probable that in any organization of 1,300 men of military age, taken from private life and held together for two months, one or more cases will develop.

7. *Typhoid fever usually appears in military expeditions within eight weeks after assembly.*

The following quotations taken from a paper on "Enteric Fever in Camps," by Surgeon-Captain Davies, Assistant Professor of Hygiene at the English Army Medical School, illustrate the above statement:

In the Galeaka-Gaika war in South Africa, the troops crossed the river Kei in December, 1877, in the hot and dry season. Diarrhea and simple continued fever soon became prevalent, but the general health was good. In the middle of January, 1878, heavy rains came on. Several cases of enteric fever occurred toward the end of the month. In February, sickness increased, consisting principally of diarrhea, dysentery, and common continued fever. Bowel complaints diminished toward the end of March, but as the cold weather came on, enteric fever, at first mild and insidious, occurred throughout the country; and in May it is reported that no place was free from it.

In the Zulu war, which commenced at the end of December, 1878, fever appeared at the headquarters at Helpmakaar, and at Rorke's Drift, in the middle of February, accompanied by diarrhea and dysentery; the fever was thought to be "bilious remittent," or "enteric," or a mixture of both. Helpmakaar became so unhealthy that the troops had to be moved to Utrecht and Dundee. Epidemics of enteric fever immediately broke out at both of these places.

In the Afghan campaign of 1878–1880, it is noted that cases occurred at almost all the stations occupied by European troops, stretching from the Indian frontier to Kabul and Kandahar. Some of these posts had probably never been occupied before and many of these cases were quite isolated.

In the Egyptian expedition of 1882, there was great prevalence of bowel complaints, from the first landing of the troops in the latter part of July,—diarrhea, dysentery, and fever. Enteric fever occurred very soon, both at Alexandria and at Ismailia. When the troops arrived at Cairo, the disease increased greatly, but did not reach any great prevalence until October and November. During October, November, and December, out of a total of 319 deaths no less than 223 were due to enteric fever.

In the Nile campaign, in 1884–85, a great number of isolated posts were occupied, extending over a large tract of country. Enteric fever occurred at all or nearly all of these posts, most severely at Assuan and Wady Halfa.

During the French operations in Tunis in 1881, the disease was extremely prevalent, about $\frac{1}{5}$ of the whole force being attacked It has been stated that all the columns on the march, and nearly every occupied post were attacked more or less. In some instances bodies of troops suffered from the disease, who had never been in contact with other (infected) troops, and who had not occupied any old (infected) encampments.

I have brought in these quotations in order to show that typhoid fever generally appears in military expeditions. Similar experiences are recorded in the history of mining camps in various parts of the world.

8. *The miasmatic theory of the origin of typhoid fever is not supported by our investigations.*

There are still some who believe that typhoid fever is due to a poison or miasma given off from the earth in gaseous form. I would not mention this obsolete theory were it not for the fact that while inspecting the camps we found intelligent medical officers who believed that some intangible local condition inherent in the place was an important factor in the production of the epidemic. There is apparently in man a tendency to believe in the evil genius of locality. He is prone to attribute many of his misfortunes to indefinable conditions surrounding the place in which he has suffered. As I have stated, no fact in our investigations has been brought out more prominently than the demonstration that locality was not responsible for the epidemic. The 15th Minnesota first developed typhoid fever at the Fair Grounds at St. Paul. There is certainly no evidence that there is any evil climatic influence connected with this place. This command carried the epidemic with it to Fort Snelling, which has long had the reputation of being one of the most healthful army posts in the United States. From Fort Snelling the 15th Minnesota was transferred to the open fields at Camp Meade, where generations of Pennsylvania farmers have passed the average number of years allotted to man without suspecting that their locality was an unhealthy one. However, typhoid fever continued with the regiment from Minnesota, because the men carried the germs of this disease in their bodies, clothing, bedding, and tentage. Certainly, any rational being would prefer any of the above-mentioned localities to Port Tampa, Florida, as a place of summer residence, and yet there was not a regiment in the Fourth Army Corps encamped for so long a time in Florida that had as many cases of typhoid fever as did the 15th Minnesota.

9. *The pythogenic theory of the origin of typhoid fever is not supported by our investigations..*

Murchison proposed this theory of the origin of typhoid fever. This author makes the following statement: "Typhoid fever may be generated independently of a previous case by fermentation of fecal, and perhaps other forms of organic matter." Translated into terms of modern medicine, this theory is founded upon the belief that the colon-germ may undergo a ripening process by means of which its virulence is so increased and altered that it may be converted into the typhoid bacillus, or at least may become the active agent in the causation of typhoid fever. Many French, English, and American army medical officers believe that typhoid fever may originate in this way. Rodet and Roux, of

the French army, have stated their belief that outside of the body the colon-bacillus acquires "typhigenic" properties. Surgeon-Captain Davies has expressed his belief in this theory, and some of the medical officers in the American army have also given it their adherence. Surgeon Davies gives the following statement of the reasons for his belief in this theory:

It is well known that "camp diarrhea" is of the commonest occurrence among troops shortly after taking the field in a tropical or subtropical climate. Change of habits, change of food, improper or unsuitable food, bad water, heat and exposure to sun, and chill these are all obvious factors in its causation; there is nothing in any way specific. Let us consider the sequel as regards the individual, and as regards his surroundings. The individual may in some cases remain in fairly good health and vigor, in spite of a continuance of a bowel trouble; other individuals may suffer more from the exposure, fatigue, and weakening effects of the continued flux. The surroundings may possibly be and remain sanitary, the camp clean, the water pure; but in all probability the reverse will be the case, at any rate, in some instances; the water bad, the soil fouled, very likely overcrowding of the camp, with consequent difficulty, if not impossibility, of proper removal or disposal of fecal matters. Under certain conditions of heat and moisture, favorable to the development and multiplication of low forms of vegetable and animal life, which is the more likely or reasonable to expect? That diarrhea in weakly and exhausted individuals should remain diarrhea, and nothing more; or that with an increase of filth and decomposition, polluting soil, air and water, a development of filth-generated, pythogenic poison should take place, capable of causing in such weakly persons a fever, with diarrhea, a poisoning of the organism, producing pyrexia and inflammation of certain glands in the alimentary tract, a specific fever? Is this supposition of the evolution, gradual or rapid according to circumstances, of a disease poison, dependent on *increasing* conditions of pollution of soil, air, or water, either separately or all three together, unreasonable or illogical? Would it not, on the contrary, be more unreasonable to suppose that, under such conditions, there could be no evolution at all? These conditions of camp-pollution undoubtedly exist, and tend to increase, in many instances; are they to have no effect? Is diarrhea to continue as simple diarrhea, or is evolution to come into action and produce a new disease? New, indeed, only because the causes necessary for its production are just now brought into operation,—spontaneous only in the sense that water is of spontaneous origin, when from hydrogen and oxygen, the electric spark has produced water, where no water was before.

I believe that the results of our investigations controvert this theory conclusively. In the first place, we have been able to show that the specific poison of typhoid fever was introduced into every one of our National encampments, and with the disease as widespread as it is in this country, I believe that we have good reasons for the claim that one or more men already specifically infected with typhoid fever enlisted in nearly every command. There is, therefore, no necessity of resorting to the theory that the colon-bacillus may be converted into the typhoid germ. Moreover, all the known facts of experimental bacteriology are at variance with this theory. So far as the supposition that simple diarrhea may develop into typhoid fever is concerned, I may state that in my opinion our investigations conclusively prove that this is not true. The history of typhoid fever in every encampment shows not only that this disease was not evolved from simple diarrhea, but that as a rule the men who had diarrhea did not subsequently develop typhoid fever. This subject will again be considered.

9. *Our investigations confirmed the doctrine of the specific origin of typhoid fever.*

As has already been stated, we have been able to trace the introduction of typhoid fever into every one of our National encampments and into the majority of the regiments. In case of a few commands about which there is some uncertainty as to the men bringing the typhoid infection from their homes, I may state that in all of these there was ample opportunity for the introduction of the specific poison from other commands.

11. *With typhoid fever as widely disseminated as it is in this country, the chances are that if a regiment of 1300 men should be assembled in any section and kept in a camp, the sanitary conditions of which were perfect, one or more cases of typhoid fever would develop.*

I have already stated my reasons for belief in the above-given proposition. In such a camp, however, the disease would not become epidemic, and ultimately it should disappear altogether.

12. *Typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canals of others.*

It is more than probable that many individuals may for a while carry and eliminate the specific bacillus of typhoid fever without developing the disease themselves. Later, I will make some statements concerning the probable proportion of men who are immune to this disease. It is now a well-known fact that persons who have recovered from typhoid fever may for a long time continue to carry and excrete the specific poison. It has also been shown that the longevity of the typhoid bacillus, both inside and outside of the body, is much greater than is generally supposed.

13. *Typhoid fever is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body.*

This proposition is so self-evident that it needs no lengthy argument to support it. The influence of the introduction of sewers into cities in decreasing sickness from this disease is well known to every student of sanitary science. Moreover, since the disease is disseminated by the transference of the excretions of an infected individual to the alimentary canal of others, it must follow that the more thoroughly and completely the excretions are removed from the vicinity of habitations the less will be the danger of infecting the inhabitants. In fact, the whole question of the prevention of typhoid fever in armies is largely one of the disposition of the excretions. Later I will give figures to show that the prevalence of typhoid fever in certain camps was in direct proportion to the thoroughness with which the excretions were removed from the vicinity of the camps.

14. *A man infected with typhoid fever may scatter the infection in every latrine of a regiment before the disease is recognized in himself.*

The elimination of typhoid-bacilli from the bowels probably begins soon after infection. If this be true, during the entire period of incubation an individual may be a source of danger to others. Moreover, in most instances of typhoid fever the disease is not recognized during the prodromal stage, and during this time the excretions may be laden with typhoid bacilli. It must be evident from this that the only way in which typhoid epidemics can be prevented with certainty in armies is by the complete disinfection of the stools of all, both the sick and the well.

15. *Camp pollution was the greatest sanitary sin commited by the troops in 1898.*

In the history of the different regiments given in our report we have had too frequent opportunity to call attention to the fearful pollution that existed in many camps. We have stated that fecal matter was deposited on the surface about the camps at Chickamauga and at other national encampments. Much of this filth must have been specifically infected with typhoid fever. Sinks were frequently overflowed by heavy rains, and their contents were distributed on the adjoining surface. I cannot here dwell upon this point, and must refer for particulars to regimental records given in our report.

16. *Some commands were unwisely located.*

While there is no evidence that any of the places selected for national encampments could be called unhealthful, it is true that some of them were not suited for camp sites. It was quite impossible to keep camps in a sanitary condition at the location for a while occupied by one brigade of the Fourth Army Corps near Port Tampa, Florida. On account of the nature of the ground and the surroundings, Palmetto Beach was certainly a very unsuitable location for a permanent camp. Every medical officer in the First Division of the Seventh Army Corps condemned Miami, and this condemnation was approved by officers of both the staff and line, who visited this encampment. The men could not be made comfortable at this place. Notwithstanding these facts, there were regiments at Chickamauga that had more cases of typhoid fever than did any of those in the Division at Miami, but this is no reason why the troops at the latter place should have been so uncomfortably situated. Some commands were unwisely located for the simple reason that the soldiers could not be comfortably accommodated at the place selected. There was, however, a much more serious defect in the location of certain commands. Some regiments at Chickamauga, as we have shown in our report, were so located that they received the drainage of other regimental camps. There was certainly no sufficient excuse for this.

17. *In some instanees the space allotted the regiments was inadequate.*

This was true of more than one command at Chickamauga. For instance, the 158th Indiana was forced to contract its lines to half the regulation distance, and then it was only 50 feet distant from the 6th Ohio. The sinks of the last mentioned regiment and the kitchens of the 1st West Virginia were only 12 or 15 feet apart. I am forced to conclude from this and numerous other similar examples that there were line officers in the First and Third Army Corps whose efficiency might have been enhanced by some knowledge of camp hygiene.

18. *Many commands were allowed to remain on one site too long.*

There were regiments at Chickamauga that did not move a tent from the time of arrival in May until that of departure late in August.

19. *Requests for change in location made by medical officers were not always granted.*

As an illustration, I will refer to the official records of the 5th Pennsylvania. This command reached Chickamauga Park on May 20, and was unfortunately located on low ground. Requests for change in location were repeatedly sent in during June and July. The earth became muddy, the camp received the washings from other camps above, the sinks rapidly filled with water and overflowed, and yet requests for change in location were unheeded until August 12, when the regiment was allowed to occupy a new camp two miles to the west and on a higher piece of ground.

20. *Superior line officers cannot be held altogether blameless for the unsanitary condition of the camps.*

As we have already seen, some of the regiments were improperly located from a sanitary standpoint. This was done by superior line officers, and sometimes in the face of protests from the medical officers. We have also seen that requests for change in location were disregarded and regiments were allowed to occupy one site for too long a time. In general the camps became very filthy. It must therefore be admitted, it appears to me, that line officers were to some extent responsible for the condition of the camps under their command. The medical officer can only recommend; the line officer may command. We think it unfortunate that no adequate instruction is given in hygiene in our national military school. It does seem that line officers should at least know enough of this subject to be able to recognize the importance of reasonable requests and recommendations made by medical officers.

21. *Greater authority should be given medical officers in matters relating to the hygiene of camps.*

In my opinion it is of the greatest importance that more authority be granted medical officers in all matters pertaining to the hygiene of camps. Certain men in the medical corps should be detailed to do the duties of a sanitary inspector. These men should be selected on account of recognized ability in this particular line. The sanitary inspector should make his reports in duplicate, one copy of which should be presented to the commander in charge of the troops, while the other copy should be forwarded to the Surgeon-General. When the line officer in command fails to comply with requests made by a medical inspector, he should state in writing the reasons for noncompliance, or at least he should in writing acknowledge the receipt of the recommendation.

22. *It may be stated in a general way that the number of cases of typhoid fever in the different eamps varied with the method of disposing of excretions.*

This is well illustrated by the methods of disposing of fecal matter and the number of cases of typhoid fever in the three divisions of the Seventh Army Corps. The First Division was most uncomfortably located at Miami, Florida, from the last week in June until the second week in August. On the last mentioned date it was removed to Jacksonville, where it joined the other divisions. During a part of its stay at Miami, and during the entire period of its encampment at Jacksonville, water carriage was employed for the disposal of fecal matter. In the Second Division the tub system was employed. By this method, infected fecal matter was scattered all through the camp. In the Third Division regulation pits were used. The number of cases of typhoid fever was smallest in the First Division, and greatest in the Second Division.

23. *The tub system of disposal of fecal matter, as practised in the Second Division of the Seventh Army Corps, is to be condemned.*

Of all the methods for the disposal of fecal matter practised in the National encampments in 1898, I regard this as the most unsatisfactory.

24. *The regulation pit system is not a satisfactory method of disposing of fecal matter in permanent camps.*

Especially is this true in hot weather. It is a very difficult thing to have soldiers appreciate the necessity of keeping fecal matter covered. As I have elsewhere stated, in many camps orders were issued requiring each man to cover his stool as soon as deposited, but we did not inspect the pits of a regiment in which we did not find exposed fecal matter. Moreover, in our camps in 1898 flies swarmed so numerously that the first droppings of fecal matter were often covered with them before the act of defecation was completed. The pit system may be employed when armies are on the march, and stopping at one place for a few days at most, but even then they are sources of danger, and I believe that it is quite impossible to prevent the spread of typhoid fever in camps in which this method of disposing of fecal matter is employed. At Chickamauga it was well-nigh impossible to prepare sinks of proper dimensions, and still more difficult to keep the contents of these sinks properly covered. The clay thrown out in digging the pits hardened in the sun, and when thrown back on the fecal matter had but little absorptive power, and the result was that fecal matter was constantly exposed. In some of the camps about Tampa it was impossible to dig sinks to proper depth, on account of the height of the ground-water. For these reasons I am thoroughly convinced that if epidemics of typhoid fever are to be prevented, some other method of disposing of fecal matter in camps occupied for a week or longer must be resorted to.

25. *Our Board has recommended that in permanent camps, where water-carriage cannot be secured, all fecal matter should be disinfected and then carted away from camp.*

For this purpose we have made a special recommendation that galvanized iron troughs, containing milk of lime, be used for the reception of all fecal matter, and that the contents of these be removed daily by means of the portable odorless excavator. I am aware of the fact that this method of disposing of fecal matter will be attended by increased cost, but I am confident that it will greatly lessen the number of cases of typhoid fever. These troughs, and the method of using them, have been fully described in our Report. I believe that there is no question pertaining to army hygiene of greater importance than that relating to the method of disposing of fecal matter. The way in which this is done largely determines the number of cases of typhoid fever that will develop in any command.

26. *Infected water was not an important factor in the spread of typhoid fever in the National encampments in 1898.*

There probably were local water-supplies that became specifically infected with the typhoid-fever bacillus, but infected water was not the great factor in the causation of this disease. It is possible that the piped water at Chickamauga Park became specifically contaminated. Certainly the location of the intake pipe in Chickamauga Creek so near the junction of that stream with Cave Spring Branch, which drained many of the camps, was not justifiable, and it hardly seems possible that the piped water wholly escaped contamination. However, that even at Chickamauga infected water was not the chief factor in the spread of typhoid fever is shown by the fact that regiments that did not drink this water also became widely infected with the disease, and it is furthermore demonstrated by the fact that the spread of typhoid fever continued after the regiments had been removed to Knoxville, Tenn., and Lexington, Ky., at both of which places the water-supply was above suspicion. It is also probable that some of the local water-supplies at Chickamauga became specifically contaminated. This might have been true of the wells from which the regiments of the Second Division of the First Army Corps for a while drew their supply. The location of the Jay's Mill well, for instance, was such as to receive the drainage from typhoid-fever-infected camps near it, and it is not likely that this water escaped specific contamination. I am also inclined to attribute the greater prevalence of typhoid fever in the Third Army Corps to the fact that the sites covered by the regiments of this corps furnished many wet-weather springs, which in all probability were specifically contaminated. That the water was not infected at Jacksonville seems to be beyond question. The supply came from artesian wells more than 1,000 feet deep, and was distributed through the camps by means of pipes. In August and September of 1898, there were in round numbers at Jacksonville 30,000 civilians or inhabitants of the city, and the same number of soldiers in camp near it. Both civilians and soldiers drank water from the same source. There were only a few sporadic cases of typhoid fever in the city at a time when each of the three Division Hospitals was receiving a score or more of patients with this disease each day. The same condition existed at Knoxville. Here the soldiers obtained their water-supply from the pipes that furnish West Knoxville. We satisfied ourselves from an inspection of the health-officer's records there were no cases of typhoid fever among the citizens, and at that time there were hundreds of cases among the soldiers. At Camp Alger, certain local water-supplies probably became contaminated, but there is no evidence that this was generally true. Each regiment obtained its supply from a bored well, and while there was some question about the wisdom of the location of a few of these, the majority were so situated and so constructed that infection seemed well-nigh impossible. The same was true of the water-supply at Camp Meade.

27. *Flies undoubtedly served as carriers of the infection.*

My reasons for believing that flies were active in the dissemination of typhoid fever may be stated as follows:

a. Flies swarmed over infected fecal matter in the pits and then visited and fed upon the food prepared for the soldiers at the mess tents. In some instances where lime had recently been sprinkled over the contents of the pits, flies with their feet whitened with lime were seen walking over the food.

b. Officers whose mess tents were protected by means of screens suffered proportionately less from typhoid fever than did those whose tents were not so protected.

c. Typhoid fever gradually disappeared in the fall of 1898, with the approach of cold weather, and the consequent disabling of the fly.

It is possible for the fly to carry the typhoid bacillus in two ways. In the first place, fecal matter containing the typhoid germ may adhere to the fly and be mechanically transported. In the second place, it is possible that the typhoid bacillus may be carried in the digestive organs of the fly and may be deposited with its excrement.

28. *It is more than likely that men transported infected material on their persons or in their clothing, and thus disseminated the disease.*

In some of the commands it was customary to detail men from the line every morning to serve as orderlies at the hospital. These men went to the hospitals, handled bedpans used by persons sick with typhoid fever, and at night returned to their comrades. The most of these men were wholly ignorant of the nature of infection and the methods of disinfection. In fact, at one of the Division Hospitals we saw orderlies of this kind go from the hospital and partake of their midday lunch without even washing their hands. These men handled not only the food which they ate, but passed articles to their neighbors. It seems to me that a more certain method for the dissemination of infectious disease could hardly have been invented. I have stated that in some of the camps the surface of the ground, especially where there were strips of woods, was frequently dotted with fecal deposits. At the time of our inspection of the 3d United States Volunteer Cavalry at Chickamauga it was quite impossible to walk through the woods near this camp without soiling one's feet with fecal matter. Much of this was probably specifically infected, and it is by no means improbable that the infection was carried by the men into their tents where blankets and tentage became infected.

29. *Personal contact was undoubtedly one of the means by which the infection was spread.*

The truth of this statement will be more evident after an inspection of the charts showing the distribution of typhoid fever among the companies of the different regiments, which we have provided for our report. On making such an inspection one must be impressed with the fact so plainly evident that men who were closely associated developed typhoid fever simultaneously. Men in the same company came down with the disease on or about the same time. This became still more evident when we studied the cases with reference to the tents occupied by the men. Certain tents were badly infected, and the majority or all of their inmates developed the disease; while other tents wholly escaped. There are reasons for believing that this was an important factor in the spread of the disease. Blankets and tentage became soiled with typhoid discharges, and in this way the disease was carried by the command wherever it went.

30. *It is probable that the infection was disseminated to some extent through the air in the form of dust.*

The shell roads through the encampment at Jacksonville were ground into the finest dust by the heavy army wagons. The scavenger carts carrying the tubs filled with fecal matter passed along these roads, and their course could often be traced by bits of feces falling from the tubs. Other vehicles ground up the fecal matter and dust together, and the winds disseminated these particles here and there. Men inhaled this dust; it was deposited on their food, and men ate the dust. Having seen these things, I am inclined to the opinion that infected dust was one of the factors in the dissemination of typhoid fever. I am aware of the fact that complete desiccation soon destroys the typhoid germ, but dust is not always completely desiccated.

31. *A command badly infected with typhoid fever does not lose the infection by simply changing location.*

I do not mean to say that it is not advantageous for a regiment badly infected with typhoid fever to change its location. On the other hand, in our history of the Second Division of the First Army Corps, we have shown that such change is of advantage and may be followed by a reduction in the number of cases; but mere change in location is not sufficient to stamp out the disease in a command after it has become widely disseminated. The histories of many regiments show this to be true. The Second Division of the First Army Corps became badly infected with typhoid fever at Chickamauga; later it moved to Knoxville, Tennessee; at the latter place the location was an ideal one, the water-supply was above suspicion, the surface was gently rolling and the natural drainage good. The soil was deep and pits of proper depth were easily constructed. Soil thrown out in digging pits dried in the sun and became highly absorptive so that when thrown back upon the fecal matter it took up the moisture readily. Notwithstanding all these favorable conditions typhoid fever continued and instead of showing the slightest abatement, increased in prevalence. The regiments that went from Chickamauga to Lexington, Kentucky, had a similar experience, although it was not so marked in these, probably because they had been more severely afflicted at Chickamauga and a larger proportion of the susceptible material had been used up. The regiments of the First Division of the First Army Corps that went to Puerto Rico carried the infection along with them with but little if any abatement. Numerous other illustrations equally striking might be given.

32. *When a command badly infected with typhoid fever changes its location, it carries the specific agents of the disease in the bodies of the men, in their clothing, bedding and tentage.*

This is shown by the fact that when commands changed location leaving behind all their sick, and when they went to places free from the infection, the disease continued with them.

33. *After a command becomes badly infected with typhoid, change of location, together with thorough disinfection of all clothing, bedding and tentage, is necessary.*

Even when disinfection is carried out as here suggested the command will not altogether lose its typhoid infection because some of the men will carry the germs of the disease in their bodies. Change of location removes the command from the infected locality; disinfection of clothing, bedding and tentage destroys the infected material deposited upon these articles; but the germs that have already been introduced into the bodies of the men are not so easily reached. The utility of disinfection of clothing, bedding, and tentage was demonstrated by Colonel Girard, who carried out this procedure in some of the most seriously infected regiments at Camp Meade with gratifying results.

34. *Even an ocean voyage does not relieve an infected command of its infection.*

This is shown to be the case in the study of various

commands that went to Cuba and Puerto Rico. The regiments constituting the Fifth Army Corps that went from Tampa to Santiago in June were not widely infected before embarkation and some of them were on board ship for 16 days, and yet all developed one or more cases either on the way or soon after reaching Cuba. The regiments that went from Chickamauga to Puerto Rico were widely infected before leaving this country, and the disease continued after their landing with but little if any abatement.

35. *Except in cases of most urgent military necessity one command should not be located upon a site recently vacated by another.*

This principle holds good even when the vacating regiment is not known to have suffered from any infectious disease. This axiom in military hygiene was frequently violated during the summer of 1898. In many of the State encampments the regiments that responded to the second call were located on sites recently vacated by commands that had proceeded to the National encampments. This was true of the 15th Minnesota, the 35th Michigan, and the 203d New York, each of which, as we have already seen, developed a large number of cases of this disease. The 3d Illinois at Chickamauga was located upon ground which had recently been vacated by the 16th U. S. Infantry. The regular regiment had occupied this site only eight days, and during this time had reported no sickness, but soon after it reached Tampa it developed 13 cases of acute intestinal catarrh, 3 cases of diarrhea, and 3 cases of typhoid fever. When the Second Brigade of the First Division of the First Army Corps reached Chickamauga Park, the site selected for the regimental camp of the 3d Illinois occupied a part of that recently vacated by the 16th U. S. Infantry, while the other regiments of this brigade were placed same distance away. This brigade remained at Chickamauga until July 22, during which time the 3d Illinois developed 60 cases of typhoid fever, the 4th Pennsylvania 26 cases, and the 4th Ohio 19 cases. Additional instances of this kind have been given in our Report.

36. *The fact that a command expects to change its location does not justify neglect of proper policing of the ground occupied.*

The filthy condition of some of the regimental camps at Chickamauga was explained on the ground that each regiment expected to be called to the front in a few days, and therefore neglected camp-sanitation. A camp site should be thoroughly policed up to the moment of vacating it. This should be insisted upon as a matter of military discipline, and camp commanders should regard proper attention to the sanitation of the sites occupied by their troops as one of their highest duties, and its neglect as a crime.

37. *It is desirable that the soldiers' beds should be raised from the ground.*

In some of the regiments at Camp Alger the tents were never floored. On inspecting these commands in August we found dust several inches deep in the tents. During the daytime in fair weather the blankets were taken out, and men, possibly with their feet soiled with infected material, walked around in this dust, and at night threw their blankets down on it and there slept. This was both unsanitary and uncleanly. We admired the enterprise of the men in some of the regiments who built in their tents a scaffold of poles, covered this with straw, and made their beds on this. I cannot but think that sleeping in a dust pile, which was possibly infected with typhoid material, was not wise.

38. *In some of the encampments the tents were too much crowded.*

This was true both of the space allotted for the tents, and of the number of men occupying each tent. In some instances the tents of the same company were so close together as to leave no space between them, and those of two adjacent companies were crowded together back to back. Inasmuch as none of these commands were in the vicinity of any hostile camp, this overcrowding seems to have been wholly unnecessary. In some of the commands at Chickamauga the tents were not shifted, but stood continuously on the one spot where they were pitched, in May, until the command left, late in August.

39. *Medical officers should insist that soldiers remove their outer clothing at night when the exigencies of the situation permit.*

With from 12 to 16 men in a tent, all sleeping in the clothes worn during the day, and possibly with some of them soiled with infected fecal material, the effect upon the general health certainly could not have been beneficial, and the possibility of the dissemination of the infection must be admitted. If privates in the ranks would give as much attention to personal cleanliness as officers do, and if they were furnished with quarters in which they could keep themselves clean, typhoid fever and other infectious diseases in armies would be greatly decreased. As I have already stated, our investigations show that tent-infection must have been an important factor in the distribution of typhoid fever.

40. *Malaria was not a prevalent disease among the troops that remained in the United States.*

We have shown in our report that blood-examinations for the plasmodium of malaria made by competent men at Chickamauga, Knoxville, Camp Meade, and Jacksonville, show that malaria was a rare disease among the troops that remained in the United States. This disease was undoubtedly more common in some of the camps than the blood-examinations would indicate, because these were made for the most part on hospital patients and not upon those who merely reported to the regimental surgeon, were given quinin, and were returned to duty in a day or two. The malaria that did exist in the national encampments in this country yielded readily to quinin, and the cases that did not yield to this treatment were not malaria.

41. *The continued fever that prevailed among the soldiers in this country in 1898 was typhoid fever.*

There is no evidence that any other continued fever was found among the troops that remained in the United States. One surgeon claims that dengue prevailed in his regiment at Chickamauga. I think it quite impossible for dengue to have prevailed in one regiment, while all other troops of two army corps encamped at the same place escaped this disease. It was claimed by some that the continued fever prevalent at Chickamauga differed from typhoid fever, and that it was a disease peculiar to the place, and it was designated "Chickamauga fever." That the continued fever prevalent in our camps in 1898 was typhoid fever is demonstrated by the following facts:

a. When the temperature-curve was not vitiated by the use of antipyretics it was that of typical typhoid fever.

b. The fever was not broken or arrested by the administration of quinin.

c. The death-rate was that of typhoid fever.

d. Whenever a postmortem examination was made, and the total of these examinations was considerable, the characteristic lesions of typhoid fever were found.

42. *While our investigations show that coincident infection with malaria and typhoid fever may occur, the resulting complex of symptoms does not seem to be sufficiently well defined and uniform to be recognized as a separate disease.*

In our Report we have devoted a special chapter to this subject, and I will be compelled to refer those desiring detailed information to this.

43. *About one-fifth of the soldiers in the National encampment in the United States in 1898 developed typhoid fever.*

Among 44,803 officers and men in regiments of the First and Third Army Corps, the records of which we have carefully studied, the number of cases of typhoid fever, according to our estimate, was 9,660. This is equivalent to 21.56%. In the Fourth Army Corps the percentage seems to have been somewhat less. However, the records of some of the regiments of this corps were not well kept, and we cannot be so positive concerning the number of cases.

44. *Army surgeons correctly diagnosed a little less than half the cases of typhoid fever.*

The total number of probable cases of typhoid fever among the regiments, studied in Chickamauga, was 9,660. Of these, 4,068 were diagnosed typhoid fever either by regimental or hospital surgeons. Most of the cases improperly diagnosed were sent to general military hospitals, or to civil hospitals, with the diagnosis of malaria. In 80 out of 85 cases sent from the 5th Maryland to civil hospitals in Baltimore, the diagnosis was changed from malaria to typhoid fever. Of 98 cases sent from the 8th New York to hospitals in New York City, all were recognized as typhoid fever by the physicians in the hospitals, while the majority of these had been entered on sick-reports under other diagnoses. The failure of regimental surgeons to properly diagnose many cases of typhoid fever is easily explained. Orders required, very properly, that every man sick for 48 hours should be sent to the division hospital. It will be seen from this that the cases were not under the observation of the regimental surgeon for a sufficient time for him to make a diagnosis. There is also some excuse for the failure of the surgeons at the division hospital to recognize all the cases of typhoid fever. Many of the less severe of these cases remained in hospital for a short time, and were furloughed home, or forwarded to some general hospital. Moreover, we have shown in the body of our Report that in recognizing nearly half the cases of typhoid fever the army surgeon probably did better than the average physician throughout the country does in his private practice.

45. *The percentage of deaths among cases of typhoid fever was about 7.5.*

Of the 9,660 cases already mentioned as occurring among certain troops at Chickamauga, 713 died. This gives a death-rate of 7.38%. This corresponds closely with the death-rate for typhoid fever in those places in which most accurate records have been kept. In the city of Hamburg, during the years 1886–87 there were 10,823 cases with a death-rate of 8.5.% Brandt has collected 19,017 cases treated by cold baths with a mortality of 7.8%. Of 2,293 cases treated in some of the larger hospitals in this country in 1897, 9.2% died. Further details concerning the mortality in typhoid fever are given in our Report.

46. *When a command is thoroughly saturated with typhoid it is probable that from $\frac{1}{3}$ to $\frac{1}{4}$ of the men will be found susceptible to the disease.*

I am inclined to the opinion, but desire to state it as an opinion, that typhoid fever disappeared in some of the regiments only after all the susceptible material had been exhausted. This was probably true in all regiments which had 400 or more cases.

47. *In military practice typhoid fever is often apparently an intermittent disease.*

This fact is shown especially in the study of the 8th New York. Please bear in mind that I state that typhoid fever is *apparently* an intermittent disease. I do not mean that the apparent intermissions are afebrile; I only mean that the men sick with this disease had periods of improvement which were so marked that regimental surgeons often returned the men to duty, probably at the request of the men themselves. We have discussed this very fully in our history of the 8th New York.

48. *The belief that errors in diet with consequent gastric and intestinal catarrh induced typhoid fever is not supported by our investigations.*

This belief, which was formerly held by many, is founded upon false conclusions arising from erroneous conceptions of the etiology of the disease. Moreover, the early symptoms of typhoid fever are often confounded with those of simple gastrointestinal catarrh.

49. *The belief that simple gastrointestinal disturbances predispose to typhoid fever is not supported by our investigations.*

The members of our Board began their investigations with the belief, which seems to be quite generally held, that acute diseases of the gastrointestinal tract render the individual more susceptible to subsequent infection with typhoid fever. However, our studies have forced us to come to the following conclusions concerning the relation between typhoid fever and preceding temporary disorders, including those diagnosed as diarrhea, enteritis, gastroenteritis, gastroduodenitis, intestinal catarrh, gastrointestinal catarrh, gastric fever, and simple indigestion:

a. The temporary gastrointestinal disturbances of May and June had but little, if any, effect upon subsequent infection with typhoid fever.

b. The temporary gastrointestinal disturbances of July and August instead of predisposing to typhoid fever, gave a certain degree of immunity against subsequent infection with this disease. In our Report we have attempted to give an explanation of this.

50. *More than 80% of the men who developed typhoid fever had no preceding intestinal disorder.*

In 2,763 cases in which this point was especially in-

vestigated, 2,356 were not preceded by any intestinal disorder.

51. *The deaths from typhoid fever were more than 80% of the total deaths.*

The percent of deaths of typhoid fever to total deaths is not so high if we accept the diagnosis given in the official reports.

52. *The shortest period of incubation in typhoid fever is probably something under 8 days.*

This statement is founded upon data obtained by a study of typhoid fever among the hospital corps men and female nurses at Chickamauga. The details are given in our report.

53. *One who has lived in a camp in which typhoid fever is prevalent is liable to develop this disease any time within 8 weeks after leaving such a camp.*

The particulars bearing on this statement are given in our history of the 5th Pennsylvania.

CRITICISM IN MEDICINE.[1]

By GEORGE DOCK, M.D.,
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We meet again for the consideration of a well-filled program. The number of papers is considerably less than last year, but is still so large that, allowing for the usual proportion of authors unavoidably prevented from appearing, our time must be economically used in order to get through. An effort has been made to group papers on allied topics so that the discussion may be directed to the series, and repetition avoided in that way. In most cases the topics for the groups were arranged by the officers of the section. Other set discussions on chosen topics were projected, but for various reasons could not be carried out as planned. The officers of the section take not a little pride in the large number of abstracts and synopses published in the program. The utility of these in preparing members of the section for the best appreciation of papers, in bringing out pertinent comments and criticisms, seems obvious. For the benefit of future programs, attention may be called to the advantage of making the abstracts as short as possible. This can be done better by the author than the section officers or the editor. It would seem that about 100 words should be the limit.

The number of papers on our program leads to the question whether it is not advisable to form a new section in order to take up part of the work, and interest will naturally be directed to the unofficial Section on Pathology, the existence of which you already know. There are a number of thoughts in this connection that may be expressed. In general it seems better to have as few sections as possible in an association made up, as this one is, largely of general practitioners. Yet such is the amount of material that specialization is certain to press its claims in various directions. So far as the proposed section is concerned, there is a doubt in the minds of some as to the scope intended, due to the various meanings given to the term pathology, and also to the activity of the section officers. If we take away from the existing sections on special pathology and therapeutics all their papers devoted to pathological topics, and place these in a group by themselves, we emasculate the former. Perhaps there is no greater need, not only in medicine, but also in surgery, gynecology, and various other branches, than the constant repetition of the principles of pathology, the assertion of the anatomic, physiologic and chemic bases of diseases and the cultivation of positive standpoints in these branches. For the specialist in pathology such a section might doubtless be a source of much interest, but even he might gain something by annual contact with the clinical workers in hospital and general practice that he would not find in a special section.

On the other hand, a section devoted to experimental pathology might be useful, still more so a section in which general pathologic problems might be considered and where, in addition, specimens might be exhibited, methods demonstrated, and apparatus shown. So far as the exhibition of anatomic specimens is concerned, it seems to the speaker that these should be selected with special reference to their importance in pathology or to method of preparation or preservation. With energetic section officers, such as were wisely selected for this year, the results would be of great value. It might also be useful to limit the source of such specimens each year to the section of country in which the meeting is held. In this way not only would the labor, expense, and risk of distant transportation be avoided, but a general cultivation of anatomic work excited, and combined with a practical exhibition of apparatus, a more rapid diffusion of methods of all kinds set up.

The chairman of a section in the year completing a century should be pardoned if he falls into the mood natural to such an epoch. At the end of this century, nothing could be more agreeable than to recount the great discoveries that have made it, in medicine, more interesting than any that have gone before. But all these things have been told and retold by more eloquent tongues, and there is another operation that is often more useful though not so pleasant,—the examination of the past with a view to facing the future with more certain glance. Socrates held that an unexamined life was not worth living. The same thought might be applied to a profession, and although I would not give the impression that, like Socrates, I have a divine command to examine medicine, the chair in which your favor has placed me may be held responsible for any seeming impiety on my part for attempting it.

Not long ago, in talking with a master of one of its most successful technical subdivisions, my friend remarked that medicine was becoming daily more easy. Against the word "easy" I had to protest, though realizing what was meant. So far from growing easier, the art as well as the science of medicine grows daily more difficult. It is more certain, more thorough, more far-seeing and more far-reaching than ever before, but it requires of its votaries more knowledge, more technical dexterity, greater expenditure of time and greater lucidity of judgment than ever before. We have only to point to any one of the commonest diseases to make this clear. Take a case of typhoid or malarial fever, or of pulmonary tuberculosis, and consider the numerous things to be done and to be thought about that 20 years ago were as far from our minds as was Aristotle's treatise on the constitution of Athens.

It is an interesting and to some a discouraging fact that, although medicine has made most re-

[1] Chairman's Address, Section on Practice of Medicine, Fifty-first Annual Meeting, American Medical Association, Atlantic City, N. J., June 5 to 8, 1900.

markable improvements in this century, its influence over the layman seems less than before and waning rapidly. While it is becoming more positive, more candid, more accurate, the grossest delusions flourish. Not only the plausible nostrum-maker, but the palmist, the astrologer, and the ridiculous therapeutic claims of a dozen half-crazed brains have their believers by the thousand. Not many years ago a favorite theme of semiscientific poets was the prediction of a rapidly-approaching golden age, when the physician, trained in biologic laws, should occupy the place once held by priests and augurs, but wield his authority only for good ends. Failure in the consummation of this ideal need not make us despair of human nature. In a time of rapid advance it must happen that great differences exist between the trained and the untrained. Moreover, this is an age with little respect for authority. Not only now as before "irrt der Mensch so lang er strebt," but it is perhaps well for medicine that people no longer look on its real proficients with the faith of the savage in his medicine-man. Healthy skepticism can do us no harm, and we must remember that with all our advances we still have about us some relics of medievalism. The subject, however, is rather one for the psychologist than the physician, and at this time may be passed over for the consideration of one that effects us more directly, and we may venture to raise the question whether we have used to the best advantage the talents given us by this century, and whether we are likely to be prepared as well as possible for the revelations of the next. A few examples may be considered.

In the first decade of our century Corvisart gave to the world again what the preceding century had rejected. His translation of Auenbrugger's invention of percussion, enriched by his own brilliant commentaries, was soon enlarged and controled by master minds in every country. For half a century this has been a method of undisputed value in the determination of the existence and extent of a large number of important diseases.

In the second decade Laennec opened up a new world with the stethoscope. This has been explored by all the great physicians of the last 75 years, in the face of argument and ridicule, and with percussion has helped to call attention to the value of inspection and other so-called physical methods of diagnosis, but how often do we see them all entirely neglected or carelessly used. Not only is the routine examination of the body frequently left undone, but even with marked symptoms on the part of the various organs accessible by these methods, either no examination is made or it is made in a manner that would be ludicrous if the results were not often most serious. A striking example of neglect of physical examination recently came to my notice. One of my assistants found that a man who consulted him had a complete transposition of the viscera. The manipulations excited the patient's interest, and when he was told the state of affairs said he had been examined seven times for life-insurance and been treated once, for pleurisy, in a large city hospital, without having the condition discovered.

In the third decade Bright showed the relation of albuminuria to kidney disease, and in the fifth Henle and others made clear the diagnostic importance of tube-casts. Though the actual value of these two discoveries has often been exaggerated, they are still essential in diagnosis; but how often are they neglected! Perhaps few fail to make use of tests for albumin in cases in which certain diseases are suspected, yet, as a routine measure, they are often omitted. As to casts and also other substances in the urine, such as blood, pus, and pathogenic bacteria, many physicians are as if these things had never been.

It is not difficult to explain the reasons for this state of affairs. One is indolence, but the most important is that the methods have not been acquired at the medical school, perhaps some of them have not even been seen by the helpless student. Even if the methods have been learned, the student often has not the fundamental knowledge that diagnosis means more than the naming of a disease. Satisfied if he recognizes, even vaguely, one clinical picture in a sick man, he fails to retain or acquire a mastery of diagnostic measures. The condition depends in turn partly on the absurdly large number of medical schools in the country. With from six to seven score of these the obtaining of students must be a more important matter than their training. One of the most certain hopes of the new century is that, comparatively early, many of the superfluous schools will become extinct. Along with concentration of labor in the schools and improvement in the previous preparation of students, we can confidently expect a notable change for the better in methods of teaching, for there has probably never been a time when teachers of medicine, as well as undergraduate students, were so critical in regard to methods as now.

Another topic worthy of examination is that relating to the more instrumental part of diagnosis—a thing that has within a short time assumed important proportions, but the various relations of which are often neglected. It is here especially that apparent ease tempts to superficial examination of the sick.

The many manipulations included under the general head of laboratory examinations vary so much in difficulty, in certainty and in weight as evidence that it is only natural mistakes occur, yet these mistakes are so vital that those concerned should be constantly on the alert to guard against them. How difficult to measure the importance of each laboratory fact in itself is often illustrated in practice. Thus I have known of a surgeon being told that in a certain case an enlarged spleen was part of a leukemic process. With the remark that he believed "clinical observation more trustworthy than instrumental diagnosis," he proceeded to open the abdomen. Another time the report on a sputum examination for tubercle-bacilli is negative; but now, instead of relying on the clinical examination, too often sufficient, the patient is allowed to go on as if the negative examination had the same value in one case as a positive one in another. How often is it forgotten that laboratory methods must be learned as separately as any other specialty. No one would think that ability to feel alterations in the pelvic organs gives facility in the interpretation of ophthalmoscopic pictures, yet how often is it taken for granted that one who can cultivate tubercle-bacilli can, without practice, detect malarial parasites, or that one who can see tube-casts can also be infallible in the microscopic distinction of primary and secondary anemias.

No doubt, the unprepared but ambitious laboratory expert is partly responsible for the present state of affairs, but it would seem that the physician who calls on such an expert should select him with as much thought as he would an operating specialist. Often, too, the physician could control the work of the expert, either by asking for the proof, or an explanation of the steps followed.

Some time ago a bottle of specimens came to me, after making the rounds of half a dozen microscopists. All the previous examiners asserted the specimens were animal parasites, and their appearance to the naked eye, —small, black, threadlike bodies, as they were,—made this seem probable. A glance was enough to show that in fact they were the well-known vegetable spirals, the cause of error to so many microscopists in the last fifty years. Some comparisons made it practically certain the tissue came from bananas. Yet this discovery, so easy to control, was ignored by those in charge. By a curious coincidence, the patient herself came under my observation many months later, and on hearing my statement about the specimen, admitted an excessive consumption of bananas, the cause of so much trouble.

When the position and limitations of the laboratory workers are more clearly understood, his remuneration will be better regulated than now. In many places, he will be part of a hospital-staff, in a laboratory equipped for all kinds of work. In others, he will have his private laboratory, and in still others, where the field is not so large, he will have the less brilliant, but not less useful and perhaps more interesting, position of assistant to a busy practitioner of broad views. In the details of the subject, it is not my intention to go.

An examination of the status of another great division of our Art, that of therapeutics, is also well worth while in the last days of the century. In materia medica, this century, especially in the lattar part, has been prodigal if not discerning. The extraordinary activity in the production of new drugs, though it may give us some that far outrank poppy and mandragora, also makes more difficult the judgment so essential to rational practice. So confused are our standards that it is often impossible to distinguish the wares of the professor of chemistry or pharmacology from those of the modern seekers after the philospher's stone. In addition to the products of synthetic chemistry we have a new field in the long unused animal kingdom. Here constant examination is necessary. It is not easy for the busy man to see how the so-called lymph of an alleged goat should not be as potent as thyroid extract. Serum, too, is a word that suggests potentialities of many kinds, though so widely applied that Virchow's jocular definition, "Serum is any fluid that is not precisely urine," seems peculiarly apt. One hopes that the end is near when discoverers are driven to such names as "hydrogogin" and "anusol," but the possibilities of the prefix "eu" temper the hope considerably.

No doubt the commercialism of the day is partly responsible for the present state of this branch of medicine, but the medical profession has a heavy load of guilt. I am credibly informed that in a large factory of preparations used only by the profession, thirty clerks are kept busy answering letters from doctors in regard to the treatment of particular cases in practice. These clerks make no pretense to knowledge of medicine, or even of drugs. They have their trade catalogs, from which they readily secure the desired information. But will this tendency stop with therapeutic problems? Will not diagnostic and pathologic questions also be given the manufacturing pharmacist for solution, and will he be so blind to his own interest as to remain silent? We can gather some idea of this in some recent literature on the important subject of vaccination, a subject strangely neglected in medical schools and scientific laboratories. In this we learn of "*vaccinia sine eruptione*" as a satisfactory explanation of what would strike a critical observer as a complete failure of the virus. No wonder that "a boy living in the infected district," who performs the operation is put forth as a witness concerning a matter on which Jenner himself might not be competent to judge.

Therapeutic false prophets will last long into the twentieth century, but the examined, criticised life then, as ever since the days of Hippocrates, will be but little influenced by them. To it "they come like water and like wind they go."

GASTRIC ULCER: NONPERFORATING—HEMORRHAGE.*

By WILLIAM L. RODMAN, M.D.,

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One need not believe that gastric ulcer is so common an affection as Ewald[1] claims, before admitting that its treatment is of the greatest importance.

Ewald thinks that 5% of the Germans suffer with ulcer of the stomach, and this estimate is supported by clinical statistics and postmortem records drawn from various German hospitals. DaCosta[2] and Welch[3] think it less common in America, and in this opinion they are supported by a preponderance of authors and practitioners.

When one recalls how constantly the stomach is at work, the great variety of substances taken into it in the form of food and drink—regularly and irregularly—the wonder is that its diseases—resulting in inflammation particularly—are not more frequently encountered.

While gastric ulcer was until recently looked upon as strictly a medical disease, some of its complications are now generally recognized as beyond the physician's province, and to have only a surgical bearing; others, still, occupying middle ground, and claiming the best consideration of both physician and surgeon.

Perforation and subphrenic abscess must always be met by prompt surgical interference; hemorrhage may be in many cases, and must be in some; while pain, vomiting, and other symptoms common in the evolution of an ulcer may be so pronounced as to not only justify, but demand, surgical intervention.

There is no disease, I take it, not even excepting the protean one, appendicitis, where it is more necessary for a perfect understanding between the physician and surgeon than in the treatment of gastric ulcer.

When it is recalled that in mild cases—even latent ones—the worst complications may unexpectedly develop; whereas, in seemingly the most severe cases they may be escaped, there is but one safe rule to follow, and that is, for the physician to either treat all cases of ulcer in a hospital, or at their residence, in conjunction with a surgeon.

The rather careless aad slipshod fashion, altogether too common, of treating such cases by office consultation, and allowing them to continue their business, can only result, as it now does, in patients frequently falling in the streets with perforation and hemorrhage, and being hopelessly lost, when they could, under better environments, have easily been saved. A joint interest in such cases will lead to a more accurate knowledge of the subject. Notwithstanding his unquestioned superior knowledge and greater acumen in the diagnosis of in-

* Read before the American Surgical Association at Washington, May 1, 1900.

ternal diseases, the physician has not found it so necessary to study the subject of ulcer topographically to the same extent and with the same accuracy as the surgeon undoubtedly will. It makes little difference to the physician where the ulcer is situated, as his treatment is not materially influenced thereby; it makes every difference to the surgeon, and will decide for or against operative procedures.

Morbid Anatomy.—Welch,[4] who is quoted by every medical authority I have read, reports 793 cases, in which the ulcers were situated as follows:

Lesser curvature	288	36.3%
Posterior wall	235	29.6
Pylorus	95	12
Anterior wall	69	8.7
Cardia	50	6.3
Fundus	29	3.7
Greater curvature	27	3.4

"From this table, it is apparent that ulcers occupy the lesser curvature, the posterior wall, and the pyloric region three and a half times more frequently than they do the remaining larger segment of the stomach."—(Welch, Pepper's Practice of Medicine, vol. ii, p. 104.)

It is also maintained by Welch that ulcers of the posterior border and lesser curvature were generally at or about the pylorus. Nolte, on the contrary, found ulcers more frequently on the anterior wall of the stomach than elsewhere.

One case in five, or more frequently, the ulcers are multiple; generally, there are but two or three, but in one of his cases, Osler[5] saw five, and refers to another case on record (Berthold's), with 34 ulcers.

Cicatrices are more frequently found and in greater number at autopsies than fresh ulcers. Mikulicz[6] found them three times as common.

Etiology.—Owing to time-limits and the occasion, it will be impossible for me to review all of the different theories as to the factors, predisposing and exciting, of gastric ulcer.

The theory so forcefully advocated by Reigel and his followers, namely, that an excess of acid—hyperchlorhydria—is always found in the gastric secretion in case of ulcer, while denied by a few, notably Ewald, is admitted by practically all to be true of a great majority of cases.

Ewald, Leube, and others maintain,[7] however, that the hyperchlorhydria is only one, and probably not the essential factor, being of less importance probably than a coexisting anemic state of the blood. Ulcer of the stomach is found too frequently associated with anemia, chlorosis, and after acute hemorrhage not to have some direct etiologic connection with the condition of the blood.

It is this changed or abnormal composition of the blood more than the hyperacidity of the gastric juice, which predisposes to ulcer. Both facts are of great importance from a diagnostic, as well as an etiologic, standpoint.

All agree that the female is more liable than the male (60% females, 40% males—Welch), some placing the difference as two to one, and three to one respectively. Occupation has a doubtful significance. It has been claimed, but by no means proved, that female servants, especially cooks who habitually taste hot food, suffer frequently. It is very unlikely that one would take food or drink at such a temperature as to injure the mucous membrane of the stomach, for when hot enough to be a menace, it would either be expelled from the mouth or at once mixed with water and its temperature reduced before reaching the stomach, as the custom of drinking water freely with meals is practically a universal one.

Certain occupations which lead to more or less constant traumatism of the region over the stomach, such as shoemaking, weaving, turning, etc., etc., have been credited with producing ulcer. Tight lacing has also been considered a cause. It would seem *a priori* that if such were the case, ulcers would be more frequently situated upon the anterior wall of the stomach, instead of, as they are, upon the posterior wall, which is certainly more favored, so far as traumatism from without is concerned.

The same line of reasoning would discredit the statement so frequently made by authors, that hot food may cause ulcer. Food and drink passing into the stomach first come in contact with its anterior wall and greater curvature, while we have shown by Welch's statistics that ulcer of the anterior wall is about one-fourth as common as it is on the posterior wall (8.7 to 29.6) and only one-twelfth as frequent on the greater curvature as the lesser (3.4 to 36.3). This, I take it, destroys confidence in these theories, if it does not actually dispose of them.

If ulcers are common, and I do not question that they are, in housemaids, cooks, tailors, weavers, and shoemakers, cannot their frequency be explained in all by a common cause, namely, unhygienic surroundings, insufficient food and clothing, want of sunlight and exercise in the open air? Are not such persons usually anemic and therefore predisposed to ulcer?

Stockton believes that gastric ulcers are neuropathic in origin.

Age.—The following table from Welch based upon 607 autopsies, and therefore accurate, shows the age incidence for each decennium.

Age	1–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80
No. of cases	1	32	119	107	114	108	84	30
			226		222		114	

Age	80–90	90–100	over 100
No. of cases	6	0	1

While from the above statistics it will be apparent that young persons frequently suffer from ulcer of the stomach, it will be none the less striking that it is about equally common during the four decades from 20 to 60, and that contrary to what is generally taught, it is relatively more common between 40 and 60 as there are fewer persons living at that time of life than between 20 and 40. Whilst many of these ulcers may, and undoubtedly did exist for years prior to death, no one, I take it, would hesitate on this account to estimate them as of more value than statistics based upon clinical data alone. The following tables were compiled by Lebert from diagnoses made during life:

Age	5–10	11–20	21–30	31–40	41–50	51–60	61–70
No. of cases	1	24	87	84	34	17	5
		25		171		51	5
Per cent		9.92		67.85		20.24	1.99

The mean age at which ulcer begins is greater in males than females.

Age	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	Total.
Males	9	33	44	39	37	20	5	1	188
Females	13	35	25	25	18	18	9	0	143

(Welch, Pepper's System of Medicine.)

Symptoms.—Pain, severe and boring in character, situated one or two inches below the xiphoid cartilage, also

elt at a point nearly opposite, near the heads of the ast two ribs and materially increased by the taking of ood, and which attains its maximum intensity about wo hours after eating, is perhaps the most constant and eliable symptom. There is in addition, as a rule, narked tenderness on pressure over a very circumscribed pot, so much so that the patient will point to it with a nger rather than with the entire hand. While vomiting is present in a majority of cases of ulcer, it is so usual symptom in other gastric disorders as to be far rom characteristic. If, however, the stomach empties tself about two hours or more after eating, the ejected natter contains an excess of HCl, and pain hitherto sere is now relieved, the probability is that such symoms in a person under 40, especially a female, indicate astric ulcer.

Hemorrhage.—If in addition to the above symptoms here is added occasional hematemesis or melena, the iagnosis may be considered as practically certain. von eube[8] states that in 1,000 cases treated by himself, ematemesis occurred in 46%. Gerhardt saw it in 47% f his cases, while Brinton places it as low as 29%. wald thinks it considerably less than 50%. Many riters think that hemorrhage occurs in 80% of all cases. The amount and color of the vomited blood will deend, of course, upon the rapidity with which it is oured out into the stomach, and the time it has reained undergoing disintegration. A large hemorrhage ould provoke prompt emesis and show bright blood, hereas a small and slowly-forming accumulation, would ive the coffee-grounds vomit. The latter variety of emorrhage into the stomach may not provoke vomitng at all, put pass off per rectum as it not infrequently oes. Hemorrhage causes death in 8% of the cases in hich it occurs (Leube). It causes death in 3 to 5% of ll cases. (Welch).

Physical Signs.—A tumor may be present in ulcers ith thick, callous edges, and in those which have rmed adhesions or attached themselves to pancreas, mentum or other tissues. Such benign ulcers are not mmon, and are usually diagnosticated as carcinoma. troducing a stomach-tube for diagnostic purposes is o longer necessary or justifiable, and even physicians, Ewald and Seé, strongly advise against it, as perforaon and hemorrhage may follow its use.

Prognosis.—There is little uniformity in the mortality atistics of ulcer, varying from 2.4% of Leube, 10% of ebert, to 50% as given by Debove and Rémond. Welch timates the mortality as 15%, of which 3.5% are due hemorrhage and 6.5% to perforation. Anders[9] places ie mortality at 25%.

Treatment.—The audience, the occasion, and the timemits placed upon papers, all prevent consideration in tail of the ordinary medical treatment of gastric ulcer. et it suffice to say that one-half or three-fourths of all ses (Leube) will be cured by 4 to 5 weeks of medical eatment. Patients with ulcer should be kept in bed; l solid food withdrawn; and the stomach, as far as ssible, placed at rest. Giving liquids largely or wholly gested in the intestines, with rectal feeding, when ell borne, so as to lessen the amount of nourishment ken by the stomach, constitutes the usual and best eatment of gastric ulcer.

We, as surgeons, are more interested in that smaller ass of intractable ulcer, little or not all influenced by edical treatment, than in the larger number of cases hich will be successfully treated by the physician. hat this class is a growing one, now that surgery offers a substantial hope for relief, cannot be questioned. Even Leube, the most optimistic of medical men, says that ulcers that are not cured in 4 or 5 weeks by medical means will not be cured by a longer treatment.

Kocher,[10] from the surgeon's standpoint, emphasizes this opinion of Leube and insists that chronicity, especially in those past middle life, may mean incipient carcinoma. It is in such cases, particularly, that one should remember the teaching of Hauser that 6% of gastric ulcers become carcinomata, and that other observers, notably Doyen,[11] would estimate the probability of malignant degeneration as very much greater.

With Tricomi advocating the radical treatment of ulcer by gastroenterostomy, just as he would do a radical cure for hernia; with Mikulicz's statement that "the danger to life from gastric ulcer is at least not less, but probably far greater, than the danger of a complete modern operation;" and Heydenreich's terse and forceful statement that gastroenterostomy giving, as it does, a mortality of 16.2%, we have very positive ground taken by advanced surgeons and sufficient warrant for surgical intervention in serious if not in all cases of gastric ulcer. We have shown, moreover, that there is not wanting excellent medical authority for placing the mortality of ulcer higher than Heydenreich does. If all cases of gastric ulcer would not give so great a percentage of deaths, it is scarcely to be doubted that those finding their way to surgeons on account of their severe type and the previous failure of medical means, would, if classed by themselves, yield a very heavy mortality, certainly not les than 25, and more likely 50%.

This, it occurs to me, is the only way to consider the matter. The statistics we have are not of as great value as they should be, or will become very soon, now that ulcer is an operable disease. Kocher's insistence that cases be turned over to the surgeon before they are either moribund or so greatly reduced as to be unable to bear the shock of an operation, has the right ring to it and should be generally followed.

Given then a case of gastric ulcer resisting medical treatment for a reasonable time, what is to be done in the face of uncontrolable vomiting leading to inanition, severe pain and other symptoms (excluding hemorrhage, or cases where it was not the prominent symptom) due to its presence?

First. Shall the ulcer be excised?

If it were certain that individual operators had been as ready in reporting unsuccessful as they have successful cases, it would not be difficult to answer this question. It is, of course, the ideal operation and method of treatment; absolutely prevents malignant degeneration, and leaves the stomach in the best condition for future use.

I have been able to collect from literature and extensive personal correspondence detailed reports of 40 pylorectomies, partial gastrectomies and excisions, with 6 deaths. Certainly this is a good showing when the nature of many of the cases is considered, operation in them having been undertaken for supposed malignant disease on account of a tumor with dense adhesions, and other conditions not conducive to a favorable operative result. This, furthermore, includes cases operated since 1881, when Rydygier performed the first operation of the kind. (This operation was soon followed (1882) by an equally successful case in the hands of Czerny.)

Certainly the radical treatment of gastric ulcer has steadily gained in favor, and no one would now do as the editor of the journal in which Rydygier published

TABLES COMPILED WITH THE ASSISTANCE OF DRS. STILLWELL C. BURNS AND W. HERSEY THOMAS, GIVING DETAILS

NO.	OPERATOR.	SEX AND AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
1	Armstrong, G. E.	F. 46.	. . . . .	Suffered with indigestion for 8 to 10 years. Diagnosis of ulcer made 9 years ago, at which time she had a slight hemorrhage.	Pain, vomiting and recurring hematemesis.	Gastric ulcer.	Oct. 12, 1899.
2	Berg, I.	. . .	. . . . .	. . . . .	. . . . .	Gastric ulcer.	. . . . .
3	Berg, I.	. . .	. . . . .	. . . . .	. . . . .	Gastric ulcer.	. . . . .
4	Berg, I.	. . .	. . . . .	. . . . .	. . . . .	Gastric ulcer.	. . . . .
5	Berg, I.	. . .	. . . . .	. . . . .	. . . . .	Gastric ulcer.	. . . . .
6	Bernays.	. . .	Laundress. Servant.	Four and a half years ago had two attacks of hematemesis. These were severe. No trouble for a year after these two hemorrhages.	Pain, vomiting, loss of weight, gastric dilation. Vomit contains sarcinae, blood-corpuscles, red and white, acid in reaction.	Gastric ulcer.	Nov. 14, 1898.
7	Billroth.	F. 50.	. . . . .	Gastric disturbances for 12 years.	Vomiting. Violent pain in stomach. Tumor beneath left costal margin.	. . . . .	Dec. 4, 1888.
8	Brenner.	F. 52	. . . . .	Healthy until 23 years of age, when she began to vomit after eating. Had similar attacks at 28, 32, 41. At 42 pain and vomiting became still more marked.	Vomiting, pain. During the last year has had very severe pain in abdomen and left leg. Systolic murmur.	Gastric ulcer.	Sept. 15, 1896.
9	Brenner.	F. 53	. . . . .	Gastric symptoms since July, 1895.	Loss of weight, vomiting. Pain in epigastrium. Melena on several occasions.	Gastric ulcer.	Sept. 16, 1896.
10	Cordua.	F. 46	. . . . .	. . . . .	Gastralgia for 10 years. Movable tumor in the left hypochondriac region.	. . . . .	. . . . .
11	Czerny.	M. 44	. . . . .	. . . . .	Gastric symptoms for 3 years. Hard movable tumor above umbilicus.	. . . . .	. . . . .
12	Czerny.	M. 41	Cabinetmaker.	Previous good health.	Two years ago taken with pain in epigastrium radiating to back, with vomiting which continued on and off up to time of operation.	Dilation of stomach. Gastric ulcer.	1882.
13	Doyen.	F. 59	. . . . .	. . . . .	All the symptoms of pyloric stenosis. Hard tumor felt in the neighborhood of the umbilicus.	Diagnosed as carcinoma. Proved subsequently to be an immense callous ulcer.	. . . . .
14	Elliot.	M. 47	His work entails constant pressure of tools on abdomen.	Markedly tubercular family history. Moderate drinker. Diseases of childhood. Morning cough for 30 years. Subject to attacks of indigestion.	For last 3 months constant pain in epigastrium, not relieved by food. Five days ago vomited 2 quarts of thick brown matter. Since then has had coffee-ground vomit.	Gastric ulcer, recurring hemorrhage.	. . . . .
15	Gilford, Hastings.	F. 19	Servant.	Had 3 attacks of dyspepsia in course of 2 years; epigastric pain and vomiting. Had on two occasions hematemesis.	Sudden, acute abdominal pain, tenderness over whole epigastrium, vomiting.	Gastric ulcer.	. . . . .
16	Grad, Herman.	F. 32	. . . . .	Had been ill for past two years.	After taking food had pain, nausea, and vomiting, with occasional hematemesis.	Chronic gastric ulcer.	. . . . .
17	Hofmeister.	F. 34	. . . . .	Stomach trouble since 17. In January, 1892, noticed tumor in abdomen which was painful.	Frequent attacks of vomiting and pain.	. . . . .	July 18, 1895.
18	Keen, W. W.	F. 61	. . . . .	Good personal and family history. Her attacks began before 1886 and were insidious, but had gradually become severer.	Repeated attacks of pain and vomiting and on one occasion hematemesis. Weight 88 pounds. Absence of HCl. Lactic acid present. Dyspnea and irregular attacks of fever. Constipation obstinate. A small tumor could be felt in the epigastrium a little to left of median line.	The diagnosis lay between cancer and possible non-malignant gastric tumor due to ulcer.	Feb. 25, 1892.
19	Klausner.	F. 21	Servant.	Symptoms began September 18, 1891; and recurred again in following year. During last 3 years has never been free from pain.	Intense pain and vomiting. Mass between xiphoid cartilage and costal margin.	. . . . .	Feb. 29, 1896.
20	König, Jr.	. . .	. . . . .	. . . . .	Continual hematemesis.	Gastric ulcer.	. . . . .
21	Krogius.	F. 51	Fish dealer.	. . . . .	Gastric symptoms for the last 3 or 4 years. Vomited blood on one occasion. Mass in epigastrium.	. . . . .	June 11, 1895.
22	Lange.	M. 25	Butcher.	. . . . .	Pain in region of stomach. Vomited only twice during illness. Never any blood.	Owing to absence of symptoms of gastric ulcer the gall-bladder was thought to be the seat of trouble.	Oct. 26, 1891.
23	Lindner.	F. 30	. . . . .	Had been ill a long time.	For some weeks had been vomiting all food. A large, hard, and tender tumor could be felt under xiphoid cartilage.	Tumor of inflammatory product. Gastric ulcer.	. . . . .

OF FORTY CASES OF ULCER OF THE STOMACH TREATED BY PYLORECTOMY, PARTIAL GASTRECTOMY AND EXCISION.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
Deeply excavated ulcer on lesser curvature, two inches from pylorus. Blood flowed freely from several points around margin.	Excision of ulcer. Opening in stomach closed as in a Heineke-Mikulicz pyloroplasty.	Patient did well. Convalescence complicated on fourteenth day by femoral thrombosis. All pain, sickness and discomfort have gone. She is gaining flesh rapidly.	Recovery.	*British Med. Journal*, March, 1900, p. 574.
. . . . .	Pylorectomy.	. . . . .	Recovery.	*Nordiskt Medicinsk Arch.*, xxxi, 1898, Nos. 22 26.
. . . . .	Partial gastrectomy.	. . . . .	Recovery.	*Nordiskt Medicinsk Arch.*, xxxi, 1898, Nos. 22-26.
. . . . .	Partial gastrectomy.	. . . . .	Recovery.	*Nordiskt Medicinsk Arch.*, xxxi, 1898, Nos. 22-26.
. . . . .	Partial gastrectomy.	. . . . .	Recovery.	*Nordiskt Medicinsk Arch.*, xxxi, 1898, Nos. 22-26.
Simple ulcer anterior wall of stomach 3 inches from pylorus.	Partial gastrectomy. Wound closed by 3 rows of sutures.	Total abstinence for 48 hours. Milk diet resumed on third day. Thirteen months after operation in best of health.	Recovery.	Not reported. Details sent in private letter to author.
Great retraction on anterior surface of stomach near greater curvature. Stomach opened in separating adhesions.	Partial gastrectomy. Callous area excised.	Six months after operation patient had gained 13 pounds. Eats food of all kinds. No pain since operation.	Recovery.	Reported by Eiselsberg in *Arch. f. klin. Chirurgie*, 1889, 30, page 805.
Ulcer near lesser curvature surrounded by an area of infiltration.	Ulcer excised by extensive partial gastrectomy. Mucous membrane united by continuous suture, muscularis and serosa by interrupted sutures of silk.	Left hospital November 7, 1896. Free from pain. Eats food of all kinds.	Recovery.	*Wiener klin. Wochensch.*, 1896, p. 1117.
Ulcer on posterior wall near lesser curvature. Firm adhesions. Very small ulcer on anterior wall, size of linseed.	Partial gastrectomy, continuous suture of mucosa, interrupted suture of muscularis and serosa.	Discharged November 7, 1896. Had gained in weight, feels well and strong.	Recovery.	*Wiener klin. Wochensch.*, 1896, p. 1117.
Ulcer found on the anterior wall of stomach.	Resection of affected portion followed by suture.	Gave excellent result.	Recovery.	*Rev. de Sciences Medicale*, xxxiv, p. 259.
Tumor located on greater curvature.	Partial gastrectomy. Extirpation of tumor with the corresponding portion of anterior wall.	On the inner surface of excised portion 2 round ulcers were found. Tumor also presented histological peculiarities of myxosarcoma. Patient well at the end of 2 years.	Recovery.	*Beiträge zur klin. Chirurgie*, ix, p. 681.
On the lesser curvature was found a hardness which extended to the left and posteriorly. Posterior surface of stomach adherent.	Partial gastrectomy.	Microscopic examination confirmed the diagnosis. No digestive trouble after operation.	Recovery.	*Arch. für klinische Chirurgie*, 1884, xxx, p. 2.
. . . . .	Pylorectomy. Gastric and duodenal wounds closed and anterior gastro-enterostomy performed.	Patient collapsed and died at end of 48 hours.	Death.	Reported in Doyen's *Traité Chirurgicale des Maladies de l' estomac et du duodenum*, 1895.
Pyloric stenosis complete or nearly so.	Partial gastrectomy. Excision of pylorus and all diseased tissue which included ⅓ of stomach, including whole of lesser curvature.	Stood operation well. On third day awoke in pain. Gradually sank and died. Cause of death not determined.	Death.	Reported by E, G. Cutler in *Boston Med. and Sur. Jour.*, 1897, p. 54.
Ulcer found near greater curvature on anterior aspect of stomach.	Excision of ulcer.	Vomiting and retching continued after operation and lasted until her death, 32 hours after operation.	Death.	Guy's *Hosp. Reports* vol. liii, 1896.
Ulcer found on anterior wall near cardiac orifice, about ½ inch in diameter.	Partial gastrectomy.	After operation patient improved steadily. For first few days fed per rectum, then food by mouth cautiously given. Recovery slow but uneventful.	Recovery.	*Medical Record*, N. Y. 1898, lv.
Tumor densely adherent.	Partial gastrectomy. A piece of spleen as large as a cherry was excised with the ulcer, as well as a large piece of the gastric wall, and a piece of the liver. Length of operation 2½ hours.	The excised portion showed an ulcer on its inner surface as large as a dollar. Microscopic diagnosis: Simple ulcer. Patient rapidly recovered.	Recovery.	*Beiträge zur klinischen Chirurgie*, xv, p. 356.
Hard dense mass, 3 cm. in diameter and 5 cm. to left of pylorus on lesser curvature.	This mass was excised by a partial gastrectomy.	Patient in best of health 5 months after operation. A careful examination of tumor showed ulcer with greatly thickened edges and no signs of malignancy.	Recovery.	PHILADELPHIA MEDICAL JOURNAL, May, 1898.
Immediately beneath the skin several layers of scar-tissue were found which were removed. In doing this the stomach was opened. Opening packed with gauze and a secondary resection done several days later.	Partial gastrectomy. Excision of entire infiltrated area. All adhesions carefully broken up.	When seen 6 months after operation had no pain. Complete cure.	Recovery.	*Münchener medicinische Wochenschrift*, 1896, p. 863.
Ulcer situated near the pylorus.	Resection.	The resulting cicatrix caused obstruction and the abdomen was opened again and a gastrointestinal anastomosis made. A third celiotomy was made necessary by the closure of this opening.	Recovery.	PHILADELPHIA MEDICAL JOURNAL, April, 1899, p. 929.
Stomach adherent to liver and anterior abdominal wall.	Partial gastrectomy. Removal of part of stomach as large as the hand. In separating adhesions stomach was opened.	Microscope showed the case to be one of simple ulcer. Pain ceased immediately after operation. Patient now in good health.	Recovery.	*Centralblatt f. Chirurgie*, 1896, Band 23, S. 538.
On opening the abdomen palpation revealed a hard disc on anterior wall of stomach.	Partial gastrectomy, the affected portion being excised.	The ulcer occupied a central area of this excised portion 3 inches in diameter. Pain has never recurred.	Recovery.	*New York Med. Journal*, May, 1892, p. 584.
Stomach adherent to liver.	Partial gastrectomy. Resection of the whole of the inflamed tissue.	. . . . .	Recovery.	*Med. Press and Circ.*, 1898, p. 334.

TABLES COMPILED WITH THE ASSISTANCE OF DRS. STILLWELL C. BURNS AND W. HERSEY THOMAS,

NO.	OPERATOR.	SEX AND AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
24	Maydl.	. . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
25	Murphy, J. B.	F. 58	. . . . .	. . . . .	Emaciation, emesis after every meal. Marked gastrectasis.	Pyloric occlusion probably malignant.	Nov., 1899.
26	Navaro.	F. 65	. . . . .	. . . . .	Extremely emaciated. Presented a hard tumor the size of hen's egg above umbilicus.	. . . . .	1889.
27	Postemski.	. . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
28	Robson, Mayo.	M. 54	. . . . .	. . . . .	Six months' history of pain and vomiting. Vomit being coffee-ground. Loss of flesh. Tumor felt over region of pylorus.	Ulcer of pylorus.	June 25, 1891.
29	Robson, Mayo.	F. 44	. . . . .	Well until 2 years ago, when patient had colic and lost flesh. On September 15, 1897, same kind of attack.	Pain on right side over pylorus. Loss of weight and strength.	Ulcer of pylorus.	July 23, 1898.
30	Roux.	M.	Brewer.	. . . . .	Hematemesis. One liter, one half liter, and two liters several days before operation.	. . . . .	. . . . .
31	Rydygier.	F. 30.	. . . . .	Since 1878 has felt a sense of constriction in gastric region.	Frequent sour belchings, vomiting several times weekly, finally becoming daily. On one occasion hematemesis.	Gastric ulcer. Dilation of stomach.	Nov. 21, 1881.
32	Rydygier.	M. 48.	. . . . .	Gastric disturbances for 6 years.	Hematemesis on several occasions.	Gastric ulcer.	1894.
33	Rydygier.	M. 33.	. . . . .	. . . . .	. . . . .	Dilation of stomach. Pylorus thickened.	. . . . .
34	Schuchardt.	M.	. . . . .	. . . . .	Very cachectic. Presenting all symptoms of gastric ulcer.	. . . . .	. . . . .
35	Van Kleef.	F. 37	. . . . .	Had suffered with gastric disturbances for 15 years. Came under my care in 1876.	Dilation of stomach. Periods of violent gastralgia. Vomiting. Several severe gastric hemorrhages.	Gastric ulcer. Pyloric stenosis.	Jan. 27, 1882.
36	Price, Joseph.	F. 31	. . . . .	Typical history of benign ulcer. She for a year prior to operation had frequently recurring small hemorrhages.	Hemorrhage, pain, and progressive emaciation.	. . . . .	. . . . .
37	Price, Joseph.	F. 37	. . . . .	Hemorrhages frequently repeated in Europe and after immigration to this country, where she was operated on largely on this account.	She had a fresh hemorrhage about 3 weeks before operation, being pale and anemic, so much so that the operation was postponed for a time until she became in better general condition.	. . . . .	. . . . .
38	Brown, F. Tilden.	M. 54.	. . . . .	Admitted to hospital December 20, 1898. During September preceding this date, was seized with severe pain in epigastrium and vomited blood-stained food. Pain persisted.	Emaciation, pain, tenderness in epigastrium. Examination of stomach-contents showed free HCl. Ten days after being admitted, and while in hospital, had a number of copious black stools.	Gastric ulcer.	About Jan. 2, 1899.
39	McCosh, A. J.	. . .	. . . . .	. . . . .	. . . . .	Gastric ulcer.	. . . . .
40	Czerny.	. . .	. . . . .	. . . . .	Acute gastric hemorrhage.	Gastric ulcer.	. . . . .

NOTE.—Several operations by Mikulicz are not included in these tables for want of accurate details.

his report of "The First Successful Excision of a Gastric Ulcer," namely, to write under it the sharp criticism, "and let us hope the last."

Still, it cannot be said in candor that an operation with a mortality of 15% should be advised in all cases of gastric ulcer, but rather held in reserve for severe ones that will probably not yield to surgical measures less formidable in character.

The size, location, and duration of the ulcer, and, above everything else, the presence or absence of dense adhesions to surrounding organs, as the pancreas, liver, omentum, gallbladder, etc., etc., will each have great weight in deciding between the merits of a partial gastrectomy and gastroenterostomy, or other less radical procedure.

If the lesion is situated at the pylorus, or upon the anterior wall, and is, therefore, accessible and easily removed, pylorectomy is preferable, especially in persons past middle life, and in ulcers that run a chronic course. Per contra, if the ulcer be situated posteriorly, as it so frequently is, and at the same time adherent to adjacent tissues, requiring a difficult and prolonged operation for its removal, gastroenterostomy should, unless we are facing probable malignant degeneration, be preferred, being less dangerous and almost equally as satisfactory in its ultimate results as partial gastrectomy.

It acts by rapidly emptying the stomach, putting the ulcer at rest, and promptly relieving the hyperchlorhydria; all of which facilitates the healing of the ulcer, and in time results in cure. That it will occasionally fail to cure, we must admit, since Kocher had a fatal case of hemorrhage after the gastroenterostomy wound had healed.

I would here emphasize the fact that many cases, supposed to be malignant at the time of operation, on account of enlarged lymphatic glands, induration of tissue, etc., etc., and therefore too advanced for resection, have yielded entirely to gastroenterostomy, time demonstrat-

GIVING DETAILS OF FORTY CASES OF ULCER OF THE STOMACH, ETC.—CONTINUED.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
. . . . .	Partial gastrectomy. Resection of stomach to great extent for tumor simulating carcinoma.	It was a cicatricial tumor surrounding 3 simple ulcers.	. . . . .	*Semaine Médicale*, 1891, p. 174.
Pyloric ulcer originally in stomach, extending out through pylorus and down the duodenum ¾ of an inch.	Pylorectomy. End of duodenum approximated with button to posterior wall of stomach. Stomach wound closed.	Uninterrupted recovery. All symptoms have subsided. Patient has gained in weight.	Recovery.	Not reported. Details sent in private letter to author.
. . . . .	Pylorectomy.	Microscopical examination showed cicatrizing ulcer. Patient died of bronchopneumonia 12 days later.	Death.	Contributo alla Chirurgie dello Stomaco, *Semaine Médicale*, 1890, p. 46.
Cicatrizing ulcer. Pylorus narrowed.	Pylorectomy.	. . . . .	Recovery.	Eighth Congress of Italian Surgeons, 1891.
. . . . .	Pylorectomy. Some adhesions broken up.	Gained flesh rapidly and went home within a month. Tumor proved to be thickening around an ulcer of the pylorus.	Recovery.	*Lancet*, London, March 10, 1900, p. 680.
The ulcer at the pylorus was adherent to the liver, which formed its base. There was also pyloric stenosis.	Excision of ulcer followed by pyloroplasty.	Patient gained in weight and no further gastric disturbances.	Recovery.	*Lancet*, London, March 10, 1900, p. 680.
Circumscribed ulcer at lesser curvature near pylorus.	Excision of ulcer. Ligation of arteries of lesser curvature.	Patient lived for several years. After death old erosion of coronary artery was found.	Recovery.	*Congrès de Chirurgie*, p. 203.
Ulcer on posterior wall of pylorus. Pyloric stenosis.	Pylorectomy.	Patient made a quick recovery. Eight months after operation was in the best of health.	Recovery.	*Berliner klin. Wochenschrift*, 1882, Bd. 19, S. 39.
A loop of small intestine was found adherent to pylorus. The effort to detach it resulted in a perforation at the site occupied by the ulcer.	Pylorectomy. The perforation having been temporarily closed the pylorus was resected and the open end of the duodenum was brought into the wound in stomach. Opening in stomach closed.	At end of 7 weeks patient had gained 11 kilograms in weight and digested all his food.	Recovery.	*Med. Week.*, Vol. iii, No. 39, p. 459.
Pylorus contained an ulcer, at the bottom of which an open vessel was seen. The patient had never had hematemesis.	Pylorectomy.	Death caused by bronchopneumonia 4 days after operation.	Death.	*Wien. klin. Wochenschrift*, 1894, March 8-15-22.
An ulcer was found at the level of the lesser curvature.	Excision of ulcer.	Death after 2 weeks. Autopsy showed a second inaccessible ulcer, although the cavity of the stomach had been examined with great care at the time of operation.	Death.	*Semaine Médicale*, 1894, p. 203.
Pylorus very much contracted. Round ulcer 1 centimeter on anterior wall.	Pylorectomy.	Patient gained in weight and made an excellent recovery.	Recovery.	*Centralblatt f. Chirurgie*, 1882, Band ix, No. 46.
Ulcer found at pylorus on posterior wall.	Partial gastrectomy. Removal of ulcer and part of gastric wall 1 x 3 inches.	Recovery uneventful. Is still living. No symptoms of stricture since operation.	Recovery.	Case not reported. Details sent to author in private letter.
The ulcer was located on the anterior wall near cardia.	Partial gastrectomy. A portion of the stomach-wall as large as the hand being removed with the ulcer.	Recovery was uneventful, and she is still in good health. No microscopic examination was made.	Recovery.	Case not reported. Details sent to author in private letter.
Stomach presented a ¾-inch ulcer, about 1 inch from the cardia and 1½ inches from the junction of the posterior wall with the fundus.	Ulcer excised by a partial gastrectomy. Component layers of the wound were brought together with chromicized catgut, except the serous coat, which was inverted with two rows of fine silk.	Microscopic examination proved simple ulcer to be the correct diagnosis. Patient made a good recovery.	Recovery.	*Annals of Surgery*, July, 1899, p. 95.
. . . . .	Excision of ulcer.	. . . . .	Recovery.	Not reported. Details sent in private letter to author.
. . . . .	Excision and gastroenterostomy.	Checked the hemorrhage immediately.	Recovery.	Reported by Petersen in *Deutsche medicin. Wochenschrift*, 1899, No. 24-25.

ing in several of them that either mistakes in diagnosis actually were, or could easily have been, made, subequent observation having proved that the enlarged glands were inflammatory, and had entirely passed away. Bidwell[12] records two such mistakes in his own practice.

Secondly. When there are two or more ulcers suspected, resection of each is out of the question, and gastroenterostomy is the operation of choice.

In all cases where the element of shock is presumably to be an important one, gastroenterostomy by one of the quicker methods—the Murphy button preferably—should be chosen.

It is not my intention to contrast the merits of the many different methods of performing gastroenterostomy with one another, or the best of them with pyloroplasty, Loreta's operation, and all other methods less radical than resection. This ground will be covered in Dr. Kammerer's paper. I will say, however, that breaking up adhesions, a practice advocated by some, is hazardous, and has very generally resulted in perforation—making immediate resection imperative. In ulcer situated upon the anterior gastric wall with adhesions to the abdominal wall, all attempts, save one, to break up such adhesions have been followed by tearing into the stomach. It so happened to Krogius, Klausner, Hofmeister, and Billroth.

Mikulicz was more fortunate, and separated the stomach without causing a traumatic perforation. Therefore it should be remembered that any attempt to break up adhesions in this situation will, in all probability, lead to a partial gastrectomy.

Before dismissing the subject of nonperforating ulcer without hemorrhage, it is of interest to note that Mr. Mayo Robson[13] in his recent Hunterian Lectures reported 188 operations upon the stomach with a mortality of 16.4% for gastric ulcer, excluding perforation and hemorrhage. This is a very favorable showing when con-

trasted with the results following medical treatment, and certainly should encourage a more frequent resort to surgical intervention in intractable ulcers which have resisted dietetic and medicinal measures for a reasonable length of time. I here quote the conclusions of this distinguished English surgeon: "My own experience and a careful study of the subject would lead me to say that the time has not yet come for a sweeping change to be made in the treatment of uncomplicated gastric ulcer except in the way of more rigid and more prolonged medical treatment, but that when the ulcers prove intractable, or when complications supervene, medical treatment should give place to surgical treatment at a much earlier stage than has hitherto been the custom. It is unfair to the surgeon to hand over to him moribund patients, as is at present so often done, and it is in my mind unjust to the patients to persist in dosing them with medicine or otherwise treating palliatively cases that can only be benefited or cured by surgical means."

Hemorrhage.—The frequency of hemorrhage as a symptom of gastric ulcer, either in the form of hematemesis, melena, or both, is variously estimated by different writers; some, as Mayo Robson[14] and others, think it present it 80% of all cases.

It may, of course, be arterial, venous, or capillary, and, as with hemorrhages elsewhere, either slowly or rapidly poured out, and in great or small quantity.

Its treatment, as we shall see later on from an analysis of every accessible published case, and others reported to me in private communications for the first time, is quite in harmony with the principles underlying the treatment of external hemorrhage in most respects—but not all. There are, too, a sufficient number of cases on record to make conclusions based thereon reasonably reliable.

First. It would be highly injudicious, in my judgment, to subject a patient to laparotomy during the first hemorrhage, even if the surgeon should see the case then as he rarely will. The treatment of such cases should be by absolute rest to the stomach with astringents, opium, and, possibly best of all, high enemata as advised and practised by Tripier.[15]

Here the treatment is entirely different from that of external hemorrhage: Dieulafoy,[16] so far as I know, being the only one to advise operation during the first hemorrhage if so much as half a liter of blood is lost.

Secondly. The surgeon has been called in to see a case that has had one severe hemorrhage, but which has probably ceased, and the patient is successfully rallying from shock.

Here, too, I take it, "a masterly inactivity" on the part of the surgeon will yield the best results. Only 8% of those who bleed die; now if we knew what percent of this number die in or from the first hemorrhage nonintervention would doubtless seem imperative. The free use of normal salt-solution and other approved methods for combating shock should be the only thought of the surgeon at this time. A similar course is often pursued in external hemorrhage, dependence being placed upon a firm clot which forms in the mouth of the bleeding vessel, usually preventing subsequent hemorrhage. Certainly a line of practice followed and justified in external hemorrhage is more than allowable here, as a serious operation—one with a mortality *per se*—must be performed if inaction is not to govern.

Third. A case has bled freely once, recovers, and in a few days bleeds seriously again, what should be the treatment?

Inaction may be justified even in the face of a second hemorrhage, and if I mistake not, the majority of those who have written upon the subject rather lean to, if they do not positively advise, this course.

I cannot, however, do so, unless it be to await reaction and not operate in great shock. A careful study of my tables, in which there are tabulated 40 cases, will convince the hesitating that too great delay after the second hemorrhage is hazardous.

Elder's patient was lost by a too long delayed operation, so Armstrong[17] who saw the case has reason to think, and the patients of Tubby and Michaux would in all probability have recovered if they had been operated after the second hemorrhage.

Per contra, we have quite a number of successful operations after the second hemorrhage, as the cases of Armstrong, Andrews, and Hirsch, all operated upon in a condition of extreme anemia, and the cases of Cazin, Robson and Roux operated after each had sustained *three severe* hemorrhages.

It will, therefore, be seen that the conclusions drawn by Mr. Mayo Robson from his tables reporting a smaller number of cases are misleading.

In the first place that distinguished surgeon has included in his tables 3 cases of Petersen's operated for vicarious menstruation, and 2 cases of Reichard for postoperative hematemesis. Such cases must be thrown out. In the second place, as Mr. Robson intimates, some of Hartman's 12 cases (all I think) are reported twice. These early cases happened to be in a majority of instances fatal, and counting them twice in estimating the mortality from surgical intervention, would naturally make it seem out of the question.

In the third place, I have in my tables several successful operations for acute hemorrhage, not reported by Mr. Robson at all. So that instead of the prohibitory mortality of 64.2% as given by Mr. Robson's tables for operations in acute hemorrhage we find it 37.5% (32 acute cases with 12 deaths) when all reported cases of hemorrhage from gastric ulcer *only* are considered.[18]

This is a heavy mortality, but certainly not a prohibitory one when all things are considered.

In the first place, the cases of hemorrhage operated thus far have been extreme ones, and only turned over to the surgeon when death seemed inevitable without surgical intervention. This is true of every new operation; as it must demonstrate its *raison d'être* by saving cases admittedly hopeless without it.

Consider the history of operations for perforated ulcer, how they have grown better within the last year, week by week, almost day by day, until the mortality is now certainly not more than one-third what it was a few years ago.

The conditions are alike up to a certain point, for it is frequently the case that the hemorrhagic and nonperforating ulcer of today may in a short time become a perforating one. This is one of the strongest reasons for intervening in hemorrhage, for it has been shown that operations for hemorrhage—even those less radical than partial gastrectomy and excision—have cured the ulcer, and therefore prevented subsequent perforation; the only exception thus far reported being a case of Mayo Robson, where he practised curettage of the ulcer with application of pure carbolic acid; perforation following on the eighth day.

Encouraging as have been the results of operation for acute hemorrhage, a great deal more can be said of the results thus far attained in frequently repeated small

hemorrhages, which slowly, but none the less surely, lead to anemia, exhaustion, and death. An analysis of all cases thus far operated give a mortality of 16.1%, there having been 31 operations, with 5 deaths.

Methods.—The following operative measures have been carried out in treating gastric hemorrhage:

1. Partial gastrectomy: pylorectomy, according to location of ulcer.
2. Gastroenterostomy.
3. Gastrotomy.
4. Excision.
5. Excision of ulcer with ligation of artery.
6. Ligation en masse of mucous membrane.
7. Suture of ulcer.
8. Cauterization.
9. Pyloroplasty.
10. Gastrorrhaphy.
11. Ligation of principal artery.
12. Curettage of ulcer with and without cauterization.

As in nonperforating ulcer without hemorrhage, pylorectomy, if at the pylorus, or partial gastrectomy in ulcers situated elsewhere, is the ideal operation in hemorrhagic cases. The presence of hemorrhage and probability of perforation in such cases are two additional and cogent reasons for a complete operation if conditions are favorable therefor.

If the ulcer is situated either at the pylorus, or upon the anterior gastric wall, and is reasonably free from adhesions, it should be removed. One is justified in undertaking a radical operation, even in the face of moderate adhesions, on account of the actual danger from hemorrhage and the probability of subsequent perforation. Of the 10 cases thus treated, 8 recovered promptly, giving a mortality of 20%.

Gastroenterostomy has, up to the present, been the most generally practised operation for open ulcer, and judging from the opinions expressed in a large number of personal communications received from representative American and foreign surgeons, is likely to remain so for a time.

It has also been carried out in a greater number of hemorrhagic cases than any other procedure.

Questionable as its choice may be in certain well-selected hemorrhagic and nonhemorrhagic cases, there are many reasons why it is likely to retain its popularity as the preferable method in a majority of instances of bleeding ulcer.

First. One can never be certain that the case in hand is not one of multiple ulcers, as we may expect several ulcerated points once in every five cases—perhaps more frequently. In any case where multiple ulcers are suspected, gastroenterostomy should be selected; putting, as it does, the stomach at rest and thereby leading to the formation of a firm clot in the bleeding vessel, and to the subsequent healing of all the ulcers.

Secondly. It has been found in many cases to be a somewhat difficult procedure to locate the bleeding even after gastrotomy has been done and the entire mucous membrane carefully inspected—with and without the aid of a suitable electric light—and in at least 7 instances if has been altogether impossible to discover the open vessel. This is what might be expected, when we remember that it is at times impossible to locate the bleeding point at autopsy.

M. Savariaud[19] records in his very complete and valuable thesis, reports of 55 autopsies following sudden death from gastric hemorrhage, and in 4 of them it was impossible, after the most careful examination, to locate the source of the hemorrhage.

The cases operated upon have, on account of the delay occasioned by looking for and inability to find the bleeding vessel, usually been fatal.

Such failures are less frequent now than formerly, it is true, and will be still rarer with improved technic and a better understanding of how and where to look for a probable ulcer; but it is altogether unlikely that the possibility of failure to locate the bleeding point—even after the stomach is opened—can be entirely eliminated.

Therefore, gastroenterostomy which cures the hemorrhage by an entirely different principle would be better in such cases, and the opening made in the stomach-wall in performing gastrotomy can be utilized in doing the subsequent gastroenterostomy.

Of gastroenterostomies for hemorrhage, there have been thus far, 13 cases with 3 deaths, or 23.07% mortality, not a bad showing when it is remembered that it was done after other methods had failed in several instances.

In small but frequently repeated hemorrhages the operation finds its best field. In 12 cases of this kind its mortality has been *nil*—a most encouraging showing, and one which should lead to more frequent operation in cases of this kind.

Gastrotomy, or simply cutting into the stomach, cannot control hemorrhage, and is only done as a preliminary to something else, as excision of the ulcer, suture, ligation *en masee*, etc., etc. In the 7 cases where it and nothing else was done because the bleeding could not be located, 6 died, or a mortality of 85.7%.

Excision of the ulcer has been done three times with two recoveries and one death.

Excision of ulcer with ligation of the principal artery has been done once, and then successfully, by Roux, of Lausanne. Suture of the bleeding ulcer with catgut has been practised in 5 cases with 2 deaths, or a mortality of 40%.

Treatment of the ulcer by ligation of the mucous membrane *en masee* has been practised three times, once by Cazin and twice by Andrews. All were successful.

Andrews draws all of the coats of the stomach forward so as to make a decided cone, and then ligates. Andrews and Eisendrath[20] afterwards experimented upon dogs, and found this practice dangerous on account of too great sloughing, unless there was careful extrinsic suturing of the stomach-wall at the time. They therefore advise the placing of Lembert's sutures on the outside of the stomach over the ligated portion.

Time is lost in doing this, and it may be just as well to make a less decided cone before ligating.

For all practical purposes, we may say that methods 4, 5, 6, and 7 are essentially the same, and involve like principles; so combining all such cases we have eleven operations reported with three deaths, or a mortality of 27.2%.

Simple gastrotomy with cauterization has been practised but once, and then successfully. The cautery has been used in a number of other cases, but the wound in the stomach has been closed by a gastroenterostomy, as in Küster's two successful cases, and as in pyloroplasty in three successful cases operated by Armstrong.

Pyloroplasty.—Though a rival of gastroenterostomy—declining in favor, it is true, but still a rival in the treatment of open ulcers and the stenosis following them—pyloroplasty can in no sense be considered as rational an operation for hemorrhage. There have been 11 pyloroplasties with 3 deaths, giving a mortality of 27.2%. It should be noted, however, that three of the successful

cases were cauterized with the thermocautery, and the good result was probably more due to this than the subsequent pyloroplasty.

Gastrorrhaphy has even less to recommend it than pyloroplasty, and has been followed by death in two of the three cases in which it has been practised (mortality 66.6%).

Curettage, either with or without cauterization, would seem, *a priori*, to be unsafe on account of the danger of subsequent perforation. This actually happened on the eighth day after operation in the only case thus treated (Mayo Robson's).[21]

Ligation of the Principal Arteries.—If, as we have seen, the bleeding vessel and ulcer cannot always be found, even after the stomach is opened, how can it be possible to locate it beforehand? Until the source of the hemorrhage is known one could scarcely tell which vessel to ligate, and at best it would be nothing more than a guess based upon probabilities anatomic and pathologic. We know, of course, that hemorrhage from the coronary and splenic arteries occurs more frequently than it does from other vessels, but the first is difficult to tie, and the second, which bleeds three times as often, is so situated as to be, under the circumstances, almost inaccessible. It has, however, been tied once by Korte,[22] though unsuccessfully. Savariaud[23] has found it both practicable and safe in dogs, and therefore advises it in man, describing how it should be done.

Overlooking, for the present, the impossibility already pointed out, of knowing definitely the source of the hemorrhage, and the additional objection to ligation on account of its difficulty, I should still be opposed to ligation in continuity upon general principles. The anastomoses of the bloodvessels of the stomach are so free that a recurrence of the bleeding from the distal end of the affected vessel would be probable, if not certain. Roux's plan of ligating both ends of the bleeding vessel would be the only safe procedure.

It will here be interesting to give the result of 55 autopsies collected from various sources, and reported by Savariaud.[24] None were operative cases.

Ulcerations of the splenic artery	17 cases.
" " " coronary artery	6 "
" " " pancreatico-duodenal	7 "
" " " gastric arterioles	10 "
Branches of the coronary vein	2 "
Other veins	2 "
Vessel not determined	2 "
No vascular orifice visible	4 "
Vessel not mentioned	4 "

As the pancreatico-duodenalis would be opened in duodenal ulcers, which will frequently be mistaken for gastric lesions and should anyhow be treated in the same general way—as by excision and gastroenterostomy—we may as well include them as is done above.

The splenic artery and vein have both been opened by the same ulcer (Gaillard's case).[25]

Contrary to what would be expected, it will be seen from the tables below that there is no constant relation between the amount of the hemorrhage, size of the vessel opened, and the rapidity with which death ensues. Death may be delayed many days after the aorta or heart are opened, and sudden from capillary hemorrhage. It is then impossible to diagnose the source of the hemorrhage from its amount, or the rapidity with which blood is lost. In a case where the aorta was opened at the duodeno-jejunal angle hemorrhages lasted 10 days, notwithstanding the fact that there was an opening into it as large as a haricot bean (Grunfeld).

In Oser's perforation of the heart itself hemorrhages continued for 3 days before ending in death.

Savariaud's table gives:

Vessel.	No. of cases.	Sudden death.	Rapid death.	Survived considerable time.
Heart	4	1	1	2 (3 days.)
Aorta	2	1	1	1 (10 days.)
Hepatic	2	1	1	1 (10 days.)
Splenic	17	3	7	7 (2 to 8 days).
Coronary	6	1	3	2
Pancreantico-duodenal	6	1	3	2 (8 to 15 days.)
Arterioles	10	1	1	8 (4 to 15 days.)
Small veins	4	1	1	2 (7 to 11 days.)
Invisible veins	3	2	1	2 (21 days.)

Ligation of the bleeding vessel in situ which theoretically looks simple enough, has been attempted in several cases with failure to arrest the hemorrhage in every instance. The mucous membrane is so friable, tears so easily, and bleeds so freely that hemorrhage is more likely to be increased, rather than lessened by an attempt to tie the open vessel, as is done in external hemorrhage with firmer and a different kind of tissues to deal with.

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Sanatorium Treatment of Consumption.—Noe Dean Bardswell and John E. Chapman (*The Quarterly Medical Journal*, February, 1900) report the result of sanatorium treatment of consumption at Sheffield, England. Patient are required to spend a great deal of time in the open air They are given a liberal diet and encouraged to take exercise. Medical treatment was reduced to the minimum. Th following general conclusions are drawn: In almost all case gain in weight has preceded improvement in temperature there is a gain of about 6 pounds the first week, with a average gain of ¾ pound to normal weight; with healing lesion the minimum daily temperature has been at or below 97° the amount of sputum steadily diminishes as the health improves and increases during relapse; from May to September inclusive, patients in all stages (except a few hopeless ones) improved in all respects; after October the bad cases relapsed, and those not so bad have remained stationary or improved but slowly; of 36 cases treated 18 are at present in-patients, 5 are dead, 1 improves under open-air home treatment, 5 are working and in good health, 3 returned to work and have been lost sight of, and the remaining 4 went home improved, but are now growing worse; it is useless to admit advanced cases unless a sanatorium be especially suited for them in respect to climate, etc.; in those cases with limited lesions, no constitutional disturbances, and unimpaired digestion the disease, in the majority of cases, has been arrested, the lungs have progressed well toward healing, and in several instances apparently completely healed. [M.B.T.

The Philadelphia Medical Journal

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See Advertising Page 8.

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Meetings of the American Medical Association in the South During January Suggested.—It has been many years since the American Medical Association met in the Southern States. The fact is causing a not unjustifiable feeling on the part of Southern physicians—a large, honorable, and deserving part of the American profession—which should not have been allowed to rise and which should not be permitted to increase. It is eminently wise and politic to stop it, and to do a graceful act of recognition by an occasional visit of the Association to Southern cities. This cannot, of course, be at the usual season. But why not in January? A week off from duty the first part of the month could well be spared by Northern physicians. We suggest that the meeting of 1902 be held in New Orleans during the month of January.

The Crowded Program and the Wasted Evenings.—Whatever plans possible of realization may be devised to lessen the number of papers on the section programs of our national organizations, the crowding is certain to be great, and is bound to increase rather than diminish. Every section-officer and every scientific member is more or less jealous of the time absorbed by the general sessions. The orations or general addresses this year in our several large medical gatherings have been exceptionally good, but sometimes in the past they have not been good, and they are almost always too long. It is surmised also that they can do as much good when published and read in the study as when bawled in a noisy hall with execrable acoustic properties. Is it too much to say that at present the evenings of our large societies are for the most part wasted? The late and the long banquets are expensive financially, physiologically, and one might add, mentally and morally. Civilization seems to be going banquet-crazy. Every old story has been postprandially retold, and every victim who has to speak has stumbled through his sad task with sickness of heart if not of stomach, and every bored listener has done his best to assume an interest he does not feel, and to laugh at banalities and solemnities in the guise of wit. Why not use the entire day for section meetings and hold at least some of the general sessions in the evening in place of the absurd banquets? The General or President's Reception, perhaps others, could be held immediately thereafter and still the needed hour for sleep come sooner than now. Physicians should be practical and exemplary hygienists.

Silly Sectionalism and Puerile Patriotism.—The members of the Nominating Committee at the recent meeting of the American Medical Association had before them the proposition to choose as President a man whom all agree is *facile princeps* of American general physicians. And it was high time that a representative of Diagnosis and General Medicine were chosen. But the man was not an American voter, and "would the British Medical Association come to America to get a President?" was the wonderful logic of a pseudo-patriotism. In reply it should have been said that the United States is by no means all of "America," and that the British Medical Association within two years did come to America and did choose an American as its President. And yet we by no means advise or believe it would be wise to go to England or to Canada for a President of the American Medical Association. There is neither need nor danger of such a proceeding. But if a member should not have office he should hardly be a member. There is a legal and a moral contradiction involved in the logic of sectionalism. We are delighted to see that the newly elected President in his dignified and noble words of acceptance showed his keen appreciation of the fact that science has no topographic and national limits, and that narrow partisanship is not true patriotism. We honor Dr. Reed, for this act and for many other qualities united in his character, and we sincerely trust that he may realize his promise to invite to our American medical household all good American physicians, whether from Canada or Mexico, and to make of our national organization a liberal, scientific, representative, and beloved union.

Obscenity Masking as Medicine.—It is an old story this of lubricity assuming the name of science and using medical journals or medical societies as methods of self-publication. It is entirely too old a story, but that by no means implies that it has to go on forever. It means rather that it has to be stopped here and now. We do not say that the American profession is worse than that in other lands; we say it is *not* worse, and that it is infinitely better, for instance, than that represented by the French medical press; nor do we

say that the American people are less given to concupiscence than other peoples. But we do say that both profession and people are determined that its post-office and its medical societies and medical journals will not tolerate obscene exhibitionism, will not be humbugged with the hypocritic fiddle-faddle of salacity disguised as medicine, and will not be deceived by a stupid bleating of "independent journalism," "freedom of the medical press," etc. The neuropathic sexual pervert must not be permitted to pose as an example of health or of medical morals, nor to besmut medical societies and medical journals. The reputation of every member of the profession is at stake. Erotic, neurotic, tommyrotic!

Legal Requirement of Marriage. — Recognizing the increasing millions of human defectives, degenerates, and paupers, that are making enormous demands upon the public treasuries of the world for their support, efforts have been made in various localities to prevent the increase of these classes by more careful regulation of marriage. Joseph Wolff, of Boulder, Col., has recently issued, in pamphlet form, a bill for an act to regulate the granting of marriage license, and to provide for modes of procedure and penalties for the violation of these provisions, which seems to include most of the essential provisions for such a law. Among other provisions of this bill, the appointment of physicians by the county judges is arranged for, "whose duty it shall be to pass upon all applications for license to marry, and no such license shall be granted to persons contemplating marriage, unless they shall have received from the Board a certificate, setting forth that such applicants are free from the following ailments: dipsomania, organic or true insanity, hereditary insanity, primary, secondary, or tertiary syphilis, tuberculosis of the lungs known as consumption, tuberculosis of other vital organs, hereditary asthma, gonorrhea, gleet, scrofula, and epilepsy, and that there is no blood-relationship between them nearer than the fourth degree. And in no case shall such certificate be granted to any person who shall have a notorious reputation for moral depravity, or who shall at the time of application be on trial, under bonds, or in prison, to answer for a felony. Full discretionary powers are given to refuse certificates for other manifest marital unfitnesses not enumerated, that would be likely to entail defectiveness or degeneracy upon the offspring of those applying, or prevent the applicants from living together in peace. And no such certificate shall be granted until after a careful professional examination by the Board of Medical Examiners of both the man and the woman making application therefor, except where the woman's age shall be over 45 years, who shall, therefore, be exempt from such examination."

As desirable as the objects to be obtained undoubtedly are, it is questionable how much can be attained by legal regulation. In the first place, it should not be forgotten that many of the undesirable people, that we wish to prevent from propagating their kind, do not marry at all; a large number of these are born illegitimately, and hence laws regulating marriage would have little effect on this large class. Another source of failure would be that such laws, in order to be effectual, would have to be enacted in every State, otherwise the candidates for matrimony would have only to make a short trip to the borders of some adjoining State, and could be married there. A third source of difficulty would be that the appointment of physicians, who should make the physical examination, would probably fall into the hands of unscrupulous politicians, who would not hesitate to appoint men of questionable integrity and ability, and hence the law would become a perfect farce. Although these obstacles exist, we would not discourage the efforts which are being made for improved conditions in these respects. Probably, the ideal will never be attained in this, as in other things, but it is only through agitation and the pointing out of dangers, weaknesses, and faults, that progress can be made.

Tendon-transplantation is now a well recognized procedure for the relief of deformities arising from a lack of normal muscular action from paralysis and other causes. Nicoladoni (*Archiv für klinische Chirurgie*, Band 27), professor of surgery at the University of Graz, Austria, was the first to perform tendon-transplantation to restore motion to part supplied by atrophied and functionless muscles in 1882, and the method which he suggested, and which now has been successfully practised in numerous cases by many operators all over the world, scarcely needs any description. Most surgeons have operated by transplanting an entire tendon or a part of a tendon of a normal muscle, suturing it to the tendon of an atrophied muscle; in this way it is possible, by using the tendons of normal, not absolutely essential muscles, to supply function to a paralyzed muscle which is essential to the normal action of the part. Fritz Lange (*Münchener medicinische Wochenschrift*, April 10, 1900), of the surgical clinic at Munich, has found that the results following tendon-transplantation are not always favorable, because old and partly devitalized tendons of paralyzed muscles stretch when subjected to the contraction of an active muscle. To obviate this difficulty he proposes to slit the healthy tendon for a further distance than is usually done and instead of suturing the tendon to that of the paralyzed muscle he sutures directly to the periosteum of the bone which, when drawn upon, will produce the motion desired. This he calls periosteal tendon-transplantation. He reports in all nine cases in which he has operated by this method. Of unusual interest are three of these cases in which he transplanted the biceps and semitendinosis muscles of the thigh to take the place of the quadriceps extensor muscle which had been par-

alyzed by poliomyelitis. In several cases in which the tendons were not long and strong enough, a number of strands of silk were interwoven to give additional strength. Lange's results were very satisfactory in all cases.

The operation of tendon-transplantation has a peculiar and fascinating interest, and, although well-known to the orthopedic surgeons, it seems to deserve a wider application. There are many children going about more or less crippled and wearing apparatus who apparently might be benefited by such operation. Lange's suggestions seem worthy of a further trial.

Longevity; Greatness; Degeneration.—The question as to whether or not great men enjoy a longer life than that allotted to more ordinary mortals has long been of interest, and a number of studies of the subject have appeared. Perhaps the most recent presentation of the topic is that by Thayer, in the *Forum* for February, 1900. He has collected a list of some 500 prominent men and women of the nineteenth century, and he finds that they have lived on an average 68 years and 8 months, or about 30 years longer than people in general. On the basis of these investigations he combats the idea which has been commonly expressed that men of genius and eminence of the nineteenth century have showed signs of degeneracy, for longevity and the ability to do sustained work for many years is in itself a sign of unusual vitality and vigor. Professor Jastrow, of the University of Wisconsin, takes issue with Mr. Thayer in the correspondence columns of the *Popular Science Monthly* for June, 1900. He calls attention to the fact that it requires a considerable length of time to become eminent. Studying the lives of the greatest men of all times he finds that taking an average of the date between the first important work and the greatest work of these men it gives an age of about 37 years, that is to say, a man must live about 37 years before he produces a work of decided merit. Eminent men are a carefully selected class and the selection inevitably involves the attainment of a certain number of years. After this age is attained the chances of old age are excellent, for the greatest general mortality is in childhood and infancy. While Jastrow considers fallacious Thayer's argument concerning longevity and greatness, he is in sympathy with his contention against the common idea as to the association of greatness and degeneracy. The statement that genius and insanity are related is probably not capable of demonstration, though of a degree of substantiation; but these views should not be presented in popular form, for there is danger of serious and harmful misrepresentation of the facts.

We are glad to see these statements denying the association between greatness and degeneracy and associating greatness and longevity, for longevity means wholesome living; without this it can seldom be attained. Not all people desire fame and high position before the public eye, but all intelligent persons desire to avoid mediocrity. What is most needed at the present time is more people who live morally clean, wholesome, temperate, earnest lives. This kind of living will unquestionably bring not only longevity but the greatest possible happiness.

A Bad Custom of Street-Car Conductors.—Those who ride much in the street cars have no doubt often noticed that some conductors have a habit, when giving exchange tickets or passes, of wetting their fingers with saliva, and then tearing off the tickets and handing them more or less wet to the passengers. They also frequently hold bills between the teeth. Aside from being unesthetic, the custom is objectionable from a sanitary point of view. We have known one conductor who had a tuberculous ulcer of the tongue; and it is, of course, conceivable that among the large number of men employed on the cars, there are some who are affected with other specific diseases that cause lesions in the mouth. It would be a simple matter for the companies to promulgate orders instructing their conductors to abandon the practice.

Collective Investigations.—There is a growing abuse in the profession, to which we desire to call attention. A gentleman wishes to write a paper, and sends a circular to a number of the well-known physicians or surgeons of the country, either to get their opinions or to get a number of statistics. We have before us such a circular-letter with ten questions to be answered, asking for percentages of details of operations, which percentage could only be accurately determined by the surgeon from whom the information is requested, by taking hours of his time to go over all the records of his cases, and tabulating them from the point of view of each of the ten questions. His opinion, without such accurate tabulation, is worthless, and to expect our busy men to take this time, or to have some one else do it for them without payment, is most unreasonable.

Unauthorized Use of Names and Portraits by Nostrum-Advertisers.—We wish there were some machinery to prevent the lies of the nostrum-advertisers. It is so easy for them to secure by purchase, or even by free-will offering, testimonials from Governors and D.D.'s, to miracles, that it seems unnecessary to deceive the readers in this way. But no doubt a considerable proportion of such testimonials are pure concoctions. One advertisement recently stared at us from a newspaper with extraordinary impertinence; it seemed so illogical and unnatural that Mr. Booker T. Washington, of the Tuskegee Normal and Industrial Institute, should lead his people into such follies that we wrote him. "I have always refused to enter into such schemes," was his dignified answer. The negro race

have already enough superstition, medical and religious, and are in sufficiently sore straits financially, without adding to their burdens the sorry incubus of the nostrum-traffic of civilization. We remember to have seen an account of a custom in the South of depositing on the graves, with flowers and wreaths, the bottles, empty or still partially filled, of the magic cure-alls, death-killers, kings-of-pain, etc., with which the poor victims had vainly tried to keep death away. A fitting votive offering! If it should be generally adopted the old-bottle collectors would need only haunt the modern cemetery to do a thriving business. We know of one patient who had bought and swallowed the contents of 18 dozen pint-bottles of one "infallible cure" for rheumatism.

Fortune-Telling.—Few people are aware of the hold which soothsaying or fortune-telling has upon our people. We do not allude to the poor, ignorant and superstitious devotees of this oldest of all cults, but to the well-to-do and even the so-called cultured, the rich, and the religious. Kruger is said to have consulted a clairvoyant, who predicted the end of the war on June 14, and his own death there months later, and the prediction is said to have been seized upon by a large portion of the Boer people. In every American city there are hundreds of people feeding their dupes with such sorry tales, and to our knowledge many stockbrokers, business men, and so-called educated men and women habitually consult them about investments and personal affairs. Perhaps in reference to health of self or others, to length of life, etc., the fortune-tellers make the most of their money. The phenomenon has been explained as due to the decline of a genuine religious faith, to the growth of materialism in its social and philosophic aspects, but such explanations do not entirely satisfy. So far as it pertains to pathology and physiology it seems to be a part of the great wave of barbaric atavism, due to a large extent to the immense gulf dividing medical science in its most progressive phases from popular comprehension. The more we advance scientifically the farther behind we leave the people, so that we find college graduates and cultivated people addicted to the social vices of such medical superstitions as Christian science, spiritism, faith-cure, and nostrum-mongering. To popularize the truths of physiology and medicine is an important duty of the profession.

The New York Pathological Institute Again.—The tribulations of this institute have already been referred to by us in a sympathetic spirit. The merits of the controversy, when freed from a great mass of verbiage, seem to be about as follows: The Institute was founded by the Commission in Lunacy, at a cost of about $40,000 a year, to advance the scientific study of psychiatry in collaboration with the State hospitals, and to furnish instruction to the medical officers of these hospitals in this science. Differences of opinion have arisen as to the value of the work prosecuted in the Institute, and as to the success with which it has met the objects for which it was founded. The Commission claims that the Institute has not fulfilled its object; that its work has been theoretical and impractical; that it has gone far afield in enlarging its scope in its aim to "correlate" the various sciences with psychiatry; that it has not assisted the asylums in prosecuting pathological research; that its work is entirely dissevered from the clinical aims and needs of the asylums; that it has not encouraged the instruction of the medical officers of the asylums; and that it is entirely too expensive to continue to obtain grants from the legislature. On the other hand an outcry has been raised against the Commission to the effect that this body is ignorantly striving to cripple the usefulness of the Institute, and reduce it to a mere clinical laboratory as an appendage to the asylums. Some intemperate language has been used, and some preposterous claims made for the Institute. Thus we are gravely told that its object is "to solve the problem of insanity," and that if it is let alone the prospects are that it will soon effect this gigantic scheme. One medical contemporary in New York deplores the personalities that have crept into the controversy, and in the next breath calls the superintendents of the State hospitals "hotel-keepers." The Commission has finally referred the subject to a board of referrees, composed of Drs. Blumer, Cowles, and Councilman, who in the main support the Commission, and make some excellent recommendations. These are to the effect that the Institute should be in closer touch with the asylums, and should have enlarged clinical facilities by being united with some hospital; that its aims should be more clinico-pathologic and less speculative, and that it should pay more attention to teaching and preparing medical officers for work in their specialty. To an outsider these recommendations seem admirable, and in line with a reasonable and proper scientific method—a method which will give the widest results in scientific psychiatry—even though it does not promise in a few years "to solve the problem of insanity." With the acerbities of the controversy we are not concerned, but we certainly do not sympathize with the efforts made in some quarters to throw doubt upon the intentions and the scientific spirit of the medical officers of insane hospitals.

Serum-Treatment of Diphtheria.—Alexander Anderson (*The Quarterly Medical Journal*, February, 1900) reports the result in treating 258 cases of diphtheria with antidiphtheric serum. Of the 258 patients 41 died, making a case mortality of 15.8%. Nine of these deaths occurred within 48 hours after admission to the hospital. As many as 46% of the patients were admitted on the fifth day or later. Anderson believes that if serumtherapy were adopted early in the course of the disease a much lower mortality-rate could be shown. [M.B.T.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Jewish Hospital, Philadelphia.—The Lucien Moss Home for Incurables was dedicated June 10.

According to the will of the late Henry M. Curry, of Pittsburg, Pa., the following bequests are made: To the Pittsburg Hospital for Children, $20,000; Homeopathic Hospital, $10,000; Western Pennsylvania Hospital, $25,000; Kingsley House, $5,000; Western University of Pennsylvania, $10,000.

Cape May County (N. J.) Medical Society.—At the meeting held June 1 the following officers were elected: President, Dr. A. L. Leach; vice-president, Dr. J. S. Douglas, Tuckahoe; treasurer, Dr. Randolph Marshall, Tuckahoe; secretary, Dr. C. B. Corson, Seaville; censors, Dr. B. T. Abbott, Ocean City; W. S. Leaming, Cape May; V. M. D. Marcy, Cape May.

University of Pennsylvania.—At a recent meeting of the Board of Trustees, Dr. J. William White, formerly professor of clinical surgery, was elected John Rhea Barton professor of surgery and clinical surgery; Dr. Edward Martin, formerly professor of genitourinary surgery, was elected professor of clinical surgery, and Dr. Charles Harrison Frazier, formerly instructor in surgery, was elected professor of clinical surgery.

Medical Club of Philadelphia.—At a meeting, held June 9, a reception was tendered Dr. Abram Jacobi, of New York; Dr. Alonzo Garcelon, of Maine; Dr. Geo. H. Simmons, secretary of the American Medical Association and editor of the *Journal of the American Medical Association*; Dr. James Morrison Bodine, of Kentucky, and Dr. Frank Billings, of Chicago. Dr. Chas A. L. Reed, the recently elected president of the American Medical Association, was also to have been present, but was prevented on account of illness in his family.

Philadelphia Hospital.—Dr. B. Franklin Stahl, formerly neurologic registrar, has been elected medical registrar, as has also Dr. Joseph Sailer, and Dr. William C. Pickett has been elected neurologic registrar. William M. Geary has been elected superintendent of the hospital and almshouse to succeed Captain Charles Lawrence, recently resigned. Dr. John V. Shoemaker has been appointed by the Mayor a member of the Board of Charities and Correction to succeed Alfred Moore, recently appointed a member of the Board of City Trusts.

University of Pennsylvania.—On June 12, there was the annual Meeting of the General Alumni Society. The following officers were reelected: President, S. F. Houston; vice-presidents, H. Laussat Geyelin, Dr. H. C. Wood, Hampton L. Carson, Dr. Leonard Pearson, and Dr. Edward C. Kirk; treasurer, Lewis Neilson; registrar and secretary, Thomas Blaine Donaldson; and the following were added to the board of directors, Dr. William S. Wadsworth, Dr. Roland G. Curtin, T. Harris Powers, and Charles L. McKeehan. Dr. Persifor Frazer, on behalf of the class of '62 college, presented to the University a large portrait of the late ex-provost, Dr. William Pepper, which was accepted on behalf of the trustees by Provost Harrison. Stuart Wood, on behalf of the family, presented a bust of the late Professor George B. Wood, of the class of '15 college, '18 medicine, which was accepted on behalf of the trustees by Dr. Jacob M. DaCosta. In the evening the annual banquets of the Societies of the Alumni of the Departments of Dentistry and Medicine took place. At the latter, toasts were responded to as follows: The University of Pennsylvania, Provost C. C. Harrison; The United States in the Philippines, Col. A. A. Woodhull, late chief surgeon in the Philippines; The Clergy and Medicine, Rev. Charles Wadsworth; Twenty Years at the University, Dr. Edmund W. Holmes. Dr. Samuel D. Risley acted as toastmaster, and Edwin T. Robinson, of the graduating class, presented the class memorial tablet. At the annual business meeting, before the banquet, the following officers were elected for the present year: President, John Ashhurst, Jr.; vice-presidents, Horace Y. Evans, James Tyson, Charles K. Mills, and Samuel D. Risley; secretary and treasurer, William S. Wadsworth; executive committee, Richard A. Cleeman, Roland G. Curtin, Samuel S. Stryker, DeForest Willard, W. Barton Hopkins, Charles W. Dulles, Gwilym G. Davis, Thomas R. Neilson, Harry H. Whitcomb, William J. Taylor, B. Franklin Stahl, J. Allison Scott, Joseph P. Tunis, John H. W. Rhein, Joseph Sailer, Charles H. Frazier, Courtland Y. White, Jr., Breese M. Dickinson, Frederick Fraley, Jr., Edwin T. Robinson, and Dr. John Marshall. On June 13, the 144th annual commencement was held.

Vital Statistics of Philadelphia for the week ended June 2, 1900:

Total mortality		419
Disease.	Cases.	Deaths.
Pulmonary tuberculosis		49
Pneumonia 43, congestion of the lungs 4		47
Heart disease 29, inflammation of the heart 1, fatty degeneration of the heart 2, neuralgia of the heart 1		33
Inanition 13, marasmus 9, debility 7		29
Nephritis 17, uremia 9		26
Apoplexy 13, paralysis 6, softening of the brain 3		22
Gastroenteritis 19, cholera infantum 1		20
Inflammation of the brain 18, congestion of the brain 1		19
Casualties 12, burns and scalds 4		16
Carcinoma 11, sarcoma 3, tumor 2		16
Measles		15
Diphtheria 9, membranous croup 4		13
Typhoid fever		10
Septicemia		10
Scarlet fever		5
Senility 9, peritonitis 8, convulsions 8, alcoholism 5, diabetes 4, bronchitis 4, pertussis 3, cerebral abscess 2, asthma 2, anemia 2, cyanosis 2, appendicitis 2, laryngitis 2, osteitis 2, pleuritis 2, erysipelas 2, dropsy 2, drowned 2, influenza 2, locomotor ataxia 2, ulceration of the stomach 2, unknown 2, pulmonary abscess 1, atheroma 1, congestion of the liver 1, cirrhosis of the liver 1, parturition 1, diarrhea 1, neuritis 1, pericarditis 1, hip disease 1, malaria 1, necrosis of the skull 1, edema of the lungs 1, retention of urine 1, scrofula 1, arteriosclerosis 1, suffocation 1, suicide 1, sore mouth 1.		

Vital Statistics of Philadelphia for the week ended June 9, 1900:

Total mortality		409
Disease.	Cases.	Deaths.
Pneumonia 41, congestion of the lungs 1		42
Nephritis 29, uremia 13		42
Pulmonary tuberculosis		41
Heart-disease 32, fatty degeneration of the heart 1, inflammation of the heart 1, neuralgia of the heart 3		37
Carcinoma 17, sarcoma 1, tumor 4		22
Apoplexy 9, paralysis 7, softening of the brain 3		19
Marasmus 10, inanition 3, debility 6		19
Diphtheria 15, membranous croup 2	82	17
Convulsions		17
Inflammation of the brain		13
Gastroenteritis 8, cholera infantum 4		12
Measles		11
Typhoid fever	51	9
Scarlet fever	61	3
Cerebrospinal fever	1	1
Bronchitis 8, senility 8, abscess 6, asthma 5, pulmonary hemorrhage 5, peritonitis 5, pertussis 5, alcoholism 4, suicide 3, appendicitis 3, disease of the liver 2, drowned 2, dropsy 2, erysipelas 2, homicide 2, hernia 2, cystitis 2, pericarditis 2, intestinal obstruction 2, rheumatism 2, aneurysm of the aorta 1, cyanosis 1, diabetes 1, dysentery 1, puerperal fever 1, gangrene of the foot 1, cerebral hemorrhage 1, internal hemorrhage 1, umbilical hemorrhage 1, influenza 1, laryngitis 1, phlebitis 1, insanity 1, indigestion 1, pulmonary edema 1, poisoning by illuminating gas 1, arteriosclerosis 1, surgical shock 1, sore mouth 1, teething 1, ulceration of the stomach 1, gunshot wounds 1.		

Pittsburg (Pa.) Academy of Medicine.—At a meeting, held May 7, Dr. T. J. Elterich reported a case of **intubation** in a child of 4 years, during which procedure the

child ceased breathing. The tube was withdrawn and a tracheotomy done, followed by artificial respiration for 5 minutes. The patient is recovering. DR. MAYER reported 2 cases of **acute circumscribed edema** (Quincke's edema) both in women. DR. EATON reported 4 obstetric cases of interest. DR. T. J. ELTERICH opened a symposium on infant feeding by reading a paper on the **clinical analysis of breast milk.** In the diagnosis and treatment of diseases of the alimentary tract the analysis of the breast milk is essential and for practical purposes it can be done by the physician himself. The uses of the 5 elements of mother's milk were pointed out. Artificial foods fail as a rule because they are deficient in fat. The simplest methods of examination are those advocated by Holt, and the specimen for examination should be the middle milk if the entire contents of the breast cannot be obtained. The specific gravity is taken with the hydrometer and normally this is about 1.031. The percentage of fat is obtained by using Holt's cream gauge, which was shown. With this instrument the relation of cream to fat is about 5 to 3. A specimen of milk was shown with but 1% of fat. Marchand's lacto-butyrometer, which may also be used to determine fat-percentage, was exhibited, and the method of using it described. For more accurate results the use of the centrifugal machine is required. Feser's lactoscope is commonly used for determining the fat in cow's milk, but it may be used for mother's milk as well. As it is a visual test, results are apt to vary considerably. There is no direct method for determining the percentage of proteids, but the percentage of fat with the specific gravity gives a fairly accurate knowledge of proteids, as the sugar and salts vary but little. In discussion DR. MERCUR said that while these tests are of undoubted value it is better for the practising physician to send the milk to the Walker-Gordon laboratory and have an accurate analysis made. The fee for such an analysis is but $1.00. DR. EATON said that while laboratory analysis furnished more accurate results, in many families the expense of a great number of examinations is a severe tax. In intelligent hands the use of the instruments shown gave results approximately correct and are of great value. At the laboratory in this city the Loeffmann-Beam (?) method is used. The sugar in woman's milk is about constant at 6.50%. Fat + sugar + mineral matter deducted from total solids give amount of proteids present. DR. ELTERICH, in closing, said he had found the methods above given of distinct value in his own work. DR. P. J. EATON read a paper on the **modification of breast milk,** and cited a number of cases with milk-analysis, showing what can be done in this line. The fats and proteids vary most. The methods laid down by Rotch, of Boston, were given at length and favorably commented on. In discussion DR. LITCHFIELD said that he had not had such good results in modifying breast milk as Dr. Eaton. In some cases it fails completely. DR. MERCUR said that he had not had much success in modifying breast milk, and had for some time been in the habit of abandoning breast milk if proteids were found to exceed 2.5%. DR. SIMONTON spoke of a case in which a mother had absolutely no milk. This patient stated that her mother never had any milk for any of her 5 children. Closing, DR. EATON said that it was to be expected that attempts at modification would fail in some cases, but it is successful in a very large proportion if properly carried out. He could not agree with Dr. Mercur in giving up breast milk if proteids were over 2.5%. He reported the case of a patient who had nursed 4 children from right breast alone. Her mother had raised 8 children and her grandmother 13 children from right breast alone.

Pittsburg (Pa.) Academy of Medicine. — At a meeting held May 14, DR. JAMES E. WILLETTS reported a case he had operated upon for **cataract.** On the third day the patient tore the corneal flap loose by a movement of the lid. It was placed in position and the eye bound up until the seventh day-when the wound was found closed. The same thing was repeated a few days later. When last examined the wound was found in good apposition and the patient could count fingers.

DR. D. D. SIMPSON reported a case of large **uterine fibroid** removed by DR. WERDER, dimensions 18x15x10 inches, weight 35½ pounds. There were but slight adhesions to the omentum and parietal peritoneum, although it had been present for 2½ years. DR. SIMPSON also reported a case of **ectopic gestation** (operation by Dr. Werder) and presented the specimen. The sac filled the pelvis and contained 1½ quarts of blood. The ovary contained an abscess. The specimen had the appearance of a tubal abortion, which, according to Noble, is the most frequent form of ectopic gestation.

DR. ROBERT MILLIGAN reported a case of **syphilis** with lesions involving the frontal and anterior ethmoidal cells.

DR. G. E. CURRY read a paper in which he reported a case of **melanotic sarcoma of the conjunctiva.** Enucleation was done, but it has recurred. Also a case of recurrent oculomotor palsy. This had probably existed since the patient was 2 years old. Attacks of neuralgic headache occur frequently which are followed by disturbed vision. Ptosis has been present for 2 years. Cases by de Schweinitz, Roosa and Knapp were referred to. Prognosis is grave and treatment is of little avail, tonics and electricity being generally resorted to. In discussion DR. J. C. THOMPSON asked if the speaker had had any experience with kataphoresis in the treatment of sarcoma as advocated by Massey, of Philadelphia. DR. SIMPSON remarked that Massey had written much concerning electrical treatment in gynecological cases, and claims remarkable results, but other men fail to get such results for some reason. DR. E. B. HECKEL said that the operation of exenteration of the orbit as advocated by Treacher Collins is to be preferred in sarcoma of the conjunctiva, and described the technic. DR. MAYER asked if the visual fields had been examined in his second case. Closing, DR. CURRY said that he had had no experience with kataphoresis. He agreed with Dr. Heckel as to exenteration, but said the case had been operated upon before Collins operation was generally known. The visual fields were normal in the second case. DR. J. C. DUNN presented for DR. EWING, a man of 22, machinist, with an upper lip very much swollen. Seven years ago he suffered from a small incised wound in this part which healed without incident. Three years later the lip became enlarged and remained so about 3 weeks. Since this time he has had periodical attacks of the same nature. There is slight itching, but no pain. DR. EWING'S diagnosis was **angioneurotic edema.**

DR. J. D. SINGLEY read a paper entitled **Two fatal cases of thrombosis and embolism.** Thrombosis of the vessels of the calf of both legs followed a very severe uterine hemorrhage in a patient with a fibromyoma of cervix. Later, symptoms of a gastric embolus came on. The patient died suddenly after having risen from bed during the night, probably (no autopsy permitted) from pulmonary embolism. The second case was one of pulmonary embolism following a septic thrombosis of the puerperium. The nature of thrombosis and the conditions favorable to its formation, such as septic infection, hemorrhage, fatty heart, trauma, disease of vessel walls, etc., were discussed. Asepsis and antisepsis are the prophylactic measures in avoiding septic thrombosis, but we are at present unable to prevent thrombosis when due to circulating bacteria as in typhoid fever. If thrombosis has occurred the part should be placed at rest in order to avoid, if possible, fatal embolism. An ointment of mercury and ichthyol spread on lint and applied to the part may be of some value in hastening absorption. In discussion DR. SIMPSON referred to a case of sudden death 48 hours after a simple abdominal section, with symptoms of pulmonary embolism.

NEW YORK.

Presbyterian Hospital, New York.—An anonymous donor has given the sum of $200,000 to the hospital for the erection of a home for the nurses and the resident house officers.

Dr. Pilcher an LL.D.—At its recent commencement, Dickinson College conferred the degree of LL.D. upon Dr. Lewis Stephen Pilcher, of New York, editor of the *Annals of Surgery.*

Queens-Nassau (L. I.) Medical Society.—At the annual meeting, held May 29, the following officers were elected: President, Dr. Wm. B. Gibson, of Huntington; vice-president, Dr. William H. Zabriskie, of Glen Cove; secretary, and treasurer, Dr. James S. Cooley, of Glen Cove.

The Erie Co. (N. Y.) Medical Association was organized at Buffalo on May 21st with 21 members. Dr. DeLancey Rochester was made chairman, and Dr. Arthur G. Bennett, secretary. The association is in affiliation with the New York Medical Association.

NEW ENGLAND.

The will of the late John Nicholas Brown, of Providence, and that of his brother, Harold Brown, give $54,000 to the Rhode Island Hospital, $50,000 to Buller Hospital, and $33,000 to Newport Hospital.

Elevator Accidents in Boston.—During the last five years, according to Dr. George W. Galvin, there have been 475 elevator accidents. Last year, 17 patients died at the Emergency Hospital as a result of such accidents. In the majority of cases the casualties were not due to the carelessness of the people injured.

Boston Society of Medical Sciences.—At the last meeting DR. R. W. LOVETT spoke on **Movements of the normal spine in their relation to scoliosis**, giving the general results of experimental investigation. DR. ALLEN CLEGHORN read a paper on the **Physiologic effects and the nature of extracts of sympathetic ganglia.** DR. A. W. BALCH and DR. W. R. BRINKERHOFF reported an **investigation on the pathology and probable cause of azoturia,** giving lead as the probable etiological factor.

An epidemic of typhoid fever at Forestville, Connecticut, which has resulted thus far in 35 cases, and 6 deaths have been successfully traced to a contaminated water-supply. The water supplied to all the patients comes from a spring. Between the pumping station and this spring there is a small river through which two pipes run to connect the spring and the pumps. One of these pipes was broken, so that half the supply was drawn directly from the river. The river was polluted by a factory, 300 feet above the broken pipes, where 200 operators were employed. Thirty-six water-closets discharged into the stream. Sewage contamination was shown by chemical tests, and bacteriologically by presence of intestinal microbes.

Three New Regulations Have Been Put Into Effect by the Boston Board of Health: 1. Pulmonary and laryngeal tuberculosis are included in the list of diseases of which compulsory notification is required, and after a death the Board of Health will disinfect the premises. 2. Two consecutive negative cultures, both from throat and nose, are now required for the release of diphtheria cases from isolation. 3. The laboratory of the Board of Health provides free examinations for physicians in tuberculosis, diphtheria, typhoid fever, malaria, and influenza, and for veterinarians in glanders and rabies. Drug stores in many parts of the city furnish outfits for tuberculosis, diphtheria, typhoid fever, and glanders.

CHICAGO AND WESTERN STATES.

Training School for Nurses of the Mary Thompson Hospital.—At the graduating exercises of this school the address was delivered by Dr. Sarah Hacket Stevenson. Seven nurses received their diplomas.

The Physicians' Club of Chicago.—At a recent business meeting and banquet the following officers were elected: Chairman, Dr. William H. Wilder; secretary, Dr. L. Harrison Mettler; treasurer, Dr. L. Blake Baldwin; directors to fill vacancies, Drs. John M. Dodson, M. W. Bacon, and John L. Porter.

Changes in the Faculty of the College of Physicians and Surgeons.—The following additions to the faculty have been made: Dr. Louis J. Mitchell, professor of anatomy; Dr. H. E. Santee, professor of anatomy; Dr. Frank X. Walls, professor of practice of medicine; Dr. John L. Porter, professor of orthopedic surgery; Dr. D. N. Eisendrath, professor of surgical pathology; and Dr. Joseph M. Patton, professor of physical diagnosis.

SOUTHERN STATES.

The Present Municipal Board of Health of New Orleans is Apparently Doomed to Dissolution.—The Constitutional Convention of Louisiana in 1898 passed an act providing for the establishment of a city Board of Health for New Orleans, under which provision the present board was organized. According to said act the board is constituted by State law, but its funds for maintenance are provided by the City Council. Antagonism having sprung up between the Council and board, and the board's expenditures having mounted higher than originally expected, the Council is apparently endeavoring to "starve" the board out of existence; and success seems so sure to attend their efforts that legislation is being sought to constitute a new board under different regulations.

Medical Society, District of Columbia.—At the meeting held May 23 the following papers were read as a contribution to the **Symposium on tuberculosis: Pelvic tuberculosis,** by DR. J. S. STONE; **Medical treatment of tuberculosis,** by DR. G. WYTHE COOK; **The hygienic, dietetic, and open-air treatment,** by DR. W. A. CALDWELL; and the **Serum treatment,** by DR. DE SCHWEINITZ. Dr. Caldwell was unable to read his paper and DR. MINOR, of Asheville, was invited to read an extract from the paper and give his own views on the treatment of tuberculosis. Dr. Minor said that nothing could be done without securing the confidence of the patient and his will to aid in the battle. It was necessary to know the patient's life in order to regulate it—to know what and how much he ate, when he slept, how much he exercised, in short, to have a record of how the patient spends every half-hour in the 24 hours. If the physician took the trouble to treat the patient properly, he would stand almost as good a chance at home as at any of the climatic resorts. Dr. Minor does not believe in the employment of any known drug. He thinks there is too great a tendency to insist upon absolute rest of the patients, moderate exercise ought to be allowed if the case is suitable. He divides the cases into two great captions—those in which two weeks' rest in bed brings the temperature down to 99° or below, and those in which rest in bed will not bring it down; the former are cases for treatment by the physician, the latter subjects for the undertaker.

The Annual Session of the North Carolina State Board of Medical Examiners recently closed its work at Tarboro, N. C. While the N. C. Examining Board is one of the oldest in the Union, having been legally incorporated and organized in 1859, the only distinction between its licentiates from that date up to 1885 was that only licentiates of the Board were eligible to qualify as expert witnesses in courts of the State, and to sue for professional services rendered. In 1885 a penalty clause was added, making it a misdeameanor to practise without the license of the Board, but still admitting as before to the State examination all applicants who applied and presented certificates of good moral character without regard to graduation. In 1899 the law was again improved by the addition of a clause providing that only graduatess of at least three-year colleges should be eligible to apply for examination. This, then, was the first examination held under the new regulation as to graduation. 78 applied, 54 were licensed, 24 were rejected, and 2 withdrew. The honor of making the highest grade was equally divided between two young women, Drs. Delia Dixon, of Raleigh, N. C., and Sallie Borden, of Goldsboro, N. C., each of them making an average of 93. Of the 78 applicants, 4 were women, and 3 were licensed; also 5 negroes, of whom 2 were rejected and 3 licensed. The percentage required is an average of .80, and less than .36 on any one branch rejects outright without regard to grades on other branches.

MISCELLANY.

Obituary.—DR. EDWARD O. SHAKESPEARE, a distinguished pathologist and sanitarian, died in Philadelphia, June 1, aged 54 years. Dr. Shakespeare was at one time pathologist to the Philadelphia Hospital, President of the Pathological Society of Philadelphia, a member of the committee appointed by President Cleveland in 1885 to report on the cholera in Europe and India, a member of the Board appointed to investigate the prevalence of typhoid fever in the camps during the recent Spanish-American war, a member of a number of distinguished societies.—DR. HUGH N. COXE, Schuylkill Haven, Pa., May 28, aged 68 years.—DR. TRUMAN W. MILLER, a surgeon in the army during the Civil war, assist-

ant surgeon and later chief surgeon to the Marine Hospital, Chicago, died in Chicago, May 30, aged 60 years.—DR. CHARLES M. NEWELL, Watertown, Mass., May 25.—DR. CHARLES S. COLLINS, New York, May 20.—DR. HORACE B. SCOTT, U. S. Army, retired, Wallingford, Conn., May 29, aged 43 years.—DR JOHN MACDONALD, one of the International Navigation Company's surgeons, Philadelphia, May 21, aged 65 years.—DR. LUTHER B. MORSE, Watertown, Mass., May 26, aged 79 years.—DR. GARDNER C. PIERCE, Ashland, Mass., May 18, aged 62 years.—DR. J. S. R. HAZARD, Springfield, O., May 26, aged 74 years.—DR. PAUL GIBIER, director of the Pasteur Institute of New York City, died June 9, in consequence of injuries sustained in a runaway accident earlier in the evening. Dr. Gibier was a graduate of the University of Paris, and was for some time assistant professor of comparative pathology in the Paris museums. He was aged 49 years.—DR. JOSEPH DAVIS OSBORNE, Newark, N. J., June 2, aged 67 years.—DR. GERALD D. HOPKINS, Philadelphia, May 27, aged 36 years.—DR. JAMES T. WHITTAKER, professor of the theory and practice of medicine in the Ohio Medical College, died of intestinal carcinoma, June 5, in Cincinnati.—DR. L. J. JONES, Wichita, Kan., May 20, aged 70 years.—DR. WILLIAM H. CHAMBERLAIN, Oneida, N. Y., May 21.—DR. ROBERT LOCKE, Chicago, Ill., June 9.—DR. WILLIAM PIERSON, Orange, N. J., June 12, aged 70 years.

Changes in the Medical Corps of the U. S. Army for the two weeks ended June 9, 1900:

TWEEDIE, HEDLEY V., acting assistant surgeon, is assigned to temporary duty on the transport "Rosecrans."

ARNOLD, GEORGE H., hospital steward, now supposed to be at Skagway, Alaska, will be sent to Vancouver Barracks for duty.

SHIELDS, Major GEORGE F, surgeon, will proceed to the Presidio for temporary duty.

WETHERILL, First Lieutenant HENRY G., assistant surgeon, will proceed to the Presidio, and upon arriving there report to the commanding officer for duty.

HOLMES, T. G., acting assistant surgeon, now at Vancouver Barracks, will return to his proper station, Fort Wright.

HARTING, HENRY, hospital steward, is relieved from duty on the U. S. Transport "Egbert" and placed on detached service in San Francisco, Cal., to date May 8.

POPE, Lieutenant-Colonel BENJAMIN F., division surgeon general, will report at the Presidio, not later than June 3, for temporary duty at that post.

HARVEY, Major P. F., surgeon, has been granted leave of absence at the Presidio.

HARVEY, Major PHILIP F., surgeon, is granted leave for one month from May 19, with permission to apply for an extension of one month.

BRECHEMIN, Major LOUIS, surgeon, is granted leave for one month on surgeon's certificate.

POINDEXTER, Captain JEFFERSON D., assistant surgeon, is granted leave for 21 days.

REED, Major WALTER, surgeon, will proceed from Washington, D. C., to New York City, and report to the commanding general, department of the East, for duty.

CARROLL, JAMES, acting assistant surgeon, will proceed from Washington, D. C., to New York City, and report to the commanding general, department of the East, for duty,

REED, Major WALTER, surgeon, upon completion of the duty assigned him by the commanding general, department of the East, will proceed to Camp Columbia, Quemados, Cuba, on business pertaining to the medical department, and report his arrival and instructions to the commanding general, division of Cuba; the commanding general, department of Havana and Pinar de Rio and the commanding officer, Camp Columbia.

CARROLL, JAMES, acting assistant surgeon, upon completion of the duty assigned him by the commanding general, department of the East, will proceed to Camp Columbia, Quemados, Cuba, on business pertaining to the medical department, and report his arrival and instructions to the commanding general, division of Cuba; the commanding general, department of Havana and Pinar del Rio, and the commanding officer Camp Columbia.

A board of medical officers is appointed to meet at Camp Columbia, Quemados, Cuba, for the purpose of pursuing scientific investigations with reference to infectious diseases prevalent in the island of Cuba. Detail: Major WALTER REED, surgeon; JAMES CARROLL, acting assistant surgeon; ARISTIDES AGRAMONTE, acting assistant surgeon; JESSE W. LAZEAR, acting assistant surgeon. The board will act under general instructions to be communicated to Major REED by the Surgeon-General of the Army.

AGRAMENTO, ARISTIDES, acting assistant surgeon, is relieved from duty in the department of Havana and Pinar del Rio, and will report to the chief surgeon of the division of Cuba for duty in charge of the division laboratory.

BROWN, CLARK L., hospital steward, is relieved from duty at Columbia Barracks, Cuba, and will report to Major MARLBOROUGH C. WYETH, surgeon, in charge of the medical supply depot, Pirotecnia Militar, Havana, Cuba, for temporary duty.

WETHERILL, First Lieutenant HENRY E., assistant surgeon, will report to the commanding general, department of California, for assignment to duty.

BRADLEY, Captain ALFRED E., assistant surgeon, is granted leave for 10 days.

MATTHEWS, Major WILLARD S. H., surgeon, is granted leave for 15 days.

PURSELL, FRANCIS J., acting assistant surgeon, will report to the commanding general, department of California, for assignment to duty in that department.

WOOD, HALSEY L., acting assistant surgeon, is granted leave for one month, to take effect upon the arrival of an officer to relieve him from duty on the transport "Ingalls."

RICHARDS, J.W., acting assistant surgeon, will proceed to Governor's Island and report to the commanding general, department of the East, for temporary duty.

RICHARDS, J. W., acting assistant surgeon, will upon the completion of the temporary duty to which he may be assigned by the commanding general, department of the East, proceed to Havana, Cuba, and enter upon duty on the transport "Ingalls" during the absence on leave of Halsey L. WOOD, assistant surgeon.

BAILEY, FRANCIS J., acting assistant surgeon, now at the U. S. general hospital, Presidio, is assigned to duty on the U. S. transport "Lawton," during the voyage of that vessel to Seattle, Wash., to sail from San Francisco, Cal., May 24. On arrival at Seattle, Acting Assistant Surgeon Bailey will report to the commanding general, department of Alaska, for further orders.

GIBSON, Major ROBERT J., surgeon, will proceed from San Francisco, Cal., to Vancouver Barracks for duty as a member of board of officers. When his services are no longer required, Major Gibson will return to his station in San Francisco.

SHAW, Captain HENRY A., assistant surgeon, is granted leave for 15 days, on surgeon's certificate.

WINTERBERG, W. H., acting assistant surgeon, now on duty at Fort Mason and as medical examiner of recruits in San Francisco, Cal., is relieved from further duty at the U. S. General Hospital, Presidio.

FRICK, Captain EUCLID B., assistant surgeon, is detailed as member of the board of officers instituted by par. 1, S. O. 41, and directed to reconvene June 1 by par. 1, S. O. 120, c. s., these headquarters, in place of Captain John L. Phillips, assistant surgeon, relieved.

POTTER, Major SAMUEL O. L., surgeon, now at San Francisco, Cal., will report to the commanding general, department of California, for temporary duty in that department.

SCHERRER, ELMER A., acting assistant surgeon, leave of absence is extended 10 days.

WILISON, ROY A., acting assistant surgeon, will proceed to Fort Slocum, for the purpose of accompanying a detachment of recruits so San Francisco, Cal., and upon the completion of this duty will return to his proper station at Fort Totten.

KIMBALL, Lieutenant-Colonel JAMES P., is granted leave of absence for two months, from about June 9.

KEEFER, Major FRANK R., surgeon, will proceed from San Francisco, Cal., to Washington, D. C., and report to the Surgeon-General of the Army.

MEATE, JOHN S., hospital steward, Army Medical Museum, Washington, D. C., is transferred to Quemados, Cuba, and upon his arrival at Quemados he will report for duty to Major Walter Reed, surgeon, president of the board of medical officers at that place.

CARTER, H. R., acting assistant surgeon, now supposed to be at Fort Gibson, Alaska, will proceed to Fort St. Michael, Alaska, reporting upon arrival to the commanding general of the department of Alaska for further instructions.

TWEEDIE, HEDLEY V., acting assistant surgeon, is relieved from duty at Seattle, Wash., and will proceed via Skagway and White Pass route, to camp at Circle City, Alaska, to relieve acting assistant surgeon H. J. Schlageter.

SCHLAGETER, H. J., acting assistant surgeon, will proceed to Fort St. Michael, Alaska, reporting upon arrival to the commanding general of the department of Alaska for further instructions.

HALLOWAY, JAMES H., acting assistant surgeon, is assigned for duty on the transport "Rosecrans," relieving Acting Assistant Surgeon Robert E. Caldwell

CALDWELL, ROBERT E., acting assistant surgeon, will proceed to San Francisco, Cal., reporting upon arrival to the commanding general, department of California for assignment to duty.

BEVANS, JAMES L, acting assistant surgeon, is relieved from duty at Seattle, Wash., and will report on board transport "Rosecrans" for temporary duty during the voyage of that vessel from Seattle, Wash., to Cape Nome, Alaska. Upon arrival he will report to the commanding officer U. S. troops for assignment to duty at that station.

HUGHES, MICHAEL E., acting assistant surgeon, is relieved from further duty in the department of Puerto Rico, and at the expiration of his present leave will proceed from Adams, Mass., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

SMITH, RODNEY D., acting assistant surgeon, will proceed from Bloomington, Ind., to San Francisco, Cal., and report to the commanding general, department of California, for duty.

METCALF, BEN. H., acting assistant surgeon, will proceed from Winthrop to Fort Banks, Mass., for duty, to relieve First Lieutenant Samuel M. Waterhouse, assistant surgeon, who will proceed to Fort Meade for duty.

WETHERILLL, Captain HENRY E., assistant surgeon, is relieved from

duty at Hospital No. 3, Manila, P. I., and will report to the commanding officer U. S. Army transport "Thomas," for duty on that vessel on return voyage to San Francisco, Cal.

HARRIS, Major HENRY S. T., surgeon, is relieved from duty at headquarters department of Southern Luzon, and will report to the commanding general, fourth district, department of Northern Luzon, for temporary duty as district surgeon.

DEAN, First Lieutenant ELMER A., assistant surgeon, will report to the commanding general, department of the Visayas, for duty, relieving First Lieutenant Irving W. Rand, assistant surgeon, now on duty at Capiz, Panay, who will report to the commanding officer, Santa Mesa Hospital, for duty.

MANLY, First Lieutenant CLARENCE J., assistant surgeon, will report to the commanding officer, 25th Inf., at Iba, Province of Zambales, Luzon, for duty as regimental surgeon.

KEEFER, Major FRANK R., surgeon, is relieved from duty in the division of the Philippines, and will proceed to San Francisco, Cal.

TRUBY, First Lieutenant A. E., assistant surgeon, is relieved from duty at Columbia Barracks, Cuba, and will proceed to Guanajay Barracks, Cuba, for duty, relieving Captain W. W. Quinton, assistant surgeon.

BUCK, C. D., acting assistant surgeon, Fort Assinniboine, is granted leave for ten days from about June 3, provided he furnishes, during his absence, a substitute satisfactory to the post commander.

MATTHEWS, Major WILLARD S. H., surgeon, granted leave for fifteen days is extended five days.

ROBERTS, WILLIAM, acting assistant surgeon, will proceed to Santiago, Cuba, reporting upon arrival to the commanding officer, department Santiago and Puerto Principe, for assignment to duty.

MCLAUGHLIN, W. B., acting assistant surgeon, relieved from duty in Havana, will proceed to Mantanzas, Cuba, reporting upon arrival to the commanding general, department Matanzas and Santa Clara, for assignment to duty.

BISPHAM, W. N., acting assisting surgeon, relieved from duty in Havana, will report to the commanding officer, Cabana Barracks, Cuba, for assignment to duty.

LYSTER, T. C., acting assistant surgeon, is relieved from duty at Cabana Barracks, Cuba, and will report to the chief sanitary officer of the city of Havana, Cuba, for duty.

COMEGYS, Major EDWARD T., is granted leave for one month, to take effect upon the completion of his duties pertaining to the medical supply depot at Savannah, Ga.

BOYER, ARTHUR I., acting surgeon, is granted leave for fifteen days on surgeon's certificate, with permission to apply for an extension.

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 9, 1900:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
DISTRICT OF COLUMBIA:	Washington	May 12–19	5	1
COLORADO:	Archalita Co.	May 19	2	
"	Arapahoe	May 19	3	
"	Boulder Co.	May 19	1	
"	Otere Co.	May 19	1	
"	Pueblo Co.	May 19	2	
"	San Miguel Co.	May 19	1	
ILLINOIS:	Cairo	May 19–26	4	
INDIANA:	Evansville	May 19–26	1	
"	Indianapolis	May 18–19	7	
KANSAS:	Wichita	May 19–26	7	
KENTUCKY:	Covington	May 19–26	8	
LOUISIANA:	New Orleans	May 19–26	78	22
"	Shreveport	May 19–26	3	
MASSACHUSETTS:	Fall River	May 19–26	1	
"	Lowell	May 19–26	2	
MICHIGAN:	Detroit	May 12–19	3	
"	Grand Rapids	May 12–19	5	1
MINNESOTA:	Minneapolis	April 28–May 5	34	3
NEW MEXICO:	Capitam	May 7–21	11	
NEW YORK:	New York	May 19–26	24	
OHIO:	Cleveland	May 19–26	32	
OREGON:	Portland	May 17	1	
S. CAROLINA:	Greenville	May 12–19	2	
UTAH:	Salt Lake City	May 19–26	5	
VIRGINIA:	Petersburg	April 26–May 26	2	
WASHINGTON:	Tacoma	May 12–19	1	
WISCONSIN:	Deer Co.	May 22	3	
"	Douglas Co.	May 22	3	
"	Eau Claire Co.	May 22	10	
"	Kewanee Co.	May 22	6	
"	Pierce Co.	May 22	1	
"	St. Croix Co.	May 22	70	1
"	Waupaca Co.	May 22	3	1
WYOMING:	Cheyenne	May 19	3	
"	Rock Creek	May 19	2	
"	Sweetwater Co.		7	
"	Green River	May 19	10	
"	Evanston	May 19	5	
"	. . . . .	May 19	1	
"	Funnel	May 19	13	

SMALLPOX—FOREIGN.

			Cases.	Deaths.
AUSTRIA:	Prague	April 28–May 12	9	
BELGIUM:	Antwerp	May 5–12	6	
BRAZIL:	Rio de Janeiro	March 31–Apr. 13	14	11
CANADA:	Ontario, Hollingswood	May 16	1	
"	Sault Ste. Marie	May 16	Prevalent.	
"	Winnipeg	May 13–26	16	3
CHINA:	Hongkong	April 7–21	1	1
EGYPT:	Cairo	April 1–May 6		53
ENGLAND:	Liverpool	May 5–12	8	1
"	London	April 22–May 12	11	1
"	Southampton	May 12–16		1
FRANCE:	Lyons	April 21–May 12		6
GERMANY:	. . . . .	May 5–12	2	
GIBRALTAR:	. . . . .	April 28–May 13	4	
GREECE:	Athens	May 5–12	3	4
INDIA:	Bombay	April 17–May 1		101
"	Calcutta	March 24–Apr. 7		102
"	Kurrachee	April 15–22	45	12
"	Madras	April 7–27		
ITALY:	Leghorn	May 5–12	1	1
MEXICO:	Chihuahua	May 12–19		
"	Vera Cruz	May 12–19	4	4
RUSSIA:	Odessa	April 28–May 12	15	4
"	St. Petersburg	April 28–May 5	15	3
"	Warsaw	April 22–May 5		
SCOTLAND:	Glasgow	May 11–18	27	1
SPAIN:	Corunna	May 5–12		1
"	Madrid	April 21–May 5		16
"	Valencia	May 12–19	1	
STRAITS SETTLEMENTS:	Singapore	April 1–21		11

YELLOW FEVER.

BRAZIL:	Rio de Janeiro	March 31–Apr. 13	47	34
COLOMBIA:	Panama	May 75–22	7	4
CUBA:	Cienfuegos	May 26	5	3
			at Santa Clara Barracks.	

CHOLERA.

INDIA:	Bombay	April 17–May 1		37
"	Calcutta	March 24–Apr. 7		217
"	Madras	April 7–13		1
JAPAN:	Osaka and Hiogo	April 21–28	1	

PLAGUE—FOREIGN.

CHINA:	Hongkong	April 7–21	40	35
INDIA:	Bombay	April 17–May 1		894
"	Calcutta	March 24–31		1599
"	Kurrachee	April 16–29	763	622
JAPAN:	Osaka	April 8–May 14	11	3
"	Shidzuoka	May 7	1	

Weltmerism and the U. S. Mails.—According to the *Medical Fortnightly*, the Post Office Department has issued an order forbidding the delivery of mail matter and the payment of money orders to the American School of Magnetic Healing, the order reading that S. A. Weltmer, president; J. H. Kelly, all of Nevada, Mo., are conducting through the mails a scheme for obtaining money by false and fraudulent pretenses. The official order states:

"The evidence before the department showed that the 'absent treatment' scheme for disease and poverty, while predicated upon the proposition of S. A. Weltmer, was not conducted by himself, but by the business managers of the scheme. The persons making remittances for treatment of any disease by the absent method were notified that they must assume a passive attitude at certain hours of the day, and at these hours Professor Weltmer's 'healing thought' would flow out to them. In reality, Professor Weltmer was not in any wise brought in contact with the patient or with his correspondents, and knew practically nothing of the business operations of the scheme."

"Permanent order has been issued, forbidding delivery of mail matter and payment of money orders addressed to American School of Magnetic Healing, for conducting through the mails a scheme to defraud. Definite instructions as to return of mail to senders will follow. Mail addressed to S. A. Weltmer personally may be delivered to him. Action of department does not deal with Weltmer proposition, but manner in which absent treatment scheme was conducted. Letter follows.

"HARRISON K. BARRETT,
"Acting Assistant Attorney-General for Post Office Department."

Before these orders could be obeyed, Judge Amos Thayer of the United States Court of Appeals issued an injunction compelling the Nevada postmaster to hold the mail until

there could be a hearing. The injunction is returnable on June 2 in St. Louis.

Changes in the Medical Corps of the U. S. Navy for the two weeks ending June 9, 1900:

BARBER, W. H., assistant surgeon, detached from the "Alliance," when placed out of commission and ordered to duty at the Naval Hospital, New York.

FISK, C. N., assistant surgeon, commissioned assistant surgeon from May 15, 1900.

NORTON, O. D., surgeon, detached from the "Monadnock" and ordered to the "Bennington."

TAYLOR, J. S., assistant surgeon, detached from the "New Orleans" and ordered to the "Culgoa."

GROW, F. J., assistant surgeon, detached from the "Richmond" and ordered to the "Monadnock."

MCCORMICK, A. M. D., past assistant surgeon, detached from the "Montgomery," and ordered to the "Chicago."

WHITING, J. R., assistant surgeon, detached from the "Chicago," and ordered to the "Montgomery."

BRAISTED, W. C., past assistant surgeon, ordered to the "Massachusetts" immediately.

VON WEDEKIND, L. L, past assistant surgeon, detached from the "Richmond," and ordered to the "Indiana" immediately.

DOUGLASS, S. W., pharmacist, ordered to additional duty on the "Massasoit."

Changes in the U. S. Marine-Hospital Service, for the 14 days ending June 7, 1900:

BAILHACHE, PRESTON H., surgeon, detailed as official delegate of the Service at the meeting of the American Medical Association at Atlantic City, N. J., June 5-8, inclusive. May 29.

COFER, L. E., assistant surgeon, to proceed to San Francisco, Cal., and report to J. J. KINYOUN, surgeon, for special temporary duty. May 30.

PRIMROSE, R. S., acting assistant surgeon, granted leave of absence for 7 days. May 25.

RICHARDSON, S. W., hospital steward, granted leave of absence for 7 days from May 26, under the provision of paragraph 201, regulations. M. H. S. May 20.

BANKS, C. E., surgeon, granted leave of absence for 2 months and 29 days from July 1. June 5.

CARMICHAEL, D. A., surgeon, relieved from duty in the U. S. Consulate, and directed to assume command of the quarantine service at Honolulu, H. I., on June 14. May 3.

CLARK, TALIAFERRO, assistant surgeon, relieved from duty at the Tortugas Quarantine Station, and directed to proceed to Washington, D. C. June 7.

MCMULLEN, JOHN, assistant surgeon, directed to assume command of the Tortugas Quarantine Station. June 7.

AMESSE, J. W., assistant surgeon, directed to proceed to Honolulu, H. I., and report to surgeon D. A. Carmichael for duty. June 5.

BEAN, L. C., acting assistant surgeon, granted leave of absence for 10 days from June 16. June 6.

BREADY, JOHN E., acting assitant surgeon, granted leave of absence for 7 days from June 16. June 6.

O'REILLY, W. J., acting assistant surgeon, granted leave of absence for 5 days from June 1. June 1.

ULRICH, C. F., acting assistant surgeon, granted leave of absence for 29 days from June 1. June 1.

MACDOWELL, W. F., hospital steward and chemist, directed to report at the Bureau for instructions preliminary to departure for Havana, Cuba. June 7.

HANRATH, F. R., hospital steward, granted leave of absence for 2 months, on account of sickness, from date of being relieved from duty. May 31.

RICHARDSON, S. W., hospital steward, directed to rejoin station at St. Louis, Mo., and then to proceed to Savannah and Waycross, Ga., for special temporary duty. June 4.

MASON, MYRON R., hospital steward, relieved from duty at Portland, Me., and directed to proceed to Dutch Harbor, Alaska, and report to medical officer in command for duty and assignment to quarters. June 7.

BECK, J. E., hospital steward, relieved from duty at San Francisco, Cal., and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters. June 7.

APPOINTMENTS.

SAFFORD, M. VICTOR, appointed acting assistant suageon, for duty at the Immigration Depot, New York, N. Y. May 25.

BAILEY, C. A., appointed acting assistant surgeon, for duty at the Immigration Depot, New York, N. Y. May 25.

MACDOWELL, W. F., appointed hospital steward and chemist. May 25.

Roumanian Medical Association. — The General Medical Association of Roumania, which was founded three years ago with the object of consolidating the strength and promoting the interests of the profession, has recently been recognized as of public utility by a unanimous vote of the Roumanian Chamber. The Association holds a congress twice a year for the discussion of scientific questions and medical politics.

Foreign News and Notes.

GREAT BRITAIN.

Dr. F. G. Clemon has been appointed British delegate to the Ottoman Board of Health in Constantinople in the room of the late Dr. Dixon.

The General Medical Council opened its summer session for 1900 on Tuesday, May 22. Two counsellors were absent, one, Sir William Thomson, being at the war with Lord Iveagh's Irish Hospital, and the other, Professor Leech, of Manchester, being ill. The proceedings of the first three days were decorous to dulness. The Midwives' Bill was practically done with so far as the Council was concerned, for the report from a subcommittee appointed to discuss the matter was adopted. The report shows that the General Medical Council's suggestions have not been adopted in their entirety, which the medical profession may consider a very clear proof that the Council enjoys no more confidence in official circles than it does in medical circles. There will, however, be in all probability no more acrimonious discussions over this bill, for the whole profession, whether approving it or disapproving it, begin to feel that it must come, and that to keep demonstrating against it is to waste time and breath.

The Rating of Hospitals.—A select committee of the House of Commons has been appointed to consider the question of hospitals being retired from the rates. In London, where such perfectly enormous rates are exacted and where, at the same time, it is not known that the hospitals can only keep their doors open by persistent begging and by stretching their credit to the utmost, it certainly does seem absurd that these institutions should have to pay many thousands per annum towards further expenditure. Where is the economy of crippling their special public utility that they may share general public liability? The committee has only one medical man, Dr. Farquharson, upon it, though Sir Cameron Gull, another committee man, is the son and heir of the late Sir William Gull. But the absence of medical men is of no great significance, for medical men will be asked to give evidence before the committee, while the funds of the hospitals are, in most cases, in lay hands and the matter is financial purely, and not scientific.

A plague scare may be expected in England. Plague is now pandemic in so many places in close trading relation with English ports that it will be extraordinary good fortune if no cases get ashore, and this fact is appreciated and is causing considerable anxiety. The public-health service of the United Kingdom, however, refuse to be apprehensive. Relying upon a thoroughly well-organized sanitary department at every port and an elaborate system for tracing inland all persons landing from infected vessels, the public-health officers say that it is impossible that such a disease as plague should ever get any foothold in modern England. They are probably right. There are lots of extremely filthy places in England, but there is not a corner that would not come under the immediate inspection of a medical officer of health if any manifestations pointing to plague should occur, while the by-laws would permit the infected area to be dealt with drastically. Plague would have more chance of obtaining foothold in Ireland than in England or Scotland, but the opportunities of its importation to Ireland are not nearly so numerous.

"Birthday" Honors for Medical Men.—The roll of medical men receiving popular distinction this year upon Queen Victoria's birthday was very short, but the list was, as a whole, a unique one. Dr. Hector Cameron, the president of the Faculty of Physicians and Surgeons in Glasgow, and representative of that body upon the General Medical Council, was knighted; so was Dr. J. W. Moore, the president of the Royal College of Physicians of Ireland, and Dr. David Palmer Ross, C. M. G., Surgeon-General of British Guiana. A fourth medical man, Dr. Bisset Berry, received a knighthood, but the honor was for political not medicall services, the doctor being speaker of the House of Assembly of the Cape of Good Hope. The Deputy Director General of the Army Medical Service, who has had a very trying time during the preparation of the South African Field Force,

and Colonel Henry Thomson of the Army Veterinary Department, were made Companions of the Bath, and a few members of the medical profession of either sex were included among the great who received the Kaisar-i-Hind medal for public service in India.

The Celebration of the Centenary of the Royal College of Surgeons of England will be held on July 26. The centenary services will be held in Lincoln's New Hall, but the rank and file of the College it would appear will not have much chance of attending the function. "I hear," writes a frequent correspondent, "that the hall will only hold 350 persons. As the distinguished guests of the College will number 150 at the least, and as the officials amount to nearly 50, only 150 seats or so will remain for distribution among the 17,000 fellows and members of the College who will ballot for the privilege of being present. It is said that the price of the dinner tickets will be £2.2; as this sum is at least double and probably three times as much as the dinner will cost there will be a large surplus, or, to put the matter in another way, the officials of the College will invite the distinguished guests, and the few fellows and members present at the feast will pay for these distinguished guests." There is a suggestiveness about this that does not beseem the centenary celebration of a world-famed institution.

The Health of the Army in South Africa Continues Good.—The weather is now very cold, especially at night, in the Transvaal, and all over South Africa there has been a slight increase in the death-rate owing to dysentery. The troops have kept wonderfully free from pulmonary disease, and the prevalence of enteric fever is subsiding. The week from May 24 to May 31 witnessed an extraordinary change in the fortunes of the war. At the former date Lord Roberts crossed the Vaal River to begin what Continental critics assured him would be the most arduous part of his campaign. A series of impregnable positions were said to separate him from Pretoria; he was warned that his ever lengthening lines of communication laid him open to terrible reprisals at the hands of his resolute foe; while the destruction of the Rand mines would stagger humanity and render barren all victory. By the latter date, at the cost of almost no lives, Johannesburg was in the hands of the British, Pretoria was arranging to capitulate, and President Kruger had fled. The most notable thing about Lord Roberts' race northwards was that hardly a soldier was sick, a fact proving two things: first, that his transport was excellent, and second, that it is enforced inactivity and not hard work that tells on the health of an army.

The Relief of Mafeking is a medical topic, because everything that absolutely absorbs the attention and stirs the deepest feeling of a whole nation is, as must be, of medical interest. The British people who rejoiced deeply over the happy issue to the sieges of Kimberly and Ladysmith, while in a creditable spirit of self-restraint they crowed hardly at all over the capture of Cronje and his force, went mad—there is no other word for it—over the relief of Mafeking. All the circumstances combined to make them do so. Mafeking, a collection of tin shanties, occupied by about 1200 volunteers and 300 regulars, is within a few hours' journey of Pretoria. To Mafeking, at the outset of the war, there was sent a strong commando of Boers, asking the isolated outpost to surrender. If they had surrendered the world could have said no word of blame. Their post was of no great strategic importance then (circumstances have altered that fact), they were enormously outnumbered, and they could not expect relief for months. But they received this suggestion not with indignation, but with laughter; and for seven months continued to hold large investing forces at bay, and also continued to laugh. That is what made the position so dramatic. For four months out of those seven months the war went disastrously for the British, and during all that time of depression, from the little town whose plight seemed from the first absolutely hopeless, there came nothing but jokes. Baden Powell admitted that he had disease and famine to deal with, that he had lost many good men, and that that the cordon was tightly drawn round him; but he never would admit that there was anything in their circumstances that would excuse capitulation or obliterate a hope of rescue, or even quench laughter. This was dramatic enough. Then, to complete a fiction exactly in the style of the elder Dumas, Lord Roberts sends a calm message, weeks before the happy event, to his gallant junior asking him to hold out until May 18, when he would be relieved; and on May 17 relieves him, sending one force six hundred miles north and another a thousand miles west to do it, and so timing affairs that the two relieving forces arrived before Mafeking within an hour of each other. No wonder the story drove England off its national head.

At the Royal Medical and Chirurgical Society's last meeting, Sir William MacCormac delivered an interesting address upon **the wounded in the South African War,** his remarks being largely based upon his weekly letter to the *Lancet* during his presence at the front. Sir William MacCormac simply told again the lesson of the war, which is that modern bullets, when the injury effected does not necessitate some such operation as laparotomy, are wonderfully merciful. They not only do not kill, but they inflict injuries which heal rapidly and with little deformity. Sir William MacCormac had a hearty reception from his colleagues upon this his first public appearance after his return from the war.

The summer session of the General Medical Council lasted till Thursday the last day in May and was on the whole a useful one. The proceedings were orderly and a good deal of work was done. In the matter of the Midwives' Bill, the subject in which the profession as a whole is most keenly interested, the Council decided to take no step to insist upon their views being followed, but adopted the advice of the Duke of Devonshire to wait until the framing of the rules for the Midwives' Board is in their hands, when they will be able to secure their own way without opposition. It is just possible that they may have some time to wait. The Midwives' Bill has been a series of surprises throughout. It passed the House of Commons when no one thought it had a chance, and now that apparently all active opposition has ceased and most people were prepared to regard the measure as law, a hitch has occurred. It is believed that the Home Office object to certain clauses, and that the fact was debated *in camera* by the Council. In this case the Government is certain not to allow the measure to become law without modification. The opponents of the Bill have learned that the promoters have received a check and efforts at resistance are being re-started. The Council had a long debate upon the question of reciprocity in the matter of medical practice between England and Italy. The question involved here is an important one, but in the minds of many people it has been given too much prominence. There are some fifty or sixty English-speaking medical men in Italy, of whom forty are on the British register. The Italian Government—or to be quite accurate, the late Italian Government, for they may not be recalled to office—has threatened to prevent the practice of foreigners in Italy, and the Council was asked to grant facilities to Italian physicians and surgeons to obtain a place on the British register, so that Italy might offer to English medical men a similar position of legal security. The Council has very wisely done nothing of the sort. To alter in such a drastic manner the constitution of the British register in the interest of forty medical men would have been exceedingly short-sighted. Of course it is equally short-sighted of the Italian Government to try to prevent English-speaking medical men—whether British or American—from attending English-speaking residents in Italy. If Italy persists in this foolish step, the Italian physician will gain nothing by the projected protection, for no English or American wealthy invalids will go where they cannot be attended by medical men of their own nationalities. The proper solution of the matter is obvious—the English-speaking medical men now resident in Italy should be let alone, but for the future, foreigners desirous of practising in Italy should be made to graduate at one of the Italian Universities. The Council adopted a valuable report from an expert sub-committee upon education and the result will be an improved standard of preliminary education for the student. They also adopted a recommendation of this sub-committee that no medical or dental student should be registered until he had attained the age of 16. The Council also promised indirectly to formulate their views at their next meeting upon the propriety of registered medical men accepting posts under medical aid associations.

CONTINENTAL EUROPE.

Professor Porro, Senator of the Kingdom of Italy, as to whose state of health very grave reports recently appeared in the Italian press, has now completely recovered.

Tuberculosis in Greece.—According to the bills of mortality published every month under the auspices of the Greek Ministry of the Interior, the disease which claims the largest number of victims in the towns of that country is tuberculosis. Of 261 deaths recorded in Athens in December, 1899, 33 were due to tuberculosis. Another noteworthy point in the mortality of Greek towns of more than 10,000 inhabitants is the great disproportion between the number of male and that of female deaths. Thus, at Athens, of the 261 deaths in the month referred to, only 94 were those of women; of 71 persons who died at Corfu, 31 were women; of 41 at Syria, 25 were men; of 36 at Pyrgos, 21 were men. In only one town—namely, Larissa, did the number of women who died exceed that of the men; there, out of a total of 43 deaths, 24 were of women.—[*British Medical Journal*]

The Treatment of Alcoholism.—At a meeting of the Academy of Medicine held on May 8, according to the *Lancet*, Crivelli reported that in a great number of cases he had seen marked improvement and occasionally lasting cure as a result of the following treatment of alcoholism. He begins with injections of artificial serum, followed by complete rest, baths, massage, a light diet, and coffee to drink. He then administers twice a day a hypodermic injection of a solution of strychnin of the strength of 1%. Commencing with 3 drops he increases the dose by 2 drops daily until symptoms of poisoning arise. They generally appear when the dose has been raised to between 20 and 40 drops, corresponding to 3 or 5 milligrams of strychnia. The dose is then gradually reduced until it reaches 2 drops. M. Fermet said that alcoholism ought to be added to the "causes of death" demanded by the municipal statistics. After some remarks by M. Colin, M. Maray, and M. Vallin this valuable proposition, valuable in the great towns at least, was adopted by the Academy.

Malingering by Military Recruits.—In almost every continental country, military service is obligatory, and the law provides severe penalties for those who try to escape this duty by fraudulent means. Cases of this kind are infrequent, and a great sensation was caused when it was known that the military authorities had discovered that an agency existed in Rhenish Prussia by which young men were systematically enabled to evade the conscription. The army medical officers in that province charged with the examination of the young men selected for military service found some time ago that a relatively great number of recruits had to be rejected because they suffered from jaundice and from cardiac palpitations, also a certain number of young soldiers showed those symptoms at the commencement of their service in the army so that they had to be discharged. The cause of these remarkable phenomena was discovered by an accident. In the belongings of a soldier admitted into the military hospital for alleged cardiac disease a box was found containing pills which were proved by chemical analysis to contain large doses of caffein. On inquiries being made it was ascertained that the recruit had received the pills from a man named Strucksberk, who was thereupon arrested. The police then discovered that this man had been the head of an agency that had enabled numerous young men to escape service in the army. He had been in association with a medical man, Dr. ——, to whom he used to send his clients. Dr. —— examined them and when he found the young men fit for military service he prescribed pills of caffein in strong doses to produce cardiac palpitation or pills of picric acid to produce symptoms of icterus. Both the medical man and the agent were therefore prosecuted together with a number of young men before a court at Elberfeld. The agent had died previously to the trial, but Dr. —— was found guilty and condemned to 10 months' imprisonment. Dr. —— had been known to be of very low professional standing and during the trial there was no indication that other medical men had been connected with the case—the "pill case," as it was popularly designated.—[*Lancet.*]

Prizes of the French Academy of Medicine Open for 1901 to Foreigners.—The following list of prizes open for competition to physicians other than French is compiled from the *Presse Médicale* for December 30, 1899, by the *New York Medical Journal.* Essays must be sent in to the French Academy of Medicine before the end of February, 1901. They must be written in French or Latin. They should, with the exceptions denoted by an asterisk, be marked with a device and accompanied by a sealed envelop marked with the same device and inclosing the name and address of the author, the competitor's identity being strictly concealed. The same essay must not be submitted in one year to more than one competition. MSS., printed matter, and instruments submitted will not be returned to the author.

Prix de l'Académie: 1,000 francs. Subject: Partial epilepsy from a clinical and experimental point of view.

Alvarenga Prize: 800 francs. For the best unpublished work on any medical subject, at the option of the author.

*Prix Barbier: 2,000 francs. For the discovery of a perfected mode of cure of any disease commonly considered incurable—*e. g.*, cancer, epilepsy, etc. Awards will be made to those who, without having attained the end in point, have most nearly approached it.

*Prix Mathieu Bourceret: 1,200 francs. For the best work on the circulation of the blood.

* Prix Adrien Buisson: 10,500 francs. This prize will be awarded to the author of the best discoveries resulting in the cure of diseases recognized up to date as incurable.

Prix Capuron: 1,000 francs. Subject: On rigidity of the cervix uteri during accouchement, excluding that caused by cancer and fibroma.

* Prix Chevillon: 1,500 francs. For the best work on the treatment of cancerous affections.

Prix Civrieux: 800 francs. Subject: The rôle of alcohol in mental pathology.

* Prix Clarens: 400 francs. For the best manuscript or printed work upon hygiene.

Prix Daudet: 1,000 francs. Subject: The best surgical methods for employment in cancer of the breast.

*Prix Desportes; 1,300 francs. For the best work upon practical medical therapeutics.

*Prix Ernest Godard: 1,000 francs. For the best work upon external pathology.

* Prix Théodore Herpin (of Geneva): 3,000 francs. For the best work upon epilepsy and nervous maladies.

*Prix Hugo: 1,000 francs. For the best work, manuscript, or printed, upon some point of the history of the medical sciences.

*Prix Jacquemier: 1,700 francs. For the work effecting the most important progress in some obstetrical subject.

* Prix Laborie: 5,000 francs. For the most notable advance in the science of surgery.

*Prix du Baron Larrey: 500 francs. For the author of the best work on medical statistics. This prize may be divided.

Prix Louis: 3,000 francs. Subject: Thyreoid medication.

Prix Mège: 900 francs. Subject: Pathogenesis of simple ulcer of the stomach.

*Prix Meynot: 2,600 francs. For the author of the best work upon diseases of the eyes.

Prix Portal: 600 francs. Subject: The lesions of the nerve-centers caused by the tetanus toxin.

Prix Pourat: 700 francs. Subject: The circulation of the blood in the lung.

*Prix Philippe Ricord: 600 francs. For the best work that has appeared in the preceding two years upon venereal diseases.

*Prix Vernois: 700 francs. For the best work on hygiene.

The prizes marked with an asterisk are exempted from the regulation respecting secrecy, as published works as well as manuscripts are eligible in competition.

The International Anti-Tuberculosis Congress.—According to the *Lancet* the Congress met in Naples, Italy, April 25, and was inaugurated by the King and Queen of Italy in the historic Opera House of San Carlo. The president, Professor Bacelli, welcomed the delegates sent from every European country (except England), the Congressists who numbered some 1,200, and the members of the "League's" adherents in Neapolitan society. He alluded to the King's efforts during the cholera in 1884 and to his present visit to wage war against the "phylloxera of human life." He explained the objects of the meeting and briefly reviewed the question of tuberculosis from Morgagni to Koch. The recent legislation and the prizes offered for the best-planned sanatorium were mentioned. He insisted that the mortality from tuberculosis in Italy was less and more rapidly decreasing than in any other country in Europe, in spite of the number of cases attracted there by the climate, but trusted that the original example set in England would be eagerly followed by Italy in the providing of proper institu

tions for consumptives. From the mass of communications which covered all the old ground are taken the more original items.

Professor Lannelongue explained his attempt to deduce results as to climate. He inoculated 150 guineapigs in the pleura with similar doses of tuberculous material. The 150 were divided into 3 lots of equal weights and put to live under different climatic conditions, one lot being retained in the laboratory at Paris, the second lot being sent to Valmont in the country, and the third lot to the seaside at Grandes Dalles. The conditions other than climatic were rendered as similar as possible, the experiment lasting 11 months. The mortality curve of the country lot was the highest from the start, the other two lots keeping level for a long time. Towards December the seaside curve rose and the laboratory curve had the best of it. A second experiment was marred by an accident to one of the lots, but here again the laboratory lot suffered least, and Professor Lannelongue concluded that the equable temperature and the repose of the laboratory were the reasons. The greater thermometric variations of the country and the seaside were followed by rises in the mortality curves. An experiment on these lines if carried out with men instead of guineapigs might give definite information regarding the sites of sanatoria.

Professor Menella pressed for legislation against the marriage of phthisical persons, since investigations proved the transmission of tuberculous toxin, and even of bacilli, by the placenta and semen.

Dr. Sanarelli read a most suggestive paper on the Dangers of Infection in Railway Carriages, etc. He especially pointed to the wagons-lits and asked that there should be not merely a general disinfection of such vehicles but alterations in the material and arrangement of the upholstery so as to allow of daily cleansing. He asked for special carriages for consumptives. The model railway carriages now on view at Rome were mentioned.

Dr. Posner gave the result of 1,300 necropsies in Virchow's clinics, showing that of the tuberculous cases 30% had tuberculous disease of the genitourinary organs.

In the therapeutic section there was little new, iodoform being the favorite remedy, administered in every possible way. Professor Cervello had been expected to demonstrate his method of inhaling formic aldehyde. A proposal to abolish vaccination because of the risks of tuberculous infection received no support.

Dr. Germano gave an interesting account of the facility with which fish, especially the carp tribe, could be rendered tuberculous by feeding them on the sputum of consumptives.

Professor Iranzo had good reason to point out that the objects of the Congress would be more surely attained by the education of the public than by the passing of resolutions urging the Government to legislate on an infinity of professional whims.

A section was specially devoted to the meeting of the Laryngological Society of Italy, numbering about 80 members. The convenience of visitors was consulted by the Pro Napoli Society—a permanent institution for giving gratis and correct information on every possible matter of interest to strangers.

Professor Maragliano received a tribute from his friends in the profession, who presented him with an address and gold medal to mark his connection with the anti-tuberculosis movement.

Immunity Against Symptomatic Charbon by the Administration of Preventive Serum.—In some former researches into this question, M. Arloing, according to the *Lancet*, studied the preventive action of the serum of an ox strongly immunized against symptomatic charbon, and decided that this serum is capable of neutralizing in vitro an amount of virus equivalent to five times a mortal dose. On April 9 he laid before the Academy of Sciences the results of some new researches. He stated that this condition of passive immunity is only ephemeral and disappears completely at the end of about 8 days. But a much more lasting immunity can be produced by injecting, some days after the administration of the serum, a lethal dose of virus. This immunity lasts from 12 to 15 days. At the end of this time local manifestations appear, but such are never fatal. M. Arloing tried to obtain the same result by injecting the serum and the virus at the same time. Death, however, was only retarded. A control animal died in from 30 to 40 hours, while the others lived for 4 or 5 days.

The history of the progress of the plague in the Bombay Presidency from September, 1896, to June last, has been published by order of the government of India. According to the *New York Evening Post*, it shows that the success attending the efforts to continue the commerce of the port has been remarkable. Notwithstanding the difficulties of diagnosis in the incubation stage of the disease, few ships appear to have carried the plague elsewhere, and, so far as known, they have not established or spread infection. The efforts to prevent the spread of the disease in the Presidency and in other parts of India, have been less effectual. They were necessarily tentative in the beginning, owing to ignorance as to its origin and as to the best method of treating it. The organization of a research committee was among the most important steps, but there has been little recent progress in medical knowledge on the subject. The results of disinfection appear to be inconclusive. Inoculation, however, has proved a striking success, and the evacuation of infected places has also proved beneficial, while isolation and segregation have been useful. A general review of the history of the outbreak tends to show that, though the Presidency has suffered heavily, the actual plague mortality, except in small places where sanitary measures were not properly enforced during the rains, is almost insignificant, in comparison with the terrible loss of life which accompanied earlier visitations of the plague.

The Medico-Legal Relations of the Traumatic Neroses.—J. HENDRIE LLOYD, (Section on Neurology and Medical Jurisprudence, American Medical Association,) gives a particular report of a case in a colored woman, aged 53, who had fallen down stairs, becoming immediately paralyzed in arms, legs, and body, but with no loss of consciousness. All modes of sensation were completely lost from the clavicular region down to the toes. The patient died on the tenth day after the injury. Autopsy revealed extensive microscopic disease of the cord only; particularly involving the posterior columns (anterior half), while the lateral tract on one side was also involved in the minute hemorrhagic exudate. The points emphasized were that the amount of injury in this cord was much greater than a hasty inspection demonstrates, or than the drawing shows. With the high power it was seen that the nervous tissue was the seat of edema; that nerve-fibers had been compressed or even torn asunder, etc. The ground was taken that more cases of trauma result in organic changes in the cord than are at present given credit for, and that in the medico-legal relations of these cases the greatest acuity of diagnosis should be indulged before any traumatic neurosis of the spine is set aside as having no organic basis, which he believes can be demonstrated in many cases.

Cause of Cancer.—Roswell Park (*Buffalo Medical Journal*, March, 1900) in discussing the cause of cancer, gives it as his personal opinion that cancer is of parasitic origin. Not one parasite, but probably many, are responsible for the various malignant growths. In their labors at the State Laboratory in Buffalo, they have received increasing confirmation of this belief. They have found in all carcinomata certain bodies resembling fat, but which are not soluble in ether nor alcohol. These are the bodies described by H. G. Plimmer in the April number of the *London Practitioner*, 1899. Park says that in their recent work, in which cancer-tumors are introduced into living animals, they were able to find these bodies in large numbers in the enlarged lymph-nodes of the animals. They have been able in one case to produce a true adenocarcinoma in an animal by inoculation with fluid from the peritoneal cavity of a man suffering from colloid cancer of the omentum. In this fluid was found an organism which apparently belongs to the yeast group, but which they were unable to cultivate. The laboratory is in possession of pathogenic yeasts which various investigators have isolated from cancer, and experiments are being performed with them. These organisms are exceedingly polymorphic and difficult to deal with. [M B T.]

Society Reports.

AMERICAN ACADEMY OF MEDICINE.

Twenty-fifth Annual Meeting, Held at Atlantic City, June 2 and 4, 1900.

[Specially reported for the PHILADELPHIA MEDICAL JOURNAL.]

THE meeting was called to order at 11 A.M. by the president, DR. G. HUDSON MAKUEN, of Philadelphia. The secretary, DR. CHARLES MCINTIRE, read the minutes of the Columbus meeting. The treasurer reported that the Academy was free from debt, but that the balance on hand was not so large as usual. The year has been marked by several losses from death.

Among the Fellows elected to the Academy were: Drs. O. A. Emberly, of Massachusetts; Ella B. Everett, of Philadelphia; Thomas Snyder, of Niagara Falls; A. O J. Kelly, of Philadelphia; J. Addison Joy, of Atlantic City; Judson Daland, of Philadelphia; and W. R. Powley, of Atlantic City.

Drs. Risley and Carhart were appointed Auditing Committee, and Drs. Connor, of Detroit; Jackson, of Denver; and Wilson, of Columbus, were appointed on the Nominating Committee.

In the **President's Address** to the Academy, Dr. G. HUDSON MAKUEN said that the American Academy of Medicine was instituted about a quarter of a century ago. Its chief object originally was to promote the higher education of medical men. Although it has been suggested that there appears to be no longer good reason for its continuance, never in the history of medicine, or in the history of the world, has there been so great a field for medico-sociologic investigation. That the care and treatment of the so-called defective, delinquent, and dependent classes has not been solved is shown by the authentic statement that these unfortunate classes are increasing in a proportion far greater than the increase of our population. In precivilized times only the fittest survived. Now we are endeavoring to establish a new law, and our best efforts are being directed towards the survival of the unfit. We teach the lame to walk, the blind to see, the deaf to hear, and the dumb to speak. Members of this academy are formulating plans for a scientific process of selection. Its essential features may be surmised to be a revision in the immigration laws, and the laws regulating the marriage contract. For those who respect not the law there has been suggested another remedy—that of asexualization. This, with little doubt during the early part of the next century will become a legalized practice. Our treatment of the degenerate classes has been inadequate and unscientific. Indiscriminate dispensary service is probably the most depraving and the most demoralizing of all the indiscriminate charities. Pauperism, criminality, insanity, constitute one interdependent family, and if we would diminish one, we must attack all three. Following close upon the evils of indiscriminate charity are those of indiscriminate institutionalism. It is said that the city of Philadelphia supports at an enormous cost a benevolent institution for every 10,000 of its inhabitants. In the treatment of criminals, institutionalism has a somewhat wider field, because criminals must be detained for a longer or shorter period of time; but there is much room for improvement in the character and conduct of these institutions also. The hope of the future of our country is in the young, and if we would strike at the very root of crime, pauperism, and mental deficiency, we must improve our methods of education. The chief feature of the education in the Elmira Reformatory which produces marvellous results is manual training. Brain-power, as Professor Christian, of Yale University, has demonstrated, may be developed by mere muscle-training, independently of any special mental activity, and if this be true it is reasonable to suppose that the highest cerebral development must come from a judicious combination of mental and muscle action.

Report of the Special Committee for the Study and Formation of Principles Respecting Specialism and Respecting Advertising.—The secretary read the report of this committee, which first defines the word specialism, as used by the committee and presents the following propositions: 1. Specialism is not only desirable, it is unavoidable. 2. It is proper for a physician to seek to perfect himself in the direction of his greatest ability, even to the neglect of some other field of practice. 3. A specialist as well as the general practitioner may have a practice directly with his patients, or indirectly through consultation. 4. In his direct practice, a specialist should not be an exclusivist. In his consulting practice a specialist stands in a different relation to his fellow physician than do two general practitioners in consultation. He is rather a coadjutor than a consultant. 5. Specialism *per se* does not create discord in the harmony of professional intercourse. 6. The time to enter upon a speciality cannot be predetermined by rule. As to advertising: 1. No physician can escape advertising. 2. The true physician serves humanity first; the earning a livelihood being secondary. 3. Any method of advertising reversing this order is not to be commended. 4. Any method of advertising which only seeks to inform the public that the advertiser is ready to be of service is permissible. 5. The above principles are fixed, their application varies with the environment. 6. Regulations restricting advertising should be equal in their action. DR. WILSON, of Columbus, objected to the order of the clause in the condensed report, "The true physician serves humanity first; the earning a livelihood being secondary." The result of serving humanity as organized to-day is that two-thirds of our medical work is done for nothing. He believed that the poor should pay at least a small sum for medical service. DR. WALK, of Philadelphia, endorsed Dr. Wilson's sentiments and thought that to be honest with ourselves we should go back to the first stage of a medical man's life, the day when he makes his decision as to what profession he will study. The problem then presenting itself is, "In what line of life can I earn an honorable livelihood?" He believed that the physician ought to have a regular charge just as much so as the cilvil engineer, the architect or the clergyman, and that we should get away once for all from this mawkish sentimentality in which we pretend to be something which we cannot be, and ought not to be if we could. He would agree to an equal consideration of the serving of humanity with the earning of a livelihood. DR CONNER, of Detroit, thought the idea of the Academy would be expressed by the words, "The true physician serves humanity equally with himself." That, Dr. Conner said, was the second table of the law, and as immutable as the heavens above and the earth beneath. He thought if expressed in this way no exception could be taken. DR. RISLEY thought the idea expressed by the committee could be equally well done by leaving out any allusion to livelihood. The secretary, DR. MCINTIRE, explained that the phrasing of the abstract was intended to express the sentiment of Professor Raymond of Union College, that the medical profession pursued first for the sake of emoluments would lead to charlatanism. DR. CARHART suggested that the portion under consideration ne stricken out in its entirety.

DR. J. CHESTON MORRIS, of Philadelphia, thought the report of the committee a most thoughtful, philosophical and good statement of the whole question, and that the captious questions which had been made were disgraceful to the medical profession, which remarks were such as placed the profession in a wrong position before the community. In his long medical experience he had worked along the lines stated in this report and was glad to say that much of the best of the results of his life had come from the poor. He hoped that the report would be adopted as a whole. DR. WALK moved that the second part of the clause, "The true physician serves humanity first; the earning a livlihood being secondary," be recommitted to the committee for revision.

Symposium on the Medical Aspect of the Home.—The essential conditions for a habitation to develop and maintain a healthful family existence. DR. ROSA ENGELMANN, of Chicago, in this paper said that healthy family life depended upon health, character, intelligence, industry, frugality, mutual affection and forbearance, and the wherewithal to furnish a happy and healthy environment. Of supreme importance for the development and maintenance of these attributes was the separate housing system. Among the essential conditions were fresh air and sunshine, adequate pure water-supply and good plumbing, healthful employment, healthful recreation, educational facilities. Lack of these conditions in large cities was considered with the results and the remedies therefor.

The Influence of Early Training of Manly and Womanly Qualities to Avoid Degeneracy.—DR. J. CHESTON MORRIS, of Philadelphia, furnished as a text an incident of a little girl poutingly disobedient and the necessity of an early training in submission to authority. Acts speak more effectively to children than mere exhortations or commands. Dr. Morris stated that the training at self-control must begin early in life and that the reign of law and the influence of patient example is necessary to bring them about. Heredity, so-called, is often but the unconscious imitation of the parents' peculiarities by the very young. The lack of this early development permits many forms of degeneracy, hence the importance of this early training.

The Influence of Medical Supervision of Children in Their Homes.—DR. J. MADISON TAYLOR, of Philadelphia, in a paper of this title said that the child is supposed to be capable of satisfactory development if allowed moderately good opportunity and environment, and is seldom or never systematically directed in its physical growth or development. The consequence is that very many faults of both mind and body are acquired, many of which seriously disable the subsequent activity of the child. No attention is paid to the mating of the parents, as is done in the case of domestic animals, and consequently many faults of inheritance or heredity show themselves. It was the purpose of the paper to call attention to these facts and to demonstrate that if an intelligent direction is given to the growth and development of children these early faults can be corrected. The province of the physician is limited as yet to the relief of actual illness and to repair the effects of disease. If only he were encouraged to direct the growing child his province as an apostle of preventive medicine would enable him to accomplish infinitely better results than merely the repair of damage. The question of motherhood was discussed and the difficulties which arise from lack of knowledge of those things which constitute a good mother. The first thing needed is that mothers should realize that the best specimens of human being are not likely to come from haphazard upbringing. He thought it safe to assume that skilled direction from a medical adviser will soon become recognized as of the greatest importance, and that the children of the poor should be provided with opportunities for skilled physical direction. This could only be done by educating the public to realize the importance of this fact and by securing the cooperation of teachers of all grades in furthering such work.

School Hygiene and Medical Inspection of Schools.—DR. W. M CARHART, of New York, in a paper on this subject said that school-life should be harmonious with and supplementary to home-life. The growth of the child in bodily vigor, in strength of character and in intellectual attainments should be as continuous at school as at home. School hygiene was divided into: 1. Hygiene relating to the personal habits of the child, necessity for cleanliness both of body and clothing. Avoidance of infection, and exclusion of contagious cases. Physical basis of vice. Vicious habits to be discovered and corrected. 2. Hygiene in relation to methods of instruction. All children are not alike and should not be taught as if they were. Backward and dull children need special care. An inattentive child is usually defective in one special sense and may be possibly slightly deaf. The human eye is going through the period of adaptation to needs of the twentieth century civilization, and in the interval asthenopia is a necessity with modern methods of culture. The result is that weak eyes are permanently damaged and developed into myopia and astigmatism. 3 Hygiene in reference to the school environment. School buildings should he healthy in location with adequate playgrounds well furnished and well built and with the cellar dry. Good ventilation and clean rooms and lavatories safe with modern plumbing were also necessary. Desks and seats should be adjusted to the size of children.

Defectives and Delinquents Inside and Outside the Family Circle.—DR. JAMES W. WALK, of Philadelphia, gave in this paper the sociologic definition of defectives and delinquents. The influence of defectives upon other members of the family circle was considered, as was also the influence of aggregate life (in hospitals, asylums, etc.) upon defectives. The influence also of family life upon defectives was spoken of. Delinquents and their environment were also discussed. Efforts to benefit defectives and delinquents should be consistent with the welfare of society in general.

Relation of Habitual Use of Alcoholic Intoxicants to Sanitation of the Home.—DR. J. W. GROSVENOR, of Buffalo, in this paper considered the effect on moral character, intellectual development, and physical integrity of its inmates. Two remedies of value for the relief of the unsanitary condition of the home were suggested: Education and law. The enlightenment of the public along all sanitary lines is incumbent upon all boards of health. In the conservation of public health the medical profession has an important position. The physician should not only by precept teach the danger of alcoholic intoxicants, but place himself and his home outside the use of alcoholic stimulants of every description. The clink of the inebriating cup should not be heard at his festive board.

Hygiene of Vision in the Home.—DR. S. D. RISLEY, of Philadelphia, in this paper made reference to the family living room, its origin, pleasures, and evils. The natural and artificial lighting of the home were spoken of and the importance of sufficient and suitable illumination of the home in conserving the general health and vision of the family was emphasized.

The Physician's Influence in the Revacation Schools.—DR. HELEN C. PUTNAM, of Providence, R. I., said that inventions and municipalization have altered the popular minds that free schools were originally planned to supply and that today they should do more for citizenship, character-building, and physical development. Liberally educated medical specialists are needed in this readjustment. Reference was made to vacation-schools started by philanthropists to protect from their environment the children living in the poorest wards, and developing into a permanent institution of direct influence upon educational systems. In these schools no books are used, pedagogic excursions into the country are made, manual training by work in wood and iron is taught, the esthetic development of music, color work, outdoor sketching are encouraged, outdoor gymnastic games are indulged in, and self-government in place of autocratic obtains.

SECOND DAY.

At the opening of the morning session the nominating committee announced the following nominations: President, Dr. S. D. Risley, of Philadelphia; vice-presidents, Dr. C. M. Culver, of Albany, Dr. Rosa Engelmann, of Chicago, Dr. G. G. Groff, of San Juan, Dr. W. C. McClintock, of Detroit; treasurer and secretary, Dr. Charles McIntire; assistant secretary, Dr. Alexander Craig, of Columbia, Pa. The selection of time and place of meeting was placed in charge of the Council. The candidates were elected as read.

How One College Endeavors to Teach Social Health Problems.—DR. CHARLES MCINTIRE in this paper gave Billings' definition of hygiene, which was approved by sanitarians and included sociology. It was stated that Lafayette offers an elective on sanitary science to the seniors, and the paper outlines the course given, with the purpose of presenting the social problems having an influence upon the public health.

The paper of DR E. STUVER, of Fort Collins, Colorado, on **The home and the school,** was read by title.

The *discussion* of the papers read in the **Symposium on the medical aspect of the home** was taken up at this point. DR. TUCKERMAN, of Cleveland, in reference to this topic said that they had in Cleveland just succeeded in the adoption of medical inspection in schools. He cited a case in which a teacher having a sore throat had gone into her school and as a result in two weeks time five children had died and 40 cases of diphtheria had developed. In reference to DR. WALK's paper on the **Treatment of defectives and delinquents** DR. TUCKERMAN approved of the suggestion of the president of asexualization, believing that these male defectives coming to puberty were as dangerous as wild animals let loose in the community.

DR. GROSVENOR, of Buffalo, in referring to one of the papers on the parental teaching of children, spoke of a custom of some parents in teaching their children to call the parents by their first names. He had observed this custom in his own city. He feared that if a strong protest were not made against it the custom would become more prevalent. In discussion of the paper of Dr. ENGELMANN, of Chicago, DR. KNOPF, of New York, thought while very desirable the separate housing system for a habitation, the

suggestion seemed impracticable. He thought the solution of the problem could be more easily secured in the improvement of tenements; the destruction of old tenements and the erection of new with new appliances of sanitation. In reference to the early training of children he suggested that the whole problem might be solved by adding to the higher schools for girls a chair of practical motherhood. DR. CONNER, of Detroit, thought that the great underlying principle of the papers and discussion was an attempt to find out the weak methods in our art of training men.

A few notes concerning the relation of the academic to the medical course, by DR. HOWARD S. HANSELL, of Philadelphia, was read by title.

The Opportunity of the Small Medical College.—DR. BAYARD HOLMES, of Chicago, in this paper referred to the fact of the tendency toward large classes not being consistent with good pedagogy, and to the small class and individual supervision being possible in the small school. As requisites, were mentioned: A few teachers and leaders of men, with time and adequate salary; suitable buildings and laboratory equipment; a small hospital under the complete control of the college; a well-selected working library, containing the material for the study of medicine; intimate relations between the various departments; a curriculum granting freedom to teacher and student. All of these requisites it was stated were possible to the small college.

Neglected Clinical Opportunities in American Medical Centers.—DR. S. A. KNOPF, of New York, read a paper on this subject and endeavored to show that in spite of the vast progress many of our medical colleges have made during the past year toward a more thorough curriculum, our clinical teaching is still very deficient, not from lack of clinical opportunities, but from the neglect to utilize those available, The writer contended that the essentials for a college graduate leaving college feeling that his clinical teaching, if not quite equal to that of any hospital graduate, is at least nearly so, were: 1. A cooperation of all the medical colleges located in one medical center for the purpose of a general and equal utilization of all the clinical material of their city. 2. The appointment of every physician and surgeon attached to a subsidized hospital as a clinical teacher independent of college affiliation, and the payment of a reasonable fee to these clinical teachers for their services rendered as teachers to the students. 3. The suppression of all didactic lectures for second, third, and fourth year students during the morning hours. 4. The obligatory presence of every second, third, and fourth year student in his capacity as senior or junior externe at the clinic or at the daily hospital visit of his teacher. 5. The keeping by the clinical teacher of a record of attendance and work, to be counted in the final examinations.

DR. ROCHESTER, of Buffalo, in discussing the papers of Drs. Holmes and Knopf, said that in the medical college of Buffalo there were not in any one class over 100 students; in the senior year the number was about 60, and in that way they could give each individual student excellent clinical training. He thought an increase in the number of clinical instructors was desirable. In his experience there had been difficulty in having the hospital authorities increase the number of internes adequately. If, however, the number was increased, according to Dr. Knopf's suggestion, he thought the result to the patients would be disadvantageous. DR. TUCKERMAN, of Cleveland, said, with reference to Dr. Holmes' paper, that the same thing obtained with reference to a medical college as obtains with regards to the literary college—given an equally thorough plant and an equally able faculty, the smaller the college the better for the student. The paper of Dr. Knopf's was interesting to him, and he mentioned in this connection that the student of today lacked what some remember of riding about with their private clinical instructor in his buggy, talking about one patient while they went to the next.

Psychology as Preliminary to Medical Education.—DR. W. J. HERDMAN, of Ann Arbor, Michigan, stated that normal anatomy and histology are essential to a right understanding of normal physiology. Psychophysiology must be known if we would correctly interpret psychopathology and create a rational psychotherapy. The author considered that the present day a very small percent of candidates for the degree of Doctor of Medicine have pursued a systematic study of physiological psychology. Such knowledge was claimed to be essential to a right understanding and direction of educational methods, since faulty methods of education result in disease. Functional disorders would be much better understood, and more rationally treated were the physician well trained in psychophysiology. The mental element of disease is largely ignored by the practitioner of today, and in this soil left uncultivated by the scientific physician faith cures and other noxious weeds take root and flourish. He believed a broader preparation was needed to fit the physician to take possession of this field.

DR. ELMER LEE, of New York, said in discussion of Dr. Herdman's paper that it was along the line of his own observations and upon which some published words of his own had been set forth. The fact that there was a mental state in the practice of medicine he declared was too little understood and too seldom successfully used. DR. KNOPF, of New York, advocated the including in the curriculum for senior students the study of hypnotism so that this important therapeutic agent might be taken out of the hands of those who by their wrongdoing depreciate the value of hypnotism as a therapeutic agent. DR. CONNER, of Detroit, thought that Dr. Herdman's presentation was a clear demonstration that what he called psychology was simply a refined part of physiological and pathological processes.

Some Experiences of a Volunteer Surgeon in the Philippines.—DR. H. P. RITCHIE, late Captain and Assistant Surgeon 13th Regiment, Minnesota Vols., St. Paul, in a paper on this topic said with reference to the transport service that the causes of complaint and discomfort during the first expeditions were unnecessary, as shown by the pleasant experiences of the home voyage 18 months afterward. The effect of the campaign before Manila upon the future health of the troops was considered. The condition of Manila at the time of its occupation and its transformation under American rule was described. The climate was discussed and the diseases among the troops briefly considered, with their prophylaxis and their danger to the civilian. The paper closed with a plea for the establishment of schools for instruction in tropical diseases.

"Good Form" in Professional Cards.—DR. CHARLES MCINTIRE, of Easton, in his paper referred to the source of gratification to the Fellows of the Academy of Medicine that there had been almost no necessity to discuss the individual actions of its members. Last year an exception was taken to the wording of a professional card, and the secretary instructed to correspond with the member whose card was criticised. The present paper was the result of that correspondence classifying a number of professional cards from various parts of the United States.

The desirability of a medical editor on the staff of the daily newspapers was the subject of a paper by DR. WALTER L. PYLE, of Philadelphia. As an indication for this need the writer called attention to an article recently appearing in the *New York Herald*, entitled "Sleep Cure for Nervous Diseases." This cure consisted of "eight grams of *bromin* every 2 hours in a glass half-full of water." It was further stated in this issue that the discoverer of this rest-cure maintains that rest—absolute, prolonged rest—is the one thing which persons suffering from nervous disorders stand most in need of, and that they can obtain the rest through the agency of bromin better than in any other way. Reference was made to the offensive medical advertisements as a crying disgrace which might be corrected by the medical editor who should act as a censor on all notices of a medical nature. In this way newspaper-readers might be protected from imposition by quacks and medicine-venders, and the feelings of women and children might be spared from the vile insinuations and villainous falsehoods of the lowest type of charlatans who have almost unbridled license in the modern daily press.

The Mission and Duties of a True Physician.—DR. C. F. ULRICH of Wheeling, W. Va., in this paper said that only he could be regarded as a true physician in the strictest interpretation of the word who is endowed with the peculiar talents necessary for the work belonging to that noble and laborious vocation; who has acquired the high order of general and special education essential to successful work; who never relaxes his efforts to gain more knowledge in his profession as his horizon extends and as new discoveries are made. The true physician would perform the part of an educator by instructing his clients in maintaining good health.

Domestic Hygiene.—Dr. Elmer Lee, of New York, in a paper on this subject, said that sickness, suffering, and human death were the most expensive factors in human life, and that each human being enjoys or forfeits his rights exactly in proportion to his use or abuse of them. Air was referred to as the most important factor of all the agencies which contribute to animal life and everywhere is adapted to the creature who rightly uses it. A cool drink of water, it was stated, has virtues superior to any and all life-saving agencies. Mineral waters, either natural or artificial, are less wholesome, in the writer's opinion, than water which holds in its solution no minerals. The rainfall is the source of pure water. Carbonic-acid gas is an ingredient of dangerous nature and is the basis of the effervescing waters. This gas, it was stated, is a deadly poison to all mineral life, and is at all times a waste product in the blood. Water was stated to be man's sweetest and safest drink, and if rightly used would in itself largely help to extend his life well toward the century mark. In the matter of food there are ample proofs to show that it is not a need of greater variety in vegetable, flesh or mixed diets that are consistent with health, but rather the use of any diet in moderation. The subject of human feeding was regarded as the most neglected in popular education and one which called to mothers to form health kindergartens first for their own information, and, secondly, to lead and direct their children in the light.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Ninth Annual Meeting, Held in New York, May 31 and June 1 and 2, 1900.

[Specially reported for The Philadelphia Medical Journal.]

First Day.

The ninth annual meeting of the Association of Military Surgeons of the United States was held at the Academy of Medicine, New York, week before last, the sessions extending over Thursday, Friday, and Saturday. There was a large attendance, all parts of the country and branches of the service being well represented; and the proceedings excited an unusual amount of interest in consequence of the exceptional attention at present being devoted to surgical and medical matters connected with military operations. The president, Col. C. H. Alden, Assist. Surg.-Gen. U. S. A., Washington, D. C., occupied the chair. Among others who had seats on the platform were a British and a Mexican delegate, Col. W. McWalters, of the Royal Army Medical Corps, who is stationed at Halifax, N. S., and Major Marciso del Rio, of Vera Cruz. The announcement of their presenoe was cheered.

A brief **address of welcome** was delivered on behalf of the National Guard of the State of New York, by Maj. A. H. Briggs, Buffalo, Surgeon of the 65th New York regiment, who announced that arrangements had been made for visits to Governor's Island, the Naval Hospital, West Point, and other places of interest.

The **reports of the secretary, treasurer**, and other office-bearers showed the society to be in a highly satisfactory condition, the membership having been increased during the nine years of its existence from 68 to 484.

President's Address.—Col. Alden, in his opening address, remarked that it was a source of gratification to see so many members present, especially in view of the fact that the continuance of the war in the Philippines and the occupation of Cuba and Puerto Rico rendered it necessary for many of their number to be on duty in these islands. The association was also to be congratulated on its growth in membership, and on the increased importance which was attached to the functions it was performing. It had been the means of acquiring a valuable accumulation of information in regard to military surgery and medical matters. In fact, its transactions formed a veritable encyclopedia of such knowledge, and that it was appreciated abroad as well as at home was shown by the applications which were received for it from foreign countries. On the outbreak of the Spanish war many American surgeons found the transactions extremely useful, and the surgeon-general who went to the Philippines with Colonel Otis was one of those who took a complete file of them with him. A large number of their members had, moreover, been selected to fill posts in the army, and there could be no doubt that they were all the better equipped for their duties because of what they had learned through their connections with the association. Referring to the results of the war as they concerned the sick and wounded, he remarked that, while there had been a regretably large mortality from fever, the small number of deaths and the rapid recovery from wounds had been matter of much remark. Among the lessons which in his opinion had been taught by the war were the necessity of having camping grounds in every State with a plentiful supply of good water and satisfactory sanitary arrangements and the instruction of line officers in the elements of hygiene. The work of the association, he suggested, might be rendered more efficient by the holding of State meetings, and the publication of a journal. The difficulty in connection with the latter was to obtain the services of a man who combined editorial ability with sound business judgment; but this was a difficulty that might no doubt be overcome.

In the discussion which followed, the question principally dealt with was this journal question, and in the end a committee was appointed to consider and report upon the subject.

Examination of Recruits.—The literary program was opened by the reading of a paper on this subject by Capt. Myles Standish, Surg. Mass. V. M., who discussed the question "What should be the standard required of enlisted men in the United States Army." The standard for army officers was 15-20ths in each eye, and for navy officers 20 20ths in one eye and 15-20ths in the other, while for privates in the army it was 20-20ths in each eye. The officers, it was to be remembered, were expected to serve practically for life, whereas the privates as a rule only served a comparatively short period. At the outbreak of the Spanish-American war so many applicants were rejected that the impression was produced on the public mind that they were largely cripples and invalids. Yet the fact was that a large proportion of them owed their rejection to the fact that they could not come up to the sight standard in each eye, the word "each" being in many cases the important point. It was only natural that in a small army like that of the United States a higher standard of vision should be required than in the conscription armies of Continental Europe or in the large army of Great Britain; but, nevertheless, while admitting that the standards which obtained in these countries were too low for the American army, he thought the requirement of 20-20ths in each eye was absurdly high. In Massachusetts, at the outbreak of the recent war, he had seen sharpshooters who had gained their marksman's badge by their records at the rifle ranges rejected on account of defective vision, and men put in their place who had never before handled a rifle. This did not mean that the men who were rejected fell short of the 20-20ths standard in their right, which they used in sighting, but only that they were slightly defective in the left eye. Such men could use both eyes with as much precision and quickness, generally speaking, as men who had both eyes of the required standard, and therefore there was no sound reason for their rejection. In his opinion as an oculist 20-20ths in the right eye and 20 40ths in the other was more than what was required in the American army.

The other papers on the program relating to the examination of recruits were read by title. They were: **Some suggestions on recruit identification and routine correspondence,** by J. S. Kulp, Capt. and Assist. Surg. U. S. A.; **The physical factor for the examinations for the army and navy,** by Surg. H. G. Beyer, U. S N; and **A study of visual perception with special reference to training the eyesight of soldiers.**

Major J. M. Banister, Surg. U. S. A., was then introduced, and as he had to return forthwith to West Point he was permitted to read his paper, which had been grouped in a different set but was recognized to be germane to the topic of the first paper read. It was entitled: **To what extent should the military surgeon be required to invade the realm of ophthalmology?** Speaking as a general practitioner as well as a specialist, he contended that

both military surgeons and general practitioners neglected ophthalmology too much; but the latter had the excuse which the former had not, that there were always competent ophthalmologists near at hand to whom cases requiring their services could be handed over. He thought it of importance that military surgeons should at all events understand the general principles of refraction and be able to perform the simpler class of operations.

The papers were discussed together, among those who spoke being BRIG.-GEN. EDWARD BOECKMAN, formerly of the Minnesota N. G.; MAJ. SURG. W. F. SOUTHARD, San Francisco, Cal.; COL. WM. J. MAYBURY, Surg. Gen. N. G. S. M.; MAJ. N. DARRELL HARVEY, Surg. R. I. M. The general opinion expressed was that, while it might not be desirable to lower the standard, some discretion should be left to examiners, so as to prevent the rejection of competent men like the sharpshooters who had been spoken of.

Camp sanitation was the next subject discussed. It was introduced by MAJ. JULIAN LA PIERRE, Surg. (retired) C. N. G., who maintained that systematic plans should be adopted for the provision of one or more camps for military instruction. These camps should be carefully selected from the point of view of their natural hygienic conditions. There should be an ample supply of good water in the neighborhood; the ground should be made up so as to provide a dry surface; and care should be exercised in the placing of hospitals, closets, etc., as well as for the removal of sewage. The State provided hygienic conditions for those who were confined in prisons and asylums; it was surely still more important that it should do so for its volunteers.

Some experiences and suggestions were furnished by MAJ. W. G. B. HARLAND, Surg. N. G. Pa. He laid stress on the points that camps should not remain too long in one place, that they should be established on open ground and not under trees, and that both officers and men should be thoroughly instructed in regard to the symptoms and early treatment of the more common diseases.

F. W. KEMP, Assist. Surg. U. S. A., gave an entertaining account of his experiences of **field work in the Philippines.** He was in Manila some time before the outbreak of hostilities with the Filipinos, and he told how, when the troops were waiting anxiously to see what turn affairs were to take and were all convinced that fighting must come sooner or later, officers and men were instructed in the giving of first aid to the wounded, and how eagerly they all listened to what was told them, knowing as they did that they might soon require to make use of the knowledge on their comrades or themselves. All technical terms were avoided. They were told in particular how to stop hemorrhages, and the result was that when they got into actual fighting many lives were saved. Altogether he showed that the army medical corps had rendered valuable service in many ways, while running imminent risks and having miraculous escapes, they seemed to bear a charmed life, as was illustrated by the fact that in one serious engagement where they were well up to the firing line, they did not suffer a single casualty, although the wagon bearing the Geneva Cross seemed to be made the object of special attack.

CAPT. JOHN H. HUDDLESTON, Assist. Surg. N. G. S. N. Y., read a paper on **The value of the Sternberg method of purification of water for military purposes,** but MAJ. DALY, Chief Surg. on Gen. Miles' Staff during the Spanish War, dissented from the views advanced, and said he did not believe in the possibility of getting troops to take chemically prepared water.

Other papers in connection with camp sanitation, which were read by titles (the authors being absent) were: **Organization and administration of medical service,** by LIEUT. COL. B. F. POPE, Dep. Surg.-Gen. U. S. A.; **Methods resorted to to obtain water for disposal of excreta, etc., in establishing hospital at Corregidor islands,** and **some problems that had to be solved by our medical department across the seas,** by MAJ.-GEN. VAN. R. HOFF, Surg. U. S. A.

MAJ. AMES, of Massachusetts, who had come prepared to hear and discuss some of the latter papers, expressed his great regret that they had not been read. He had had experience in Puerto Rico, and was very much impressed with the necessity of improving the army medical service in the ways that previous speakers had suggested as well as in others.

The meeting was then adjourned.

SECOND DAY.

The Sandar Prize.—It was announced that the Sandar prize for the best essay on military surgery had been awarded to CAPT. W. S. BORDEN, of the U. S. Army.

Rations.—The following papers relating to this subject were read by title: **Hygiene of the navy rations,** by SURG. H. S. BEYER, U. S. N.; **The ideal ration for an army in the tropics,** by CAPT. E. S. MUNSON, Assist. Surg. U. S. A.; and **Do the laws of physics apply to the human body?** by MAJ. W. O. OWEN, Surgeon U. S. Army.

Transportation of wounded was the next subject discussed. It was introduced by the reading of a paper by MED. INSP. C. U. GRAVATT, U. S. N., on the transportation of wounded on shipboard, with special reference to a litter invented by Capt. Mahan, by means of which a wounded man can be strapped between boards and canvas in practically any position that is most comfortable to him. In the next paper read, MED. DIR. JOHN C. WISE, U. S. N., described a method of his own for transporting wounded on ships of war. The care of the wounded on a modern ship of war was the subject of a paper by PAST ASST. SURG. R. K. SMITH, U. S. N., which was read by title. CAPT. GEORGE W. NEWGARTEN, Assist. Surg. U. S. A., described an emergency field litter or cot of his own design. Illustrations and models of the various devises were exhibited.

MED. DIR. WISE, in opening the *discussion* on the papers, remarked on the different conditions that surrounded the army and navy respectively in regard to sanitation. The navy had no trouble about the choice of site. They controled their water and food supplies. They had no difficulty in disposing of excreta and refuse. The ships were carefully inspected every day, and altogether it might be said that sanitation on board American ships of war had reached the highest existing degree of perfection. This was demonstrated by the very small amount of sickness that prevailed on American war ships during the recent war. This was in marked contrast with their experiences with Spanish ships which had been captured and converted into transports. An example of the latter ships was the *Manila*, on which a crew of 50 men was put after its capture; there was more sickness among these 50 men than there was on the flagship *Olympia* with its 600 men. The fact was the Spaniards knew nothing of cleanliness. Even yet, notwithstanding all the scrubbing and disinfecting to which they had been subjected, he was informed that some of the ships referred to had not been got into a satisfactorily clean condition. In times of serious warfare it would undoubtedly be found that navy surgeons would be called on to attend to the wounded much more than to the sick, and that was why topics of the kind that had just been discussed were engaging so much attention.

BRIG. GEN. GEORGE M. STERNBERG, Surg.-Gen. U. S. A., expressed his pleasure at hearing so many interesting papers on a subject of which the importance could not be overestimated. In land fighting it was of the greatest consequence that they should have the best facilities for removing the wounded from the firing line, and in the American army much had been done towards improving the appliances for this purpose, the weight of the litters having been much reduced, and care being taken to use only the very best material. Unfortunately, in this country there was no bamboo, which, as the reader of one of the papers had said, was probably the very strongest pole that could be got. It might be worth while considering whether a sufficient quantity of bamboo should not be obtained to replace the ash poles now in use, which were considerably heavier. In addition to the regular litters, it was, of course, often necessary to improvise devices for the removal of the wounded. Medical officers connected with the army were always instructed as to the best way of making those improvised litters, but they were always glad of new suggestions, and one thrown out by a previous speaker as to the use of tent-poles and rings for the purpose in question was an exceedingly good one. Gen. Sternberg concluded by describing some experiences of his own in connection with the improvisation of litters, he having had 31 men to remove from the field after an engagement with the Indians in Idaho during one of the risings there.

The speakers who followed dealt principally with details in the construction of the litters which had been described.

The primary antiseptic dressing of wounds with a consideration of subsequent treatment was the subject of a paper presented by MAJ. THOMAS J. SULLIVAN, Surg. I. N. G.

The management of quarantinable diseases and sanitary cordons was discussed in a contribution by PAST ASST.-SURG. C. P. WERTENBAKER, U. S. M. H. S.

The Proposed Military Medical Journal.—The committee appointed to consider the desirableness and feasability of establishing a military medical journal reported that, while they were agreed as to the necessity of such a journal, and the possibility of making it a success, they recognized that time would be required to make the necessary arrangements for the publication, the selection of an editor and staff, etc., and therefore they recommended that a committee be appointed to formulate a plan for the establishment and conduct of the journal, said committee to report to the next meeting of the Association. It was decided to act upon this recommendation, and a committee was appointed accordingly.

Field and Service.—A number of papers were grouped together under this head. The first, which was read by title, was on the subject of **General hospitals,** the author being LIEUT.-COL. A. A. WOODHULL. Dep Surg. Gen. U. S. A. Papers entitled **An improved closet for camp latrines; A new method of controling hemorrhage in the arm and axilla,** by CAPT. GUY C. M. GODFREY, Asst.-Surg., U. S. A.; **Experiences as chief medical officer, Eighth Army Corps, in the Philippines,** by LIEUT.-COL. HENRY LIPPINCOTT, Dep. Surg.-Gen. U. S. A.; and **Medical department in the field,** by MAJ. L. M. MAUS, Surg. U. S. A., were similarly dealt with, the publication department being allowed discretion as to their insertion in the transactions.

LIEUT. R. E. BELL, Mass. V. M., was then introduced, and contributed **Some observations made during my service in the Spanish American War.** He dwelt particularly on the large percentage of recoveries from wounds, the remarkable escapes from death made in consequence of the character of bullets used in modern warfare, and the excellent results that had attended the treatment of typhoid fever. Considering the question whether they could do better again, he insisted on the giving of greater attention to matters connected with the army medical service.

ALLAN A. WESLEY, late Maj. and Surg. U. S. V., followed with a paper entitled **Spanish American War as seen by the military surgeon.** It consisted of the experiences he had gained as surgeon of the 8th Illinois Volunteers, the only negro regiment in the service during the war which had been officered by men of their own race.

The following papers were read by title: **Some object-lessons from the volunteer service,** by MAJ. HOWARD S. DEERING, Surg. Mass. V. M., and **Remote effects of gunshot wounds from the small caliber bullet,** by MAJ. L. A. LA GARDE, Surg. U. S. A.

Some experiences of a volunteer surgeon in the Philippines were given by MAJ. R. J. FITZGERALD, late surgeon 13th Minnesota Vols.

The Utilization of Native Troops in Colonial Possessions was discussed by MAJ. LOUIS L. SEAMAN, U. S. V. Eng., who referred in detail to what Great Britain had effected in different parts of the world by making use of the natives as soldiers, and suggested that the United States would require, sooner or later, to have recourse to similar methods for the preservation of order in the Philippines and other colonial possessions. Incidentally, he remarked that it was time for Americans to give up their absurd prejudices against the Chinese, who were destined to play an important part in the development of the Philippines.

The other papers in the group were: **The diagnosis and treatment of gunshot-wounds of the abdomen, with three cases,** by SURG. G. T. VAUGHAN, U. S. M. H. S., and **The morbidity of war-wounds, with tentative conclusions relative to modern weapons and surgical methods,** by CAPT. W. C. BORDEN, Asst. Surg. U. S. A.

Sick Soldiers in Philadelphia after the Late War with Spain.—In consequence of the lateness of the hour BRIG. GEN. JOHN V. SHOEMAKER, Surg. Gen. N. G. Pa., contented himself with giving only a brief outline of the contents of this paper. It will appear in the transactions of the association, and will be found to consist of an elaborate and detailed report of the soldiers cared for in the Philadelphia hospitals, with particulars as to their wounds or ailments, the treatment under which they were put, and the results. General Shoemaker took the present opportunity to compliment the surgeons of the regular army and also of the volunteers of the admirable reports they had sent in with patients. If any country had reason to be proud of its military medical and surgical service it was the United States, and there was further ground for gratification in the fact that it had at its head an officer as efficient as Surgeon-General Sternberg.

THIRD DAY.

A short session was held on Saturday for the purpose of finishing the literary program, and disposing of business relating to the next meeting, etc.

Among the papers, most of which were read by title, were: **Should military medical science be taught in our medical colleges?** by BRIG. GEN. EDMUND C. BRUSH, Surg.-Gen. Ohio N. G.; **Prophylaxis as applied to military medicine,** by LIEUT. COL. W. H. DEVINE, Med. Dir. Second Brigade Mass. V. M.; **Continued experiences in early operation for appendicitis,** by MAJ. A. C. GIRARD, Surg. U. S. A.; **The military use of the sky in Yellowstone National Park,** by CAPT. A. E. BRADLEY, Assist. Surg. U. S. A.; and **Investigations into the value of nucleins in the treatment of chronic or recurrent malaria** by MAJ. GIRARD.

New Office-Bearers.—The following were elected the office-bearers for the ensuing year: President, Brigadier-General A. J. Stone, Surg.-Gen. of the Minn. N. G.; first vice-president, Medical Inspector John C. Wise, of the U. S. N., Washington, D. C.: second vice-president, Brigadier-General J. F. Calef, Surg.-Gen. of the Connecticut N. G., Middleton, Conn.; secretary (re-elected), Lieutenant-Colonel Charles Adams, Assist.-Surg.-Gen. I. N. G., Chicago, Ill.; treasurer (re-elected), Lieutenant Herbert A. Arnold, Assist. Surg. N. G. Pa., Ardmore, Pa.

The Next Meeting.—Invitations were presented to the Association to hold its next meeting in St. Paul, and San Francisco, Brig.-Gen. Stone representing the claims of the former city, and Maj. Southard supporting those of the latter. On a division St. Paul was decided on by a vote of 28 to 10, the resolution being afterwards made unanimous on the motion of Maj. Southard.

Recognition of Confederate Surgeons.—An amendment to the constitution was adopted admitting to membership in the Association surgeons who had served in the Confederate army and been honorably discharged.

The moving of votes of thanks and the installation of the new office-bearers brought the meeting to a close.

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Held in Atlantic City, N. J., June 1 and 2, 1900.

[Specially reported for THE PHILADELPHIA MEDICAL JOURNAL.]

FIRST DAY.

THE Conference was held at the Hotel Dennis and the first meeting was called to order at 10 A.M. by the president, DR. U. O. B. WINGATE, of Milwaukee.

The Mayor of Atlantic City welcomed the Association to the city. He stated that Atlantic City was a unique community, that the people have but little interest except in entertaining visitors and that they felt well prepared to do that. He referred to the rapid growth of the place and the great strides it had made within the past few years. The city is kept very clean and has a sewerage system that works admirably; the center of the town is the center of the sewerage system, the branches of which run from all the outlying districts towards the center, where they converge into a large well from which the sewage is pumped out. The Mayor invited these sanitary experts to inspect the city critically and to feel free to offer any criticisms or suggestions of improvements.

DR. CHARLES O. PROBST, of Columbus, Ohio, and vice-president of the congress, responded to this welcoming address. He referred to the meeting of the American Medical Asso-

ciation, with its attendance of several thousand members, and comparing it to the small attendance at this conference, which is composed of only one or two delegates from each State, begged to remind the audience of the old adage, "An ounce of prevention is worth a pound of cure." We are supporting an army of physicians to cure us and paying very poorly a small number of health-officers to keep us well. There is nothing uncomplimentary to the medical profession in this, for health-officers are proud of their position in the medical profession and owe their very existence and support to the profession. The rest of the morning session was taken up with the reports of the officers and committees.

The President reconvened the Conference at 2 o'clock and after announcing that this session would be devoted to a Symposium on School Hygiene, introduced by J. HORACE COOK, Architect and Supervisor of the Philadelphia public schools, who read a very interesting paper on the **Construction and ventilation of school buildings.**

Mr. Cook considered first, the plans of construction which he said must be governed largely by the amount of the appropriation. He recommended class rooms of about 24 by 32 feet with a 13-foot ceiling, which contain about 10,000 cubic feet of air space, and furnish accommodations for 50 pupils. Such rooms may be divided by sliding partitions, and if the doors are filled in with slate they furnish blackboards for each room. The rooms may also be so arranged that 4 or 5 of them can by sliding the partitions be turned into one large hall for lecture purposes. Each class room is provided with a separate cloak room which is so situated that the pupil may enter it either from the hall or from the class room. An unusually large amount of window space has been provided for in the newer schools of Philadelphia, because it is thought impossible to provide too much light since the amount can be regulated by shades, whereas it is impossible to increase the amount should it be insufficiently provided at the time of building. The stairways are large, the steps being 11 inches broad with a rise of 7 inches, and at the top of the stairs is a closet and wash-room, and a convenient tap to enable the pupils to get water without going outside the building. As a result of experiments in Philadelphia, Mr. Cook thinks that a perfect system of closet arrangements is yet to be devised. The dry closet, while theoretically perfect, has not been practically so, and has been abandoned. Crematories were placed in two buildings, but have been so unsatisfactory that their removal has been ordered. Flushing arrangements are now used, and would be satisfactory if it were possible to keep the buildings warm all the time, but in cold weather the water is apt to freeze during the hours the school is closed. Some of the Philadelphia schools have recently gone back to the use of an old style latrine which consists of a large tank of cast iron provided with an outlet that can be flushed. Mr. Cook advocates placing the water closets at some distance from the main school buildings, but connected with them by a covered walk. In regard to the heating of the building, they have found it best to drive heated air into the rooms, and this can be done in such a way that the exhaust steam from the boilers is used, and direct steam is not necessary for the radiators except in very cold weather. By this means, too, the air in the rooms is changed once in every seven minutes, delivering 30 cubic feet for every pupil, and keeping the air fresh without any noticeable drafts. This method has not only been found more satisfactory but cheaper than the Smead-Wills and other systems. An air filter consisting of light wooden frames covered with cheese cloth is used with great satisfaction, and an independent flue for each class room is run to the top of the chimney.

In *discussing* this question, DR. HURTY, of Indianapolis, expressed some surprise at Mr. Cook's complete condemnation of the dry-closet system, and stated that he knew some places where they were in use with complete satisfaction. MR. COOK replied he had seen one himself that seemed to work well, but experience with them in Philadelphia schools had compelled him to declare them unsatisfactory.

DR. LEE, of Pennsylvania, sent a paper on **Legislation for the protection of school children in Pennsylvania,** which was read by the secretary. He thought one of the main reasons why the school children of Pennsylvania had been favored with good school legislation was to be found in that clause of the Constitution, adopted in 1873, which made it possible for women to become members of the school boards. Women are peculiarly adapted to work required in such positions, and their more intimate relations with the children enables them to better understand their wants. Some of the recent laws secured in Pennsylvania providing for a sufficient number of schools in each community, for fire escapes, school cleansing and school inspection, vaccination, etc., were considered. He stated that in communities not having a local board of health, the school officers were authorized to act as health-officers, and may require physicians to notify the secretary of such school boards when cases of infectious diseases occur in his practice. DR. PROBST said that he had understood that the State Board of Health had used its influence to secure the passage of this last law referred to, and he thought it unwise on their part, since school boards usually knew very little about such questions as are concerned with infectious diseases. MR EGAN endorsed this view, and stated that in Illinois they had found it better to leave such matters in the hands of local or county boards of health.

DR. SMITH, of Maine, presented a paper entitled **Air-space in schools; its influence on general health, on the transmission of disease, and in the progress in studies.** Dr. Smith considered the dangers of breathing contaminated air on account of the contained carbon dioxid and other deleterious substances and considered also some of the means by which pure air might be supplied to school rooms. He then took up the results of breathing air that has been expired over and over again, and stated that they are headache, brain torpor, nervousness, progressive ill health, anemia, etc. He said the theory that what was good enough for our fathers was good enough for us would not hold here, for they really had an advantage over us in that their school buildings were so poorly constructed that they always provided an abundance of fresh air. He believed that insufficient air-space and the result of overcrowding the school rooms would favor the dissemination of disease, not only by direct contact but by reducing the pupil's powers of resistance. No more than 40 children should be placed under the care of one teacher, and perhaps 25 would be a better number. Hats and cloaks, especially in damp weather, should not be allowed in the class room. The slow narcotism produced by inhalations of impure air is responsible for the dulness and poor showing of many pupils.

In *discussion* DR. HURTY said that he thought it possible that in the poor ventilation of school rooms we should find one of the most potent causes of the transmission of pulmonary consumption; that the children there receive the systemic impressions that make it possible to take up the infection either then or later on in life. He had found it possible to induce school boards to adopt modern methods of heating and ventilating school buildings by proving to them that in the use of old methods they were wasting about 20% of their annual appropriations. It is useless to point out to them that they are killing children, for they listen and say "It is an important question," but when you show them that they are losing money, you touch a spot of deeper interest and they begin to act.

DR. MCCUTCHEON, of Louisiana, read a paper on the **Age at which children should be set to work in school; character of the work; hours of school attendance per diem.** He stated that in New Orleans children are admitted to the kindergarten between the ages of 4 and 6 years and receive instruction for 2½ hours a day, 9 to 11.30, 6 days in the week. In the primary schools they are admitted between 6 and 10 years of age and have 5½ hours school work with 2 intermissions. The grammar school and high school follow. He advocated extending the kindergarten age to at least the seventh year and considered the present grading of primary and grammar schools a most pernicious system, the children are all being subjected to the same mould and expected to conform to it.

The President announced that a number of other phases of school hygiene would be submitted for general discussion as follows:

1. **The Use of Types, Prints and Blackboards in their Relation to Preservation of Eye-Sight.**—DR. BRACKEN opened the discussion of this subject, saying that these subjects belong rather to the specialists and it was only the duty of this Conference to encourage the methods suggested by them and to suggest methods of promulgating the knowledge among teachers. He thought this latter object

might be well attained by securing eminent specialists to give lectures or short courses of instruction before normal schools and summer schools for teachers. Dr. Lewis, of North Carolina, stated that the influence of types, blackboards, etc., upon the eyes of children was not such a difficult question to meet as many people seemed to imagine; that the first requirement is an abundance of light and the second the size and clearness of the print. He thought it important to have the sight of children tested, for even in communities where it would be impossible to secure the services of an oculist it would have the practical effect that the children showing defective vision could be given more favorable positions in the school room. This plan might also be extended to the testing of the hearing so that partially deaf children could be given the seats nearest the teacher. Dr. McElwee, of Missouri, asked if it would not be well to urge some control by the State Boards in the selection of school books. He referred to the fact that there are a number of books more or less harmful because of their imperfect or ornamental type. The selection of school books rests often with politicians who have little or no knowledge of their value. He thought school children should have the best of everything, good books, good paper, clear print, etc., and if so, not only would the eyes be saved from strain but the pupil's mental progress would be more rapid. Dr. Lewis spoke in condemnation of the cross lights found in many schools and explained the advantages of having the light come from the proper direction, to the left of and behind the individual. Above all things he insisted that the end of the room at which the teacher sits and which the children must face should be a blank wall. Dr. Hurty exhibited a curtain invented by a school commissioner in Indiana who, being unable to secure all the desired improvements for his schools determined to do all that he could for the protection of the children's eyes. After studying what had been done by others in examining school children's eyes he secured the necessary test cards and instructed the teachers in his district in the detection of defective vision. Such defectives as were found were given such advantages as could be obtained through the selection of favorable seats, etc. The curtain he uses is an ordinary roller shade with rope and pulley attachments that can be applied to any window and which allows the whole curtain to be moved up or down, while at the same time the curtain may, of course, be raised or lowered in the ordinary way. This permits any portion of the window desired to be covered or exposed.

2. **School Water-Supplies. Relation of School Water to the Spread of Contagious Disease.**—The discussion of this subject was opened by Dr. G. T. Swarts, of Providence, R. I., who stated that he considered it the duty of every health board to see that such wells as must be used for school supply are regularly inspected as to their surroundings as well as the analysis of the water. By so doing, contamination of the wells might often be prevented or corrected. He thought the most important phase of this question is the matter of drinking water from a common supply in the school, for when the cup once becomes contaminated with infected saliva from the mouth of a child No. 1, it may readily convey disease to any number of other children using it. He advocated the use of individual drinking cups. Dr. Hurty said that he acknowledged the dangers of the drinking cup and thought it was one of the most common ways of transmitting disease. The State Board of Indiana had passed a rule that school children must be supplied each with its individual drinking cup of glass, and that the school must be supplied with a drinking fountain having a push faucet that delivers about one-third more water than these cups will hold. By these means there can, of course, be no dipping, and the cup is always washed by the one-third overflow. Two thousand of the 5,000 schools in the State have adopted these fountains so far, and though no statistics are as yet ready for publication, there is reason to believe that when prepared they will show a marked diminution in the number of cases of diphtheria, scarlet fever, etc., occurring in those communities. The glass cup is cheap, strong, and easily kept clean, and the teachers are instructed to explain to the children the reasons for their use so that they thus have an object-lesson in personal sanitation. Wells must be allowed in some parts of the State, but the board insists on their being drive wells and the children use the same kind of cups, each child's cup bearing a number which corresponds with a numbered hook upon which it may be hung when not in use.

The annual address of the President was delivered by Dr. U. O. B. Wingate, of Milwauke, who chose for his subject **A National Commisssion of Public Health.** Dr. Wingate thought that some organization, separate and apart from any other service, devoting its entire time to a consideration of the public health and presided over by a competent member of the medical profession, should be created by Congress, and he believed this to be the opinion of the great majority of sanitarians in the country whose experience has been sufficient to allow them to arrive at just and competent conclusions. To draft a bill to meet the necessities of the case, however, and to satisfy every one has been found to be extremely difficult; not the least of these difficulties has been that of securing the united support of the medical profession. The lack of unanimity of opinion is always a great stumbling block in the way of securing legislation. Congress is usually ready to provide such laws as the people demand, but before making the demand the people should know what they desire. Dr. Wingate referred to the division of sentiment which resulted in two factions supporting different bills, the Spooner bill and the Caffrey bill respectively, at the last session of Congress. He stated that the Spooner bill had received more general support all over the country than any similar bill that has ever been introduced and he referred to its repeated endorsement during the last four years at the annual meetings of the American Medical Association and the American Public Health Association. Numerous commercial bodies have also endorsed this measure and he believed the medical profession is now practically a unit in demanding the passage of this bill. He reviewed and answered some of the few criticisms that had been made of the bill and stated that some system of national public health service is now demanded in our country and must soon be supplied, concluding, that until such a body is provided there is for the public health associations and conferences but "one bugle note, and one battle call, one watchword, duty, that is all."

At the conclusion of the president's address, Dr. Elgin delivered a short address on the **methods of preparing vaccine virus** and illustrated his talk with stereopticon slides.

Second Day.

The discussion of matters pertaining to school hygiene was renewed and consideration given to the **wisdom of closing schools during outbreaks of endemic diseases.** Dr. Smith opposed the closing of schools as soon as a contagious disease was discovered, stating that the children could be kept under better surveillance if kept at school than if sent home. As soon as any child is discovered to be affected it should, of course, be taken from the school. He would also like to see all matters pertaining to health placed under control of the State Board of Health, so that they could say to the school authorities whether or not the schools should be closed in any given emergency. Dr. Bracken said that he agreed with Dr. Lindsley, who had stated that the fire should be put out in the beginning. As soon as a case is noticed the child should be sent home and the school building disinfected. He did not believe in the closing of schools, as the children could be better watched there than at home, but he believed that in order to accomplish this we must have regular inspection of the schools by competent medical men. Dr. Hurty also took this view of the question and cited an instance in which three cases of diphtheria appeared in a school of 28 pupils. The school was closed and two of these three children died. The school room was disinfected, but soon after the sessions reconvened the disease broke out again. This experience was repeated a second time time before any inspection of the children was made. Cultures were then taken from the throats of al those attending the school, and though the teacher had not been sick her culture-tube was the only one which gave a growth of the organism. After treating the teacher until her throat was free of the organisms, the school reopened and the epidemic was at an end. He found that the teacher had been in the habit of using her own saliva to erase work from the children's slates when correcting their exercises. It seemed to indicate that the germ in this case was not viru-

lent enough to sicken the teacher, or rather that her powers of resistance were high, but it did affect the children. DR. CHAPMAN, of Ohio, said he was very glad to see so many physicians opposing the closing the schools on the appearance of one case of infectious disease, since the school boards in rural districts especially, usually wanted to take this step at once. He believed the closing of the schools was often the means of scattering the disease, because the children when released from school authority will be allowed by their parents to run when and where they please. A community is often injured very much in a business way also, by having the schools needlessly closed. DR. FULTON, of Maryland, believed the question of closing the schools to be one of expediency, the main point of consideration being how the children could best be kept under observation. He, too, thought the open schools should be maintained whenever possible. On one occasion having found the schools in a small town closed on account of suspected diphtheria, he had ordered their reopening as a means of localizing the disease by securing cultures from the throats of all the pupils. It seemed a bold step in the face of local sentiment in that town, but it proved to be a successful one, for two infected throats were discovered, the children isolated and no further cases resulted. DR. LEWIS, of New York, then introduced the following resolutions, which were adopted by the unanimous vote of the Conference.

Resolved, That, in the opinion of this conference, the closing of schools upon the appearance of contagious diseases among the pupils is seldom necessary or advisable.

Resolved, That the medical inspection of schools is an absolute necessity in such cases.

Resolved, That the establishment of public health bacteriologic laboratories is of such vital importance as a public health measure that their establishment in every State represented in this conference is hereby requested and urged.

DR. MERRILL, of St. Louis, then presented, by invitation, an **apparatus devised for the disinfection of rooms** by the use of formaldehyd. He had found that most of the apparatus on the market failed to disinfect, not because of any failure of the power of formaldehyd, but because of their not providing a sufficient quantity of the gas to do the sterilizing. His apparatus consisted of a cup-shaped lamp, filled with steel wool, which would hold about one quart of wood alcohol. Over this was placed a kettle containing the commercial formalin. A second apparatus of the same kind must be used at the same time, but the kettle is filled with water, so that the steam vaporized from this kettle mixing with the formaldehyd liberated from kettle No. 1 secures the more powerful effect which this gas has when acting in a moist state.

DR. SWARTS then presented a paper on the question—**Is it advisable for a State to provide vaccine virus?** He spoke of the necessity of having a pure virus for vaccination purposes, and said that it might be obtained in one of two ways—either through its manufacture by the State Board of Health, or through the inspection by competent authority of the manufactories of private concerns. The first plan does away with some of the dangers that attend the commercialism involving private manufacture. On the other hand, it was suggested that the surveillance which surrounds the private producer compels him to make a good product in order to make his business venture a success, for one failure with or injury from his virus does his trade an irreparable injury. The question of expense to the State was considered, and it was said that if the State demands vaccination for the protection of its people, then the people should make no objection to paying for that protection. He believed that the State should provide such laboratories, and where that was not possible, that they should take the necessary steps to make sure that they were securing for their people the most reliable virus manufactured by the commercial bodies.

DR. C. O. PROBST, of Ohio, presented a very interesting paper entitled, **Should State Boards of Health be given a controling voice as regards plans for public water-supplies and sewerage systems?** He answered the question in the affirmative and said that he doubted the advisability of entrusting to municipalities the duty of keeping even their own water-supply unpolluted by their own sewage, and instances were cited to show the necessity of controling municipalities in this connection. The injury does not, however, usually fall upon the municipality which contaminates the water, but rather upon some city or town further down the stream, and the one municipality is not likely to give much consideration to the health interests of the other. He insisted also, that a contaminated water-supply in any district was by no means a local question only, but was a source of danger to all other parts of the State and country. Thus a man visiting Cleveland contracted typhoid fever and, going to his home in a small village, spread an epidemic through a community which had not seen a case for twenty years previous. Other instances were cited of cases traced to Philadelphia and other cities with impure water-supplies. He said that experience has proven that a city is not absolutely safe in relying upon a filtration plant and neglecting the care of its sewage, and on the other hand the purification of sewage has not yet reached the point where it can be safely turned into a stream without danger to the towns further down the stream.

DR. JOHN S. FULTON, of Maryland, considered the question, **If the plague should pass the quarantine and enter your State?** Dr. Fulton said the statement has been widely circulated that the plague could not gain a footway against our western civilization even if admitted, but aside from the one single experience of Oporto last year, he could find no reason for any great confidence in this belief. He finds that in its first appearance the disease may deceive even the most competent health-officers who are accustomed to deal with it, though as a rule it is easily recognizable. In the Eastern countries the quarantine measures are very simple. The man strips down to his waist-cloth and walks past the quarantine official who feels his armpit for fever and his groin for bubo, and finding neither gives the word to pass on. The history of most epidemics begins with a single case or a single infected house, and in a short time it is noticed that the rats in that neighborhood are running the streets and acting in a crazy manner. The epidemic soon follows. There are different forms of the disease, the buboes sometimes appearing in the armpit, the groin, or even in the neck if the infection has entered by the mouth. The type in which there are multiple abscesses is difficult to diagnose except by microscopic examination. The bacteriological diagnosis is said to be very easy, but we must be guarded against negative findings. The time to get the bacillus is in the early stages of the swelling because it disappears when suppuration begins. The spread of the plague by rats is a source of great danger, and though it has not been absolutely proven that they convey the disease there is sufficient practical evidence in that direction to warrant a careful watch being kept over them. It has been suggested that one way in which they may convey the disease to man is through the fleas with which they are infested. At any rate a campaign against plague involves a crusade against rats. Dr. Fulton then reviewed the experimental work of Haffkine with his protective lymph, and related instances showing the very small number of cases developing among those who had been inoculated with it and the very large number steadily occurring among the uninoculated in the same districts.

In discussing the question, DR. MCCUTCHEN, of New Orleans, explained the quarantine regulations put into effect at his city when coffee boats had been recently expected from the infected port of Santos, Mexico. The ships were compelled to stay at quarantine for 15 days, and were disinfected on the first and fourth day after arrival. On the eighth day the removal of the cargo into lighters was begun and the disinfection repeated day after day until the ship was empty. Then a complete sterilization followed, and the boat was allowed to proceed to the city. The cargo must have been handled entirely by the ship's crew and the expense of disinfection borne by the ship's owners. Some modification of these rules has since been made to apply to ships leaving infected ports more than 30 days after the last reported case of the disease.

DR. LINDSLEY, of Connecticut, presented a paper on the **Most practical and successful ways of educating the public in the principles and practice of sanitary science.** He considers the press the most powerful promoter of progress, since it possesses the public attention and can be used gratuitously. He thought every health-officer should see that the prominent paper of his town should be well seasoned with health spices. That every local instance that shows the effects of disobedience of sanitary laws

should be used to instruct the people. An occasional lawsuit is also effective, and it is a very good plan to prosecute violators of the law, if only to compel public consideration of the laws. Epidemics are the most grievous and costly lessons for the public, but they are the most impressive; it has been said that the last epidemic of cholera saved more lives than it cost by bringing about a number of improvements. He advocated making the meetings of public-health associations popular by inducing prominent citizens of the community to take part in them, and said that where there is a lyceum or debating club the health-officials should see that they occasionally consider such questions as that proposed by the Prince of Wales, If there are so many preventable diseases, why are they not prevented?

The election of officers for the following year resulted in the choice of the following named gentlemen: President, Dr. C. O. Probst, Columbus, Ohio; vice-president, Dr. Henry Mitchell, New Jersey; secretary, Dr. G. T. Swartz, Providence, R. I.; and treasurer, Dr. J. A. Egan, of Chicago, Ill.

Adjournment.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5–8, 1900.

[Specially reported for The Philadelphia Medical Journal.]

Section on Laryngology and Otology.

[Reported by S. B.]

(Concluded from page 1296.)

Symposium on Inflammation of the Mastoid.—Herman Knapp, of New York, read a paper by invitation on **Tympanomastoiditis in children.** This was followed by a contribution by C. W. Richardson, of Washington, on **Complications of mastoid abscess.** Three cases of intracranial complication and suppurative inflammation of the middle ear were described by the latter. One of these cases had cerebral abscess, the other two septic thrombosis of the lateral sinus; and they were all used to illustrate points with regard to intracranial inflammation resulting from diseases of the middle ear, with particular reference to diagnosis and the proper period for operation. Other papers in the symposium were: **Some observations in mastoid operations,** by A. W. Calhoun, of Atlanta, Ga.; **Primary tuberculosis of the mastoid,** by M. A. Goldstein, of St. Louis, Mo.; a report of three cases of **ligation of the internal jugular for septic thrombosis,** following purulent otitis media, by E. B. Dench, of New York; and the treatment of **acute and chronic purulent affections of mastoid, tympanic and accesory cavities** based on the bacteriologic study of 50 cases, with special reference to the value of enzymol, by Talbot R. Chambers, of Jersey City.

The next paper in the series, by Frank Allport, of Chicago, dealt with the **limitation of ossiculectomy and tympanic curetment.** Having called attention to the importance of chronic otorrhea, he proceeded to point out the difference of the opinion that prevailed in regard to its treatment, dividing the classification of surgeons into ultra-conservatives, conservatives and radicals, according to their views. He sketched the views of each class, showing the evolution and process that had taken place. The uselessness of mere treatment in all cases was then touched on, and the dangers of ossiculectomy set forth. Patients were often cured without radical operation. The opinions of Stacke, Macewen and others were quoted and the possibility suggested of harmonizing them and reaching conclusions that might make them all correct.

H. Gradle, of Chicago, submitted a paper entitled **Bony defects and fistulas in the meatus in the ear.**

F. E. Sampson, of Creston, Iowa, justified radical operations on the double ground that they were perfectly safe, and were frequently rendered necessary by the neglect to which they had been subjected, far too many cases being left to God Almighty until nothing but a radical operation was of use.

The remaining papers at this session were **Accessory sinus affections,** by E. L. Vansant, of Philadelphia, and **Enlarged lingual tonsil,** report of a case by Frank D. Boyd, of Fort Worth, Texas.

J. A. Stucky, of Lexington, submitted a motion on behalf of the executive recommending that the American Medical Association pass a resolution in favor of the examination of the hearing of all school children. The motion was unanimously agreed to.

Laryngeal Tuberculosis.—W. Freudenthal, of New York, reviewed the new method employed in the treatment of the disease at Montefiore House, New York, and reported the results so far achieved. He also described a new steam atomizer intended for use in hospitals.

F. L. Stillman, of Columbus, Ohio, read a paper on **General bodily resistance as a factor in the history and cure of nose and throat diseases.** He showed how the power of resistance might be influenced by heredity, environments, habits, food and hygiene, and said that, while in diseases of the upper respiratory tract most brilliant results were brought to pass through means almost purely surgical, yet in many of these diseases attention to the patient's environment was a most vital point in giving genuine relief.

Atrophic Rhinitis.—Carolus M. Cobb, of Lynn, Mass., described treatment by electrolysis and reported experiments he had made with the view of determining the efficiency of needles of different metals. He dwelt on the importance of making a differential diagnosis between atrophic rhinitis and disease of the accessory sinus. A large percentage of cases of so-called atrophic rhinitis were really diseases of the sinus, and could be cured by treatment directed to that. Electricity might exert an influence by the distribution of an infinitesimal amount of the metal through the tissues, but its greatest value probably depended on its power to decompose fluids of the tissues themselves. Experiments had been made with needles of copper, steel, and platinum in various combinations; and the result was to show no difference in the results obtained when different needles were used. Different metals had decided remedial influences, and it was possible to cure uncomplicated cases of atrophic rhinitis, for a time at least. He wished to impress on the profession that atrophic rhinitis was not incurable. It was very easily influenced by treatment, and many of the patients could be permanently cured.

The treatment of deflection of the nasal septum, complicated by traumatic deformity of the external body and cartilaginous framework of the nose.—B. Gleason, of Philadelphia, described operations showing that they did not materially alter the appearance of the external nose, and were done solely to secure increased breathing-space in the obstructed side and improved breathing in the unobstructed side of the nose. In lateral deflections of the external nose, therefore, the problem was not to straighten the septum, but to render it parallel to the lateral walls of the nose.

Systemic Factors in Catarrhal Deafness.—Sargent F. Snow, of Syracuse, N. Y. In cases that failed to respond to the most correct and thorough nasal work and also ear-instrumentation, he suggested that failure was often due to the fact that some systemic disorder induced recongestion of the membranes. Nasal, postnasal, and tubal membranes were capable of and susceptible to engorgements, prominent among which were a sluggish, poor reaction of the skin, digestive disorders and lack of proper exercise, which prevented a favorable prognosis being given in a well-seated case of chronic catarrhal deafness if one or several of these factors remained uncorrected. It was not within the province of otologists to attempt the correction of these morbid states; but none the less it was important that it should be known that catarrhal deafness *per se*, within reasonable limits, became a simple proposition if they could only eliminate the unfavorable influences.

Diagnosis and Prognosis of Ear-Disease.—B. Alexander Randall, of Philadelphia, said diagnosis must be the basis of the surgeon's view of treatment, as prognosis was that of the patient. The first must be based on the alteration of the anatomic and physiologic conditions, the latter on the natural history of the diseased process and its modification by medical art. Sight and touch could diagnosticate external lesions; pneumatic methods were required for tympanic, and acoustic for perceptive, apparatus. The voice was the best practical quantitative test, and tuning-forks were the best for qualitative and localizing purpsose.

The Latest Literature.

British Medical Journal.

May 19, 1900. [No. 2055.]

1. Small-Bore Rifle Bullet-Wounds and the "Humanity" of the Present War. CLINTON T. DENT.
2. Injuries of the Bladder occurring in the Course of Gynecological Operations. JOHN WARD COUSINS.
3. Abstract of the Report of a Committee on the Medico-Legal Relations of the X-Rays. J. WILLIAM WHITE.
4. Plague in the Lower Animals. FRANK G. CLEMOW.
5. Herpes Progenitalis from a Diagnostic Point of View. ARTHUR COOPER.
6. Suppuration in the Mastoid with Optic Neuritis on the Same Side; Operation; Recovery. J. PRESTON MAXWELL.
7. Septic Thrombo-Phlebitis Treated by Injections of Streptococcus Antitoxin. R. B. MAHON.
8. Esophageal Feeding in Bulbar Paralysis. HERBERT SMITH RENSHAW.
9. Removal of a Glass Penholder from the Abdomen. THOMAS T. S. HARRISON.
10. Acute Lead Poisoning. JOS. WM. GILL.
11. The Local Incidence of Rheumatism. DAN MCKENZIE.
12. Hematuria Due to Bilharzia. JOHN GUTCH.

1.—Dent reviews the results so far obtained by the medical corps in the South African War, and says that the favorable results are the result of avoidance of septic diseases. The lack of septic processes was due to a number of reasons, first, the army was well fed and nourished, the climate was the very best for helping the wounded to get well, the hospitals could be scattered over large areas so that there was no crowding, and the lavishness of antiseptic dressings and other necessities made the proper care of the wounds possible. Of pyemia, septicemia, and tetanus there was practically none, while there was only one case of erysipelas reported. In speaking of the **effects of the small caliber, high velocity bullets** on the tissues, it may be said that the injuries caused in the living subject are less serious than would have been anticipated from experiments, and in this respect the modern war is more humane than it was thought likely to be. The Mauser bullet makes a clean wound in the skin and is not very likely to carry shreds of clothing with it into the tissues. Trephining for wounds of the skull was frequently done, and was followed by the best of results. [G.B.W.]

2.—Cousins reports a case of ovariotomy followed by **sloughing of the bladder-wall.** The patient had been operated on for a large ovarian cyst, the removal of which necessitated the tearing through of numerous adhesions. A large glass drainage tube was left in the wound, and the patient did well until the eighth day after the operation, when her urine became very offensive and thick. Three days later there was a copious discharge of offensive urine through the lower angle of the wound, and on the nineteenth day after operation a dry slough was removed from the urethra, measuring 12 inches in length and 1¼ inch in breadth. The patient made a good recovery, passing her urine by the normal passage and without any sinus remaining behind in the abdominal wound. The damage to the bladder in this case was done by the enucleation of the pelvic portion of the tumor, possibly through the interfering with its blood-supply. [G.B.W.]

4.—Clemow continues his article. Dogs may get **plague,** but apparently have little influence in spreading it. The same is true of cats, and probably of jackals; horses are very insusceptible, pigs have only a low susceptibility, and the latter is also true of sheep; goats are somewhat more susceptible, cattle scarcely at all susceptible, birds are refractory and have practically nothing to do with the spread of the disease. There is no evidence that it is spread by reptiles, but there is a good deal of evidence that it is spread by insects. [D.L.E.]

5.—Cooper says that regular **herpes progenitalis** is diagnosed, but irregularities both in its distribution and its course often lead to doubtful opinions, especially in the single spot herpes are errors likely to be made. The irregularities may be due to different reasons; balanoposthitis, the application of irritants, and nervous fear are often causes. Cooper says that in cases of sores of a doubtful nature on or near the genitals one should keep in mind the following points: (1) the chances of irregular herpes should always be considered; (2) the lesions and inguinal glands should be frequently examined until the diagnosis is clear; (3) but in the meantime do not apply irritants, and (4) do not give mercury. [G.B.W.]

6.—Maxwell reports a case of **mastoid disease complicated by an optic neuritis.** The ear trouble had been about a month in developing before the really acute symptoms began. The change in the disc of the left eye was noticed a few days later. There was considerable frontal headache, but no signs of intracranial involvement. The mastoid process was opened and considerable pus evacuated. The opening into the middle ear was enlarged, and the malleus, incus, and some granulation-tissue removed. Several silk threads were used for drains, and the wound dressed. The subsequent result was most satisfactory, the optic neuritis clearing up, and the mastoid wound healing readily. [G.B.W.]

7.—Mahon reports a case of septic **thrombophlebitis,** involving both legs, following labor. The patient was going rapidly down hill under the ordinary stimulating treatment so that she was in extremely poor condition when the first injection of **streptococcus antitoxin** was given, her temperature being at this time 103 and her pulse 125. The first injection if 10 ccm. was followed by lowering of the temperature but with no other improvement. The second dose of the same size was however followed by marked improvement, and from then on the patient made an uninterrupted recovery. [G.B.W.]

8.—Renshaw has treated 21 cases in his own practice by **esophageal feeding.** In one case the patient became stout and hearty, and lived in comparative comfort for 3 years. The other person was very old, but life was prolonged for 18 months. In neither case was there any return of the power of swallowing. [D.L.E.]

9.—The patient had introduced a **glass penholder** into the uterus to produce abortion, and it had slipped from her grasp. There was no pain at its disappearance, and not until two days later did she experience a sharp stabbing in her side when she attempted to move. There was no sign of peritonitis, but the **abdomen** was opened, and the penholder found nearly touching the diaphragm. Recovery followed. [G.B.W.]

11.—McKenzie states that **rheumatism** is practically endemic in a portion of the town of Larkhall, called Millheugh, but not unusually common in Larkhall itself. This strongly suggests infection. Millheugh lies in a valley; there is, however, no opportunity for the accumulation of surface or sub-soil water, there is very little mist, and the rainfall is low. Moisture does not seem, therefore, to have anything to do with the outbreak of the disease in this region. [D.L.E.]

12.—The patient was a boy of 17 who had **hematuria.** Examination of the urine showed ova and active embryos of the **bilharzia.** He disappeared from observation before treatment had been carried out for any length of time. Gutsch suggests that such cases will be common when the troops return from South Africa. This boy apparently became infected by bathing or through drinking infected water [D.L.E.]

May 26, 1900. [No. 2056]

1. Puerperal Inguinal Parametritis. G. E. HERMAN.
2. Two Cases of Extirpation of the Uterus for Excessive Hypertrophy and Prolapse. T. ARTHUR HELME.
3. Vaginal Hysterectomy for Uterine Prolapse. R. C. CHICKEN.
4. Puerperal Septicemia; Treatment by Antistreptococcus Serum; Recovery. HARCOURT GERVIS.
5. Hematometra in Right Horn of an Undeveloped Double Uterus, Successfully Treated by Abdominal Section. F. W. N. HAULTAIN.
6. The Treatment of Puerperal Eclampsia by Diuretic Infusions, with a Table of 22 Cases. R. JARDINE.
7. A Case of Uterus Bicornis Accidentally Discovered After the Patient's Fourth Pregnancy. C. HUBERT ROBERTS.
8. Two Cases of Bromoform Poisoning; Recovery. C. E. STOKES.

9. Infectiousness of Acute Rheumatism. C. W. Lawson.
10. Chronic Eczema Cured by an Abscess. P. Augustus Longhurst.
11. A Case of Acute Intussusception; Laparotomy; Reduction and Recovery. G. W. Farmer.

1.—Herman thinks that the 2 main **causes of cellulitis** are childbirth and, apart from pregnancy, injuries to the cervix. The majority of cases are puerperal and occur in women under 40. Out of 63 cases observed, in two-thirds there had been no difficult labor. The trouble as a rule occurs in from 1 to 5 or 6 weeks after delivery, more commonly at the end of the second week. The symptoms are pain, shivering, weakness and fever, with inguinal swelling which may reach as high up as the loose cellular tissue between the transversalis fascia and the peritoneum extends. The essential treatment consists of absolute rest in bed with suitable food to maintain strength, and in suppurating cellulitis, open the abscess and let out the pus as soon as possible, keeping the patient quiet in bed while the abscess is healing. [W.K.]

2.—Helme, in reporting 2 cases of **hysterectomy for excessive hypertrophy of a prolapsed uterus,** remarks that the term "prolapse" should be limited to cases of herniation of the entire pelvic floor where there is unfolding and protrusion of both anterior and posterior vaginal walls, between which the uterus hangs, as it were, in a sac; but where this condition is accompanied by excessive hypertrophy of the uterus, its extirpation may become necessary, as in the 2 cases given, in which the lower part of the greatly enlarged cervix protruded through the vulvar opening, together with the bladder and urethra. In both the uterus was removed by an abdominal incision, and the perineum repaired by a second operation. The mere excision of the uterus cannot be expected to cure the hernia of the pelvic floor nor remedy the prolapse of the vaginal walls. These objects may be obtained by (1) drawing together the peritoneal surfaces and the cut ends of the uterine ligaments; (2) the making of a broad union between the anterior and posterior vaginal walls, and their fixation to the "central knot" formed by the remains of the various uterine ligaments. [W.K.]

3.—Chicken, in advising **vaginal hysterectomy for inveterate recurring prolapse,** recommends (1) The removal of a part only of the uterus; (2) the removal of the unattached portion of the posterior fornix. The advantages of this method are: (1) The leaving behind of a solid piece of uterine tissue; (2) the transverse cut across the uterus allowing of easy retroversion of the fundus and facility of applying ligatures to vessels; (3) the removal of the whole floor of Douglas's pouch; (4) the incision of the posterior fornix being made as far back as possible, the resulting scar admits of no play between the bony pelvis and the neck of the bladder. [W.K.]

4.—Gervis reports a case of **puerperal septicemia** successfully treated by him with antistreptococcus serum accompanied with uterine douches of perchlorid of mercury, 1 to 2000 at first, later 1 to 4000. From first to last, a period of 18 days, he injected into the patient 170 ccm. of the serum with no unfavorable symptoms whatever, of course using the strictest antiseptic precautions. How much of the success was due to the serum and how much to the douches it is impossible to say, but Gervis believes that no one should be satisfied to treat puerperal fever without using the antistreptococcus serum, beginning at the earliest possible date. [W.K.]

5.—Haultain reports a case of **hematometra of the right horn of an undeveloped double uterus,** in which the horn had ruptured and caused peritonitis. The ovaries, showing signs of blood-cysts with strong inflammatory adhesions, were removed along with the distended horn and the patient recovered. A point of interest is that there had been a total absence of external menstruation, the patent horn being atrophied while the occluded horn was functionally active, the fluid secreted causing the intraperitoneal rupture. [W.K.]

6.—In Jardine's treatment of **puerperal eclampsia** he considers diuretic infusions the most important item. To control the spasms he finds chloral and bromid in large doses very useful, but has given up morphin because it lessens the excretion of urine. To clear the bowels he prefers magnesium sulfate, 4 to 6 tablespoonfuls in warm water; but the main point is the giving of **saline infusions** under the breast, or in the abdominal wall or axilla, the first being the most convenient. He uses either potassium bicarbonate or sodium acetate, 1 dram, to 1 dram of sodium chlorid with a pint of water, sterilized water of about 104° F., so it will be 100° when it enters the tissues. One to 3 pints may be administered at a time. He claims great diuretic effect, as the excretion is often trebled in amount. He believes thoroughly in this method of treatment and hopes it will be tried by others. [W.K.]

7.—Roberts reports a case of **uterus bicornis** of interest, because the condition was only ascertained at the fourth pregnancy, which terminated in a miscarriage at 4½ months, when, during the manipulative interference necessary, the condition was discovered. Three full-time children had been born without the condition being suspected. In each case the pregnancy had probably formed in the better-developed right side. [W.K.]

8.—Stokes reports 2 cases of **bromoform poisoning.** A number of children in the same house were being treated for whooping-cough with ½ minim doses of bromoform suspended in mucilage of tragacanth. At one of his visits he found 2 of the children—one aged 4 years and the other aged 2 years—lying side by side, with breath smelling strongly of bromoform, with faces pale, eyes closed, pupils contracted, and limbs flaccid. Artificial respiration, brandy and strychnin, hypodermically administered, lavage with hot water and hot coffee, brought consciousness in about 1½ hours. [J.M.S.]

9.—Lawson reports 2 cases that seem to indicate an **infectious origin of acute rheumatism.** A hotel page bathed in the river and had an attack of tonsillitis; about a week later he developed acute rheumatism from which he slowly recovered. The man who slept in the next bed, a strong person with no rheumatic family history, developed tonsillitis 10 days after the first patient. During convalescence he, also, developed rheumatism and was ill for 6 weeks. Both patients subsequently developed serious cardiac symptoms. [J.M.S.]

10.—Longhurst reports the case of a man, aged 31 years, who had a patch of **chronic eczema** in the popliteal region for 8 years. After scratching the lesion one day an acute abscess formed, accompanied by cellulitis and lymphangitis, which was well in one week. A month later the eczema was found to have entirely disappeared. The author suggests **counterirritation of the skin** as a therapeutic measure in eczema. [J.M.S.]

11.—Farmer reports a case of **intussusception** in a child 10 months old. The operation was done within 36 hours after the appearance of symptoms, so that the involuted gut was easily reduced. The intussusception was ileocolic. Feces were passed about two hours after the operation and the child made a rapid recovery. [G.B.W.]

Lancet.

May 19, 1900. [No. 4003.]

1. Malaria and the Malarial Parasite. Patrick Manson.
2. The Modern Treatment of Diabetes Mellitus. Robert Saundby.
3. Summer Diarrhea, with Special Relation to Causation and Prevention. F. J. Waldo.
4. A Clinical Study of the Causes of the First Sound of the Heart. Alexander Morison.
5. The Standardization of Antivenomous Serum. Walter Myers.
6. Chronic Abscess of the Pericardium. David Hunter.
7. Some Cases Showing the Use of "Gas and Oxygen" as an Anesthetic in Certain Ophthalmic Operations. W. J. McCardie.
8. Fatty Tumor of the Ascending Colon; Enterectomy; Recovery. J. Bland Sutton.
9. A Case of Incomplete Development of the Third and Fourth Ribs. F. B. Jefferiss.
10. A Case of Pressure on the Left Bronchus; Recovery. Norman Dalton and Greville MacDonald.
11. A Case of Acute Yellow Atrophy of the Liver. Stephen Smith Burt.

1.—A general description of the parasite and its life-cycles. [D L E.]

2.—Saundby goes over the **pathogenesis of diabetes,** mentioning incidentally that an investigation of the causes of death of engine-drivers of one of the railroads, carried out by Page, showed that the mortality from diabetes in these men was nearly twice as great as that in the general population, thus supporting to some extent the conclusion of A. H. Smith, that these men are likely to suffer disproportionately from diabetes owing to the anxious nature of their work. Saundby agrees that bronzed diabetes is probably cirrhosis of the liver, with bronzing of the skin and glycosuria. The definition of diabetes which he offers is a persistent or recurrent glycosuria, which sooner or later is accompanied by thirst, polyuria, and failure of nutrition. He describes a number of cases in which the symptoms of diabetes developed, disappeared under careful treatment and hygiene, and then reappeared again a year or more later under special strain. He does not think that there is proof that any case of diabetes has ever been cured; the cures reported are probably instances of glycosuria resembling diabetes. To distinguish between such cases one must often wait and study the case. He describes his methods of diet, which are largely those of Külz and Naunyn. He has never seen bad effects from saccharin. Potatoes should be used more frequently than they are instead of bread, as they give a much larger bulk in proportion to the carbohydrates contained therein. Bread should be given in the form of toast. The best form in which to use alcohol is Scotch whisky or light wine. He considers a fast once a week, from carbohydrates, valuable. [D.L.E.]

3.—Waldo continues by giving a general consideration of the predisposing factors, the bacteriology, and the communicability of **summer diarrhea.** He thought that possibly the source of infection in these cases might be in dust, and that perhaps horse-dung might be the specific polluting material, particularly because this is constantly in the streets and is blown about. Narrow streets with high houses, and macadam or rough stone paving are most calculated to create and harbor dust, and these streets are those in which the disease seems especially to occur. He had horse-dung investigated bacteriologically and found enormous numbers of bacteria in it, the chief of which were the Bacillus coli communis, the Proteus vulgaris, and the Enteritidis sporogenes. The discoveries are merely suggestive, but they show that the bacteria of man and horse are similar. [D.L E.]

4.—Morison has made an extended clinical study of the **first sound of the heart.** He concludes that the impulse given to the blood by the muscular action of the heart gives rise in it and in the vibratory structures containing it to vibrations which result in a tone, which is synchronous with cardiac systole, and which is called the first sound of the heart. The vibrations in the blood itself, he believes, cause the greater part of this sound. He believes that Quain attributed too little importance to the blood itself in the production of this sound. It may be observed clinically that the first sound is clearly audible when the muscular action of the heart is at zero, and the first sound may be audible in all forms of valvular disease, even when almost all the valves are seriously diseased. [D.L.E]

5.—Myers has found that while the **antivenomous serum** is toxic for mice, death does not occur in the first 24 hours, so that the results noted in this time may be used to standardize the serum. With mice of about 15 grams weight it was found that the minimum lethal dose of the cobra venum was about 0.012 mg. The serum and the venom were mixed together, and in this way with a known venom, the serum was standardized. The method is not extremely accurate because the antitoxin is so weak. [D.L.E.]

7.—Brief reports are given of 11 cases in which a mixture of **gas and oxygen** was used for **anesthesia** in **prolonged** ophthalmic operations. The special advantages are: the safety of the mixture, which is the safest anesthetic known; the rapid induction of anesthesia, the patient being under in less than 2 minutes; the induction is without incident and the maintenance in the best cases is sleeplike, while full recovery occurs in less than 2 minutes; the absence of after-effects; the eyeball is fixed, the orbicularis muscle is relaxed, and congestion can be entirely avoided by the allowance of sufficient oxygen, while there is no retching, sickness, cough, straining, or unconscious after-movement causing increased intraocular vascular tension; the upright chair or semirecumbent position on a couch can be conveniently and safely assumed; this method of anesthetization is adapted for consulting-room work. With regard to limitations in usage it is not judicious to give gas and oxygen to big, strong, or much bearded men, to alcoholics of either sex, or to very young children, especially for delicate operations. In adults especially it is important to keep the patient's head turned to one side to prevent obstruction to respiration, and in some cases the jaw must continuously be pushed forward to keep a free air-way. There is the disadvantage to the mixture that in operations immediately followed by pain the patient awakes at once to the sense of it and it may be necessary to inject morphia. [M.B.T.]

8.—A man of 44 had had indefinite intestinal disturbances in the neighborhood of the cecum for 7 years. He was taken with a violent abdominal simulating intestinal obstruction, after which he became liable to attacks of colic. On operating, a large lobulated **lipoma** was removed, which had burrowed between the muscular coats of the **bowel** and probably arose from the subserous fatty layer. [M B T.]

9.—A boy of 12 came under observation, who had a well-marked anterior axillary fold of skin in which there was no muscle; the first and the second ribs seemed normal, but close together between the lower margin of the second rib and the upper margin of the fifth there was a **deficiency** in the **bony chest-wall** which extended as far as the mid-axillary line. The boy had complete use of his right arm in spite of his deficient muscular development. [M B.T.]

May 26, 1900. [No. 4004.]

1. The Wounded in the Present War. William MacCormac.
2. Operative Treatment of Simple Fractures. W. Arbuthnot Lane.
3. Summer Diarrhea with Special Relation to Causation and Prevention. F. J. Waldo.
4. The After-History of 41 Cases Treated by Operation for Destructive Hip-joint Disease. Arthur E. Barker.
5. Congenital Word-blindness. James Hinshelwood.
6. The Incubation Period of Plague. Frank G. Clemow.
7. The Inefficiency of the Board of Trade Tests for the Detection of Color-blindness. F. W. Edridge-Green.
8. Simultaneous Excision of both Mammæ for Cancer. G. P. Newbolt.
9. A Case of Multiple Papilloma Cervix Uteri. James Oliver.
10. Plague Contracted from the Bite of a Rat. J. Bell.
11. Retro-Peritoneal Fibro Cystic Tumor. D. Douglas-Crawford.

1.—MacCormack states that the **wounds** which he has seen in the **South African campaign** inflicted by modern bullets are most extraordinarily mild flesh wounds; also wounds of the chest, abdomen, and joints, as well as gunshot fractures, have recovered in a manner which would previously not have been considered possible. This depends upon the small size of the projectile, its rapidity, velocity, and aseptic character. He states that he has seen probably 50 cases of gunshot wounds which recovered without intervention beyond antiseptic occlusion, and he believes that it should be the rule in the future to give wounded patients a chance to recover without operation; serious hemorrhage or beginning peritonitis indicate operation. In uncomplicated cases the best chance of recovery lies in the patients being let alone; in chest wounds the principle of nonintervention and antiseptic occlusion is also advised; a large proportion of such cases recovered and the number of men that have returned to duty after such operations is remarkable. Hemothorax, when urgent, should be relieved by tapping. He mentions 3 cases in which it is difficult to understand how the heart could have escaped penetration unless the bullet was deflected; the patients made good recoveries. Uncomplicated gunshot fractures even of the femur rarely require amputation and few resections were practised. The number of lodged bullets was considerable; they are located, as a rule, with the x-rays, usually they are let alone, but in case they cause irritation, pain, or are likely to be the source of future disturbance, they may be excised. He| mentions 2 cases of death from hemorrhage following ineffective and protracted attempts to remove a projectile. Female nurses have been largely employed in the South African campaign and will no doubt be more largely employed in subsequent campaigns;

their place is in the hospitals, not with moving armies, and never within the line of fire. The total number of wounded officers and men up to May 12 was 10,701, the deaths were 571, or 5.34%, which is considered small. [M.B.T.]

2.—Lane severely criticises the methods of **treating fractures** generally practised. There is a great diversity of opinion among surgeons as to the best ways of treating fractures, and he believes that many mechanical factors are now used that oppose the reduction and retention of fragments of broken bone in accurate apposition. He insists that the surgeon failing to obtain accurate apposition, as determined by the x-ray, should cut down at the site of fracture and restore the bone or bones to their original form. The patient should have the facts, including radiographs with the fracture in the best possible position, laid clearly before him and he should be allowed to choose the form of treatment which he prefers. Lane believes that some of the best surgeons in the world operate extensively in cases of simple fracture and that the treatment of fractures will soon be based on scientific principles and will cease to be a disgrace to surgery. [M B.T.]

3.—In the third of the Milroy lectures on **summer diarrhea** Waldo concludes that both the organic material and the offending microorganisms which act as the cause of summer diarrhea are to be found in the horse dung that is daily deposited in vast quantities upon the highways. The treatment for this affection has reaped more benefit from the advances of modern therapeutics than that of almost any other disease. The use of opiates has been greatly lessened. Alcohol is the best stimulant, astringents are sometimes useful, intestinal antiseptics have proved somewhat disappointing, while of purgatives, castor-oil and calomel are the best. A diet of plain sterile water for 12 hours, predigested milk, the use of pepsin, pancreatin, and intestinal irrigation are also useful. It seems reasonable to assume that to systematic street cleansing we may look hopefully for one potent means for preventing diarrhea. Another way in which our streets will be rendered purer is by the increase of motor carriages whereby the horse will be displaced. As a special means of prevention the supervision of the milk-supply from its source to its consumption should be mentioned. The hands of the milker should be scrupulously clean. In some dairy farms the milker wears a pair of sterile white cotton gloves and a sterile cotton overall or apron. The udder and teats of the cow should be cleaned and the tuberculin test should be rigidly applied. The utensils for collecting and storing milk should be sterilized. The cow-shed should be built on sanitary principles. The retail milk-shop should be subject to inspection in order to prevent contamination. The milk should be stored in private houses in a place free from access of dust, and removed from water-closets, dust-heaps, sinks and drain-ventilators. The notification of summer diarrhea, while entailing considerable expense, would enable us to obtain a vast amount of facts that at present is either lost or imperfectly gathered. The arrangement of streets and houses on sanitary principles would further tend to lessen the disease. [J.M.S]

4.—Barker tabulates 41 cases in which he operated for **tuberculosis** of the **hip-joint** and gives an analysis of his cases. Before operation, fixation of the limb, tonics, cod-liver oil, fresh air, and the best food should be tried ; in no case should we undertake operation until there is evidence of pus in the joint cavity, far-reaching caries, or the formation of sequestra. He advocates operation before open sinuses have formed and the cavity has become infected. None of his patients died as a result of the operation, but one died from marasmus about 18 months later. Most of the remaining cases have been followed up to the present; one patient succumbed 5 years after operation from recrudescence and tuberculous meningitis; one patient died about a year after the operation, from the friend's account, probably of pyemia. The function of the limbs operated upon was excellent, patients walked well and without pain, though there was some shortening. In operating, pus and disintegrated bone should be evacuated. In 26 cases the wound was closed without drainage; 14 remained closed soundly, while 12 required subsequent treatment. He used the anterior incision, flushing with hot sterile water, removal of the sequestra with a gouge, drying and introducing a small quantity of iodoform emulsion. It should be the aim of the operator to remove all diseased tissue in every case. [M.B.T.]

5.—Hinshelwood reports 2 cases of **congenital word-blindness.** The first patient was a boy, aged 11 years. After 4½ years at school the boy had not acquired the visual memory of all the letters of the alphabet. He had not yet passed the first stage in the art of learning to read by sight, and the contrast between his visual memory for words and letters and his auditory memory was very striking since he could repeat the contents of his primer by heart. He could also repeat the alphabet correctly and rapidly. He could spell rapidly and correctly the majority of words of one syllable, but he could not recognize them by sight. The failure of visual memory did not extend to objects, lessons, or places. The visual memory for figures was not so defective, but was not perfect. He could perform mentally simple sums in addition. The second patient was a boy, aged 10 years, who, although reading imperfectly and with great effort, had no difficulty whatever in reading figures even in the most complex combinations. The patient had been in school 3 years and could recognize by sight the most common and familiar words, but in reading he had to pause at the majority of the words and spell them out letter by letter, and so understand them by appealing to his auditory memory. In other respects the boy was very intelligent. In this case the fact that the boy has made some progress leads to the hope that with patience and perseverance he may yet learn to read fluently by sight. [J.M S]

6.—The term **incubation-period** of a disease should be held to cover that period that elapses between the time when the organism gains access to the surface or tissues and the onset of the symptoms of the disease. Clemow calls attention to the fact that there is one class of cases of **plague** in which the incubation-period can be accurately measured; namely, those in which men or hospital attendants have been inoculated through wounds or abrasions at necropsies on plague cadavers. When plague is contracted in this way or through the conjunctiva the incubation-period is 2 or 3 days. When contracted in the ordinary manner the interval between exposure to infection and the onset of symptoms is usually from 2 to 7 days. For practical purposes it has been generally agreed to regard the maximum incubation-period of plague as 12 days; although there are recorded instances in which plague has developed more than 6 weeks after exposure. [J.M.S.]

7.—The paper is a technical one upon the defects of the present methods of detecting color-blindness. It outlines a method proposed by the author to obviate these defects. [J.M.S.]

8.—A woman of 64 was operated upon for the removal of both breasts. The axilla of the left side was cleared of glands, but the right side was untouched. Microscopic examination proved **both breasts** to be affected with **carcinoma.** [M.B T.]

9.—Oliver states that **papilloma of the vaginal surface of the cervix uteri** is an extremely rare disease, and he describes a case occurring in his practice. It was a shaggy, polypoid growth, of the size of a small hazelnut, springing from the vaginal surface of the left half of the cervix, about ⅜ of an inch from the os uteri. After it was snipped off with the scissors, two smaller growths of the same character, which had been concealed by the larger one, were discovered. Each growth possessed a small arterial vessel. A wedge-shaped piece of tissue was removed from the left half of the cervix and the edges brought together with deep catgut-sutures, thereby removing the bases of all three growths. [W.K.]

10.—Bell reports the case of an adult Chinaman who died of **plague.** The man's daughter stated that her father had been bitten by a rat on the thumb and that he had treated the wound himself. Bacteriologic examination of the tissues revealed the presence of the Bacillus pestis. The period of incubation appeared to be three days. [J.M.S.]

11.—A woman of 34 had noticed a lump in the abdomen 4 years previously, which gradually increased in size; it occupied the hypogastrium and umbilical regions extending into the left hypochondrium. On opening the abdomen by a median incision a thick-walled cyst was found and emptied of clear fluid. Both ovaries and tubes were normal; it was evident that the growth was a **retroperitoneal cyst.** It was enucleated and the wound was closed after the insertion of a glass drainage-tube. Her condition was critical for 2 days, then good progress toward recovery followed; death

resulted on the tenth day, however, with signs of respiratory difficulty and the necropsy revealed 2 small **emboli in the lungs.** [M.B.T.]

New York Medical Journal.

June 2, 1900. [Vol. lxxi, No. 22.]

1. Microbes—What are They? HENRY G. GRAHAM.
2. "Æstivo-autumnal Fever" in New Orleans, Summer and Autumn, 1899. H. A. VEAZIE.
3. On a Little-known Method of Treatment of Furunculosis. GUSTAV LANGMANN.
4. The Diseases of the Blood in their Relation to Surgery, and their Treatment. GEO. G. VAN SCHAICK.
5. A Case of Mediastinal Growth with Subsequent Tuberculous Disorganization Mistaken for Aneurysm of the Arch of the Aorta. FREDERICK GRIFFITH.

1.—Graham believes that **bacteria** are low forms of life derived from the protozoa. [J M S.]

2.—Veazie's paper on **estivoautumnal fever** is continued. In the treatment of the disease he uses quinin, calling it the "sheet anchor." In order to be of use the drug must be absorbed. Quinin administered hypodermically has given excellent results in cases that were complicated with coma, black vomit, and suppression of urine. As a prophylactic, patients should sleep under a good mosquito bar. He believes that the disease that was prevalent in New Orleans during the summer and autumn of 1899 was the estivoautumnal type of malaria and not yellow fever for the following reasons: (1) the blood showed the estivoautumnal parasite in nearly every instance on first examination; (2) there was no true culture of the Bacillus icteroides; (3) persons who had had yellow fever in former great epidemics took this fever; persons have several attacks; after recovery, the blood shows great corpuscular destruction; (4) the disease was not imported; (5) there were no instances in which entire families were down with the disease; (6) the disease was not a true epidemic; (7) this disease preferably attacked those that were not exactly well; yellow fever attacks the strong and healthy, especially foreigners. A recapitulation of 55 cases is given, with clinical notes in some instances. [J.M S.]

3.—Langmann believes that the invasion of the Staphylococcus pyogenes aureus into a hair-follicle, a sebaceous gland, or a sweat-gland is the cause of a **furuncle.** He advances the trophoneurotic theory to explain the pathogenesis of a crop of boils, although he admits that a trophoneurosis cannot be proved. In the treatment of the condition the galvanic current is recommended to the exclusion of all other means. The cathode is placed over the furuncle and the anode is placed in the neighborhood and a current of 2 to 5 milliamperes is applied for 5 to 10 minutes once daily. The author claims that, as a result of 19 years' experience with this method, almost all boils, when treated in their incipiency, abort. When fluctuation is present, the air is thrust out and the whole swelling quickly disappears. When there is extensive suppuration a pad of cotton wet in 1:1000 bichlorid of mercury solution is placed between the cathode and the tissue. Under such treatment the boils disappear in from 2 to 8 applications. [J.M.S]

5.—Griffith gives the history of a **mediastinal tumor** that was diagnosed aortic aneurysm. After producing marked anterior pressure-symptoms for considerable time these phenomena disappeared and pressure-symptoms appeared posteriorly. At autopsy there was an enlarged mass of mediastinal glands in front of the pericardium, and extending backward so as to include the aortic arch, the trachea, and the bronchi, and the esophagus. There were necrotic and cheesy masses in the growth, some of which communicated with a tuberculous cavity in the left lung. [J M.S.]

June 9, 1900. [Vol. lxxi, No. 23.]

1. Clinical and Pathological Observations on Some Early Forms of Epithelioma of the Skin. J. A. FORDYCE.
2. Some New Traction Apparatus for Hip Disease, Pott's Disease, etc. R. TUNSTALL TAYLOR.
3. "Æstivo-autumnal Fever" in New Orleans, Summer and Autumn, 1899. H. A. VEAZIE
4. Abstract of the President's Address. W. W. KEEN.
5. The Treatment of the Opium Habit by the Bromid Method. ARCHIBALD CHURCH.
6. The Collection, Preservation, and Transportation of Clinical Material for Laboratory Examination. STUART HART.

2.—Taylor describes a frame, similar to the Bradford frame, for use in orthopedic cases, but so constructed that it can be placed at an incline; he also describes a steel traction apparatus which may be substituted for the older wooden apparatus. A short apron of twilled cotton, such as is used for the Taylor back-brace, may be used to fasten children on the Bradford frame. [M B.T.]

3.—Veazie concludes his paper on **estivoautumnal fever.** He cites a fatal case in which malarial parisites were found in the kidneys, the brain, and other organs. [J M S.]

4.—See PHILADELPHIA MEDICAL JOURNAL, Vol. v, p. 129.

5.—Church reports the case of a physician, aged 49, who had been a victim of the **opium habit** for 17 years with the exception of two breaks, one of a year and the other of 6 months' duration. The patient voluntarily submitted himself to treatment by the **bromid method** for the relief of his habit. Sodium bromid was given for nearly 5 days during which time the patient had taken 2,860 grains. At this time he was restless, partly unconscious, with irregular respiration, sneezing, free expectoration, and diarrhea; the symptoms gradually disappeared, however, and when the patient had fully recovered his health he had lost the desire for morphin. In a second case the patient was also a physician, aged 40 years, who was addicted to the habitual use of morphin, cocain, and whisky. He was known to be the subject of a chronic nephritis, and had an abscess of the right maxillary sinus. In 3 days the patient received 7 ounces and 3 drams of sodium bromid. After the cessation of the treatment the temperature began to rise and in 3 days it was 102°. The pulse and the respirations became rapid, the temperature rose to 106°, there was involuntary diarrhea, uremia developed and the patient died. This patient, through a misunderstanding, had received more bromid than it was intended he should be given. This case shows that the treatment is contraindicated by the existence of nephritis and of a septic condition in the pharynx or in the passages opening into it. It also shows that the method is far from being simple and without danger. [J M.S.]

6.—Hart gives **instructions for collecting, preserving, and forwarding specimens to clinical laboratories** for examination. A convenient box for collecting sputum and feces is described. The author advocates the addition of 1 gram of urotropin to each 100 cc. of urine in order to preserve the sediment and the urea-content. [J.M S.]

Medical Record.

June 2, 1900. [Vol. 57, No. 22.]

1. Radical Cure of Epithelial Cancer by Arsenic. C. TRUNECEK
2. Cystic Tumors of the Testis and Epididymis. JAMES B. BULLITT.
3. Health Conditions in the Hawaiian Islands. CHARLES E. DAVIS.
4. The Association of Chronic Appendicitis with Disease of the Right Adnexa. HIRAM N. VINEBERG.

1.—Trunecek describes his method for the **cure of epithelial cancer,** which consists essentially of painting the dry and freshened surface of the growth with a solution of one gram of arsenious acid, dissolved in 150 grams of equal parts of absolute alcohol and distilled water. This mixture is spread over the surface of the tumor and allowed to dry. If no pain is produced within 5 minutes, a fresh layer is applied. In the course of 1 or 2 days, a crust forms which is at first thin and yellow, then becomes brown, and finally black. At first it is adherent to the surrounding tissue, but a line of separation gradually forms, and in the course of several weeks it may fall off spontaneously. A fresh application is now made on the underlying tissue, if this turns brown; this is repeated until a second crust forms and falls off. If, however, it remains yellow, this indicates that all the cancerous tissue has been destroyed. As the treatment progresses, stronger and stronger solutions are usually employed. This

method is not applicable to internal tumors nor to those in which glandular involvement has occurred. It is particularly applicable to large cancers of the skin, whose removal by operation would leave a huge wound, and in those cases in which the patients refuse operative treatment. He reports in detail 2 cases in which this treatment was employed, one of cancer of the side of the nose, and the other an epithelioma of the lip, both of which were completely cured. Histologically, there is gradual atrophy of the cancerous cells and invasion of the connective tissue of the tumor by leukocytes. [J.S.]

2.—Bullitt considers the term **cystic tumor of the testis and epididymis** preferable to the usual one, encysted hydrocele. He describes various conditions of this kind in some detail, and his article is illustrated with numerous diagrams. In the treatment of these cysts he believes that the scrotum would best be opened and the cyst dissected out. [M.B.T.]

3.—Davis gives a brief account of the sanitary conditions in the Hawaiian Islands. Apparently the civilization of the country has not been conducive to health. The cities are badly drained and the manner of life of some of the Oriental immigrants is far from hygienic. The death-rate is 35 per thousand, and is steadily increasing. Typhoid fever is endemic and the climate is particularly unfavorable to persons suffering from rheumatism or pulmonary disease. The Government, however, is making a vigorous effort to combat these conditions. [J.S.]

4.— See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 945.

June 9, 1900. [Vol. 57, No. 23]

1. Cholecystectomy for Gallstones. C. C. GIBSON.
2. Acute Suppurative Folliculitis of the Scalp. WILLIAM S. GOTTHEIL.
3. The Effect of Summer Heat Upon the Public Health. HENRY DWIGHT CHAPIN.
4. Seasickness and What to Do With It. HERMAN PARTSCH.

1.—Gibson states that **cholecystectomy** is an operation which is rarely performed; only 2 cases are recorded in the transactions of the New York Surgical Society for the last 10 years. He believes that the operation has a wider field of usefulness than is generally believed. He gives the following summary of 2 cases in which he performed the operation: A young patient with a chronic cholecystitis and the formation of large and numerous stones in the gallbladder, came under observation during an acute exacerbation of cholecystitis. Cholecystectomy without opening of the gallbladder was performed, all steps of the operation being accurately controled by direct inspection. There was uneventful convalescence with entire restoration of health. In a second case an elderly woman came under observation with intense and chronic jaundice, a small atrophic gallbladder with stones, with impaction of calculi in the cystic and common ducts. Choledochotomy was performed with evacuation of stones, and demonstration of freedom from further obstruction; cholecystectomy as the most rational means of dealing with the gallbladder situated out of reach under the liver. There was temporary benefit with restoration of biliary physiology. Death occurred by gradual exhaustion, chiefly determined by capillary hemorrhage due to jaundice. The cholecystectomy was not an essential, if any, feature in the fatal result. In conclusion the belief is expressed that cholecystectomy as a means of treating cholecystectitis and cholelithiasis is called for in all cases of cholecystitis with or without stones, acute or chronic, provided that the gallbladder and gallducts can be properly explored, and that the conditions promise an easy removal of the gallbladder. The operation is also recommended even when its performance is difficult or possibly entails a slightly greater risk in a limited class of cases; that is, when it is the only satisfactory way to deal with the gallbladder and as a prophylactic measure against malignant disease in the presence of long-standing irritation. [M.B.T.]

2.—Gottheil had observed in the last year 2 cases of **follicular inflammation of the scalp,** differing from the cases usually described in that they were acute, involved the entire scalp, suppuration occurred about all the hair follicles, and there was no resulting atrophy of structures. He thinks that the affection is probably more common among the foreign and less cleanly population than is recognized. One case is described in detail. There was a slightly suppurating sore of the loin, and it is possible that infection took place from this source, though this could not be proved. The patient recovered entirely in spite of the severe involvement of the scalp, the most satisfactory application apparently being a 3% suspension of xeroform in olive oil. [D.L.E.]

3.—Chapin presents charts showing the increase of deaths from **gastrointestinal affections** during the hot weather. The deaths increase particularly in children under 5 years of age. He also records the **deaths from sunstroke** during the hot months between 1895 and 1899; the greatest number usually occurred in July and August, sometimes in June; and in 1898 the largest number by far was in September. He especially directs attention to the propriety of careful hygiene and the restriction of the use of alcohol, also the importance of vegetation, particularly large numbers of trees, in cities, offsetting the effects of hot weather. Food should be carefully protected from infection and from spoiling. [D.L.E.]

4.—Partsch recommends no previous **preparation before a sea voyage.** The clothing should be comfortable, the air about the room should be as good as possible, the person should stay on deck, should keep quiet, and keep the eyes closed until accustomed to the motion. He should take as much food as possible even though he vomit after taking it, and malted drinks are recommended, particularly porter and stout; the latter are most effective if taken directly after retching. If this is not sufficient it is wise to use bromids dissolved in a small quantity of water. He has found that this treatment is sufficient to prevent seasickness in many persons who are predisposed.

Medical News.

June 2, 1900. [Vol. lxxvi, No. 22.]

1. Treatment of Membranous Colitis. W. H. THOMPSON.
2. The Sanitarium Treatment of Incipient Pulmonary Tuberculosis and its Results. E. L. TRUDEAU.
3. The Prevention of Scarlet Fever. FLOYD M. CRANDALL.
4. The State of New York and the Pathology of Insanity. P. M. WISE.
5. Hip-joint Amputation. WM. D. HAMILTON.
6. Stump Pregnancy. JOHN C. MORFIT.

1.—Thompson gives a description of **membranous colitis.** This consists essentially of persistent pains in the abdomen, sometimes general sometimes local, with occasional evacuations of large masses of mucus, sometimes mixed with blood. At the autopsy the colon is found dilated, the walls thin, and occasionally small polypoid masses or distended bloodvessels may be found upon the surface. The treatment is somewhat complicated. To relieve the colicky pains, the best remedy is an injection of warm water, perhaps as much as 3 to 5 gallons of normal salt-solution at a temperature of 100° F. being used, and the fluid must be all expelled. Sometimes, in addition to this solution, resorcin or silver nitrate may be used. Internally, the most valuable remedy is castor-oil in dose of ½ to 1 dram three times a day. In addition, silver nitrate may sometimes be employed. For the gastric symptoms, resorcin and nux vomica taken after meals, occasionally supplemented by sodium benzoate or by sodium salicylate, may be used. For the constipation, salines, particularly phosphate of soda, are the most valuable. The diet may be fairly liberal, merely the woody vegetables, beans, corn, spinach, oatmeal, etc., being avoided. [J.S.]

2.—Trudeau again calls attention to the fact that the **sanatorium treatment of consumption** is only suitable for incipient cases, particularly those in which only the tuberculin-test will reveal disease. The most valuable treatment is absolute rest in the open-air. He has employed tuberculin in nonfebrile cases, commencing with very small doses injected at considerable intervals. A comparison of 2 groups of 50 cases each as nearly as possible alike, treated and not treated with tuberculin, showed 41 recoveries in the former and only 36 in the latter. Nevertheless, Trudeau states that the immunizing effect of tuberculin has appeared to be very uncertain both in degree and duration, and an artificial immunity is still to be obtained. He gives a brief definition of the terms employed. During the past 15 years,

1200 patients were admitted and 23% were apparently cured. [J S.]

3.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 833.

4.—Wise discusses the nature of the **pathologic work** in the Insane Asylums of New York and the provisions made by the city for its continuance. There is apparently a central laboratory in which the assistant physicians of the various insane asylums are expected to take courses and then to return to their posts and continue there so far as possible pathological work under the general supervision of the central laboratory. Wise is rather doubtful whether this centralization may not destroy original and initiative work. He calls attention to the excellent work accomplished in the pathological institution, but fails to mention what it is. In conclusion, he gives the report of a committee appointed by the City Commission on Lunacy concerning the scope and work of the Pathological Institute of the City of New York Hospitals. [J.S.]

5.—Hamilton reports 5 cases of **hip-joint amputation** in which the Wyeth bloodless method was used. There were 4 recoveries and 1 death, the latter taking place within 5 hours after the operation, from shock. In 4 of the cases the amputation was done for sarcoma and in 1 for a tubercular osteomyelitis. Hamilton says that there is no doubt but that this method is of great value when performed in a well-appointed hospital or under similar favorable conditions. [G.B.W.]

6.—Morfit reports a case of what he terms **stump pregnancy.** The patient had been operated on by him in 1897, when the right tube and ovary were removed with about an ounce of pus from the distended tube. Two years afterward he was again called to see the patient, when he found her in such a "state" of collapse from a ruptured ectopic gestation that he deemed immediate operation out of the question. After the free administration of heart stimulants and copious injections of a salt-solution, both per rectum and into the loose pectoral tissue under each breast, continued at intervals for a few days, an abdominal incision was made; about a gallon of clots and fluid blood was taken out, when to his surprise he found that the oozing of blood was from the stump of the removed tube which was about ¾ of an inch in length and presented a fuzzy placenta to view. Both tubes were ligated close to the uterus and the distal portion removed. The patient was taken from the table in a state of profound collapse, but was finally restored to consciousness and ultimately recovered. Morfit thinks this a rare form of extrauterine pregnancy never before met with, and believes that the fertilized ovum passed from the left ovary through the left tube and the uterine cavity up into the remains of the right tube where it began to develop and finally ruptured into the abdomen. [W.K]

June 9, 1900. [Vol. lxxvi, No. 23.]

1. The President's Address. W. W. KEEN.
2. Gastric Hemorrhages. WILLIAM L. RODMAN.
3. Conclusions Reached after a Study of Typhoid Fever among the American Soldiers in 1898. VICTOR C. VAUGHAN.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V. p. 1297.
2.— " " " " " V, p. 1302.
3.— " " " " " V, p. 1315.

Boston Medical and Surgical Journal.

May 31, 1900. [Vol. cxlii, No. 22.]

1. The Inductive Method Applied to Medicine. C. W. ELIOT.
2. The Course in Pathology at the Harvard Medical School. WM. T. COUNCILMAN.
3. The Case System in Medicine. W. B. CANNON.
4. A Personal Experience in the Teaching of Surgery. HERBERT L. BURRELL.
5. A Consideration of the Principal Objections to "Section Teaching," Together with Some of its Advantages. A. H. WENTWORTH.

1.—Eliot calls attention to the value of the **case-method of teaching clinical medicine** as it is practised by Cannon, of the Harvard Medical School. He believes that next to direct bedside demonstration, it is the most valuable kind of teaching that the students can have, particularly as it trains the inductive faculties. He believes, however, that lectures have their proper place, partly for giving a preliminary sketch or outline of the subject, and partly for the purpose of summarizing the impressions which have already been conveyed. He also urges strongly a course in zoology as preliminary to medical education. [J.S.]

2.—Councilman gives a discursive account of the **method employed for teaching pathology in the Harvard medical school.** This may be described most briefly as a method of concentration. At present, the forenoons of October, November and December and the afternoons of December are devoted exclusively to pathology. Each student has a place in the laboratory and the main work consists in a study of histologic specimens with the addition of material from autopsies, operations, and animal experiments. Sections of ten men are sent to every autopsy and made acquainted with the technic. The instructors are continually on hand to demonstrate to the students and assist them out of their difficulties. It is important to persuade the men to draw. Lectures are given as required, and oral recitation is heard once a week. A recess is always taken every 2 hours. The students are marked partly on their laboratory work, partly on a written examination, and partly on a practical examination. Optional courses in the various branches are also given. [J S.]

3.—Cannon describes the **Case-system of clinical medicine,** which consists essentially in giving the students the clinical histories of the cases, a description of the physical changes, and then expecting them to make a diagnosis. It has many advantages, among which are the training of the students in inductive reasoning, and the discovery by the teacher of those points in which they are most deficient. [J S.]

4.—Burrell is very much in favor of the **"case method" of teaching surgery,** as it brings forth all the student's power for analyzing cases, and will tend to correct the erroneous idea that surgery is more for the hands than for the head. He has tried with great success the introduction of a course in surgical pathology, in which the student was shown some disease clinically in the morning, and in the afternoon of the same day pathologic preparations of the same disease were demonstrated. As to medical teaching as a whole, Burrell says that during the first and second years it should be along the line of concentration and sequence, and likewise in the third and fourth years, but plus electives and coordination of teaching subjects. [G.B.W.]

5.—Wentworth believes that the most serious objection to **section-teaching of clinical medicine** is the large number of instructors that will be required. This, of course, increases the expense of the course. In addition, it is impossible for the instructors, after having spent the greater portion of 2 hours in demonstrating directly to the students the physical signs and symptoms characteristic of the disease under observation, to give any systematic description of that disease. This must therefore be done either in a lecture or in a textbook. It does not appear that the patients are injured in any way by the examination by the students, and there is always plenty of material. The great advantage is that the students are compelled to work in a systematic manner. [J.S.]

June 7, 1900. [Vol. clxii, No. 23.]

1. C inical Report of Cases of Infection Due to the Bacillus Aerogenes Capsulatus of Welch. PAUL THORNDIKE.
2. Report of Cases in which the Bacillus Aerogenes Capsulatus Was Found. JOSEPH H. PRATT.
3. A New Method of Intraabdominal Operation for Retroverted Uteri. GEORGE W. KAAN.

1.—Thorndike reports 2 cases of **infection with the Bacillus aerogenes capsulatus.** The first occurred in a man, 45 years of age, who was wounded in the arm by falling to the ground. The second day emphysema was quite noticeable. On the third day it had extended to the chest. The arm was amputated, and he improved, but subsequently became septic again and died two days later. Cover-slips showed the presence of a long bacillus with round ends that stained by Gram's method. The liver was filled with small cavities rather uniformly distributed. Anaerobic cultures gave the characteristics of the Bacillus aerogenus and the characteristic culture also occurred in a rabbit. The deduction to be drawn from this case is the necessity of early diagnosis and

operation in infections of this nature. The second patient was a man, 33 years of age, who had been injured on the leg by a fall of a heavy truss. There was extreme shock which persisted for some time. The third day the toes and foot were cyanotic, and on the fourth day the leg was covered with blebs and amputation was immediately performed. Then emphysema appeared, rapidly extended up the thigh until the seventh day, when the long incisions were made, after which the condition improved and there was ultimate recovery. The pathologic and bacteriologic examination showed the presence of the Bacillus aerogenes. Thorndike also. gives brief extracts from some old histories of cases similar to these in clinical manifestation, but in which the Bacillus aerogenes was not sought for. All these cases apparently show the advantage of early operation and removal of the infected tissue. [J.S.]

2.—Pratt reports 3 cases of **invasion of the Bacillus aerogenes.** The first, a man of 26, had fallen a considerable distance and fractured his ribs causing internal injuries. He went into a stage of collapse and died. There was extensive laceration of the liver, effusion of blood into the peritoneum, and emphysema of the pericardium in which numerous large bacilli were found that stained by Gram's method. These were not obtained in cultures, and Mallory concludes that although they were present at death they were dead when the autopsy was performed. The second case, a man of 63, had a carcinoma of the common bile-duct, causing obstruction and jaundice. The gallbladder was opened and drained through the abdominal wall. On the fourth day, the patient began to vomit, and died 3 days later. Autopsy was performed 13 hours after death, and a number of abscesses in the liver contained a bacillus that was obtained by growth in a rabbit killed after inoculation. The third patient, a man of 33, had the symptoms characteristic of gastric ulcer which subsequently perforated and caused peritonitis. An interesting feature of these cases was the fragmentation of the voluntary muscles that was observed in the histologic examination. [J.S.]

3.—Kaan advocates a new method of intraabdominal **operation for retroverted uteri** which he claims obviates the ill-effects of methods in present use. It consists of puckering the round ligaments upon a drawstring and so shortening them that the uterus is brought into normal position. The round ligament and peritoneum are picked up together with a double hook, about midway between the cornu of the uterus and the internal abdominal ring; a suture of silk is then passed subperitoneally from the uterus as far outward around the round ligament as seems necessary. The tissue is puckered along this suture, the two ends of which are then tied together with moderate traction. To avoid cutting through, the silk used is of medium size, and it is passed through the fundus of the uterus at its point of entrance and through ligamentous tissue at its exit. This operation is submitted to the profession, Kaan hoping that it may be tried by others. [W.K.]

Journal American Medical Association.

June 2, 1900. [Vol. xxxiv, No. 22.]

1. Intralaryngeal Insufflation for Relief of Acute Surgical Pneumothorax. Its History and Methods, with a Description of the Latest Devices for this Purpose. Rudolph Matas.
2. Intubation of the Larynx. Charles J. Whalen.
3. Functionally Good Results in Treatment of Fractures as Viewed by Skiagraph and Photograph. B. N. Torrey.
4. Removal of Cervical Sympathetic in Glaucoma and Optic-Nerve Atrophy. James Moores Ball.
5. The Doctor in the Public Schools. G. W. Hiett.
6. Tuberculosis in Colorado. Methods of Dissemination and Measures for its Restriction. G. E. Tyler.
7. Regulation of Practice of Medicine. John I. Dille.
8. Medicine as a Business Proposition. G. Frank Lydston.
9. Gastroenterostomy for Carcinoma of Pylorus. J. Henry Barbat.

1.—The sudden admission of air in the normal pleura, whether this occurs accidentally or as the result of operative interventions in the thorax, is a condition always fraught with much danger. Large openings which allow the rapid and free entrance of air, and that are followed almost invariably by collapse of the lungs, cyanosis, evidences of defective oxygenation and arrested respiration, are especially dangerous. Until the danger of seriously interfering with the respiratory functions, by inducing acute collapse of the lungs, is clearly eliminated or is reduced to a safe minimum, the analogy between the pleura and the peritoneum from the surgical point of view will never exist. The methods counteract the dominant idea in the treatment of this condition thus far to prevent the further encroachment of air on the crippled lung rather than to restore respiratory function by inflating the collapsed lung. The procedure that is most effective in the prophylaxis of pneumothorax is the artificial inflation of the lungs and the rhythmical maintenance of artificial respiration by a tube inserted in the glottis directly connected with the bellows or an air-pump. An historical review is given of the various methods which have been devised for the accomplishment of this object. O'Dwyer is given the greatest credit for establishing intubation in its present form, and Fell, of Buffalo, perfected and simplified the apparatus for using the intubation canula for maintaining artificial respiration. [M.B.T.]

2.—Whalen believes that **intubation** in private practice should be preferred to tracheotomy because it is less formidable and can be done by the country practitioner alone. Having none of the essentials of an operation and requiring no skilled assistance, being bloodless and requiring no anesthetic, leaving no wound to heal and no subsequent disfiguring cicatrix, parents will more quickly consent to it than to tracheotomy. The rapidity with which it can be done makes it essentially the operation of emergency. Since the period of diphtheritic stenosis has been shortened by antitoxin, tracheotomy as a routine operation is hardly justifiable, at least until intubation has been attempted. The indications for laryngeal intubation are the same as in tracheotomy: restlessness and unremitting dyspnea; do not wait for marked cyanosis, for this may be too late a symptom; the earlier the operation is performed the greater the chance for recovery. There is only one way to properly learn the operation of intubation, and that is to practise on the cadaver until thoroughly familiar with the operation. Whalen has taught over 500 students intubation on the cadaver, and has failed to find one who could not, after a few lessons, perform the operation on the cadaver after the technic had been explained. The method of introducing the tube is carefully described. The dangers of feeding have been greatly overestimated. In cases in which the tube has become blocked with mucus it has been coughed up invariably. [M.B.T.]

3.—Torry has studied numerous x-ray photographs to determine the later results of treatment of fractures. In nearly every case some deformity was found; in some cases it was quite marked and yet the functional results were generally good. [M.B.T.]

4.—From a study of the cases of **excision of the cervical sympathetic ganglion** and from his own observations Ball concludes that the operation is valuable in glaucoma, and is of more value in glaucoma simplex than in inflammatory glaucoma. If iridectomy has been done without benefit, excision of the superior cervical ganglion should be tried. In cases of absolute glaucoma with pain, sympathectomy is to be tried first. In cases of simple optic nerve atrophy, sympathectomy may possibly be beneficial if done before vision is entirely lost. In cases of exophthalmic goiter which do not improve under medicinal treatment, the operation should be advised. Excision of the superior and middle ganglia is a safe operation, but removal of the inferior ganglion can be done safely only by the most skilful surgeons. The postmastoid route is preferred in all cases. The fact that glaucoma is improved by sympathectomy and the finding of pathologic changes in the excised ganglia suggest the conclusion that this affection is due either to a permanent irritation of the cervical sympathetic, or to an irritation located elsewhere and transmitted by means of the cervical sympathetic. [M.B.T.]

5.—Hiett is thoroughly convinced of the importance of medical examinations in the public schools. [M.B.T.]

6.—Tyler recommends the following measures **to restrict the spread of tuberculosis**: The continual education of the public is essential to success. Every person should be informed as to preventive measures. A carefully worded circular suitable for popular distribution should be

prepared by the State Board of Health and an effort made through local health-officers, physicians, libraries and schools to put this circular in the hands of every resident. This circular should set forth the dangers from expectoration and from milk and meat-supply, and the measures necessary to prevent the danger. Public expectoration should be lessened by proper placards and be prohibited by ordinances in the larger places of the State. All rooms where deaths from consumption are reported should be disinfected immediately by local health-officers. All asylums, prisons, reformatories, and hospitals should be required to keep tubercular and non-tubercular inmates separate. So far as possible dairymen should be persuaded to have their herds tested and use this as a means of advertising. But as this is insufficient, he recommends that by the promulgation of health regulations or by the passage of ordinances where necessary, dairymen should be compelled to produce official certificates of freedom from tuberculosis before they are granted permits to sell milk. The employment of tubercular persons on dairy farms or at milk depots should be absolutely prohibited by ordinance. Ordinances should be passed prohibiting private slaughter-houses and requiring that all animals be slaughtered at public abattoirs under competent inspection. If federal meat-inspection can be secured, all condemned meat should be destroyed. If this cannot be secured, a tax should be levied on the slaughter business sufficient to meet the expenses of inspection. Active aid of the public press should be enlisted in promoting these measures. [M.B.T.]

9.—A woman of 45 had enjoyed perfect health until 2 years previously, when she began to vomit after eating and felt slight pains in her stomach, which kept on increasing. The patient lost flesh, until she weiged but 90 pounds, and a mass was found in the region of the pylorus, about as large as a hen's egg. Immediate operation was advised. On operating, the growth was found too large to permit of removal and posterior **gastroenterostomy** with Murphy's button was performed. For a few days the patient's condition was bad, but then decided improvement followed; the patient does not vomit, eats everything she fancies, and has gained 17 pounds in weight. [M.B.T.]

June 9, 1900. [Vol. xxxiv, No. 23.]

1. The President's Address at the American Medical Association. W. W. KEEN.
2. Conclusions Reached After a Study of Typhoid Fever Among the American Soldiers in 1898. VICTOR C. VAUGHAN.
3. Section on Practice of Medicine. Address of Chairman, GEORGE DOCK.
4. Improved Methods and Details in the Care of Patients During Surgical Operations. FENTON B. TURCK.
5. Neurasthenia and the Rest-Cure. FREDERICK A. MCGREW.
6. Intralaryngeal Insufflation. RUDOLPH MATAS.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1297.
2.— " " " " p. 1315.
3.— " " " " p. 1325.

4.—As a **protection against infection and loss of bodily heat during operations,** Turck recommends the use of a sheet of rubber dam fastened over the abdomen. To prevent possible infection during operations on the intestines or stomach, a sheet of rubber dam is used with openings, reinforced by a band forming a collar. Instead of using hot pads and sponges a small, thin, rubber hot-water bag wrapped in a gauze pad is suggested for appling heat to exposed viscera. Pads, sponges, etc., are kept in a receptacle, the lid of which is connected with an apparatus which rings a bell and registers the number of pieces removed. The application of heat to the soles of the feet by means of hot-water-coil slippers is recommended to prevent shock. [M.B.T.]

5.—McGrew classifies 3 forms of **neurasthenia**: developmental, overstimulation, and developmental plus overstimulation. The developmental form is due to some disorder of nutrition during the developmental period, accident during labor, or unhealthy environment or habits during the formative years of childhood. Such a patient needs not rest, but such exercise as shall tend to harmoniously develop and strengthen every part of the physical organization. In the overstimulation class belong the individuals born with nervous strength equal to their general organic hardihood, but whose baneful habits of life end finally in the exhaustion of their inherited nervous vitality; this includes overworked and underfed students, the society-woman and the overworked minister. The rest-cure for overstimulation-neurasthenia meets every demand, and recovery is likely to take place promptly. When loss of weight, dyspepsia, headache, neuralgia and other symptoms indicating a failure of nutrition accompany a history of recent nervous overstrain, the rest-cure is best, preliminary to subsequent treatment to develop nerve-vitality. With patients who have succumbed to a slight overtaxation of the nervous system, the overstimulation element may be disregarded altogether, and treatment for the development of nerve-force instituted at once. With this class a sea voyage or a sojourn among the mountains proves most beneficial. [M.B.T.]

6.—Matas further discusses **intralaryngeal insufflation,** and describes a modification of the Fell-O'Dwyer apparatus which he has devised. The laryngeal canula is furnished with a branch and stopcock, which are connected to a rubber tube and funnel. The funnel is covered with a flannel screen, and is used as an inhaler, exactly as in the Trendelenburg canula. The possible uses of the apparatus are thus summarized: As a respirator, a tampon canula, an anesthetizer, a tractor of the larynx and tongue, an insufflator, or as an aspirator. The value of an intralaryngeal apparatus that, while allowing of anesthesia and artificial respiration, will also act as a laryngeal plug, needs no special comment. In this way the complicating operation of tracheotomy is eliminated, and extensive operations on the tongue, palate, nose, and esophagus, in which Kocher's pharyngeal tamponade is indicated, can be performed without risk of suffocation from the entrance of blood in the larynx, and without resorting to Rose's position. [M.B.T.]

Annals of Surgery.

April, 1900. [Vol. xxxi, No. 4.]

1. Surgery in the Presence of Sugar in the Urine. ARTHUR L. FISK.
2. On Volvulus in Association with Hernia. R. LAWFORD KNAGGS.
3. Traumatisms Inflicted by Animals. HARVEY REED.
4. On the Use of Fixation-Plates in the Treatment of Fractures of the Leg. LEWIS W. STEINBACH.
5. The Relationship between Cholecystitis, Jaundice and Gallstones. ARCHIBALD MACLAREN.
6. On the Principles Involved in the Immediate Hermetic Sealing of Aseptic Wounds. HENRY O. MARCY.
7. On the Surgery of Gastric Ulcers. THOMAS W. HUNTINGTON.
8. Excision of the External Two-thirds of a Gasserian Ganglion, by the Hartley-Krause Method after Preliminary Ligation of the External Carotid Artery. JOSEPH M. SPELLISSY.
9. Two Cases of Anomalous Spinous Process of Seventh Cervical Vertebra Articulating with the Scapula. H. AUGUSTUS WILSON and J. TORRENCE RUGH.
10. New Operating Table and an Improved Bowl Stand. AUGUST SCHACHNER.
11. Conical Stump After Amputation in Childhood. CHARLES A. POWERS.

1.—Fisk reports 4 cases in which he operated while the patient was suffering from diabetes. In the first case a woman of 61 had had symptoms of diabetes for some time with 2.5% of sugar in the urine. Amputation of the breast was performed according to Halsted's method; primary union resulted and the patient is living 4 years after the operation. In a second case the operation for acute suppurative appendicitis was performed on a man of 50, who had suffered from diabetes for several years; recovery followed. In a third case amputation at the middle of the thigh was performed because of diabetic gangrene; there was gradual diminution in the quantity of sugar and final disappearance as the process of healing advanced. The patient was 75 years old and there was 7.5% of sugar in the urine. This man subsequently had gangrene of the left foot, for which amputation at the thigh was performed. Sloughing of the flaps occurred and death followed 2 days later. In a fourth case amputation of the toe was done, under protest, for gangrene. Gangrene of the foot followed and the man died in

a comatose state 4 days later. A review of the literature of this subject is given. From his own experience and from a study of the results of others Fisk concludes that **glycosuria** in individuals who have **surgical diseases** does not absolutely contraindicate operation, but judgment must be exercised in the selection of cases and in the kind and extent of the operation. The strictest asepsis must be observed. [M B.T.]

2.—Knaggs gives a study of the subject of **volvulus in association with hernia,** selecting examples from literature of the various conditions which may occur. He has arranged the cases in 4 groups: Volvulus of the hernial contents, the neck of the volvulus being either within the hernial sac or close to the hernial aperture; cases in which the hernial contents are implicated, but the neck and some of the affected coils lie within the abdomen; cases in which volvulus is produced within the abdomen by reduction of the hernia; and those occurring within the abdomen from some predisposing condition more or less directly connected with a hernia. He reports 2 cases which have come under his care. A woman of 62 had a strangulated umbilical hernia as large as a Rugby football. Under anesthesia the sac was opened; it was occupied by several feet of small intestine; the bowel was distended and black with blood, the whole of the affected intestine, about 4 to 6 feet in length, had been twisted, constituting a volvulus; the constriction was relased and the operation concluded. Death followed 40 hours later. In a second case a man of 56, who for some years had had an irreducible left inguinal hernia, was taken with severe pain and vomiting. On examination the sac was found flaccid; there was impulse on coughing and the contents could be easily moved about, the sac was opened and a small quantity of dark fluid escaped. A coil of small intestine about 3 feet long occupied the sac; it was not strangulated and its appearance varied, on one side it was of nearly a healthy color, on the other it was congested and covered with bloody fluid. On pulling down the herniated coil a broad line of constriction was reached and the diagnosis of volvulus was certain. The patient's condition was such as to contraindicate further intervention. Death occurred 27 hours after the operation. At the necropsy it was found that the lowest 4 feet of the ileum had undergone a single half-twist from right to left so that at the neck of the volvulus the termination of the ileum lay over and directly against the gut at a point some feet above the valve. [M.B T.]

3.—Reed has seen numerous and severe as well as trivial **traumatisms** from domestic and wild **animals,** but he has never seen a single case of hydrophobia result. He reports a lion-bite just below the greater trochanter which tore the muscles from the bone; repair followed rapidly without suppuration or rise of temperature, and the patient left the hospital 4 weeks after admission. He also reports a series of very severe lacerations from the teeth and claws of a grizzly bear in which rapid and uninterrupted recovery followed. [M.B T]

4.—Steinbach recommends the use of **silver plate** which may be screwed on to fragments in the **treatment of fractures.** The plate should be $\frac{1}{16}$ of an inch in thickness, $3\frac{1}{2}$ inches in length, and $\frac{3}{4}$ of an inch wide with perforations for the screws a half-inch apart; small galvanized steel screws are used. An incision is made along the fracture slightly exceeding the length of the plate; 2 screws are employed at each end. The plate seems to have no ill effect in the leg and is permitted to remain until bony union has occurred, when it is removed under local anesthesia Tnis plate is designed specially for the treatment of fracture of the diaphysis of the tibia. Steinbach reports 4 cases in which he used this plate successfully. [M.B.T.]

5.—The relation of **cholecystitis** and gallstones is a matter of considerable interest. McLaren believes that inflammation of the gallbladder is the first step in the majority of cases, and that gallstones are a secondary product of the inflammatory condition. He reports a case occurring in a woman of 27, which he believes illustrates this condition. On opening the gallbladder a gallstone was found covered with numerous sharp points of cholesterin crystals; the patient had never suffered the slightest pain previously. He also reports 2 cases of cholecystitis, in the first of which no gallstones were found, and the inflammatory process subsided; while in the second case there was found a subacute cystitis and stones were just commencing to form. [M.B T.]

6.—Marcy advocates the **sealing of aseptic wounds with iodoform collodion** as the ideal dressing. In order that the collodion may be applied the tissues should be cleanly dissected, avoiding injury so far as possible; they should be accurately coapted and retained at rest by the use of absorbable buried sutures. Marcy prefers fine tendons as suture material, and these are best rendered antiseptic by soaking in a bichlorid solution 1:1000. The skin itself should be evenly coapted by a subcuticular continuous absorbable suture. The only object of dressing is to prevent subsequent infection, which iodoform collodion accomplishes perfectly. [M.B T.]

7.—A man of 45 had suffered from nausea, vomiting, anorexia, pain, and other obscure gastric disturbances for several years; he was pale, emaciated, and cachectic. There was no history of hematemesis. A resisting mass was found in the region of the pylorus. **Pylorectomy** was performed and uninterrupted recovery followed. On examination of the specimen no evidence of malignant disease was found, but there were 2 deep perforating ulcers. In a second case a man of 42 had a history of obscure intestinal disturbances, his abdominal muscles were slightly rigid, and he complained of pain and tenderness on palpition. He was suddenly taken with a collapse and increased severity of symptoms; perforation of the appendix was diagnosed; operation was performed 14 hours after the attack. Evidences of chronic appendicitis were found, and the appendix was removed. There were patches of lymph along the ascending colon. A second median incision was made above the umbilicus, and a **perforation** was found on the anterior wall of the **stomach** 2 inches from the pylorus; the perforation was closed by 3 layers of Lembert sutures, and the abdominal cavity was carefully cleansed by sponging and flushing with salt-solution; rectal feeding was continued for 4 days; convalescence was slow, but satisfactory. [M B.T.]

8.—A man of 55 had suffered from right-sided facial neuralgia for 9 years. Several teeth had been extracted without relief. The right infraorbital nerve was excised, giving 8 months' relief; 9 months later the right inferior dental nerve was excised, followed by 18 months' relief. During 2 years the attacks of pain increased in frequency, severity and duration, the patient was unable to work or sleep, and for a few months had taken laudanum to relieve the extreme pain. **Excision of the Gasserian ganglion** was performed after primary ligation of the external carotid artery. The Hartley-Krause flap was cut and turned down, the second and third nerves were divided at their foramina by a sharp hook and the external $\frac{2}{3}$ of the ganglion was dissected, cut, torn, and cureted away. The eye was closed with adhesive plaster. Convalescence was uneventful and the patient has had no return of pain $2\frac{1}{2}$ years after the operation. [M.B.T.]

9.—A girl of 7 had the appearance of torticollis; the head was drawn to the left side, the cervical muscles were shortened and tense. On stripping her it was found that the apparent drawing depended upon elevation of the shoulder, the scapula was firmly ankylosed to the spine. An incision was made and a portion of the bone was removed, the upper end of which was firmly attached to the spinal column and which had fibrous connection with the scapula. Uninterrupted recovery followed. The bone removed was 2 inches long, $1\frac{3}{4}$ inches in circumference, and in shape, size, and appearance, resembled an enlarged spinous process. In a second case a similar bony process was also removed, which measured $1\frac{1}{4}$ inches in length, and $1\frac{1}{8}$ inches in circumference; at the spinal end were small tuberosities with the space between them covered with articular cartilage. Tnese bony processes are believed to be **anomalous spinous processes** of the seventh **cervical vertebra.** No similar cases could be found in English, French, or German literatnre. [M.B.T.]

10.—An **operating table** is described, for the adequate understanding of which the cuts which accompany the article are necessary. A bowl-stand is also described, designed to make unnecessary the inconvenience of supplying fresh bowls and the removal of soiled ones. There are 4 bowls for the usual solutions, with a fifth bowl under which a small lamp may be placed to provide for hot pads and a larger bowl which acts as a bucket for waste. [M.B.T.]

11.—A case of **conical stump** is reported in a young man of 18 who had his arm amputated while quite young. Powers calls attention to the fact that after amputation

through the upper part of the arm or the upper part of the leg in childhood slow development of the conical condition is physiologic and must be expected. Unless the child's parents are warned by the surgeon at the time of the first amputation they may blame him when the conical condition appears. [M B T.]

Deutsche medinische Wochenschrift.

March 15, 1900. [27. Jahrg., No. 11]

1. Double-sided Facial Paralysis. JOLLY.
2. Physical Diagnosis of Unilateral Deafness as Distinguished from Hardness of Hearing. A. LUCAE.
3. A Double Diaphanoscope for Elimination of the Frontal Sinuses. GERBER.
4. The Dietetic Treatment of Dilation of the Stomach. ALBU.
5. The Treatment of Displacements of the Uterus. G. ZEPLER.

1.—The case was that of a man of 44 years, who in the early eighties was injured by an engine, and thrown forcibly upon his face. The appearance he presented when examined was a **mask-like face,** impossibility of carrying out any of the movements of mimicry, the forehead was motionless, the eyes could not be shut nor could the lips be pursed; the only active movements were those of the jaw-muscles. Speech was somewhat disturbed. The mouth could be shut fairly well by bringing into action the levator menti; the left angle of the mouth could be moved somewhat also by combined action of the zygomatic and levator labii superioris of the left side. When he attempted to close the eyes the lids were motionless, but the eyeballs rolled upward so that the cornea vanished entirely beneath the upper lids; the palatal branches of the facial on both sides were uninjured, but the taste fibers were involved on both sides; also the secretion of saliva was much reduced; there was trophic keratitis of the left eye indicating that the trigeminus on this side was affected. Beside the affection of the cornea there was anesthesia, which involved the distribution of the first and second branches of the trigeminus; the eyeballs were moved normally. The man's mental condition was poor, but this was possibly the result of alcoholism. The injury was localized in the petrous portion of the temporal bone, and it was considered that it must have been due to a **basal fracture extending through the bones on both sides.** In reply to a question of Leyden (Discussion *Deutsche med. Woch.*, March 8, 1900, Vereins-Beilage) concerning the condition of the hearing, Jolly answered that there was some disturbance of hearing which seemed to be due to catarrh of the middle ear. The man had unpleasant sensations in the ear when he heard certain sounds, so that it was probable that he had some hyperacuity of sense. Leyden remarked that the case was noteworthy for the absence of marked involvement of hearing. [D.L.E]

3.—Gerber says that a careful study both of diseased and normal cases leads him to believe that a great deal of help in diagnosis is to be procured in the transillumination in **empyema** of the maxillary antrum. More difficult is the question when the **frontal sinuses** are involved, and chiefly because there is no one point from which both sides can be lighted and compared at the same time. To overcome this difficulty, Gerber has invented a double transilluminator whereby he can throw light through both sinuses at the same time, and thus obtain perfect comparison of the two sides. The instrument consists of two Vohsen's lamps mounted on movable arms so that they can be changed to fit the individual case. The accuracy of this instrument he has proved on a number of cases, the pathologic condition of which was demonstrated by other means. [G B W.]

4.—Albu believes that the plan of **feeding cases of dilation of the stomach upon dry diet,** the method usually adopted is wrong. It has been shown by a number of experiments that fluids leave the stomach more rapidly than solid food, and Albu believes that by giving concentrated diet to cases of dilation of the stomach one merely gives opportunity for overtaxing the stomach by retention of the ingesta throughout a long period, while if fluids are given they relatively soon leave the stomach. The indication is to give the kind of food which will be most quickly and most easily propelled into the intestine. He quotes numerous authors concerning the diet in dilation of the stomach and then describes his own method of dieting such cases. He does not allow them to drink freely of water or watery soups, but considers milk one of the most valuable means of nourishment. This may be made up in various preparations. It is not necessary to give it as milk alone. He also allows fruits, tea and coffee, eggs, albuminous preparations, such as nutrose, spinach, asparagus, and similar vegetables as purées, chopped meats, particularly calf's brain and sweetbread, zwieback, and small portions of bread, and small portions of butter. His plan is to give very frequent meals, giving a small quantity at each meal. Because of the usual feeling of fulness these patients have he introduces food through the tube immediately after the morning and evening lavage. 400 calories may be given in a mixture composed of one half liter of good milk evaporated to half its volume, to which 2 tablespoonfuls of plasmon, 2 yolks of eggs, and a half-tablespoonful of sugar is added. The stomach should also be massaged by one experienced in such manipulations, and electricity is likely also to do good. Albu has treated about 50 cases after this method. He agees with Riegel that the only way in which dilation, due to stenosis at the pylorus, may be cured, is by operation, but here commends his method of management when it is impossible for any reason to carry out operation. [D L E]

Centralblatt für Gynäkologie.

March 31, 1900. [24. Jahrg., No. 13.]

1. Treatment of the Umbilical Stump. F. AHLFELD.
2. Pregnancy and Delivery after Hysterocolpocleisis. DR. MENGE.

1.—Ahlfeld objects to the **treatment of the umbilical stump with a cautery** as advocated by Martin and prefers the method employed in the Marburg Hospital, it having been used there in 1,000 cases without navel-infection or hemorrhage. The chief points of this method are the shortening of the stump to the desired minimum, and the application of 96% alcohol, placing over this a layer of sterilized cotton, which can remain 5 or 6 days by omitting the bathing. He also describes modifications of this method adapted to special cases and recommends it because of its inherent worth, its simplicity, and suitability to general practice. [W.K.]

2.—Menge gives the detailed history of a patient who had submitted to **hysterocolpocleisis** for a vesicouterine fistula, which had been previously treated by other methods without the coveted relief. She was assured that pregnancy was impossible, because of the ligation of the right tube and closing of the left. After this operation in 1893, she menstruated regularly through the bladder until early in 1899, when she returned to the hospital, and was found to be pregnant. Examination showed the vagina to be a funnel-form, blind sac, no opening being apparent to eye, touch or sound. It was decided that Cesarean section would be necessary, but before the time set for the operation she came to the hospital suffering from labor-pains. A spontaneous rupture of the closed vagina having occurred, she was delivered, per vias naturales, of a living child, which, however, died 2 days afterward. Menge quotes a similar case reported by Lane in the *Lancet*, 1864, page 207. In both cases it was, after careful examination, decided that the impregnating zoosperm passed through a capillary canal in connection with the vaginal suture, too small for the admission of either the urine or the menstrual fluid, and undetected by eye, finger or sound. [W.K.]

Rectal Alimentation.—D. L Edsall (*University Medical Magazine*, March, 1900) reports the result of rectal alimentation in a patient suffering from gastric ulcer. The patient was given 750 cc. of milk and the yolks of 6 eggs daily, and yet, at the end of 2 weeks, she was so reduced in strength and flesh that feeding by the mouth had to be resumed. From exhaustive chemical analysis of the food taken and absorbed, and of the feces and urine excreted, it was found that the patient received only about four-tenths of the food necessary to sustain her bodily strength and weight. Edsall is of the opinion that the amount of nourishment received from rectal feeding is often greatly overestimated. [M.B.T.]

Original Articles.

ANGINA PECTORIS.[1]

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Introduction.

To address you on diseases of the heart and to omit angina pectoris would be to act the play without the leading character. Fell and mysterious as an assassin, angina takes too striking a part to be passed over, unable as I may be to add anything definitely to the store of our knowledge in respect of it. I am almost ashamed, indeed, to venture on ground already so well occupied in your own country by the admirable essay of Professor Osler; still, I may hope that, if successive observers are as yet unable to add to the current knowledge of angina pectoris, each of them, by setting forth the facts after his own fashion, may put the subject in every possible light; thus, I, too, in my humble way, may contribute to the better understanding of it.

May I impress upon you again the duty of protecting your nomenclature? If on analysis we find that the group of symptoms named angina pectoris is a fairly uniform one, than we shall stick to the name to which we are used, and make the best we can of it; or, if it be a bad name for the groups, we must fix upon another; but a name given to one series cannot without confusion be applied to other series also. If one writer is to include under it any sudden death from failure of the heart, and another is to drag under the same name certain agitations of neurotic women, or certain spasms of tobacco-poisoning, symptom-groups which differ both widely and fundamentally from angina pectoris, all definite use of names comes to an end. If the symptom-group known as angina pectoris is too heterogeneous to be reckoned under one name, then let us dismiss the name, break up the group, and distribute its members.

Let us consider how the matter stands from this point of view. The group which we name thus consists, in the great majority of cases, in a peculiar pain often attributed to the heart, but in its chief seat retrosternal, and running thence in the course of certain spinal nerves, in an imperious arrest of movement, and in a sense of impending death, or, at any rate, in a peculiar dread; sooner or later indeed the disease is generally, if not always, fatal in its own sudden manner. When we inquire farther we find good reason, in nearly all cases, to infer the existence of certain structural changes, such as aortic and coronary atheroma; and frequently, though not perhaps necessarily, such decay of cardiac structure as coronary atheroma and other causes of degeneration are wont to induce. Beside these eminent features there are certain negative peculiarities; for instance, the dyspnea characteristic of heart diseases is not evident in angina—the attitude is one of terror-stricken stillness. Omitting aberrant cases and secondary and subordinate features, such is angina pectoris. Now is it not to play with language to include under this name other thoracic pains and stresses which are not attended by cardiovascular disease, which own a fundamentally different origin, and are rarely or never fatal? Should we not thus forsake the principle of classification by intimate likeness, and return to classification by superficial likeness? Some of my hearers may say—what if certain poisons, such as that of tobacco, or certain nervous crises of women can set up like clinical events without fatality, and without permanent cardiac degeneration, are we not right in calling such attacks angina pectoris?—nay, indeed, is not angina pectoris, in its strictest meaning, sometimes cured? Well, clinical classifications are at best but provisional; none of them is superior to exception; yet "tobacco angina" is not the result of organic disease, it is not fatal, it does not arrest the patient in the same imperious grip, its clinical features and course are different, it is a paroxysm of persistently manifest cardiac perturbations, it probably depends on toxic causes of quite another kind and consequence, and it disappears with the elimination of its cause.[2] Of the "pseudo-angina"—a malady of women rather than of men—I shall say something presently.

I need scarcely protest against the attempt to classify many or all deaths from sudden heart failure as essentially of the nature of angina.

But, it may be objected still, angina is not consistent with itself; in one case the pain may be absent; in another the pain may possess the arm or arms and not the breast; even the cold touch of death may be forborne; do not differences so great as these suggest more than mere variation within the kind, some deeper unlikeness in nature? If such differences be profound they may compel us, as I have said, to break up the conception of angina, and to distribute its parts amongst other categories; yet every kind has its aberrant instances; and, for my own part, I think there is a substantial uniformity in the group of angina proper. In aberrant instances there is sufficient evidence of intimate community of nature to justify us in including them also under the name of the kind; Graves' disease is not to be denied its recognition because it may appear in larval forms—without goiter, or without exophthalmos; and in like manner we shall admit, I think, that angina pectoris, even though it appear occasionally in larval or truncated forms, is a definite and consistent symptom-group. If the life of the patient be prolonged the horns and hoofs of the masked enemy will pretty surely be revealed. In the overwhelming majority of cases both pain and dread are present; if the pain be more or less confined to the arm, there is nearly always some consciousness of a grim warning within the breast; if angina dolorosa as regards the arm, it is angina sine dolore at the heart. Brachial neuralgia, agony as it may be, never slays a man, nor even transfixes him, nor terrifies him; if violent he is driven by it rather to restless pacings and woful groans; but, unless in some very incipient stage, there is, I think, no form of angina without its scare:

> "A faint cold fear thrills through his veins,
> That almost freezes up the heat of life."

One of the remarkable features of angina is the rarity of its occurrence. Coronary atheroma is common enough, degenerated hearts are common enough, but angina is uncommon. Again, though called by some authors a neuralgia, angina is more the portion of men than of women, my experience in this respect being the general one. These features, inexplicable as they may be, point to some peculiarity which separates angina on

[1] This lecture was first delivered at San Francisco, August, 1898. It was read again before the Leamington (England) Medical Society, November, 1899.

[2] That tobacco is a cause of arteriosclerosis is an assumption for which there is no evidence worth consideration.

the one hand from the phases of ordinary delapidation, and on the other from passing storms of the nerves. Of the predominance of angina in man I shall treat further on.

I urge then, with earlier writers, that, although often an epiphenomenon of aortic valvular disease, there is in angina pectoris a *tertium quid* which marks it as something apart from the common crowd of heart-diseases, and from mere spasmodic neuroses. Structural disease of the heart itself, in a conspicuous sense, may not be an essential part of angina; it may be a contingent, but not an indispensable condition. In a grave and mortal case, described minutely by Dr. Morison,[3] the heart itself was fairly normal, though there was considerable aortic and coronary disease. Patients attacked by angina in early life, by angina as unmistakable as clinical diagnosis can make it, may in rare cases recover; or, again, patients, even over the age of 50, may survive repeated attacks for 15 or 20 years. In one case of the latter kind, of which I have full information, the patient lived subject to attacks of the fully established disease for 18 years after he came under regular treatment; and he had suffered for a while from slighter symptoms of angina before he came under continuous medical observation. Although he lived thus to become an old man of some threescore and ten, and died of his angina, he probably had considerable organic disease all the time; but two instances at least are known to me, in young, neurotic and overworked men, in whom, under a strict rule of life and careful treatment, the attacks became less and less until the manifestations of the disease disappeared. Both these men are living and, I believe, fairly well at the present time; yet both presented the classical symptoms in full array. These exceptions of exceptions may be disregarded by some authors as errors or confusions of diagnosis; but I think I am not alone in reporting such instances, instances which could only by some accident be subjected to the last verification. Whatsoever it be then which, standing alone or superadded to disease of the heart or large vessels, constitutes angina pectoris, it seems to be a dynamic rather than a static factor—a *morbus sine materia*—which, if an epiphenomenon in permanent organic disease, surely determines death sooner or later, but apart from irremediable organic disease may spare the victim after all. In other words, a sound heart may withstand angina pectoris, though not always; a heart in permanent disease is ultimately almost though not quite sure to drop under it.

In what this angina consists then we seem to know as little as we know, let us say, of the nature of epilepsy; yet before the conclusion of this lecture I shall have the temerity to propose one step more of explanation. It is argued by eminent physicians (Nothnagel, Douglas Powell) that one immediate cause of angina is a vasomotor spasm bringing about a sudden increase of blood-pressure, an increase so sudden and tremendous as to strain the heart intolerably. It is true that in a person on the brink of angina mechanical or emotional stress, even but momentary—to hear bad news, to rise from a chair, or even to reach for a book—may induce an attack; but in these cases the enemy was already in ambush; that vasomotor spasm can be a predominant or substantial cause of angina I do not believe. In my student days the wards of Addenbrooke's Hospital always contained not a few cases of ague; yet I never saw even anginiform symptoms in any of these patients, whatever their state of nerve or heart; nor, when we consider the ready compensation of rises of arterial pressure by splanchnic dilation, can we well understand how any considerable rise could come about. Drs. Hill and Barnard[4] seem indeed to have proved that intracardiac diastolic pressure is constant during large changes brought about in other pressure-areas by vasomotor constriction.

We are also invited to admit that angina pectoris is but "pseudo-angina" plus heart-disease, but this again cannot be admitted. Angina, false or real, is often attended by vasomotor symptoms, it is true; but, while we see no anginiform sequence in ague or other rigor, we do see every day that severe pain anywhere may be accompanied by vasomotor symptoms. Is not the cart put before the horse in this explanation of angina, as in the case of megrim; are not secondary vasomotor events translated from effect to cause? Every physiologist who has practised upon the sciatic or other large nerve of sensation, every physician who has witnessed the pale face and cold feet of renal colic, nay, every man who flushes or turns pale when he is hurt, is familiar with this vasomotor sequence of pain; and shall we not do well to be surer of our ground before we give what may be a preposterous direction to our clinical view of the matter, and in the conception named angina pectoris invert the general order of pain first and vascular constriction afterwards? In the so-called pseudo-angina of women—a disease wholly different, which should receive a wholly different name—we may note every gradation between severe intercostal neuralgia, such as is often associated with leukorrhea, without obvious vasomotor constriction, and the complete picture of the disorder as described by Walshe and others. Potain[5] relates a case by Capelle in which neuromas on the left front of the chest set up anginiform symptoms. I have recently seen twice in consultation a lady in whom the phenomena of pseudo-angina depended upon severe recurrent neuralgic pain in the wall of the chest under the right shoulder-blade; she wholly recovered under restorative treatmcnt. To another case in which pseudo-angina frequently supervened on the exacerbations of a painful disease of the pelvis I shall refer presently. It is quite in accordance with experience that the vasomotor center should be less stable in some persons than in others, and in the same person should vary in stability; also that when the vasomotor center is disturbed the respiratory center should be affected also, and cause the "pseudo"-dyspnea. The more intense the pain, the more intense and widespread will be the disturbance of the centers; in patients, that is, of equal susceptibilities. Pseudo-angina is indeed the very converse of true angina; in the former the external pain is primary, in the second the external pain is "referred." In their very nature then these diseases are divided: The former is a kind of thoracic megrim, the latter something of far profounder significance; the former is perhaps peculiar to women, the latter prevails in men.

As angina pectoris may occur "sine dolore," so the pseudo-angina of women may be painless; the vasomotor symptoms may set in without the particular irritant of pain. The following is an interesting example: A lady, worn and exhausted by care and sick nursing, came to me but the other day; she was in the state in which the Weir Mitchell cure is efficacious. While talking to me her head fell back, her face turned pallid, and she seemed like to faint away. Her sister, accustomed to these turns, calmly attended to her while I felt her pulse; the pulse was small and tight, and the

hand was cold. I assured the sister that she was not in a faint, and with a few words of brisk reassurance she came round. As she did so the pulse dilated, becoming large and soft, and in a few seconds her hand in mine began to glow. Now, what this lady complained of was not "pseudo-angina;" she complained of a strange sensation rising up the nape and spreading over the head. In discussing angina we must remember the multitude of negative instances, these innumerable cases of vascular instability.

I cannot forget that in objecting to the name of "pseudo-angina" I have to contend against the great authority of Professor Osler, an authority not only great in itself, but fortified in this case by careful deliberation. Professor Osler[6] examines the arguments against the name, and declares them wanting. Were the matter one of little or no importance it might pass; but no one can say that the name "pseudo-angina pectoris" is in itself a convenient one; seeing that in spite of the "pseudo" the incautious reader is tempted to think that, with all its diffidence, the malady is masquerading as a poor relation of the big disease. Indeed, as Osler himself admits, those who use it thus have an eye to some relationship with true angina after all. Now it is against this very implication that I protest; the two maladies, as I have urged, are fundamentally different in nature. Again, I cannot admit with Professor Osler that angina pectoris is but a symptom. Angina pectoris is the name not of a symptom but of a symptom-group, not of a star but of a constellation. The symptom-group angina pectoris proper is surely wholly disparate from the group illustrated by the case which follows, a case of the false disease, now under my occasional observation. The patient, a lady, worn and enfeebled by pelvic suppuration of old standing, suffers now as follows: She is seized, generally towards evening, and not infrequently during sleep, by a violent pain in the chest; she lays her hand over the region of the heart as its chief seat, but as it grows worse it arises also in a still more circumscribed area of the third intercostal space; radiating thence into the axilla and down the left arm as far as the elbow; rarely into the ulnar area of the hand, but in this area there is "numbness if not pain." As the seizure grows worse the air-hunger and the other well-known symptoms of the false angina present themselves unmistakably and severely; these I need not describe; suffice it to say that the case is a well-marked one. More often than not the attack does not go to extremes; the pain may be bad enough in the 2 thoracic areas or in the lower area alone, but no further troubles appear; that is, the patient is subject to intense neuralgia in the course of certain spinal nerves distributed to the chest, and there the attack may expend itself; often, however, it does not, but extends into the brachial nerves. When the pain becomes severe, but before the phase of pseudo-angina is reached, she breaks out into a profuse cold sweat; that is, if the peripheral pain be intense it is accompanied by a disturbance of the nerves of organic life; with another twist of the screw the vasomotor nervous system is thrown into a turmoil; the bulb is in commotion, the heart is accelerated, the respiration is forced, and the arterioles are constricted. Many parts of this series can be brought about experimentally in animals in which peripheral nerves are stimulated, though for its full manifestation a certain bulbar instability must be added to great irritation of an afferent nerve.

It is often said, carelessly perhaps, that in angina pectoris proper the pain is about the heart; this is not my general experience, nor do I think that such has been the general experience of careful clinical observers. Passing by for the moment the hypothesis of "referred pain," and also the anatomical areas of innervation of the heart and of the aorta respectively, which are approximately the same, to confine our attention to the clinical symptoms, I would remind you that in this disease the pain is rarely cardiac in seat, but "retrosternal." "My breastbone is crushed against my spine, as if with a vice," is a common description of it. Speaking symptomatically, the pain is localized by the patient not about the heart, but at the root of the heart—in the aortic area. In some cases, and these not the most characteristic, there may be a pain or oppression in the cardiac area also; but it is an associated pain set up by a concurrent and secondary cardiac distress. When a patient places his hand over the lower part of the left chest in front, pressing the part for his relief, or to indicate to us the seat of his distress, the case is more likely to be one either of the false disease or of enlarged and laboring heart, as in aortic stenosis, than of angina pectoris in the stricter sense—of "sternalgia," as Baumès of Montpellier named the disease in 1808.

The pain, though almost invariable, is not an essential feature; yet how impressive a feature it is! How curiously it gives the stamp to a doubtful case! A gentleman, engaged in anxious business, called on me a year or two ago, asking me to examine his heart; he was a plump and fresh-looking man of some 45 years of age, free from syphilitic taint; his arteries appeared to be normal. I examined his heart with suspicions engendered by his own; but, finding the size of the chambers and the qualities of sounds to be normal, I assumed that he was frightened or hipped. He denied palpitation and shortness of breath, but he asserted that there was something wrong about his heart which he seemed unable to describe. I rallied him as well as I could, advised a sea-voyage, and assured him he would be well on his return. Two or three weeks later he wrote to me (he lived at a great distance) to say that he felt no better, that he was convinced I was wrong in my confidence; and now for the first time spoke of a pain arising in his left hand on exertion. This was alarming, and I begged him to call upon me again. On his second visit I heard from him, what before he had not thought material, that on ascents he would feel a pain in the center of the palm of the left hand; and this pain he had latterly begun to associate with the indescribable suspicions concerning his heart which had appeared to me to be fanciful. No more signs were to be discovered, but I sent him home with a note to a medical friend in his neighborhood, urging immediate treatment based on the gravest view of the case. And before long the symptoms, at first so obscure, assumed the unmistakable form of classical angina; so that, instead of taking the change and rest which he had been contemplating, he was invalided at home; and in this state he still remained for some time, unable to take any exertion without the danger of an attack; for ten days, indeed, he was unable to leave the house. His heart has recently been examined by a competent observer at a watering-place, who tells him that, even now, there is no organic disease to be discovered in heart, arteries, or elsewhere; and that, history apart, he would "seem a proper candidate for life assurance." On his last visit he told me he had been able to take a sea-voyage and was much better. After a few years of

incessant care and medical skill this patient may recover.

In another case, recently under my notice, the pain was again the principal feature, not only in the diagnosis, but in the patient's description, though in the earlier attacks the sensation was rather one of discomfort and weakness in the arms than pain. This sensation first came on after long and enthusiastic dancing, when he felt much exhausted. The discomfort of the arms extended "down the flesh of both arms down to the wrists." In later attacks the arms became exceedingly painful, this pain being brought on by ascents, though occasionally it would come on during rest. One or two of his worst seizures awoke him soon after midnight, the pain in the arms, and latterly down to the fingers, being "terrible." On ascents or otherwise the pain or distress was entirely in the arms, and though his description is of something far more distressing than ordinary pain, yet when he saw me there was no pain or sense of exhaustion at the chest, or it was scarcely noticeable. On examination, which, as the chest was fat, was not very easy, the cardiac impulse in its normal site, even in the prone position of the patient, was perceived with difficulty, and the first sound wanted quality. Percussion was negative. Nothing seemed definitely wrong about the base of the heart or the aorta. He had lived rather freely and had a very anxious business; he smoked, but not to excess; tobacco did not seem to be the cause. I have said that when he saw me the pain in the arms was the predominant, if not the only, symptom, yet some attacks—and, oddly enough, the earlier ones—had been attended by an "exhaustion" in the chest; in the later, either the "chest symptoms" passed off or were lost in the agony of the arms, although it is remarkable that, as in the previous case, a sense of something more than mere neuralgia was borne in upon him. This patient died in an ordinary attack of angina a year or two later. Another patient tells me, in spite of some timid reassurances of mine, that such a pain from which he suffers is no ordinary pain; and, as time goes on, I am more and more convinced that he also is right, and that his malady is not a mere intercostal neuralgia. Yet the heart to all direct appreciation is healthy, and onec during an attack of the pain presented, to my perception, at any rate, no aberrancy. Now, however, the patient is checked while walking, and may have to sit down or lean against some support. I note that he walks by preference along a road where there are seats. This patient suffers also from other rather severe thoracic pains of longer standing, and doubtless merely parietal; yet these do not alarm the patient, who says that they are "nothing;" while his "heart-pains," though less violent, are peculiarly depressing.

In two cases, at least, I have noted the pain to be epigastric and rather importunate and wearisome than swift and menacing. In both, diagnosis was obscure, and the pain supposed by the patient to be dyspepsia, though even in these cases somewhat ominous and disquieting. One of them I saw with my colleague, Prof. Braedbury. Such cases have been published by other observers, and so far from being of a mitigated form, seem to be very fatal.

While on the one hand I am not indisposed to think that angina pectoris may possibly occur without any permanent static change—as a transient or possibly as a dynamic perversion or disease—yet its habit is to attach itself to the more permanent organic diseases of the aortic area, such as aortic insufficiency and stenosis, atheroma, coronary disease, and aneurysm; as though there were some tie between the causes of angina and these aortic conditions. It is said that in the course of angina pectoris the supervention of mitral regurgitation, so far from being an aggravation of the malady, is a positive relief. The evidence of this assertion comes from many quarters, my own experience confirms it, and it is probably true in the main, and explicable by a fall of blood-pressure in the aorta. These associated morbid changes are not found in the false disease.

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[To be continued.]

MÜTTER LECTURES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The Surgical Treatment of Congenital and Pathologic Disfigurements of the Face.

BY JOHN B. ROBERTS, M.D.

LECTURE V.—*Deformities of the Lips and Mouth.*

[Abstract.]

THE chief congenital deformity of the mouth is harelip, which with its complications gives ample opportunity for the exercise of constructive skill. Other congenital defects are atresia oris, macrostoma, microstoma, cleft of the lower lip, hypertrophy of the lips, and excessive eversion of the lower lip. Distortion of the mouth and lips and deficiencies of the lips and cheeks occur as the result of sloughing and injuries.

The treatment of congenital occlusion of the mouth and of cicatricial contraction consists, in the former case, in dividing the occluding membrane and preventing readhesion of the lips, and, in the latter case, in making horizontal incisions outward from the orifice representing the mouth. The mucous membrane must be sutured into the end of the incision to prevent reunion of the edges of the wound. Occasionally a V-shaped piece of cheek must be removed with the point of the V extending outwards.

Imperfect closure of the branchial clefts may cause a congenital horizontal fissure at one or both sides of the mouth, extending outward into the cheek and causing the condition termed macrostoma. This deformity is treated by freshening the edges and applying sutures. Similar deficiencies in closure of fetal structures cause fissures in the upper lip, termed harelip, and occasionally in the lower lip. In rare instances these fissures may extend up as far as the orbit or down to the sternum. Sometimes a mere cicatricial line is seen in the child's lip, as though an intrauterine cure of such a fissure had taken place. The treatment of all these fissures is based on the same general operative procedure as that just described for macrostoma.

The lips may be enlarged from interstitial increase of all the structures, from lymphedema, from chronic inflammation and from the presence of tumors. Children, the subjects of cretinism, tuberculosis or inherited syphilis, sometimes have enlarged lips. General treatment directed to the cause of the trouble will usually ameliorate or remove the deformity. Thyroid extract is suggested in cretinoid cases. A hypertrophied

lower lip may be altered by excision of a V-shaped piece in the middle line with the apex of the V near the chin. This lessens the width of the lip. Its thickness may require a second operation to remove a wedge of tissue by incisions running across the free border of the lip. Eversion of the lips, giving rise to what is sometimes called double lip, is to be treated by excision of a section of the lip by means of transverse incisions along the mucous surface.

Eversion of the lip, due to burns of the chin and neck, must be corrected by sliding upward a V-shaped flap from the throat or chest, transferring a flap with a pedicle from the side of the neck, or transplanting a piece of skin without a pedicle from some other part of the body. Occasionally it will be found desirable to employ the method of Tagliacozzi and use the arm for supplying the flap. I have recently, in a case of everted lip from burn, in which there was also a cicatricial deformity of the hand, used the hand for carrying a portion of the abdominal skin to the chin. This was done by first grafting a flap of skin from the abdomen to the back of the hand where the cicatrix had been freed by incisions. After adhesion had taken place, the flap was cut loose from the belly and the hand applied to the face, so that a portion of the abdominal skin could be sutured to the raw surface made upon the chin, by dissecting loose the scar-tissue in the lower lip. Gypsum bandages held the arm in position until the graft had become attached, when the hand was cut loose. This method of using the hand for transferring tissue is a valuable one, originally suggested, I believe, by Shrady.

When the cheek is distorted by operation or by injury, a U-shaped flap may be turned up from the neck and thrust through a buttonhole incision made along the lower margin of the jaw, so that the skin-surface is turned toward the teeth. This operation is only satisfactory when there is not much beard upon the skin turned inward.

Deformities of the lower part of the face arise after excision of the mandible for necrosis or tumor, because the muscles displace the portion of the lower jaw which is retained. This displacement may be largely prevented; by having a dentist cap the teeth and anchor the fragment of the lower jaw to the teeth of the upper jaw, or in some similar manner arranging a spring within the mouth to hold the normal portion of the jaw in proper position. An artificial appliance may subsequently be made to represent the removed bone, and a vulcanite cheek-plumper may be adapted to fill out the collapsed cheek.

The obliquity of the mouth due to facial paralysis may be improved by excising an elliptical portion of tissue from the cheek. Dental irregularities and malformations and discolored teeth require skilful work of a trained dentist. This branch of surgery has been greatly developed in recent years. Contracted jaws, irregular eruption of teeth, and abnormal relation in the projection of the upper and lower jaws may be corrected, it proper appliances are adopted.

Much harm is done by the erroneous extraction of teeth, in the endeavor to make room for the eruption of other teeth. The canines should seldom if ever be extracted for this purpose, because they have much to do with the shape of the face. Careful study of the physiology of dentition is required before deciding which is the proper tooth to extract. Prominence of the lower jaw, causing prognathism, may be greatly improved by a net cap worn at night with proper rubber bands attached to a jaw support. A change in the bite, or articulation of the teeth, may often be made, by means of which the improper relation between the upper and lower jaw may be gradually corrected. The success of such corrective measures is greater and more promptly obtained in adolescents than in adults. It is probable that between the ages of 12 and 20 is the best period; but even up to 30 years of age much can be done by patient, judicious mechanical treatment.

Where the lower jaw is greatly deformed by dragging down of the lower lip from cicatricial contraction, a section removed from both sides of the jaw may enable the surgeon to bring the chin and the lower teeth into proper relation to the rest of the face. These cases require careful study and aseptic operative treatment.

I have at the present time under consideration a case of relatively retracted chin; on which it is possible I may operate to bring forward the chin, by detachment and displacement of the mental tubercle and the grafting of bone taken from the tibia.

Lecture VI.—*The Reconstruction of the Lips and Cheeks.*

(Abstract.)

Congenital fissure of the upper lip, usually called harelip, is one of the most common deformities requiring reconstructive operations about the mouth. Labial fissure also occurs in the lower lip, but not as commonly as in the upper. In the lower lip, the fissure is usually in the middle line. In the upper lip, it is more common to have it at one side of the middle line. These deformities are due to imperfect coalescence of the branchial arches during fetal life. Reconstructive operations are also required after removal of malignant tumors of the lips and cheeks, and to overcome deformities the result of cicatricial contraction, particularly from burns of the face.

Harelip may be unilateral or bilateral. It may be complicated with cleft of the alveolar process of the jaw, cleft of the entire palate, or with protrusion of the entire intermaxillary bone, in addition to palatal cleft. The intermaxillary bone is sometimes displaced and attached, as it were, to the point of the nose, giving the child a snout-like deformity of the upper lip and nose.

The various forms of labial fissure are treated by freshening the edges of the cleft, replacing protruding portions of the intermaxillary bone, and suturing the soft parts alone, or the soft parts and the replaced bony tissues. The operation should, as a rule, be done before the third month of the child's life, unless the child is sickly or the operation is going to be a bloody one because of the complicated nature of the case. An early closure of the lip seems to aid in causing a tendency for an accompanying palatal fissure to become less as the child grows up. Anesthesia should always be employed. To operate without anesthesia is a cruel practice.

Complicated harelips may be left until about the second year, if the child's health is bad or the danger of hemorrhage producing ill effects great. The methods of bringing the parts into apposition vary greatly with different operators, but the principles are simple enough. The edge of the cleft should be pared in such a way as to give a broad surface of contact, and to make that side of the lip, which is the shorter, long enough to make the lip have the proper shape. To prevent the forma-

tion of a notch at the vermilion border, the incisions should be so placed as to give plenty of tissue at the free margin of the lip. Suturing should be done so carefully that the mucous membrane does not show upon one side at a higher point than the other.

The length of the lip from the nose to the orifice of the mouth should be made sufficiently great. Surgeons often neglect this important point. The flattened nostril should be altered by changing the position of the wing of the nose. This can often be done by an incision outside of the wing of the nose in the curve between it and the cheek. It may be necessary to saw the alveolar process and bring a portion of that bony structure toward the middle line, in order to make a floor for the wing of the nose to rest upon. This is easily done before closure of the lip.



Double harelip with protrusion of intermaxillary bone.

Trusses to press the cheek inward toward the middle line, metal supports to the lip, harelip pins and similar devices are to be discarded. Properly placed incisions with sutures of silk, silkwormgut or formaldehyde catgut are all that is necessary.

The intermaxillary bone, if thrust forward, should be bent backward, after fracturing the cartilage and bone, or excised. It is sometimes necessary to cut out a V-shaped portion of the septum of the nose before pushing backward the projecting intermaxillary bone. The soft tissues over the intermaxillary bone may be used to construct the columella of the nose or to aid in making the central portion of the lip.

Very little dressing is required after the operation. Gauze and collodion, dry gauze, or a little boric acid powder may be used. Adhesive strips are a disadvantage because they are liable to lead to septic contamination.

It is occasionally necessary to make long incisions outwards into the cheeks to get sufficient tissue to displace towards the middle line. In cases when there has been very little tissue to repair a double harelip, the patient has, even after a well-performed operation, a very taut and drawn upper lip, which contrasts badly with the full and prominent lower lip. A V-shaped portion of the lower lip should then be removed, in order to make the balance between the two lips more nearly like that in a normal patient.

It is sometimes necessary to improve the appearance of the lip, in harelip cases, by minor operations after the child grows up to adolescent life.

Reconstructions of the lower lip are necessary at times, even if it is impossible to restore the expression and beauty of the mouth in anything like a perfect manner. The operation is desirable because it will prevent the escape of saliva and mucus, improve speech, enable the patient to keep the tongue within the mouth, permit drinking and taking of food, and lessen the interference with digestion which is apt to result from imperfect mastication and insalivation. Even if the expression of the face, after the lips and cheeks have been restored, is imperfect; and even if the newly constructed part is absolutely immobile, the operation makes the patient less ugly and makes him more willing to mix in the society of his fellows.

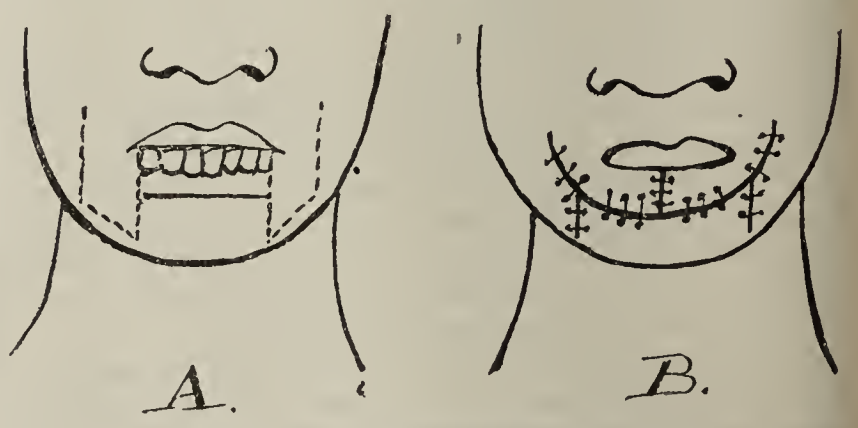
It is difficult to give definite directions for cheiloplastic procedures, because the surgeon must be governed by the peculiarities of the case under observation. Almost every time one operates the method must be varied to meet the requirements. Often, indeed, the necessities of the case determine the lines of incision only after the operation has been commenced.

Pancoast said in 1843 that there is scarcely any loss of substance, however hideous, of the mouth and lips, which cannot be remedied by the skill and ingenuity of modern surgeons. This statement is even more true today than it was fifty years ago.

The tissues of the cheeks are usually so mobile that unless the cicatricial deformity involves them, they can be displaced by proper incisions so as to construct an upper or lower lip. The structures beneath the chin and of the neck are also used for making lower lips.

A large flap from the chin with the pedicle towards the angle of the jaw may be turned upwards to make a lower lip. If necessary, a portion of the lower jaw forming the chin may be cut away to lessen the tension on a flap. A bridge-shaped flap dissected from the region below the chin may be lifted up over the chin and put in the place of the removed lower lip. It has been suggested to take a strip of the periosteum from the jaw in such a flap, in order to give it a little more rigidity. This rigidity is to take the place of muscular tissue in the flap.

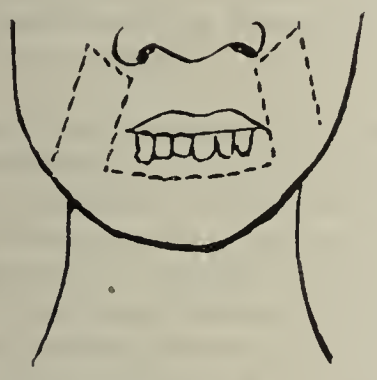
Both lips may perhaps be made by taking a large flap from the front of the neck near the hyoid bone, with pedicles at each side of the neck, and carrying it like a bridge above the chin and fastening it below the nose. A slit may then be made in it to represent the mouth.



A. Shows lines of incisions for one method of cheiloplasty. B. Shows flap sutured in position.

A good lower lip may be made, after excision of the whole lip for malignant disease, by flaps made by two parallel vertical incisions, one running downward from the corner of the mouth; the other starting in the

cheek from a point a little outside of and below the wing of the nose. These incisions are connected below by an incision parallel to the margin of the jaw. The two flaps are united in the middle line in such a way as to construct a lower lip. This displacement modifies a little the corners of the mouth, but this is unimportant. Another method is to cut flaps in the region of the nasolabial grooves, as is shown in the illustration.



Incisions for flaps to reconstruct the lower lip.

The upper lip may be constructed in a somewhat similar way by two lateral flaps made by parallel incisions following the general direction of the nasolabial furrows. These flaps will have the base upward and are turned inward towards the median line, to make the upper lip, very much as the lower lip is constructed by the flaps just described.

If a portion of a lip near the corner of the mouth is lost the absent portion may be replaced by cutting a



Incisions to make flap to reconstruct a portion of a lip.

triangular flap from the other lip, swinging it downward or upward around the corner of the mouth to bring it into position. It is also possible to make a lower lip by cutting a flap from the neck with its base upwards and making a buttonhole incision through the skin near the chin. Through this incision the turned-up flap may be thrust. By twisting the flap the skin-surface may be directed outwards. A similar operation may be done without making a buttonhole incision in the skin near the chin. Then the flap is simply jumped across the normal skin on the chin; or it is laid in a groove, made by a vertical incision in the tissues covering the chin.

After making new lips in any of these ways the edge may be lined with mucous membrane by taking flaps of mucous membrane from the inside of the cheeks near the normal lip and twisting these flaps into proper position. They are then sutured to the newly made organ.

It is also possible to get tissue for a lip, by the method of Tagliacozzi, from the arm by binding the hand to the head. A method which I have used satisfactorily is to transfer the skin of the abdomen to the hand and then transfer from the hand to the lip, after the abdominal flap has become united to the hand.

Portions of the cheek may be made by flaps from other portions of the face or from the neck. A convenient way sometimes is to turn up a flap from the neck and thrust it through a buttonhole incision along the edge of the lower jaw. The skin surface may thus be turned inward and the outer surface skin-grafted. This operation is not satisfactory if the skin of the neck is covered with a heavy beard, because the hair grows into the mouth.

[To be continued.]

AN EXPERIMENTAL STUDY OF THE ORIGIN OF THE EPIDEMIC OF TETANUS FOLLOWING JULY 4, 1899: REPORT OF CASE, WITH RECOVERY.*

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In the wake of the last celebration of Independence Day there occurred throughout the country an epidemic of tetanus. Judging from the newspaper records the mortality was high, even for traumatic tetanus, but the most striking feature was the identity of the cause, *i. e.*, wounds from blank cartridges. One of these cases was in my care at the Cook County Hospital in the service of Dr. George F. Butler, and was the only one of five cases, occurring at the same time, to recover. All were due to wounds made by blank cartridges, in three the left hand being injured. Two of the other cases were in the County Hospital, each dying shortly after admission. The other two were in the private practice of Chicago physicians. Other cases may have occurred in the city, but I do not know of them. The history of this case is as follows:

L. O., a Norwegian laborer, aged 40 years, was shot above the left knee on July 4, by a revolver loaded with blank cartridges. He always refused to tell how he was injured or by whom. The wound became infected and caused him so much pain that he entered the hospital on July 14. Up to that time he had no constitutional symptoms. On July 15, Dr. C. J. Rowan, house surgeon, observed that the patient could not open his mouth readily and that there was much rigidity of the lower jaw, and transferred the patient to the medical service. The patient said that he had first noticed the stiffness in his jaw on the preceding day, ten days after receiving the injury.

When admitted to the medical ward the patient's temperature was normal, and no rigidity cou'd be observed except in the lower jaw. A slight risus was present. The wound was located on the anterior surface of the left thigh, six inches above the patella. About it was some induration, and a sinus led downward nearly to the upper end of the reflection of the synovial sac beneath the quadriceps extensor. From the wound pus exuded, and stained specimens showed myriads of bacteria of many sizes and forms, a few of them being sporulated. There was no lymphangitis or adenitis.

Chloroform was administered and under surgical asepsis all the tissue within one-half inch of the wound-surface was removed. After this the entire wound was cauterized with Paquelin cautery, every portion of the surface being gone over twice, so that the tissue was killed for a considerable depth. This was done with the greatest possible thoroughness, nearly two hours being spent in the excision and cauterization. Two pasteboard wads were found at the bottom

* Read before the Chicago Pathological Society.

of the sinus, and from them as well as from the pus, the tetanus bacillus was isolated by Kitasato's method.

Ten cubic centimeters of tetanus antitoxin was injected, and this was repeated twice, 24 hours apart, 30 ccm. in all. Quiet was secured by placing the patient in a darkened room with the floor thickly covered with blankets. Chloral hydrate and sodium bromid were given regularly, and morphin sulfate was given hypodermically as often as was necessary to keep the patient drowsy. On the second day the temperature rose to 100°, and remained near this point for nearly two weeks, only once reaching 101°. The day after the operation the trismus became more marked, and there was much rigidity of the muscles of the trunk. On the following day, attacks of orthotonus began to develop, and these were repeated for about a week whenever the patient was disturbed. The jaws became almost completely immovable on the second day. Two days later they relaxed slightly and improved steadily thereafter, but stiffness was not entirely gone until three weeks later. A mild delirium began soon after the trismus set in, and lasted for about two weeks, despite the administration of sedatives. Except for this there were no complications.

Especial care was taken with the articles coming in contact with the wound or with the patient. Such articles, where possible, were burned, the remainder were soaked for 24 hours in 1 to 500 bichlorid solution, with ½% hydrochloric acid, the acid greatly lessening the resistance of the tetanus bacillus against germicides.

Carbolic acid treatment was suggested and a few doses were given late in the case, but too near the approach of convalescence to estimate its effect. It is impossible to say that the antitoxin was or was not of value. Every feature of the case was in favor of a good prognosis. The long period of incubation, ten days, the absence of high temperature, and the mildness of the spasms, all gave a hopeful outlook. How much of this was due to the earliness and thoroughness of the removal of the infected tissue is also conjectural, but I believe that the mildness of the attack is to be credited to this part of the treatment.

That so large a proportion of the tetanus in this epidemic followed wounds by blank cartridges suggested the possibility that the cartridges contained tetanus bacilli or spores. Accordingly, a thorough study has been made of blank cartridges that were on the market at that time, the work being done in the laboratory of pathology of Rush Medical College. Inquiry showed that they were manufactured by five different firms in this country and Canada, and samples of each of these makes were obtained. In all, about 200 cartridges have been examined, but invariably with negative results.

Cultural and inoculation experiments were made as follows: First, the wads, powder, and shells were cultivated by Kitasato's method for isolating the tetanus-bacillus, *i. e.*, a preliminary heating at 85° C. for 45 minutes to kill off all but resisting spores, such as those of tetanus. Glucose-agar was generally used, but bouillon, glycerin-agar, and gelatin were tried. These cultures failing to show the organisms sought, cultures were made without the preliminary application of heat, with the same results. A series of inoculations of guineapigs and house-mice followed. Some deaths from pus-infection resulted, but the tetanus-bacillus could never be found. The inoculations were made in various series with wads, powder, agar and bouillon cultures, with and without preliminary heating. Ultimately, in order to examine large numbers of cartridges the following plan was adopted: Wads from ten cartridges were broken into fine pieces and placed in bouillon sufficient to cover them, the cultures heated to 80° to 85° C. for 45 minutes, and grown for one week. The cultures were then inoculated into mice or guineapigs, and stained specimens examined. All cultures were, of course, made anaerobically. Agar-cultures were made in deep stabs; the bouillon was boiled to remove air, and after inoculation covered with a layer of paraffin. The tubes were then placed in sealed jars with an alkaline pyrogallic acid solution to deoxygenate the atmosphere.

Considering the possibility of the bacilli being present, but of weakened virulence, wads were implanted into the muscular tissue of animals and allowed to remain there for periods of three days to two weeks. They were then removed and inoculated into other animals or cultivated anaerobically, with the usual negative result.

Several anaerobic organisms that survived the heating process were found, and at times caused confusion. One of them that occurred constantly in one make and occasionally in another, was quite similar in some respects to the tetanus-bacillus. It was a long bacillus, slightly larger in all ways than tetanus, with a spore which was usually at one end, sometimes in the center. This spore, however, was slightly oval, so that the typical pinhead form was not exactly duplicated. Organisms from fresh cultures stained by Gram's method, but lost that character as the cultures became older. They seemed to have a slight motility. When grown in glucose agar they produced much gas which had the odor of decomposing cheese, quite different from the "burnt garlic" odor of tetanus. They were obligate anaerobes and could only occasionally be made to grow on the surface of slant media even in a deoxygenated atmosphere. Inoculations into mice and guineapigs showed this organism to be nonpathogenic—10 cc. of a week-old bouillon culture injected into a guineapig seemed not to affect the animal in the least.

These investigations have failed to show that the origin of the infection is attributable to the blank cartridges. It is fully appreciated, likewise, that this origin is not absolutely excluded. It is of course possible that other samples might give different results, yet the manufacture of these articles is such that each one represents quite exactly the composition of all others, the materials being made in large quantities and under fairly constant conditions. Microscopic examination of the wads shows them to be made of wood pulp. It was thought that straw might be one of the ingredients, giving a possible direct source of contamination, and in one make some particles that seemed to be straw fragments were mixed with the wood pulp.

The occurrence of so many cases of tetanus from a common cause was ground for a strong suspicion that the germs were to be found in that cause, so a negative result was by no means expected when this investigation was started. No report of a similar study of this recent epidemic has been found in the medical literature for the past year, hence these results are submitted.

THE NECESSITY FOR STATE AID IN THE TREATMENT OF THE CONSUMPTIVE POOR.[1]

BY HOWARD S. ANDERS, A.M., M.D.,
of Philadelphia.

IT is my task to show that the tuberculosis problem is too great and too vitally urgent to be solved by the charitably disposed, alone; that it is a matter of govern-

[1] Read at the Joint Meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis, January 10, 1900.

mental duty, as well as of philanthropic opportunity; and that upon the State even in its broadest political sense, including the nation and municipality, as well as the Commonwealth, rests the obligation of justice and providence in this matter, not less than does the altruistic love of the philanthropist pour forth from his heart and take shape in good works by his hands.

The necessity for State aid, in the care of the tuberculous and in the prevention of tuberculosis, like proverbial necessity, "*knows no law;*" but it is high *time that statute law should know and meet this necessity.*

There are four reasons why this should occur: first, the argument from history; secondly, the argument from achievement; thirdly, the argument from analogy and safety; lastly, the argument from economy.

1. *Historical.*—While the history of the movement for public sanatoriums for the consumptive poor is of very recent development, it is backed with events of clearest significance. In the last two years, alone, more interest has been awakened in this subject, more organizations effected, and more actual work accomplished than in all the preceding years of the century. So earnest, energetic, widespread, and influential has been the agitation in Europe lately, that it has been called the "War Against Tuberculosis," the "Fight Against Consumption," and now, here in these United States, we are entering upon "The Antituberculosis Crusade:" but the crusade is scientific and sympathetic, not fanatic; and practical, not emotional; and the war is truly one for the liberty of the poor consumptive, and for the extermination, if possible, of this "Great White Plague." As the people are to be aroused in the crusade, so the many governments are to be asked and induced to aid by giving authorization, support, organization and extension in the conduct of the war.

While the movement for free hospitals and climatic sanatoriums for the consumptive poor was inaugurated by public charity (in England), governmental aid is being sought and enlisted in a most encouraging manner. In Germany, England, Scotland, Ireland, Sweden, Belgium, Holland, France, and in Spain, Roumania and the Argentine Republic, even, the public agitation for sanatoriums for the consumptive poor has met and is meeting with good results. Physicians and philanthropists together usually begin the work of establishment, and governmental sanction and aid, to a degree, follow sooner or later. The royal families of Europe have not failed to contribute of their sympathy and substance. The first International Congress of Tuberculosis, held in Berlin last spring, gave the matter tremendous added impetus. The Prince of Wales, not long ago, presided at a meeting of some of the most influential officials, philanthropists, and medical scientists in Great Britain, met to discuss the problem and to devise ways and means for the prevention of tuberculosis, and for the care of the poor consumptives, of which nearly 100,000 exist in England today.

In the evolution of the care of consumptives, State aid is truly an opportune, just and consummate factor. First, the private-pay sanatorium; then the hospital for poor consumptives maintained by voluntary contributions; and now the public hospitals and sanatoriums for advanced and incipient cases respectively. England has accommodation for about 5,000 poor cases supported by charity only, leaving about 70,000 cases more unprovided for. Germany has about 50 sanatoriums, but mostly for pay cases of tuberculosis, although many more for the poor are in process of installation by the government and by private enterprise, separately and cooperatively. The Swedish Parliament recently voted 850,000 kroner for a sanatorium for South Sweden; and 2,200,000 kroner given by the people to King Oscar has been turned over by him for sanatoriums in northern and central Sweden. These are a few instances showing the trend in Europe.

Now, while we in America are behindhand in respect to agitation, organization, and adoption, the rising wave of interest and activity is very hopeful in the direction of awakening the legislative sense of obligation and of obtaining legislative assistance in the near future.

The New York State Board of Health went on record last September as favoring the municipal control and management of hospitals for the tuberculous poor, and urged the early construction of a $200,000 State sanatorium in the Adirondacks. Further, the New York Legislature passed a bill enjoining the managers of the larger hospitals against intermingling in their wards tuberculous cases with acutely diseased cases, especially those pulmonary in character, and authorizing the large cities to establish rural hospitals for consumptives. Massachusetts, superior in her support of education, has likewise led and shown the way in this, that she now has in operation a $150,000 sanatorium at Rutland.

For our encouragement, it should be noted that the Illinois Society for the Prevention of Consumption and a committee of citizens are in a fair way to secure legislative aid for a sanatorium with a capacity for 300 patients. Indiana, and several other States and cities are also taking hold of the movement, begun often by charity, and setting an example to municipal and State government officials and legislators.

Nor is the national government unmindful of its expanding obligations, since not long ago it opened a sanatorium at Fort Bayard, New Mexico, for tuberculous officers and enlisted men. Hence, I conclude that recent history establishes the point that State aid is a recognized necessity.

2. *Achievement.*—This might with almost equal propriety be termed the argument from *lack of achievement.* Thus, the negative side may first be presented by calling attention to the magnitude of an unsolved problem; the generally unrealized, unchecked and enormous prevalence and mortality-rate of pulmonary tuberculosis. Let us face the immensity of what is and should not be, and what has not been done, that we may the better understand what should be done.

Osler estimates that there are over 1,250,000 cases of consumption in the United States at all times,—one person in 50 is affected with tuberculosis. The disease kills 4½ times as many people as smallpox, scarlet and typhoid fevers, and diphtheria combined. Approximately, 50,000 cases and 13,000 deaths occur from consumption in New York State annually. In New York City there are deaths from tuberculosis in 23% of all the dwelling-houses. In Pennsylvania there are about 20,000 cases, with about 5,000 deaths from this disease alone. Roughly stated, in a group of cities with an aggregate population of about 10,000,000, in 1897, there were a little more than 20,000 deaths from tuberculosis, or a death-rate of a little over 20 per 10,000 people. About one in 520 persons in Philadelphia die of consumption; while in McKean County, Pa., only one in 1,300 so dies. And yet, what has the State done, what, philanthropy even, toward establishing a sanatorium in the healthful regions of the latter or a dozen other

equally suitable county climates, for the consumptive poor of the former great city?

But the problem is too great for charity alone; the State must face its obligation. If tuberculosis were incurable in all cases, there might be some extenuation of the charge of apathy and neglect. When, however, from 24 to 40% of the cases under sanatorium-treatment are curable, as the statistics of European and three American institutions show, then surely something palpable ought to be done for the tens of thousands that these percentages represent. In brief, we have here the *positive* side of the argument from achievement, as indicative of the necessity for State aid by reason of the results obtained and obtainable.

3. *Analogy and Safety.*—Writes Mathews: "The blind, the deaf, the insane, the feeble-minded, and other classes are provided for; why not these (the tuberculous)? They are not able to care for themselves and they are a menace to the public health." If public safety demands State provision for the isolation and support of the insane and other defectives or degenerates, then by analogy should it provide also for the consumptive poor, because of their numbers, their needy condition, and because of the dangerous foci of transmissibility that they become when not segregated. The State of Pennsylvania cares for 6,000 insane, for 7,000 criminals, 3,000 feeble-minded, deaf and dumb, and blind, all told, and for 12,000 paupers; then why not for at least 10,000 or 15,000 of the consumptive poor? The State does not even make any adequate special provision for the tuberculous among the insane, 15% of whom die of tuberculosis.

In 1898 Pennsylvania appropriated $843,800 for general hospitals, only $18,000 of which was distributed for the 12 most healthful and finely forested counties, where for sanatoriums alone one-half the total of that general hospital appropriation might and should be expended for the tuberculous poor. There is no need for more general hospitals, but there is most imperative need for special State hospitals near the great municipal centers for advanced cases among the consumptive poor, that the general hospitals refuse to admit; and also for climatic sanatoriums for the incipient cases. It is not a heartless injustice for the general hospitals to decline consumptive cases, when unequipped with special isolation wards, and poorly situated, rendering it likely for others in the hospital to contract the disease in their weakened condition, or for those affected to die because of a depressing environment; but it is a heartless injustice, if not due to excusable ignorance or to indifference, for the State to refuse to make prompt and special provisions for these cases.

Again, State aid is needed, and would facilitate much, because the best climatic advantages for sanatoriums are often in many of those regions where State forestry reservations are maintained. The aid and authority of the State is needed also because, by the establishment of sanatoriums, segregation, now unthought of by the sufferers, would be encouraged by the hope of relief or cure, and the increased number of applications would thus reveal many foci of infection. In the words of Rothrock: "The State should protect itself, provide for its perpetuity." Municipalities, commonwealths and nations are not learning fast enough that one of the highest functions of government is the preservation of the health of the people. We have a constitutional right to be protected from preventable diseases; and State assistance is urgently required to safeguard the public by adequate hospital accommodations for advanced tuberculous cases, since, being often bed-ridden, their homes become infected and infectious foci of the disease, and promiscuous intercourse and spitting and dangerous crowding are permitted. Hence, sanatoriums are conducive to the protection of a community as well as to the recovery of the individual. It certainly is most reasonable to utilize all possible means, including sanatorium influences, to suppress tuberculosis, which kills more persons than all other contagious diseases together, about which we do not hesitate to impose the most stringent regulations.

4. *Economy.*—State aid is needed on economic grounds, directly, to lessen the tremendous money-loss to the poor dependents themselves in the characteristically long duration of the sickness itself, the expense incident to medical attendance, drugs, and the special diet required for consumptives, and the considerable extra expenditure associated with the enormous mortality-rate. This expenditure is often a most distressing hardship because of the improvidence of many of the poor, and the fact that even in the pre-incipient stages of consumption many are not insurable, or are unable to pay for a life-insurance policy sufficient to relieve others in the family of a financial burden that they may be equally unable to bear.

Again, State aid in the treatment of the consumptive poor, in special hospitals and sanatoriums, is needed to avoid the indirect loss to itself through various communities by the removal by death of thousands of persons who, if saved, would contribute to the general welfare and prosperity in improved and restored earning and productive capacities. So, for selfish if not humanitarian reasons, the State should establish sanatoriums for the treatment of the great army of curable consumptives.

To conclude: So tremendous and vital to the national health and welfare is this question concerning tuberculosis, the prevention of its spread and the reduction of its mortal ravages that I desire to record my earnest and profound conviction that nearly if not quite every State in the Union should have a tuberculosis bureau in its health or internal affairs department. Further, there should be in Washington, also, a tuberculosis bureau in a department of public health, presided over by a cabinet officer.

May the words of a resolution passed by the International Congress of Hygiene at Brussels, in 1897, speedily come to pass: "The hospitalization of tuberculosis is urgent, and will not long be withheld."

A CASE OF HEREDITARY ATAXIA WITH GENERALIZED, BILATERAL, CHOREIFORM AND ATHETOID MOVEMENTS.

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THE following case came under observation several months ago. The patient, a girl, had almost completed her sixth year. She was accompanied by her mother, aged 26 years, and in good health. The father, 36 years old, a sawmill foreman, is said to be in good health, although a very hard drinker. The mother states that so far as she knows, no similar case has occurred in the family upon her side; she is unacquainted with the father's antecedents. The patient has one brother, aged 7 years, in good health. This, the first child,

was a forceps case. The patient was the second child. Labor was tedious, but was completed without mechanical interference. The mother aborted with third child at five months; except hard work no cause assignable. A fourth child, born at full term, died at the age of five months of a febrile disease. At birth patient seemed healthy. When three days old she almost succumbed to an umbilical hemorrhage. During the following night, the child is said to have had screaming spells, also moved its head and eyes convulsively. Whether the involuntary movement presently to be described date from birth or the third day is not certain, but it is sure that no paralysis followed the series of convulsive seizures. As a babe, the patient slept a great deal more than the other children. Aside from incidents of the third day of life, the child has never been ill in the ordinary sense. There is no history of pain or disturbed function of viscera. The patient occasionally has a headache, but the attacks are not serious nor do they last long. Some mental defect exists The patient comprehends slowly and there are occasional periods of unreasoning obstinacy with outbursts of temper. Speech is defective but is not scanning. The defect consists of mumbling most of the sentence and blurting out the important word. No difficulty in chewing or swallowing. Micturition is normal and, barring occasional constipation, the same may be said of the bowels and rectum. No vertigo or periods of loss of consciousness; no convulsive attacks since the child was three days old. The sole complaint referred to is the patient's incessant movements and insecurity while walking.

Physical Examination.—The head is long and rather large, no deformity nor scars. The body is slender, somewhat undersized. Expression apathetic, as a rule lower jaw is allowed to hang. There are constant uneasy movements of the head which is turned from side to side. Some involuntary contractions of the facial muscles exist, especially in those about the mouth and alae of the nose. These movements, together with a tremor of the tongue, are most pro nounced when associated with volitional acts. The child sees, hears, smells and tastes, but exact results of tests were unobtainable on account of lack of cooperation. Optic discs and pupillary reflexes were normal. There was no hemianopsia and little if any contraction of vision. The bulbi oculi are constantly in motion, but the movements reverse the intentional tremor of true nystagmus. The eyes may be fixed upon an object for a moment or two, then they again begin their restless excursions. A pseudo-ptosis exists. With the effect of drooping upper lids, the latter are frequently raised by extreme contraction so as to expose an unusual amount of sclera. There is no evidence of paralysis of seventh or inferior branch of fifth cranial nerve. Sensation in the same areas are normal. The patient presents a pronounced posterior spinal curvature, but without osseous deformity. One shoulder, usually the left, is held higher than the other. When standing, the patient assumes the position characteristic of the said deformity, the feet are held slightly apart, the arms slighty flexed. In this position, equilibrium is well maintained with eyes open or closed. Titubation of the trunk may be noted and this also occurs when the patient sits The transient enlargement of the thyroid occurs from time to time Then the carotids throb and the superficial venous plexuses of thorax and abdomen are distinctly outlined. There is no thymus-dulness upon percussion.

Upper Extremities.—Are of equal length, slender but symmetrical. The muscles are flaccid and poorly developed No localized atrophy. Resistance tests develop little muscular power and some less upon the left than upon the right side. At the same time all voluntary movements are possible, although they may be executed somewhat awkwardly. There are constant restless movements of the arms and hands not unlike the restlessness of beginning chorea minor. Now and then these slighter excursions are replaced by athetoid movements, at which time the muscles of the entire limb are spastically contracted, the arm semiflexed, the fingers hyperextended. Ataxia is apparent upon voluntary movement but ordinary or volitional tremor, also fibrillary twitchings or neurotrophic lesions are not present. Sensibility as to touch, pain, temperature and muscle-sense is intact. Skin or tendon reflexes cannot be elicited.

Lower Extremities.—Show no deformity; muscular development and power are much the same as in arms. There is no localized atrophy. The muscles are flaccid in repose. There are bilateral movements, but they are less pronounced than in the upper extremities. Sensation is normal. Patellar reflexes, although varying slightly in activity, were present until a bromid solution [potassium bromid 15 grains per diem] was administered for a week. There is no ankle-clonus. The plantar, and abdominal reflexes are active.

Electrical Reaction.—The nerve and muscle respond to both currents. Response to faradic current is quantitatively reduced, to the galvanic current is intensified. Some irregularity exists as to rapidity of contractions, some muscles responding sluggishly to both currents. Tests of separate muscles were rendered difficult on account of frequent spastic extension of entire limb in response to contact at various points.

When required to walk, the patient exhibits a well-marked cerebellar gait. She reels, stumbles, and frequently saves herself a fall by catching hold of some object. At this time and also when innervating for other volitional acts, the involuntary movements throughout the body become more pronounced. During the time the patient has been under observation, the gait at times seemed to mend somewhat, then again the supposed improvement proved a myth. When cautioned, the child can momentarily improve her gait suggesting an analogy to the suppressed tremor of paralysis agitans during active innervation. At the time the bromid-solution was being taken, there was noticeable abatement of involuntary movements.

We therefore find as symptoms of chief importance, some mental defect, muscular paresis associated with a poorly developed and in repose flaccid musculation which exhibits a partial reaction of degeneration, locomotor ataxia of cerebellar type and generalized, bilateral, choreiform movements, which at times become athetoid.

Of much interest is the underlying anatomical condition, a factor, it must be admitted, concerning which no amount of solely clinical study will advance our knowledge with any exactness. However, as regards class of lesion, having to do with a syndrome, dating from an early period of life, neither markedly progressive nor preceded by total loss of function, but in its various phases invariably presenting merely impaired power, we are at once referred to morbid processes developmental in character. The state of our present knowledge of these cases, so far as they concern the cerebrospinal system, will make futile, in most instances, the effort to localize the causative defect. With laudable intention to regionally interpret symptoms, the diagnostician is accustomed to keep in mind, for example, the ever-present posterior column degeneration of tabes dorsalis with its constantly associated objective sensory disturbances of some sort, the retained normal sensation of anterior poliomyelitis with its demonstrated involvement of the anterior horns only. It is true, we remember that in insular sclerosis (not infrequently considered in the light of an acquired disease instead of one based upon congenital defect), apparently normal sensation is associated with symptoms referred to the posterior spinal column. But the conception of disseminated focuses of disease of somewhat elusive habit, in that they allow occasional return of function to previously affected organs or muscles carries with it the idea that so unstable a pathological process might in some way account for the inconsistency. The kernel of fact lies in our inability up to this time, to fully appreciate subtile aberrant conditions of agenetic or prematurely senile nervous tissue, and hence we are unable to reconcile the usually manifold symptoms with so much of the process as is demonstrable.

For instance, in the present case, having excluded functional disease as a sole cause, by reason of the

constancy of symptom from an early period of life, the absence of sensory disturbance and the general demeanor of the patient, and having also ruled out that the peripheral nerves are chiefly involved because of normal sensation, the absence of pain, of static ataxia of the lower extremities and the presence of the patellar reflexes, we might in view of the latter named conditions (*i. e.*, those recounted in connection with the peripheral sensory neuron), apparently see the proof that the posterior spinal column and posterior roots were intact. Also, with normal posterior columns, the ataxia would necessarily be due to central causes only —a hereditary cerebellar ataxia or the same form of incoordinate muscular action due to gross lesion of cerebellum or of the cerebrum involving fibers which pass to the former respectively from the frontal, temporal, or subthalamic region, or a lesion which has destroyed the cortical ganglia of these fibers. We need scarcely consider the choreiform and athetoid movements also, with reference to the likelihood of spinal or cerebral origin, because the whole fabric of the previous argument, based upon local interpretation of organic systems, falls to the ground with the knowledge that the posterior spinal columns may be distinctly involved and yet ordinary sensation remain intact. This fact Strümpel has recently recorded without being able to satisfactorily explain it. Speaking in reference to hereditary spinal ataxia, he says, "The fact is surprising, and at first glance almost unintelligible, that in Friedreich's disease, notwithstanding the often extensive disease of the posterior columns, disturbances of sensibility of the skin and deeper tissues are practically absent. This is physiologically important and can only be provisionally explained by the assumption that fibers devoted to conduction of sensory impressions to the brain, for the most part, do not run through the posterior columns, but at once into the gray matter of the posterior cornea, and then pursue their further course in the lateral columns. Attention is to be directed in this connection to the fact that Lissauer's zone is not implicated. Centripedal fibers of the posterior columns must consequently have chiefly coordinating functions." Again, we hesitate to localize the affected areas in the present case because cognizant that although central disease could explain all symptoms, yet of the latter there are none referable to areas innervated by the spinal cord, which might not be explained by morbid conditions peculiar to the myelon. And lastly, it appears difficult to reconcile the constancy of impaired function that is never completely lost, and of symmetrical distribution, which comprehends muscular action within considerable areas, with the various forms of circumscribed gross tissue-change upon which we depend for symptom-localization.

The pathologic anatomy of hereditary ataxia, according to our present knowledge, and generally speaking, refers to atrophy or complete loss of some nerve-fibers together with an increase of neurogliar tissue that stops short of actual sclerosis. The same morbid conditions are responsible for the involuntary movements which are associated in some cases. In these, the motor tracts have been invaded. According to Strümpel the changes in the cord, as a rule, bring about atrophy appreciable to the naked eye as well as to microscopic investigation, although in some cases the loss of essential elements is only patent to the latter. Both Goll's and Burdack's columns degenerate, but marginal zones in the vicinity of the posterior cornua commonly escape. It is not known whether the ganglion cells of the posterior roots are involved. There is marked degeneration of the direct cerebellar tract and generally to a slighter degree of the lateral pyramidal tract. When the anterior pyramidal tract is present, it is implicated, as is also the anterolateral ascending tract and the cells of Clarke's column. The gray anterior cornua and other portions of the cord remain intact. Sanger Brown noted great numbers of corpora amylaceae in the posterior columns. Nothing definite is known as to the condition of the peripheral nerves. In one case in which the cerebellum appeared the chief seat of the pathological process, Nonne found its bulk reduced to two-thirds the usual size. In a similar case Frazer noted still greater macroscopic atrophy. In both instances the principal microscropic change consisted of a reduction of Purkinjé cells. I do not recall that in cases of congenital defect, microscopical studies of the cerebrum have been made with special reference to cerebellar ataxia and associated choreiform movements. Lesions of the posterior quadragemina, or such as involve the red nucleus of the subthalamic region are known to produce characteristic cerebellar gait. Henoch long ago reported two cases of cerebellar ataxia, in one of which both frontal and in the other the temporal and parietal lobes of one side were alone involved. While it must be kept in mind that histologic examination of the cerebellum and the cord were not undertaken, it is entirely possible that the cerebellar gait may have been caused by these cortical lesions, viz., by involving special fibers that respectively connect the frontal and temporal lobes with the cerebellum. Mills speaks of these nerve-bundles as the anterior cortico-protuberantial and tempero-pontile protuberantial fasciculi. The former lies either cephalad or external, the latter either dorsad or internal to the motor-tract which it accompanies from the cortex. Both sets of fibers connect with pontile nuclei whence new filaments arise which pass into the cerebellum. A third set of fibers connects the previously mentioned subthalamic region with the cerebellum. We may note, incidentally, how the continuous topographical association from cerebral cortex to cord of cortico-cerebellar and motor tracts serves to explain the frequent dual manifestation of involuntary movement and ataxia and also the fact that the opportunity to localize an affected area concerned in bringing about these symptoms, becomes no more promising as we advance cephalad from the cord. We need recognize that in many cases of congenital defect we may not attempt to refer symptoms to special regions because, to a greater or less degree, a major portion of the cerebrospinal system is involved. In an article upon hereditary cerebellar ataxia in the Twentieth Century Practise, Collins has recently said : "In one of Nonne's cases the pathologic changes were not confined to the cerebellum; there was general atrophy of the nervous system. It is more than probable that this is the keynote in the explanation of the genesis of the disease, and that the various anomalous forms of hereditary cerebellar ataxia that have been described, such as the cases of Seeligmuller, Erb, Menzel and some recent cases of Nonne, anomalous and transitional forms of the disease, will probably be found to vary in their clinical manifestations as the different interconnected and separate portions of the nervous system are the prominent seats of protal defect."

A point of interest when we have to do with chronic central lesion, is the retained normal sensation. Here

the surprising absence of effect in cases involving credited sensory tracts of the cord, is seemingly paralelled. Lesions, congenital or acquired, that affect the central motor and cortico-cerebellar tracts must at least, in some cases, encroach upon the close-lying fillet. The fact that the cerebral path of physical sensory impressions is not an undivided unit in its ascent (since it is probable that fillet fibers pass in part through the thalamus and in part directly to the cortex cerebri) may partly explain the absence of sensory disturbances because greater likelihood thus exists that some of the fibers may escape injury. Moreover, one is apt to believe that in chronic affections, not only on account of multiplicity of sensory paths, but also through education of other filaments, sensation might be fairly intact, even though some previously functionating fibers had been destroyed. Both possible conditions are emphasized when considering sensory perception of the cerebral cortex. Its whole expanse is engaged in receiving impressions, the motor areas not excepted. In the schemes of localization in which the Rolandic region is marked, motor areas indicated as sensory, viz., the posteroparietal, quadrate and fornicate gyri must merely be looked upon according to Mills "as that part of the cerebrum where the fillet radiations in their most compact form are nearest the surface of the brain."

Reverting to the particular syndrome in the case under discussion, we can do no more than to say with certainty that it is dependent upon developmental defect. The cerebrum, including the cortex, as evidenced by the mental condition, the cerebellum and the spinal cord are all probably involved. The peripheral nerves appear to participate least in the process, for as regards sensation, coarse tests discover nothing abnormal. The patient's mental condition precludes a demonstration of capacity for delicate sense-discrimination. An explanation of the partial reaction of degeneration in so far as it may depend upon a condition of the peripheral nerves, which is compatible with retained power of voluntary movement, may lie in the defective development of the medullary nerve-sheaths (Strümpel). In reference to the series of convulsions upon the third day, which it will be recalled were never repeated, the fact that neither paralysis nor other sign of acute disease existed subsequently, the patient merely sleeping much, makes it probable that their cause was an acute brain-anemia consequent to the severe umbilical hemorrhage.

Prognosis.—The etiology of congenital defect makes the prognosis obviously bad, both as to mental and physical symptoms. The ordinary progress of the disease will be slow. Any infection that would exert a deleterious effect upon the vulnerable nervous system would probably intensify the present symptoms and thus mark a distinct advance toward the unfavorable termination. The latter, if not due to some intercurrent affection, will take the form of a fatal exhaustion or marasmus. It is important to remember that a prognosis as to ataxia and choreiform movement which are dependent upon congenital error, must be based upon these manifestations *per se*, even in those cases where they are accompanied and perhaps overshadowed by some form of complete paralysis. Whatever the outcome of the latter, be it recovery whole or in part, or entire loss of function permanently, to which rigidity and secondary contraction is later on added, the ataxia and associated involuntary movements, where they exist, present usually a slow and always an unfavorable progression. In all probability the reason for this lies in a nutritional cause as against radical tissue-change, producing immediate total loss of function. In point, is Gower's statement concerning spasmodic movements in infantile cerebral paralysis, that "the far greater frequency (almost constancy) of the symptom after a lesion in early life, makes it probable that it is in some way due to disordered action of centers that remain and not to the direct effect of the disease itself."

Treatment.—As previously stated, under the continued administration of small doses of bromid, the involuntary movements diminished noticeably. The patient gained also three pounds in weight during this time. Not wishing to give the drug indefinitely Fowler's solution was subsequently substituted, but the effect was not so good. It seems possible that a long period of sleep procured by aid of chloral hydrate or other hypnotic might have still further improved the patient's general condition. This could not be carried out nor was it possible to simply permit the child to rest in bed because the mother needs be away from home during the day. For a few weeks galvanic electricity was administered in hope of improving muscle nutrition. The mother reported a general quieting effect that followed each séance. However, the patient would submit to but few treatments, although the current was never stronger than ten milliampères. The occasional thyroid enlargement which is accompanied by relaxation of vessel walls elsewhere, gives further evidence of disturbed vegetative function. No attempt was made to correct this condition by thyroid feeding on account of the generally irritative character of the symptoms. Nothing seemed to remain, but to further nutrition, if possible, by the continuance of sedative medication, a prescribed bland and nutritious diet and the promotion of active emunctory functions.

Some objections may be made to the use of the term hereditary ataxia in the absence of characteristic family history. An apparently direct transmission from parent to child of the defect named is much less frequent than its occurrence in collateral branches of a family through several generations. We remember that evidence as to such family affection upon the father's side is merely negative,[1] but aside from this we must still recognize that a paternal legacy in the shape of a tendency to neural degeneration probably exists. An intelligent, capable man, such as the father is represented to be, who is a constant slave to drink, in all likelihood embodies a type of hereditary involution even in his generation. We are therefore in no way surprised to find in the next, further unfavorable progress represented by physical as well as mental defect.

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University of Rome.—It having been determined to establish a professorship of diseases of the urinary organs, the chair was offered to Professor Posner, of Berlin. Professor Posner, however, has declined the proferred appointment.

[1] This history could not be obtained as the father lives apart from his family and in another city.

A CONTRIBUTION TO THE STUDY OF EXOPHTHALMIC GOITER.

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THE pathogenesis of Graves' disease has long been a subject of discussion. The new facts accumulated to support the theory of the influence of the cervical sympathetic nerve as a causative factor, warrant taking up the subject again and sifting the evidence in order to see if a definite conclusion may be reached.

Continued belief that exophthalmic goiter is the result, solely and exclusively, of hypertrophic change of the gland, is not warranted by facts. While the theory of hyperthyroidization can explain but a few cases, it is absolutely powerless in a number of others. The theory based on the influence of the sympathetic nerve covers all cases without exception. The theory is in fact old (1862), but it was ignored until the last couple of years. In Trousseau's work we find the following remark: "The vascular disturbances in Graves' disease are only in the territory of the cervical sympathetic nerve; the carotid and thyroid arteries are alone animated by an expansive movement, while on the contrary the iliac and femoral arteries and abdominal aorta are in normal conditions." Long after Trousseau two physiologists, Dastre and Morat, took up the question, and their experiments led them to the following conclusions: The vascular dilation brought on by irritation of the cervical sympathetic nerve is very manifest, when it is directed to the communicating branches of the second, third and fourth dorsal pairs and to the segment of the ganglions, where those branches terminate; the dilator fibers exist, therefore, together with the constrictors in the sympathetic nerve. Morat also demonstrated that the inferior cervical ganglion is the principal source for the acceleration of the heart and vasodilators of the thyroid body.

Rosenthal, in his clinical treatise of nervous diseases in 1878, basing himself on Goltz's experiments, said: "If one admits that the vascular dilation is not due to a paralysis, but to an exaggerated function of the vasodilator nerves, one can readily see that the vascular dilation and the prolonged hyperemia in the thyroid gland and orbit are the cause of hyperplasia and proliferation of the connective tissue, formation of a goiter and exophthalmia."

In his experiments on monkeys Edwards[1] demonstrated that a division of the cervical sympathetic nerve gave the following symptoms: (1) recession of eyeball; (2) contraction of pupil; (3) narrowing of palpebral fissures; while the irritation of the nerve gave (1) proptosis of eyeball; (2) dilation of pupil, and (3) widening of palpebral fissure. He goes on to say in his conclusions that an irritation of the sympathetic nerve, either applied to its origin in the central nervous system (brain or cord) or to its prevertebral ganglia, would readily enough account for both the cardiac and ocular symptoms. As to the hypertrophy of the thyroid it has been shown that an irritation of the sympathetic nerve causes an increased secretion of the solid constituents of the saliva, and as the thyroid gland closely resembles the salivary glands, a prolonged stimulation through the sympathetic nerve causes the hypertrophic changes. Jessop corroborates Edwards' experiments by his own. In a rabbit he found that cocain will not produce dilation of pupil, nor proptosis, nor widening of palpebral fissure, if the cervical sympathetic be divided.

The so-called thyroid theory, briefly, is as follows: The function of the thyroid gland consists of extracting from the system a toxic product, accumulating and neutralizing it, before it is thrown into the circulatory system. The neutralization is performed by a special product or ferment secreted by the gland. In case the secretion of the gland is excessive, like in Graves' disease, the result is a pathologic condition and the organism becomes saturated with a toxic product, called thyroidin. Möbius, the great advocate of hyperthyroidization, says: The nearest cause of Basedow's disease is diseased function of the thyroid gland. He bases his theory upon (1) the contrast between this disease and other conditions which are based upon the defects of functions of the thyroid, as cachexia strumipriva, myxedema, and cretinism; (2) to the goiter are added more or less the symptoms of Basedow's disease; (3) operations on the goiter influence the disase favorably.

These are the main points which are claimed to support the thyroid theory. In the first place we know that in myxedema there is a defect in function of the thyroid, while in Graves' disease the trouble is only the consequence of the disease. Moreover, if the cause is in the thyroid gland, why are so many people having healthy thyroid glands so seldom attacked by the disease? Savage, in the District of Columbia, among 1,000 goiters, found only one case of Graves' disease.

When the theory that the disease was caused by irritation of the sympathetic nerve began to gain ground, the believers in the hyperthyroidization did not deny the influence of an irritated sympathetic nerve upon the eye and the heart, but they said that this was secondary to the fact that the sympathetic nerve was irritated by the toxic substances elaborated by the thyroid gland.

If there is really a toxic substance circulating in the blood, which produces the symptoms observed in exophthalmic goiter, why is it that it excites only the cervical sympathetic nerve which carries its stimulating effect to the carotid and thyroid arteries, and why should it not have the same effect upon the other sympathetic nerve, which will act on the abdominal aorta, iliac, and femoral arteries? Numerous writers have observed cases in which enormous exophthalmia exist in conjunction with an insignificant thyroid enlargement and moderate tachycardia; on the other hand, enormous goiters and pronounced tachycardia are found in combination with insignificant exophthalmia. Moreover, v. Gräfe, Dusch, Pauli, MacDonnel, Trousseau, Mackenzie, Degranges, Fisher, Raymond, Charcot, and Hitschman observed cases of Graves' disease without struma. Friedenburg and Watson-Williams[2] collected cases of symptoms of the disease relating to the eye, thyroid gland, hyperhidrosis, v. Gräfe's sign—all on one side. How is it then possible that a general toxemia by thyroid extract can produce a condition like this?

[To be continued.]

An institution under lay management has been started at Birmingham to provide **medical and surgical consultations** to all who desire them at the limited and moderate sum of half-a-guinea. Neither the public nor the medical profession in Birmingham appear to think much of the innovation.

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[1] *Journal Pathology and Bacteriology*, Edinburgh, 1894-96.

[2] *Clinical Jour.*, London, 1895-96.

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Insurance Risks of Faith-curists and Christian Sciencists.—We are glad to see that at last the insurance societies are beginning to realize the evident fact of the heightening of the risk of applicants who crazily ignore the work of scientific medicine in saving and lengthening life. Because they are bad risks the Supreme Lodge of the Knights of Honor in session in Buffalo last week has voted to exclude christian sciencists and faith curists from the order. We would suggest that the list be extended to osteopathists and all the horde of antimedical cranks, and that all life-insurance companies draw the line as has the Knights of Honor. It is unjust that sane people who use common sense in the care of their lives should have their premiums raised because the companies are compelled to pay the inevitable losses accruing from the unnecessary deaths of the foolish and semi-insane.

A new style of crediting and not crediting in medical journalism consists in republishing in a second journal an article that has been first published in a journal chosen by the author. The peculiarity of the proceeding is that neither permission has been asked nor consent given, and that the original journal is not alluded to. The stolen article is unblushingly listed as an original contribution in the repeating journal. It is perhaps to be held generous that the author is mentioned. We trust the custom may not extensively prevail in America. According to our observation it is at present confined to two English and an Indian medical journals. One thus often wonders how it comes that American writers so frequently contribute to foreign journals. The wonder is sometimes lessened because the purloining editor does not specify where his "original contributor" lives. It is flattering to American productiveness, but it is hardly just or praiseworthy. And especially when at a later date the abstracts and bibliographies go on crediting to the unscrupulous copyist.

Sham Examinations and "Pull."—A number of instances have recently occurred in which men who have admittedly passed the best examinations have not received the desired appointments as internes of hospitals, the places being filled by those much farther down the list. Why, then, hold the competitive examinations? If "influence" governs the appointment it should be known in advance. At least the ratings should be made to correspond with the appointments. It is easy to do this! Just indignation of humbugged candidates quickly proceeds to disgust and contempt. And it is, indeed, contemptible to compel candidates to go through sham examinations when the results of the examination are ignored and the appointments are made because of "influence." We have even heard it stated that sometimes when a candidate has been decided upon in advance the examinations are made farcically easy in order that even the dullest may pass with fine ratings. If the examinations are in any of these ways rendered shamful and shameful they beget a natural progeny of scandal and injury to institution and to applicant. It would be altogether better to make the test either one thing or the other,—either by strict and honorable examination, or by frank "pull." The hybrid of the cross is sterile.

Before the age of civilization, far, far from here and now, in those awful times when cities were "pawing to get their hinder parts free" from barbarism and corruption, long before citizens could hope for the probity, public spirit, and dignity which now characterize our modern city governments—way back in the days of political bribery, partisanship and ward bosses, there was a city whose chief administrative officer loved not doctors—at least not those wicked ones which in those dark times were miscalled "Regular." When a scourge called typhoid raged among the people because foul water was given them by the bosses, this Governor smiled at the dying hundreds and their thousands of friends, and assuaged their grief with the kind and erudite assurance that this horrid disease was not typhoid, but was only simple enteric fever. The sick and the dying were thus profoundly comforted by the scientific and kind-hearted ruler, and continued to die, but happy in the knowledge of the true nature of the disease and in the ignorance of its cause.

Another noble act of this city's chief was to usurp the authority of his subordinates, and, for instance, to appoint as firemen men like-minded with, and as capable as himself, called at that time "henchmen," who had befriended, or who promised to befriend him in coming troublous days. Thus were the buildings saved from fire, and the lives of the citizens from death, for

the insurance rates decreased and property was saved by the wondrous discipline of the firemen.

In the same way the friends of the chief ruler, called appropriately "Justices," or "Magistrates," punished with unexampled severity those criminals and law-breakers who falsely called themselves supporters of the chief, so that all those helpers named policemen hastened to bring to justice all those who were guilty of any malfeasance or wrongdoing in the great city. Thus the loyal citizens had cause to bless the day that noise and shame and crime were suppressed by the stern and righteous head of the city government.

His magnanimity was also glorified by all, because so strong was he in his consciousness of right, and desire to do it, that even the humblest citizen or editor who criticised his ways was at once invited to spread abroad his complaints, and to advise the great ones how best to serve the city and its people. Critics were most welcomed, and intimidation was most avoided.

And, as we said, this noble ruler added to all his other virtues that of a wise suspicion and contempt of a sect of so-called medical men strangely named at that time "Allopaths." He encouraged the learned and unselfish schools of the healing art, those of the most excellent practitioners libelously named quacks, and the venders of what were then maliciously termed nostrums, until at the door of his official residence, protected by special permit, were the splendid wagons of the famous nerve-regenerator dispensing free to all the only means of health.

A final and crowning act of far-sighted wisdom and justice was the humbling of the Allopaths. They had long abused their power, had waxed old in outgrown medical superstitions, and had failed to cure the diseases of the poor in the charitable institutions. The "new school" should take their place. To aid in this laudable revolution a great leader and chief of the "old school" was chosen to give assistance. Office was not awarded him as a reward for his disloyalty; his colleagues even were far from hinting disloyalty or desertion; in truth, they held themselves happy, so that they freely and frankly praised the great chief's wisdom in thus consistently carrying out, in such a striking and appropriate instance, the divine law of conduct and of cure—*similia similibus curantur.*

Freedom for Scientific Research.—In the unfortunate controversy which has arisen over the New York Pathological Institute the main issue after all is freedom for scientific research. In noticing the splendid publications which have issued periodically from this institute we have always eulogized the wise policy of the Commission in Lunacy which prompted it to sustain this beneficent and far-reaching work. This policy, we thought, was establishing a precedent in this country by which public support of purely scientific enterprises in psychiatry would be encouraged and maintained. This main issue is so important that it far transcends State limits, and enlists the sympathy of all scientists in this country, whether they be residents of New York or not. Hence we do not propose to lose sight of this issue in the conflict over minor details which already obscures the subject. The New York Commission in Lunacy had already established a reputation for policy and enterprise which it can very readily destroy if it now permits the prejudices and resentments of controversy to curtail the true work of the Institute. Let nothing obscure this vital issue. It is not a question of mere details or of obnoxious personalities, but rather of the crucial test, whether scientific research is to be permitted to proceed unhampered by the bickerings of jealous critics and the exigencies of medical politics. We have no advice to offer as to the settlement of details, but we cannot too strongly insist that the work in psychiatric research should be free from vexatious restraint and surveillance. This work must necessarily be done by men who are fitted for it and especially assigned to it. It cannot be performed by men whose time is wholly engrossed by clinical and administrative duties, important and necessary as these are. In other words, a pathologic institute with these aims should not be made the mere annex to the hospitals. In saying this we do not mean to imply that such an institute should ignore the needs of the hospitals, but rather that it should be supplementary to them, while essentially independent. We have thought that the New York Commission here demonstrates that such a time and such a thing had come, and we trust that in settling this dispute it will not go back on its own record and disappoint the hopes of the scientific world.

Visiting Physicians who do Not Visit, and Consulting Physicians who are Not Consulted.—If one will glance at the reports and literature of some hospitals he will find a list of the names of famous physicians given as visitors and consultants. If one will make adequate inquiry he will find that many times these consultants have not been consulted, nor have the visitors visited for a long time. We have knowledge of one instance in which no visits or consultations have been held by some of these officers for years, and some have never set foot in the institution. The plan can have but two uses: Either it is to show the sanction of the "visitors" and "consultants" of the hospital or dispensary, or it exists to increase the reputation of these "visitors" and "consultants." If the hospital needs the sanction and commendation of these physicians, it is most evident that they should not thus sanction and commend except that of which they have knowledge. No man knows what goes on in an institution who does not, at least occasionally, see it with his own eyes. If the method is adopted to increase the fame of the nonvisitors it may be questioned if it does

not sometimes "work inversely as the square of the distance," as the mathematicians would say. In either case the dignity, honor, and ethics of the transaction are extremely questionable. Is it not in plain language —let us say—untruthful to call such officers consulting surgeons and visiting physicians? It is the same thing as we see in medical journalism—20 or 50 names, given as "collaborators" who never collaborate. What is the practical result? Patients put themselves in the care of the active physicians in charge, expecting that the special physicians named, whom they know of, will have supervision of their cases. They do not find it so and naturally feel deceived. In one case known to us a patient undertook a long railroad journey, and her indignation still lives at finding Dr. —— had nothing to do with the hospital (he lived in another city), although his name was paraded on the title-page of the annual report. Perhaps a still greater evil is the abuses that grow to astonishing proportions when the oversight of the overseers is utterly neglected. It is decidedly unwise to trust a hospital to one-man power.

Physiologic Standardization has been pronounced "valueless." We find the following statement in a valued contemporary :

> With great labor and care it might be possible to approximately standardize the preparations of a few drugs like strychnin, which have very violent and definite action upon frogs; but with other remedies, such as ergot and digitalis, for which physiologic standardization is especially desired, the process seems to me valueless. The susceptibility not only of different species of animals, but of different individuals of the same species, varies enormously, I should say as much as 30%; and even the same animals seem frequently to vary very distinctly at different times in regard to dosage. Moreover, the accuracy of experimentation required in order to make any semi-approximate test is so great that it can only be done by the most skilled and careful observers, and is so laborious that days of work would be necessary for every sample looked into. In the hurry and push of commercial enterprise, in the secrecy of the work done, in the difficulties of the labor, in the uncertainties of the most scientific investigation of the dosage of drugs, I find so many obstacles that, personally, I think the method entirely unfit for introduction into the Pharmacopeia, and attach little value to any published statements by manufacturers.

We deplore this statement (also the undeserved animadversions upon "commercial" manufacturers) and must question it. It is a matter of relativity. The position taken reminds one of those antis who would abolish all decent medical journalism because some advertisements in decent medical journals do not please them. To the antis should be left their chosen field of pessimism, "ethical" and dogmatical. "Let us discriminate" when it comes to a sincere ethics, and a genuine medical science. Every clinician would rather have ergot that has been tested on the cock's comb and demonstrated efficacious; would rather have digitalis proved of a certain power by experiment upon the dog; would rather have diphtheria-antitoxin shown to possess at least a definite degree of antitoxic value by injection in the guineapig, than to have these products untested and of absolutely unknown energies. Is not a somewhat indefinite but still certain relative power better than one utterly unknown? Is not a glass of water known to be relatively pure better than one possibly more impure and perhaps infected? Would any clinician prefer a tested antitoxin or one untested with which to treat his diphtheric child? The indiscriminate word, "valueless," seems peculiarly unfortunate. What other test than a biologic test is possible of a biologic product? The mathematic accuracy of physics and chemistry will never be possible with biologic products and conditions. To despair of the relative and best obtainable test because it is not absolute is to despair of progress, and lands us in a "valueless" pessimism. Until the millennium (of science) arrives—a long way off, perhaps—should not the Pharmacopeia recognize the relative value of tested biologic products, and, demanding a minimum of proved power, thus condition the fundamentals of progress? Therapeutic nihilism is not a dignifying credo of a therapeutic profession.

The Dangers Arising from the Use of Crude Manures.—The possibility of a relation of interchangeability between certain diseases of human beings and of animals is constantly receiving fresh confirmation. The intertransmissibility of tuberculosis between man and the *genus bos*, undreamed of when the majority of the medical profession of the present day were pursuing their studies, is now universally admitted. Anthrax has been traced to its origin in the same species. Intestinal and muscular parasites have, of course, long been known to be derived from uncooked meat of the bovine and porcine species. The bubonic plague is undoubtedly often carried by rats, who die of that disease in vast numbers, and diphtheria has been observed in fowls.

In 1885 an epidemic of scarlet fever in the Marylebone district of London led the Local Government Board to order an inspection of the dairies from which families who suffered were supplied with milk, and it was quickly discovered that a dairy-farm at Herndon was responsible for the outbreak. More than this, however, it was found that certain cows furnished the infected milk, and that these cows were suffering from an eruption on the teats, and also from internal visceral lesions. From both of these tissues Dr. Klein, who conducted the bacteriologic examination, obtained a streptococcus which was identical with that which he had already found in scarlet fever. While many have doubted the specificity of this germ, holding that it is nothing more than the Streptococcus pyogenes, Klein has farther been able to demonstrate that scarlatinal lesions can be produced in cattle and in rodents by inoculation with an organism derived from scarlet-fever patients. There is, therefore, ground for suspicion at least that we may find the origin of scarlet fever in the

dairy. In connection with this thought it is interesting to note that it has been recently asserted in an English periodical (*Country Life*) that it had been observed that the spreading of "blood-manure," obtained from slaughter-houses, on the lawns surrounding suburban residences, had in a number of instances been followed by outbreaks of scarlet fever.

This naturally leads to the inquiry whether the streptococcus of scarlet fever may not be frequently, if not normally, present in the blood of horned cattle. The hygienic instinct of the great Hebrew lawgiver was invariably correct, and it may be that here we have the reason for his prohibition of blood as an article of food.

While a farther investigation of this question is eminently desirable, the practical suggestion to which it leads is that no form of manure, whether that of the stable, the cesspool, the slaughter-house, or the fish-net, whether blood, offal or garbage, should ever be spread on the surface of the ground in proximity to human habitations, in its crude, untreated condition. The germs which such material may contain should be destroyed either rapidly by oxygenation by means of powerful acids, or slowly by fermentation, known to agriculturists as "composting," with the added disintegrating and germicidal action of quicklime, before it is made use of as a fertilizer.

At a State sanitary convention, held at Pittsburg in 1889, a suggestive paper on "Dangers to Health in Suburban Districts" was read by the representative of the State Board of Health in that part of the State, taking the ground that the spreading of large quantities of fresh or half-fermented manure on the surface of lawns and gardens in the beautiful suburbs of that city was, in his experience as a practising physician, the cause of much sickness, especially among children. The most dangerous form, however, which this procedure can take is that of distributing night-soil, fresh from the cesspool or privy, over growing crops, and especially over such vegetables as are used constantly without cooking, such as cabbage, lettuce, celery, radishes and parsley. How efficient a mode of propagating the typhoid infection this may be does not need argument to prove. There is too much reason to believe that, notwithstanding the regulations of their boards of health, many large cities have their typhoid death-rate increased by this practice. Mindful of this danger, the State Board of Health of Pennsylvania has among its regulations the following:

"Regulation with Regard to the Depositing of Night-Soil.

1. The depositing of night-soil on the surface of the ground is hereby declared to be a nuisance prejudicial to the public health.

2. This material must be placed in pits or trenches dug for the purpose, and each deposit covered with fresh earth and lime.

3. When the contents of such pit or trench have reached within one foot of the surface, they must be covered with fresh earth and lime, up to the level of the ground.

4. The contents of such pit or trench must then not be disturbed for six months, at the end of which time they will be fit to use as a fertilizer."

This regulation does not, of course, forbid the conversion of this material into *poudrette*, which is the best method of disposing of it.

The Financial Value of the Medical Profession to a City—we do not mean as regards the indefinite saving and lengthening of life, but in bringing to it patients, students, nurses, etc., and in what these classes definitely contribute to the commercial interests. If we consider only the money brought and left by people coming from beyond the natural circle of its influence, a city which is a great medical center, through its practitioners of more than local reputation, has a financial asset in the profession that is by no means rated at its proper value. Take Philadelphia as an example, and at a rough calculation there are certainly three thousand or more students of medicine, dentistry and pharmacy coming from a distance and spending three-fourths of the year here. Including tuition, board, etc., it is hardly too much to estimate the average amount annually expended in the city at $600, making a total of nearly $2,000,000 from this source. In the same way if we guess at the probable number of patients attracted from afar to Philadelphia by the leading members of the profession, we would place it at not less than an average of 1,000 at any one time and the year through. Suppose that this thousand leave in the city in professional fees, as hotel and boarding expenses, and for sundry purchases at stores, etc., no more than $2,000 each for the entire year (surely an underestimate), this would add another $2,000,000 to the credit side of the professional civic ledger. If to this is added the increase due to nurses, instrument-makers, medical booksellers, etc., the city income is directly greater by at least $5,000,000 or $6,000,000 than it would be without those physicians whose influence extends beyond the city limits. This also leaves out of the count the enormous sums gathered by means of medical publishers from all parts of the world by the sale of books and journals produced by members of the resident profession or tributary to it. And so it is with every great medical center. These sources of urban wealth should bring a corresponding recognition of the profession on the part of those administering city governments and making city laws, and on the other hand should stimulate us to demand that our corporate and individual opinion be sought and listened to in all that pertains to the public health. And how closely is almost every aspect of civic policy, legislation, and administration related to health!

Food-adulteration.—It has become obvious that if the public is to be properly educated in hygienic matters its information must be derived from competent

authority. It is not enough to lay down rules; the reasons therefore must be given. Superstition, tradition or ignorance must yield before the forces of education and knowledge. Scientific and professional men can render good service in this direction through plainly written and signed statements of current evils and the means for their correction. Such a presentation of the dangers of food-adulteration was made recently by Dr. J. D. Quackenbos, of Columbia University, in the *Evening Post* of New York City, and almost as much good is to be expected from such publication as from legislative enactment. Cooperation is always better than suppression, as respect is preferable to fear, but it bespeaks knowledge of the facts. Adulteration is defined as "the debasement of a pure article by the admixture of something inferior in quality and value, whether innocent or dangerous." Among the forms of adulteration referred to by Dr. Quackenbos are the addition of preservatives, such as salicylic, benzoic and boric acids, sulphites, fluorids, borax, to canned goods, jellies, jams, cider, cheap clarets, unfermented grape-juice, beer, milk, of water to milk, of gelatin to ice-cream, the substitution of other substances for coffee and tea, cloves, pepper, butter, cheese, lard, glucose, jelly and distilled waters. It is pointed out that any agent that is destructive to the protoplasm of bacteria is capable of exciting a deleterious effect upon human protoplasm, and that any agent that impedes fermentation also cripples digestion. The dilution of milk with water may be a source of contamination and a means for the conveyance of infectious disease, such as typhoid fever, scarlet fever, cholera, dysentery and gastrointestinal disorders generally, particularly in children and during the summer. The remedy for these evils and many others of a similar character will be found in an enlightened intelligence leading to national legislative enactment. The question after all is one of honesty.

Medical Sermonets, No. 18. The "O-He's-a-Good-Fellow" Argument.—It is an old and well-known finding of morbid psychology that a weak or criminal mind seeks to atone for the absence or loss of sterling and essential traits by assumption, emphasis, and exaggeration of sentimentalism and the easier virtues. At no time and among no people has this vicious trick been carried to such extremes as among us today. The descendants of Villon seem to be growing more numerous among us at the present time. If a bank defaulter robs thousands of depositors his crime is condoned by many because of his piety or his zeal in local charities. A political boss who has broken every one of the eleven commandments is beloved for his strict partisanship. Stealing from the government is not blamed if the man fulfils his promises to individuals. "He never went back on a friend," covers all the sins of a lifetime against the community. So in medicine, if a physician is coarse and brutal in manners, his friends talk only of his strict honesty or his hatred of hypocrisy; if he is a good lecturer or a brilliant operator, this alone offsets bribing legislatures or advancing his school by all the wiles of the medical-college politician; if he treats patients for months when he might cure them in a day, he is, however, a great believer in "success"; if as an editor he has not a glimmer of journalistic or professional honor—"Ah, but he makes a spicy journal"—ends discussion. Perhaps the most offensive of these humbuggeries consists in covering the nakedness of moral turpitude with the mantle of sentimentalism. If a so-called physician has spent his life in nostrum-traffic, drunkenness, and lubricity, his kindness to children, or his roaring goodfellowship is used to shut the mouth of complaint. To pay private debts with public iniquities, to salve personal conscience with professional bombast, to tramp about in the slush of a maudlin sentimentalism—this is the sorry game played to call forth the usual "O, he's a jolly good fellow, not half so bad as they think, etc, etc." To be sure, it is in truth better to have much money than to have none, to be a good father than to be a bad one, to be really kindhearted rather than to be cruel and pharisaic, to be hale-fellow-well-met, instead of morose and stingy, to be religious in place of atheistic—and all the rest. But the worst Roundhead is infinitely preferable to the worst libertine, an honest stupid to the sharpest politician without a scintilla of principle, a simple, self-respecting country practitioner to the greatest city "scientist," whose life has been an ethical debauch. The fault to be found with this boorish psychology is that it is not sincere, and that it is a lie. The overemphasis of goodfellowship does not look to the rightness of kindness of heart and of cheerfulness, but is used to cloak the grinning skeleton of positive depravity. Goodfellowship is real only when the fellow is good; fun from the gutter, wit from the tramp, is neither fun nor wit. The *risus sardonicus* is not pleasing to healthy minds.

Of course we need not force the note at either extreme of the gamut. Good nature and kindheartedness are not necessarily limited to the characterless, any more than sourness and asceticism to the upright. If we must choose, the latter sorry combination is preferable, but then we are not bound to make any such choice. It is against this absurd contention of the trickster that we are compelled to choose that we protest. It is not true that to be bright and happy we cannot be pure and highminded, but rather that only the clean can know what is real mirth and what is genuine goodfellowship.

Treatment of Tuberculosis in the Adirondacks.—E. R. Baldwin (*Albany Medical Annals*, April, 1900) gives a report of the treatment of tuberculous patients at the Cottage Sanatorium under the management of Dr. E. L. Trudeau in the Adirondacks. This institution has been in operation for 15 years; 1200 patients have been treated at this sanatorium, 900 of these were advanced in the disease when admitted, 300 cases were in the incipient stage when admitted; 23% were discharged apparently cured, 56% were discharged with the disease arrested or much improved, 2% died at the sanatorium. From reports received it is estimated that of the 1,176 discharged, 300 are now absolutely without symptoms of the disease. It is estimated that 200 more are still living in various stages of the disease, 68% of those received as incipient cases were discharged apparently cured, while only 11% of the advanced cases were so discharged. Baldwin insists upon the early diagnosis and treatment in patients suffering from tuberculosis. One element of good accomplished by the sanatorium which he thinks is undervalued, is the removal of the tuberculous patient from contact with his own family, and his influence upon others when discharged. [M B.T]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

A $50,000 library fund for the College of Physicians has been raised by Dr. W. W. Keen. The last item required to complete the amount was the transfer of the Jenks Memorial Fund (about $6,000) to the Library Fund. There were about fifty subscribers in sums from $10 to $5,000. The college is sincerely congratulated, and the local profession will be deeply grateful to Dr. Keen and his coworkers for their splendid service to medical literature and science.

Forest Sanatoriums for the Tuberculous.—Dr. J. T. Rothrock, Commissioner of Forestry of Pennsylvania, is in favor of throwing open to consumptives the forest lands owned by the State. They are the property of the people and were pledged to the maintenance of public health. No official action has yet been taken, but there is no reason to doubt that it will be done, for there is nothing in the sanatorium idea that interferes in any way with the other purposes for which the areas were purchased.

Pathological Society of Philadelphia.—At a meeting held June 14, DR. M. P. RAVENEL and DR. D. J. MCCARTHY presented a communication upon **The rapid diagnosis of rabies.** DR. M. P. RAVENEL reported three cases of **cutaneous tuberculosis due to inoculation with the bovine bacillus.** This will be published in a later number of the JOURNAL. DR. A. O. J. KELLY exhibited a specimen of **hernia of the diaphragm**—the herniated organs consisting of the omentum and the splenic flexure of the colon. DR. J. H. LLOYD exhibited a large **cystic kidney from a patient who had had uremia aphasia.** DR. J. H. LLOYD and DR. A. M. SEABROOK reported a **fatal case of endocarditis and cerebral embolism** which had been treated by the antistreptococcic serum.

Vital Statistics of Philadelphia for the week ended June 16, 1900:

Disease.	Cases.	Deaths.
Total mortality		455
Pulmonary tuberculosis		53
Marasmus 13, inanition 18, debility 7		38
Heart disease 31, fatty degeneration of the heart 1, inflammation of the heart 1, neuralgia of the heart 3		36
Pneumonia		33
Nephritis 20, uremia 11		31
Apoplexy 17, paralysis 9, softening of the brain 3		29
Gastroenteritis 14, cholera infantum 11		25
Inflammation of the brain 22, disease of the brain 1, congestion of the brain 1		24
Carcinoma 20, tumor 1		21
Convulsions 16, epilepsy 1, puerperal convulsions 2		19
Diphtheria 12, membranous croup 4	83	16
Senility		14
Typhoid fever	40	13
Measles		11
Casualties 7, burns and scalds 3		10
Peritonitis		10
Scarlet fever	73	3
Smallpox	1	
Bronchitis 8, suicide 4, asthma 4, hemorrhage 4, cirrhosis of the liver 4, drowned 3, intestinal obstruction 3, septicemia 3, diarrhea 3, erysipelas 2, homicide 2, pericarditis 2, pleuritis 2, pulmonary edema 2, pertussis 2, abscess 2, abortion 1, anemia 1, cyanosis 1, parturition 1, chorea 1, dropsy of the brain 1, renal dropsy 1, dysentery 1, influenza 1, cystitis 1, neuritis 1, locomotor ataxia 1, pyemia 1, purpura hæmorrhagica 1, rheumatism 1, surgical shock 1, teething 1, unknown 1.		

Pittsburg (Pa.) Academy of Medicine.—At a meeting held May 21, DR. W. B. EWING reported a case of **complete alopecia** of five months' duration, not a vestige of hair being found on any part of the body. This condition is usually found in connection with syphilis, myxedema or wasting diseases, but none of these conditions were present in this case. DR. P. J. EATON reported two cases of **syphilis and gonorrhea** in the same patient and remarked upon the necessity for impressing upon syphilitics the result of marriage. Dr. Eaton also reported a case of **supernumerary mammary gland** in the left axilla. DR. E. B. HAWORTH read a paper on **Fractures of the lower end of the humerus.** The various fractures that may occur in this region and the methods of diagnosis were pointed out. On account of the possibility of an unfavorable result it was advised to have a colleague share responsibility in all such cases. Where much swelling has taken place the use of the Esmarch bandage was advocated as rendering examination more satisfactory. In the treatment of simple supracondyloid fractures the forearm should be flexed to such a degree as will best retain the fragments in proper position and maintained in this position by suitable splints. A. L. Smith's method of flexing the arm at an acute angle and maintaining it by a figure-of-eight bandage around chest and elbow may be used, and it is claimed for it that the fragments are held in better apposition than by any other method. The forearm may be dropped to a convenient degree in 2 or 3 weeks if ankylosis be feared. Dawbarn advises placing the arm in extreme extension and after 10 days or 2 weeks if ankylosis be feared the arm is flexed to a convenient angle. In fracture of either condyle if reduction is difficult Kocher advises excision of the condyle, others wiring or nailing to the shaft.

NEW YORK.

Biologic Laboratory for Vassar College.—A fund of $50,000 has been raised for the construction and equipment of such a laboratory. Over a year ago an unknown friend of the College residing in New England, offered to subscribe $25,000 for this purpose, on condition that the additional $25,000 required could be raised. It is said that the entire sum has been secured through the efforts of the Boston branch of the Vassar Alumnae.

NEW ENGLAND.

Dr. F. W. Draper, of Boston, has been elected president of the Massachusetts Medical Society.

The Maine State Medical Society held its forty-eighth annual meeting at Portland, June 13, 14, and 15. The program primarily announced in the JOURNAL was successfully carried out.

Harvard Medical School.—Dr. Franz Pfaff has been appointed assistant professor of pharmacology and therapeutics of the Harvard Medical School for five years. Dr. F. H. Davenport has been reappointed assistant professor of gynecology at the same school.

An interesting exhibition of trained nurses' work was recently given at the Boston City Hospital. The features illustrated were a hot pack, cupping, bed making, bandaging a sprain, dressing a baby, preparing a patient for operation, esophageal feeding, and treatment of an emergency case while waiting the arrival of the physician.

The Boston Floating Hospital will begin its work July 5th. The fresh-air plant which was placed on the boat last summer to cool the wards and preserve an even temperature proved a great success and will be enlarged and improved this year. The permanent patient feature, which provided that certain very sick patients could remain in the boat over night, will also be maintained and will moreover serve, while at the docks, as a kind of emergency hospital to which very sick children may be carried at night. It will make daily trips throughout the summer. There will be 21 trained nurses and several physicians on board.

The 119th Anniversary of the Massachusetts Medical Society was observed June 12 and 13 at Mechanic Building in Boston. Tuesday morning the Fellows of the Society visited the leading hospitals of the city, and in the afternoon the Section in Medicine and the Section in Surgery met. **Pneumonia** was the topic of the day in medicine, all the papers bearing upon that theme. DR. FREDERICK H. BAKER, of Worcester, discussed the variations in the clinical course of the disease according to the bacterial etiology; DR. NORMAN F. CHANDLER, of Medford, considered local and general treatment in uncomplicated cases of pneumonia that were very severe, with special attention to the use of alco-

hol and other stimulants, including delirium tremens as complication; Dr. Alfrida B. Wittington, of Pittsfield, reviewed the peculiarities of pneumonia in children and elderly people, and Dr. Edgar H. Gould, of Springfield, took up prognosis and treatment of the family. Dr. John N. Coolidge, of Boston, spoke of the contagiousness of pneumonia, Dr. William H. Smith, of Boston, considered its treatment by serumtherapy and Dr. Simon Baruch, of New York City, by hydrotherapy. Dr. Stephen A. Mahoney, of Holyoke, read a paper on the special treatment of delayed and prolonged resolution in pneumonia and the prognosis in such cases.

The surgical section also followed in the main a single topic, 4 of the 6 papers being on **Displacement of the uterus.** Dr. Charles H. Hare, of Boston, considered the treatment of retrodisplacement; Dr. Walter L Bunge the treatment of prolapse; Dr. William N. Swift set forth the chances of operative treatment of uterine displacements by vaginal fixation, and these papers were further discussed by Dr. John W. Elliot, Dr. Edward M. Greene, and others. Dr. Charles B. Porter presented a paper on **Suppurative pericarditis,** and Dr. Francis B. Harrington on **Carbolic gangrene.**

On Wednesday morning also, a single topic engaged the attention of the Society. It was **Diseases of the joints often diagnosed as rheumatism or complicated with rheumatism.** Dr. Homer Sage, of Worcester, discussed traumatic joints; Dr Charles A. Porter, septic and gonorrheal joints; Dr. Ernest S. Jack, of Melrose, rheumatism; Dr. Sidney A. Lord, of Boston, neuropathic joints; Dr Joel E Goldthwait, arthritis deformans. The closing paper of the session was by Dr. William H. Porter, of New York, on **To what extent does rheumatism and gouty diathesis enter into the foregoing condition as an etiologic factor?**

The features of the celebration were the Shattuck lecture on Tuesdav evening, by Dr. William H. Welch, of Baltimore, on **Diseases caused by the Bacillus aerogenes capsulatus,** and the annual address by Dr. Arthur T. Cabot, of Boston, Wednesday noon. The annual dinner and sail down the harbor on Wednesday closed the program of events.

CHICAGO AND WESTERN STATES.

The late Dr. Truman W. Miller left an estate valued at $175,000, of which $65,000 is in personal property, and the rest in real estate.

Metropolitan Medical College.—Post Office Inspector Gould has received orders from Washington to withhold all mail addressed to this college, an alleged "diploma mill," or to any of the men arrested for connection with it.

Funds for Consumptive Hospital.—The officers of the Citizens' Committee for the erection of a hospital for the treatment of consumptives under the auspices of the Sisters of St. Elizabeth's Hospital report donations to date amounting to $19,064.

Test for School Teachers.—Dr. Julia Holmes Smith, Dr. Darah Hackett Stevenson, and Dr. Florence Hunt will examine applicants for admission to the normal school to test their physical ability to stand the strain of teaching. If any of the girls fail to pass the first examination, a second will be held.

California Quarantine Withdrawn.—The Treasury Department has directed Dr. Kinyoun, of the Marine-Hospital Service and Quarantine Officer at San Francisco to rescind his recent order putting into effect the circular issued some time ago by the Marine Hospital forbidding persons from leaving California, unless provided with a health-certificate.

Public Health Matters.—Only 2 deaths from typhoid fever were reported to the health department last week as against 7 during the corresponding week one year ago. It is barely possible that the great decrease in the impure water diseases since the opening of the drainage canal is merely a coincidence, but a comparison of the first 5 months of each of the 10 years between 1890 and 1899 with the first 5 months of 1900 strongly indicates a relation of cause and effect. The death returns for the past week are the lowest recorded for a similar period since the week ended November 3, 1899. Consumption shows the greatest reduction in number of deaths, there being but 35 during the week, as against 60 the week preceding, and 50 the corresponding week of 1899.

The Alumnae Association of Northwestern University Woman's Medical School recently took action toward establishing 2 memorial fellowships, one for the Chair of Physiology in memory of the late Dr. F. A. Wadsworth, who was professor of this Chair at the time of his death, and the other for advanced work in gynecology, to be known as the Dyas Memorial Fellowship.

SOUTHERN STATES.

Maryland Vital Statistics Law.—It is hoped this will be in full operation by July 1. The important feature of the law is the burial-permit section designed to insure the registration of every death occurring in the State, since an undertaker cannot bury a dead body until he has obtained a physician's certificate. Disinterments are also regulated. During July and August it is unlawful to disinter a body except by order of a court for legal investigation.

MISCELLANY.

Yellow Fever Among Troops.—Yellow fever has broken out at Quemados, 8 miles from Havana, where United States troops are stationed. Thus far there have been 14 cases, 3 of which have proved fatal. General Lee is taking every precaution to prevent the troops in barracks contracting the disease. Dr. Havard believes that the fever at Quemados is under check.

Obituary.—Paul E. Klemm, Milwaukee, Wis., died June 12, aged 28.—Cornelius Van Reypen, father of Surgeon-General William K. Van Reypen, of the Navy, died at Jersey City, June 17, aged 87.—Burke Pillsbury, Middletown, N. Y., June 17.—Eldridge K. Leonard, of Rockville, Conn., and Melanchthon Storrs, of Hartford, Conn., died of septicemia contracted at operation, the former June 9, the latter June 13. Leonard, who was formerly town clerk and treasurer of Windsor, Conn., was aged 69 years; Storrs was aged 65 years.—Edward Maris, a prominent member of the Society of Friends, and a well known numismatist, a graduate of the Jefferson Medical College, class of '56, died in Philadelphia, June 14, aged 68 years.—Joseph D. Osborne, Newark, N. J., June 2, aged 67 years.

The Association of American Medical Colleges had a very interesting and profitable meeting at Atlantic City, June 4–5. Fifty six colleges were represented. Such amendments as would exclude "Sundown" medical colleges were adopted to take effect in July, 1901. Dr. Albert R. Baker, of Cleveland, was elected president; Thomas H. Hawkins, of Denver, first vice-president; W. H. Earles, of Milwaukee, second vice-president; Dr. Parks Ritchie, Dr. W. W. Keen, and Dr. J. M. Dodson were added to the judicial council. Cooper Medical College of San Francisco, the Medical Department of the University of Kansas, and the American Medical Missionary College of Chicago were elected to membership. A committee was appointed at the request of the Federation of State Examining Boards to cooperate with a similar committee appointed by them, to consider common interests. This committee consisted of Dr. W. J. Holland, Dr. Dudley S. Reynolds, Dr. W. H. Quine, Dr. W. J. Means, and Dr. Parks Ritchie. The papers and proceedings of the Association are published in the Bulletin of the American Academy of Medicine.

Changes in the Medical Corps of the U. S. Army for the week ended June 16, 1900:

Hartung, Henry, hospital steward, is relieved from detached service in San Francisco, Cal., to take effect May 31, and will then proceed to the U. S. general hospital, Presidio, for duty.

Day, James, L., acting assistant surgeon, now at the U. S. general hospital, Presidio, will proceed to Vancouver Barracks for temporary duty.

Enders, Wm. J., acting assistant surgeon, now at the U. S. general hospital, Presidio, is assigned to duty in charge of the detachment of the hospital corps on the transport "Sherman" during the voyage of that vessel to the Philippine Islands to sail about June 1. On arrival in Manila, Acting Assistant Surgeon Enders will report to the commanding general division of the Philippines, for assignment to duty.

USHER, First Lieutenant F. M. C., assistant surgeon, will, in addition to his present duties with the garrison at Matanzas, act as sanitary inspector for that portion of Matanzas, Cuba, known as Versalles.

MACEY, FRED S., acting assistant surgeon, is assigned to and will report for temporary duty with troops on the U. S. transport "Sherman," to sail for the Philippine Islands about June 1. Upon arrival in Manila, acting assistant surgeon Macey will report to the commanding general, division of the Philippines, for assignment to duty.

PURSELL, FRANCIS J , acting assistant surgeon, is assigned to duty at the U. S. general hospital, Presidio.

ANDERSON, JOHN B., hospital steward, having relinquished the unexpired portion of his furlough, will proceed to the Presidio and report at the U. S. general hospital for duty to relieve Hospital Steward James H. Boyle.

BOYLE, JAMES H., hospital steward, will remain on temporary duty at the U. S general hospital, awaiting transportation to the Philippine Islands.

MCCLEAVE, THOMAS C., acting assistant surgeon, now on board of the U. S. transport "Meade," will proceed to the quarantine station, Angel Island, Cal., and there take charge of smallpox cases from that transport, now at the quarantine station.

FISCHER, C. H., acting assistant surgeon, will accompany troop L. First Cavalry, from Camp Wm. H. Osborne, Idaho, to Fort Logan, where he will report to the commanding general, department of Colorado, for orders.

CALDWELL, ROBERT E., acting assistant surgeon, will, on account of sickness, proceed to the Presidio and report at the U. S. general hospital, for treatment at that hospital.

BRUHL, CHARLES E., acting assistant surgeon, will proceed from Waco, Tex., to Tampa, Fla., and report by telegraph to the Adjutant General of the Army for further orders.

BRUHL, CHARLES E., acting assistant surgeon, upon the completion of the duty assigned him at Tampa, Fla., will proceed to Havana, Cuba, and report to the commanding general, division of Cuba. for assignment to duty.

COOKE, ROBERT P., acting assistant surgeon, upon the completion of the duty assigned him at Tampa, Fla., will proceed to Havana, Cuba. and report to the commanding general, division of Cuba, for assignment to duty.

DUCKER, Major ORLANDO, surgeon, is granted leave of absence for two months.

STONE, First Lieutenant HAMILTON J., assistant surgeon, will proceed without delay from Matanzas to Santa Clara, Cuba, for temporary duty at that post.

WATERHOUSE, First Lieutenant SAMUEL M., assistant surgeon, is granted leave of absence for 14 days.

ALLEN, FREEMAN, acting assistant surgeon, will report to the commanding general department of Havana and Pinar del Rio, for duty.

BAKER, FRANK C., acting assistant surgeon, will report to the commanding officer, Santa Mesa Hospital, for duty, relieving Acting Assistant Surgeon Clarence A. Warwick.

WARWICK, CLARENCE A., who, upon being thus relieved, will proceed to Solano, Province of Nueva Viscaya, Luzon, reporting upon arrival to the commanding officer of the troops for duty.

The following-named medical officers and acting assistant surgeons, U. S. Army, will report for duty to the commanding officers of the stations below indicated and by letter to the commanding generals of the departments in which the stations are located:

Department of Northern Luzon: First Lieutenant DOUGLAS F. DUVAL, assistant surgeon, U. S. Army, to San Isidro, province of Nueva Ecija, as surgeon in charge of the district hospital in that city; Acting Assistant Surgeons SAMUEL A. SPRINGWATER, to Aguilar, and HORATIO P. BELT, to Urdaneta, province of Pangasinan; LEONARD P. BELL, to Santa Maria, province of Bulacan; GEORGE L MARION, to Angeles, for assignment with Burr's scouts, and CASPAR R. BYARS, to Magalang, province of Pampunga; JOSIAH M. WARD, to Cararglan, province of Nueva Ecija, Luzon.

Department of Southern Luzon: Acting Assistant Surgeons ROBERT M. THORNBURGH, to Nueva Caceres, province of South Camarines, Luzon, and EDWIN M. TROOK, to commanding general, department of Southern Luzon, for assignment.

Department of the Visayas: Acting Assistant Surgeons JOSEPH A. COLLIE and JOHN L NORRIS, to Iloilo, Panay, for assignment; BOWER E. HIMES, to Tacloban, Leyte, for assignment at Dagami; CHESTER L. HODGKINS, to Cebu, Cebu, for assignment; LUTHER P. HOWELL and CONN R. OHLIGER, to Bacolod, Negros, for assignment; JOHN N. MERRICK, to Dumaguete, Negros, relieving Acting Assistant Surgeon JACOB H. MITNICK, who, upon being thus relieved, will proceed to this city, reporting upon arrival to the chief surgeon of the division for instructions.

Department of Mindanao and Jolo: Acting Assistant Surgeons HENRY MORELL, to Cottabatô, and HENRY M. STROMBERGER, to Iligan, Mindanao.

BEAL, HOWARD W., acting assistant surgeon, will proceed to Alaminos and Santa Cruz, province of Zambalas, Luzon, reporting upon arrival to the commanding officer at those stations.

ENGLISH, RICHARD M., acting assistant surgeon, will proceed to Aliminos and Santa Cruz, province of Zambales, Luzon, reporting upon arrival to the commanding officer at these stations.

ROCKHILL, EDWARD P., acting assistant surgeon, will proceed to Iloilo, Panay, reporting upon arrival to the commanding general, department of the Visayas, for duty.

REILLY, JOHN J., acting assistant surgeon, will proceed to Iloilo, Panay, reporting upon arrival to the commanding general, department of the Visayas, for duty.

FRASER, SIMON J., acting assistant surgeon, is relieved from duty at Santa Mesa Hospital, and will proceed to Bacoor, province of Cavite, Luzon, reporting upon arrival to the commanding officer at that station for duty.

BARTLETT, COMAS J., acting assistant surgeon, now at the First Reserve Hospital, will report to the chief surgeon of the division for duty as attending surgeon for enlisted men sick in quarters in Manila.

POND, ARLINGTON, acting assistant surgeon, U. S. Army, is relieved from duty as attending surgeon for enlisted men sick in quarters in Manila.

HESS, First Lieutenant LOUIS T., assistant surgeon, U. S. Army, is relieved from duty with the Twenty-first Infantry, and will report to the provost-marshal-general for duty with military prisoners as regimental surgeon Sixth U. S. Artilery.

PINKHAM, First Lieutenant EDWARD W., assistant surgeon, U. S. Army, is relieved from duty with the Sixth U. S. Artillery, will proceed. to Iliolo, Panay, reporting to the commanding officer of the Brigade Hospital in that city for duty as operating surgeon.

PHELAN, HENRY DU R., acting assistant surgeon, U. S. Army, is relieved from duty at Iliolo, Panay, will proceed to this city, reporting upon arrival to the commanding officer, First Reserve Hospital, for admission thereto for treatment.

BRATTON, THOMAS S., assistant surgeon, U. S. Army, is relieved from duty at Sogod, Cebu, who, upon being relieved, will proceed to this city, reporting, upon arrival, to the commanding officer, First Reserve Hospital, for assignment to duty.

BOWEN, EDWARD N., acting assistant surgeon, on duty at Quingua, province of Bulacan, Luzon, is authorized to appear before the examining board constituted by par. 12, S. O. 15, c. s., H. Q. A., for examination for appointment as assistant surgeon U. S. Army.

GEDDINGS, EDWARD F., acting assistant surgeon, is relieved from further duty at Fort Wood, N. Y., and will proceed by the first available transport to Santiago, Cuba, and report to the commanding officer, department of Santiago and Puerto Principe, for duty.

KEEFER, Major FRANK R., surgeon, U. S. Volunteers (captain and assistant surgeon U. S. Army), having tendered his resignation, is honorably discharged from the volunteer service of the United States, to take effect June 15.

POEY, EDUARDO C., acting assistant surgeon, is relieved from temporary duty at Fort Riley, Kan., and will report to the commanding officer of the detachment of the Sixth U. S. Cavalry, at the post destined for service in the Philippine Islands for duty with that command en route to Manila, and on arrival there will report to the commanding general, division of the Philippines, for duty.

DUCKER, Major ORLANDO, surgeon, U. S. Volunteers, is relieved from further duty in the division of Cuba, to take effect upon the expiration of his present leave, and will then proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty.

A board of officers to consist of Major JAMES C. MERRILL, Major EDWARD C. CARTER, and Captain EDWARD L. MUNSON, assistant surgeons, U. S. Army, is appointed to meet in this city to examine Second Lieutenant Thomas F. Peck, Thirty-seventh Infantry, U. S. Volunteers, as to his present physical condition and fitness to perform the duties of his rank.

Changes in the Medical Corps of the U. S. Navy,

for the week ending, June 16, 1900:

BERRYHILL, T. A., surgeon, ordered to the Naval Laboratory and Department of Instruction. Brooklyn, N. Y., June 14.

COOK, F. C., passed acting assistant surgeon, ordered to temporary duty at the Naval Hospital, Norfolk, Va.

HARMON, G. E. H., medical inspector, detached from the "Oregon" upon reporting of relief, and ordered to the Naval Hospital, Yokohama, Japan, as relief of Surgeon F. Anderson.

ANDERSON, F., surgeon, detached from the Naval Hospital, detached from the Naval Hospital, Yokohama, Japan, upon reporting of his relief and ordered home to wait orders.

LEACH, P., surgeon, detached from the "Yosemite," upon reporting of relief and ordered to the "Oregon" as the relief of G. E. H. Harmon, medical inspector.

HESLER, F. A., surgeon, detached from the Naval Hospital, Chelsea, Mass., upon reporting of relief and ordered to the "Yosemite," as relief of P. LEACH, surgeon, sailing from San Francisco, via "Doric," June 30.

BROWNELL, C. D., passed assistant surgeon, detached from the Naval Training Station, Newport, R. I., upon reporting of his relief and ordered to the Naval Hospital, Chelsea, Mass., as the relief of F A. Hesler, surgeon.

DELANCY, C H., assistant surgeon, detached from the Naval Hospital, Washington, D. C., and ordered to the Naval Training Station, Newport. R. I.

LEYS, J. F.. passed assistant surgeon, ordered to temporary duty on the "Franklin."

PICKRELL, G. M , surgeon, detached from the Naval Station, Cavite, P. I , and to Naval Hospital, Yokohama, Japan.

SCOTT, HORACE B., passed assistant surgeon, retired, died, May 29, 1900.

APPOINTMENT.

FISKE, CHARLES N., is to be an assistant surgeon from May 15, 1900.

Foreign News and Notes.

GREAT BRITAIN.

The Lord Mayor of London has announced his intention of giving a conversazione in honor of the **centenary celebration** of the Royal College of Surgeons of England in July.

Pay of Civilian Surgeons.—The Secretary of War, of Great Britain, has approved of pay at the rate of £1 per day for civilian medical practitioners in temporary military employ, who are not receiving either fixed or capitation rates of pay from army funds.

The Council of the British Gynecological Society has expressed a willingness to cooperate with the Oostetrical Society in inviting and entertaining the next International Congress in London, in 1902. Prof. Alexander Russell Simpson, of Edinburgh, has consented to serve if nominated for president of the Congress.

Exuberant loyalty has brought a group of medical and other students at the Marischal College, Aberdeen, into trouble. They considered that a certain Herr Hein, a German lecturer, sympathized unduly with the Boers in the South African War and also showed a want of respect for the Queen of England. They consequently manifested their indignation in a riotous manner, so that the Senatus, or governing body, was compelled to take notice of their conduct and to fine them heavily. It is almost needless to add that the fines were paid by the body of the students and not by the individual offenders.

There are 13 candidates for 4 vacant seats upon the Council, or governing body of the Royal College of Surgeons in England. When the Fellows of the College, or many of them, were pledged to help the members to get a voice in the management of the college, these elections used to create some excitement, as the choice of a reformer brought the chances of fair treatment for the members nearer. But lately, and chiefly through the injudicious behavior of some of the advocates of reform, the question has ceased to interest the members acutely. It seems a pity that apathy should have fallen upon them, as it is probable that continued struggle would have secured their object.

Mr. T. Myles was elected president of the **Royal College of Surgeons** in Ireland without opposition on June 4, and Mr. L. H. Ormsley was elected vice-president. Some excitement was attached to the election because Dr. Henry Fitzgibbon, who was himself president 10 or 11 years ago, circularized the college against Mr. Myles, whom he asserted to be for political reasons an unfit person to occupy the presidential chair. Mr. Myles replied by an action for libel, when Dr. Fitzgibbon, finding himself to have been completely in error as to the fact, made an unreserved apology. Mr. Myles, the new president, is surgeon to the Richmond Hospital, Dublin, and Medical Referee for the Treasury.

At the annual meeting of the British Balneological and Climatological Society, held on May 30, a conversazione was given, at which SIR JOSEPH FAYRER delivered an interesting address on the **Hill stations of India as health resorts.** Sir Joseph Fayrer, whose autobiography has just appeared, is the best known authority on the climate, physical peculiarities, public health, and natural history of India, where he spent a large portion of his distinguished career. He is a baronet, a surgeon-general in the army, a K.C.S.I., an F.R.S., and twenty lines of this paper would be occupied in enumerating his various scientific and medical degrees won academically or bestowed *honoris causa* by different nations. His public record, however, shows that he has received no more than his deserts.

The financial position of the General Medical Council has been shown by the last session to be precarious, and Mr. Victor Horsley was perfectly justified by the figures of the report in moving for the appointment of a special finance committee. It would seem that during the last seven years the average annual expenditure of the Council has exceeded its average annual income by upwards of £1,000, while the rapidly-increasing expenditure of the last three years of this septennia period does not betoken any likelihood of better things in the near future. The same septennial period shows no increase in income worth mentioning. A factor in making the General Medical Council so poor is the bankruptcy of the Irish Branch Council. The Act allows the several Branch Councils of England, Scotland, and Ireland to keep their own separate accounts, but if one branch fails to make ends meet, the others must supply the deficiency. The Irish branch does not receive in registration fees an amount adequate to meet the expenses, and has totally exhausted its reserve fund. It is difficult to guess what reforms a special finance committee will suggest that will not be entirely inimical to the feelings of medical men. One of the chief expenses just now of the General Medical Council is the periodic inspection of the examination held by the various qualifying bodies, but certainly this is one of the most useful tasks that they have ever undertaken. By these inspections it is made absolutely certain that no medical man can get upon the official medical roll of Great Britain, numerous as the roads to the profession are, without having satisfied tests of reasonable severity; and the medical profession must feel that to discontinue the scrutiny of the examining bodies would be to play into the hands of any unworthy corporation that might desire to grow fat on fees earned by passing students without stringency. To economize by ceasing to guard against bogus qualifying bodies would be disastrous. Another obvious economy would be to spend less money with lawyers, but the feeling of the medical profession is that the General Medical Council is not a sufficiently fighting body. If they were to do less in upholding the interest and dignity of the profession than they now do they would certainly lose what measure of the confidence of the profession they at present enjoy. Mr. Horsley is a very clever man, and it will be interesting to see, if the special finance committee is appointed, what pecuniary reforms he will advocate. One thing might be done, a large sum might be charged for the British Pharmacopeia, the copyright of which belongs to the Council; but the price is quite high enough and to raise it might endanger the sales and damage the Council's chief assets. There is always the payment by members of the profession of an annual sum for registration, as a possible source of income for the Council, but this would not be a popular reform unless the registered men knew that in return they would obtain a greatly increased protection of their interests.

CONTINENTAL EUROPE.

The St. Petersburg Medical Military Academy has established a new clinic for alcoholic patients, for which the Russian Ministry of Finance has granted the sum of 44,000 roubles.

Obituary.—JAMES GROSVENOR MACKINLAY, Edinburgh, May 24, aged 56.—MAJOR THOMAS ALFRED PERRY MARSH, of the Royal Army Medical Corps, at Deelfontein Hospital, May 22, aged 44.—A. J. ADAIR, of Londonderry, last month on board the transport Aurania.—ROBERT IRVINE, of Londonderry, at Ladysmith, May 26.—CLAUDE CLARK CLAREMONT, of Bognor, May 27, 1900.—PROF JOHANN H. HOFMOKL, of Vienna, recently, aged 60.—FRANK J. MATHEWS, of Cavan, Ireland, recently, aged 29.—DANIEL AINLEY, recently, at Bornemouth, aged 65.—RICHARD PARKER JEFFREYS, of Chesterfield, England, recently, at Brighton, aged 59.

The Will of the Late Baron Adolphe de Rothschild.—According to the *New York Times*, he left $100,000 to the Perfect of the Seine for the poverty stricken inhabitants of Paris; $30,000 to the Society for the Protection of Animals, to be used in preventing broken-down horses being overladen; $70,000 to the Charity Bureau of Paris, and $80,000 to found a grand hospital for eye diseases, similar to that which the Baron founded at Geneva, but on a larger scale; $10,000 to the Rothschild Hospital of Paris, and $2,000 to the Rothschild Hospital at Nice; $20,000 goes to the old couples in the Asylum of Les Petits Menages, and $500 a year to the Hospital of the Rue St. Jacques. Very little is left to exclusively Jewish charities. The public bequests include $12,000 a year to the Commune of Bologne-sur Seine to keep up as a public park the Rothschild farm, should the Rothschild family ever give it up. The other legacies in money amount to $4,000,000.

Society Report.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Naples, Italy, April 25–29, 1900.

[Specially reported for the PHILADELPHIA MEDICAL JOURNAL.]

THE Congress on Tuberculosis held at Naples, April 25–29, brought together the old and new schools of pathology in a discussion of a disease that also binds the histories of the old and new schools of medicine. Prof. Virchow, the oldest and perhaps the most distinguished of the many eminent representatives of pathologic and medical science, attended in person, and on more than one occasion took active part in the proceedings. With Prof. de Giovanni (Padua), and Prof. Bacelli (Rome), he represented the pioneer school in the pathology of tuberculosis, and formed a figurehead for a movement that promises to assume large proportions. On the two days prior to the opening of the Congress delegates arrived from all the European, and some of the Asiatic nations,—and of the important national powers of today only England failed of representation. At the opening session upward of 1,000 official and voluntary delegates were in attendance. This number included many of the most noted pathologists and clinicians, among whom, besides those already mentioned, were Professors Senator, Löffler, Fränkel, Pfeiffer, Gerhardt, Ewald, Rubner, and Posner, from Germany; Professors Lannelongue, Landouzy, Courmont, Pennieres, Collet, and Russet, from France; Professors Blumenthal and Dubelir, from Russia, and many others from the smaller countries. Italy was represented by her foremost medical men, her delegation being headed by the Minister of Education and chief of the first clinic in Rome, Professor Guido Bacelli. On the morning of April 25 the Congress was formally opened in the San Carlo Theater by Minister Bacelli in the presence of the King and Queen of Italy and the royal court. The representatives of the various nations responded briefly, in turn for their various nations, in a message of salutation to the king and queen, and before an enormous audience of 12,000 people. Orations were delivered by Minister Bacelli for the government of Italy, and by the Burgomeister of Naples for the municipality, welcoming the delegates from foreign countries. Following the exercises in the theater the representatives of the various governments were informally received by the king and queen, both of whom embraced the opportunity of showing a graceful interest in each nation, and in most cases addressing the delegate in his mother tongue.

The Congress opened its first formal session on the afternoon of April 25, and from that time until the evening of April 29, held constant session in the Palazzo Madalonni, Naples. All transactions were in Italian, the official language of the Conference. This proved an impediment not only to the English-speaking participants, but equally to the German, and many of the French delegates, and limited the discussion of papers almost entirely to the Italian members. Occasionally a German or a Frenchman would read or speak in Italian, whereupon a round of applause would greet him, demonstrating that the Italians themselves were glad to be safely within the bounds of their own tongue. In most cases, however, papers were read in the native tongue of the writer, and translated by those who were qualified for the task. The work reported, and the general feeling displayed in the Conference was one of hearty unanimity in the hope and purpose to form an international movement against tuberculosis, and the papers displayed a deep thought and an unfailing interest in the solution of a perplexing and dangerous problem.

The Congress was divided into four main sections, as follows: (1) Etiology and Prophylaxis; (2) Pathology and Diagnosis; (3) Therapy; and (4) Sanitation.

Sessions were held morning, afternoon, and evening throughout the greater part of four days (April 25, 26, 27, 28), and many papers were read that were of great interest and value: some as practical reports of the working methods of institutions (Heilstätten, etc.), others as descriptive of pathologic experiments in the line of diagnosis as well as of cure. In most instances the subjects were handled by prominent men who had made a special study of this important branch of medical work. Among others, the following points were emphasized and freely discussed during tbe course of the proceedings:

1.—Etiology and Prophylaxis.

President, Prof. de Giovanni (Padua).

Honorary Presidents, E. Dönitz (Berlin), C. Gerhardt (Berlin), Landouzy (Paris), Petruschky (Danzig), C. Posner (Berlin), A. Soto (Japan), Schrötter (Vienna), Senator (Berlin.)

The Effect of Climate Upon Tuberculosis.—Prof. Lannelongue (Paris) concluded in his excellent paper that the more limited outspread of tuberculosis in certain regions explains itself by the mode of living of the inhabitants, and usually by a less thickly populated nature of the place. To demonstrate the fact that the climate has less to do with the betterment of the patient's condition than the dietetic and physical supervision, he reported the result of an injection of tuberculous matter in the pleura of a large number of guinea-swine, which were then dispatched immediately to different sections of France. The same rules of living were strictly prescribed for all. In the first series, stretching over 11 months, 150 male animals were injected, and in three divisions, of 50 each, these were sent to different localities. One division of 50 was sent to the seacoast, another to the country near Valmont, while a third was retained in the laboratory in Paris. Those on the seacoast perished only less promptly than the 50 retained in the country, while the division in the laboratory survived decidedly the longest time. A second and similar experiment was instituted and resulted in the same manner, although with a less marked difference between the three groups. Lannelongue explained this difference by the constancy of temperature in the laboratory, as contrasted with the variations in the same at the seashore and the country. In the colder periods the number of deaths in the latter two localities increased itself extraordinarily.

Classification of Tuberculosis as an Infectious Disease.—Professor Dubelir (Moscow), suggested the advisability of transferring the disease from its classification among the diseases of the organs of respiration to the list of infectious diseases. This, he said, would be in behalf of statistical unity and in accordance with the present view of the nature of the disease.

Examination of Cattle—Sterilization of Milk.—Dr. Marcone (Naples), reemphasized the necessity of an official examination of all cattle by means of tuberculin, in order to exclude the transmission of the infection through milk foods. He had found 25% of the cattle in Naples to be tuberculous. Lemma, in the same connection, stated that he had nourished guinea-swine with milk, to which he had added tubercle-bacilli. He had then first boiled the milk at 100 C. for 25 minutes. Notwithstanding this process these animals all died with the lesions of tuberculosis; while control-animals, nourished with the same milk not infected with the bacilli, remained unaffected. He advised the prevention of the use of milk, even when boiled, originating from cattle that react to the tuberculin-test.

Prophylaxis in Railroads Against Tuberculosis.—Professor Sanarelli (Boulogne), closed the work of the section by proposing a number of rules of precaution for use in the railway systems. Among these, the following were of practical interest:

"Carriages in which persons known to be or suspected of being tuberculous, ride, should be subjected to the same requirements for disinfection that obtain in the case of other infectious diseases.

"In waiting-rooms, on stairways, and every railway carriage and compartment should be posted conspicuous signs, forbidding expectoration, except in the receptacles provided for the purpose.

"At all stations, and in all trains, cuspidors should be provided and filled with fluid. These vessels should be capable of easy cleansing and disinfection. Carriages and compartments for nonsmokers should be supplied.

"Linoleum should be used for covering the walls and floors of trains, as well as washable rubber substances for the seats and curtains.

"Steam-heating should be introduced."

2.—Pathology and Diagnosis.

President, Prof. E. Maragliano (Genoa).

Honorary Presidents, Professors Landouzy (Paris), Senator (Berlin), Lortet (Lyons), Feissier (Lyons), Van Bogaert (Antwerp).

Source of Hereditary Infection. — Prof. Arigo (Naples) claimed to have demonstrated experimentally the fact that tuberculosis, in the great majority of cases, occurs through an infection of the placenta. In tubercular animals he had found microscopically the bacilli in the placenta, and also in the fetal organs.

Thermogenic Action of the Tubercle-Bacilli.—Prof. Guiffre (Palermo) related the results of experiments in regard to the origin of the fever in phthisis. He found that the tubercle-bacillus is a thermogenic microorganism and that in one liter of a glycerin culture it develops at 37° C. approximately 0 3 ($\frac{3}{10}$) of one caloric of heat. Without disputing the coincident influence of the nervous system upon the heat-production he saw good ground for a rise in the temperature of the patient also in this biologic action of the bacillus.

Conditions of Use in Forming an Early Diagnosis.—Prof. Bozzalo (Torino) called attention to the following conditions often or usually present in tuberculosis that are of assistance in the formation of the earliest possible diagnosis :

1. Albuminuria alternating with phosphoturia.
2. A tuberculous pseudochlorosis distinguishing itself from the true condition through a slighter decrease in the hemoglobin as well as through the less marked alterations in the circulatory system.
3. Disturbances of digestion, anorexia, nausea, vomiting, gastralgia.
4. Tachycardia, without fever.
5. Alteration in the blood-pressure (diminution).
6. Rise of temperature following bodily and psychic effort; in women a rise of $\frac{3}{10}$ to $\frac{4}{10}$° before the appearance of the menses.
7. Sweating; not only the night-sweats, but such as occur after bodily or psychic exertions.
8. Pain in the neck and supraorbital regions, etc.
9. Dissimilarity of the pupils, occasionally a dilation of both pupils.
10. Appearance of herpes zoster.
11. Splenic enlargement.

Influence of Concurrent Diseases Upon Tuberculosis.—Prof. Fazio (Naples) had investigated the influence of concurrent diseases upon phthisis. Only heart lesions (and especially mitral insufficiency) and emphysema pulmonum appeared actually to afford a protection against tuberculosis.

Specific Poison of Tuberculosis. — Prof. Boccardi (Naples) made the following report on the pathologic and anatomic findings following the injection with the specific tuberculosis poison :

1. The poisonous substance, isolated by Prof. de Giaxa, belongs to the class of true nucleins, according to chemical properties. Its reaction was tested by injections into the subcutaneous tissue, the pleural and abdominal cavities, the veins, and the trachea.
2. In relatively large doses injected intravenously the substance caused thrombi in the right heart and in the pulmonary artery and its branches. The animals experimented upon died promptly of asphyxia, and usually in a form complicated with bulbar paralysis, caused by thromboses of the vessels of the spinal cord.
3. In small doses the intravenous injection caused capillary thromboses, and, as a rule, in the liver; occasionally in the pulmonary vessels. Where infarcts were absent scattered areas of catarrhal pneumonia were noted. In the neighborhood of the infarcts were found in large numbers leukocytes and giant cells. In the liver were necrotic areas and fatty degeneration, as well as in the kidneys.
4. One could obtain the same changes through subcutaneous as by intraperitoneal injection. At the point of insertion there developed nodules with leukocytic infiltration, degenerating into a true cheesy necrosis. Frequently the latter became fibroid in character. The neighboring glands were swollen.
5. The smallest intratracheal injections produced areas of catarrhal pneumonia in great numbers. In the lung alveoli were giant cells and many wandering cells. Also were noted frequently peribrachial and perivascular nodules, histologically resembling the tubercle.
6. In view of these facts, Professor Boccardi concluded that the substance isolated by Professor de Giaxa is the active, and, perhaps, the specific poison of the tubercle-bacilli, since the animals treated with this poison invariably react specifically to tuberculin.

3 and 4.—Therapy and Sanitation.

President, Prof. de Renzi (Naples).

Honorary Presidents, Professors Ewald(Berlin), Fränkel(Berlin), Pecnièa (Egypt), Penieres (Toulouse), Virchow (Berlin), Ustvedt (Christiana), Baginsky (Berlin), Duke de Ratibor (Berlin), Papillan (Lille), Dr. Willson (America).

Prof. de Renzi, of Naples, from the chair referred to the **Maragliano-serum** as able in light cases to work an improvement, so that the patients no longer react to tuberculin,—a proof that they have required a remarkable resisting power to the specific tubercular poison. He states further that according to unanimous opinion the means of cure of tuberculosis are "pure air, overfeeding, rest and light." He closed his remarks with a description of the "light clinic" at Naples, which is arranged for the purpose of light-therapy. It is an eight-cornered room, 120 cm. in diameter, 140 cm. in height. The walls are clad with mirrors, and the ceiling as well. In addition are electric lights up to 1871 candle-power. Prof. de Renzi believes also that through the severe sweating created by this treatment, favorable results are obtained through an excessive elimination of toxins.

Prof. Ewald, of Berlin, reported 16% of cures among 25 cases by the employment of hetal injections. Formaldehyde inhalations and injections were also generally recommended as useful in isolated cases.

The Polyclinic for Tuberculosis.—Prof. Fränkel of Berlin, called especial atttention to the establishment of a system of polyclinics for the special diagnosis and treatment of tuberculosis in sections where the Heilstätten are either inaccessible, or do not exist. In Berlin and Rome such polyclinics have already been established, and in the former, since November, 1899 (6 months). More than 1700 patients have been examined, and a diagnosis rendered. Sputum is examined free of charge, and patients sent by physicians are returned to them with the findings experienced men stated on a printed form. Patients suspecting their own condition to be tuberculous are freely examined and instructed as to a proper course of action, in regard to prevention of the disease, or treatment when the infection is already present. Prof. Fränkel spoke of the polyclinic system as the right arm of the Heilstätten, and expects to see it extend over the whole of Germany.

The Heilstätten.—The general sentiment of the speakers was one of marked approval of the open-air treatment, with a judicious use of medicaments, most important among which are still creasote and potassium iodid. "The results of treatment in the Heilstätten are universally favorable in cases where the diagnosis is made early. A cure is often obtained; improvement is invariable."

Prof. Lannelongue expressed the gratification of all the participants in the Congress for the courteous treatment at the hands of the Italian Government; and Minister Bacelli then closed the conference with an expression of gratitude to the various governments for their sympathy and assistance in inaugurating a contest for the control of tuberculosis. A telegram of greeting was sent by the assembled body to Robert Koch.

In reviewing the work and results of the Congress at Naples it cannot be said that any striking advance was reported, either in our knowledge of the nature or pathology of the disease or in the form of a cure. What progress has been recorded has been in the line of prophylaxis, of a recognition of the necessity of an early and accurate diagnosis, and of grasping the fact that certain cases of tuberculosis can be permanently cured by placing them under proper hygienic surroundings. Still more striking were the reports of the efforts now under way in Europe to educate the masses into a knowledge and appreciation of the infectious nature of tuberculosis, and to promulgate laws compelling the report of cases when diagnosed. Isolation of such cases is rapidly becoming the demand, either for treatment where possible, or for simple exclusion from the world at large when only a source of danger to others. In short, the spirit of the Congress culminated in the statement of Minister Bacelli, that "infection

through the air and through food is to be considered of less significance than the constant danger existing for others in those already affected with tuberculosis. The cure of the disease is a problem of education that must be solved by government laws."

The Italian Government and those in charge of the Congress showed the foreign delegates many courtesies and attentions that added greatly to their pleasure and comfort. Excursions were arranged and special privileges accorded at the opera. On the closing night (April 28) an elaborate dinner was given by the King and Queen of Italy in their Palazzo de Reale to the special representatives of the various governments. Following the dinner the delegates were informally received by the royal pair and the members of the court. On Sunday a delightful excursion to Capri and Sorrento was made in the warship *Endano*, and on Monday following a breakfast was served to the Congress at Pompeii. America was represented at the Conference by Dr. Victor G. Heiser and Dr. Robert N. Willson. R. N. W.

Gunshot Wound of Pregnant Uterus and Fetus.—H. L Nietert (*Medical Review*, April 21, 1900) reports the case of a primipara, 19 years of age, brought to the hospital 2 hours after having been shot, a 32-caliber ball entering 2 inches above the anterior superior spinous process of the ilium. It went downward and forward and could be felt 2 inches above the pubic point near the center line of the body. Operation was performed, and it was found that the ball had entered the uterus anterior to the right broad ligament, and passed out through the anterior wall. There was copious hemorrhage into the uterus. The lateral wound of the womb was closed, and an incision made through the anterior wall, passing through the anterior wound. A 6½-months fetus was removed alive. All wounds were closed and drainage was established through the vagina. The child died a few hours after removal from a wound inflicted by the bullet in the left arm near the shoulder, and premature delivery. The mother recovered without infection. The intestines were uninjured. The patient first asserted that a burglar fired the shot, but later admitted that the wound was self-inflicted. [M.B.T.]

Cerebellar Tumor.—D. A. K. Steele (the *Chicago Medical Recorder*, January, 1900) reports the case of a boy, 13 years of age, who was not strong as a child. At 6 years of age, when started to school, he was very nervous, but appeared to get over this. When 11 years old he had what his mother called bilious attacks, vomiting up great quantities of bile, and at such times his skin would be jaundiced. These attacks came on at irregular intervals, sometimes months apart, and gradually increased in frequency. About 2 years before operation unsteadiness of gait was noticed; a year later it was much worse. His eyes were impaired, causing a book to be held to left side when reading. There were spots before the eyes, also dimness and double vision. Bile and blood appeared in the urine. He rallied for a few weeks and was able to walk about, but soon relapsed into the former state. Vomiting was projectile, no longer bile but mucus. Severe frontal headaches lasted sometimes for several days. Nutrition was fairly good. Ankle-clonus was present and coordination was greatly impaired. Total blindness came on and the pupils were dilated. Hearing was more acute on right than on left side. Touch was somewhat blunted. Specialists who examined the patient with a view to localizing a brain-tumor diagnosed a cerebellar tumor, but failed to agree as to location. Trephining was done over the right frontal lobe to relieve intracranial pressure, operation for removal of the tumor not being favored on account of the extreme weakness of the child. On opening the dura the brain bulged out. A needle passed downward and backward entered a cavity of the depth of an inch. Clear, normal cerebrospinal fluid escaped. The ventricles were greatly distended from an internal hydrocephalus. Some 8 or 10 ounces of fluid were drawn off, and the ventricles packed with iodoform gauze, the ends being left outside the wound for drainage. The boy did well for about 36 hours, when the temperature rose to 107° and he died. A necropsy revealed a tumor about 1½-inches in diameter in the left lobe of the cerebellum. A microscopic examination showed it to be a glioma. [M.B.T.]

The Latest Literature.

British Medical Journal.

June 2, 1900. [No. 2057.]

1. A Case of Cholecystotomy. JAMES SWAIN.
2. The Pathology of Acute Yellow Atrophy of the Liver. JOHN WAINMAN FINDLAY.
3. Chronic Brass Poisoning. WM. MURRAY.
4. The Treatment of Smallpox by Salol. JOHN BIERNACKI and NAPIER JONES.
5. The Radical Cure of Femoral Hernia. T. E. GORDON.
6. A Case of Enteric Fever of Three Months' Duration. WILLIAM MURRELL.
7. A Case of Bromoform Poisoning; Recovery. T. BROWN DARLING.
8. A Case of Rigid Os Uteri Treated with Cocain. E. F. CLOWES.
9. Resorcin in Rodent Ulcer and Operations for Cancer. JAMES E. BLOMFIELD.
10. Staffordshire General Infirmary.—Case of Jacksonian Epilepsy Treated by Operation. HERBERT MARSON.

1.—Swain reports a case of **distended gallbladder** occurring in a woman of 56. She appeared with symptoms which led to the diagnosis of "distended gallbladder, probably, but not necessarily, due to gallstones." Operation was performed by making an incision 3½ inches long in the direction of the long axis of the swelling. On opening the abdomen the fundus of the gallbladder presented, partly overlapped by a linguiform process of the liver. The bladder was aspirated, and seven ounces of an opalescent mucoid fluid were withdrawn. The obstruction in this case was probably due to adhesions dragging on the gallbladder, as no gallstones could be found. The gallbladder was stitched in the upper part of the abdomen-wound, and the rest of the wound closed by sutures. The patient was slightly icteric after the operation, but gradually regained her normal color. [G B.W.]

2.—Findlay reports the case of a child, aged 15 years, who was suffering from diarrhea, dropsy, vomiting, fever, and jaundice. The patient died from respiratory failure. At autopsy the liver was the principal organ presenting lesions of interest. It was much diminished in size and weighed only 24½ ounces, was firm in consistence, and cut with greater difficulty than normal. On section, the organ was found to be divided into a red and a yellow portion. The yellowish color was seen, principally, in the right lobe of the organ. Microscopically, the fibrous tissue was found to be markedly increased, both within and between the lobules. The **liver-cells were undergoing fatty degeneration;** numerous round cells and fibroblasts, and scattered small hemorrhagic areas were to be seen. In the periphery of the lobules distinct evidences of proliferation of the hepatic cells was noted, which the author considers to be an indication of regeneration of the hepatic tissue. He also believes that the formation of fibrous tissue is secondary to the fatty degeneration of the hepatic cells. Another evidence of the attempt at regeneration of the surviving liver-cells is shown by the presence of solid columns of hepatic cells in the interlobular connective tissue, where the resemblance to glandular tubes is very marked. No cultures were made, although microorganisms were found in the liver, spleen, and kidneys. [J.M S.]

3.—Murray has described a train of symptoms found in the class of people that work in brass. The symptoms may be divided into (1) early and (2) late. Anemia is one of the earliest symptoms and is more likely to be seen in young women and in boys than in adult males. The presence of a green line at the base of teeth will always be found, although it indicates that its possessor works in brass rather than that he is poisoned by it. Tachycardia, nausea, vomiting, thirst and colic are also among the early symptoms of the disorder. The later symptoms include progressive emaciation, loss of strength, muscular tremor, headache, neuralgic and myalgic pains, dyspepsia, gastralgia, profuse sweating, itching skin-eruptions, and respiratory phenomena. The sweat is of a greenish color and is capable of staining the underclothing. The main features in the diagnosis of **chronic brass-**

poisoning are, in the early stages, anemia accompanied by excessive debility and nervousness, with neuralgic pains, occurring in persons engaged in brass occupations, who show a green line at the base of the teeth. In the later stages, emaciation, tremors, cold sweatings, cough, extreme weakness and greenish pallor are the symptoms that point to the diagnosis. Whether the copper or the zinc in brass is the cause of the disease is unknown. Possibly the copper, because the author, after giving potassium iodid without effect, administered phosphorus in $\frac{1}{30}$ grain doses with excellent results. Phosphorus was used empirically, the idea being suggested by the fact that sulfate of copper is the antidote to phosphorus-poisoning. After a time the author gave dilute phosphoric acid in 15 minim doses, with better results even than were obtained by the use of pure phosphorus. As prophylactic measures, efficient ventilation of the workshop, personal cleanliness, the abolition of eating in the workroom, and the use of small doses of phosphoric acid, may be mentioned. [J M.S.]

4.—Biernacki and Jones report 8 cases of **smallpox** that were **treated by** the administration of **salol** in daily doses of 60 grains. The cases seem to indicate that it is possible to prevent general pustulation by the use of this drug. In one case the remedy seemed to possess a partial abortive influence after maturation had commenced. The influence of the remedy on maturation itself is not constant. The cutaneous inflammation is slight; irritation is usually absent even in confluent cases; the unpleasant odor is absent; scarring is inconsiderable; the scabs scale off with great rapidity, and the secondary fever, if not absent altogether, is of little importance. [J M S.]

5.—Gordon suggests in **operating for femoral hernia** to make an incision beginning 2 inches from the pubic spine and $\frac{3}{4}$ of an inch above Poupart's ligament, thence inwards as far as the hernia, descending vertically over the sac. The aponeurosis of the external oblique is exposed in the first part of the incision, and the sac of the hernia in the second. An opening is made above Poupart's ligament in the direction of the fibers of the aponeurosis. The sac is dislodged upwards; the fibers of the transversalis and internal oblique muscles are drawn down by catgut sutures and placed against the pectineus muscle. The muscles are also fixed to Poupart's ligament by sutures. The sac may be treated after the method of Kocher, or resected and the slit in the peritoneum closed by a continuous suture. [G.B W]

6.—Murrell reports the case of a young man, aged 28, who was suffering from an undoubted attack of **typhoid fever** and in whom the **temperature** remained **above normal** for **80 days.** It was not a question of relapse, of post-typhoid pyrexia, or of complication. [J.M S]

7.—Darling reports the case of a girl, aged 6 years, who took 1½ drams of pure **bromoform** because she liked the taste of it. Immediately after swallowing the drug the patient walked into the parlor as if she were intoxicated and then became suddenly unconscious. An emetic was given without result. There was no pulse at the wrist, the heart was beating very irregularly about 120 per minute, the respirations were very shallow and about 8 per minute, the breath smelled of bromoform, the face and lips were livid, both pupils were pin-point and did not react to light, and there was no conjunctival reflex. Lavage with sodium bicarbonate solution, then Condy's fluid, followed by strong coffee and sal volatile both by tube and per rectum were the efficient means of treatment. [J M S]

8.—Clowes used **cocain to overcome the rigidity of the os** in a multipara, aged 37, pregnant with the eighth child. All her previous confinements had been lingering and, in the present case, had continued for 2 days under the care of a midwife before the physician was summoned. The os uteri was then dilated to the size of a half crown, the walls were thin and tense. Cocain was applied on a piece of cotton wool, and, after two pains, the os was found to be fully dilated and soft. The head, however, did not advance and was found to be firmly gripped by the lower part of the body of the uterus. Forceps were applied, without anesthetic, and steady traction for a minute or two overcame the resistance of the band and the child was quickly delivered. He has since used cocain in a number of cases of slowly dilating or rigid os, and so far most successfully [D R]

9.—Blomfield recommends the **use of resorcin** in rodent ulcers, and also as an application to raw surfaces left after the removal of epithelioma. He reports a case of epithelioma which was treated in this manner with success. [G.B W.]

10.—Marson reports a case of a boy aged 10 years, suffering from partial paralysis of the left arm and leg, and frequent **epileptiform attacks.** The condition developed subsequent to an injury to the head 8 years before. Examination showed slight depression of the right side of the skull, somewhat in front of the motor area for the lower limb and on trephining a cyst about the size of an olive was found adherent to the cranium. Four months after the operation the paralysis had disappeared and he was much better. [G.B.W.]

Lancet.

June 2, 1900. [No. 4005.]

1. The Use of Massage in Recent Fractures and Other Common Injuries. William H. Bennett.
2. Primary Syphilitic Chancres. Jonathan Hutchinson.
3. Preventive Inoculation against Typhoid Fever. Alex. G. R Foulerton.
4. A Contribution to the Statistics of Rheumatic Fever and its Complications. William Cecil Bosanquet.
5. Operations for Cancer in the Aged. E. Harding Freeland.
6. A Case of Two Aneurysms of the Transverse Arch of the Aorta. Gilbert J. Arnold.
7. Intestinal Obstruction due to Persistent Meckel's Diverticulum; Successful Laparotomy. F Fawssett.
8. Note on the Passage of a Calculus of Exceptional Size through the Right Ureter and the Urethra of a Man about 50 Years of Age. J. A. Cunningham.
9. Removal of a Foreign Body from the Ear. James G. Macaskie.
10. Three Cases of Intestinal Suture. Mrs. Stanley Boyd.

1.—Bennett believes that the results obtained by **treating fractures by massage** are far superior to those obtainable in any other way, whenever the circumstances of the practitioner and patient permit its adoption. The first object to be obtained is to relieve the pain which is due to spasm, by smooth gentle movements over the swollen parts, which soothes the irritable muscles so completely that movements of the most complete kind are readily carried out without exciting muscular contraction of a harmful kind. The great advantages of the treatment are: the ease with which the patient can be made comfortable by arresting the muscular spasm and so relieving the pain; the effecting of rapid absorption of effused blood, etc.; the prevention of the stiffness by obviating the formation of adhesions; the prevention of muscle-wasting and the preservation throughout the case of the normal nutrition of the limb; and the shortening of the time by at least half during which the patient is prevented from resuming the ordinary use of the limb. In Bennett's opinion the only real objections to the plan are: the difficulty which must often arise in carrying it out, as unless a competent masseur or masseuse is available the time required must be more than the ordinary practitioner can spare; and the fact that it is a treatment requiring so much intelligence and discretion in the mode of its application that it may be difficult at all times to find a person to whom it may be entrusted with safety when the practitioner is not prepared to manage the details himself. [M.B.T.]

2.—Hutchinson lays stress upon the fact that the induration of **infecting sores in primary syphilis** may be only slight and not infrequently absent, and states that there is no doubt whatever that occasionally a man gets syphilis from what has appeared from first to last to be a soft sore. He thinks that the term "bullèty" more nearly characterizes the bubo of syphilis than the term "shotty." He believes that after circumcision the danger of syphilitic infection is very much diminished. Twenty-seven per cent. of primary sores are seen on the external surface of the penis, between the pubes and the margin of the prepuce. In this situation it is more rare to see foul ulcers with septic discharges than beneath the foreskin, where decomposing smegma and microorganisms are more abundant. As a result of the analysis of 125 cases of genital chancre in men it was found that 60% occurred on the inner surface of the prepuce and at

the furrow; 27% on the outer surface of the organ; 8% on the glans, and 4% at the meatus and the adjoining part of the urethra. In 20% of these cases the primary infecting sore was multiple, and they are exceptionally multiple as the result of autoinoculation. If carefully looked for, indurated lymphatic cords may be found in from 40 to 50% of the cases of primary syphilis. These lesions are found, however, in other diseases. Extragenital chancres are often found; they may be situated on the fingers, the lips, the eyelids, the chin, the thigh, the heel, and the scalp. [J.M.S]

3.—Foulerton contributes an article on **preventive inoculation against typhoid fever.** The prophylactic serum was produced according to the method of Professor Wright. The symptoms following the inoculation occur soon and have usually disappeared in about 18 hours. The local reaction is marked, but aseptic. The immediate effect of the serum on the temperature is to produce a fall below the normal; this is followed by a rise that reaches its maximum in about 12 hours; it again falls rapidly below normal. The length of time that protection is afforded is not known. Those who will be most benefited by the preventive inoculation are nurses and soldiers. [J.M.S.]

4.—In 8 years 450 cases of **rheumatic fever** were admitted to Charing Cross Hospital; 237 of the patients were males and 213 were females. The greater number of cases occur between the ages of 10 and 30 years. A history of rheumatism in the family was obtained in 22% of the cases; 31% of the cases occurred in domestic servants. There was no special liability to rheumatism in those exposed to vicissitudes of the weather. The prevalence of anemia between the ages of 10 and 30 years is suggested as a possible cause of the frequence of the disease during that period. May and November seem to be the months of maximum incidence. The first symptom in the majority of cases was pain in one or more joints. In about 5% of cases sore throat was the first symptom, vomiting in 3% and shivering or rigor in 3%. Headache was a prominent symptom in 5% of cases. A mode of onset, which was not common, however, was by acute pneumonia. The temperature fell, as a rule, in 2 or 3 days after admission to the hospital; but, on the other hand, patients often presented histories of long duration of pain before applying for treatment. Such cases are, however, probably instances of many relapses. One patient was ill 7 weeks and in 2 the disease became chronic. Out of 403 cases in which records were made the knee-joint was affected in 69%; the ankle-joint in 47%, and the shoulder in 26%. Endocarditis is the most frequent complication, if it is not, indeed, a distinct feature of the disease. Pericarditis, common pneumonia, has been noted in 14 instances; and hyperpyrexia, chorea, delirium, neuralgia, abdominal pain and diarrhea, nephritis, purpura, hematuria, epistaxis, phlebitis, thrombosis, erythema nodosum, erythema multiforme and subcutaneous nodules are noted as complicating the disease. No deaths occurred from an uncomplicated attack of rheumatic fever. Rest in bed, fluid diet, and sodium salicylate constituted the routine treatment. Alkalies had little effect. Potassium iodid was occasionally serviceable when aided by blistering the joints in chronic cases. [J.M.S]

5.—A woman of 82, who had been losing flesh for some time, noticed a painful **tumor of the left breast** about 2 months previously; the tumor was of the size of a small egg, of stony consistency, and was located below and externally to the nipple, with the skin freely movable over it. An enlarged gland was found in the axilla. The breast underlying the fascia and axillary glands together with the whole axillary tissue was removed, the patient recovered from the operation and gained in flesh and general health but died 19 months after the operation from heart-failure without any signs of recurrence. [M.B.T.]

6.—Arnold reports the case of a man, aged 40 years, who complained of dyspnea and hoarseness. Laryngoscopic examination showed abductor paralysis of the left vocal cord. There was a history of syphilis 16 years before and the diagnosis of **aortic aneurysm** was made. The physical examination gave negative results, however. Twenty-four days after the first examination the patient complained of hemoptysis, which lasted about two hours, and the following day he died of sudden profuse hemorrhage from the mouth. At autopsy a sacculated aneurysm of the transverse portion of the arch of the aorta was found between the innominate and left subclavian arteries, which was nearly filled by firm buff-clot. There was a second sacculated aneurysm arising from the posterior surface of the transverse portion of the arch of the aorta and lying in contact with the trachea and the esophagus. The second sac had ruptured into the trachea. [J.M.S.]

7.—A girl of 11 was suffering from symptoms of acute intestinal obstruction. On opening the abdomen several coils of **small intestine** were found closely **constricted by a Meckel's diverticulum.** After protecting the wound and the bowels with towels the diverticulum was cut and the intestinal gas was allowed to escape; it was then ligated and the opening in the intestine was closed with Lembert sutures. [M.B.T.]

8.—Cunningham reports the case of a man who passed a **renal calculus** composed of calcium oxalate, coated with urates and phosphates. The stone weighed 7 grains when dry. It took 11 days for the calculus to pass from the kidney to the bladder; the passage being attended by paroxysmal pain of from 5 to 20 hours' duration. The calculus was passed from the bladder with the urine 7 days after reaching that organ. [J.M.S.]

10.—Three operations are reported: The first, **ileocolostomy,** for intestinal obstruction from malignant growth involving the iliac glands and cecum, occurring in a woman of 27; the patient died about 8 months later from increasing weakness without recurrence of obstruction. In the second case **resection of the small intestine** was performed for gangrene from obstruction by a band. The patient was a woman of 23; excellent recovery followed. In the third case **gastroenterostomy** was performed for malignant disease of the stomach and pancreas affecting a woman of 37; a good recovery followed and the patient gained in weight and strength. [M B.T.]

New York Medical Journal.

June 16, 1900. [Vol. lxxi, No. 24.]

1. A Contribution to the Technic of Modern Uranoplasty. JAMES F. MCKERNON.
2. Perimetric Diagnosis. J. W. SHERER.
3. Typhoid Infection of the Uterus. AUGUSTUS JEROME LARTIGAU.
4. Hernia Abdominalis. H. A. DUEMLING.
5. A Case of Tetanus treated with Antitetanic Serum. JAMES FREDERICK CLARKE.
6. Juvenile Hysteria and Neurasthenia. CHARLES L. DE MERRITT.

1.—McKernon in performing plastic **operations for congenital cleft palate** does a preliminary tracheotomy, administering the anesthetic through the tracheotomy tube and, after repairing the palate, dresses it as in other wounds by packing gauze over it. The tracheotomy tube is left in place 8 or 10 days and the patient is fed by the rectum. During preparations for operation sterilized gauze is placed so as to shut off the larynx and esophagus, preventing foreign substances from getting into the trachea. The region of operation can then be thoroughly cleansed with boracic acid solution and the operation performed without further difficulty. The packing should be removed each day because of the increased salivary secretion resulting from mechanical irritation of the dressing. The sutures are left in place about 8 days, and the tracheotomy tube is retained until the patient is able to take food by the mouth, usually by the tenth or twelfth day. [M B.T.]

2.—Sherer's paper on **perimetric diagnosis** is a technical essay on the use of the perimeter in the diagnosis of diseases of the retina. [J.M.S.]

3.—Lartigau discusses **typhoid infection of the uterus,** calling attention to the possibilities of the typhoid bacillus exercising its pyogenic attributes in the uterine cavity. He records a case of much interest. The patient, a woman aged 32, was admitted to the hospital on April 29, 1895. For some time previous she had been under observation in the outdoor department. She was taken sick on April 20, and labor set in April 26; the delivery was normal, and the child was born alive and healthy. The day preceding entrance into the hospital there were somnolence and delirium. On admission the temperature was 39° C., the abdomen was distended, and some ileocecal gurgling was

noted. The spleen was not palpable, and the liver apparently not enlarged; there was some diarrhea. An examination of the urine showed the presence of some albumin and the diazo-reaction. On May 6 a few rose-spots were detected; the spleen was just palpable. The following day several foul-smelling clots were removed from the uterus. Three days later a culture taken from the blood contained typhoid bacilli. Finally, on June 17, the patient died. At the autopsy no intestinal lesions were observed; the mesenteric glands were swollen, and showed areas of necroses and abscesses; the kidneys also contained abscesses, and the left ovarian vein contained a partially softened thrombus. The cervix was covered with a hemorrhagic membrane. The bacteriologic examination of the pus from the mesenteric lymph-glands, kidney abscess, thrombus in the ovarian vein, and splenic pulp demonstrated bacilli morphologically similar to and culturally behaving like the bacillus of typhoid fever. In the discussion of this case Kuhnau argues two possible sources of infection—one from the uterine cavity and the other from the intestine. For neither has he any positive evidence in the form of bacteriologic support. [W.K.]

4.—The following are some of the conclusions which Duemling draws in concluding his article: The success of operations for a **radical cure of hernia** depends on the restoration of the muscular and fibrous tissues to their pristine relationship and elasticity. The production of scar tissue, artificial or accidental, lessens materially the possibility of a permanent cure. Destruction of the inguinal canal and suture of the external abdominal ring do not prevent recurrence. Destruction of the inguinal canal and of the internal abdominal ring (or its fortification) offers the largest percentage of cures. [M.B.T.]

5.—Clarke reports the case of a man, aged 39, who had his hand crushed in the cog-gearing of a horse-power corn-cutter. The second finger and some contused tissue were at once removed, and 2 days later it became necessary to amputate the first finger and 2 of the metacarpal bones for gangrene. The wound was at all times freely drained. Seven days after the accident **tetanus** developed, for which the patient received 90 cc. of antitetanic serum in about 17 hours with apparent benefit; but death resulted suddenly from asphyxia and syncope. Sodium bromid and morphin were used in addition to the antitoxic serum. [J.M.S.]

6.—DeMerritt believes that the majority of adult cases of **hysteria and neurasthenia** have their insidious beginning **in childhood.** In many cases heredity is a factor, both directly and indirectly. Neurotic parents, being in a constant state of irritability themselves, scold and nag their children incessantly, yet have not the will-power to enforce real discipline, thus destroying what little mental equilibrium their unfortunate offspring may have been born with. Overtudy, in the opinion of the author, is the real factor in very few cases of the breaking down of school children. Lack of exercise is another prolific cause of neurotic troubles among children. Masturbation is not a primary neurosis, but more frequently is a symptom of deep-seated nervous derangement. In the treatment of these conditions the defects of the parents should be pointed out and they should be shown in what way their shortcomings react upon their children. Tonics and hemic reconstructives are generally indicated and sedative drugs, such as the bromids and hyoscyamus, are helpful in tiding the patients over periods of unusual irritability. The warm sponge bath at bedtime is a useful adjuvant. It is not always advisable to withdraw the child from school, as by so doing it is deprived of the companionship of other children. Gymnastics are useful. [J.M.S]

Medical Record.

June 16, 1900. [Vol. 57, No. 24.]

The Occurrence of Mould in the Stomach and its Probable Significance. Max Einhorn.

Diffuse Septic Peritonitis and the Elevated Head-and-Trunk Posture. A Report of Three Additional Consecutive Cases of Recovery. George Ryerson Fowler.

Disease of the Thoracic Division of the Sympathetic Chain. Joseph Fraenkel.

1.—Einhorn describes a series of 4 cases in which the mycelia and spores of **moulds were found in the stomach-contents.** Three were cases of hyperchlorhydria—one of these complicated with periodical gastrosuccorrhea—and the fourth was a chronic glandular gastritis with gastric erosions. Small blackish-gray or brownish-green flakes were found in the wash-water, and these upon microscopic examination were found to consist almost entirely of spores and mycelia. Attempts to make cultures from these were successful only upon bread, and then only when several days had elapsed after the flocculi had been secured. At that time a penicilium, an aspergillus, and a mucor were obtained. The cultures were not considered to be of much importance because of the late date at which they were secured. Mould is probably never found in the normal stomach, but may secure lodgment and grow in a fold of the mucous membrane. The best treatment is lavage and perhaps the gastric douche, and the application of an antiseptic solution of silver nitrate as a spray. Whether the mould had any causal relation with the symptoms is doubtful, but probably it made the symptoms worse. [D.L.E.]

2.—Fowler reports 3 additional cases of recovery after **septic peritonitis.** This makes, with the cases previously reported, 12 consecutive recoveries after treatment by cleansing the focus of infection with hydrogen peroxid and thorough flushing of the abdomen with normal saline solution, drainage of the true pelvis and elevation of the head and trunk. The special object to be accomplished by this posture is to remove fluids from dangerous areas to the comparatively safe regions of the pelvis. In all of these cases the septic peritonitis resulted from perforative appendicitis. [M.B.T.]

3.—Fraenkel describes the case of a woman of 37 who had headache, pain in the upper part of the thorax and in the precordia, with painful contractions of the muscles in the left arm, paresthesia of the throat, and various indefinite symptoms. There was also severe vomiting, with hemianesthesia and fugitive edema. The irregular character of the symptoms led to a **diagnosis of hysteria.** She finally died with severe abdominal distention, incontinence of urine, and collapse. The postmortem showed a **cold abscess involving the 4 upper sympathetic ganglia** of the thorax on the left side, the intervening trunk of the sympathetic cells and the inferior cervical ganglion on the right side. The suppuration had not invaded the ganglia, but the cells showed some degeneration. Fraenkel suggests that there might be a causal relation between the clinical symptoms and the involvement of the sympathetic, but he diagnoses the case hysteria. [The postmortem was necessarily very incomplete, and on the testimony presented the case certainly cannot be considered one of fatal hysteria. D.L.E.]

Medical News.

June 16, 1900. [Vol. lxxvi, No. 24.]

1. The Prophylaxis and Control of Leprosy in this Country. Prince A. Morrow.
2. Causation and Relative Frequency of Typhlitis, Perityphlitis and Appendicitis in Infancy and Childhood. Joseph Henry Byrne.
3. Periods in Gynecology. Henry J. Garrigues.
4. A Case of Confinement Following a Supposed Double Ovariotomy and Complicated by an Intestinal Hernia Through the Old Laparotomy Wound. C. Henri Leonard.

1.—Morrow calls attention to the great **danger of the increase of leprosy** in the United States on account of the recent acquisition of so many countries in which the disease is endemic. He urges a rigid quarantine to be maintained by specialists in skin-diseases, although he admits that the long period of incubation would be likely to render it partially ineffectual. He is in favor of segregation of lepers, but thinks that asylums or prisons are not the proper places to which to send them. He therefore suggests sanatoriums where the surroundings will be pleasant and the treatment the most efficient that can be devised. [J.S.]

2.—Byrne, in speaking of **appendicitis,** states that it is practically not secondary to typhlitis, that it is probably not due to foreign bodies, but may be due to disturbances in circulation. Traumatism may also be a cause. He reports a case of appendicitis occurring in a boy in which it was

possible to feel through the thin abdominal walls a hard concretion in the turgid appendix. This was pressed towards the intestine and two days later, although the appendix could still be felt, the concretion had disappeared. The patient recovered without operation. [J S.]

3.—Garrigues, in a **historical review of gynecology,** refers to the fact that the mortality from ovariotomy has been reduced from 25% to 2½%, and its evolution is apparently completed. He prefers Alexander's operation for uncomplicated cases of retroversion and retroflexion; but the chief subject of discussion at present is hysterectomy. He thinks the abdominal section is in most cases to be chosen, offering the immense advantage that the operator can enlarge the incision ad libitum; and he gives a full description of the operation as at present performed by the best operators. Marcy, Emmet, Stimson, and Pryor have each contributed some feature, and Kelly has combined all these ideas in a clear concise form. Thus America can claim to be not only the birthplace of abdominal hysterectomy, but gradually to have developed it to its most perfect form, the chief representative of the present period of operative gynecology, and a worthy companion-piece to ovariotomy. [W.K.]

4.—Leonard reports a case of **confinement complicated by an intestinal hernia,** through an old laparotomy wound. By his advice the woman wore an abdominal belt with a convex pad over the hernia during the latter part of pregnancy. By keeping pressure over this subcutaneous hernia during labor, all trouble was avoided and the woman was without difficulty delivered of a fine boy and made an uneventful recovery. [W.K.]

Boston Medical and Surgical Journal.

June 14, 1900. [Vol. cxlii, No. 24.]

1. Realism in Medicine. A. T. CABOT.
2. Closing Statement for the Remonstrants to the Massachusetts House Bill No. 917, Entitled "An Act for the Further Prevention of Cruelty to Animals," before the Joint Committee on Probate and Insolvency, March 15, 1900. HAROLD C. ERNST.
3. The Mechanics of Lateral Curvature of the Spine. ROBERT W. LOVETT.
4. Malaria and Mosquitos. IRVING C. ROSSE.

1.—Cabot calls attention to the difficulties that have occurred in the course of the **development of surgery** and of the success which has attended the application of the inductive method. [J S.]

2.—Ernest calls attention to the exaggeration of statements made by the **antivivisectionists.** He presents the usual arguments in favor of vivisection, particularly calling attention to the great value to humanity that has resulted from the production of the diphtheria-toxin. [J.S.]

3.—Lovett writes of a series of experiments carried out on the cadaver and on living models, showing the **mechanics of the various curvatures of the spine.** He says the movements of the spine are 4 in number: flexion, extension, lateral bending, and contraction. Flexion and extension apparently exist as pure forward and pure backward movements, respectively. On the other hand, lateral flexion of the spine does not exist as a pure movement, but is always associated with more or less torsion. The mechanical reason for this is as follows: torsion results from any motion in which all the particles of a straight flexible rod do not move in parallel planes. Consequently, if such a rod is bent in two planes at the same time, torsion must inevitably occur. The vetrebral column is not a straight rod, but one bent in an anteroposterior plane by a series of gentle curves. Side bending must therefore inevitably lead to torsion, because it means bending in two planes. In flexed positions bending is associated with torsion in one direction, and when the spine is extended the vertebra twists to the opposite direction. For the kind of torsion observed in scoliosis it is obvious that the deformity originates in the flexed position of the spine, and the treatment in these cases would therefore be to extend the spine and practise bending from the extended position. Superincumbent weight applied in an oblique direction causes the spine to deviate from the middle line, and this force is generally the immediate cause of lateral deviation. [G.B W.]

4.—Ross reports several instances in which during long cruises he and the crew were exposed in various places to intense annoyance from mosquitos. In none of these instances did **epidemics of malaria** follow, and this, together with some other experience, leads him to believe that the etiologic relation of the anopheles perhaps has been exaggerated. [J.S.]

Journal American Medical Association.

June 16, 1900. [Vol. xxxiv, No. 24.]

1. Gastric Hemorrhage. WILLIAM L. RODMAN.
2. Section on Stomatology. Address of Chairman. M. H. FLETCHER.
3. Dental and Oral Surgery, N. S. DAVIS.
4. Course of Study. W. A. EVANS.
5. Technical vs. Theoretic Training. JOHN S. MARSHALL.
6. Encouragement of Higher Education and Original Research. WM. ERNEST WALKER.
7. Medicine and Disease in the Philippines. DAVID J. DOHERTY.
8. Neurasthenia: Some Points in its Pathology and Treatment. G. W. MCCASKEY.
9. Report on Massage. DOUGLAS GRAHAM.
10. Report of Case of Splenectomy, with Attempted Surgical Cure of Ascites Due to Cirrhosis of the Liver. T. N. RAFFERTY.
11. Laryngeal Papillomata Requiring a Special Instrument. SETH SCOTT BISHOP.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1302.

3.—Inasmuch as **medicine,** surgery and **dentistry** are actually departments of a common science, Davis believes that there is no more propriety in having a separate profession of dentistry than there is of ophthalmology, or neurology, or gynecology. The same standard of preliminary education and the same curriculum of medical studies covering the 4 years' course should be required of all who propose to practise in any of the departments or specialties of medicine and surgery. By thus unifying all departments of medical and surgical practice, including dentistry, under the same educational standards and the same title of Doctor of Medicine, the influence of the profession would be increased. Better economy could be practised, inasmuch as it would dispense with the necessity for providing separate laboratories and professorships for teaching dental students. [M.B.T.]

7.—Doherty reviews the diseases found in the Philippines, basing his paper on the studies of Barcones, a former surgeon in the Spanish navy. [M.B.T.]

10.—A woman of 31, from a malarious district, had had a a tumor of the left side of the abdomen for 2 or 3 years. Exploratory operation proved the tumor to be an enlarged **spleen.** This was **removed** at a second operation 20 days later, death following from pulmonary embolism 2 weeks after the operation. [M.B.T.]

Archives of Pediatrics.

April, 1900. [Vol. xvii, No. 4.]

1. Hypertrophic Pyloric Stenosis in Infancy. ERIC PRITCHARD.
2. A Note Upon Kernig's Sign in Infants. FREDERICK A. PACKARD.
3. A Case of Congenital Goiter and Diaphragmatic Hernia. ISAAC A. ABT.
4. The Treatment of Whooping-Cough Without Drugs. N. R. NORTON.
5. Drug Values as Observed in the Management of 752 Cases of Whooping-Cough. CHARLES G. KERLEY.

1.—Pritchard first goes over the previously-reported cases of **hypertrophic stenosis of the pylorus in infants,** describing 23 beside his own. His occurred in a child which, when born, weighed 9 pounds, and seemed healthy. It was given a bottleful of milk (about 5 ounces) every 3 or 4 hours. Symptoms occurred after 3 weeks and consisted chiefly of protracted and obstinate vomiting and constipation. The child emaciated to an extreme degree. The stomach could be observed at times to extend as far as the umbilicus or

below, and peristaltic waves were seen. No tumor could be felt at the pylorus. The child finally died with severe nervous symptoms. At postmortem the esophagus was found dilated, the stomach had a capacity of about 7 ounces, the walls were thickened, and the pylorus formed an annular mass about the size of a large filbert-nut. The opening in it would just admit a No. 5 catheter. Microscopic examination showed great hypertrophy of the circular layer. One other case is mentioned briefly, in which similar symptoms occurred, but came on some time after birth, which made Pritchard suspect that the condition was not a real hypertrophy of the pylorus with stenosis. He refers to the experiments of Pfaundler, who believes that so-called pyloric stenosis is merely due to spasm. Against this point he notes that a number of children have died of an apparent obstruction within the first few days of life and abnormities elsewhere have been found in a number of cases. This, however, is not usually the case, and Pritchard believes that probably swallowing large quantities of liquor amnii, or, after birth, large amounts of food, may cause spasm of the pylorus and the consequent symptoms, as the children usually appear healthy at first, most of them have been even fat and the hypertrophy is chiefly of the circular layer. The conclusions reached are that the hypertrophy is probably secondary to overaction of the sphincter, and the stenosis is chiefly due to spasm, and that measuring at postmortem is not a correct gauge of the degree of stenosis during life. The overaction of the sphincter may be due to some fault in the nervous organism, and injudicious feeding may be a contributory factor in producing nervous incoordination. There is very little to support the theory that actual hypertrophy of the pylorus is the result of spasm. Surely we should expect spasm extremely frequently in adults were this true. That this theory is acceptable to so many as an explanation of hypertrophy of the pylorus seems strange since there is no evidence that marked hypertrophy with stenosis ever occurs in their sphincters in spite of severe and prolonged irritation. [D.L.E.]

2.—Packard reports 3 cases in which autopsy showed that **meningitis was present,** and in which **Kernig's sign was nevertheless absent** throughout the whole course. He does not consider that these cases can be used to belittle the value of Kernig's sign, and holds this phenomenon to be of decided value in diagnosis of meningitis in the adult and in older children, but he believes that if much importance is attached to the sign, particularly in infants, error is likely to arise. The cases reported occurred in infants, 2 of them 16 months old and one 4 months old. In one case which was reported the sign was present in most pronounced degree, and yet the postmortem examination showed no change in the meninges. [D.L.E.]

3.—The case was that of a well-developed female child that died directly after birth. The thyroid gland was much enlarged, histologically showing hyperplasia, with extreme vascular structure; the left side of the diaphragm was almost entirely absent, the entire left lobe of the liver was found in the thorax, the stomach was inverted into the thorax and the greater curvature occupied the usual position of the apex of the left lung, the greater part of the duodenum and some of the remainder of the small intestine and of the transverse and descending colon and spleen were also in the thoracic cavity, the heart was pushed to the right, the right lung was pushed upward. **Congenital goiter** is rare, except in mountainous regions where goiter is endemic. Congenital goiter has at times been observed in animals, and especially in the regions where goiter is endemic. **Congenital diaphragmatic hernia** is relatively infrequent and is usually the result of arrest of development. It is really not an actual hernia, as there is no sac. Adhesions commonly do not occur, and incarceration is relatively uncommon, because the opening is large. Children are likely to die soon after birth. [D.L.E.]

4.—Norton reports a series of 150 cases of **whooping-cough** treated by the administration of **carbonic acid gas per rectum,** the treatment being carried out by dissolving bicarbonate of soda in a bottle about one-third filled with water. Tartaric acid is added to this. In the cork of the bottle is a glass tube to which is attached some rubber tubing, at the end of which is a hard rubber nozzle for insertion into the rectum. 143 of the 150 cases seemed to be decidedly benefited. The vomiting and the number of paroxysms particularly improved. The effect is said to be due to the fact that an extra amount of air must reach the air vesicles to be exchanged for the extra amount of carbonic acid gas which the blood contains. Twenty cases subsequently treated by this method gave much less satisfactory results. Three cases were treated by the introduction of the intubation tube, laryngeal diphtheria having developed during the course of whooping-cough. When the tube was in the larynx and paroxysms were apparently about to occur, the child showed the usual excitement, there was then a spasmodic cough as far as expiration was concerned, but there was no glottic spasm with inspiration, and the paroxysm terminated without distress. If the tube were removed the paroxysms occurred as before. If a hard rubber tube is used the danger of retained tubes is reduced. This treatment would seem to be worthy of trial in severe cases. [D.L.E.]

5.—Kerley has found alum, horse-chestnut leaves, and diluted nitric acid valueless or objectionable in whooping-cough. Cocain sometimes had value, but not enough to warrant its use. Quinin in large doses relieves the paroxysms somewhat, but it is difficult to administer. Belladonna was used in 60 cases without having the least influence. The bromids were better than any of the drugs previously mentioned, while antipyrin was the most useful of all medication attempted. In connection with the drugment, plenty of fresh air is extremely valuable, and particularly when there are complications; a plain steam spray relieves the symptoms greatly. If beneficial effects are not observed from a remedy within 24 hours, Kerley never expects good results. [D.L.E.]

Edinburgh Medical Journal.

April, 1900. [N. S., Vol. 7, No. 4.]

1. Preventive Operation in Acute Inflammation of the Appendix. Mansell Moullin.
2. Perigastric and Periduodenal Abscess. Soltau W. Fenwick.
3. Pathological Amenorrhea from Other than Constitutional Causes, with Illustrative Cases. F. W. N. Haultain.
4. Reflex Salivation from Abdominal Disorders. F. Parkes Weber.
5. Gastrointestinal Self-Intoxication as a Factor in Nervous Diseases. O. J. Kauffmann.
6. On "Washing" Dysenteric Stools. Kenneth MacLeod.
7. A Case of Murder and Suicide. Harvey Littlejohn.

1.—Moullin believes in the **preventive operation of appendicitis.** He says that in the present day of asepsis exploratory incision of the abdomen subjects the patient to little danger, when proper care is exercised, and that the danger of delay far outweighs the slight risk. Preventive operation should not be confused with the so-called early operation, and to be preventive in the true sense of the term must be done before suppuration or gangrene has time to develop—say within 36 hours. In some cases the operation would still be preventive even after the lapse of 48 hours or more; but, on the other hand, there are cases which may become gangrenous within 24 hours, so that each case must be judged on its merits. If this preventive operation were more often carried out, many cases, which finally come to operation after all, when it is too late, could be saved. [G.B.W.]

2.—Fenwick gives a description of **perigastric and periduodenal abscess.** Of the former he has analyzed 56 cases, including 12 of his own. The previous history usually shows symptoms of gastric ulcer, though hematemesis is rare, having been observed in only about 6% of cases preceding subdiaphragmatic abscess. The other symptoms are also often slight. Usually perforation is accompanied by characteristic symptoms. The subsequent course is either acute or chronic. In the acute form there is pain, dyspnea, usually cough, retching and vomiting, remittent fever, sometimes chills, and commonly within a few days inflammation of the pleura or lungs. In the chronic form, after the acute symptoms have subsided, nothing may be noticed for a long time, but there are commonly indefinite symptoms of the development of an abdominal abscess. Abdominal abscess following duodenal ulcer is rare, but 22 cases are mentioned, including 3 personal ones. The ulcer was always one of long

standing. The proportion of females to males affected is 10 to 1. Commonly there was pain before perforation was noticed. There was usually vomiting and a history of either hematemesis or melena. Anorexia was commonly marked, as were emaciation and anemia. Commonly perforation was followed by a very acutely fatal course. Slower cases showed signs of the formation of an abscess, with increasing accumulation of pus. The tumor is commonly tender at first, and of indistinct outline, later becoming more marked. Ordinarily the tumor is in the right hypochondrium, and sometimes burrows down to the right iliac fossa. There is pain in the right side of the abdomen, tenderness over the region of the tumor, and swelling, which, if burrowing toward the iliac fossa occurs, ultimately shows above Poupart's ligament. Among complications secondary abscesses may sometimes be seen. Other complications are pylophlebitis, rupture into the pleural cavity, into the pericardium, and into the peritoneal cavity. The treatment should be operation as soon as the diagnosis is established. [D.L.E.]

3.—Haultain believes that **amenorrhea** is by no means a common condition in the **absence of pregnancy** and deteriorated constitutional states, and when it does occur, is due either to (1) atresia of the canals; (2) uterine conditions; or (3) ovarian conditions. He describes cases of atresia hymenalis, atresia vaginalis, and atresia cervicis in his own practice, all of which required surgical treatment. In cases of acquired amenorrhea where the trouble is due to inactivity of the uterus, he recommends the use of intrauterine applications of electricity, negative pole (Apostoli); whereas, if the ovaries are at fault, ovarian extract often gives markedly successful results. He emphasizes the following conclusions: 1. That a general amenorrhea may be due to functional inactivity of either uterus or ovaries alone, and may in these be treated effectively. 2. That treatment is to be directed along lines indicated by the dimensions of the uterus. 3. That the lines thus indicated are uncertain, from the influences of the central nervous system, which may be the primary cause. 4. That, from the fair amount of success obtained, treatment is justifiable, and should be attempted if the patient so desire. [W.K.]

4.—Weber directs attention to the occurrence of **salivation from abdominal disorders** by reflex stimulation when there is nothing the matter with the salivary apparatus. A case is described in which paroxysmal attacks of free secretion of saliva occurred, usually accompanied by a general feeling of distress, particularly if exertion were necessary during the attacks. Exercise after a full meal usually brought on the attacks. The man, who was middle-aged, had been subject to the attacks since his boyhood. He could ward off attacks by abstaining from free eating, and this prophylactic measure was the only treatment which was effective, except lying perfectly flat on his back after eating. He had some atony of the stomach, and the explanation which Weber gives of the attacks was that in the upright posture with overloaded stomach this organ was pulled downward and this gave rise to reflex irritation of the salivary apparatus. The patient's father had had similar paroxysmal attacks of salivation. Reflex salivation may occur in pregnancy, in cirrhosis of the liver, and in other conditions. Weber believes that it is what may be called mistaken reflex action, in other words, purposeless reflex action, caused by abnormal irritability or irritation of the gastrointestinal mucous membrane.

5.—Kauffman describes cases in which, besides nervous disorders, there were the appearances of disorders of digestion. He was led to think that the nervous disorders were possibly due to **gastrointestinal autointoxication.** He found that indicanuria was common in such persons, and attempted to find some abnormal volatile substance in the urine by undertaking fractional distillation of the urine. This was without result. Nevertheless, he speaks of these cases as if they were definitely gastrointestinal autointoxication. [Any one who is wedded to the recent custom of calling any kind of disease associated with any kind of gastrointestinal disturbance, gastrointestinal autointoxication, will acquire a much more scientific view of this question by perusing the caustic remarks of Weintraub, in Lubarsch and Ostertag's System. He states justly that gastrointestinal autointoxication exists, but that most cases that are reported as such deserve no consideration. The name is used altogether too loosely. D.L.E.]

Münchener medicinische Wochenschrift.

March 6, 1900. [47. Jahrg., No. 10.]

1. Total Extirpation of the Uterus and Vagina in Case of Prolapse. L. FRORIEK.
2. The Prevention and Cure of Retrodisplacement of the Uterus During the Puerperal State. RISSMANN.
3. Gynecologic and Obstetrical Cases. R. KOSSMANN.
4. A Case of Neurasthenic Tremor Following Trauma. PH. F. BECKER.
5. Tuberculosis of the Stomach. M. SIMMONDS.
6. Two Cases of Traumatic Tetanus. R. MÜLLER.
7. Otogenic Disease with Difficult Diagnosis. RÖPKE.
8. Pemphigus as a Cause of Adhesion of the Soft Palate Cured by Means of a Special Rubber Bougie. GEORGE AVELLIS.
9. The Treatment of Wry-neck. VON NOORDEN.
10. The Treatment of Lupus and Other Skin Diseases by Means of the X-Rays. R. HAHN and ALBERS-SCHÖNBERG.
11. Remarks on Kehr's Method of Cholecystotomy. POPPERT.

1.—The basic principle of Martin's method is a **radical cure** through a **suturing of both ligament stumps** to the remainder of the vagina so as to produce a later retraction from above, thus forming a strong support to prevent any new prolapse. Froriek describes the operation in detail, and gives the history of 6 cases. Subsequent inquiry showed excellent results in five of these patients who were able to perform their ordinary labor without pain or discomfort. In conclusion, he refers to Freund's operation which implants the unsupported uterus on the posterior wall of the vagina in such a manner as to serve as a support to the bladder. But in the cases reported, the atrophic condition of the uterus prevented its serving as such a support. The two methods should not be considered as antagonistic, but as adapted to varying conditions. When the uterus is in a healthy condition, the author recommends Freund's operation; but when it is highly atrophic or diseased or a chronic inflammation is found, it should be removed by Martin's method. [W.K.]

2.—Of the cases coming under his own observation, Rissmann believes that in a portion at least the **retrodeviation** began during the puerperal period, and that in the continuous lying upon the back there is danger that the relaxed uterus through pressure of the distended bladder may be drawn into a dangerous retroposition. In conclusion he recommends, (1) that during the puerperium the patient lie upon the side with from time to time the abdominal position, (2) an examination of such patient soon after delivery or after an early abortion, (3) that women who have suffered a retrodeviation before delivery should wear a pessary for about 5 weeks' stay in bed. [W.K.]

3.—1. **Pregnancy and delivery after both-sided castration.** Kossmann reports the case of Frau J., from whom he removed both ovaries, leaving the tubes, concluding the operation with vaginal fixation, and who bore a child about 2 years afterward. He supposes a fragment of ovarian tissue must have adhered to the ligatures. This case also shows that a proper vaginal fixation exercises no destructive influence upon either pregnancy or delivery, and outlives both in its effects.

2. The significance of the **expulsion of the meconium.** Kossmann quotes the opinion of Zweifel, Ahlfeldt and others that the intrauterine expulsion of the meconium seriously endangers the life of the fetus by asphyxiation, but himself agrees with Olshausen in the contrary view. He reports a case in which the expulsion of the meconium occurred in the morning, and the delivery did not take place until evening, the fetal heartbeat continuing normal throughout. Kossmann remarks that this intrauterine expulsion of the meconium warns the careless physician to retrieve his negligence, but does not necessarily indicate any interference. [W.K.]

4.—Becker reports a case of **neurasthenic tremor** in a man of 24. The tremor came on soon after a kick from a horse, and affected the head and both arms. It was of the type of the intention tremor, and did not cease during rest, except on rare occasions. Multiple sclerosis, hysteria, and other diseases could be excluded. The tremor was very marked and resisted treatment. [D.R.]

5.—Tuberculous ulcers of the stomach are exceedingly rare. Among 2,000 autopsies investigated by Simmonds, there were but 8 cases. The development of the ulcer is probably favored by disturbances of the gastric secretion, and the author reports an instance which seems to illustrate this. The case was that of a man of 40, who had died of pulmonary and intestinal tuberculosis. There was also a stenosing cancer of the pylorus. The stomach was dilated and showed several small, tuberculous ulcers. The tuberculous gastric ulcers seen in phthisis are usually small, solitary or multiple, and are seated by preference in the pyloric region; they are round and have overhanging edges. The tuberculous infiltration is chiefly submucous. In one of the author's examples the ulcer was 20 cm. x 10 cm. As a rule the tuberculous ulcers do not give rise to clinical symptoms, and diagnosis *intra vitam* is almost impossible. Simple round ulcer may also occur in phthisical patients, and the appearance of gastric symptoms in tuberculous individuals should suggest simple ulcer, rather than tuberculous ulcer. Much more frequent than tuberculous ulcer is the hematogenous miliary tubercle. This may occur in any of the coats of the stomach. [D.R.]

6.—Two cases of **traumatic tetanus** treated with antitoxin. In the first patient the serum seemed to exert a beneficial influence, consisting in the lessening of the frequency, and the intensity of the convulsive attacks. The patient, however, died, apparently in consequence of degeneration of the papillary muscles and sclerosis of the coronary arteries. The second patient would probably have recovered without the serum injections, but the latter seemed to shorten the disease. [D.R.]

7.—Röpke says that if in the course of an acute or chronic inflammation of the **middle ear,** symptoms develop which suggest involvement of the **brain,** meninges or sinuses, the mastoid process should be opened up and carious bone, fistula and defects sought for. If any disease of the bony wall can be found, it is most probable that it will lead directly to the suppurating foci within the skull. When such cannot be found the situation is more complicated, and it is generally impossible to accurately locate the disease. However, in a good many cases the symptoms will suggest whether the pus is in the middle or anterior fossa. Röpke reports 3 cases demonstrating these points, 2 of which recovered, one dying. [G.B W.]

8.—Avellis says that **adhesions of the soft palate resulting from pemphigus** of the mucous membrane is a very rare condition, only three cases having been so far reported. He states another occurring in a man 39 years of age. There was no history or symptoms of syphilis, except perhaps the eruption of the mucous membrane of the mouth, resembling somewhat the specific mucous patches. The soft palate and the palatal arches, except for a small place directly behind the uvula, which admitted a fine probe, had grown fast to the posterior wall of the pharynx so as to entirely shut off the mouth from the pharyngeal vault. Antisyphilitic treatment did not cause any improvement in the appearance of the rash. The minute orifice was gradually dilated until the patient could readily blow his nose. [G B.W.]

9.—Noorden reports a case of **torticollis** following an attack of middle-ear suppuration a sequel of measles. The fact that the patient was born by a breech-presentation may have some etiologic significance. The skin, platysma, fascia and muscle all seemed to be involved in the contraction. At the operation the muscle was found to have undergone fibrous degeneration to quite a large extent. This fibrous portion of the muscle was removed, and the contracted fascia divided so that the head could be readily put into its normal position. The result was very satisfactory. [G.B W.]

10.—Three cases of **lupus** are reported, two of which were greatly benefited by the transillumination with **X-rays.** One case, though better, did not show the great improvement of the other two. A piece of skin taken from one of the greatly improved cases showed the presence of numerous lupus-tubercles, but the tubercles were surrounded by a connective-tissue envelop. However the microscopic appearance showed that the x-rays were not capable of entirely curing this disease. Thirteen cases of eczema and one of scabies were reported, all of which were greatly benefited by the x-rays, the large majority remaining permanently cured. [G.B.W.]

March 13, 1900. [47. Jahrg., No. 11.]

1. Oxycamphor. HANS NEWMAYER.
2. Sclerema Neonatorum Edematosum in Connection with Extensive Hemorrhage. JOS. ESSER.
3. A Peculiar Injury of the Face. CONRAD RAMMSTEDT.
4. Distortion of the Ankle-joint. HEINRICH KRAPF.
5. The Treatment of Prematurely Born Children. O. ROMMEL.
6. Accidents. PETERS.
7. Miscellaneous Gynecological and Obstetrical Cases. R. KOSSMANN.
8. The Treatment of Lupus and Other Skin-Diseases with the X-Rays. R. HAHN and ALBERS-SCHÖNBERG.

1.—Neumayer has used **oxycamphor** (oxaphor) in **dyspneic conditions** of cardiac or pulmonary origin with very good results. It may be given in simple solution in water, or in a mixture. The dose is one gram (15 grains). The drug has the sedative action upon the respiratory center possessed by the narcotics, without depressing the heart or the nervous system. The remedy is best given on an empty stomach in a considerable quantity of water. [D.R.]

2.—The infant, a twin, was born without trouble. A few hours after birth respiration became shallow, and both it and the pulse more frequent than normal; an edema appeared in the feet, which gradually extended over the entire body, the skin becoming tense, shining, and exceedingly cold. Nursing was impossible. The edema progressed, and the child died on the eighth day. At the autopsy a little serous fluid escaped when the skin was cut. There was no fluid in the abdominal cavity. The lungs were enlarged, firm, bluish-red, and apparently infiltrated throughout with blood. The ductus Botalli and the foramen ovale were open. The author explains the **edematous sclerema** as a result of venous stasis in the circulation produced by the obstruction to the pulmonary circulation caused by the hemorrhage into the lung. An additional factor was the lessened arterialization of the blood in the hemorrhagic lung. The cause of the rupture of the pulmonary veins and the hemorrhage into the lung is difficult to explain. The author believes that it depended on some disturbance in the respiratory mechanism, causing distention of the lung and rupture of the vessels. The edematous sclerema must be distinguished from the adipose sclerema due to the hardening of the subcutaneous fat. [D.R.]

3.—Rammstedt reports an interesting case of **wound of the face from a splinter.** The splinter had penetrated the right cheek just in front of the ear in a downward and forward direction, so as to injure the left orbit and lodge with the point between the coronoid process of the mandible and the maxillary bone. While the splinter was in place the patient could not open his jaws, but after its removal and the establishing of good drainage the patient made an uninterrupted recovery, obtaining the proper functional use of his jaw. [G.B.W.]

4.—Krapf says that **stiffening of the lower ankle-joint** (the joint which gives pronation and supination to the foot) greatly hinders walking or the ability to bear very heavy burdens. The symptoms are increased when walking on uneven ground, so that farmers, laborers and such people are rendered incapable of earning their livelihood. The stiffening of this joint may be caused by different injuries. Generally there is a fracture of the astragalus or os calcis, but very often the disability is the result of an injury, which might be termed a **distortion of the lower ankle-joint.** The symptoms of this distortion in a fresh condition are: (1) Extravation of blood on both sides of the talo-calcaneus joint or possibly only on the outer side; (2) marked tenderness in this region, and, (3) almost complete loss of motion as far as pronation and supination of the foot is concerned, from the intense pain accompanying the slightest effort. On the other hand flexion or extension of the foot is almost painless. This condition generally leads to ankylosis of the joint causing a typical chronic disability, Treatment will cause considerable amelioration in the symptoms. It should consist in rest and massage at first, followed later by some sort of apparatus fitted with a flat foot sole which will afford good support. [G.B.W.]

5.—Rommel calls attention to the large mortality of **infants prematurely born,** more than the third part

dying during the first month, the greater part of these during the first 14 days while under the care of the obstetrician. In his opinion this mortality may be greatly reduced by the use of incubators, and he gives a history and tabulated statement of the details in 20 cases of prematurely-born infants kept in incubators from 16 to 66 days with only 4 deaths—3 from eclampsia and 1 from miliary tuberculosis. [W.K.]

7.—Kossman quotes Fritsch as saying that by **elytroclisis** a definite healing is impossible in this condition; but he dissents from this view and gives the history of a case of uretero-vaginal fistula completely cured by this operation. Hence Kossmann is convinced that he can obtain as good results with elytroclitis as with a more difficult and dangerous operation.

Kossmann also reports an interesting case of a **rapidly-growing tumor** in a patient aged 15 years. It had been pronounced by several physicians a case of pregnant uterus, but when finally referred to Kossmann on June 12, as there were none of the usual signs of coming delivery, he considered the diagnosis a mistake and performing an abdominal operation, removed a large gelatinous, glandular cystoma which in a few months' growth had reached the sternum, pressed the heart 2 or 3 fingers' breadth out of its normal position and thickened the lungs through compression. The patient, who was discharged on July 24, returned on September 23, when a second laparotomy was performed showing a new tumor almost as large as the first, apparently a simple cyst containing gray gelatinous contents. The right ovary was almost normal, the left stump showed no new growth, the second tumor being what is known as "pseudomyxoma peritonel." Discharged on the 25th of October the patient returned on November 4, submitted to a third laparotomy revealing another pseudomyxoma containing 6–8 liters; but 6 hours after the operation she died from heart-weakness. The youth of the patient, the unusually quick growth of the primary tumor, the persistent reappearance and rapid growth of the pseudomyxoma, make the case of great clinical interest. [W.K.]

8.—Hahn and Albers-Schönberg conclude their article on the **treatment of lupus and other skin-diseases with the Röntgen-rays** by the following sentences: 1. The x-rays have a sure and favorable action on lupus and other skin-diseases. 2. It cures with absolute surety the eczema which accompanies the lupus and the elephantiasis which is a result of the eczema. 3. Because of the just stated properties the x-rays are especially adapted to the treatment of large surfaces. 4. A recurrence is not prevented by their use. 5. The treatment by x-rays is more beneficial when combined with other methods. 6. What has been said about lupus applies equally well to eczema. 7. With proper care as to the dose and technic the irritations, such as dermatitis, excoriations and gangrene, which sometimes result from the use of the x-rays, can always be avoided. [G.B.W.]

Deutsche medicinische Wochenschrift.

March 22, 1900. [26. Jahrg., No. 12.]

1. Remarks on the German Pharmacopeia. ERICH HARNACK.
2. A Primary Isolated Lesion of the Speech-Center Following Trauma; Secondary Jacksonian Epilepsy with Disappearance After Operation. THEODOR STRUPPLER.
3. Meconium. HEINRICH CRAMER.
4. On Primary Diphtheria of the Vulva. BRUNO LEICK.
5. The Effects and Methods of Application of Strong Rapidily Interrupted Electric Currents. A. EULENBURG.

2.—The patient, 18 years old, was struck on the head and fell to the ground unconscious. He soon regained consciousness, but was speechless. When examined he seemed intelligent. The extremities were not involved, there was possibly a very slight facial paralysis, no change of sensation, but some headache and slight vertigo. Spontaneous speech and repetition of spoken words were impossible, but the names of objects were properly written. There was no disturbance of taste or smell. There was no alexia. **Epileptic attacks** developed a few days later with a slight preceding aura, the neighborhood of the right eye showing twitching which spread over the face, and this involved the extremities of the right side. The attacks were followed by deep sleep. He was examined in the surgical clinic, but not operated upon. He had 3 attacks on this day, the fifth after the injury, but no convulsions subsequently. A little afterward his disturbance of speech was much less, and his general condition was good. At that time his only difficulty was in the attempt to speak rapidly, and in articulation of the letters b and y. The author believes that meningeal hemorrhage and hematoma of the dura mater can be excluded, as can pure commotio cerebri or contusion. It would have been extremely remarkable if either of the latter had caused a local effect on the speech-centers and the resulting signs of irritation of the cortex. Extracerebral hemorrhage seems excluded by the history of immediate loss of speech followed some days later by the signs of cortical irritation and by the rapid improvement in the symptoms and their complete disappearance in a short time. The clinical picture corresponds entirely with that of **intracerebral hemorrhage.** The diagnosis is of some importance, as surgical procedures are not in place. The treatment should usually be expectant. The prognosis is usually good, at any rate much better than in meningeal hemorrhage. [D.L.E.]

3.—Cramer states that in a number of infants he had observed as they were taken from the swaddling-table that the anus was distended with a coneshaped ball or wad of meconium of a grayish white color. He found no reference to this occurrence in the more recent literature, but found it had been observed and noted as far back as Soranus of Ephesus and Aristotle. He believes that the occurrence of this phenomenon is the highest proof that the child has lived postpartum. [W.K.]

4.—Leick reported the case of a servant maid of 16, who came to his clinic with a temperature of 39° C., pulse 104, severe pain, particularly on urination, external genitals much swollen, reddened and ulcerated. Löffler's bacilli were found in great numbers in the culture from these ulcers, but the examination of the nose and throat gave negative results. She was treated with subcutaneous injections of diphtheric serum and recovered after an illness of a month. [W.K.]

5.—A description of the apparatus designed by Hirschmann.

March 29, 1900. [26. Jahrg., No. 13.]

1. Adenocarcinoma. P. GRAWITZ.
2. Extirpation of the Head of the Femur in Cases of Old Intercapsular Fracture. H. RIESE.
3. The Treatment of Uterine Hemorrhage. H. OSTERMANN.
4. The Effects and the Application of High-Tension Electric Currents. A. EULENBURG.

1.—Grawitz describes **adenomas and cystomas** under three types. In the first there is direct connection with cavities lined with epithelium, and which come off from the original lumens. In the second type there are in the beginning solid growths of epithelium, of ball or tongue-like shape, which later become hollowed in the center. In the third type the epithelium in the lymph-spaces becomes surrounded by thicker or thinner bundles of connective tissue, and later the connective tissue disappears, and this gives opportunity for the formation of lumina in the midst of the epithelium. The diagnosis of adenocarcinoma has always given rise to a great deal of difficulty. The type of growth is not absolutely distinctive, nor is the manner of outgrowth of epithelium; but if the types mentioned are found combined, and if the carcinoma-like epithelial growths are found undifferentiated in large numbers—that is, if the new growths do not tend to form normal gland shaped masses within a single layer of epithelium—this indicates malignity, in the clinical sense at any rate. The pictures that one sometimes sees of longer or shorter solid epithelial tongues, in which there are numerous and often branched lumina, are important in establishing the diagnosis. Grawitz then describes lantern-slides, which showed the different types of malignant and nonmalignant adenomas. [D.L.E.]

2.—Riese reports a case of **united fracture of the neck of the femur,** occurring in woman 59 years of age. She had the injury 5 months before her entrance into the hospital. By passive motion the leg could be moved freely in all directions except to extreme abduction; pain, however, accompanied all the movements and there was no active motion possible. Under ether the fragment was re-

moved subperiosteally and the capsule, which had been uninjured by the fracture, united by sutures and the wound closed. The final result of the case was most satisfactory, the patient being able to get about fairly well with the help of a cane. [G.B.W.]

April 5, 1900. [26. Jahrg., No. 14.]

1. Two Cases of Primary Syphilis of Abnormal Location and Course. HEINRICH KOEBNER.
2. A Serum-Diagnosis of Tuberculosis. ERNST BENDIX.
3. Two Particularly Important Cases of Hysteria. ERNST FUERST.
4. Syphilis of the Lingual Vessels with Remarks Concerning its Relations to Atrophy of the Lingual Glands. W. LUBLINSKI.
5. Agglutination of the Red Blood-Corpuscles. G. M. MALKOFF.
6. The Treatment of Uterine Hemorrhage. H. OSTERMANN.

1.—Koebner reports two cases of **syphilis** with the primary lesions occurring in somewhat unusual seats. The first was a man, 27 years of age, with a slightly raised hard bluish infiltration which was sharpely circumscribed, and was situated on the outer aspect of the thigh at the border of the upper third. There was a general enlargement of the lymph glands and later on he developed cutaneous and mucous lesions which only disappeared after antisyphilitic treatment. In the second case the position was not so uncommon, but the diagnosis was especially difficult because of there being 2 soft ulcers on the prepuce which healed without leaving behind any indurated scar. After the appearance of the rash, however, there was left no doubt as to the nature of the disease. [G.B.W.]

2.—Bendix has carried out the **serum-reaction for tuberculosis** with 40 patients. Three absolutely healthy persons gave no agglutination in a dilution of 1 : 3 or 1 : 5. Several other persons had other diseases than tuberculosis, and the undiluted gave no reaction. Thirty-eight cases of tuberculosis were tested and in only 2 cases was the reaction negative; and both of these were cases of advanced phthisis. The most interesting details of his investigations was in the fact that the milder cases of phthisis gave the most pronounced reactions and reacted in the greatest dilutions, while severe cases gave the reaction only in smaller dilutions, and as noted 2 which gave no reaction. In one case which was at first of slow and favorable course the reaction was obtained in a dilution of 1 : 30. Later the patient began to lose ground rapidly, and the reaction was obtained only in a dilution of 1 : 15. He considers that there was some form of antiagglutinin produced in this case. The intensity of the reaction seems therefore to be some indication of the severity of the disease. This corresponds to the experimental work of Arloing and Courmont with animals of different susceptibility. Maragliano's serum showed marked agglutinative properties, but the old tuberculin was indifferent. The serum-reaction is considered by the author to be of extreme importance in the early diagnosis of phthisis. [D.L.E.]

3.—The first of these two cases of **hysteria** was unique. A woman, 36 years of age, had been complaining of disturbance of the stomach and vomiting and pains which indicated cholelithiasis. The vomiting had become so troublesome that a stomach tube was introduced in an attempt to overcome it. The tube was introduced fully into the stomach, but no gastric contents were emptied through it, and when an attempt was made to withdraw it this was found to be impossible, and it was withdrawn finally only after getting the woman under chloroform. After it was removed it was found that it had folded back upon itself at the tip, and this, combined with spasm of the esophagus, probably led to the severe difficulty. Suggestive treatment soon disposed of all the trouble in the case. The second case is of importance in relation to tuberculosis. The man had fever and pains in the chest, with slightly blood-tinged expectoration, and tuberculosis was ssupected. No bacilli were found, but the tuberculin-reaction was tried and was positive. The symptoms of which the patient complained were so peculiar that an injection of distilled water was given and the same reaction was obtained. Also the reaction was obtained subsequently by merely introducing the needle of the hypodermic syringe and withdrawing it. [D.L.E.]

5.—Malkoff has **injected** into guineapigs and doves **subcutaneously and intraperitoneally defibrinated goats' blood,** and found that subsequently the serum of these animals agglutinated the blood-corpuscles of goats. This is evidently a specific reaction. It agglutinated only the blood of goats, and not human blood, for instance. That the reaction is specific, is shown by the fact that the blood-serum of goats agglutinates the blood-corpuscles of doves, rabbits and men. If any one of these forms of blood, however, were added to the serum, as for instance rabbits' blood, it were then centrifugated, and the supernatent fluid investigated, it was found that this would agglutinate the blood of doves and man, but no longer the blood of rabbits. If two of the bloods had been previously added it agglutinated only the third. He decided, therefore, that the agglutinative action of the serum is due to a specific substance, an agglutinin, which has the specific property of uniting with one form or morphological element but not with others. He also decides that normal serum which agglutinates various cells has a number of specific agglutinins corresponding to the number of kinds of cells from different species which it acts upon. [D.L.E.]

6.—Ostermann has made a clinical study of the effect of antipyrin and salol, as recommended by Labadie, in cases of **uterine hemorrhage.** Antipyrin and salol, in equal parts, are heated in a reagent glass over a spirit-flame until the mass melts and burns. It is then somewhat cooled until it becomes of a sirup-like consistency. Aluminium rods (Fritsch) are placed in readiness, and after a thorough cleansing of the vagina and cervix, one of these rods is dipped into the hot fluid, the viscous substance adheres to it, and is applied to the interior of the uterine and cervical canals. The mixture must be melted afresh every time it is used, as it rapidly undergoes chemical decomposition. He reports 30 cases in which he has used this remedy with the most gratifying results. In cases of submucous myomas, and when there is a large amount of sensibility of the parts, the treatment is contraindicated. [W.K.]

April 12, 1900. [26. Jahrg., No 15.]

1. The Toxicology of the Liliaceae and Aroideae. L. LEWIN.
2. The Head Movements in Various Positions of the Body. E. DETTERMANN.
3. The Indications for Mastoid Operation. RICHARD MÜLLER.
4. Ovarian Cyst Hindering Labor Removed by Posterior Colpotomy. A. HASSELBACH.
5. Syphilis of the Lingual Vessels with Remarks Concerning its Relation to Atrophy of the Lingual Glands. W. LUBLINSKI.

1.—It has been considered in certain quarters that the **poisonous action** of many plants is due to the needle-shaped crystals of calcium oxalate which they contain. Lewin has investigated this question, and believes that their presence in plants is of itself of no special moment, but that when they are present in poisonous plants they may carry the poison and act as instruments for tranferring the poison into the tissues into which they come into intimate contact. Their importance, however, is small, and they have no direct relation to the general poisonous action of the plants in which they are found. [D.L.E.]

2.—Dettermann has carefully investigated the **heart-dulness** in the lateral position and when lying on the back, and has controled his results by the use of the x-rays. He reports his results from the investigation in this manner of 184 cases of normal and diseased persons which he had investigated in varied positions. He has also examined the changes in heart-dulness in 500 diseased persons. In the healthy he saw a movement of the heart toward the left of about 2½ cm. on the average, and upward about 1 cm. when they lay on the left. In the right-sided position the movement was about 1.5 cm. to the right and 1.5 cm. upward. Sometimes the movement toward the left was as much as 6.5 cm., toward the right 4 cm. A marked distention of the stomach sometimes interfered with the movement, as did a high position of the diaphragm. Pregnancy caused limitation, as did diseases of the lungs and pleura, which limited the space in the abdomen and thorax and made the movements less. In chlorosis he found the movability very great, perhaps due to abnormalities in the large vessels. That changes in the vessels influence the move-

ments of the heart has been shown by others in arteriosclerosis, though he saw no distinct diminution in this disease. He thought it possible that so-called cases of neurosis of the heart might be explained in this way. As a rule they showed markedly increased movement of the heart, but they were usually cases of neurasthenics with impoverished nutrition, and it is possible that the loss of fat and the general habitus of the patient would explain this. It is difficult to say to what the variations in the cardiac movability are due. Oftentimes it is probably weakness of the active tissues, particularly of the vessels, that allows of excessive movement. Perhaps in neurasthenia and the like the nervous disturbance of the heart allows of freer movement ultimately by primarily overtaxing the heart and stretching the tissues. As to the symptoms produced by excessive movement, he suggests that probably those which some persons experience when lying upon the left side and sometimes upon the right are due to this cause. The manner of production of these symptoms is not definitely known, perhaps it is mechanical disturbance of the circulation. Serious symptoms are sometimes experienced by persons with organic cardiac disease when lying upon the side. Probably the reaction through marked change in the position of the heart depends chiefly upon the sensitiveness of the organs of the individual. [D.L.E.]

3.—Müller, in speaking of the indications for operation in **mastoid disease,** says that the mastoid antrum should be opened in every acute middle ear suppuration, in which after careful treatment for 14 days the symptoms remained unbated, and even when there is no very threatening signs so far as life is concerned. This rule cannot be applied absolutely to all cases, but in general it is a fairly safe guide for the ordinary practitioner. The opening of the mastoid when done early does not need to be so extensive as when the operation is delayed and healing takes place more quickly. Müller reports 3 cases in support of the above rule. [G.B.W.]

4.—Hasselbach reports the case of a woman of 31 to whom he was called in her **sixth confinement.** He found that normal delivery would be impossible as Douglas's culdesac was filled with a large **ovarian cyst.** With aseptic precautions and under ether narcosis, the posterior vaginal wall was opened, and the cyst removed. After the operation was completed forceps were applied and a living child easily extracted. Time one hour. The patient had entirely recovered in two weeks from the time of operation. [W.K.]

Berliner klinische Wochenschrift.

March 26, 1900. [37. Jahrg., No. 13.]

1. Local Anesthesia and General Anesthesia. CARL LUDWIG SCHLEICH.
2. The Diagnosis and Therapeutic Indications of Tubercle-Bacilli in the Sputum. L. BRIEGER.
3. The Diagnosis and the Prognostic Significance of the Diazo Reaction in Pulmonary Tuberculosis. M. MICHAELIS.
4. The Development of Our Knowledge of Inflammation in the Nineteenth Century. E. PONFICK.
5. The Etiology and Operative Radical Treatment of Ozena. NOEVEL.

1.—Schleich believes that **local anesthesia** is coming into more and more general use, and that it may be practised in the majority of operations. Suitable infiltration-anesthesia is absolutely without danger, because of the very small amount of the toxic drugs used. This form of anesthesia is particularly to be preferred in all tumors of the skin and subcutaneous tissue, and in most plastic operations, such as the excision of scars, tenotomies, transplantations, and the suture of fresh injuries. The pain of the first prick of the needle may be avoided by freezing with ethyl-chlorid spray, and the entire cutaneous and subcutaneous tissue of the region of the operation should be filled with the fluid. The most important rule is to cut or burn only in the region which has been infiltrated and to infiltrate only where it is necessary. Celiotomies, herniotomy, and other major amputations, have been successfully performed by the use of such local anesthesia. In operating for inflammatory conditions, such as boils, carbuncles, or suppurative processes, the infiltration must be begun in entirely healthy tissue. In operating upon the fingers, if a piece of rubber tube be tightly tied about the base of the finger and the fluid then injected, the pressure of the blood produces infiltration in the entire finger, so that the method suggested by Obert is real infiltration-anesthesia. In certain cases general anesthesia is indispensable, and in such cases Schleich recommends his solution, which is made up of ethyl chlorid, chloroform, and ether. He has used this preparation in 5,000 cases without any bad symptoms. The fact that he has operated upon 250 physicians under local anesthesia, he believes indicates that they recognize the dangers of general anesthesia. [M B T.]

2.—In Brieger's laboratory sputum is stained for tubercle-bacilli with carbol-fuchsin, decolorized with nitric acid, and counterstained with methylene-blue. Sputa containing bacilli in small numbers are collected for 24 hours and then boiled with sodium hydrate solution from 1 to 2%, after Biedert's method. If this fails the feces are treated by a similar method, and often reveal bacilli when the sputum does not. The persistent expectoration of large numbers of bacilli is indicative of cavities. Occasionally it is impossible, even by careful, persistent examination, to find tubercle-bacilli in beginning or even advanced cases of phthisis. In cases of pulmonary gangrene a bacillus may be found resisting acids, but it can be differentiated from the tubercle-bacillus by being plumper. Very important in the phthisical process is **mixed infection,** which is responsible for the hectic temperature. Mixed infection occurs with the streptococcus, the staphylococcus, the influenza-bacillus, the pneumococcus, the Bacillus pyocyaneus, and the Micrococcus tetragenus. In the treatment of tuberculosis with tuberculin, the existence of mixed infection must be kept in mind. Great **care of the mouth** is necessary, as it is often the habitat of the bacteria of mixed infection. The aromatic compounds, such as creasote, etc., act upon the mixed infection, but leave the tubercle-bacillus unharmed. Oil of pepermint by inhalation is one of the best of these bodies. [D R.]

3.—The **diazo reaction** is of considerable value in phthisis, particularly from the standpoint of prognosis. In regard to diagnosis, a persistent diazo reaction in an afebrile patient is generally indicative of tuberculosis. Its presence in ascites is in favor of tuberculous peritonitis, as against cirrhosis of the liver. In meningitis the diazo reaction points to a tuberculous nature. The occurrence of the diazo reaction in tuberculosis is independent of the fever, of the number of tubercle-bacilli, and of the amount of sputum. It occurs usually in advanced cases of phthisis, and its presence is an **unfavorable prognostic sign,** the majority of cases showing it ending fatally within 6 months. Thus, of 111 cases with a positive diazo reaction studied by the author, 80 died; while of 56 cases with a negative reaction, only 3 died. The existence of the diazo reaction is a contraindication to treatment with the tuberculin and to the sending of patients to sanatoria. [D.R.]

4.—An historic retrospect of the development of the theories of **inflammation** during this century. The article does not lend itself to abstracting. [D R.]

5.—In concluding his article Noevel expresses his belief that most cases of **ozena** arise as the result of disease of the sinuses of the sphenoid and ethmoid bones. Fetor, atrophy and suppuration in the nasal cavities may have various origins. The rational treatment depends upon the discovery of the primary cause, and since this depends in most cases upon empyema of the sphenoid or ethmoid bones the treatment must be mainly surgical or it will be without result. [M.B.T.]

April 2, 1900. [37. Jahrg., No. 14.]

1. The Treatment of Tuberculosis in the Nineteenth Century. BAUMLER.
2. A New Method of Application of Silver in Histology. SALGE and STOELTZNER.
3. An Experimental Contribution on the Effects and After-Effects of Thyroid Poisons. MAX PORGES.
4. The Pyogenic Origin of Rheumatic Chorea and of Rheumatic Processes. STEPHANO MIRCOLI.

1.—An historic review of the development of the treatment of tuberculosis, with particular reference to the rise of the sanitorial movement. [D.R.]

2.—The authors have applied the methods of **photog-**

raphy to histologic technic, particularly in connection with the study of the bone-changes in rickets. Sections of the tissue are laid for 3 minutes in a ½% solution of silver nitrate, washed in distilled water, transferred for 1 minute to a 5% solution of sodium bromid, again washed in distilled water, and developed in a neutral amidol solution of the same strength as that used in photography. The result of this is a beautiful staining of the nuclei and an elective staining of the osseous substance that was calcified, with distinct differentiation from osteoid tissue, even in decalcified tissues. They found that intensification with uranium nitrate gave very good results. The silvered sections can be counterstained with lithium carmin; the uranium sections with methyl-blue and wasserblau III B. [D.R.]

3.—Porges found in a dog that the administration of **thyroid gland** produced a marked **reduction in weight** and the appearance of sugar in the urine. The sugar, after the administration of cane sugar, proved to be levulose. When dextrose was given dextrose appeared in the urine. He believes that thyroid gland and extract are distinctly toxic. [D.R.]

4.—Mircoli is an enthusiastic believer in the **pyogenic origin** of **rheumatic chorea** and acute rheumatic processes in general. In 17 cases of rheumatic chorea bacteria could be demonstrated in 14. Staphylococci predominated. In 3 cases the Diplococcus lanceolatus was the cause. [D.R.]

April 9, 1900. [37. Jahrg., No. 15.]

1. The Plague in the Light of Later Investigations. P. Frosch.
2. Some Points in the Diagnosis of Pulmonary Tuberculosis. H. Senator.
3. Treatment of Diseases of the Central Nervous System by Apparatus. Paul Jacob.
4. Disturbances in the Water-Secreting Activity of Diffusely Diseased Kidneys. Géza Kövesi and Wilhelm Róth-Schulz.

1.—A review of the history of **plague epidemics in Europe** shows that the disease has a decided tendency to propagate itself from the periphery of a country or a continent towards the center. It is also remarkable that the disease may attack a country or a city with undiminished virulence. After repeatedly appearing in Europe the disease finally subsided, Turkey being the last country to give it an abiding place; and even there it has not been prevalent since 1841. The present plague era began in 1894 on the southeastern coast of China, in the neighborhood of Canton. In 1895 it appeared in Hongkong and other places in China, continuing also in Canton. In 1896 the pestilence raised its head in India, in Bombay and vicinity, and also in the Island of Formosa. In 1897 it spread to East India, continuing in China and in Formosa. In 1898 the same localities were infected; also Madagascar, Arabia, Suez, Malta, and San Francisco. Last year it appeared in Persia and in Portugal, in Plymouth, England, and in Trieste, Austria; in Brazil, Paraguay, the Argentine Republic, Lorenzo Marquez, Honolulu, and Manila. At the present moment it is causing alarm in Australia, in San Francisco, in Cairo, and elsewhere. Frosch believes that we shall be able to control the disease. The discovery of the bacillus was the first step towards an intelligent fight against it. The demonstration of the bacillus in the lungs in the pneumonias of plague and in the sputum is of great importance from the standpoint of prophylaxis, as is also the discovery that in the various skin lesions of plague the bacilli are, as a rule, present. It should not be forgotten that the bacillus may remain alive in the sputum for a month and a half. The bacillus has not permanent state, that is, it is without "dauerformen." It is readily killed by disinfectants and by heat, and loses its vitality in drying, the time varying with the external temperature. Putrefactive organisms are antagonistic to it. One peculiar feature is that it does not thrive better at the body temperature than at the room temperature—indeed it can tolerate very low degrees of temperature. [D.R.]

2.—Senator reviews the causes of hemoptysis and points out some possibilities of error in the diagnosis of **pulmonary tuberculosis.** It may be difficult to differentiate the disease from syphilitic lung-infections and from actinomycosis and aspergillosis. [D.R.]

3.—Jacob dwells on the value of **mechanical devices** in the treatment of diseases of the central nervous system. In a case of juvenile atrophy of the feet and hands he had an apparatus constructed by which the patient was enabled to use her thighs for purposes of walking. She was instructed how to walk, and finally could dispense with the apparatus and use canes, which had to be provided with special handles, on account of the inability of the patient to hold anything in her hands. She is now able to walk without canes, although up to the time of treatment she had only been able to crawl on all fours. The **apparatotherapy,** as the author calls the mechanical form of treatment, is also useful to keep muscles, the function of which is more or less impaired but not lost, in a proper condition. Another form of apparatus is used in strengthening healthy muscles, the power of which is not sufficient to make them compensate entirely for the loss of power in other muscles. [D.R.]

4.—The determination of the **depression of the freezing point of the urine** shows changes in the different forms in diffuse nephritis. When the disease has reached a stage in which compensation by healthy portions of the kidney is no longer possible the freezing point shows that the number of molecules eliminated in the urine in 24 hours is much reduced below the normal—a condition termed **molecular oliguria.** In health the osmotic pressure of the urine is generally much greater than that of the blood—a proof that the kidneys must perform considerable labor to raise the osmotic pressure of the urine above that of the blood. This is brought about by an absorption of water. After the excessive ingestion of fluids the healthy kidneys may eliminate a very dilute urine, showing that they have marked accommodative power. The authors found that in parenchymatous nephritis this power of secreting a dilute urine after the ingestion of fluids is greatly diminished; in contracted kidney it is scarcely at all impaired. The same thing is true of the kidney in compensated heart lesions: while when the compensation is lost, the power of the kidney to dilute the urine is diminished. Regarding the depression of the freezing point, the difference between parenchymatous and interstitial nephritis lies not so much in the magnitude of the depression of the freezing point as in its variability, it being greater in the latter than in the former. The general conclusions are: First, That the determination of the depression of the freezing point and of the quantity of urine excreted in 24 hours gives an insight into the magnitude of molecular diuresis and enables us to recognize molecular oliguria; second, the determination of the freezing point of the blood shows whether the molecular diuresis is sufficient to remove the waste molecules formed in metabolism. The results of the dilution test (that is, the effects of the ingestion of large quantities of water) show: First, That in parenchymatous nephritis the water-excreting power of the kidney is reduced; second, that in contracted kidney it is more or less preserved; third, that this is also the case in the kidney of heart disease, as long as compensation exists; fourth, that the kidney in passive congestion behaves towards the dilution-test as the transitional stages between chronic parenchymatous nephritis and contracted kidney. [D.R.]

Centralblatt für Gynäkologie.

April 7, 1900. [24. Jahrg., No. 14.]

1. A Palliative Procedure in Inoperable Carcinoma. J. O. Kunstner.
2. Rapid Hysterectomy. D. Stapler.

1.—In cases of **inoperable cancer** in which the foul discharge becomes very offensive both to relatives and attendants, Kunstner, in order to remedy this evil, recommends a palliative operation, rectal colpocleisis. He makes a broad communication between the vagina and rectum by a transverse incision above the sphincter ani, sutures the edges with catgut, and places therein a sponge saturated with alcohol. He then closes the vestibule with silkwormgut sutures, and about the fourth day of convalescence draws out the sponge through the anus. Any hemorrhage threatening life may be controled by tampons in the vagina or by cold irrigation through the rectal fistula. [W.K.]

2.—Stapler recommends **rapid hysterectomy** by means of clamps which crush the several tissues to paperlike thinness and he thus avoids all ligatures. He claims to have so im-

proved the clamps or angiotribe of Doyen, Thumin and others that the instrument will grasp all the necessary tissue, as for instance the broad ligament, at one time; therefore it need remain only about 5 minutes on each side and the whole operation may be completed in 15 or 20 minutes. The advantages of this procedure are its cleanliness, rapidity and certainty. [W.K.]

April 14, 1900. [24. Jahrg., No. 15.]

1. Reply to the Papers by Karl A. Herzfeld and R. V. Braun-Fernwald. P. Zweifel.
2. Has the Existence of Adenomyoma of the Parovarium Been Proved? Ludwig Pick.
3. Relation Between the Sternum and the Conjugate. J. Kurz.

1.—Zweifel continues the discussion of decapitation and the relative merits of instruments for its execution. [W.K.]

2.—Pick discusses at length the existence of **adenomyomas of the parovarium,** and compares two different theories of their origin; one, that they originate in the mucous membrane; the other, in the parovarium. He considers that the latter is the correct one, and that it has now been proved. The mesonephritic adenomyomas appear in various localities, on the uterus, the tubes, the posterior vaginal vault, the posterior abdominal wall, the broad and even the round ligaments; but all have a unity of appearance, form and structure, which point to a common origin, the parovarium. [W.K.]

3.—Kurz, after describing his method of measuring both sternum and conjugata vera, gives a tabulated statement of the measurements in 150 cases. In 7% of these the difference between the two is 1 cm. or more, but in 93% it is less than 1 cm., and he estimates that the normal difference is 1 mm. He therefore concludes that in the great majority of women there is a known and definite relation between the sternum and the conjugata vera. [W.K.]

April 21, 1900. [24. Jahrg., No. 16.]

1. Case-Reports of Pelvic Echinococcus. Graupner.
2. Thermoelectric Sounds. A. Schucking.

1.—Graupner reports a case of **echinococcus** returning 8 years after the first operation in which a laparotomy had been performed and an echinococcus sac, the size of a man's head, had been peeled from the left broad ligament; but a small remnant left behind on the ligament floor had caused an exudate 26 days later, notwithstanding which she soon recovered health and strength. After 8 years the patient returned to the hospital complaining of much pain and fulness. She was examined, the apparent tumor was punctured with rigid antiseptic precautions, and a clear watery fluid was obtained, containing echinococci. His diagnosis being thus confirmed, Graupner proceeded with the operation: he made a long incision in the posterior side of the vaginal vault with a Paquelin cautery, drew downward the tumor or sac, and with the cautery burned an opening in its wall through which was emptied the entire fluid contents in which appeared many typical daughter echinococcus sacs. A portion of the sac-wall was removed, the remainder being stitched to the vaginal wound and the cavity tamponed with iodoform gauze. Schroeder in 1883 reported a similar case in which the echinococcus sac was removed by laparotomy and returned after 4 years. Graupner prefers the method of treatment with cautery to the removal of the sac by laparotomy, because he believes there is less danger of implantation of the daughter-sacs elswhere, and therefore less danger of a recurrence. [W.K.]

2.—Schucking describes the construction of the **thermoelectric sound** and says its purpose is to obtain the influence of a high temperature upon the mucous membrane without the caustic effects or without danger to the patient. Experience has shown favorable results from its use, especially in gonorrheal affections. [W.K.]

April 28, 1900. [24. Jahrg., No. 17.]

1. Case-Reports of Premature Delivery. W. Grusdew.
2. Retrostructural Edema of the Female Bladder. G. Kolischer.

1.—Grusdew disagrees with the French school of obstetricians as represented by Pinard, who says that since ⅓ of the **infants prematurely born,** not being yet completely developed for extrauterine life, soon die; therefore, in all cases of pregnancy in women with much narrowing of the pelvis and a living fetus, the artificial delivery should be by Cesarean section, symphysiotomy, or similar operation. Pinard admits that this course results in a mortality of 12% of the mothers and 13% of the children, while many of the living mothers suffer from various evil consequences of the operation. Such a showing Grusdew considers far from an ideal result, and strongly advises the production of artificial delivery at the end of from 32 to 36 weeks of pregnancy by the use of soft bougies or colpeurynters, or, if necessary, by puncturing the amniotic sac. He thinks the mortality of mothers is far less, being little more than in normal delivery, and that the advantage to the life, health and continued productiveness of the mother is an ample recompense for the increased danger to the child's life. In confirmation of this view he reports the case of a woman whose first pregnancy continued to term, when after several days of labor perforation of the living fetus was found necessary before delivery was possible. After she came under his care he had 9 times induced premature delivery by means of bougies or similar methods, and she was now the mother of 5 healthy children, with the health and strength needed to care for them. [W.K.]

2.—Kolischer calls attention to the existence of **stricture al edema of the bladder** in women who have never suffered from gonorrhea or syphilis and who have never borne children. There are instances of congenital stricture and others which are independent of any inflammatory or cicatricial process. Being elastic they offer no resistance to the sound; in some cases they produce no special symptoms; in others they cause burning and irritation of the bladder and the urine may contain necrotic tissue, pus, or sometimes blood. This edema may interfere with the nutritive process and with circulation and cause the formation of tumors. He believes there is no remedy for this urethral stricture but the surgeon's knife; the simplest and best is an internal urethrotomy. The stricture having been cut through, there follows the lessening of the edema and the cleansing and healing of the tumor in a short time. He advises the use of Nitze's cystoscope to diagnose this condition. [W.K.]

Deutsche Zeitschrift für Chirurgie.

January, 1900. [Band 54, Heft 3 u. 4.]

15. The Restoration of the Male Urethra. Giuseppe Ingianni.
16. Traumatic Separation of the Epiphyses. Oscar Wolff.
17. Operative Treatment of Prolapse of the Rectum. Jar. Bakes.
18. Removal of an Osteoma of the Wall of the Orbit, with Preservation of the Eyeball. Schuchardt.
19. The Application of a Murphy's Button in Gastroenterostomy. W. Merkens.
20. An Axillary Neuroma of the Brachial Plexus. M. Schmidt and Ernst Delbanco.
21. Acute Disease of the Pancreas. Carl Francke.

15.—Ingianni in a series of experiments carried out on dogs has endeavored to determine the character of the tissue-formation which takes place after the **removal of portions of the urethra.** He reports in all 23 experiments, from the study of which he makes the following deductions: It is possible, experimentally, to bring about the regeneration of a large or small portion of the urethra. The layers which are reformed are the mucous membrane and the cavernous sheath; no regeneration of the muscular layer being observed. The regeneration begins at the stump of the urethra and, growing forward, models itself around the catheter. The development of the cavernous tissue begins by the proliferation of the endothelium lining the spaces, which were opened when the urethra was cut through. The endothelium then spreads over the new spaces, which, sinus-like, form in the granulation-tissue. It is also possible that the cavernous tissue reforms by budding, like the formation of new bloodvessels. The sinuses of the cavernous tissue reach their greatest size between the fifteenth and thirtieth day, after this their lumen is limited by the contraction of the surrounding connective tissue, which contraction, however, very seldom causes their complete obliteration. From

the pavement epithelium of the mucous membrane of the stump a single layer of cells develop and, spreading out, line the newly-formed cavernous layer. The cells of this mucous membrane soon begin to proliferate and finally form a true stratified epithelium. The redevelopment of the layers of the urethra depend for intensity on the inflammatory reaction following the operation, being more marked when the reaction is greatest. If a small urethral stump is transplanted into an artificially formed subcutaneous canal, the stump grows and lines the inner wall of the canal, so that a new urethra is formed, resembling the normal one both in function and structure. The layers of this new urethra consist of mucous membrane and the cavernous layer, the muscularis taking no part in the new formation. [G.B.W.]

16.—In the surgical department of the Kölner Bürger-hospital, during the past 2½ years, there have been 34 cases of **epiphyseal separation,** occurring between the ages of 1 and 18 years, as compared with 121 true fractures between the same ages. The epiphyses at the elbow-joint most frequently become separated, the lower epiphysis of the tibia being next. The separation is generally due to a direct force, exceptionally to an indirect. Epiphyseal separation has many symptoms in common with the ordinary fracture, but also has numerous characteristic appearances. There is very likely to be practically no displacement of the fragment; the greatest amount, however, occurring at the lower epiphysis of the femur and next to this at the upper end of the humerus. Because of the nearness of the injury to the joint, hemarthrosis is a very common complication. The crepitus is of a much smoother character than that felt in fractures, but this soft crepitus loses its characteristic smoothness in proportion to the age of the patient, *i. e.*, as the epiphysis ossifies. Pain on pressure is, as a rule, much less than in fracture, at times being almost entirely wanting. The x-rays in young children affords considerable help in the diagnosis, but because of the large amount of cartilage present, the line of separation can not be seen. There are two fundamental indications in treating perfect reposition of displaced fragments; and absolute fixation of the fragments by properly fitting apparatus. When there is no displacement, and this is generally the case, the retention apparatus is all that is required. The healing of these epiphyseal separations takes place rapidly and in 3 or 4 weeks they are generally firmly united by a small, bony callus. When, however, the fragment has not been properly reduced, the callus thrown out is so large as to interfere with the motion of the joint; also in the cases of union in bad position the growth of the bone is greatly disturbed. If the fragments are in exact apposition when union takes place there is little or no disturbance in the growth of the bone. Wolff finishes his elaborate paper by the recital of a number of cases covering all the different epiphyses and describes in detail the different conditions found and the various apparatus required for treatment in the individual cases. [G.B.W.]

17.—When the supporting apparatus of the rectum becomes relaxed or stretched, the gut falls through the anal opening, forming either a prolapsus mucosae ani, a prolapsus ani, or a prolapsus recti. The last, because of its severe symptoms, most urgently demands the attention of the surgeon. The **treatment for prolapsus** may be divided into 4 groups: (1) The medicinal, both internal and local; (2) bandages and retentive apparatus; (3) massage and electricity, and (4) the operative treatment. Operation may be by (1) cauterization; (2) narrowing operations; (3) the elastic ligature; (4) resection; (5) suspension, and (6) torsion. Cauterization is useful when the mucous membrane only is prolapsed, but in total prolapse this method has been set aside. Operations, which have for their object the narrowing of the rectal opening, have very limited applications because of the tendency to recurrence which accompanies them. Bakes says that the one case operated on by elastic ligature in their clinic recovered with a very good result. Resection is a good though somewhat dangerous method and is indicated especially in old chronic irreducible and ulcerated prolapses, also in acute strangulated cases. It is relatively indicated in recurrences following other operations. In large prolapses due to malignant tumors the resection is again in its proper position. The most modern method of treating prolapse is by suspension and of late years it is undoubtedly the most frequently applied procedure. It consists in fastening the gut in its normal position by sutures properly applied, either to the rectum itself or to the sigmoid flexure. Torsion finds its indication chiefly in advanced malignant cases. [G.B.W.]

18.—Schuchardt reports an interesting case of **osteoma of the orbital wall.** The growth had been growing for about 4 years, and at the time of operation it was pushing the eyeball markedly downward and outward. The operation was undertaken because of the increase in size of the tumor and the annoying double vision. An osteoplastic flap, including a wedgeshaped piece of the external wall of the orbit, was turned downward, and by a proper retracting of the eyeball and lids, a good view of the tumor was obtained. The growth was removed piecemeal with a chisel and the wound sutured. The wound healed readily, but the position of the eye remained below the normal so that the patient was not entirely relieved from the double vision. [G.B.W.]

20.—Schmidt and Delbanco report an interesting case of **neuroma of the brachial plexus.** The patient was a woman, 54 years old, and had had the growth some 15 years. On attempting removal, it was seen that the median nerve was intimately connected with the tumor and had to be divided above and below, also that the musculospiral nerve was involved, and as the division of this trunk would so lame the arm that it would be a practically useless member, it was decided to leave a portion of the growth in situ. Following the operation there was entire loss of function and sensation except for that portion of the arm supplied by the musculospiral. In the course of time the sensation was somewhat restored, but there was very little improvement in the motor ability of the arm. The tumor weighed almost two pounds, and was made up of a number of smaller nodules distinctly encapsulated the one from the other. Microscopically the larger portion of the tumor resembled a spindle-celled sarcoma; in between which portions there was a quantity of loose connective tissue. No nerve-fibers could be found in the tumor-substance. Considering the whole condition, it seems that at first there was a small benign growth in between the nerve-fibers, which later on became degenerated into a spindle-cell sarcoma. [G.B.W.]

21.—Francke reports three cases of **pancreatic disease,** all of which were operated on and all of which died. The first patient had suffered for half a year from gastric pain, but since 3 days had developed the symptoms of intestinal obstruction. Operation was undertaken, but the patient died within an hour afterwards. The pathologic findings were necrosis of the greater part of the pancreas with quite extensive hemorrhages. The second patient, without any previous symptoms, was suddenly taken with abdominal pain and vomiting 3 days before being operated on and died the day after the laparotomy. In this case there was almost total necrosis of the pancreas with hemorrhages around the edges of the necrotic area. The third patient was a woman, 33 years old, who had had attacks of abdominal pain and vomiting for 5 weeks. For 3 weeks she had noticed a gradually growing abdominal tumor. The patient died 5 days after the operation from peritonitis. At the postmortem a large pancreatic cyst with total necrosis of the organ was found. [G.B.W.]

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1. Concerning the Position of Freely Movable Exudates in the Pericardium. O. Damsch.
2. Medical Legends of Hildesheim During the Middle Ages. E. Becker.
3. Experimental and Clinical Details Concerning Urotropin. A. Nicolaier.
4. Concerning the Origin of Uric-Acid Infarcts. E. Schreiber.
5. Concerning Volvulus of the Intestine. E. Schreiber.
6. On Tendon-Muscle Transplantation for the Functional Cure of Paralysis due to Disease of the Peripheral Nerves. W. Müller.
7. Dystopia of the Kidneys with Anomalies of the Sexual Organs. O. Buss.
8. Two Cases of Pachymeningitis following Trauma. O. Buss.

9. Peritonitis-like Symptom-Complex in the Final Stage of Addison's Disease. ZAUDY.
10. Meckel's Diverticulum as a Cause of Ileus. STRAUCH.
11. On Chronic Ankylosing Inflammation of the Spinal Column and Hip-Joints. (Strümpell.) O. DAMSCH.
12. On Mucin-Coagulation in the Urine. FRANK.
13. A Case of Fibrinous Rhinitis with Diphtheria-Bacilli. H. REICHENBACH.
14. A Contribution to the Knowledge of Acetonuria. WALDVOGEL.

1.—Damsch discusses the various methods which have been used for determining the **form and position taken by pericardial exudates,** and describes his own method, which consisted in laying free the pericardium in the area of the cardiac dulness by resection of the fifth and sixth costal cartilages. He then made a small incision into the pericardium and introduced a canula, fixed the latter, and injected agar-solution, using this because it rapidly solidifies. Various amounts of solution were employed; with 100 cc. he found that the fluid occupied the portion of the pericardium left free by the heart, without distending the pericardium notably. The agar collected in the lowest parts in greatest amount and from the lowest parts upward some agar was found over the surface of the heart, the amount decreasing toward the upper portions when the body was held in the vertical position. This resulted in increasing the lateral and vertical diameters of the pericardium, and in bringing the right side of the pericardium nearer the wall of the thorax; the result of this would be the occurrence of a dulness in the angle between the heart and the liver on the right ride. Larger amounts of fluid caused a dislocation of the diaphragm downwards and a dislocation of the borders of the lungs toward the right and left, and with increasing amounts of agar the distention became particularly marked transversely and especially on the right side. The heart was displaced downward and the agar occupied the anterior surface. Certain other experimenters have found that the heart was displaced upward and forward, contrary to these results obtained by Damsch. This he explains by the fact that in their work the left ventricle was hypertrophied and the heart occupied practically the whole space between the anterior and posterior walls, so that the fluid injected must occupy the lower space and drive the heart upward. The result of his finding that the agar collected in the lower part of the pericardium first and then toward the right was to lead him to conclude that dulness in the heart-liver angle is a characteristic sign of pericardial effusion; with increasingly large amounts of fluid the intrapericardial pressure causes the form of the pericardium to become round, and this causes the dulness to increase towards the right, the left, and upward. The anterior surface of the heart was alawys found covered with a layer of agar, increasing in thickness according to the amount injected. This is sufficient to explain the usual disappearance of the impulse, and the weakness of the cardiac tones. In one in which the heart was hypertrophied he found that the heart was lifted upward and forward. This is certainly what happens in most cases of pericardial effusion since the majority of cases of this affection are associated with disease of the heart, which causes the muscle to hypertrophy. The question as to the proper point for puncture in aspiration was, as he believes, settled by his results. The fluid collects chiefly in the lower and right hand portions of the pericardium. Therefore, there is no danger of injuring the heart by puncturing in this region, and the only thing to be considered is the possible injury of the pleura. This can be best avoided by puncturing in the fifth or sixth intercostal space near the sternum, pointing the trocar somewhat inward, and after entering the pericardium moving the trocar about somewhat if necessary until fluid is obtained and until the pericardium is entirely emptied. [D.L.E.]

3.—Nicolaier first describes the chemical characteristics of **urotropin** and its combinations, and discusses the methods of determining the presence of urotropin. He then describes experiments as to the possibility of causing dangerous poisoning with the drug. He found that in dogs he could give as much as 15 gm. without causing any serious symptoms, and human beings are known to take from 8 to 10 gm. at a dose without unfavorable symptoms. He has investigated the cause of the influence of this drug in retarding microorganismal growth. It is notable that microorganisms are unaffected unless the cultures of microorganisms to which urotropin is added are kept at body-temperature. Formaldehyd is formed from urotropin if the latter is kept at about body-temperature, particularly in the presence of acids. Nicolaier has found that uric acid will cause urotropin to split up and to give off formaldehyd. He has also, by a modification of Jorrison's method, been able to determine the actual presence of formaldehyd in urine to which urotropin had been added and which had been kept at body-temperature. He therefore decides that the effect upon microorganisms is due to the action of the uric acid upon the urotropin and the consequent formation of formaldehyd. Urotropin also produced solution of uric acid. This was not due merely to the fact that urotropin is a basic substance, for the action is too marked to be produced by such a weak base, and it is not due to the increased diuresis, since urotropin containing urine dissolved concrements when large quantities of water added to the urine had no effect upon these concrements. This effect is attributed again to the formaldehyd which, when produced, acts a good solvent of uric acid in the urine. The clinical results from urotropin which he details concern cases of cystitis with marked ammoniacal urine. Several cases which had been treated by other methods are reported, and in all these instances, while the former treatment had been effective, urotropin caused rapid and continued improvement and ultimate recovery. This was also the effect in cases of purulent inflammation of the urinary channels of varied etiology, even gonorrheal cases rapidly recovering. Injections of urotropin in gonorrhea seemed to be without effect, and there was no decided result seen from the drug in a case of cystitis, the result of hypertrophy of the prostate. Good effects, however, were obtained in a case of cystitis following typhoid; while in a case of cystitis in which the pus contained only streptococci the result was not good. In cases of tuberculous disease no good effect was seen. He had good results from the use of urotropin in the uric-acid diathesis. The uric acid went into solution better, and he even saw in several instances concrements passed after the urotropin had been used for a certain time. He noted in several instances that these were passed without pain, and that subsequently no more gravel was passed, even when the patients had been subject to it for years before. It also caused cessation of pain in the region of the kidneys in a number of cases of nephrolithiasis. He believes that the remedy should be used more freely in gout. He had no good results from its use in phosphaturia. [D L.E.]

4.—Schreiber notes that there have been previous attempts to produce **uric-acid infarcts** by feeding with uric acid or by increasing the uric acid by giving thymus or hypoxanthin. The reasons for this which he offers are that in dogs uric acid is rapidly oxidized after being taken into the body, and that the kidney is able to excrete the slight increase in uric acid that one is able to produce by feeding on thymus and similar foods. He has noticed that in such cases careful observation showed always some inflammation of the kidneys; Aschoff has even described urate deposits in the cells. He therefore attempted to produce infarcts by first causing a lesion of the kidneys and then producing an excess of uric acid. To produce nephritis he gave dogs aloin in a dose of .01 gm. per kilo of dog; then he had them eat thymus gland; afterward he used bichlorid to produce the nephritis. He was, however, unable to produce any uric-acid infarcts. But he believes that further experimentation will prove the correctness of his theory, and he considers that the frequent occurrence of uric-acid infarcts in the kidneys of the newborn is due to the fact that there is an increased excretion of uric acid in the early days after birth, and this injures the delicate epithelium of the kidneys of young infants, and the injured epithelium provides the basis for the formation of infarcts. [D.L.E.]

5.—Schreiber describes the case of a boy of 9 who had repeatedly had attacks which seemed to be **intestinal obstruction** and were accompanied by fecal vomiting. When admitted into the hospital he was vomiting large amounts of material which contained no HCl, but was not feculent. The bowels moved daily after injections. He died suddenly 5 days after admission after rising from bed when unwatched. The postmortem showed that there was a marked **volvulus** formed by the jejunum and ascending colon which had been produced through the fact that the cecum and ascending colon were not fixed to the lateral walls of the

abdomen but were free, excepting for the attachment to the mesentery which was similar to that of the small intestine. This volvulus had been the cause of the final obstruction. The explanation of the previous attacks, however was, found in the fact that the duodenum ran under the upper end of the ascending colon as far as the spinal column; it then turned downward and backward, ran under the colon again, then for the third time ran under the colon, so that the ascending colon had become twisted about the root of the mesentery. The mesentery was thickened, and had become fixed and tortuous, and there was practically a simple torsion of the root of the mesentery. This torsion of the mesentery had probably been present since birth, but had never given rise to complete obstruction. Schreiber insists upon the importance of recognizing the value of the rapid prostration which occurs in such obscure cases as a sign of obstruction along the intestinal tract, and he believes that when one has a case of severe constipation with vomiting, even though the latter be not feculent, if there is within a short time severe prostration one should consider the possibility of obstruction, and if this cannot be excluded absolutely the patient should be operated upon as early as possible. [D.L.E.]

6.—The case reported was that of a man of 23, who had had his right **humerus broken** at the middle in a crushing accident, and as a result had **paralysis of the radial** with atrophy of the forearm and complete motor paralysis of the extensor muscles of the forearm with reactions of degeneration. An attempt was made to unite the portions of the radial nerve, and since the removal of the damaged part had made a wide gap a portion of the humerus was resected. But so much of the nerve had been injured and had atrophied that a proper union was impossible and the paralysis was not bettered by the operation, hence nearly three years after the injury a second operation was undertaken. An incision 6 cm. long was made on the ulnar side of the forearm and the tendons were laid free, the flexor carpi ulnaris being cut through just above this insertion; then all the extensor tendons of the fingers were cut across the hand held in extension, and the tendons were united to that of the flexor ulnaris with catgut sutures. The hand was kept fixed in extension for nearly 2 months. At the end of this time the man could make slight movement of extension, and from this time on there was decided though slow improvement, and at the end of 7 months he was able to raise his fingers up to the horizontal. The thumb could be extended but not abducted; later, however, he acquired greater power of extension and was able to abduct the thumb, and the previous tendency of the hand to deviate toward the ulnar side had disappeared. The patient said that in the early stages of his improvement he felt at a loss when he attempted to make extending movements of the fingers and felt unable to move them as he wished, and that he had not the sensation of extending his fingers even when this was actually accomplished; but by the end of 5 months he could carry out the movements of extension accurately and had regained his previous sensation of extension of the fingers when he accomplished this act. [D.L.E.]

7.—The patient was a girl of 21 who was subjected to a laparotomy, because of **absence of the vagina,** and the presence of a tumor in the pelvis which was thought to be a hematometra since an artificial vagina could not be made. The operation was undertaken in order to remove the ovaries and to prevent the menses. The left ovary was found readily and removed. The tumor was incised and found to be a sac containing a hard body, and the solid body was found to consist chiefly of dark blood-clots. When the operator advanced to the removal of the tumor he found connecting with it a cord running downward which made him suspect the possibility that the tumor was kidney. It proved to be a kidney with marked fetal lobulations and consisting of portions which were markedly hypertrophied and others which were very atrophic. The patient passed no urine after the operation and became nauseated. She was given packs and sweat baths, and there was some improvement, but the weakness increased. She became apathetic; the left parotid swelled, and the swelling became so great as finally to prevent swallowing. She became very restless, the pulse became small, she lost strength rapidly, and seven days after the operation the apathy increased greatly, the pupils contracted and did not react to light, she became very somnolent, and died with a subnormal temperature and rapid pulse. The postmortem showed no sign of a peritonitis. The uterus as well as the vagina was entirely absent; there was only a hard muscular flat strand between the bladder and the rectum. The right kidney was found to be entirely absent as was its ureter; the right ovary was absent. The tumor removed was the left kidney. **Dystopia of the kidneys** with abnormalities of the genital organs is an extremely rare anomaly. One point of marked interest in the case was the fact that in spite of the removal of the only kidney the patient had lived 7 days without any secretion of urine. The blood-clots found surrounding the kidneys in the retroperitoneal tissue are considered by Buss to have been vicarious menstruation, since there was no other explanation for their presence and the patient had pains and discomfort in the abdomen about every four weeks. [D.L.E.]

8.—Buss describes first the case of a man of 58, a teacher of gymnastics, who had fallen upon his head in 1895 and had been insensible for over an hour and had vomited afterward. Two years after the injury he became very soporose and tired readily. His memory became poor, he suffered from headache, and his gait was uncertain. He also had attacks of vertigo. The condition gradually became worse. He developed twitching of the right arm, his speech became poor, he had dysphagia, and bilateral ptosis developed. His apathy and somnolence increased and death finally occurred 2½ years after the injury. The convolutions of the left hemisphere were found much flattened in the anterior portions, and lying over this area was a thick fibrinous membrane with old and thick hemorrhages in it. In spite of the fact that between 2 and 3 years had passed after the injury, Buss attributes the internal hemorrhagic pachymeningitis to the injury, since the man was not alcoholic, there were no evidences of involvement of the respiratory or circulatory organs, the urine did not contain albumin, and there were no atheromatous changes in the bloodvessels. The second patient was injured in 1898 by falling from a wagon backward on his head. He was delirious after the injury and had headache. Percussion of the skull was painful. He was very noisy, but afterwards became somnolent. After about 2 weeks he recognized his daughter, but he still had disturbances of speech; the mouth was drawn to the right, the grasp of the left hand was poor, and he was very somnolent. Four weeks after his injury he died, after increase of somnolence, Cheyne-Stokes breathing and increase of the difficulty of speech. When removing the calvarium reddish-brown bloody fluid ran out, particularly from the region of the right hemisphere. On the inner side of the dura over the right hemisphere were numerous blood-clots, some new, and some old organized fibrinous masses and membrane-like tissue containing new-formed bloodvessels, hemorrhages and collections of pigment. The hemisphere beneath was flattened. This man was an alcoholic, and the question was whether the **pachymeningitis** was the result of the injury or whether it was due to the alcoholism. The injury had been extremely severe, however, and the symptoms had followed directly afterward, and it is believed that the injury had caused the pachymeningitis. [D.L.E.]

9.—The patient was a man of 46, who was admitted to the hospital with pain in the left arm and leg, and cough. He had become bedridden, was very weak, and there was constant emaciation. His chief complaints were pain in the chest and back and in the left arm and leg. For some days he had been unable to swallow. There was some rales in the right apex, but otherwise the lung-signs were practically normal. The heart-tones were very weak, the liver-dulness was enlarged, the abdomen was flat and palpation was painful in the epigastrium, but it was tympanitic everywhere. He had marked difficulty in swallowing, but the esophageal sound was passed upon the second attempt without any difficulty. The patient became very restless and unruly at times, and at other times very apathetic. He vomited frequently. Death occurred suddenly. The diagnosis had been in great doubt, but a malignant tumor along the gastrointestinal tract was suspected, and the chief thought had been stenosis of the pylorus. The postmortem examination showed **caseation of both suprarenal glands** with swelling of the lymph glands and brown atrophy of the heart. No other changes of much importance were found. After this, pigmentation was sought for carefully, and some small, brownish spots were found on the left temple, on the under lip and a few on the upper lip. There was no tuber-

culosis anywhere, excepting in the suprarenal gland, and the condition was believed to have been **Addison's disease.** Zaudy states that a man is justified in diagnosing Addison's disease with this peculiar peritonitis-like symptom-complex if the conditions cannot be explained on any other basis, even though all other symptoms of Addison's disease are absent. [D.L.E.]

10.—The case reported occurred in a girl of 6 years, who had had repeated attacks of severe colic. The day before she was operated upon she had a severe attack of colic with vomiting and a few diarrheal stools, after which the bowels had entirely ceased moving and she became much distended, the abdomen was tender, and a sausage-like tumor was found reaching across the epigastrium to the left. Operation showed invagination of the small intestine and as the invagination of the bowel was reduced there was found invaginated Meckel's diverticulum at the end. Another case reported occurred in a man of 20, who was taken suddenly ill with symptoms of intestinal obstruction, and who was operated upon and an artificial anus established. The man vomited freely at the end of the operation and died from aspiration of vomit. The postmortem showed a Meckel's diverticulum which was twisted about the small intestine, and it caused marked torsion of the gut. In the first case the symptoms had lasted for years, and Strauch believes that the attacks of colic had been due to the old **invagination of the Meckel's diverticulum.** The walls of the diverticulum were very greatly thickened and it was impossible to reduce it from the gut. After looking over the cases reported in the literature, he decides that invagination of a diverticulum may cause no symptoms; it may cause symptoms of partial or complete obstruction of the intestine, or it may cause marked invagination in the intestine. The invagination of the diverticulum is primary, that of the gut secondary. A much more frequent result is obstruction by the strand-like diverticulum forming a band about the intestine. In all, 79 such cases have been collected. In these 79 cases the diverticulum was attached 17 times to the mesentery, 17 times to the navel, 9 times to the abdominal wall, and 14 times to other portions of the intestine. The prognosis in such cases is extremely bad, at least 75% dying if not operated upon, and operation is likely to prove fatal. [D.L.E.]

11.—The case reported is considered to belong to the class described by Marie as a **rhizomelic spondylosis.** It occurred in a man of 42, several of whose family had a history of rheumatism. He had mumps in childhood, and since that time had had some difficulty in the movement of the lower jaw, but was otherwise in normal condition up to his tenth year when he had pain in his right thigh near the pelvis. Subsequently he had a painful swelling of the left knee which improved. The first symptoms of the illness described began in 1883 with stiffness of the spinal column which increased and involved the lower portion of the spinal column. This was entirely painless. He had been able to carry out his usual occupation, however, and was able to walk about, and since 1892 there had been no definite change in his condition. When seen, the upper part of his body was held somewhat forward and toward the right. The spinal column seemed stiff and immovable, the cervical portion was somewhat kyphotic; the ribs immovable, the arms and shoulders entirely free, the movement of the hip joints somewhat limited. The advance of the disease running a course of about 10 years without pain, and proceeding to complete immobility of the spinal column was believed to be characteristic. [Reference to the previous abstracts from the articles of Marie and Léri is sufficient to show that this case does not correspond to their descriptions. D.L.E.]

12.—The case reported occurred in a man of 35, who, since his sixth year, had passed at times masses which appeared to be composed of mucus from the bladder with the symptoms of renal colic. The parents said that since his third year he had had pain with micturition. At this time the urine became white and turbid and afterward became clear again. Similar symptoms appeared at the fifth year, and they became more and more frequent since his sixth year. The attacks consisted of pain in the region of the bladder, inability to urinate and overdistention of the bladder. The urine contained pus and crystals of phosphates and rapidly became alkaline. At one time the external meatus was found plugged by a grayish white shining mass which, upon microscopic examination, proved to be be a collection of triple phosphates. A similar mass was subsequently removed, after which the distress disappeared. This attack was repeated in his eleventh year, and also 5 years later, but the patient had been well in the interval. The examination showed nothing except a small mass high up over the bladder. So-called membranes were passed from the bladder at this time. These, upon microscopic examination, had a hyalin appearance, with numerous small dark bodies scattered throughout. This attack was also recovered from after 3 days' treatment. For 12 years he was entirely free from attacks; clots were occasionally passed but without serious pain. Since 1893 he had had irregular attacks of varying intensity which had the appearance of renal colic. They were preceded by a sense of pressure in the region of the right kidney; this increased to pain, was accompanied by a constant desire to urinate, and the pains radiated toward the bladder. Thus large quantities of **turbid urine were passed which contained larger or smaller clots,** and the urine became clear after this until the next attack. The attacks were not accompanied by fever and left no signs behind them excepting some weakness, and in the intervals the patient was able to attend to his occupation. At times he had slight attacks in the interval, which consisted of a feeling of pressure in the region of the right kidney, with the passage of small grayish-white clots. There was no effect upon the general condition. At one time he had an attack of profuse pyorrhea which lasted about 2 weeks and ceased of itself, with the passage of large quantities of clots. The examination of the urine in the interval showed only some mucus; during the attacks there was a grayish sediment containing the clots. The urine was acid and contained considerable quantities of mucus. The clots thus had a length of from 1 to 4 cm.; their diameter varied up to 1 cm. They were usually of flat-ended cylindrical shape, and oftentimes consisted of a central mass with small portions running off, which seemed to be casts of the urinary tubules. The color was grayish white to grayish brown. The structure was hyalin with scattered granules throughout it. They did not swell in acetic acid, but after soaking in acetic acid showed somewhat the appearance of a net. They consisted of layers which were divided by material which stained differently from the layers. Weigert's fibrin stain did not give a positive result; thionin stained the borders intensely blue; the remainder took a reddish or reddish-violet color. The casts were insoluble in water as well as in urine, and in dilute alkalies and dilute sodium chlorid solution. They contained sulphur, but no phosphoric acid. Reactions for albumin were negative. They were not affected by digestive fluids. They were considered to be masses of mucus containing round cells. The appearance of the masses and their passage with attacks appearing to be renal colic showed that they probably came from the pelvis. The abscess of kidney epithelium and casts and of but small quantities of albumin in the urine showed that the kidney could not be much involved. Cystoscopic examination showed that the bladder was not diseased. The formation of the clots was believed to be due to a catarrhal disease of the pelvis of the kidney. Aschoff has demonstrated the existence of gland-like growths in the pelvis, and the clots are believed to have been formed by the excessively free formation of mucus by a productive growth in the pelvis, and the whole affection is likened to a bronchial asthma, the attacks from which the man suffered being considered to be due to some temporary irritation which caused a spasmodic contraction of the muscle of the pelvis and ureter and this led to the collection of mucus and the production of the clots. [D.L.E.]

13.—Reichenbach reports the case of a girl of 12 whose left nostril was found filled with yellowish membrane. The case was diagnosed fibrinous rhinitis, but in 2 days there were membranes on the tonsils and on the left pillars. The child had slight fever. The right nostril became involved and membranes formed on the laryngeal surface of the epiglottis. After this the membrane gradually disappeared and in about a month the signs had vanished. Smear-preparations from the nasal membrane showed no bacteria, but cultures showed bacilli which were in every way identical with the diphtheria-bacillus. An extensive description of their cultured characteristics is given, and from this Reichenbach decides that they were diphtheria-bacilli. The practical decision that he reaches is that so long as there is no definite

distinction between simple **fibrinous rhinitis** and **diphtheric rhinitis,** the cases of fibrinous rhinitis should be managed as if they were diphtheric and should be considered dangerous. [D.L.E.]

14.—The author's abstract of this article in the *Centralblatt für innere Medicin* has previously been given in the PHILADELPHIA MEDICAL JOURNAL.

Sundry French Journals.

1. A Contribution to the Anatomic and Critical Study of the Cardiotuberculous Liver. JOSEPH COUSIN. (*Gaz. Heb. de Méd. et de Chirur.*, January 14, 1900. 47me Année, No. 4. (Paris Thesis, 1899–1900, No. 49.)
2. Cardiotuberculous Cirrhosis in Children. LUCIEN SOULLARD. (*Gaz. Heb. de Méd et de Chirur.*, January 14, 1900. 47me Année, No. 4. (Paris Thesis, 1898–99, No. 548.)
3. The Passage of the Bacillus Tuberculosis Into the Milk of a Tuberculous Woman. ROGER and GARNIER. (*Sem. Méd.*, February 23, 1900. 20me Année, No. 9.)
4. Disorders of the Gait in Organic Paraplegia. G. MARINESCO. (*Sem. Méd.*, February 28, 1900. 20me Année, No. 9.)
5. Milky Ascites, Due to Leukocytes of Lymphatic Origin. WIDAL and VAQUEZ. (*Sem. Méd.*, February 28, 1900. 20me Année, No. 9.)
6. Supernumerary Pancreas. LETULLE. (*Gaz. Heb. de Méd. et de Chirur.*, March 15, 1900. 47me Année, No. 21.)
7. The Diphtheritic Liver. MARCEL EDMOND LOISEL. (*Gaz. Heb. de Méd. et de Chirur.*, March 18, 1900. 47me Année, No. 22.) (Paris Thesis, 1899–1900, No. 145.)
8. A Contribution to the Study of the Pathogenesis and Treatment of Recurrent Facial Erysipelas. LOUIS VICTOR GAUTHIER. (*Gaz. Heb. de Méd. et de Chirur.*, March 18, 1900. 47me Année, No. 22.) (Paris Thesis, 1899–1900, No. 220.]
9. A Case of Progressive and Generalized Articular Ankylosis (Synarthrophysis.) MARIE KRITCHEVSKY GOCHBAUM. (*Gaz. Heb. de Méd. et de Chirur.*, March 18, 1900. 47me Année, No. 22.) (Paris Thesis, 1899–1900, No. 194.)
10. Syphilitic Anemia. JACQUES MONOD. (*Gaz. Heb. de Méd. et de Chir.*, March 18, 1900. 47me Année, No. 22.) (Paris Thesis, 1899–1900, No. 159.)
11. Lymphocytic Leukemia. WIDAL. (*Sem. Méd*, March 21, 1900. 20me Année, No. 12).
12. Recent Additions to the Etiology, Diagnosis, and Treatment of Yellow Fever. SANARELLI. (*Sem. Méd.*, April 4, 1900. 20me Année, No. 14.)

1.—Cousin divides the lesions known as the **cardiotuberculous liver** into 3 classes; (1) pure cardiotuberculous cirrhosis; (2) cardiotuberculous cirrhosis with specific lesions; and (3) fatty cardiotuberculous liver. [J.M S.]

2.—Cardiotuberculous cirrhosis which Soullard has studied is very rare in infancy, the condition developing as a rule in late childhood and during adolescence. The cardiotuberculous cirrhosis is due primarily to passive congestion of the liver. Tuberculosis may add the lesions of fibrous or fatty degeneration at a varying period of the evolution of the disease. If the bacillary infection attacks the liver early it will produce lesions in which a marked sclerosis will be predominant; if the invasion is late this filrous degeneration will be slight or not appreciable. From the clinical standpoint, cardiotuberculous cirrhosis is characterized by the symptoms of hepatic or peripheral asystole without apparent participation of the heart. Permanent hypertrophy of the liver, accompanied usually by recurring ascites, cyanosis of the face and of the extremities, dyspnea, and edema are the principal manifestations of this form of asystole; the condition is exaggerated during the crises of cardiac insufficiency. Even when symphysis is latent, the examination of the heart gives important signs; the unchangeable area of cardiac dulness, absence of the apex-beat, and fetal rhythm. Taking into consideration the signs of pleurisy or of pulmonary induration, and particularly of tracheobronchial adenopathy which auscultation reveals, a syndrome will be found which will usually allow a positive diagnosis even in the most difficult cases. The affection may be interrupted suddenly by a generalized tuberculosis or by a fatal syncope. When the full course is followed the disease lasts from 2 to 3 years. The patient usually dies in a crisis of asystole or from a generalized tuberculosis. The prognosis is fatal and the treatment is symptomatic. [J.M.S.]

3.—Roger and Garnier, at the meeting of the Société de Biologie, held February 24, 1900, reported the case of a woman who was suffering from pharyngeal and pulmonary tuberculosis, and who died 17 days later after labor. The authors were able to **isolate the bacillus of Koch from the milk of the patient,** while there was no appreciable clinical lesion of the mammary gland. The milk, collected aseptically, was injected into 2 guineapigs; 1 received 4 cc. under the skin and died in about 33 days with typical lesions of generalized tuberculosis. The other animal was inoculated with 2 cc. of the milk in the peritoneal cavity and lived. At the end of 10 months after the inoculation, the animal was killed and ordinary cicatricial lesions were found without tubercles and without the tubercle-bacilli. The child, which the mother wished to nurse, took the breast for 10 days only; he died 6 weeks after birth. At necropsy, granulations were demonstrated in the mesenteric lymphatics, in the liver, in the spleen, and in the kidneys. It would seem, therefore, that in this child the principal route of infection, if not the only one, was the digestive tube. This case proves, in spite of the conclusions of Fede, Bonis, and Bang, that the milk of a tuberculous woman may contain the tubercle-bacillus, and may serve for the transmission of tuberculosis. [J.M.S.]

4.—Marinesco has studied the **disorders of the gait in patients suffering from paraplegia** by the aid of the cinematograph. He finds that a double mechanism presides over the determination of the symptoms; a mechanism of excitation and a mechanism of arrest. The well-marked hypotonia of the flexor muscles of the leg is explained by the more or less complete suppression of the excitation that the cerebrum exercises upon them; on the other hand, the preservation of the function of the extensor muscles with hypertonia depends upon the almost normal condition of the controling fibers. Consequently, in organic hemiplegia as in certain organic paraplegias we find a considerable lessening of tones in some groups of muscles with hypertonia in other groups, and the mechanism that determines these troubles is the same in both cases. The symptoms above referred to are described in detail. The contractures of paraplegia may be distinguished from those of hemiplegia by the fact that the affected groups of muscles are variable in the former, but constant in the latter disease. For example, one of the types of paraplegia is characterized by the association of hypotonia and paralysis of the flexor muscles of the leg with hypertonia and preservation of the voluntary motility of the extensors. In all cases of this type, the author has noted exaggerated patellar reflex and epileptoid tremor. Marinesco believes that this symptom-complex is not indicative of pressure, but rather of an intrinsic lesion of the spinal cord. Paraplegia with hypotonia of the flexor muscles of the leg presents in the vertical station a certain resemblance to ataxia on account of the hypotonia, but the gait is different. The use of the cinematograph in the study of paraplegias should result in much positive information concerning the interesting question of the mechanism of contracture and its relations to exaggerated reflexes. At present three classes of paraplegia may be made depending upon this relation. 1. Paraplegias in which both flexor and extensor muscles are equally contracted or hypertonic and in which the reflexes are not exaggerated. 2. Paraplegias in which contracture is predominant in one set of muscles, although the antagonists are also contractured, but in a less degree. In these cases the reflexes are exaggerated to a degree depending upon the contracture of the antagonistic muscles. 3. Paraplegias in which the flexors of the leg are in a condition of hypotonia while the extensors are in a condition of hypertonia. In such a condition the reflexes may be very much exaggerated. [J.M S.]

5.—At a meeting of the Société Médicale des Hôpitaux, held February 23, 1900, Widal reported a case of considerable ascites occurring in the person of an alcoholic man, aged 20 years. On tapping the abdomen about 9 liters of a **milky fluid** were withdrawn. At autopsy, which occurred a few

days afterward, neither cirrhosis of the liver nor acute inflammatory lesion of the peritoneum were found, nor could any lesion of the thoracic duct or of the abdominal lymphatics be discovered. On the other hand, the fluid withdrawn from the abdomen during life contained only 1.45 gm. of fat per liter. On sedimentation the fluid became opalescent and later a thick, whitish deposit could be made out at the bottom of the tube. This sediment was found to be composed of leukocytes to the number of 100,000 per cubic millimeter. Further histologic examination of the cells showed that they were all mononuclear leukocytes, of which the majority corresponded to the lymphocytes in appearance, although there were some cells that largely corresponded to the lymphocytes described by Hayem in the lymph of the horse. Osmic acid did not reveal the presence of fatty change in these leukocytes. The fluid was aseptic and the blood-serum was perfectly limpid. The character of the leukocytes found in this effusion indicates that it was of purely lymphatic origin, and the results of the histologic examination seems to point to the fact that the study of the leukocytic formula of an exudate may result in important information concerning the nature of **lactescent ascites** of doubtful origin. Formerly, the presence of fat in proportion that could be recognized by microscopic or chemic examination was the principal argument for the chylous origin of an ascites. Attention is called to the fact that in the fluid withdrawn from the patient reported in this observation there was a very small proportion of fat present. In the discussion that followed Vaquez reported the case of a man, aged 73 years, who was suffering from dyspeptic symptoms with ascites. Paracentesis abdominis resulted in the withdrawal of 12 liters of a milky fluid that contained 1% fat and 50% albuminoid substances. Bacteriologic examination was negative, but histologic examination showed the presence of fat and the presence of very few leukocytes. There were masses in the abdomen that were diagnosed as malignant growths. [J.M.S.]

6.—At a meeting of the Société de Biologie, held March 10, Letulle read a note on the occurrence of **supernumerary pancreas,** which he had observed in 3% of his dissections. Sometimes the supernumerary pancreas is a flat tumor, discoidal in outline and about as big as a 20-cent (one franc) piece, embedded in the anterior wall of the duodenum and making a slight projection on the peritoneal surface, but not connected with the true pancreas. Histologic examination shows the typical structure of the pancreatic parenchyma. In other cases the supernumerary pancreas is placed deeper and projects on the mucous membrane of the duodenum, of which it appears to be a part. The structure is normal, except that the bodies of Langerhans are wanting. [J.M.S.]

7.—The personal studies of Loisel lead him to conclude that the **liver** is always implicated **in the toxic diphtherias.** The changes in the organ are sometimes produced by the diphtheria-toxin alone and sometimes by both the toxin and the diphtheria-bacillus. He has shown, experimentally, that among the immediate effects of the diphtheritic poison upon the liver the degenerative changes in the cells are often very marked. Among the distant effects vasomotor troubles and visceral sclerosis are particularly common. Icterus is a rare complication which assumes grave import when it is seen, since it is an indication of a malignant diphtheria. The probable cause of this icterus by retention is a catarrhal angiocholitis consecutive to a biliary infection of intestinal origin. [J.M.S.]

8.—Gauthier thinks that **recurrent attacks of facial erysipelas** depend for their beginning on microorganisms that have been retained in the adenoid tissue of the pharynx. He advises the usual antiseptic treatment of the nasal fossæ and the pharynx, and curetment of the granulations of adenoid tissue in the latter situation. [J.M.S.]

9.—The author describes a disease characterized by a **chronic** and progressive **ankylosing process** that attacked the vertebral column and all the joints of the extremities. Its pathogenesis is still obscure. In view of the absence of cerebral, spinal, and peripheral nerve-disorders the nervous theory of origin is discarded. It is possibly the manifestation of some special nutritive disturbance of the nervous system that has exploded on the joints. The dynamic cause of the condition, however, has escaped. The **synarthrophysis** presents some points of resemblance to, but is not identical with, the rhizomelic spondylosis of Marie. [J.M.S.]

10.—Monod concludes from his interesting thesis that a pathologic state of the blood is one of the first modifications of the system produced by the evolution of **syphilis.** There is a precocious **anemia** that precedes the appearance of the roseola; the type of which is sometimes that of simple anemia and sometimes that of chloroanemia; it is accompanied by leukocytosis. The course of the syphilitic anemia is vigorously subordinate to the evolution of the specific clinic symptomatology. There is an absolute concordance between the lowered number of red blood-corpuscles and hemoglobin, on the one hand, and the appearance of the specific symptoms on the other hand. There is a direct relation between the intensity of the specific infection and the intensity of the anemia. Leukocytosis is often the first phenomenon of the change in the blood and it is generally the last to disappear; it is characterized by an increase in the number of mononuclear leukocytes in relation to the polymorphonuclear forms; the latter, also, presenting an absolute increase. In rare cases, the anemia may resemble leukemia or pernicious anemia. In children, one account of the activity of the hemopoietic apparatus, the anemia may be accompanied by the appearance of nucleated red blood-corpuscles, large mononuclear leukocytes from the bone-marrow, eosinophiles, neutrophiles, etc. Some of the secondary complications, such as hemoglobinuria, may be due to the changes in the blood. Syphilitic anemia is influenced in a peculiar way by mercurial treatment; it produces a reduction of the leukocytosis and an increase of the red blood-corpuscles and of the amount of hemoglobin. But, however, when the treatment is prolonged beyond a certain point the reverse manifestations are seen. This result confirms the opinion of those clinicians who advocate the intermittent mercurial treatment of the disease. [J.M.S.]

11.—At the meeting of the Société Médicale des Hôpitaux, held March 16, 1900, Widal reported the case of a man, aged 56 years, in whom the spleen, the liver, and the lymph-nodes were markedly enlarged. The blood showed 1,534,500 red corpuscles and 761,600 white corpuscles. The latter were 89% lymphocytes. After death the bone marrow was found to be transformed into a tissue composed almost entirely of lymphocytes; the spleen contained lymphocytes almost exclusively, both in the malpighian bodies and in the pulp; and the lymph-nodes also contained a large number of these elements. Comparing this case with the case reported by Lion and Hayem it will be seen that the division of **leukemias** into those **characterized by lymphocytes** and those **characterized by large mononuclear elements** is confirmed. [J.M.S.]

12.—In a well-written article Sanarelli reviews the recent reports of contemporary scientists on the **Bacillus icteroides,** quoting the conclusions observed in **yellow-fever districts** throughout the world. He considers as demonstrated (1) that the Bacillus icteroides has been found and isolated in pure culture, either before or after death, in yellow fever only, and that it has been found in all localities in which this disease is prevalent; (2) that the isolation of this microorganism is possible in practically all cases; (3) that the Bacillus icteroides reproduces all the symptoms and all the anatomic lesions in animals that are considered the most clearly characteristic of yellow fever in man; (4) that the injection of the chemic products elaborated *in vitro* by the Bacillus icteroides reproduces in animals and in man all the typical symptoms of yellow fever. Out of 90 cases in which the blood of healthy individuls or of those suffering from other diseases than yellow fever and who have never had yellow fever, has been examined by the method of serum-diagnosis, there were only 3 positive results. But the patients who presented these positive results had probably had "black vomit" at a previous time. In a series of 20 observations on the blood of patients who had recovered from yellow fever for periods varying between several weeks and 20 years, 18 were positive. Paitents who had been cured of yellow fever longer than 20 years did not present the reaction. In using the **antitoxic serum of Bacillus icteroides** against an attack of yellow fever it is necessary to exhibit the remed yearly, for a serum capable of curing anemia produced by a violent toxic nephritis, or of reconstructing nerve-cells killed by general poisoning, or if stopping the secondary infections that so often invade the liver-tissue, does not and never will exist. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Diet in Typhoid Fever.—Packard (*Therapeutic Gazette*, April 15, 1900) states that the results of *systemic infection* form the most dreaded feature of typhoid fever. The causes of death as given by Curschmann and based on 367 fatal cases are as follows: Severity of infection, 42.4% to 51.4%; perforation, peritonitis, 14.1% to 19.0%; intestinal hemorrhage, 6.6% to 9.0%. The advantages of a milk diet are the ease with which it can be prepared and administered, the volume of water and the diuretic properties contained in milk, and the ease with which excessive administration can be detected by the presence of curds in the stools. Its disadvantages are the dislike of many people to the taste of milk, the monotony of the diet, the lack of concentration of nutritive material, and the fact that milk soon ceases to be liquid after entering the stomach. Broths as usually made, do not contain a sufficient amount of nourishment to maintain life, while they contain extractives whose capacity for harm we do not certainly know. Papers by Shattuck, Barrs, Bushuyev, Edwin F. Wilson, Fitz, Manges, and Marsden, advocating a more liberal diet, are referred to. Shattuck's dietary consists of the following articles: Milk, hot or cold, with or without salt, diluted with lime-water, soda water, apollinaris, Vichy, peptogenic peptonized milk, cream and water (*i. e.*, less albumen), milk with white of egg, slip, buttermilk, kumiss, matzoon, with whey, milk with tea, coffee, cocoa. Soups: Beef, veal, chicken, tomato, potato, oyster, mutton, pea, bean, squash; carefully strain and thicken with rice (powdered), arrow-root, flour, milk or cream, egg, barley. Horlick's and Mellin's food, malted milk, panopeptone, bovinine, somatose. Gruels: Strained corn-meal, crackers, flour, barley-water, toast-water, albumen-water, with lemon-juice. Ice-cream. Eggs, soft-boiled or raw, egg-nog. Finely minced lean meat, scraped beef; the soft part of raw oysters; soft crackers with milk or broth. Soft puddings without raisins; soft toast without crust; blanc mange, wine jelly, apple-sauce, and macaroni. Fitz concludes that a diet of soft solids not only does not provoke intestinal hemorrhage, but rather lessens the tendency to this complication. On the other hand a strained mixed diet may increase somewhat the frequency of hemorrhage. His figures show that there is no evidence that diet has any influence upon the occurrence of perforation; while relapses are rather more frequent when a largely milk diet is employed. Packard believes that an analysis of the reports warrants the conclusion that an increase in the dietary beyond that ordinarily used is safe and, if assimilated, must be a material aid in combating the systemic effects of the typhoid poison. Although the digestive capacity is diminished by fever he thinks we have erred too much on the side of safety, and that, at least toward the end of the fever, we could, by giving a more liberal diet, not only shorten the period of convalesence, but discharge our patients in a condition permitting them to earn a livelihood in a shorter space of time than under the old method. From published reports it would seem that hemorrhage and perforation are not more frequent when we feed our patients more liberally. The dread of producing relapse is probably without foundation. The chance of sequels and the protraction of convalescence after the fever would naturally be diminished by anything that conserved the patient's vitality.

Rhus Poisoning.—The following lotion is highly recommended for rhus poisoning:

℞.—Sodium sulfite..... 1 dram.
Glycerin..... ½ ounce.
Camphor-water to make 4 ounces.

Contraindications of Digitalis.—Potain, according to the *British Medical Journal*, May 12, 1900 (*Jour. de Med.*, April 10, 1900), in lecturing on the subject of digitalis, states that insufficient attention is paid to the selection of suitable patients for digitalis. He says it is a good rule that when inequality, irregularity, and insufficiency of the pulsations are not present, or when there is no dropsy of the cellular tissues and serous cavities, that contraindications for digitalis exist. The lecturer does not look upon a permanently infrequent pulse as a contraindication. He even considers that many indications of infrequent pulse are caused by the pulsation failing to reach the wrist, and that digitalis may therefore do good. A strong contraindication to digitalis is the presence of myocardial lesions. In these cases, not only is the drug ineffectual, but it may be dangerous. Thus myocarditis, senile cachexia, fatty degeneration, etc., call for the very greatest care in the use of this drug. Potain looks upon aortic incompetence as, generally speaking, a contraindication, unless there is, as in some few cases, undue acceleration of the beats. Dyspepsia very often causes digitalis to disagree, for under these circumstances patients bear it badly. Similarly a cachectic condition is a contraindication. As to the bad results of digitalis, the writer states freely that they are not properly recognized. Some nocturnal delirium is one of the first to appear, and one of the most frequently overlooked. Pallor, coldness of the extremities, trembling, contraction of the pupils, are important indications to suspend the drug. Some patients die suddenly of syncope, others gradually. Death from digitalis is most frequently met with in Bright's disease, arthritic and anemic subjects, and in persons with aortic incompetence or delirium tremens. Occasionally there are curious idiosyncrasies to be noted, such as melancholia and night-terrors. As an unusual result may be mentioned pulmonary apoplexy, especially when tricuspid incompetence is present.

Acid Dyspepsia.—According to the *Medical Press and Circular* the following mixture is useful in painful dyspepsia associated with hyperacidity:

℞.—Bismuth subnitrate..... 10 grains.
Magnesium carbonate..... 15 grains.
Solution of potassa..... 6 minims.
Dilute hydrocyanic acid..... 2 minims.
Tincture of ginger..... 5 minims.
Peppermint-water to make 1 ounce.

For one dose. To be repeated 2 or 3 times daily. Shake well.

Hydrogen Dioxid in Whooping-Cough.—Baroux (*Gazette des Hôpitaux*, March 24, 1900) reports 13 cases of whooping-cough in which hydrogen dioxid employed in the form of vapor proved efficacious. The writer's plan is to have suspended across the room two pieces of old linen, about a yard square, which have been soaked in undiluted hydrogen dioxid. The pieces of linen are dipped into the dioxid every 4 hours. In addition, Baroux uses internally a mixture of the tinctures of drosera, aconite, and belladonna. The author claims that any case of whooping-cough so treated may be cured in eight days.

Mercury in Heart-Disease.—Murray (*Rough Notes on Remedies*) writes as follows: "Whenever the subject of heart-disease comes up for discussion, there is almost always a complete absence of any reference to the action of mercury; to me this is quite astounding. Digitalis, strophanthus, the nitrites, arsenic, iron, strychnin, and what not, are still the sheet-anchors of treatment. I wish I could have shown an old lady who consulted me a week ago. For 10 years she has come to me at intervals, suffering from edema of the legs, ascites, dyspnea, flickering pulse, and many other indications of a weak, dilated heart. Each time she gets into this state I treat her with 5 grains of blue-pill every night, and a more or less free purge twice a week—in fact, she often treats herself in this way—and she has thus been able to get through 10 years of an active and arduous life, and to enjoy it without much aid from digitalis, iron, etc. Of course, I do not wish to disparage the use of cardiac stimulants and tonics—no one could have more faith in them—but I regard blue-pill as the basis of treatment in all cases of weak, dilated, irritable and irregular heart, where there is evidence of resistance in the arterial system, or congestion of the venous system."

Seasickness.—According to the *Therapeutic Gazette*, May 15, 1900), MacDougall speaks very favorably of the use of hypodermic injections of atropin and strychnin in seasickness. His usual dose was from $\frac{1}{60}$ to $\frac{1}{30}$ grain of strychnin sulfate and $\frac{1}{500}$ grain of atropin sulfate dissolved in 10 to 15 minims of peppermint water. The dose should be given either as a prophylactic, or at the first evidence of the essential symptoms of circulatory depression and cerebral anemia. It may be repeated in 24 hours if necessary.

Antipneumococcus Serum.—Fanoni (*Pediatrics*, May 15, 1900) writes that the efficiency of Pane's serum in lobar pneumonia has been recognized by impartial observers, such as de Renzi, Maragliano, Cantieri, and Massalongo. He has used this serum with marked success in 18 cases of pneumonia, 4 of which were in children under the age of 3 years. Of these 18 cases only 1 died. The fatal case was a patient in the preagonal stage. In the 4 cases of pneumonia in children there was no doubt as to the efficiency of the serum. All of these children recovered after a few days' treatment. Of the last 2 cases one was 18 months old, and received 4 injections, and the other was 2 years old, and received 3 injections. This serum, when injected early enough, in sufficient quantity (40 cc. of No. 2, daily), and if not deteriorated by age, quickly produces a lowering of the temperature, and an improvement in the subjective comfort of the patient, as well as an amelioration of all the other symptoms. Resolution also tends to take place more rapidly.

The Treatment of Burns.—According to the *Journal de Méd. de Paris*, the following ointments are useful:

℞.—Boric acid, Antipyrin, of each..... 1 dram.
Iodoform.....14 grains.
Vaselin..... 2 ounces.

or

℞.—Orthoform.....45 grains.
Vaselin..... 1 ounce.

To favor cicatrization in burns that have already lasted for some time the following ointment is recommended:

℞.—Ichthyol.....15 to 30 grains.
Magnesium carbonate..... 3 ounces.
Zinc oxid..... 6 ounces.
Thiol, Talc, Bismuth subnitrate, of each..... 1 ounce.

Euphthalmin.—Jackson and Schneideman (*American Journal of the Medical Sciences*, June, 1900) state that the value of euphthalmin as a brief mydriatic is now well established, all observers being fully agreed regarding it. There is also complete agreement as to its freedom from danger of any injurious effect upon the cornea, such as strong solutions of cocain are likely to produce. Regarding the risk of producing an outbreak of glaucoma with euphthalmin, while it is probably less than with any other mydriatic but cocain, and most writers speak of it as nil, we must remember that every other new mydriatic has been put forward with the same assertion, but experience has in each case failed to substantiate the claim.

Thiocol in Pulmonary Phthisis.—Moir (*Therapist*, April 16, 1900) states that up to the present time he has had opportunity of trying the effects of thiocol in 9 cases of phthisis with satisfactory results. One was that of a workingman who was suffering from incipient phthisis with high temperature, profuse expectoration, constant hacking cough, rapid pulse, night-sweats and exhaustion, with much loss of appetite. After 5 weeks' treatment (3 weeks in bed) with 20-grain doses of thiocol three times a day, with maltine-codliver oil, he was able to return to his work, and up to the present time he has been able to continue it with comparative comfort. In another case, thiocol was used for severe chronic bronchitis, with good results. All of the cases treated were in a poor neighborhood, with very unhygienic surroundings, and showed marked signs of improvement.

Cirrhosis of the Liver.—Plicquet (*La Presse Médicale*, January 13, 1900) believes that arsenic is a drug of considerable value in cirrhosis of the liver. He suggests the employment of mild purgatives, charcoal and magnesia, for securing intestinal antisepsis, which is a matter of great importance. When intestinal fermentation is well marked he advises cautious administration of naphthol or salicylic acid. All alcoholic beverages should be interdicted. Foods that do not produce toxic material—eggs, fruits, vegetables, baked meats—are recommended. Small quantities at frequent intervals are preferable to large amounts taken at long intervals. An exclusive milk diet—2 to 3 quarts in 24 hours—is highly advantageous. Diuretics and purgatives are sometimes necessary. Active catharsis, however, does not affect materially the ascites. When the latter is sufficient to create disturbance by pressing on important organs, aspiration is advisable. When the stools lack bile small doses of calomel are useful. The drug acts as an intestinal antiseptic and as a diuretic. It may be given in doses of one-fourth of a grain a day for two or three days. Care must be taken to guard against ptyalism, which is apt to be severe in these cases. For this purpose frequently rinsing the mouth with a solution of potassium chlorate will be found efficient. Sometimes the addition of potassium iodid in small quantities is a valuable adjunct to the calomel treatment, although it is doubtful whether the iodid serves to arrest, as is sometimes believed, the advancement of the cirrhotic process. The following diuretic mixture is recommended:

℞.—Juniper berries. 2½ drams.
Make an infusion with 4 ounces of hoiling water and add
Potassium nitrate..... ½ dram.
Potassium acetate ..... ½ dram.
Oxymel of squill ..... 2 ounces.
Sirup ..... 1 ounce.
This quantity to be taken every 24 or 48 hours.

Tannalbin in Diarrhea.—Moore (*Merck's Archives*, Feb., 1900) reports a number of cases of diarrhea in which he used tannalbin with advantage. In several cases of typhoid fever characterized by excessive discharges, tannalbin in every case controled action of the bowels without producing any evidence of the irritation so frequently seen after the use of the vegetable astringents; the attending tympanites was at the same time favorably influenced. In the diarrhea of phthisis he has had but two opportunities to use the drug; in both cases the result was all that could be hoped for from medication. The dose was 15 grains every 3 hours, or from 2 to 3 times a day, as indicated. Tannalbin proved satisfactory in 2 chronic cases of mucocolitis.

The Treatment of Croupous Pneumonia.—Eichhorst (*Therapeutische Monatshefte*, Feb., 1900) reviews the various methods of treatment that have been suggested for this disease. In young robust subjects no drugs are required. Digitalis is useful when there is heart-weakness, but often caffein proves equally valuable, or even more efficient. In cases of severe heart failure he recommends the hypodermic injection of camphorated oil every hour, or more frequently, if necessary. The practice of prescribing alcohol as a routine treatment is condemned. It should only be used when the pulse and general condition require it. Much discretion should be exercised in the use of opiates. They are contraindicated when there is severe bronchitis; on the other hand they are extremely valuable when there is active delirium or persistent insomnia. Antipyretics are rarely required; when deemed absolutely necessary phenacetin is preferred. Cold and tepid baths have proved injurious in the author's experience. It is too early to speak definitely of serum-therapy in pneumonia. In conclusion the author reminds us that croupous pneumonia is a disease which tends to recovery, and that drugs unnecessarily administered are likely to do harm by interfering with digestion.

Dormiol.—Schultze (*Neurologisches Centralblatt*, No. 6, 1900) reports his experience with dormiol, a compound produced by the union of chloral with amylenhydrate. This substance appears as a water-light solution, having a pungent menthol-like odor, and cooling taste. It is employed medicinally in the form of a 10% aqueous solution. Schultze has administered dormiol 1,000 times in single doses at the Provincial Asylum, Andernach. Sleep usually appeared within an hour of its administration. The average duration of its action was 5 to 8 hours. The drug was effective in about 75% of the cases in which it was employed. It was least efficient in acute mania and other states of excitement. The very best results were obtained in **melancholia** and **hypochondria.** The author is not enthusiastic over its usefulness in chronic epilepsy. No unpleasant by-effects, nor depressant action on the circulation or heart were observed, except occasionally in hypochondria, when the patient complained of some headache on the day following its administration. The usual dose was about 22 minims, but occasionally this dose was considerably increased, and even doubled. A dose of 45 minims was never exceeded. The author is of the opinion that dormiol about equals trional in efficiency, but that one often succeeds when the other fails.

Original Articles.

ANGINA PECTORIS.[1]

By CLIFFORD ALLBUTT, M.D.,
Regius Professor of Physic at Cambridge, England.

[Continued from page 1374.]

We will now proceed to a somewhat closer examination of the diseases and conditions of the heart and vessels which seem to favor the advent of angina pectoris; and first to consider the variations of blood-pressure, not only in the several chambers of the organ, but in the aorta also. Whether attributed to vasomotor constriction or not, it is generally assumed that the immediate cause of angina is a rise of blood-pressure acting upon a morbidly sensitive heart, dilating it, and thus compressing or dragging at the nervous structures embedded in the substance of it. On the high authority of Sir Lauder Brunton a sphygmogram has been published which is said to be significant of such a rise during an attack. This sphygmogram has obtained a great vogue because it led Dr. Brunton to prescribe nitrites with the remarkable success which has become memorable. Yet, in my opinion, this very success has blinded us to the facts which suggest that this sphygmogram is a more eloquent testimony to Sir Lauder Brunton's ardor as an experimenter than to the capacities of the sphygmograph. This instrument is quite incapable of analyzing such a pulse as the one recorded by Brunton, and such superficial form as its record may have is susceptible of more than one interpretation. I fear, indeed, that as a foundation for hypotheses, such as the vasomotor determination of angina, it is worthless. The assertion of Brunton himself that the pulse was unmistakably tight under his own finger is a far better testimony to its character. But as we have seen that arterial pressure tends to rise under severe pain of many or all kinds, may not this rise be rather a consequence than a cause of angina? Again, we cannot feel sure that, under the use of nitrites, the relief of an attack is directly due to a fall of peripheral resistance; these drugs usually act well as palliatives when the arteries are sclerosed to an extent which seems incompatible with a ready and considerable fall in peripheral pressure; in such cases, indeed, the peripheral resistance may be due more to rigidity than to constriction, when it is far more probable that the pressure is reduced by cardiac than by peripheral relaxation. Moreover, the nitrites, apart from these mechanical variations, seem to have an anodyne property in vascular pain. Still it is true that in its rising phases and culmination angina pectoris is a disease of high arterial tension, and probably in its decline of tension relatively high for outworn structures.

Those observers who assert, and either in a positive or relative sense no doubt truly, that angina pectoris is a disease of excessive arterial pressure, seem to forget that a rise in blood-pressure depends on two factors—an increased peripheral resistance on the one hand and on cardiac reluctance on the other; if either of these factors fail, if the resistance diminish or the heart yield—there is no net increase of pressure. Thus the hypothesis of cardiac failure is inconsistent with that of increased blood-pressure; both cannot be true for the same moment. In some cases of angina, indeed, the heart turns out to have been too rotten for an absolute increase of pressure; nor, even in the case of more vigorous hearts, is there a consent of observers as to the state of the cardiac muscle at death. In some instances, indeed, a persisting tonic contraction is recorded at the necropsy. Moreover, careful appreciations of the state of nutrition of the muscle are usually wanting. It is certain, as I shall say again, that in not a few cases, some with diseased coronaries, the muscle was substantially vigorous.

Dr. Mott, in my System of Medicine (Vol. vi, p. 341), says: "Angina pectoris . . . occurs especially in cases of increased peripheral resistance, and not in mere stenosis of the coronaries without this increase." And I may point out that while the muscular arteries gain a hypertrophy against this abnormally high blood-pressure the elastic aorta has to bear an unmitigated tension.

Another and a greater difficulty in clinical interpretation is that the pulse in anginal attacks lends no definite support to many of the current doctrines concerning the part of the heart in their causation. I have been somewhat fortunate in my opportunities of examining the pulse during attacks of angina. I have had occasions of feeling the pulse very carefully in six patients, and in more than one of them of examining it during several attacks; indeed, in two cases of the status anginosus such opportunities were frequent and prolonged.

My experience has been that therewith is no constant or characteristic variation of the pulse. Edgren (*Die Arteriosclerose*, Leipzig, 1898), quotes von Leyden and others to the same effect; and, after describing two cases closely and continuously watched till death and other cases seen incidentally, he concludes: "Bei den Anfällen von Angina Pectoris welche ich direkt beobachtet habe, konnten keine bemerkenswerthen Veränderungen der Herzthätigkeit oder des Pulses nachgewiesen werden." Dr. Godhart[2] says of more than one case of angina pectoris that the pulse "never altered or faltered in any way." Balfour says "the pulse may be feeble, irregular, intermittent, or quite regular throughout the whole of the paroxysm." von Dusch reports in some cases the pulse as accelerated simply and enfeebled, and the heart's impulse weak; in others as normal or even of forcible quality. Many other observers also have recorded the steadiness of the pulse during attacks, but seem to have done little to interpret these records by their arguments, though a good example to the contrary is to be found in the article by Dr. Morison (*loc. cit.*). Putting all accounts together, I may take it as agreed that ordinarily during an attack of angina the pulse is unaffected, though in the large majority of cases the blood-pressure is more or less above the normal standard—such, indeed, as we should expect to find, apart from attacks, in the class of patients in whom angina is apt to occur. In some cases even in pressure the pulse continues unchanged; in others the pulse is slowed or quickened a little, or its pressure rises, or it halts or falters for a few beats. Still, apart from the approach of death, when the pulse quickens and flutters, it is rare for such alterations of rhythm, rate or pressure to be well marked; if they occur at all, some watchfulness may be needed for their appreciation. From such clinical facts, then, it is certain that a steady pulse is consistent with attacks of angina, even of considerable severity; that retardations, accelerations or vacillations of the pulse are occasional

[1] This lecture was first delivered at San Francisco, August, 1898. It was read again before the Leamington (England) Medical Society, November, 1899.

[2] *Clin. Jour.*, April 4, 1894.

and incidental phenomena; that they bear no perceptible relation to the severity of the seizure; that when they occur they are often of reflex origin, and, save of course in the agony of death, have but an incidental bearing upon the nature or course of the attack. It seems to me, as I have hinted already, that in the current hypotheses of angina pectoris these facts are not sufficiently regarded; nay, that too often they are blindly disregarded.

Let us now discuss the chief of these hypotheses. A very interesting morbid series, known best in the horse as "Intermittent Claudication," is cited as illustration of the nature of angina. Now, what are the main features of the latter phenomenon? A horse, on some mechanically caused anemia of large arterial areas of the limbs—on thrombosis of the abdominal aorta, for example—falters in gait, or actually falls to the ground; and, under like conditions, such sudden muscular falterings consequent upon arterial ischemia are to be recognized more or less clearly in certain muscular areas in man. But surely the main feature of intermittent claudication is claudication; the horse stumbles or falls, the limb of the man is for the moment maimed. How are such attacks to be compared with attacks of angina pectoris in which, unless it be the last, the heart may be, usually is, undisturbed, coronary ischemia or not; or it may show at most no more perturbation than might be caused by a little flatulent dyspepsia, or by the irritation of a peripheral sensory nerve. Dr. Parkes Weber, who has urged this analogy, admits that the pulse in angina is often unaltered. Nor does claudication, so far as I know, offer any interpretation of the prevalent and eminent feature of pain; so far as I know coronary thrombosis causes no such pain, though the scantiness of verified facts in this respect is to be admitted. Claudication, then, would only explain death in the final attack; in the forerunning attacks the heart does not stop, not even temporarily; an attack of flatulent dyspepsia may ruffle the heart far more, without frightening doctor or patient. In ordinary syncope the pulses fall far, very far, more into abeyance than in angina. I repeat that we have to face the remarkable fact that on this side of death the pulse in angina may remain unaffected, although as the attack recedes it often falls in pressure, and the heart's action in force.

We are not often in a position to observe an attack of "angina sine dolore"; but in one case, an exquisite one, this advantage fell to me. A gentleman of advanced years, whose life had been one of continual grief and disappointment, was sent to Bournemouth for his health; he suffered from most distressing "syncopic" heart, symptoms described in a letter to me as "probably significant of fatty heart." He wished to visit me in Cambridge, but on arrival at the London terminus he had "an attack," felt unable to proceed and telegraphed to me to visit him at his hotel. There was as much or as little to be found wrong with his heart as is usual in such a patient; his left ventricle was somewhat enlarged, his arteries thickened, his aortic second sound "parchment-like," and the blood-pressure rather high; but after all many a man goes about with such signs of aging tissues, even for some years, without grave pain or disablement. His heart was probably deteriorated, but it was not in an atrophy. All at once, when my examination was nearly over, he said in a hollow voice, "it is coming," and his nurse, familiar with the cry, ran forward with restoratives—with brandy or sal volatile. His face was then ashen and terrorstricken, and he was frozen into an attitude of stillness; he did not even disengage his wrist from my finger which, fortunately, was then resting on his pulse. In spite of smelling salts and other restoratives of the ordinary kind, he was thus held in deadly apprehension for some minutes; as the seizure began to pass off he whispered to me, "it will kill me." During all this time his pulse, already somewhat hard, never faltered or underwent any change whatever. There were no vasomotor phenomena. I wrote to his medical man to suggest that the case was one of the painless form of angina pectoris described by Sir William Gairdner in Reynolds' "System of Medicine"; and I recommended the use of nitrites. How far these agents were brought to bear on the case I do not know; he got home again with difficulty, the slightest exertion alarming him, if it did not induce an attack; and a few days later he died suddenly in one of the seizures, in a "claudication" likely enough; but no claudication was perceptible until death took him. On the contrary, the absolute and almost uncanny impassiveness of the pulse during this drama impressed me very much; it seemed, as it were, the only impassive phenomenon in a chamber of torture, the readiness of the nurse, who was used to the scene; relieved me of any other duty, so that I did not relax my attention to the pulse from the outset of the attack until its conclusion, some three minutes, perhaps. The patient assured me that he had never had the least pain during any of these seizures; he was almost ready to yearn for pain as a diversion from the terrible sinking and apprehension of death. In Miss Mamie Dickens' recollection of her father (Macmillan & Co.), it appears that Dickens, for some time before his death, had been subject to attacks of vague but overpowering dread, in one of which attacks he died. In my case the mortal dread was extreme, but it was hard to see wherein lay the imminence of death. The dread, like hunger and thirst, is probably an "organic sensation," perhaps a "call" of the tissues for some necessary of life? But that which is lacking is evidently not blood, nor, whatever the mode of death may be, is the death-warning directly due to syncope. To call phases of cardiac asystoly of syncope, fatal or not—"angina sine dolore" is an error, and leads to confusion. What can that be which smites the vitals so hard as to kill the patient, sooner or later, but which, until the final blow, does not even make the heart stagger? The disease is the sphinx of medicine.

We hear of "cramp" of the heart; but I never quite understand what is meant by the word. Cramp in the muscles of the leg or thigh most of us know too well; but there is no evidence that the cardiac muscle is capable of this state. So far as we know, the systole of the heart is a remarkably uniform phenomenon; one which preserves its relative duration almost unchanged under grave disturbance. We read also of "tetanization" of the heart, but surely this is a misnomer? Under electric stimulation, or that of digitalis, the heart tightens and tightens, its cavities get smaller and smaller, but still its rhythmic contractions go on; the difference being only those of rate and of output. However reduced the cavity by excess of tone, the regular delivery of tiny charges of blood continues; and this is not either cramp or tetanus. Professor Osler suggests that cramp or cramps may possess the cardiac muscle in part, the rest of it going on more or less regularly with its task; admitting that such

partial cramp be possible, unless the ventricular systole were arrested thereby, or greatly embarrassed, the blood-pressure would be unaltered, as was demonstrated by the clamp experiments of Cohnheim and others. But surely the cardiac muscle is incapable of "cramp"; its quality of rhythm is too deeply implanted in its nature to give place to any arrest save in prolongation of diastole, but in "tetanisation" diastole is shortened, and in death from angina pectoris the ventricles are often found relaxed and full of clot. If the heart fall into the phase of fibrillary contraction it is doubtful whether (in man) it ever recovers. Cramp, then, will not do; though its advocates do us the service of dismissing by the way the arguments alleged in support of painful distention of the ventricle.

Once more; I have said that the doctrine of heart-cramp extinguishes that of painful dilation; and it is difficult indeed to accept the opinions of those who in one breath assert that angina pectoris is attended by arterial hyperpiesis, to be combated by nitrites, and also that the pain is due to tension upon the nervous structures in the substance of the ventricle as the walls of it are stretched in passive dilation? In the first place, that dilation of the ventricle hurts, and hurts by squeezing the intramuscular nerves, I find it hard to believe. That in some persons very acute dilation may be attended with cardiac and referred pains, is conceivable; but this does not cover the difficulty; indeed, so far as common experience goes, it is another sort of distress. Acute dilation is very common—as, for instance, on excessive muscular exertion; but, making every allowance for the rarity of the particular neurotic bent, I cannot remember a case in which this event was painful with anything like the pain of angina; the other symptoms are not the same, and a flabby, over-distended heart is not even generally found after death. If tension of the ventricular cavity be the cause of the pain how is it that angina pectoris is never credited to the right ventricle? And, I repeat, how is general arterial pressure to rise if the left ventricle be dilating? The effect of dilation on a kymographic curve is well known, and is invariably betrayed by a sinking of the base line. For a rise in tension the baker must strive as well as the fiend. It is asserted that in rare cases angina is associated with pathologic conditions of low pressure, *e. g.*, with fatty heart. But, high pressure is a relative matter; what may be low pressure for a sound aorta may be high for one diseased; moreover, these cases of yielding ventricle are cases of the decline of the disease, and precede death by asystoly after the usual fashion. Angina is indeed, as I have said, almost universally regarded as a disease of high pressure, and is usually associated with those kinds of degeneration which are significant of high blood-pressure present or recent. Professor Musser[3] draws the following conclusions among others not now relevant: "That when dilation of the heart supervenes in a patient, the subject of angina pectoris, the subjective symptoms may subside; that angina pectoris may occur in a patient who has had dilation of the heart when the dilation is removed by treatment; that the pain of angina pectoris appears to be due to increased intraventricular pressure, although other causes are no doubt operative; and that digitalis is contraindicated, unless the dilation be extreme."

[To be concluded.

[3] Musser, J. H., M.D.: Angina Pectoris. *American Journal Medical Sciences*, September, 1897.

ANNUAL ADDRESS ON GENERAL MEDICINE BEFORE THE AMERICAN MEDICAL ASSOCIATION.

By J. A. WITHERSPOON, M.D.,
of Nashville, Tenn.

[Abstract.]

The latter half of the last century has been one grand triumphal march to the present high plane of rational, scientific, preventive medicine, until today we are utilizing every element in nature to solve the many problems of disease.

Chemistry is now receiving its proper recognition, and clearing many hitherto unknown fields of empiricism and doubt. The modern laboratory has done much to lift the veil of ignorance and mysticism and make preventive medicine the grandest achievement of the age. Modern methods of differential diagnosis, more accurate clinical observations confirmed by pathologic investigation have done much toward making medicine an exact science. Modern journalism has made it possible for the most obscure country doctor to keep fully abreast with the times; thus acquiring more knowledge in one year than could have been obtained in a lifetime a century ago.

I deem it my duty to call attention to some of the fallacies and errors which have arisen, obstructing in some instances the path to true progress. I am well aware that it is not politic at these annual reunions to call to mind unpleasant things, but we have a high and noble calling, the honor of which has been placed in our keeping by our forefathers in medicine, the protection of which should be as a sacred trust; hence, I call to arms those who are resting in a security born of a sense of duty well done. The old guard has guided the ship of honorable medicine into a harbor of calm, where the code of ethics offers immunity to quacking, pathies, and commercialism. But while resting, clouds have arisen, and waves are breaking over the old ship. The first error, vast in its influence, is the dictation of the innumerable pharmacal companies, the self-constituted advisers in the treatment of diseases about which they know nothing. All honor to legitimate scientific pharmacy; we welcome it as a child of medicine, but frequently the child, exempt from paternal authority, not only tells its parent how to treat every disease to which flesh is heir, but even formulates his prescriptions, giving full directions. They flood your offices with literature full of bombastic claims and cure-alls, and frequently with certificates, used by permission, from doctors who call themselves reputable. Of course, none of these doctors are inhabitants of the United States, but live in our new possessions, or some other country without the privilege of resting in the bright light of the code of ethics of this Association.

These drug houses are so afraid that some one will die through your ignorance that they send a man, frequently a doctor who was a howling success in the profession before his health failed, to tell you all about how to treat disease, with the parting injunction to always specify his preparations, and the friendly warning to watch the local druggist. They are the only people in the world who, without seeing the patient, can tell you how to feed the baby until he blossoms like the rose, or to restore the bloom of health to the blanched cheek of the convalescent. Or, they make the emaciated consumptive so fat that he can hibernate and convert his distressing cough into a laugh of joy. Thus, I might enumerate their good deeds indefinitely,

but, seriously speaking, this is a curse to the profession, and takes from it its real scientific application, viz., treating each case upon its merit.

The fostering of these establishments is a disgrace to honorable medicine. The true sphere of pharmacy is to make the official preparations of drugs and compound our prescriptions; and when a doctor acknowledges his inability to formulate his own prescriptions to suit each case, then he should seek some other occupation. These institutions have such influence that every medical society meeting must furnish space for their wares, this frequently becoming a place of popular resort, where various drinks are served. It is reported that they have gone into some of the sections, and tried to control the election of officials who are kindly disposed to the products of their laboratories. Can we rest under such an imputation and retain our self-respect? If these reports be true, then indeed has the reputation of regular medicine descended to a low level, and the time has come for vigorous action.

I desire also to call attention to the rapid multiplication of medical colleges in this country. The noteworthy advances of the past 20 years, such as lengthening the course of study, laboratory work, etc., have been inspired by the profession, and we have greater reasons to be proud when we remember that these improvements have been carried out without assistance of large endowments, for few institutions have had such aid. But, while we give credit, we must also lay to the charge of the profession the increase in poorly-equipped institutions. No man is prepared to go into any special field until he has done general work enough to familiarize himself with disease in all of its phases, and neglect of this training is responsible for so many extremists.

Again, take the spectacle fad. Glasses in the past were an insigna of honorable old age. Now we truly find them from the cradle to the grave. Even the negro, who has long been noted for his keenness of vision, must now have "specs" to walk the streets in broad daylight. All honor to true and legitimate specialism; it should be welcomed and aided by every general practitioner, as a scientific and correct division of labor in a field broad enough for all; but this rushing into specialism without the above preparation is truly appalling, and is injurious, not only to the general profession, but to the truly well-equipped specialist.

I desire to call attention to another serious error, which seems to be the popular tendency of the times. I refer to laboratory diagnoses, regardless of clinical symptoms. The microscopic demonstration of the presence of etiologic germs of a disease is not sufficient for diagnosis, but only confirmatory; the clinical manifestations should be present, and the close and careful observer at the bedside must remain the highest court, and chemical and microscopic test his aid. The close observance of physical signs, subjective and objective symptoms, aided by the microscope, and modern methods of research, when needed, is the only way to practise medicine with justice to yourself, and safety to the patient. Many laboratory men know the habits, morphology, and methods of culture and staining of pathogenic bacteria far better than they understand by experience or observation the diseases they produce.

Here let me express my earnest condemnation of medical politics. Any method of wire-pulling or resorting to the tricks of the ward politician, is unbecoming, and should not exist in a medical body, especially in this, the largest and most influential medical society in this country, and can only bring discredit to its members. The man of true merit is often overlooked; because his modesty prevents him from advancing his own interests.

One of the most dangerous errors is the present system of quarantine. I refer to local boards of health acting independently. State Boards acting independently of other boards, are largely responsible for useless disturbance of business, and often ineffectual attempts at protection. If there is any one department of medicine which stands preeminently in the front rank of advancement in this progressive age, it is Preventive Medicine; and it is a reflection that any serious epidemic disease should gain foothold on American soil. The only way to accomplish this is by giving the power to a National Board of Health. Let us place the strong arm of this Government around this land. We are confronted by a serious and grave question involving this very principle. Even now, at the Golden Gate, which has always stood open wide to welcome the stranger, that fearful scourge, bubonic plague, has insidiously gained admission. This Association has time and again expressed its views upon the subject, and appealed to the nation through its representatives; but as yet the full measure has not been meted. When war with Spain was declared, millions of dollars were voted, and a million men stood ready to enlist and fight for the flag of the grandest country on earth. And yet, a disease is threatening us now which has claimed more victims than the combined armies of the world, and finds us unprepared to meet it properly. We must make a united effort in the establishment of a National Board of Health, clothed with legal power and the necessary funds, to protect our people from these threatened invasions of the pestilence. If we can get Congress to see that no department, not even the Treasury, is more important than the health of our people, and have our Chief Executive appoint the man for the position, allowing assistants and clerks as in other departments, then we will be able to stop the invasion of foreign disease.

We should at this time sound a note of warning upon the growing tendency on the part of many physicians to use morphin and cocain indiscriminately. The morphin-habit is growing at an alarming rate. We cannot shift the responsibility, but must acknowledge that we frequently dispense these drugs until the will-power is gone, and a moral and physical wreck is sent down to shame and degradation. Often these tendencies are transmitted to the offspring, and these innocent victims are brought into the world, half made mentally, morally, and physically, thoroughly unfitted for the many emergencies of real life. We, the representatives of the noblest profession in the world, with the God-given mission of making growth more perfect, life more perfect, and death more remote, must shoulder the responsibility, and follow in the footsteps of the Great Physician, and warn and save our people from the clutches of this monster.

I have determined to offer my feeble protest against the useless multiplication of books and authors. Every progressive man in the profession feels the necessity of keeping fully abreast with the times; and when a new book is published, will purchase it for fear that he may lose some valuable information. He frequently finds it a poor copy of another work, without an original thought. Every medical library is groaning under its loads of useless repetition in systems of many vol-

umes. There is a prevailing tendency in young men to rush into print. How often do we see a young graduate stay in a hospital a year in a laboratory a short time, and then suddenly unfurl his banner to the world as an authority. I would not be understood to mean that the young men should remain in the rear, and withhold any information they may have acquired by arduous labor; but I do claim that their medium should be through medical journals, which are, after all, the greatest educators of the hard-worked busy physician. When such men as Osler, a walking encyclopedia of medicine, regrets the day when he "sold his brain to the medical publisher," it is time for younger men to pause and consider well before they assume the role of authorship.

In conclusion I desire to say that a conscientious sense of duty alone induces me to call attention to the threatening storms which, if not checked while they are yet young and harmless, will eventually undermine the very foundations of true and honorable medicine.

SCARLATINA; SOME FURTHER EXPERIMENTS.

By WILLIAM J. CLASS, M.D.,
of Chicago, Ill.
[From the Pathological Laboratory of Rush Medical College.]

The researches of Gradwohl,[1] Jaques,[2] Page,[3] and others, having shown that the Diplococcus scarlatinae, the germ first described by me as the specific causative factor of scarlet fever, is present in this disease, and its specificity being demonstrated beyond reasonable doubt, I deemed it justifiable to undertake a search for an antitoxin. With this end in view, a number of experiments were undertaken.

The work was extremely difficult and tedious, due largely to the fact that the germ varies greatly in its virulency, making it difficult to obtain a culture, that could be used as a standard. After a number of failures, a culture of the Diplococcus scarlatinæ was obtained, which was of sufficient virulency to insure a good result. This culture was obtained from the throat of a patient with scarlet fever, in the practice of Dr. W. S. Christopher, of this city. The culture was taken on the first day of the disease before the appearance of the rash, and proved to be almost pure. To avoid any mistake, however, agar plates were poured, particular pains being taken to avoid overheating, and a pure culture obtained in this way. A very minute quantity of this culture, when injected subcutaneously into mice, proved fatal within 24 hours. A loop of this culture was transferred to a flask, containing about 4 ounces of bouillon, and placed in an incubator, the temperature of which was kept at about 37° C. At the end of 10 days, the bouillon was found to be turbid, and showed a slight precipitate. Examination revealed the presence of numerous large cocci, without any admixture. This bouillon-culture was then filtered through a porcelain filter, and the product decanted into $\frac{1}{2}$-ounce vials, which had been previously rendered sterile. The fluid thus obtained was straw-colored, alkaline in reaction, showed no precipitate even after being kept for 2 months, and remained perfectly clear during this time. Two spotted mice were injected with this filtered culture, each mouse receiving 5 minims subcutaneously, the injection being made near the root of the tail. One of these mice was found dead at the end of twenty-four hours, while the other lived about 36 hours after receiving the injection. Culture-tubes were inoculated with blood from the heart and spleen of these animals, but no growth resulted. Two ordinary gray mice, treated with the same amount of the filtered culture, died within 12 hours. These experiments showed that the filtered fluid contained a toxic substance in solution. A chemical examination of the toxin was not made, and its nature has, therefore, not been determined.

A toxin having thus been obtained, the next step naturally was to see if any of the larger animals were susceptible to it, and if so, to render them immune by administering successively increased doses. As it has been proved that swine are susceptible to the germ itself, these animals were naturally the ones that were first tried for the purpose mentioned. The animal used was a female, weighing about 25 pounds, and in good condition. On December 16, 1899, after having rendered the parts aseptic by the liberal use of soap-water and mercuric-chlorid solution, 1 cubic centimeter of the filtered culture was injected into the muscular tissue of the inner side of the thigh. The temperature of the animal at the time of injection was 101° F. When next seen, 24 hours after injection, the thermometer registered 103° F., the animal seemed restless, and the janitor in charge of the animal-room told me that it had taken very little food since the time of injection, but had drank considerable water. On December 18, the temperature was 102° F., and within a few days fell to 101° F., which seemed to be the normal temperature of the animal. On January 4, 1900, the animal having recovered perfectly from the effects of the first injection, a second one was made in the same manner as the first, only that twice the dose, or 2 cc., instead of 1, was used. The result was very similar to that which followed the first injection; the temperature, which was 100° F., rose to 103° F. within 24 hours, and to 104° F. after 48 hours; there also appeared a marked reddening over the abdomen and inner side of the thighs, which lasted about 72 hours. About 6 days after the injection, all signs of the reaction had disappeared. On January 20, 3 cc. was administered, but this injection was only followed by a transitory rise of 1.5° in the temperature, without any apparent constitutional symptoms. A fourth injection, made February 6, when 5 cc. was injected, was followed by a rise of only 0.5° in temperature, and the animal was considered by me to be relatively immune; I say relatively, because a very large dose might have caused a reaction.

It was now decided to bleed the animal in order to test its serum. This was done on February 20 by dissecting out the femoral artery, into which a glass trocar was inserted. This being my first attempt at bleeding a pig in an aseptic manner, some of the blood was lost, about 8 ounces being collected in the sterilized flask before the flow ceased. About 30 minims of a 40% solution of formalin were added to the blood and the whole put in a cooler for 48 hours. The fluid portion of the blood was then drawn off into small bottles—which had previously been rendered sterile. The serum thus obtained was a clear, reddish fluid, having a faint odor from the formalin which had been added to it as a preservative. A serum from which some effect might possibly be expected having thus been obtained, it was

[1] Gradwohl: A Preliminary Report on the Etiology of Scarlatina, Philadelphia Medical Journal, March 24, 1900, p. 688.
[2] Jaques: Experiments and Observations in Scarlet Fever, *Bulletin N. W. University Medical School*, March 31, 1900, p. 284; Philadelphia Medical Journal, March 10, 1900, p. 552.
[3] Page: Preliminary Report on the Diplococcus of Scarlet Fever, *Journal Boston Society Medical Sciences*, June 20, 1899.

decided to make a series of experiments in order to ascertain whether it possessed an antagonistic action toward an infection with the Diplococcus scarlatinae. Mice were the first animals used, but it soon became apparent that they were too susceptible to the germ as well as too small, so they were soon discarded; for although apparently they could be made to resist a larger quantity of the germ when previously injected with the serum, still the results were not such as to justify any conclusions being drawn from them. White rats were tried next, but they did not prove very susceptible to the action of the germ, having a certain natural immunity; consequently they were also discarded and guineapigs were selected as the only available animals. These animals, although less susceptible than mice, usually die within 1 to 2 weeks when an intra-abdominal injection with a virulent culture is made; subcutaneous injections, as a rule, having little or no effect. At this stage of the work another delay was caused through my cultures having become either contaminated, or, if pure, proving to be only slightly virulent. Finally, however, a culture was obtained of which approximately 0.1 cc. dissolved in 1 cc. of water proved to be fatal to a guineapig when injected into the abdominal cavity. Four sets of experiments were made, 2 guineapigs being used for each experiment, one animal receiving an injection of the germ alone, while the other received the germ plus the serum.

EXPERIMENT NO. I.

Animal No 1.—A guineapig of the average size in good condition, rectal temperature 102° F., was injected April 3 with 1 cc. of the serum subcutaneously, followed shortly by the intra-abdominal injection of 0.1 cc. of the aforementioned culture dissolved in 1 cc. of distilled water. No reaction folllowed the animal remaining well up to the present date (May 12).

Animal No. 2.—A guineapig of the average size in good condition, with rectal temperature of 101° F., received April 3 0.1 cc of the culture dissolved in 1 cc. of distilled water by injection into the abdominal cavity. This animal sickened, sitting quietly in its corner and refusing almost all food. On April 8 its rectal temperature was 105° F. The animal became greatly emaciated and was found dead April 17. Cultures were made from the liver, bladder, kidneys, and lungs. The cultures from the urine contained in the bladder and those from the liver showed a pure growth of the Diplococcus scarlatinae. That from the kidneys showed a mixed growth of cocci and bacilli, while that from the lungs showed no growth. The organs were given to Professor Le Count for histological examination.

EXPERIMENT NO. II.

Animal No. 3.—Guineapig slightly larger than the average size, in good condition, with rectal temperature of 102° F., was injected April 6 with 1 cc. of the serum subcutaneously, followed by the intra-abdominal injection of 0.1 cc. of the culture dissolved in 1 cc. of distilled water. A slight reaction followed, the animal refusing food for about a day, but soon recovered and is well at the present date (May 12).

Animal No. 4—Guineapig of the average size, in good condition, with rectal temperature of 101° F., was injected intra-abdominally on April 6 with the same amount of culture as No. 3. On April 7 the temperature of the animal had risen to 103° F., and on April 10 it was 104° F.; at the same time showing all the signs of an acute illness. On April 12 it was found dead. Cultures from the spleen, liver, and blood from the right auricle gave a pure growth of the Diplococcus scarlatinae. The culture used in this experiment was the same as that used in the first one.

EXPERIMENT NO. III.

Animal No. 5.—Guineapig of about the average size, in good condition. Rectal temperature 102° F. Injected April 19, with 0.1 cc. of a culture derived from the liver of animal No. 2 intra abdominally, at the same time received .5 cc. of serum subcutaneously. This animal sickened soon after being inoculated, and died within 36 hours.

Animal No. 6.—Guineapig of the average size, in good condition. Rectal temperature 102° F. Received by intra-abdominal injection on April 19, 0 1 cc. of the same culture used in No. 5. The inoculation was made at about 3 o'clock in the afternoon, and the animal was found dead the next morning; hence it had died within about 15 hours, possibly less. Cultures were taken from the spleen, kidneys, and liver. These showed the Diplococcus scarlatinae predominating, but mixed with other cocci and bacilli. As the postmortem was not made until a considerable time had elapsed and the body being kept in a warm room, this contamination was probably due to organisms developing postmortem. The reason why the serum did not prove as an absolute protectant in this experiment was probably due to two factors, one being the increased virulency of the culture used, and the other the diminished amount of serum injected.

EXPERIMENT NO. IV.

Animal No. 7.—Guineapig, somewhat below the average size, in good condition. Rectal temperature 101.8° F. Injected intra-abdominally on April 24, with 0.1 cc. of the same culture as was used in Experiments I and II, dissolved in 1 cc. of distilled water, followed by the subcutaneous injection of 1 cc. of the serum. The animal showed no signs of sickness during the day following, and is at present (May 12) in perfect health.

Animal No. 8—Guineapig of the average size, in good condition Rectal temperature 102° F. Injected intra-abdominally on April 24, with 0 1 cc. of the same culture used in animal No. 7, dissolved in 1 cc. of distilled water. April 26, rectal temperature 104° F.; animal sits quietly in cage, and refuses food. From this date on the animal became rapidly emaciated and died May 5. Culture tubes of blood serum were inoculated from the kidneys, liver, and heart's blood Those from the kidney and blood showed a pure growth of the Diplococcus scarlatinae, while that from the liver showed the diplococcus together with a number of short rods, which were probably an accidental contamination.

The only experiments outside of those just stated conducted with the view of isolating a toxic product from scarlet fever, as far as I am aware, were made by Immerwahr, who tried to obtain a toxalbumin directly from the tissues of scarlet-fever patients according to the method used in anthrax and cholera. The blood from a simple case of scarlatina when injected into mice gave no result, although from a case of scarlet fever complicated with uremia he succeeded in obtaining an albuminoid substance from the organs which, inoculated into animals, caused severe spasms, and death. In making this statement I have purposely ignored the experiments with streptococcus toxins and antitoxins, because the streptococcus has no more to do with the etiology of scarlatina than with that of diphtheria. In regard to my own experiments I have simply stated the facts as I have found them, and do not wish to convey the impression in this paper that I have been able to produce an antitoxin that will do for scarlet fever what diphtheria-antitoxin has done for diphtheria. It will, in fact, require considerable further corroboration to convince the medical profession in general that the Diplococcus scarlatinae is the cause of the disease, and before this is fully admitted all attempts, except in a small way, to inaugurate an antitoxin treatment for this disease will necessarily be futile. However, as in all things, a beginning has to be made, no matter how small it may be, and it is my intention to use the serum that I have prepared in the first suitable case of scarlet fever that presents itself. The method of preparation was necessarily somewhat crude; no effort being made upon my part to estimate the amount of serum which would

neutralize a given quantity of the germ or toxin, and it would probably be very difficult to do this as the germ is a very unstable quantity so far as its virulency is concerned. Whether it will ever be practicable to produce a commercial serum is rather doubtful unless some other animals than swine can be used for its production. If there is any truth in the statement that cows are susceptible it might be practicable to use these animals, or calves, for the production of larger quantities of the serum. In regard to my belief in the germ itself, it will be seen from this communication that I have not lost any faith in regard to its being the cause of scarlet fever, and I feel confident that if other observers will give the matter a fair, unprejudiced investigation that they will arrive at the same conclusion. Before closing, I wish to express my thanks to Prof. Hektoen and the faculty of Rush College for their kindness in tendering the use of their laboratory and animal-room to me for these and other experiments.

MÜTTER LECTURES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The Surgical Treatment of Congenital and Pathologic Disfigurements of the Face.

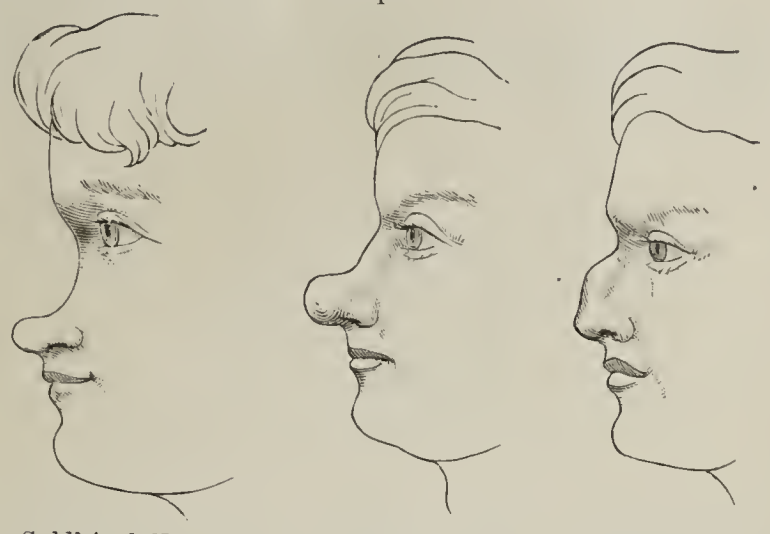
BY JOHN B. ROBERTS, M.D.

LECTURE VII.—*The Correction of Deformed Noses.*

(Abstract.)

MANY nasal deformities are quite insignificant anatomically, but are the cause of much distress to the patient. Though there be little or no obstruction to breathing, and little deformity to the eye of the observer, the disfigurement causes worry on the part of the patient. In other cases the deformity, from congenital malformation, fracture of the bones and cartilages, ulceration or gangrene, is so great as to greatly disfigure the patient's countenance. Syphilis, giving rise to necrosis of the bones and cartilages which form the support of the nose, is a potent cause of nasal deformity. Epitheliomatous ulcers occurring upon the nose may render such cutting operations necessary as will leave deficiencies, which must be filled by operative treatment.

Destruction of tissue, from the application of caustics, to relieve real or supposed malignant growths, is not infrequently the cause of disfigurement. Some of the distortions of the nose are due to deviations of the cartilaginous septum. Many of these deviations are the result of fracture following comparatively insignificant, and perhaps forgotten, blows upon the nose. The saddleback nose arises from a want of proper development of the bones and cartilages forming the septum. A somewhat similar sunken-in-nose is found in inherited syphilis. These are much less conspicuous disfigurements than the dreadful deformity of this organ, which arises from syphilitic necrosis of the internal structures of the nose, which give shape to its external contour. In these cases the middle of the nose sinks inward because of lack of support. The tip of the nose, therefore, rises and the nostrils instead of pointing downward look directly forward. The saddleback nose, the angular nose due to undue prominence of the lower end of the nasal bones, and the nose with a tuberous lobule are all amenable to operative treatment. In the saddleback nose a piece of metal or celluloid may be sterilized and slipped underneath the skin in such a way as to fill up the hollow on the dorsum of the nose, and give the organ a straight, or nearly straight, surface from the forehead to the tip.

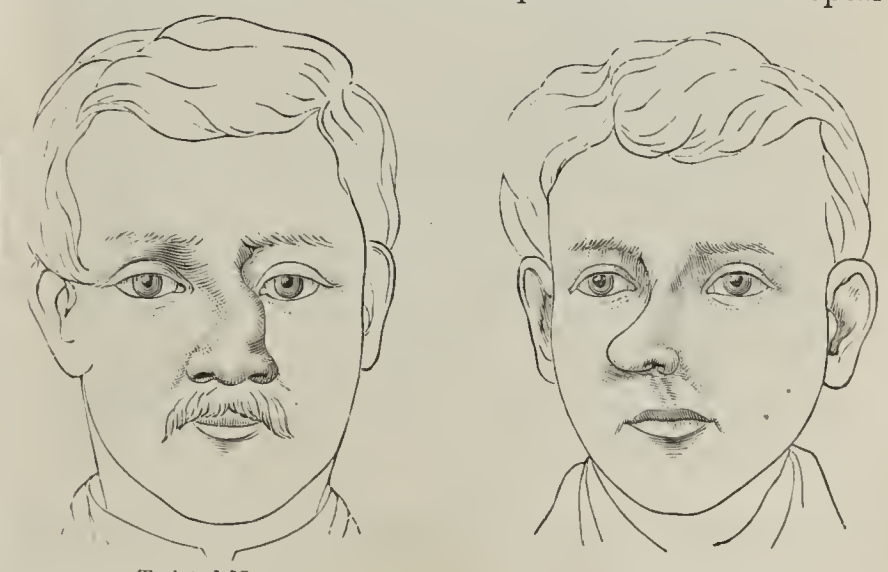


Saddleback Nose. Tuberous Nose. Angular Nose.

The sunken or saddleback nose of inherited or acquired syphilis requires much more active surgical intervention; at least in the majority of cases. Here it is necessary to elevate the parts; and then support them. Chiselling portions of bone from the nasal processes of the maxillary bones, or from the nasal bones themselves if they have not been destroyed has been adopted. These detached fragments are displaced in such a manner as to give support to the nasal tissues which have previously been elevated by subcutaneous incisions. The introduction of intranasal supports of metal, to hold up the external nose, has been employed. In syphilitic cases foreign materials used for this purpose are more apt to set up irritation than in nonsyphilitic cases. It is probably better to build up the dorsum by flaps taken from the cheeks or forehead, than by using internal supports made of metal.

The angular nose is usually remedied by the very simple operation of making an incision, and chiselling away the redundant cartilage and bone. It is usually better to make the cut along the edge of the nose, rather than directly in the middle line. The elasticity of the skin permits the surgeon to displace the flap laterally, and get access to the prominence to be removed. The scar, being a little to one side of the anterior surface of the bridge of the nose, is less conspicuous than if in the middle.

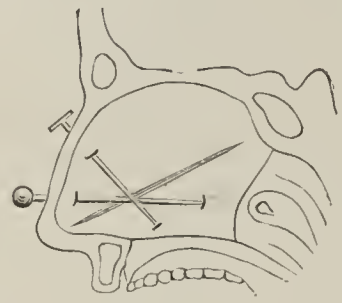
Bent and twisted noses are remedied by incising the septum, removing redundant portions of the septal



Twisted Nose. Bent Nose.

cartilage and bones, separating the soft tissues of the nose from the bony supports beneath by the free use of a tenotome, and forcing the distorted organ into proper

position. It is held here by means of pins introduced through the nostril and from the external portion of the nose. The use of pins is often more satisfactory than intranasal splints or tubes, because the nostrils are kept free from obstructing foreign bodies, and can be easily irrigated or sprayed with antiseptic solutions. In correcting bent or twisted noses, the surgeon should usually overcorrect the deformity, because there is a tendency for the nose to return to its abnormal position. Chisels, saws, and the surgical engine are instruments very useful in correcting the septal deformity which is often associated with these external disfigurements. Surgeons should not forget the importance of examining all recent fractures of the nasal bones and cartilages with great care. Imperfect examination and consequent inefficient treatment are the causes of many deformed noses.



Use of pins to hold incised septum in corrected position.



Barbed Needle.

In removing cartilaginous excrescences upon the septum, a long barbed needle is often valuable. It is thrust into the mass, which is thus steadied, until it is excised with knife or saw. The long needle gives the surgeon control of the little tumor, and permits the removal to be quickly done.



Ala of nose and portion of upper lip made from flap cut from the cheek. Flap doubled inward to make naris by a double stitch tied over a piece of rubber tube placed alongside of the bridge of the nose. (Taken a few days after operation.)

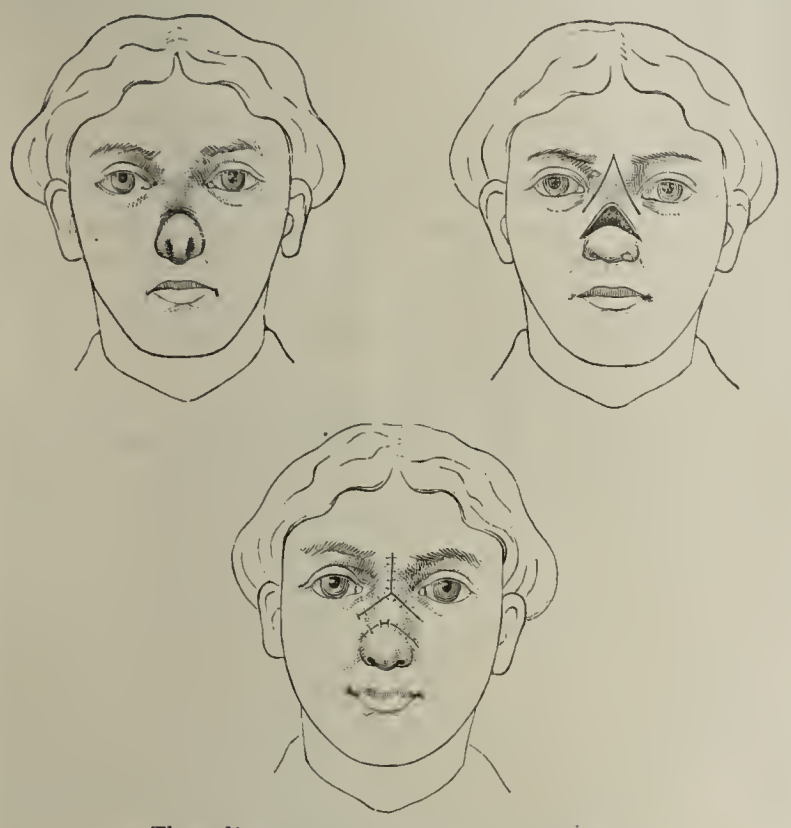
Loss of the ala of the nose may be repaired by making a flap from the upper lip and cheek, and turning it into the gap. Sometimes it is better to take the new tissue from the cheek alone, making the incisions in the nasolabial furrow. Portions of the nose have been constructed from the tissues of one of the fingers. This may be done by splitting a finger of the left hand on its palmar surface, removing the phalanx, and stitching the laid-open soft tissues to the stump of the nose. The nail is removed either before or after the plastic operation which attaches the digit to the nose. After the lapse of about two weeks the finger is amputated from the hand. Nearly a complete nose has been made by using a finger in a somewhat similar way. The color of the skin of the hand is apt to differ from that of the face. Flaps may be taken from the forehead, with or without periosteum, and turned or twisted downward to close a gap on the top or side of the nose. The color is then more natural.



Portion of ala of nose made from tip of finger. (Dr. J. P. Tunis' case.) The notch in the new ala was subsequently repaired by the author with a flap taken from the cheek.

The contour of a syphilitic nose may be improved by a transverse incision across the depressed nose at the deepest part of the furrow above the lobule of the organ. This incision opens the nasal chambers and enables the surgeon to pull down the tip of the nose, so that the plane of the nostrils is horizontal, as it normally should be. The great gap left between the root of the nose and the tip must then be filled. I have done this quite satisfactorily by taking flaps from the cheeks and turning them inward toward the middle line, so that the skin-surface presented toward the nasal cavity. The tissue of the forehead was then brought downward to cover these flaps, and make the mass of tissue thick, so as to give rigidity to the newly formed portion of the nose. Another method is to make a V-shaped incision between the eyes with the point of the V upward, and displace this flap downward to fill the gap left by the original transverse incision, which was made to bring down the point of the nose. This flap is scarcely rigid enough, but may be held in position by spectacles supplied with a spring, like eyeglasses. Many modifications of these two plans will suggest themselves to operators.

I have made a forehead flap containing periosteum and a thin shaving of bone, turned that downward and thrust it through a transverse buttonhole at the base of



Three diagrams showing a sunken syphilitic nose and one method of repairing it.

the nose. This was done with the hope of giving more solidity to the new dorsum.

The columella of the nose may be made by two vertical incisions extending downward through the upper lip. The central portion of the lip is then turned upward and stitched to the tip of the nose in such a way as to make a partition between the two nostrils. The gap in the lip is then closed by stitches as in hare-lip. The mucous membrane which then covers the external



Patient deformed by burus so that the nose was twisted to the left, the naris closed, the lips everted and the eyelids distorted. Much improvement was obtained by a series of operations.

surface of the new columella soon assumes an appearance similar to that of skin. I have on the cadaver constructed a satisfactory columella by cutting a vertical piece from the inner surface of the lip and turning it upwards through a transverse buttonhole made at the junction of the nose and lip.

It is probable that the ala of the nose may be lined with mucous membrane in a similar manner. This may be necessary when occlusion of the naris takes place after reconstruction of an ala. A portion of mucous membrane and muscle may be cut from the inner surface of the lip and turned upwards through a buttonhole made in the lip at the lower border of the nostril. It is perhaps possible to make the columella from the dorsum of the nose, by cutting a flap containing periosteum from over the nasal bones themselves, and thrusting this cutaneo-periosteal flap through a transverse buttonhole made near the tip of the nose. The flap should then be stitched to the upper portion of the lip.

This same method might perhaps be employed in the treatment of saddleback noses by thrusting flaps cut from the cheek through buttonholes made in the skin at the side of the nose. If the cuticle is removed from these cheek flaps, they would probably become adherent to the deeper tissues of the nose, and build up a mass of connective and fibrous tissue underneath the skin at the front of the nose. A hollow creating the saddleback condition could probably be thus obliterated. These operations I have only tried upon the cadaver, but they seem to promise success.

A CONTRIBUTION TO THE STUDY OF EXOPHTHALMIC GOITER.

By ALFRED GORDON, M.D.,

Assistant in the Neurological Department, Jefferson College Hospital, Philadelphia.

[Concluded from page 1384.]

Jouin[3] relates 43 cases, in some of which genital affections determined exophthalmic goiter, and in some of which the disease disappeared with the menopause. We know the influence of menstruation upon the nervous system and, on the contrary, the influence of nervous disorders upon the menses and pregnancy. It is possible that when a utero ovarian congestion is absent, a compensatory congestion occurs in the emotional nervous centers, which transfer the reaction to the heart, thyroid, and eyes, and it is possible that in a predisposed individual the suppression of menstrual congestion or any genital disturbance may be followed by a compensatory congestion of the emotional bulbo-protuberantial center.

Brissaud observed a case of floating kidney in a woman of 36, in whom psychical troubles set in, and exophthalmic goiter followed. All the symptoms disappeared after a suitable abdominal belt was put on to support the kidney. Federn observed 3 cases of intestinal atony, enteroptosis and gastroptosis followed by exophthalmic goiter. Hoffman, Hack, Fränkel, Stocker, Gottstein, report cases of nasal polyps, hypertrophy of turbinated bones, rhinopharyngeal catarrh, followed by exophthalmic goiter; the last disappeared after the first was cured. Bloch observed a case in which all the symptoms of Graves' disease disappeared after a double ovariotomy. Charcot states that pregnancy modifies favorably the course of Graves' disease. So do Mangin[4] and Guilbert.[5]

A very striking observation was made by Tillaux[6] in 1880; he performed a successful thyroidectomy and 4 years later exophthalmic goiter developed. Two other

identical cases from the same surgeon are reported in the thesis of Besnard.

The proofs given against the theory of hyperthyroidization of the organism as cause of Graves' disease are purely clinical, but they are, nevertheless, facts stated by the closest observers. Let us see now what the experimental researches teach.

Filehne in 1879 injured a certain spot of the medulla in a young rabbit and thus produced the syndrome of Graves' disease. Bienfait verified these experiments and found that the spot is located in the middle between the restiform bodies measured from the calamus scriptorius to the point where they bend to enter the cerebellum. This was also verified by Durdufi.

At autopsies Mendel[7] found the left restiform body atrophied, the funiculus solitarius was atrophied on both sides (the funiculus solitarius passes on the floor of the fourth ventricle at the level of the injured spots in the experiments). Greenfield[8] found a dilation of the capillaries, diapedesis of leukocytes and small hemorrhagic focuses in the same place. Hale White found small hemorrhagic spots on the floor of the fourth ventricle. Stewart and Gibson also found hemorrhages of the fourth ventricle, and so also did Vandervelde and Müller. Cheadle found the vessels of the fourth ventricle dilated.

Thus clinical observations, experiments in laboratories, facts of autopsies—all compel us to look at the disease in question as having a nervous origin. A question arises now, whether any spinal or medullary disease of a progressive character is liable through extension of lesions to advance to the point supposed to be its localization, and develop Graves' disease?

Ballet, Barié, Demange, Goffray, Chevalier, Wiener, all relate cases of locomotor ataxia complicated at the end by exophthalmic goiter. In the last period of lateral amyotrophic sclerosis one observes tachycardia: the motor cells of the medulla become affected and degenerate by groups, the nucleus of origin of the pneumogastric and its neighborhood are affected late, but as soon as they are touched, the pulsations of the heart become precipitate. Jendrossic[9] published a case of poliomyelencephalitis due to lead-poisoning. At a certain moment the bulbar center became affected and the patient presented the picture of Graves' disease. Cases of Graves' disease were also observed which became complicated with polyuria, glycosuria, albuminuria and motor troubles of the eye, such as paralysis of the oculomotor and patheticus, and of the facial nerves, because the lesions of Graves' disease became extended. Gagnon observed cases of Graves' disease following epilepsy, and Jacobi, and Kronthal cases following chorea. Joffroy and Achard[10] report the following case of a woman of 28, who in 1880, subsequent to epileptic attacks, became affected with transitory contraction of the flexors of the superior limbs. Soon chorea set in, in 1884 paresis of the right inferior limb, in 1885 exophthalmia, in 1887 tachycardia, and 1888 the patient became more epileptic and died in status epilepticus. At the autopsy, cervical syringomyelia without glioma was determined; under the microscope the bulbar vessels were seen dilated and their lymph-spaces filled with leukocytes.

Möbius reports a case of paralysis agitans accompanied by exophthalmic goiter. Cervical pachymeningitis or syringomyelia are liable to develop the syndrome of Graves' disease. Mental disturbances, especially mania, have also been observed in connection with exophthalmic goiter. This, I believe, can be explained by functional or organic lesions of the medulla which produce a more or less pronounced paresis of the vessels of the cerebral cortex. Brissaud[11] reports a case of general paralysis in a man 50 years old. The patient soon became a typical ataxic, and six months later lingual hemiatrophy and exophthalmic goiter set in. Oesterreicher[12] relates the following history: A mother had hysteria; of her 10 children 8 had Graves' disease, and of her 5 grandchildren 3 had the same, 1 had hysteria and 1 epilepsy. This last case demonstrates eloquently that the disease is so much of a nervous origin, that, similar to many nervous diseases, heredity must be taken into account.

We are familiar with the experiments conducted by Filehne, Bienfait, and Durdufi, also with those of Edwards and Jessop, and we know that these authors all arrived at the same conclusion, that Graves' disease is an affection of the nervous system. Let us now see, whether the experiments of the advocates of the thyroid theory led them to the results they would like to obtain.

In 1895 Canter[13] related his experiments on hyperthyroidization. He concluded that the only symptom obtained through his experiments was frequency of the pulse. Soupault[14] made the following experiments: To one guineapig he administered the thyroid body of a sheep, to another the thyroid gland of a woman who died from an accident, and to another the thyroid gland of a patient upon whom a partial thyroidectomy was performed and who died. The result was as follows: The first animal absorbed 45 cg. of thyroid and died in 8 days, the second absorbed 85 cg. and died, the third absorbed 150 cg. and lived without presenting any pathologic symptom. He, therefore, concludes that the symptoms of Graves' disease cannot be explained by hyperthyroidization.

In view of the array of facts reported, why should we not accept a theory which will explain all the phenomena of the disease? The acceptance of it has the most important consequences, since on it the therapy depends.

Scientists generally admit that in the exophthalmic goiter all the phenomena are the result of a permanent irritation of the vasodilator nerves, situated in the cervical sympathetic nerve (classical experiments of Dastre and Morat), and as the vasodilators of the head and heart have their deep origin in the medulla, it is there that we must look for the explanation. The sympathetic nerve sends its nervous filaments to the bottom of the orbit, thyroid gland and cardiac plexus. With a permanent irritation of the vasodilators coming from its center, there is a constant afflux of a considerable amount of blood to the thyroid gland, and hypertrophy of it follows. The dilation of the retrobulbar vessels leads to protrusion of the ocular globe and we have exophthalmia. The filaments going to the heart give rise to tachycardia.

All the abnormal cases, such as unilateral ones, or cases with the predominance of certain symptoms, cases following other nervous diseases, cases due to reflex in the course of other diseases, can, with the greatest facility, be explained by this theory.

If, notwithstanding these striking proofs, some writers are not yet convinced, let us address ourselves to the therapeutic results shown in the adjoining tables:

In Table I are collected a number of cases treated medically with different remedies. Among all these

there is noted but one recovery following a course of treatment with thyroid extract. If any one will take the trouble to read up the details of the case, he will see that it was not followed up a sufficiently long time to be considered cured. Apropos of thyroid extract, which is considered by many who believe in the thyroid theory as the proper remedy, I have a personal experience of 6 cases in my private practice. Although I relieved 4 of them greatly, nevertheless I had to abandon this course as ineffectual, for after 6 months of

TABLE I.

MEDICAL TREATMENT.

NO.	NAME OF AUTHOR.	WHERE PUBLISHED.	TREATMENT.	RESULT.
1	Owen.	*British Med. Jour.*, 1895, p. 361.	Extract of thymus.	Improvement.
2	Boyd.	*Med. Record*, N. Y., 1895, p. 414.	Various interual medicines, galvanism over the thyroid gland.	Improvement.
3	Cunningham.	*Med. Record*, N. Y., 1895. p. 414.	Thymus extract.	Improvement.
4	Fridenburg.	*Arch. für Ophthal.*, Leipzig, 1895, p. 158.	Iron, digitalis, strychnin.	Improvement.
5	Dougherty.	*Trans. Indianap. Med. Soc.*, 1895, p. 170.	Strophanthus (5 cases).	Two deaths, three improvements.
6	Briddon.	*Ann. of Surg.*, Phila., 1895, p. 66.	Potassium iodid.	Improvement.
7	Chibret.	*Rév. gêner. l'Opht*, 1895, p. 1.	Sodium salicylate (2 cases).	One improvement, one relapse.
8	Voisin.	*Bull. et Mêm. Soc. Med.*, 1894, p. 655.	Thyroid extract (2 cases).	Slight improvement.
9	Ingals.	*Trans. Am. Laryng. Ass.*, 1895, p. 30.	Thyroid extract (6 cases).	First relapse and then improvement.
10	Bacon.	*Am. Therapist*, 1895, p. 169.	Various intern. medic. and nuclein.	Improvement.
11	Bartholow.	*Med. News*, 1895, November 16.	Galvano-faradism of the cervical sympath. and pneumogastric nerve (2 cases).	Great improvement.
12	Crocg.	*Presse Méd.*, 1896, p. cdlxviii.	Galvanic current.	Great improvement.
13	Bordier.	*Arch. d'électr. mêd. expêr.*, 1894, p. 417.	Faradic current (4 cases).	Great improvement.
14	Veslin and Leroy.	*Presse Mêd.*, 1899, p. 287.	Electricity.	Almost cured.
15	Edes.	*Boston Med. and Surg. Jour.*, 1896, p. 82.	Thyroid extract and thymus.	Improvement.
16	Guinard.	*Presse Mêd.*, 1897, p. clxxiv.	Thyroid extract.	Recovery.
17	Cobb.	*N. Y. Med. Jour.*, 1897, p. 7.	Various internal medicines and thyroid extract.	Of 14 cases, some improved slightly; some died.
18	Nammack.	*N. Y. Med. Jour.*, 1897, p. 13.	Thymus extract.	Some relief.
19	Combemale and Gaudier.	*Presse Méd.*, 1898, p. clxiii.	Thyroid extract.	Bad result.
20	Poulesco.	*N. Y. Med. Jour.*, 1899, p. 830.	Sulfate of quinine.	Great improvement.
21	Rushton Park.	*British Med. Jour.*, 1899, p. 12.	Thymus extract (4 cases).	One failure, 3 improvements.
22	H. White.	" " " " p. 786.	Thymus extract (2 cases).	Slight improvement.
	"	" " " " p. 786.	Suprarenal capsules (2 cases).	No improvement.
23	Robinson Cox.	*Montreal Med. Jour.*, 1899, p. 578.	Thyroid extract.	Bad result, but intestinal antisepsis; improved.
24	Hunter Robb.	*Clin. Recorder*, 1899, p. 22.	Case of retroverted uterus with exophth. g. Abdominal section for uterine condition.	Improvemeut.
25	Saulier.	*Jour. de Méd. int.*, 1899, p. 486.	Sulfate of quinin.	Improvement.
26	Mousin.	*Berl. klin. Wchnsch.*, 1899, p. 579.	Thymus extract.	Relapse.
27	Debove.	" " " " p. xlvi.	Iodiu injections in thyrold gland.	Improvement.
28	Vesliu and Leroy.	*Presse Méd.*, 1899, p. 287.	Electricity and hydrotherapy.	Great improvement.

TABLE II.

OPERATIONS ON THE THYROID GLAND.

NO.	NAME OF AUTHOR.	WHERE PUBLISHED.	OPERATION.	RESULT.
1	Kocher.	*Beitr. z. klin. Chir.*, Tübingen, 1894, p. 704.	Ligation of two thyroid arteries on the right lobe; two on the left.	Recovery.
2	Trendelenburg.	" " " " " "	Ligation of arteries.	Improvement.
3	Massopost.	" " " " " "	Ligation of two arteries.	"
4	Lavise.	" " " " " "	" four "	Improve't, then relapse and death.
5	Lister (after Fraser).	" " " " " "	Strumectomy.	Exophthalmos relapsed.
6	Tillaux.	" " " " " "	"	Recovery.
7	Rehm.	" " " " " "	" (four cases.)	Two good results, 2 improvements.
8	Mikulicz.	" " " " " "	"	Improvement.
9	Wolf.	" " " " " "	"	Recovery.
10	Kümmel..	" " " " " "	"	Exophthalmos persisted.
11	Rupprecht.	" " " " " "	"	Relapse.
12	Ströbing.	*Wien. Med. Presse*, 1894, p. 1713.	Partial extirpation.	Improvement.
13	Edmunds.	*Journ. of Path and Bact.*, Edinburgh, 1894, p. 493.	Extirpation of great part of goiter.	"
14	Stelzner.	*Beitr. z. klin. Chir.*, Tübingen, 1894, p. 704.	Strumectomy (two cases).	No improvement.
15	Sprengel..	" " " " " "	"	Exophthalmos persisted.
16	Strümpel.	" " " " " "	"	Death.
17	Sickinger.	" " " " " "	"	No improvement.
18	Sulzer.	" " " " " "	" (three cases).	One failure; two improvemeuts.
19	Kammerer.	*Ann. Surg.*, Philadelphia, 1895, p. 67.	Ligation of four thyroid arteries.	Death.
20	"	" " " "	Partial thyroidectomy.	"
21	Putnam.	*Journ. Nerv. and Ment. Dis.*, 1894, p. 359.	Thyroidectomy.	"
22	Coley.	*Ann. of Surg.*, Philadelphia, 1895, p. 792.	Partial thyroidectomy.	Slight improvement.
23	Hall.	*Clin. Journ.*, London, 1895-6, p. 38.	Extirpation first of right, then left lobe.	Failure.
24	Hascovec.	*Gaz. des Hôp.*, 1895, p 833.	Thyroidectomy.	Successful.
25	"	" " "	"	Relapse and death.
26	Lejars.	*Presse Méd.*, 1897, p. 263.	Resection of right lobe.	Death.
27	Quénu.	" " "	Thyroidectomy.	Myxedema.
28	Jaboulay.	" " " "	Partial extirpation.	Hypertrophy of the remaining lobe.
29	Saenger.	" " " "	" "	" " " "
30	Doyen.	" " " p. xxxix.	" "	Recovery.
31	Saenger.	" " " p. 212.	Thyroidectomy.	All the symptoms aggravated.
32	Schwartz.	*Münch. Med. Woch.*, 1897, p. 361.	Partial thyroidectomy.	Bad result.
33	Tuffier.	*Presse Méd.*, 1897, p. ciii.	Exothyropexy.	Improvement.
34	Poncet.	" " " "	Thyroidectomy.	Death.
35	Tillaux.	" " " p. lxviii.	Partial thyroidectomy (two cases).	Relapse.
36	Témoin.	" " 1898, p. 239.	Extirpation of right lobe.	Great improvemeut.
37	Jaboulay.	" " " p. 180.	" left lobe.	Failure.
	"	" " " "	Partial thyroidectomy.	"
38	Coley.	" " " p. xxix.		Great improvement.
39	Beneke.	*Berl. klin. Woch.*, 1899, p. 578.	Partial strumectomy (3 cases).	One death, 2 improvements.
40	Richelot.	*Presse Méd.*, 1899, p. ccxxxiv.	Partial thyroidectomy.	Recovery. Case not followed up.

TABLE III.

OPERATIONS ON THE CERVICAL PORTION OF THE SYMPATHETIC NERVE.

NO.	NAME OF AUTHOR.	WHERE PUBLISHED.	OPERATION.	RESULT.
1	Jonnesco.	*Presse Méd.*, 1897, No. 88, p. 257.	Bilateral resection of superior and middle ganglia, (operated Aug., 17, 1896).	Complete recovery.
2	"	" " "	Bilateral resection of superior and middle ganglia, (operated Sept. 2, 1896).	" "
3	"	" " "	Bilateral resection of superior and middle ganglia, (operated July 18, 1897).	" "
4	Faure.	" " No. 89, p. 267.	Bilateral extirpation of superior ganglia, and 5 or 6 cm. of the cord.	Great improvement.
5	"	" " "	Extirpation of the whole right sympathetic and left superior.	" "
6	Poncet.	" " p. xxxix.	Resection of the sympathatic (9 cases).	Improvement.
7	Péan.	" " No. 63, p. 1.	Resection of sympathatic.	"
8	Cerkez and Juvara.	" " p. 392.	Bilateral partial extirpation.	Very satisfactory.
9	Gerard-Marchant.	" p. 1.	" " " (11 cases).	" "
10	Chauffard and Quénu.	" 1897, p. 2.	" " "	Improvement.
11	Jaboulay.	" " p. lxxxv.	" " "	Great improvement.
12	"	" 1898, p. 81.	Extirpation of superior ganglia.	" "
13	"	" " p. 180.	Section betw. superior and middle ganglia.	" "
14	Combemale and Gaudier.	" " p. clxiii.	Bilateral section of sympathetic.	" "
15	Schwartz.	" " p. xiv.	" extirpation of superior ganglia.	Excellent result.
16	"	" " p. cxliv.	" " of one part of superior ganglia.	Great improvement.
17	Témoin.	" " p. 239.	Bilateral partial resection.	No improvement.
18	Depage.	" " p. clxxvl.	Extirpation of the whole right, and superior and middle of left.	Great improvement.

this treatment there was a recurrence of all the symptoms. I have at the present time under my care a case at the Jefferson Hospital, in the Neurological Department, and with the permission of Professor Dercum and Dr. Bochroch I will say, that although the symptoms became ameliorated and the goiter began to decrease under the influence of thyroid extract, nevertheless improvement did not continue, and the patient is in the same condition as before.

The results in Cases 11, 12, 13, 14 and 28 are marked "great improvement." In these cases electric currents were applied to the region of the sympathetic nerve, and the result was very good. Cases marked "improved" were not sufficiently followed up.

Table II contains cases of operations on the thyroid gland; there the authors are quite logical. If the thyroid gland is the cause of a general toxemia, it must be removed. The result in the majority of cases was disastrous. Improvement is reported in some cases, but their histories show that only the general condition of the patients was improved, which is easily understood, when you think that a poison was removed from the blood. Out of 49 cases I found 5 recoveries; of these, Kocher's and Tillaux's cases were followed up, the three other cases were not. And even in the two cases that were followed up the nervous filaments of the sympathetic nerve, which are in the thyroid gland, were probably caught in the ligature (Kocher's case) or were cut during the extirpation of the gland (Tillaux's case.) The impression changes entirely when we examine Table III, which shows not a single death in 36 cases. The bilateral extirpation of the sympathetic nerves was more successful than the unilateral, and the more extensive the extirpations the better were the results. Of course, the ideal operation would be that which is directed to the nucleus of origin of the vasodilator nerves of the cervical sympathetic nerve (in the medulla). But by removing the nervous filaments, which are the agents for transmitting this abnormal stimulation, the purpose is reached, although indirectly. If, in some cases, in spite of an operation, some of the symptoms persisted, it is because the operation was not extensive enough. The really rational operation will be a total resection of the three cervical ganglions and the cord uniting them, because the superior ganglion is the source of the ocular filaments and the inferior ganglion is the source of the accelerators of the heart and the vasodilators of the thyroid (Morat).

If the sympathetic nerve is, as I think we have amply proved, the immediate cause of exophthalmic goiter, the treatment must be directed to that nerve. We can therefore formulate the therapeutic indications in the following manner:

1. If the syndrome of the disease is the result of a mechanical pressure on the sympathetic nerve (tumor of thyroid gland, etc.), remove the pressure, and if the symptoms persist, operate upon the sympathetic.

2. If the syndrome of the disease is the result of reflex influence on the medulla and through the last on the sympathetic nerve from some remote affection, as fibroid uterine tumors, nasal polyps, etc., remove the last, and if the symptoms persist, operate upon the sympathetic nerve.

3. If the syndrome of the disease occurs during the course of any spinal or other organic nervous disease, abstain from operation.

4. If there is no apparent cause, operate upon the sympathetic nerve.

At any rate, never operate upon the hypertrophied thyroid gland. Medical treatment can be used, if the patient refuses an operation, but never expect any permanent cure or entire removal of the symptoms.

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University of Vienna.—The total number of students on the books of the University of Vienna in the past winter semester was 6,931. Of these 2,108 belonged to the Faculty of Medicine. The program for the summer semester comprises 284 courses of lectures and practical instruction to be given by 29 ordinary and 39 extraordinary professors and 113 *privat-docenten* and assistants.

The Philadelphia Medical Journal

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See Advertising Page 8.

VOL. V, No. 26 — JUNE 30, 1900 — $3.00 PER ANNUM

Smallpox in Canada.—According to the official report of the secretary of the Board of Health of the Province of Quebec, the recent outbreak of smallpox in that province has been of an exceedingly mild type as regards fatality. Since last August there have been 515 cases, of which only one resulted fatally. The number of houses infected was 142. While the disease is still existing in the locality indicated, yet it appears to be well under control. Persistent vaccination, backed up by sufficient legal authority, gradually turns the scale, so that a disease formerly regarded as nearly the acme of loathsomeness and fatality, is now treated with the same consideration given to other infectious diseases. In the face of these facts, and undisputable statistics, we may regard as idiotic, criminal or suicidal, the great activity displayed by antivaccination societies which are multiplying at home and abroad. Could the harm resulting from these agitations be confined to the agitating cranks, what a blessing it would be to the community!

Popular Teaching of Venereal Diseases to College and University Students.—Some time ago we mentioned in these columns the excellent course of popular lectures given by Professor Lassar before the students of the University of Berlin, and recommended the introduction of such a course of lectures in American universities. We are rejoiced to hear that such a course of lectures has been given this year on the pathology of gonorrhea and syphilis before students of the University of Michigan. The course was given evenings and was freely illustrated with the lantern, the slides showing the specific organisms, sections of the most important pathologic conditions and illustrations of the clinical conditions. While primarily announced for students of the medical course the lectures were attended by a large number of students from other departments. No special attempt was made to moralize, but the pictures and pathology spoke for themselves and personal thanks from numerous students made it evident that the effort was not wasted. We are specially glad to know that this action has been taken in one of our leading universities, and we believe that the importance of such efforts can hardly be overestimated. No amount of teaching will entirely do away with venereal diseases, but if intelligent young men can be led to see the dangers of infection there can be little question that much suffering and disease will be avoided: Prevention is always better than cure, and as every college student is certain to be a man of more than usual force of character and influence in the community in which he settles, there is every probability that if thoroughly convinced of the importance of this subject he will help to carry the knowledge to others.

The Science of the "Most Popular Medical Journal" is Illustrated by the Following Quotations:—

"Bastard discovery, antitoxin."

"Carbolic acid is the sole therapeutic agent in antitoxin."

"Serumism is an evidence of superstition, a relic of the dark ages, and a blot upon the escutcheon of medicine."

"Tuberculin, a filth product, concocted by a diseased mind."

"Antitoxin is a tainted solution of carbolic acid, a rank humbug."

"Enzyme is a degenerate and degraded version of homeopathy."

"The evidence of the conservative men in the profession is all against antitoxin."

"Declaring consumption contagious is an outrage."

"The contagious nature of consumption is denied by all the ablest men in the profession."

"The *Medical Brief* is radically opposed to the passage of all sumptuary laws, the creation of unnecessary commissions, the extension of health-board powers."

"The astounding proposition that mosquitos were the cause of malaria."

"The editor hates shams."

"The Spectacle Fad."—In a recent public address in medicine before a great gathering of physicians the orator spoke of "the spectacle fad." "Glasses," he said, "in the past were an insignia of honorable old age. Now we truly find them (*sic*) from the cradle to the grave. Even the negro, who has long been noted for his keenness of vision, must now have 'specs' to walk the streets in broad daylight." The speaker then pronounces his blessing upon a "true and legitimate specialism, but, etc." The shamelessness and misrepresentation of such an utterance can be excused neither by its ignorance nor by its impertinence. A man who delivers an oration in medicine should know something

of the thing he affects to stigmatize so recklessly. Stated in scientific terms the bases of the remarkable ophthalmologic wisdom set forth are:

1. Presbyopia is the sole ametropic error needing correction.

2. The correction of presbyopia should be undertaken only when the old age of the patient is honorable. When the old age is dishonorable ametropia may be ignored.

3. Because optical lenses are useful only as "an insignia," and since a signs, or a marks, or a badges consists not at all in the nature of the token or button, but only in what it indicates (such *e. g.*, as honorable old age), it logically follows that any piece of glass whatsoever is as good as another for the correction of presbyopia.

4. Ophthalmologists are accustomed to apply spectacles to infants in their cradles, and also to patients after death.

5. Patients with exceptional keenness of vision have no ametropia and require no optical therapeutic measures.

6. As a racial physiologic peculiarity the negro has exceptional keenness of vision.

7. The most absurd use of optical lenses is in walking the streets in broad daylight.

Now Nicholas Bottom, the weaver, never indulged in worse nonsense. The term "fad" applies either to the oculists' patients or to the practitioners of the specialty. As there is not a patient who ever wore spectacles willingly, it is plain that our critic means to shower his contempt upon the entire body of ophthalmologists.

Not one of these specialists in the civilized world would hesitate to characterize the orator's ophthalmologic conclusions in every detail and implication as utter fiddle-faddle.

Not only this, but the majority of general physicians would agree with the oculists, knowing well that by means of lenses, applied not after the rules of the orator, thousands of patients are daily cured of headache, sick-headache, dyspepsia, and a hundred systemic reflexes due to eyestrain. Millions of patients would laugh at the orator's wisdom. It is sad when patients know more about their disease than does their doctor.

It is still worse when a physician instructs an educated audience in a matter concerning which he himself is ridiculously ignorant. Worse is when a hard-won medical reform of transcendant importance is by a physician publicly stigmatized as a fad.

Massage in the Treatment of Fractures, Dislocations, and Sprains.—The appearance during the past year of excellent monographs of considerable size on the treatment of fractures by J. B. Roberts, Scudder, C. Beck, and Platt, and the numerous articles by leading surgeons, notably the vigorous utterances of Arbuthnot Lane in a recent number of the *Lancet*, indicate that the last word has not been said on this subject. Much of this revival of interest is no doubt the result of the general introduction of the x-rays, and there can be little question that it will bring about much improvement in our methods of treating these very common injuries. In the *Lancet* of June 2 and 9, William H. Bennett, of St. George's Hospital, London, contributes an article of great interest and apparently of great importance on the use of massage in the treatment of all fractures, dislocations or sprains. Whether the fracture is compound or simple, and no matter what its severity may be, he begins massage at once and continues it until some time after union has resulted. He believes that the results thus obtained are far better than those following any other method of treatment.

In the treatment of fracture of the patella and olecranon he especially emphasizes the importance of the avoidance of the upper part of the patella or olecranon becoming adherent to the subjacent bone. Such adhesion may be prevented by massage and lateral manipulation combined with gentle flexion and extension, during which the detached fragment is made to move as much as possible with the distal portion of the limb. All manipulation and passive movement should be preceded by smooth rubbing of the muscles. This treatment in the majority of cases will give the patient a limb which is useful to an extraordinary degree beyond that which follows ordinary treatment. The practice of prolonged fixation of a joint after dislocation is almost universal, the main object being to allow of a firm and rapid union of the rent in the capsule. Bennett believes, however, that we should ignore the torn capsule. The rent will heal soundly in spite of any manipulations or movement it may be subjected to in treatment. The fact has been overlooked or forgotten generally that looseness of the capsule is secondary to muscle-wasting, which is the real thing to be combated. The only available method by which atrophy can be avoided in these cases of dislocation, especially of the shoulder, is by massage, commencing immediately after the reduction of the displacement and soon followed by passive motion. Treated on these lines any dislocation of a major joint may be cured in from 2 to 3 weeks without adhesions and with no stiffness remaining. All cases of recurrent dislocation will be found to be associated with marked muscle-waste. The cardinal principle in their treatment is in rectifying the atrophy by massage and methodic exercises with or without electricity, and not by shortening the lax capsule by operation.

The first indication in the treatment of sprains is to remove effusion. If possible, the patient is sent to bed, the limb is placed on a light splint, which leaves free access to the joint, and gentle massage is commenced at once. In the intervals after the rubbings, fomentations of lead and opium may be used. As soon as the swelling commences to subside, as is shown by decrease in the tension of the joint, gentle passive movement is

commenced, and if no increase of effusion occurs the splint is put aside altogether. If treatment is begun immediately after the injury the splint can generally be dispensed with on the third day. Then gentle massage of the thigh and leg is added to the rubbing of the joint itself, becoming more and more thorough as the effusion subsides. A compress may be used in the intervals if it is comfortable to the patient. Treated in this way there are few cases of severe sprain in which the patient may not be getting about comfortably in a fortnight.

These suggestions are by no means entirely new, but few surgeons of repute have given massage so thorough a trial as Bennett has, if indeed they have used it at all. The consensus of those who have used massage in treating fractures, dislocations, and sprains seems to be in its favor. A disadvantage is that it requires a large amount of time on the part of the surgeon, or else he must entrust it to some absolutely reliable assistant, which is not always convenient or possible. If it proves as valuable in the hands of all surgeons, as at present seems likely, it will be necessary that a large number of intelligent and trustworthy masseurs or nurses be specially instructed in carrying out this work in the wards of our hospitals.

The Proper Utilization of Our Food.—The purpose of the food ingested is to afford material for growth and repair and the generation of heat and energy to carry on the functions of the body. To attain these ends the processes of assimilation must be properly performed, both in the gastrointestinal tract and in all of the tissues themselves, the food taken being presumptively in the first place of proper quality and quantity. This subject is discussed in a popular way in a recent number of the *North American Review* by Mr. Louis Windmüller, who emphasizes the importance of freedom from haste and hurry, from worry and care, and the advantage of congenial association and pleasant conversation at meals. To eat slowly and to masticate thoroughly are safeguards against excessive indulgence and the risk of throwing too heavy a burden upon the digestive functions. Little need be said here with regard to the necessity of freedom from contamination on the part of the food and of the supreme importance of its proper preparation from both the esthetic and the nutritive point of view. Food-inspection is a need of the times and every girl (it is almost time to say every intelligent person) should have at least a working knowledge of the principles and the practice of cooking. The best beverage is water, and it should be taken in generous amounts, but purity must be its prime essential. It should not be too cold when drunk, nor should it be used too freely at meals. Alcohol subserves certain dietetic and therapeutic purposes, but generally not in the young, the healthy and the vigorous. It is best taken at meals as food in small amount. The risks from its use are increased by adulteration and fortification. Other dangers from food are due to like causes. A final influence on the proper utilization of our food consists in appropriate physical exercise. This is a factor too much neglected generally. We seem to believe that the only kind of gymnastics consists in the athletic sports of the colleges and which custom restricts to a given season, but for the preservation of a vigorous health regular, systematic, daily exercise is essential. This need not be violent or complex, but may follow most simple and primitive lines. It seems scarcely necessary to mention the most available forms, such as walking, cycling, horseback-riding, tennis in summer, skating in winter, dumb-bells, indian clubs, wall exercises, billiards, quoits, golf. No individual is perfectly developed in whom the play-sense is deficient.

"All about the murder" is a yell of the newsboys in every large city of this country. This shrewd class of street venders, which deals with an everchanging patronage, is quick to detect the article which finds the most ready sale. Inasmuch as the purchaser can have no possible interest in the parties to a tragedy which may have occurred hundreds of miles distant, and as he can have no direct interest in the crime itself, he must of necessity possess a perverted mental condition when he eagerly devours every word of the horrible details. That a newspaper, in these days of universal reading, possesses more influence over good or evil than the pulpit, will probably be admitted even by the Western preacher who recently tried his hand at both. It therefore behooves the press of the country to make the best use of its opportunity. The newsboys' cry is a sad comment upon the mental condition of the average citizen.

Infectious Processes Caused in Man by the Micrococcus Tetragenus Septicus.—(*Arch. de Med. Exper. et d'Anat. Path.*, March, 1900, Vol. 12, No. 2) In a study of the subject Bosc reports the case of a man 21 years of age with tuberculous ancestry, who had always been accustomed from youth to drink large quantities of alcohol, and who had suffered from severe malarial fever, from an attack of typhoid fever and of acute rheumatism. He was brought to the hospital suffering from an attack somewhat resembling cholera accompanied by vomiting and purging. From time to time he had attacks of dyspepsia, then developed an abundant yellowish-gray expectoration, numerous rales in the lungs, and the symptoms of bronchopneumonia. He finally died in collapse. At the autopsy, the intestines were found to be hyperemic, the lungs emphysematous with hypostatic congestion and areas of consolidation. The interesting feature of the case was the discovery in the bronchial pus of numerous specimens of Micrococcus tetragenus. The same were found in the pus present in the intestinal tract. Cultures showed the presence of an almost pure culture of the same microorganism in the bronchial pus and in the pus from the intestines. From the other organs, cultures were negative. The same microorganisms were found scattered throughout the tissues of the lung, and it seemed altogether probable that they were the cause of the disease. It appears that the process commenced in the intestinal tract with metastases thence to the lungs. An interesting discussion on tetragenous infection follows the report of the case, and there are plates and a bibliography. [J.S.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

A diet-kitchen for infants and children, under the medical direction of Dr. George T. Palmer, and under the supervision of the nurses of St. Barnabas Guild, is being established at the Rouse Mission.

Vital Statistics of Philadelphia for the week ended June 23, 1900:

Total mortality 380

Disease.	Cases.	Deaths.
Inflammation of appendix 2, brain 16, bronchi 3, kidneys 9, larynx 1, liver 2, lungs 28, peritoneum 4, pleura 1, stomach and bowels 18, uterus 1, knee-joint 1		86
Tuberculosis of lungs 42, hemorrhage of lungs 1		43
Inanition 17, marasmus 16		33
Heart-disease 28, fatty degeneration of the heart 2, neuralgia of the heart 1		31
Apoplexy 13, hemorrhage, brain 1, disease of brain 1, softening of brain 1, congestion of brain 1, paralysis 9		26
Diphtheria	85	20
Carcinoma—breast 1, face 1, liver 2, larynx 1, stomach 1, uterus 6. Sarcoma—liver 1, parotid gland 1. Tumor—brain 2, ovarian 1		17
Cholera infantum		1
Convulsions		13
Old age		10
Casualties		8
Uremia		6
Typhoid fever	40	5
Alcoholism		4
Bright's disease		4
Burns and scalds		4
Debility		4
Scarlet fever	54	3
Abscess of the lungs 2, of neck 1		3
Suicide		3
Edema		3
Cirrhosis of liver 3, diabetes 3, cyanosis 2, asthma, 2, dysentery 2, erysipelas 2, measles 2, rheumatism 2, whooping-cough 2, anemia 1, atheroma 1, drowned 1, insanity 1, neuralgia of heart 1, obstruction of the bowels 1, poisoning, corrosive, 1, pyemia 1, arteriosclerosis 1, shock electrical 1, septicemia 1, sore mouth 1, teething 1, tetanus 1, unknown, Coroner's case 1, wounds, gunshot 1.		

NEW YORK.

The law against spitting on the floors of public buildings, ferry-boats or street cars is being enforced through the efforts of Dr. Robert A. Black, chief of the Health Department of Brooklyn. The penalty is a fine of from $1 to $250.

Smallpox in Stockport.—This disease has broken out among 500 negroes employed in the brickyards of Stockport, Columbia County. The Hudson company of militia were called out to aid in enforcing the quarantine regulations of the State Board of Health against those who refused vaccination.

Duryea Leaves Roosevelt Hospital.—Walter E. Duryea, the athlete who suffered from a broken neck, left Roosevelt hospital on June 19 for a sanatorium. He was accompanied by a nurse and a surgeon, and his physicians have hopes of his recovery. Sensation is returning in the extremities.

Medical Officer Reinstated.—Dr. Francis M. Banta, who was appointed medical officer of the Fire Department by the Republican Fire Board in place of a Tammany physician, has been removed by Fire Commissioner Scannell. He appealed to the courts and by the Supreme Court was reinstated.

New York School of Clinical Medicine Closed.—At a meeting of the corps of teachers of the New York School of Clinical Medicine, held at the Academy of Medicine, June 21, 1900, it was decided to close the School permanently. The reason assigned for this action was "continuous interference of the lay Board of Trustees in its affairs."

A Costly Joke.—Dr. Leonard Adair recently brought suit against Henry Asmussen for $50,000 damages for slander and obtained a verdict for $400 and costs in the Supreme Court. Dr. Adair alleged the defendant's remarks had characterized him as an imposter in his profession and a dangerous criminal. The defendant claimed that the remarks were made only as a joke.

Discussion on Tuberculosis.—At the meeting of the Health Board, June 25. Commissioner Crosby said that there were 40,000 cases in New York during the past year and that the physicians reported only 9,000. He also thought that in many cases when persons died of tuberculosis, Bright's disease was set down as the cause of death, so that life-insurance could be collected.

Columbia University.—The degree of M.D. was conferred upon 167 graduates at the one hundred and forty-sixth annual commencement of Columbia University, held June 13. Prof. Abraham Jacobi received the degree of LL.D.; Augustus J. Lartigau received the Alonzo Clark scholarship: James D. Voorhees the Stevens triennial prize, and David Bovaird, Jr., the Alumni Association prize.

Faith Curers and Knights of Honor.—The supreme lodge, Knights of Honor, by a vote of 64 to 13, has rescinded its resolution to exclude Christian Scientists and others of similar faith regarding medical practice from the benefits of the order. The order has also decided that hereafter no benefit is to be paid on deaths by suicide unless the party has been judicially declared insane, if death occurs within five years of admission to the order, and the burden of proof is on the beneficiary. After five years, suicide is no bar to the payment of a claim.

New Hospital on the Hudson.—The board of managers of the New York State Hospital for the Care of Crippled and Deformed Children has leased the residence of Dr. Angell near Tarrytown, on the Hudson River. The building will be equipped at once and opened early in the autumn. The following physicians were elected members of the Consulting Board: Drs. L. A. Weigel, of Rochester; Roswell Park, of Buffalo; Reginald H. Sayre, A. Alexander Smith, Lewis A. Stimson, Joseph D. Bryant, W. Gilman Thompson, Robert F. Weir, Francis Delafield, of New York.

St. John's Guild has opened its Seaside Hospital at New Dorp, Staten Island, for the reception and care of sick children and their mothers. Patients are being conveyed to the hospital free of cost by the 10 A.M. and 2.30 P.M. Staten Island ferry, under the care of a nurse and an orderly until the floating hospitals are put into commission, which will be the early part of July. All patients are admitted free without regard to creed, color, or nationality. Doctors may obtain tickets for distribution among their patients at the office of the Guild, No. 501 Fifth Avenue, upon application.

Novel Therapeutics.—At Harlem Hospital, recently, John O'Connor became unconscious and rigid as in a cataleptic fit. The usual remedies failed, and original and heroic measures were employed by the physicians who thought John was shamming, but he withstood pinching and tortures without a groan. Casey, a porter, was then placed in a corner and told to sing an Irish song. "'Tis loike the home in Ireland," said O'Connor, and dropped back more rigid than ever. Casey then stepped to the cot and shouted: "You're an Orangeman. You're worse nor that. You're an A. P. A." O'Connor leaped from his bed and roared: "The man that says it is a liar. I can lick him with one hand. Show me him." Casey made his escape. The final diagnosis was delirium tremens.

NEW ENGLAND.

Harvard Medical School.—The graduating class at Harvard numbered over 100. The degrees were awarded June 27.

Smallpox in Fall River.—Four new cases were discovered in Fall River, June 23. They were in the quarantined houses in Flint Village and therefore occasioned no alarm.

The Massachusetts Pharmaceutical Association net in Newburyport, Mass., last week and elected the following officers: President, F. A. Hubbard, of Newton; vice-presidents, L. S. Heinsitz, New Bedford, and Charles L. Davis, of Newburyport; secretary, J. F. Guerin, of Worcester; treasurer, Thos. B. Nichols, of Worcester.

Tuft's Medical School graduated the largest class in its history this year. The following new appointments were made to the teaching force: Dr. George W. Kaan, assistant professor of clinical medicine; Dr. Timothy Leary, professor of pathology and bacteriology; Dr. E. Channing Stowell, assistant professor of children's diseases; Dr. Horace D. Arnold, professor of clinical medicine; Dr. Howard S. Dearing, assistant professor of clinical medicine; Dr. Herbert W. White, assistant professor of theory and practice of medicine. The school will have a new building on Huntington Avenue. It will cost over $100,000 and will contain the latest and best equipments in all departments.

Tests for Tubercle-bacilli.—It is reported that more than one-half of the specimens of suspected consumption sputa sent to the bacteriologic laboratory of the Board of Health of Boston fail on examination to reveal tubercle-bacilli. This statement is made on the authority of Dr. Hibbard Winslow Hill. Of some 260 specimens examined so far more than 150 have revealed no sign of the dreaded germ. But a negative result is not always a satisfactory test as a second specimen may contain the germ. It is only when the disease is in an advanced stage that sputa almost invariably contain tubercle-bacilli.

CHICAGO AND WESTERN STATES.

Northwestern University.—The medical schools for men and women will be continued as separate institutions.

Appointment of Dr. Senn.—Dr. Nicholas Senn has been appointed Chief of the Medical Staff of the Democratic National Convention, to be held in Kansas City, on July 4.

Ban on Faith Cure.—Two Christian Science healers were each fined $50 and costs last week by Judge Neelen, of Milwaukee, for treating a case of diphtheria. Both defendants testified that they knew nothing of the nature of this disease nor any other, nor the proper remedy to prescribe in any case.

The Pure Food Law of Illinois goes into effect July 1. From that day every label on every package of foodstuff must "tell the truth and the whole truth" about the quality of its contents. The man or firm responsible for falsehood will be liable to fine and imprisonment. The United States Pure Food Law goes into effect August 1.

Mary Thompson Hospital for Women and Children Sued for Damages.—This hospital is the defendant in a suit begun by Mrs. Anna Wolff, who seeks to recover damages in the sum of $5,000. The plaintiff alleges that she was a patient at the institution two years ago, and that while there she had an operation performed from the ill-effects of which she has never recovered.

Tuberculous Cattle Excluded,—Gov. Stephens, of Missouri, has issued a proclamation shutting out the cattle from a number of States in which he says tuberculosis exists. Among the States are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Ohio, Indiana, Illinois, Michigan and the Dominion of Canada.

Examinations of School Children.—The results of the physical examination of 7000 school children, which was recently completed, will receive the study of Professor Hendley, and his assistants during the summer months, and the data will be of interest to students of child life. The children take great interest in their measurements, and it is believed that this will lead them to study themselves and to care for their eyes, lungs, heart, etc.

Chicago Medical Society.—The Annual meeting was held June 20. The treasurer's report showed 944 paid-up members. Hereafter the clinical meetings of the society will be held alternately on the north, south, and west sides of the city. The treasurer's report showed a balance in the treasury of $3,004.40. The following officers were elected for the ensuing year: President, Dr. James H. Stowell; first vice-president, Dr. Alexander Hugh Ferguson; second vice-president, Dr. Adolph Gehrmann; secretary, Dr. S. C. Plummer, Jr.; treasurer, Dr. Robert H. Harvey; trustees, Dr. William H. Wilder, for the Ophthalmological Society; Dr. John Ridlon, for the Orthopedic Society, and Dr. E. J. Doering, for the Medico-Legal Society. Dr. Maurice H. Richardson, of Boston, delivered an address (by invitation) on "The Surgery of Gallstones." A vote of thanks was extended to Dr. Richardson for his interesting address.

Wisconsin Medical Society.—The fifty-fourth annual meeting was held last week in Milwaukee. Notices were distributed of the first meeting of the Wisconsin League of Medical Licentiates. This will be the organization of an association of all licensed physicians in the State for the purpose of furthering medical legislation. It will be composed only of licensed physicians and those who, although registered and so legally permitted to practise, are not recognized by the profession, will not be admitted. There are several modifications of the existing medical laws and some new ones which will be considered. It is purposed to unite all the influence of the physicians in the State towards furthering these bills. One measure proposed is a national bureau of sanitation which shall have supervision of the health of the country, just as the State boards now have of their respective States.

Efficiency of Vaccination.—Since May, 1899, there have been 49 cases of smallpox sent to the Chicago Isolation Hospital. Of these patients not one had ever been vaccinated. Nearly one-half of the sufferers came to Chicago from neighboring States, having contracted the disease before reaching this city. Many persons were exposed to the contagion, but careful investigation at outside points has shown that no properly vaccinated person contracted smallpox from the exposure, and that elsewhere, as in Chicago, the sufferers were all those who could show no mark on the arm. Not a case is recorded in which the person received vaccination within a reasonable time after the exposure. Every policeman in Chicago has been successfully vaccinated, and though the smallpox patients are likely, when weakness overtakes them, to go at once to the police stations, not an officer has contracted the disease. Since the year 1894 there have been only 4 cases of smallpox among the school children of Chicago. The pupils are obliged to present certificates of successful vaccination before being admitted to school. Dr. Spalding says that the 4 children patients had such certificates, but in every instance the certificates were found to be false. The physician further declares, and it is certain that the carefully-kept records bear him out, that the experience of the last 12 months clinches the fact that proper vaccination is an absolute preventive of the disease.

SOUTHERN STATES.

Smallpox in Baltimore.—Three case of smallpox were discovered by the Health Department on June 24, and were removed to quarantine.

Baltimore Medical College.—Dr. J. M. H. Rowland has been appointed professor of obstetrics vice Dr. Wilmer Brinton, resigned, and Dr. J. W. Lord has been appointed associate professor of anatomy, in place of Dr. J. M. H. Rowland, resigned.

Refused Medicine to a Child.—The Humane Society on June 25 arrested William Graigg and wife, of Moundsville, W. Va., on the charge of murder, the allegation being that they refused to provide medicine which was ordered for their sick child and the child died in consequence.

Sanitation in Louisiana.—The following act has been brought before the State Legislature to provide for the establishment and organization of a State Board of Health and parish and municipal boards of health; to authorize the State Board to prepare and promulgate a sanitary code for the State of Louisiana, and fixing penalties for the violation of the provisions thereof; to provide for a general sanitation of

the State, and a local sanitation of parishes and municipalities; to authorize the regulation of the isolation of cases of infectious and contagious diseases, and a maritime and land quarantine against places infected with such diseases.

Legal Status of Osteopaths.—The Court of Appeals at Frankfort, Ky., June 30, by decision enjoined the State Board of Health from interfering with physicians of the osteopathic school in their practice. The court ruled that the practice of osteopathy is not a violation of the statute in regard to the practice of medicine.

A Rare Abnormity.—At a recent meeting of the Johns Hopkins Hospital Medical Society a rare example of a caudal appendage was shown in a male child 3 months old. This appendage was 2¼ inches long and sprang from the tip of the coccyx; it contained neither bone nor cartilage. It retracted markedly at the tip when the child cried.

Lepers in Louisiana.—The State has several hundred sufferers from the disease, and the only place thus far provided for them is a rented plantation on which the lease expires next fall and will not be renewed. The first serious agitation for a permanent home was made in 1898 and resulted in a State appropriation of $20,000 for the purchase of a site, but the Board of Control found this sum inadequate, and now wants $40,000 with which to buy and equip a plantation on the Mississippi River. The State has laws regarding the apprehension of lepers, but these acts have become dead letters because they fix no responsibility for the work.

Recommendations for Johns Hopkins Hospital.—Supt. Henry M. Hurd, of the Johns Hopkins Hospital, recommends the establishment of a cold storage and ice plant, a plant for electric lighting and several additions to the buildings. There were in the hospital during the 12 months preceding February, 3,816 patients. The total number treated was 4,074 patients in all, as against 3,815 for the previous year; of these 3,002 were discharged as well or improved, 143 unimproved, 90 transferred to other departments and 254 died, while 321 applicants were not treated. The percentage of mortality for the year was 6.23, as against 6.26 in 1898.

The Louisiana House and Senate committees on **health and quarantine** have under consideration bills proposed by the State Board of Health, one referring to dangerous oils, and another placing in the hands of the State Board the power to compel vaccination when deemed advisable, provided penalty for violation of the health code, and appropriating $7000 a year to the board for the use of communities unable to combat epidemics. The last bill also changed the existing law by striking out the provisions which permitted the quarantine physician to pass those he regards as immunes through quarantine and to fix the time of detention of vessels, giving this power to the State Board. Another bill provided punishment for the disseminating of false reports of the existence of contagious diseases.

Changes in the Faculty of the University College of Medicine, Richmond, Va.—Dr. Hunter McGuire resigned the chair of clinical surgery, and was elected emeritus professor and was also re-elected president of the faculties of the University College. Dr. Hugh M. Taylor was elected professor of practice of surgery and clinical surgery. Dr. Stuart McGuire was elected professor of principles of surgery and clinical surgery. Dr. Landon B. Edwards resigned the didactic chair of practice of medicine, and was elected to the full chair of clinical medicine. Dr. Wm. S. Gordon was elected professor of practice of medicine, which caused him to resign as professor of physiology. Dr. H. Stuart MacLean, who has been a lecturer in bacteriology, etc., was elected professor of physiology. The title of proctor was done away with, and that of dean substituted, Dr. J. Allison Hodges being elected to fill its duties.

New Rules Adopted for Guidance of Maryland Druggists.—The convention of the Pharmaceutical Association at Hagerstown adopted rules which provide that pharmacists shall refuse to prescribe for customers, except in emergency cases, and physicians shall carry emergency remedies only. Substitution of one article for another in prescriptions is prohibited. Physicians shall regulate their charges and pharmacists will regulate theirs; pharmacists are not to refill prescriptions when directed by doctors not to do so; druggists must see doctors before filling prescription supposed to contain errors; druggists not to disclose contents of prescriptions to customers. The association refused to indorse the rule that druggists shall not place caution labels unless ordered by the doctor. The same rules will be submitted to the State Medical Society for adoption. Free dispensaries were said to be abused by the rich, and it was recommended that the State appoint physicians to visit the indigent sick. Statistics were offered throughout the State proving there was a slight decrease in the sale of patent medicines.

MISCELLANY.

Hospitals Must Pay Duty.—It is reported that a decision given on June 13, by the Board of Classification of the United States General Appraisers, prohibits hospitals from importing surgical instruments free of duty. Scientific apparatus, instruments, and preparations imported not to sell but for literary, scientific, educational, philosophic, or religious purposes only are admitted free.

Obituary.—GEORGE M. BEABES, of Bloomingburg, N. Y. June 17, aged 68.—WILLIAM PIERSON, of Orange, N. J., June 12, aged 60.—ELBRIDGE K. LEONARD, of Rockville, Conn., and MELANCHTHON STORRS, of Hartford, both of septicemia from infection at an operation on abscess of the liver.—BENJAMIN DOUGLASS HOWARD, of Elberon, N. J., former professor of surgery in Long Island College Hospital, Medical College at Cincinnati, and in University of Vermont, June 21, aged 60.—B. W. MACNICHOL, of West Chester, June 23.

Dr. Robert M. Mullings, of Norwalk, Conn., has invented what he believes to be the most **humane bullet** yet offered for use in civilized warfare. He asserts that it will do away with the frightful lacerations about which so much has been written since the United States engaged in war with Spain. The bullet is not unlike an ordinary bullet, except that it has an opening, which he calls a canal, practically all the way through it. This opening, he maintains, will prevent the explosion of projectile air after the bullet has entered the body, and also will prevent the entrance of air into the wound. The new bullet has a steel tube, extending from the tip to the butt, so fastened at each end as not to weaken the bullet or give it an opportunity to explode. At the back of the bullet, against the opening into the tube, is an aluminum wad, to prevent the escape of the gas generated by the powder. As soon as the bullet leaves the shell this aluminum wad detaches itself, leaving the tube open.—[*N. O. Times-Democrat.*]

Insurance and Health Faddists.—Action of a kind that is likely to give the people who call themselves "Christian Scientists" a lot of trouble, if it serves as a precedent for other organizations with similar aims, was taken at Buffalo last week by the Supreme Lodge of the Knights of Honor. This is among the largest of the mutual-benefit societies, and it has branches in most parts of the United States. After a full discussion, the Supreme Lodge decided that the Eddyites in particular, and faith curists in general, owing to their contempt for the sanitary precautions taught by modern science and observed by the sane and intelligent element in all civilized communities, and especially because of their refusal to submit themselves when ill to the care of trained physicians, are the most dangerous of risks, from an insurance standpoint, and hereafter shall not be admitted to membership in the Knights of Honor. The decision is an eminently sensible one, and the need for making it has often been asserted in this column. The delay of the other mutual societies and of the regular insurance companies in adopting the same policy of exclusion against the faith-cure fanatics is really inexplicable. Many a person to whom insurance is now refused because of maladies more or less serious is an appreciably better risk than a stalwart "scientist" to whom sanitation is an impious farce, the existence of infectious maladies a negligible delusion, and the preservation of health a mere matter of assertion and belief. Such people are obviously exposed to numberless dangers from which others are comparatively safe, and their chances of recovery in case of illness are simply those given by nature, assisted only by imagination. If insured at all, it should certainly be at materially increased rates.—[*N. Y. Times.*]

The Horrors of War.—A young surgeon from a neighboring city who was on duty in the Second Field Hospital at Santiago was chatting with some friends at the Grunewald Hotel the other night. "I wish I could forget that experience," he said. "I wish I could blot it out of my memory. The records show we were very successful; the percentage of deaths was the smallest in the history of war—but the dreadful human suffering, the unavoidable neglect, the crude appliances, the lack of everything to make the wounded comfortable; the dirt and squalor and stench, and all the innumerable horrors of field surgery in a barren wilderness—those are the things of which no adequate accounting can ever be made. I don't want to throw any cold water on budding patriotism, but when I meet young fellows who have the war fever, who are dazzled by the glamour of the thing, and whose ideas of battle are entirely romantic and adventurous—when I meet that kind of chaps I can't help wishing I could conjure up for a moment a picture of that miserable, gloomy, blood-soaked shambles of ours behind the first row of hills at Santiago. I believe one must be an army surgeon to fully appreciate the truth of what General Sherman said about war. It is hell, and there is no other word that comes anywhere near describing it. A doctor in an emergency hospital is kept at such high pressure, and is under so many disadvantages that he must necessarily seem callous and brutal to the wounded. I know my own associates seemed so to me at times, and I dare say I seemed so to them; but we were simply struggling to keep cool and do our best. The night after the first day's fighting a grim old regular army surgeon, who had been working for hours with as much apparent indifference as a butcher in a stall, went outside and sat down for a moment on a pile of boxes. I passed that way and was shocked to see how pale and haggard he looked. 'What's the matter, doctor?' I asked. 'This makes me sick,' he replied, and then I realized for the first time how keenly he had been alive, in reality, to all the misery with which we were surrounded. But in a few moments he was back again, hustling and growling and cussing the orderlies. Poor old chap! He died a couple of months ago, in the Philippines. The diagnosis was overwork."—[*N. O. Times-Democrat.*]

Health-Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended June 16, 1900:

			Cases.	Deaths.
SMALLPOX—UNITED STATES.				
California:	Oakland	May 12–June 2	5	
Colorado:	Arapahoe	May 28–June 4	1	
"	Archulita Co.	May 28–June 4	1	
"	El Paso Co.	May 28–June 4	2	
"	Logan Co.	May 28–June 4	1	
"	Mesa Co.	May 28–June 4	1	
Delaware:	Wilmington	June 2–9	1	
District of Columbia:	Washington	June 2–9	4	
Illinois:	Cairo	May 26–June 2	4	
"	Chicago	June 2–9	4	
Indiana:	Evansville	June 2–9	1	
Kansas:	Wichita	June 2–9	5	
Kentucky:	Covington	June 2–9	28	
Louisiana:	New Orleans	June 2–9	41	21
Maine:	Portland	June 2–9	4	
Massachusetts:	Fall River	June 2–9	9	
"	Lowell	June 2–9	1	
Michigan:	Grand Rapids	June 2–9	1	
"	Jackson	June 2–9	1	
New Hampshire:	Manchester	June 2–9	2	
New York:	New York	June 2–9	4	
N. Carolina:	Newberne	June 6	Several cases.	
Ohio:	Cleveland	June 2–9	22	
Tennessee:	Memphis	May 20–June 2	13	
Utah:	Salt Lake City	June 2–9	2	
SMALLPOX—FOREIGN.				
Austria:	Prague	May 19–26	5	
Belgium:	Ghent	May 19–26		1
Egypt:	Cairo	May 12–20		4
England:	Liverpool	May 19–26	1	2
"	London	May 19–26	5	
France:	Paris	May 19–26		1
Mexico:	Chihuahua	May 26–June 2		2
Philippines:	Manila	April 21–28	3	
"	Vera Cruz	May 26–June 2		7
Russia:	Moscow	May 12–19	11	2
"	Odessa	May 19–26	7	1
"	St. Petersburg	May 12–19	33	10
Straits Settlements:	Singapore	April 21–28		2
YELLOW FEVER.				
Colombia:	Panama	May 29–June 5	3	
Cuba:	Havana	May 26–June 2	3	
Mexico:	Vera Cruz	May 26–June 2		9
CHOLERA.				
Siam:	Bangkok	April 19	Epidemic.	
PLAGUE.				
China:	Hongkong	April 28–May 5	34	32
Egypt:	Alexandria	May 12–19	3	1
"	Port Said	April 20–May 28	41	21
Philippines:	Malabon	April 20	2	
"	Manila	April 7–28	41	30
"	S. Pedro Macote	April 20	Reported.	

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Marine-Hospital Service, during the week ended June 23, 1900:

			Cases.	Deaths.
SMALLPOX—UNITED STATES.				
District of Columbia:	Washington	June 9–16	8	
Illinois:	Cairo	June 2–9	1	
Indiana:	Evansville	June 8–16	2	
Iowa:	Ottumwa	April 28–May 5	1	
Kentucky:	Covington	June 8–16	9	
Louisiana:	New Orleans	June 8–16	35	6
"	Shreveport	June 2–9	5	
Massachusetts:	Fall River	June 8–16	3	
Michigan:	Grand Rapids	June 8–16	2	
Minnesota:	Minneapolis	May 26–June 9	26	1
New Hampshire:	Manchester	June 8–16	9	
Ohio:	Cleveland	June 8–16	28	2
"	Youngstown	June 8–16	1	
Pennsylvania:	Pittsburg	June 8–16	2	
Puerto Rico:	Ponce	May 27–June 4	1	
S. Carolina:	Greeneville	June 8–16	2	
Utah:	Ogden	May 1–31	3	
"	Salt Lake City	June 8–16	5	
Washington:	Spokane	June 8–16	1	
West Virginia:	Charlestown	June 12	10	
SMALLPOX—FOREIGN.				
Austria:	Prague	May 29–June 2	11	
Belgium:	Antwerp	May 19–26	1	3
Brazil:	Rio de Janeiro	April 13–May 11		18
Dominion of Canada:	Province of Montreal	June 4	30	
England:	Liverpool	May 26–June 2	2	
"	London	May 26–June 2	7	
France:	Nice	May 25–June 6	3	
"	Paris	May 26–June 2		1
Germany:	Stettin	May 19–26	1	
Gibraltar:	Gibraltar	May 20–29	4	
Greece:	Athens	May 19–26	4	2
India:	Bombay	May 8–15		24
"	Kurrachee	May 6–13	11	9
"	Madras	May 5–11		1
Mexico:	Chihuahua	June 2–9		2
"	Vera Cruz	June 2–9		2
Philippines:	Manila	April 28–May 5	2	
Russia:	Moscow	May 19–26	9	4
"	Odessa	May 26–June 2	11	1
"	St. Petersburg	May 19–26	33	12
"	Warsaw	May 12–19		2
Spain:	Corunna	May 26–June 2		1
"	Madrid	May 5–19		21
Straits Settlements:	Singapore	April 28–May 5		5
Uruguay:	Montevideo	April 28–May 5	2	
YELLOW FEVER.				
Brazil:	Rio de Janeiro	April 13–May 11		46
Colombia:	Barranquilla	May 26–June 2	5	3
Cuba:	Havana	June 2–9		2
Mexico:	Laguna	June 16	Present.	
"	Vera Cruz	June 2–9	17	10
CHOLERA.				
India:	Bombay	May 8–15		15
"	Kurrachee	May 6–13	2	
"	Madras	May 5–11		1
PLAGUE—FOREIGN.				
India:	Bombay	May 8–15		304
"	Kurrachee	May 6–13	178	134
Japan:	Osaka	May 13–25	6	
"	Shidzuoka	May 14–17	3	
Philippines:	Manila	April 28–May 5	9	7

Changes in the Medical Corps of the U. S. Army for the week ended June 23, 1900:

POTTER, Major SAMUEL O. L., surgeon, is granted leave for one month.

HENDRICKSON, WM. M., acting assistant surgeon, is assigned to duty at Fort Baker.

MCLEAN, JR., DONALD, acting assistant surgeon, will proceed to his home, Detroit, Mich., for annulment of contract at his own request.

HENDRICKSON, WM. M., acting assistant surgeon, now at Fort Baker, is granted leave for 7 days.

GIESEKING, FRED, hospital steward, is relieved from duty at the Hospital Corps School of Instruction, Fort McDowell, and will be sent to the Presidio for duty.

GIBSON, Major ROBERT J., surgeon, now on temporary duty in San Francisco, Cal., will accompany battery N, Third Artillery, to Fort Monroe, and, upon completion of this duty, he will report, by telegraph, to the Adjutant-General of the Army, Washington, for further orders.

PURSELL, FRANK J., acting assistant surgeon, is relieved from duty at the U. S. General Hospital, Presidio, and will report to the commanding officer of that post for duty with recruits and casuals thereat.

KEEFER, Major FRANK R., surgeon (captain and assistant surgeon, U. S. Army), having tendered his resignation, is honorably discharged from the volunteer service, to take effect June 15.

DUCKER, Major ORLANDO, surgeon, is relieved from further duty in the division of Cuba, to take effect upon the expiration of his present leave, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty.

GEDDINGS, EDWARD F., acting assistant surgeon, is relieved from further duty at Fort Wood and will proceed to Santiago, Cuba, and report to the commanding officer, department of Santiago and Puerto Principe, for duty.

POEY, EDUARDO C., acting assistant surgeon, is relieved from temporary duty at Fort Riley and will report to the commanding officer of the detachment of the Sixth Cavalry, at that post destined for service in the Philippine Islands for duty with that command en route to Manila.

BALCH, Major LEWIS, surgeon, is honorably discharged from the service of the United States, to take effect July 15. He will proceed to his home at Albany, N. Y.

BRECHEMIN, Major LEWIS, surgeon, granted leave on surgeon's certificate, is extended 3 months on surgeon's certificate, and Major Brechemin is granted permission to go beyond sea.

QUINTON, Captain WILLIAM W., assistant surgeon, will proceed from New York City to Fort Ethan Allen for duty.

TESSON, Major LOUIS, surgeon, is relieved from duty at Fort Ethan Allen, and will proceed to Vancouver Barracks for duty.

KEEFER, Captain FRANK R., assistant surgeon, is granted leave for 1 month and 15 days from June 16.

BARRY, EDMUND, acting assistant surgeon, will proceed from Fort Wadsworth to Fort Slocum for the purpose of accompanying a detachment of recruits to San Francisco, Cal., and upon the completion of this duty will return to his proper station.

ASHFORD, First Lieutenant BAILEY K., assistant surgeon, is relieved from further temporary duty at Washington Barracks and will proceed to Fort Slocum for duty.

THORP, CHARLES W., acting assistant surgeon, will proceed to his home, Denver, Col., for annulment of contract.

SIMPSON, MAXWELL S., acting assistant surgeon, is assigned to temporary duty with the troops on the U. S. transport "Thomas," to sail about June 16.

POND, ARLINGTON, acting assistant surgeon, will proceed to his home, Rutland, Vt., for annulment of contract.

ROBINSON, ERNEST F., acting assistant surgeon, will proceed to his home, Boston, Mass., for annulment of contract.

MACBETH, ALBERT H., acting assistant surgeon, will proceed to his home, Buffalo, N. Y., for annulment of contract and orders.

SMITH, RODNEY D., acting assistant surgeon, is assigned to temporary duty with the troops on the U. S. transport "Thomas," to sail for the Philippine Islands June 16.

GILL, CHARLES R., acting assistant surgeon, is hereby relieved from duty at Fort Trumbull and will proceed to Fort Wood for duty.

BOYER, ARTHUR I., acting assistant surgeon, in addition to his present duties, will assume charge of the post hospital at Fort Trumbull. Acting Assistant Boyer while retaining station at Fort Terry will render medical attendance at Forts Trumbull and Michie, visiting them as often as may be necessary and sending to the hospital at Fort Trumbull all sick who cannot be properly treated in quorters at Forts Terry and Michie.

KEEFER, Captain FRANK R., assistant surgeon, will upon the expiration of his present leave proceed to Fort Monroe for duty.

FULLER, First Lieutenant LEIGH A., assistant surgeon, upon being relieved from duty at Fort Monroe, will proceed to San Francisco, Cal., and report to the commanding general, department of California, for further orders.

ALDEN, WILLIAM, acting assistant surgeon, will proceed from Lynn, Mass., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty in that department.

BLANCHARD, ROBERT M., acting assistant surgeon, will proceed from Batavia, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

BOWMAN, MADISON H., acting assistant surgeon, will proceed from Toledo, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

JENKINS, FREDERICK E., acting assistant surgeon, will proceed from Carbondale, Pa., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

MOSER, ALBERT, acting assistant surgeon, will proceed from Lima, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

ROWAN, CHARLES J., acting assistant surgeon, will proceed from Chicago, Ill., to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

KIRK, HARRY H. VAN, acting assistant surgeon, will proceed from Sunbury, Ohio, to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

Changes in the Medical Corps of the U. S. Navy, for the week ended June 23, 1900:

ALFRED, A. R., passed assistant surgeon, detached from the "Texas" and ordered to the Asiatic Station, via the Nippon Maru, sailing from San Francisco, Cal., July 10.

The following are commissioned assistant surgeons, to take rank from June 7, 1900, in the order named: J. J. SNYDER, H. A. DUNN, A. STUART, E. M. BLACKWELL, W. H. ULSH, M. V. STONE, C. R. BURR, G. F. FREEMAN, R. O. MARCOUR, J. K. PAYNE, JR., J. STEPP, C. H. DELANCY, F. M. BOGAN, R. K. MCCLANAHAN, W. E. G. HIGH.

LUNG, G. A., passed assistant surgeon, order of May 25, modified; ordered to Cavite Naval Station.

THOMPSON, J. C., assistant surgeon, detached from the Naval Hospital, Yokohama, Japan, and ordered to the "Newark."

Changes in the U. S. Marine-Hospital Service, for the 14 days ended June 21, 1900:

BROOKS, S. D., surgeon, granted leave of absence for 3 days from June 25. June 13.

CARRINGTON, P. M., surgeon, directed to proceed to Charlestown, W. Va., for special temporary duty. June 11.

MCINTOSH, W. P., surgeon, granted leave of absence for 28 days from June 19. June 12.

PERRY, T. B., surgeon, relieved from duty at Baltimore, Md., and from special temporary duty at Atlanta, Ga., and directed to proceed to Mobile, Ala., and report to medical officer in command for temporary duty and assignment to quarters, assuming temporary charge during absence of medical officer. June 12.

ROSENAU, M. J., passed assistant surgeon, directed to proceed to Reedy Island Quarantine for special temporary duty. June 9.

CLARK, TALIAFERRO, assistant surgeon, granted leave of absence for 30 days from June 13. June 13.

BILLINGS, W. C., assistant surgeon, directed to proceed to Charlestown, W. Va., for special temporary duty. June 14.

MOORE, DUNLOP, assistant surgeon, relieved from duty at Portland, Ore.; directed to proceed to Dutch Harbor, Alas., and assume command of the service at that port. June 8.

CURRIE, D. H., assistant surgeon, directed to proceed to Charlestown, W. Va., for special temporary duty. June 11.

ADAMS, F. B., acting assistant surgeon, granted leave of absence for 8 days from June 12. June 11.

COOK, ALTA F., acting assistant surgeon, granted leave of absence for 10 days from June 12. June 11.

SAFFORD, M. C., acting assistant surgeon, granted leave of absence for 14 days from June 26. June 11.

TODT, W. C., acting assistant surgeon, granted leave of absence for 10 days from June 3. June 11.

SCHLAAR, W. F., hospital steward, directed to proceed to New York, N. Y., and report to Surgeon L. L. Williams, Immigration Station, for special temporary duty. June 12.

ILTIS, G. W., hospital steward, relieved from duty at Cleveland, O., and directed to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters. June 11.

CARTER, H. R., surgeon, detailed as chief quarantine officer of the Island of Cuba. June 21.

GLENNAN, A. H., surgeon, relieved from duty at New Orleans, La., and directed to proceed to Havana, Cuba, via Washington, D. C., and New York, N. Y., and report to Surgeon H. R. Carter for duty. June 21.

WASDIN, EUGENE, surgeon, granted leave of absence for 10 days from June 21. June 21.

MAGRUDER, G. M., surgeon, upon being relieved from duty at London, England, to proceed to Memphis, Tenn., and assume command of the Service. June 15.

SMITH, A. C., passed assistant surgeon, relieved from duty at Hamburg, Germany, and directed to proceed to New York, N. Y., and report by wire for orders. June 15.

BLUE, RUPERT, passed assistant surgeon, relieved from duty at Genoa, Italy, and directed to proceed to New York, N. Y., and report by wire for orders. June 16.

OAKLEY, J. H., passed assistant surgeon, relieved from duty at Queenstown (Cork), Ireland, and directed to proceed to Evansville, Ind., and assume command of the Service. June 15.

Sprague, E. K., passed assistant surgeon, relieved from duty at Antwerp, Belgium, and directed to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters. June 15.

Thomas, A. R., passed assistant surgeon, relieved from duty at Rotterdam, Netherlands, and directed to proceed to London, England, and detailed for duty in the office of the U. S. Consul-General at that place. June 15.

Wickes, H. W., passed assistant surgeon, relieved from duty at Glasgow, Scotland, and directed to proceed to Cincinnati, O., and assume command of the Service. June 15.

Greene, J. B., passed assistant surgeon, relieved from duty at Bremen, Germany, and detailed for duty in the office of the U. S. Consul-General at Berlin, Germany. June 15.

Mathewson, H. S., assistant surgeon, relieved from duty at Liverpool, England, and directed to proceed to New York, N. Y., and report by wire for orders. June 15.

Grubbs, S. B., assistant surgeon, relieved from duty at Havre, France, and detailed for duty in the office of the U. S. Consul-General at Paris, France. June 15.

Parker, H. B., assistant surgeon, upon being relieved from duty at Santiago, Cuba, to proceed to New Orleans, La., and report to medical officer in command for duty and assignment to quarters. June 21.

von Ezdorf, R. H., assistant surgeon, relieved from duty at Savannah, Ga., and detailed as quarantine officer at the port of Santiago, Cuba, proceeding to station via Washington, D. C., and New York, N. Y. June 21.

Anderson, J. F., assistant surgeon, relieved from duty at Marseilles, France, and detailed for duty in the office of the U. S. Consul-General at Vienna, Austria. June 15.

Hobdy, W. C., assistant surgeon, relieved from duty at Southampton, England, and directed to proceed to New York, N. Y., and report by wire for orders. June 15.

Schereschewsky, J. W., assistant surgeon, directed to assume temporary command of the Service at New Orleans, La. June 21.

Marsh, W. H., acting assistant surgeon, granted leave of absence for 18 days, from June 5. May 25.

Mason, W. C., acting assistant surgeon, granted leave of absence for 5 days, from June 24. June 18.

Schlaar, W. F., hospital steward, relieved from duty at the port of Washington, D.C., and directed to report to Surgeon L. L. Williams, Immigration Depot, New York, N. Y., for duty. June 18.

Infarcts of the Placenta.—J. Whitridge Williams, in a paper on "The Frequency and significance of infarcts of the placenta based upon the microscopic examination of five hundred placentae," gives the result of a thorough study of the subject, illustrated by a series of fine plates. His conclusions are as follows: 1. Infarcts measuring at least 1 cm. in diameter were observed in 315 out of 500 consecutive placentas (63%). 2. Smaller infarcts, many just visible to the naked eye, were observed in the great majority of placentas, while microscopic examination revealed early stages of infarct formation in every full-term placenta which he examined. 3. The primary cause of infarct formation in the great majority of cases is to be found in an endarteritis of the vessels of the chorionic villi. 4. The primary result of the endarteritis is coagulation necrosis of portions of the villi just beneath the syncytium, with subsequent formation of canalized fibrin (as the process becomes more marked, the syncytium likewise degenerates, and is converted into canalized fibrin, which is followed by coagulation of the blood in the intervillous spaces, which results in a matting together of larger or smaller groups of villi by masses of fibrin). 5. The part played by the decidua in the production of infarcts has been greatly overestimated by many observers, it is more than probable, in many cases at least, that the tissue which they designate as decidual, is really fetal ectoderm. 6. Moderate degrees of infarct formation are not pathologic and exert no influence upon the mother or fetus, and are to be regarded as a sign of senility of the placenta, analogous to the changes which take place in the villi of the chorion at an earlier period. 7. Marked infarct formation is not infrequently observed, and often results in the death or imperfect development of the fetus. It is usually associated with albuminuria on the part of the mother, though at present we cannot account satisfactorily for the relationship between them. 8. Infarct formation is not particularly marked in cases of eclampsia, being usually observed only in those cases which were preceded by marked albuminuric symptoms. 9. There is no evidence in favor of the bacterial origin of infarcts. [W. K.]

Foreign News and Notes.

GREAT BRITAIN.

Dr. John Lumsden was admitted a licentiate in medicine of the Royal College of Physicians of Ireland.

Royal College of Surgeons of Ireland.—Dr. Thomas Myles has been appointed president and Dr. Lambert H. Ormsby vice-president of the Royal College of Surgeons of Ireland.

After a review of troops at Aldershot, on June 9, four deaths occurred from **sunstroke**, and several hundred of the men were incapacitated by the heat. Other deaths may follow.

The annual meeting of the British Dental Association was held at the Yorkshire College, Leeds, early in June, under the presidency of Mr. George Brunton. The congress was well attended by the representative dental surgeons of the country.

Women Graduates Undertake Plague Duty.—Four graduates of the London School of Medicine for Women have undertaken plague duty: Miss Marion Hunter held an appointment first in India, afterwards in Egypt; Miss Carthorn and Miss Christie in India; Miss Sheldon Amos starts immediately for Port Said to act as assistant medical officer under the Quarantine Board.

Nautical Hygiene.—Seamen have for some time been treated in London and Liverpool in institutions specially devoted to the study of such diseases as malaria, blackwater fever, beriberi and other tropical disorders. Such diseases as scurvy, night-blindness, and many old-time diseases are rare. Hamburg Institute has been established for the study of nautical hygiene, and such hospitals are necessary at all large ports.

Mr. George Edward Williamson, whose death at the early age of 46 has just been announced from New Castle-on-Tyne, was ophthalmic surgeon to New Castle Infirmary, and lecturer on physiology and surgery to the Durham University Medical School. He was an excellent general surgeon, as well as an expert in his specialty, and his sudden death from pneumonia will be felt by his colleagues and pupils as a serious loss.

A Dearth of Medical Assistants.—The war has made the young medical man in England, for whom in general there has been no demand whatever, quite a valuable person. Most of the able-bodied young men with no practice or family ties have gone to the war, and consequently it is difficult to find men to assist practitioners, and even to fill berths, generally considered so enviable, at the well-known general hospitals or upon lines of steamers. The situation in many places has become acute.

Dr. Thomas Fitzpatrick, who died early in June at his London residence, after serving for a period as a surgeon to the Honorable East India Company, settled down to a lucrative practice in London. He was, however, more than a well-known physician. He was a graceful and successful author, and a sound linguist and a classic. He could converse in German, French, and Italian, and was a scholar of ancient and modern Greek. He was a graduate of medicine both at Cambridge and Dublin Universities.

Employers Held Liable for Lead-poisoning.—Action was recently brought against a firm in Manchester by a workman to recover damages in consequence of lead-poisoning. The plaintiff worked in a room where fittings were put together and white lead used. It was necessary for him to use his mouth to ascertain if the fittings were air-tight, a pump not being provided. The air was also vitiated by a lead-burning machine. Judgment given for the plaintiff with £45 and costs, shows the precautions taken by the English government to protect workmen in their occupation.

The Progress of the South African War is slow, and the fact is giving rise to considerable anxiety in medical circles concerning the health of the troops. The sufferers

from typhoid fever already number several thousands, and the sick list is being added to daily by the hundred. The hospitals are full to overflowing and the condition under which the field force must live is not conducive to an improvement in their health. Concerning the efficacy of the antityphoid serum the gravest doubts prevail. No scientific opinion can be properly given until the whole figures are forthcoming, but so far the balance of opinion is against protective inoculation as practised in the British army. It would seem that among the men the inoculation has a little checked the incidence of the disease, but has had no favorable influence upon the case mortality; while among the officers *those inoculated have furnished not only the heavier percentage of deaths but the heavier percentage of cases.* Every medical man must wish that the protracted struggle will soon come to an end. Already the British army has lost in killed, wounded, sick, or prisoners 25,000 men, or over 10% of its total strength.

The Manufacture of Lunatics in London.—An extraordinary scandal has been exposed in the north of London. The district of St. Pancras has had so many pauper lunatics to deal with, that the free asylums were overcrowded and the guardians of the parish have had to find accommodation for the cases in the wards of certain private lunatic asylums. It has now transpired that the officers of some of these asylums have made large sums out of the parish by charging very high fees for the care of these pauper lunatics, and have also paid the officials of the parish a percentage upon those fees. The method is not only very expensive for the public of St. Pancras, a poor neighborhood, who are rated to support the lunatics, but the temptation to make lunatics of many doubtful cases of neurosis or alcoholism is obvious. The normal increase of insanity in London is serious enough, while the number of cases that used to be supported by the relatives of the afflicted persons and that are now sheltered by the public has grown *pari passu* with the establishment of palatial asylums filled with every comfort. The cost to build and maintain these asylums already make the rate-payer wince, but he will absolutely revolt unless he feels sure that the lunatics whom he supports are genuinely insane. It is fair to the officials of the asylums implicated in the St. Pancras scandal to say that no one has hinted that the persons received by them have been other than really mad men. But the horrid possibility must be present to every mind.

Comparative Death-Rates of British Cities.—The rate of mortality of the 33 largest towns in England, taken together, during the last week of May and first week in June, was 18.4 and 17.7 per 1,000 respectively, but by June 16 it had declined to 16.8, the rate in London being 15.9. During the same dates the rate of mortality in the eight cities of Scotland, compared by their size with the 33 largest towns in England, amounted, taken together, to 19.6, 18.6, and 18.3 per 1,000 respectively, the Scotch towns being, by the end of the first week in June, 1.5 per 1,000 worse than the English. But the death-rate in Dublin on the same dates was 25.2, 21.9, and 23.1 per 1,000 respectively. The sanitary condition of Dublin is simply deplorable, and the loss of infants under one year of age in this city alone must actually count for something in the melancholy tale of decreasing population in Ireland. Pointed attention to the sad state of affairs prevalent in Dublin has not been wanting, but the authorities seem heedless of criticism. We wonder the medical men of the Irish capital, who are numerous, do not make a united protest.

The Metropolitan Hospital Sunday Fund.—"Sunday, June 24, will be hospital Sunday in London," writes a correspondent under date of June 16. "The authorities concerned in gathering in and dispersing the fund hope earnestly that this year's subscription will not drop below the £40,000, but they cannot be other than apprehensive. For England has had many voluntary subscriptions connected with the war in South Africa and the Indian famine to support, while prices have risen in most directions. *The Lancet* and *The Hospital* have both issued forcible appeals to the public on behalf of the fund." It seems to us that the fund should obtain, if the people would only consider the subject rightly, more money than ever this year. For hard times drive many people to the hospital who in piping days of peace would either not be ill or would be able to pay for medical attendance.

The death is announced of **Dr. Julius Althaus,** a neurologist who was favorable known to the public, and who wrote some semi-popular but very shrewd books on his subject. He was an early exponent of electrical therapy.

CONTINENTAL EUROPE.

Dentists will be enrolled as members of the International Congress in the Section on Stomatology. The same arrangement was made by the American Medical Association.

An expedition for the study of the medical hydrology and local diseases of Serra Nogueira in the Province of Traz-os-montes will be sent out this summer by the Portuguese Geographical Society.

Russian Medical Institute for Women.—Funds are being collected to establish a medical institute in Moscow. The annual subscription is 5 rubles, life members 100 rubles, and honorary members 5,000 rubles.

A Woman Medical Graduate in Sweden.—The degree of M.D. has recently been conferred upon Miss Anna Stecksen by the University of Stockholm. The degree has never been given before to a woman in Sweden.

Trichinæ.—A Nuremberg paper, commenting on the fact that 11 of the 13 pigs that were found in the markets of that city last year afflicted with trichinæ, came from Prussia, concludes sensibly that the policy of excluding meat from America is foolish, and that the only safeguard lies in careful inspection.

The Münchener medicinische Wochenschrift, according to the *Lyon médical*, has devoted part of last year's revenues to funds in aid of physicians, viz: 2,000 marks to the fund for the widows and orphans of Bavarian physicians; 1,000 marks to the assurance fund for German physicians at Berlin; 500 marks to the society in aid of Bavarian physicians unable to work, and 220 marks for the widows of two physicians.

The Turkish Government is said to have hit upon a device for checking unqualified practice, and at the same time levying a tax on the legitimate practitioner, by making the use of prescription books bearing a government stamp compulsory on all medical practitioners. This would yield to the treasury 300,000 or 400,000 piasters a year. Quacks would be hindered for in each book the name of the doctor using it and the number of his diploma must be inscribed.

Medical Students in Germany.—There are 8,066 students of medicine in the universities of the German Empire. Of these, Munich and Berlin each have 1,376, Vienna 1,270, Leipzig 672, Würzburg 626, Graz 407, Erlangen 387, Freiburg 365, Kiel 360, Geneva 326, Strassburg 315, Bern 294, Greifswald 288, Breslau 260, Bonn 254, Heidelberg 253, Giessen 251, Zurich 248, Königsberg 239, Halle 225, Marburg 224, Jena 174, Tübingen 181, Lausanne 171, Basel 140, Rostock 105, Czernowitz 6.

The Sanitary Condition in Paris.—Encouraging statistics have thus far been published by the city; no cases of smallpox were noted in the last weekly report. An epidemic of bubonic plague is more to be feared than smallpox. In Port Said 48 cases have been reported, with a total of 22 deaths. A case was reported at Smyrna and another at Alexandria. A foreign element tried to prevent the work of disinfection, but was soon overpowered, and it is hoped the stringent measures taken will prevent the spread of the disease.

A New Law as to Foundling Institutions in Italy.—The committee appointed by the Italian Ministry of the Interior to examine the condition of all the foundling-hospitals of the kingdom has drawn up a scheme of legislation on the subject which has been submitted to Signor Pelloux. The scheme provides that all such institutions shall be under the supervision of the provincial prefects, and that the managing bodies shall include one or more dele-

gates of the government. The poor-law medical officers will give the necessary professional attendance on the children gratuitously, and report their condition to the authorities. Neglect of duty on the part of medical officers, nurses, and others having charge of the children is made punishable by various penalties.

The Notification of Tuberculosis in Italy.—From recent reports of the proceedings of the Congress on Tuberculosis recently held at Naples, it was inferred that the notification of tuberculosis was to be made compulsory in Italy. It has since been explained, however, by the Inspector-General of Health in Italy, that it would be impossible to make such notification compulsory unconditionally for the following reasons: (1) It would oblige practitioners to violate professional secrecy; (2) it would injure the patient and prevent him from following any occupation for a livelihood, and ever getting married; (3) it would impose a burden on the communes which they could ill bear. In the law as drafted notification is made compulsory only in poorhouses, foundling-hospitals, dairy-farms, tobacco-factories, etc.

German "Specifics" Against Morphinism and Malaria.—The *London Chronicle* states that great interest has been aroused in Germany by the alleged discovery of a specific against morphinism by Dr. Otto Emmerich, of Baden-Baden. It is a distilled vegetable oil of intense acidity, 2 or 3 drops of which are taken internally daily. In from 3 to 6 weeks the patients acquire an intense loathing for the use of the drug. It is claimed for the discovery that it has proved infallible in numerous cases. Dr. Robert Koch, who for some months past has been in German New Guinea, with the object of studying malarial disease, has sent home a report, in which he states that he has been able to protect himself and his colleagues against malaria, and expresses the hope that his investigations will materially assist in combating this disease. His treatment of the white population, as well as of the natives, has resulted in freeing them from malarial symptoms.

MISCELLANY.

Cholera and Famine.—The Viceroy of India cables to London that the famine situation is unaltered. The Governor of Bombay wires that there were 10,277 deaths from cholera out of 15,479 cases during the week ended June 16.

Soldiers Suffer from Malaria.—Since last April malaria has been prevalent in Cavite and Batangas Povinces, P. I., which are garrisoned by the Forty-sixth and Thirty-ninth Regiments. Of the men 30% are said to be sick, and of two battalions in Batangas Province one has 150 and the other 190 sick.

A Giant Crematory.—Incineration of the dead in the cholera and famine districts of India is conducted on a mighty scale. Tons of wood are piled in readiness and in the center of each pile are the bodies of the dead. This disposition of corpses is made in thousands of places throughout the famine area.

An appendix to the International Directory of Laryngologists and Otologists, compiled by Mr. Richard Lake, is in course of preparation. The editor, desirous of making it as complete as possible, hopes that all engaged in the practice of laryngology, rhinology, and otology will assist by sending their names and addresses to 129 Shaftesbury Avenue, London, W. C.

Obituary.—Henry Peacock, of Bath, aged 87.—G. C. Edwards, formerly of Ipswich, aged 82.—R. T. Manson, of Darlington, aged 69.—J. Farrell Easmore, of Accra, June 10.—E. J. Quinan, of Dublin, aged 86.—Robert Irvine, of County Donegal, at Ladysmith.—J. E. K. Nadin, of Tipperary.—Julius Althaus, of London, June 11, aged 67.—Tommaso Crudeli, Senator of the Kingdom of Italy.—Karl Lang, of Copenhagen, aged 66.—Karl Eigenbrodt, Physician-in-Ordinary to the Grand Duke of Hesse, aged 74.

The plague is reported to be increasing in Australasia. Many cases are reported in Victoria, which probably started in the slums of Melbourne. In the city of Sydney, 239 cases have been reported, with 82 deaths. The extension of the plague to Sydney has caused much disturbance to business. The number of cases is rapidly increasing, in spite of the efforts at destruction of rats and disinfection. The Government distributes free to all householders a special rat-poison and sends men to remove dead rats. About 8,000 persons have been inoculated with Haffkine's prophylactic. A few days later two or three of those inoculated were attacked by the disease. Dr. Tidswell, the bacteriologist of the New South Wales Health Department, is said to have found plague-bacilli in the alimentary canal of fleas taken from plague-affected rats.

The *British Medical Journal* reports 100 deaths daily in Calcutta, and the total mortality is double that number. The local government interferes as little as possible with the domestic affairs of the people. No pressure is used to send cases to the hospitals and many remain untenanted. This system has one advantage—that it does not cause a panic and consequent flight of a large portion of the inhabitants, which would result in spreading the disease over the province. On the other hand, no decrease of the disease in the city can be expected to follow such measures, and it is not surprising that the usual annual increase is greater this year.

Tuberculous Cattle in Cape Colony.—The Governor of Cape Colony has issued regulations for the examination and quarantine of tuberculous cattle imported by sea. The cattle must either be accompanied by a certificate stating that they have been tested with negative results or must be tested on landing and treated accordingly. It is said that 5 years ago tuberculous cattle were unknown in the colony, now it is occasionally seen in Cape Town, especially among imported cattle. These regulations, according to *The Physician and Surgeon,* are right, for they indirectly benefit mankind in the country, but further benefit would be the exclusion of consumptive invalids or their segregation. It is said that tuberculosis was unknown among the inhabitants until introduced from Europe.

Landry's Paralysis.—Knapp and Thomas (*Journal of Nervous and Mental Disease,* February, 1900) report 3 cases with one autopsy. The first, a woman of 28, had lived an irregular but not dissipated life; had no trace of any specific disease. She arose one morning and found that the legs were stiff, the following day she frequently fell, and a few days later was unable to walk. There was some tenderness over the lumbar vertebrae, weakness of the hands, and dilation of the pupils with disturbance of elevation. There was no disturbance of the digestive organs, and, excepting a slight hyperalgesia, no disturbance of sensation. Her condition rapidly grew worse, there was a moderate amount of pain, inability to take nourishment, and disturbance in micturition. She died 16 days after the onset of the symptoms. Microscopic examination of the cord showed distention of the bloodvessels, numerous degenerated fibers in the anterior roots and in the sciatic nerve, and extreme degeneration of the walls of the anterior cornua. Throughout the cord, the bloodvessels were much engorged, and there was diffuse degeneration in the nerve-fibers of the white matter. The case, therefore, appears to sustain the idea that Landry's paralysis is a parenchymatous degeneration of the anterior horns. The second patient, a man of 24, was suddenly attacked by headache, nausea, and vomiting. There was rapid loss of power in the legs, and subsequently in the muscles of the abdomen and arms. Eleven days after the onset he began to improve, and two weeks later power returned in the arms, but the legs remained atrophic and weak; that is to say, there was only partial recovery. The third patient, a colored woman of 20, arose one morning with a severe headache and general malaise. There was severe pain in the lumbar region which gradually increased, numbness in the limbs, difficulty in swallowing, loss of the kneejerks, and diminution of the other reflexes. The weakness continued to increase for several days, then gradually diminished, and the patient practically recovered completely. During the course of the disease the white corpuscles were counted and found to be 7,600. The authors are of the opinion that Landry's paralysis is caused by the poison of some infectious process that has a selective affinity for the motor neurons. Occasionally it may involve the sphincters. The absence of electrical changes, which is occasionally noted, can be explained by supposing that the patients die before the symptoms have had time to develop. [J S]

Society Report.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5-8, 1900.

[Specially reported for THE PHILADELPHIA MEDICAL JOURNAL.]

Section on Ophthalmology.

[Abstract Report by M. W.]

FIRST DAY.

THE chairman, Dr. H. V. WURDEMANN, in the annual address, reviewed the growth of the section and the steady improvement in the character of its work.

DR. SWAN M. BURNETT read on **The Treatment of conical cornea, with reference to optical therapeutics.** He considered a careful examination with the ophthalmometer necessary in every case, because it gives such valuable information in considering the treatment. Correction of regular astigmatism, some of which is nearly always present, adds much to the visual acuteness.

DR. ROBERT SATTLER, Cincinnati, presented a paper on **The surgical treatment of conical cornea,** considering the purposes of surgical intervention to be: (1) to arrest an inexorable increase of a conical protrusion of the center of the cornea by converting this region into an opaque scar, or a series of cicatricial lines and (2) to effect a betterment of vision in such cases as are helpless and in which all other methods of treatment have been tried and discarded. He believed that surgical treatment was justifiable in only a limited number of cases and that if only a fraction of useful vision remained it was preferable in most instances to that which surgical treatment can accomplish at the expense of great risk and much time. Surgical treatment may consist in repeated paracentesis, excision or abscission of the prominent cone, or cauterization of the cone, to be followed in most cases by tattooage and iridectomy. DR. KNAPP in discussing this subject related his experiences first with the older methods, which he had found unreliable, and later with cauterization. He reported 12 cases showing excellent visual results. The method of operating he now uses is to singe the cornea in a limited superficial area, and then in a deeper and finally a third deeper layer, using the galvanocautery, but always stopping short of perforation. DR. RISLEY stated that his management of these cases had always been very conservative. He looked upon it as an affection belonging to the diseases of the anterior segment of the ball and primarily dependent upon a diseased condition of the uveal tract. His method of treatment consisted, in the early stages, in prolonged rest of the eyes, enforced by the alternate application of mydriatics and myotics and the use of compress-bandages. Having obtained some improvement in this way he followed these measures by careful measurements of the cornea and correction as far as possible of the refraction. He considered conservatism in the treatment of these cases better in the majority of instances than surgical measures and related a number of cases which had shown by these means such improvement that they were able to take up and continue college work for many years.

DR. H. GRADLE, of Chicago, presented some **Observations on the etiology of scrofulous keratitis and its treatment,** especially by soda salicylate. Under this head the author considered the various forms of superficial keratitis occurring in childhood and referring to the indefinite nature of the term scrofulous related the work of recent authors to show the identity of scrofula with tuberculosis of the lymph-glands. Inasmuch as these affections of the cornea occur so frequently in distinctly scrofulous individuals and the severer types coincide with the most pronounced manifestations of scrofula, he asked whether these forms of eye disease are not in themselves evidence of the existence of a tubercular focus somewhere in the lymphatic system. He did not believe the lesion necessarily due to the presence of tubercle-bacilli at that point, but that these types of keratitis occur only in individuals under the influence of poisons produced by the tubercle-bacillus in the lymphatic system. Dr. Gradle had in 4 cases used tuberculin for diagnostic purposes and always with positive febrile reaction. The author favored the usual local treatment and stated with special reference to atropin that it was beneficial whenever the ciliary injection was very diffuse, or the lesion very deep; the more superficial the process the less the benefit derived from atropin, whose influence might also be judged by the reaction of the pupil, prompt dilation showing that nothing will be gained by its continuous use. In the very obstinate cases which resist all other treatment he recommends sodium salicylate in large doses, 15 to 20 grains every 2 hours for an adult and 10 grains 4 times a day for a 3-year-old child. Small doses were considered useless, and while no specific action was attributed to the drug it was found beneficial in cases accompanied by much suffering. DR. CALHOUN called attention to the value of protargol in the treatment of these cases after ulceration begins. Considerable discussion followed in regard to the necessity for giving proper attention to conditions of the nose and throat in these cases, and especially to the necessity for guarding the diet. This last feature was considered by many to be a very important part of the treatment. DR. RISLEY referred to one case as showing a systemic origin, where he had looked upon it as an ordinary phlyctenular keratitis until some months later the patient gave positive indications of the existence of inherited syphilis. DR. CONNOT thought that it would be unfair to suppose that either indigestion or adenoids were the cause of the corneal trouble because in the vast majority of children who have disturbed digestion or nasopharyngeal growths there is no such disturbance of the eye. He believed the phlyctenulae were rather due to some local irritation in a child, who was perhaps in a state of low resistance, and that attention to the diet, fresh air, and correction of abnormalities in the throat and nose were beneficial only in so far as they tended to build up the child's condition.

DR. F. C. HOTZ, of Chicago, read a paper on the **Use of protargol in pyogenic affections of the eye,** claiming for this preparation some considerable advantages over the old solution of silver nitrate. It was said to be almost painless and of service in some cases where we could not use silver nitrate. He related a number of cases in which he had used it with beneficial results and they included diseases of the cornea, lachrymal canal, and conjunctiva, of a suppurative nature. DR. FOX, of Philadelphia, reported some laboratory experiments undertaken with the view of proving the germicidal power of protargol. The results of this work were not yet ready for publication. Dr. Fox, however, seemed somewhat enthusiastic over the use of protargol in gonorrheal ophthalmia and dacryocystitis. DR. DE SCHWEINITZ said that he had had some good results and some disappointments with protargol. He had found its action very uncertain and not so reliable as silver nitrate. DR. CASEY WOOD, of Chicago, said his experience had been the same as that of Dr. de Schweinitz, and he had not obtained the excellent results reported by some writers. DR. JACKSON, of Denver, thought that some of the good points of protargol entitled it to be placed on an equality with silver nitrate. It was less irritant and open to use in a larger number of cases, but if compelled to choose one or the other and rely upon that, he would select the silver nitrate. DR. CONNOR said he doubted whether all samples of the drug were alike. It might be possible that some of the poor results obtained were due to a defective preparation of the drug. His experience had been very favorable. DR. MCCONACHIE, of Baltimore, related a personal experience with the use of protargol in the treatment of acute trachoma. It did not prove of benefit. DR. HIERS, of Savanah, and DR. BULSON, of Fort Wayne, had both had favorable experiences with protargol in trachoma. DR. HOTZ added that his earlier experiences with this preparation were not as satisfactory as his later ones and he attributed it to the fact that at first he used weak solutions. He now advocates a 20% solution applied thoroughly to the diseased area.

DR. L. WEBSTER FOX, of Philadelphia, reported a **new operation for divergent squint.** It consists in performing a tenotomy of both external recti and then a stretching of the conjunctiva and Tenon's capsule, using sufficient traction to turn the cornea well in. Then by the aid of forceps the conjunctiva and tissue overlying the internal rectus is caught up and an elliptical opening made by excising this tissue close to the eyeball. Separating the conjunctiva all around this opening the wound is closed by

means of sutures, and the immediate effect of the operation should be a slight convergence. Drs. Pyle and Thorington had both seen Dr. Fox perform this operation and endorsed it as giving very satisfactory results.

Second Day.

Dr. M. D. Stevenson, of Akron, Ohio, presented a **double trial lens to balance the eyes in presbyopia.** He referred to the importance of having the anterior focus of each eye at the same distance and said we all see cases in which comfort and good vision can be had from each eye separately and that yet when the patient looks with both eyes he has indistinctness and discomfort. He said that many patients with glasses have the same visual acuity in both eyes; that after refracting such cases, and while they view distant test types with both eyes, he takes a plus and minus sphere of 25 D., placing one before each eye, waits a few moments and then quickly interchanges them. If there is any choice it indicates the necessity for raising the correction for one or lowering that of the other eye, or perhaps both. If, however, the acuity of vision of one eye is better than that of the other he uses the same lenses, first one and then the other before the same eye and then repeats the same process for the other eye. For the sake of convenience he had combined four lenses so that after holding the lower ones before the eyes for a time the upper set could be quickly dropped into position.

Dr. A. D. McConachie, of Baltimore, read a paper on the **relative value of instruments used for keratometry,** and exhibited several of the newer models of ophthalmometers. He believed that cylindric correction should not be based solely upon the findings of an ophthalmometer, but be proven by other tests; that all keratometers would give us approximately only, the amount, but the correct axis of corneal astigmatism. He thought that when for any reason a mydriatic could not be used the ophthalmometer was the most reliable test of astigmatism. He believed that the differences between the various ophthalmometers was at present only a matter of mechanical convenience and prophesied that the near future would produce an instrument whose findings would be as trustworthy as the subjective tests. The discussion of this subject was opened by Dr. Davis, of New York, and Dr. Burnett, of Washington, both enthusiastic advocates of the use of the ophthalmometer. Dr. Davis started up some discussion by the statement that it was seldom necessary to use a mydriatic when correcting errors of refraction. This statement was opposed by almost everyone present, the extreme opposition being perhaps represented by a statement from Dr. Savage, that a mydriatic is indispensable in correct refraction work. Dr. Jackson opposed Dr. McConachie's statement concerning the value of the ophthalmometer without a mydriatic, saying that while skiascopy was placed at a distance with such a test, it was still more accurate for determining astigmatism whether with or without a mydriatic.

The subject of **illumination of the mires of the ophthalmometer** received a great deal of consideration in the discussion, some favoring the reflected light and some transillumination.

Upon report of the Executive Committee through its chairman, Dr. G. E. de Schweinitz, the Section elected Dr. J. A. Lippincott, of Pittsburg, chairman, and Dr. E. C. Ellett, of Memphis, secretary, for the next year, and also adopted resolutions governing the arrangement of the program, the same as those in force at this meeting.

Dr. E. C. Ellett, of Memphis, made some remarks **On the value of homatropin as a cycloplegic.** He had made a series of clinical observations which showed in the majority of cases a slight increase in the amount of hypermetropia when tested by atropin some months later. In a smaller number of cases the gain was in favor of homatropin. He preferred to use it in the form of discs rather than the solution, believing that when so used it was more effective and its quick action and reliability render it the best substitute for atropin. Dr. Culver, of Albany, referred to some work he had done in the same line some years ago, but stated that he had preferred the solutions rather than the discs, making the objection that the latter caused some destruction of the corneal epithelium and this interfered with the examination. Dr. Casey Wood explained that it was this very destruction of the epithelium by the cocain in the discs which brought about the rapid absorption of the homatropin and consequently its rapid effects.

Dr. Lucien Howe exhibited an **Apparatus for determining the relative accommodation and convergence** and also presented a number of diagrammatic charts to show the method of constructing curves representing this relative accommodation and convergence.

Dr. H. F. Hansell, of Philadelphia, read a paper on **The estimation of amount of injury to the business capacity of the individual from partial and complete loss of vision.** Dr. Hansell had corresponded with the prominent life and accident insurance companies and considered the subject in detail from all possible standpoints, both as regards the amount of damages which companies should pay and the amount of loss the individual sustained by any given injury. He also endeavored to formulate rules upon which to base a calculation for damages in any given case.

The Section adopted a vote of thanks to Dr. Hansell for his elaborate and valuable paper.

Dr. F. T. Rogers, of Providence, read a paper on **Lessons learned from a first series of 100 cataract extractions.** Dr. Rogers reviewed his method of preparation and operation and related some of his cases, especially his failures in detail. He laid stress upon the necessity for giving attention to the general condition of cataract patients, both before and after operation; insisted upon good illumination at the time of operation; and, advocated the combined operation as the safest and easiest for operators of limited experience. Dr. Holt, of Portland, Maine, said that he had come to prefer the simple extraction and he believed one of the most important things for the young operator was frequently repeated practice upon animal's eyes. Dr. Knapp also endorsed the simple extraction as being simpler and safer than the combined.

Dr. Frank Allport, of Chicago, presented the question **What amount of visual defect should disqualify in railroad service?** He had, after correspondence with most of the large railroads of the country, prepared a tabulated list to show what roads examined their employees and the nature of those examinations. He insisted that all employees entering the service should have perfect eyes and ears, and that the examinations should be conducted by eye and ear surgeons. He also advocated re-examinations at least every 3 years and after any severe illness or accident. In instituting examinations upon a road for the first time old employees might be given special consideration, but even there the sight and hearing should approach very closely to normal. Dr. Allport also received a vote of thanks from the society for the immense amount of work which he had necessarily spent in order to present this subject in such a manner. The discussion was opened by Dr. Williams, of Boston, who regretted that Dr. Allport had failed to report in his list 3 of the largest railroads in the country that were well known to have established satisfactory systems of examination. He described the method in use on the New York, New Haven and Hartford, where examinations are made by officials of the road who have received special instruction from the ophthalmologist and whose reports are always subjected to him for examination. Dr. Thompson, of Philadelphia, described the method in use on the Pennsylvania road which he thought had been very satisfactory although conducted by employees of the road. This paper was referred to a special committee which is now considering the subject.

Third Day.

Dr. C. H. Williams, of Boston, exhibited an **Improved lantern for testing color-perception.** The lantern bears upon its face two discs bearing colored glasses in one and ground glasses in the other, so that when moved before the lighted opening in the lantern a variety of colors of different degrees of intensity can be obtained. Dr. Williams believed that in making the test of the color-sense the lantern should always be used as well as the worsteds. Dr. Wm. Thompson, of Philadelphia, showed a simpler method of obtaining the same result. It consisted of an asbestos chimney that can be placed over an ordinary kerosene lamp or spring candlestick and to the chimney the two discs bearing colored glasses, etc., are attached.

Dr. P. A. Callan, of New York, read a paper on the subject of **Secondary operations on capsular mem-**

branes. Dr. Callan described the dangers attending these operations and considered some of the means of obviating them. For thin membranes he advocates the use of the Knapp needle-knife, but in other cases he prefers the De Wecker scissors, since a thick, tough membrane will not be so easily cut by the knife, and the effort to use it produces greater traumatism. In the discussion of this subject, DR. BATES, of New York, took exception to the general belief concerning the nature of capsular cataracts, stating that it was not due to wrinkling of the capsule, but to the formation of a definite fibrous connective tissue on the capsule. He related some experiments upon rabbits to prove his theory, and showed that he had been able to prevent the formation of secondary cataracts by simply filling the anterior chamber with sterile salt-solution immediately after extraction instead of allowing it to refill with aqueous humor. DR. WEEKS said that he had used salt-solution to wash out debris after an extraction and that his secondary cataracts had possibly been less dense, but they still formed in many cases.

DR. J. A. LIPPINCOTT, of Pittsburg, presented a paper on **The systematic cleansing of the nasal cavities before operations which involve opening of the eyeball.** He believed that inflammation might follow a well-performed operation because attention had not been given to the nasal cavities, and suggested that before every operation the nose should be thoroughly sprayed with a solution of permanganate of potash. DR. DE SCHWEINITZ and DR. VEASEY, of Philadelphia, had both used the method suggested by Dr. Lippincott with satisfaction. They had seen some instances, however, in which the spray caused much discomfort to the patients.

DR. R. L. RANDOLPH, of Baltimore, reported **An insurance case in which ossification of the chorioid led to identification of the body.** The body had been discovered after lying for some time in the Niagara River, and the insurance company disputed the claim on the ground that the individual was not recognizable and proof of identification was not sufficient. The relatives remembered, however, that the man had been blind in one eye for many years, and when Dr. Randolph examined the eyes of the doubted individual he found the chorioid of the supposedly blind eye thoroughly ossified, proving that it had been blind for many years.

DR URIBI TRONCHOSO, of Mexico City, read a paper on **Local therapeutics to promote absorption of exudates within the eyeball.** Hot compresses, the vapor of hot water projected on the cornea, leeches and blisters, were all recommended in cases of intense inflammation, with exudates; and the question of subconjunctival injections was considered at some length. The author believed that they were of great value in many cases.

DR. CASEY A. WOOD, of Chicago, considered **The present status and value of massage of the eyeball, with a consideration of what diseases may be favorably influenced by this measure and the best means of its application.** Dr. Wood denounced the use of instruments and advocated simple massage, with the finger placed over the closed lids and employed in such a way as to avoid producing pain. He usually puts a drop or two of oil on the eye before beginning the massage, and occasionally uses remedial agents dissolved in this oil. He insisted that massage should be done by the physician and not by the patient. Massage was not recommended for acute conditions, but for chronic conditions of the eye, for glaucoma, and for corneal opacities.

DR. A. R. BAKER, of Cleveland, read a paper on the **Use and abuse of iodid of potash in ophthalmic practice.** He explained the best methods of using this drug as consisting in large doses well diluted with water and stated that it was contraindicated in most cases of optic atrophy and was of doubtful value where we desire to remove post-operative exudates.

DR. G. E. DE SCHWEINITZ, of Philadelphia, presented a very interesting paper on **Immature cataract and its treatment.** He referred to the frequent appearance of lenticular opacities in the lower inner quadrant which remain stationary for many years and which he thought should not be classed under the name of cataract as ordinarily understood by the public. He considered the cause of lenticular opacities to depend very frequently upon disturbances of the chorioid aside from active inflammation and thought their progress might often be checked by proper measures directed to treatment of the chorioid. He insisted, however, that such measures could not remove the opacity which had once been formed. He disliked the ordinary methods in vogue for ripening cataracts and said that he preferred the extraction of an unripe cataract to any of the ripening operations. While he discountenanced the use of electricity and the so-called "specific remedies" for the absorption or removal of lens opacities, he insisted that all such patients should receive the greatest care from the ophthalmologist, not only for the correction of errors of refraction, but attention directed to their general condition.

FOURTH DAY.

DR. W. B. JOHNSON, of Paterson, N. J., exhibited a **portable magnet.** This instrument is stronger than the Hirschberg and is intended to take the place of the Haab magnet, though it is not quite so powerful as the latter. It is much less expensive and its portability makes it available where the Haab could not be used. DR. LIPPINCOTT described a somewhat similar magnet which he uses suspended from the ceiling, however, because it was a little too heavy to hold in the hands.

DR. WM. M. SWEET, of Philadelphia, exhibited a **new recording electric perimeter.** The point of fixation is a reflected light from a small mirror, and the moving arm carries an electric light which, by pressing the button, can be moved to any point on the arc of the circle. It was claimed that the examinations could be made more rapidly than with the old perimeters and that the illumination being always the same, records taken on different days would be absolutely accurate.

DR. G. A. SULZER reported a case of **Glioma of the retina,** occurring in a baby girl, 14 months of age. A year and a half after operation there was no evidence of recurrence.

DR. WENDELL REBER, of Philadelphia, presented **a clinical study of 150 cases of hyperphoria.** Dr. Reber's article constituted a most conservative consideration of this subject which is of such extreme imporance to the ophthalmologist.

DR. WM. CAMPBELL POSEY, of Philadelphia, reported a **case of hemorrhagic glaucoma with a clinical and pathological study.** Dr. Posey's work adds much valuable information to the existing knowledge of this subject.

Adjournment.

Congenital Stenosis of the Pylorus and Perforating Gastric Ulcer.—James H. Nicholl (*The Glasgow Medical Journal,* April, 1900) reports the case of an infant which appeared healthy at birth, but which persistently vomited the milk ingested. Great emaciation followed, and at the end of 6 weeks an operation was performed. The pylorus was found represented by a bulky ring of what appeared to be muscular tissue. An incision was made in the stomach-wall near to the pylorus. A pair of dressing forceps was forced through the closed pylorus which was widely dilated. The wounds in the stomach and belly wall were closed, the child making good recovery. This was intended as a temporary operation only, but the patient steadily improved, and now at the end of 8 months is in perfect health.

The same writer reports a case of perforating gastric ulcer in a woman 22 years of age. Operation was performed 6 days after sudden collapsing pain over the whole abdomen, and after the second collapse. On opening the abdomen, gas, seropus, and food-particles were found. A perforating ulcer was found in the anterial gastric wall. The margins were trimmed and the incision closed. An aperture was made on each side of the lower outer border of the quadratus lumborum, through which a rubber tube passed for drainage. The abdomen was repeatedly flushed, fluid entering by the laparotomy wound, and escaping by the lumbar tubes. The laparotomy wound was also provided with a rubber drainage tube at its lower angle. The tubes were all removed in 4 days. Double acute suppurative otitis media, phlegmasia alba dolens of the entire left lower limb, septic pneumonia terminating in pulmonary abscess, all successively set in as complications, but the patient finally recovered. [M.B.T.]

The Latest Literature.

British Medical Journal.

June 9, 1900. [No. 2058.]

1. The Hill Stations of India as Health Resorts. SIR JOSEPH FAYRER.
2. Clinical Lectures on Pneumonia. JAMES BARR.
3. Notes on the Treatment of Chronic Gout. WILLIAM BAIN.
4. Personal Experiences of Gout Terminating in Acute Myositis of Entire Left Lower Extremity. A. S. MYRTLE.
5. A Note on Gout. JAMES EDMUNDS.
6. Case of Persistent Adenoids. E. FURNISS POTTER.
7. Magnesium Sulfate in Dysentery. J. L. DICKIE.
8. Certain Uses of Collodion. D. W. SAMWAYS.
9. Case of Cerebellar Abscess; Operation; Recovery. T. H. HAYDON.
10. A Case of Supposed Foreign Body in the Pharynx. GABRIEL W. S. FARMER.
11. Tetanus Treated with Antitetanic Serum and Chloral Hydrate; Recovery. C. H. WISE.
12. Congenital Inguinal Hernia; Obstruction; Recovery after Two Operations. W. F. ADAMS.

1.—Fayrer describes the physiography of the **hill stations of India.** He pays particular attention to the table-land of Mahableshwar, Mount Abu, Matheran, the Nilghiris, Utacammand, Conoor, Darjeeling, Naini Tal, and Simla. He believes that in time European communities may arise and flourish in these locations, producing men fitted to carry on work in the plains if they return at intervals to their homes in the more elevated regions. [J M.S.]

2.—Barr believes **pneumonia** to be a multiple infection. He details the facts concerning the etiology, symptomatology, physical examination, pathology, location and complications, and the prognosis of the disease. [J M S]

3.—There is very little evidence in favor of the theory that uric acid is formed by the kidney. Bain is an advocate of the theory that uric acid is formed in the liver from nuclein or nucleoproteid. In **treating chronic gout** our aim should be to prevent the formation of abnormal proteid decomposition-substances and the accumulation of these and other waste-products in the system, and to promote their elimination. The means at our command to accomplish this object are (1) diet, (2) exercise, and (3) medicine. The author knows of no hard-and-fast rules of diet, but one rule which should not be forgotten is moderation. In gouty patients the very greatest importance should be attached to digestive troubles, and the diet should be carefully adjusted to the capabilities of the patient's digestive power. Gouty patients should be advised to partake sparingly of leguminous foods and food rich in nuclein. Proteid is absolutely necessary in the diet, and the essential point is to give the kind of proteid most easily digested and just that amount which will be digested in the normal time. Carbohydrates have no influence on the uric acid excretion, but their liability to produce acid fermentation and to retard proteid digestion is to be remembered. Fats should be curtailed as they are prone to produce indigestion. A mixed diet is the most desirable, providing the digestion admits of it. Although it is advisable for gouty patients to abstain from alcohol, there are a certain number of cases in which a stimulant is necessary with one or more meals. In this line well-matured whisky and sound claret are least injurious. Exercise out of doors is of undoubted value. Salicylate of sodium increases the uric acid at the expense of the leukocytes and other tissue cells, and if there is evidence of renal disease the drug should not be given. The Harrogate Old Sulphur Spring diminishes the excretion of uric acid. Potasium iodid appears to retard the development of cardiovascular and renal changes, and, in cases associated with albuminuria, there is a diminution in the amount of albumin during its administration. Guaiac is often taken by patients on their own account with the happiest results so far as an arthritic attack is concerned. As an eliminator of uric acid there is probably no drug equal to it. Guaiac resin may be taken in 20-grain doses twice daily for a fortnight. It is preferably given in the compressed form. Alkalies are of value in the treatment of the gastric and hepatic complications of gout, but that they have any particular influence on the gouty diathesis or that they increase the excretion of uric acid or the solvency of the biurate must be denied. [J.M.S.]

4.—Myrtle describes a chain of **gouty phenomena** occurring in himself which terminated in an attack of **acute myositis** of the entire left lower extremity. Complete cure was obtained by constant current electric baths. [J M.S.]

5.—Edmunds uses potassium salicylate in the **treatment of gout** and never sees any of the "cardiac depression" talked about in connection with the exhibition of potassium salts. In chronic gout and rheumatism, so long as the urine becomes turbid by the deposit of urates on cooling, he uses potassium bitartrate. This may be dissolved in barley-water, sweetened, and flavored with lemon peel or 20 grains of potassium bitartrate may be dissolved in aerated distilled water. As an aperient he uses a teaspoonful of the following powder at bedtime: An once each of powdered guaiac, potassium bitartrate and precipitated sulphur, and 2 drams of compound tragacanth powder. [J.M.S.]

6.—In the case of a woman, aged 47 years, who was complaining of impaired hearing and difficulty of breathing through the nose, Potter made the diagnosis of **persistent adenoids.** The growths were removed and microscopic examination confirmed the diagnosis. The symptoms were greatly improved by the operation. [J M.S.]

7.—In cases of **acute dysentery,** Dickie uses 1 dram of a saturated solution of magnesium sulfate and 10 minims of dilute sulfuric acid in water every 2 hours, until the stools have become copious, feculent, and free from blood and mucus. [J.M.S.]

8.—Samways has found **collodion** useful in the treatment of mosquito-bites, to seal the anterior nares after plugging, and to close the orifice of the external urinary meatus in patients suffering from enuresis. In the latter condition the patient is wakened when the desire to micturate is felt. [J M.S.]

9.—In a case reported by Haydon, the patient had been operated upon for **intracranial abscess** in 1896, and had been well until 1900, when headache and vomiting began. Other symptoms of intracranial abscess developed and operation was performed. The incision was made just behind the scar of the old mastoid operation, but no gap in the bone was found at the seat of the old opening. No disease of the mastoid was found, but after removal of a portion of bone, a trocar and canula passed in a direction forward, inward, and a little downward, evacuated a large quantity of offensive pus from the brain. The opening was enlarged, and a ½ inch rubber drainage tube was inserted to a depth of 2½ inches. About 2 months after the operation the patient left the hospital in good health, with the wounds soundly healed. [G B.W.]

10.—Farmer reports a case of a man of 21, who went to the hospital complaining of having swallowed a pin, which stuck in his throat. On digital examination a foreign body was felt directly under the mucous membrane, close behind the posterior pillar of the fauces. An incision was made over the suspected pin, and the body was extracted in two pieces by a pair of sinus forceps. The **foreign body** proved on examination to be a piece of **thin bone,** tipped with hyalin cartilage. It was thought that the removed bone was an ossified stylohyoid ligament, though further exploration of the pharynx could detect no similar condition of the opposite side. [G.B.W.]

11.—Wise reports the case of a woman, aged 21, whose husband was a cabman. Twelve days before admission she had cut one of her toes with a projecting nail in her shoe. A well-marked attack of **tetanus** developed, for which she was treated with 20-grain doses of chloral every 4 hours for 24 hours, then 30 grains every 4 hours. The latter dose was continued for 4 days and then the 20 grain doses were returned to and continued for a week. During the first 2 days 30 cc. antitetanic serum were also given. The patient recovered. [J M.S.]

Lancet.

June 9, 1900. [No. 4006.]

1. Primary Syphilitic Chancres. JONATHAN HUTCHINSON, JR.
2. The Use of Massage in Recent Fractures and Other Common Injuries. WILLIAM H. BENNETT.

3. The Primary Disorders of Growth. HASTINGS GILFORD.
4. On the Relative Value of Symptoms of Acute Peritonitis. E. STANMORE BISHOP.
5. The Influence of the Buxton Thermal Water on the Excretion of Uric Acid. WILLIAM ARMSTRONG.
6. On Suprapubic Lithotomy in Old Men with Enlarged Prostate. W. THELWALL THOMAS.
7. Monogamy in Its Relation to Longevity and the Diseases of Late Life. HARRY CAMPBELL.
8. Addison's Disease Following Enteric Fever. HAROLD W. EVANS.
9. Note on a Case of Failure of Respiration under Anesthesia. FRANK E. MARSHALL.
10. A Case of Omphalitis Resulting in Ulceration at the Umbilicus; Closure of Ulcer by a Plastic Operation; Recovery, with a Firm Cicatrix. J. PINKERTON.
11. A Case of Prolapse of the Rectum and a Case of Fibroids of the Uterus. E. R. C. EARLE.

1.—Hutchinson believes that the **"bubon d'emblée"** does occur, although it is excessively rare. There is a fallacy, however, especially in women in whom the **primary syphilitic chancre** may be very easily overlooked, particularly when it is situated on the cervix of the uterus. Phagedenic chancres are not common now. When they do occur the continuous immersion and exposure of the sore to the action of water, preferably containing a low percentage of bichlorid of mercury, until the lesion presents a healthy appearance, is the best treatment. It is not wise to give a definite opinion as to a given lesion being a chancre or a soft sore until 3 or 4 weeks have elapsed, and in some cases 6 weeks may be necessary before a satisfactory conclusion can be reached. Primary sores sometimes resemble tertiary lesions and vice versa; relapsing induration at the site of a former chancre is sometimes seen; epithelioma of the genitals may be mistaken for primary chancre; and, at times, molluscum contagiosum may resemble the primary lesion of syphilis. In the treatment of primary sores, whether hard or soft, avoid ointments and use drying powders. Iodoform combined with powdered boric acid, and calomel are recommended. Black wash is useful. Chancroid may be cauterized with pure carbolic acid, and the author believes that this treatment prevents the development of the suppurating bubo. As soon as the diagnosis of syphilis is certain, use mercury. [J M.S]

2.—See editorial columns, this issue.

4.—After discussing the importance of various symptoms of **peritonitis** Bishop expresses his belief that **rigidity** of the **abdominal muscles** is a positive and constant symptom of this condition. The presence or absence of acute peritonitis can always be gauged with absolute certainty by the presence or absence of this sign. [M.B T]

5.—From a study of the **Buxton Thermal Water** Armstrong concludes: (1) That the **excretion of uric acid** and the flow of urine are both largely increased by the drinking of and immersion in that water; (2) that the water is more efficacious when bathed in than when drunk, as regards uric-acid excretion; (3) that diuresis is somewhat greater when the water is drunk; (4) that any deviation from its normal temperature interferes with the efficiency of the water; and (5) that changes in the temperature of the water, while not interfering with the therapeutic action of the contained salts, would greatly interfere with the gas content. [J M.S.]

6.—Thomas specially commends **suprapubic lithotomy** in preference to the perineal or crushing operation for the removal of vesical calculus in old men, with **enlarged prostates.** He reports 4 cases in which he successfully performed this operation. [M.B.T.]

7.—Will be treated editorially.

8.—Evans reports the case of a girl who was suffering from enteric fever and who in the fifth weak of the disease began to vomit a greenish, watery material. The pulse became much accelerated at the same time. During the sixth or seventh weak a patch of brownish discoloration was seen on the skin of the abdomen which rapidly increased in extent and in tone. The symptoms became worse and the patient died from asthenia in the thirteenth weak of the disease. There was no necropsy, but from the symptoms, vomiting, rapid pulse, and pigmentation of the skin, a diagnosis of Addison's disease was made. [J.M.S.]

9.—Marshall reports the case of a young man, aged 18 years, who was under **chloroform-anesthesia** for osteotomy of the neck of the femur. The operation had lasted about 10 minutes when the **patient suddenly stopped breathing.** The pupils were widely dilated and did not react to light, but the heart continued to beat. Artificial respiration was started and, since the patient's color and circulation seemed good, the operation was completed while artificial respiration was continued. About 10 minutes were required to complete the surgical procedure, and 10 minutes after that breathing was resumed as suddenly as it had ceased, the pupils returned to normal, and in 2 minutes the patient began to regain consciousness. A week later, the same patient was operated on under chloroform-anesthesia, and a wedge-shaped piece of bone was removed from the neck and the great trochanter of the femur. The operation lasted ¾ of an hour and was unattended by abnormal conditions. [J.M S]

10.—A female child, aged 1 month, came under observation on account of **inflammation of the umbilicus** of about 2 weeks' duration. Purulent discharge first appeared, followed by the formation of an ulcer with the peritoneum as its base. The edges of the ulcer were pared and sutured and union by first intention resulted. Little is said in textbooks about such affections and the prognosis is usually bad. [M B T.]

New York Medical Journal.

June 23, 1900. [Vol. lxxi, No. 25.]

1. Inflammation of Meckel's Diverticulum, with Resulting Gangrene of the Intestine, simulating Appendicitis. WILLIAM PERRIN NICOLSON.
2. Clinical and Pathological Observations on Some Early Forms of Epithelioma of the Skin. J. A. FORDYCE.
3. Rampancy, the Fervor of the Forehead. A Study of the Anterior Metopic Lobule. WALLACE WOOD.
4. Perimetric Diagnosis. J. W. SHERER.
5. The Advantages of the Pneumatic Cabinet or Differentiator in the Treatment of Phthisis Pulmonalis. J. CARLISLE DE VRIES.
6. The Value of the Tuberculin Test in the Diagnosis of Pulmonary Tuberculosis. J. M. ANDERS.
7. Iodin-bearing Drugs in the Treatment of Chronic Purulent Otorrhea. CARLE LEE FELT.

1.—In a few cases of **inflammation of Meckel's diverticulum** the symptoms and signs so closely resemble appendicitis that diagnosis is not possible. In the case described by Nicolson the patient was seized with severe abdominal colicky pains located principally to the left of the umbilicus. In spite of the usual anodyne remedies pain and nausea continued for several hours, although temperature and pulse were normal; calomel followed by magnesium sulfate was given, and on the following morning, there having been no action from the purgative, a glycerin-and-water enema was given which was returned unstained. Nausea and vomiting, but not severe, continued through the day, and during the entire day enemas and purgatives were given without result. Diagnosis of intestinal obstruction was made, and as the pain was located in the region of the appendix, this was thought to be caused by appendicitis. The case now assumed a grave aspect with hiccough and frequent vomiting, and on the third day operation was determined upon. The temperature was now 104° and the pulse 155. On opening the peritoneum a coil of distended intestine, jet black in color, was found, crossing the wound at right angle. The gangrenous portion withdrawn from the cavity was seen to be the small intestine, entirely gangrenous for 17 inches, with a blind tube about 5 inches long springing from the convex border. Both intestine and diverticulum were distended and full of black grumous fluid. There was no appearance of acute constriction; the intestine was resected and joined with a Murphy button, and on completing the operation the patient was put to bed in as good condition as when the operation was begun; there was at first improvement, but he died 18 hours after operation. The specimen proved to be Meckel's diverticulum, inflamed and gangrenous, though there was no evidence of band constriction and no obstruction in this sense. An interesting review of the literature concludes the article. [M.B.T.]

2.—Among the conclusions reached by Fordyce in his article upon **epithelioma of the skin** are the following: Secondary infection with pus organisms hastens the result so frequently encountered in superficial cancers; the rapid course and early implication of the lymphatics are features distinguishing the disease, as it affects the lips and mucous membranes, from rodent ulcer of the face; careful consideration of the mode of progression in carcinomas and the conditions underlying their development argue against the theory of a specific cause for these new growths. Such argument would likewise apply to the sarcomas, and such an hypothesis would imply that the infectious agent possessed remarkable selective power in giving rise to the types of tumor corresponding to connective tissue and endothelial and lymphoid structures. Each cell has in itself the possibility of division and subdivision, and may pursue a parasitic existence detached from its parent tissue, exciting the connective tissue to proliferation and attracting an outpouring of leukocytes. Various diseased conditions of the epithelium, such as prolonged irritation resulting in disturbance of the physiologic changes, in cornification and underlying alterations in the connective tissue, stimulating its growth and diminishing resistance to its downward development, are important factors. The process may be infectious but the agent producing the infection is probably the actively growing cells of the parent tumor. Symptoms of intoxication occurring in late stages of general cancer, when not due to secondary pyogenic infection, may arise from toxic products produced by cell-metabolism of the new growth. [M B T.]

5.—According to DeVries, the **pneumatic cabinet or differentiator** may be used to strengthen and develop weak and poorly expanded lungs, to arrest the earlier stages of pulmonary disease, and to prolong life with comparative comfort in those cases of pulmonary disease in which cure is impossible. [J M.S]

6.—See PHILADELPHIA MEDICAL JOURNAL, May 12, 1900, Vol. V, page 1073.

7.—In cases of **chronic purulent otorrhea** Felt uses an antiseptic wash until the discharge becomes slight. When this result is obtained he uses dry treatment, drying with absorbent cotton under suitable illumination and insufflating an **iodin-containing powder.** Sodomuth, a bismuth powder containing 25% iodin, is the best for the purpose. [J.M.S.]

Medical Record.

June 23, 1900. [Vol. 57, No. 25.]

1. A Memorial Address upon Dr. Fessenden Nott Otis. T. GAILLARD THOMAS.
2. A New Plan for Washing the Bladder, with a Description of Apparatus. WILLIAM F. FLUHRER
3. Ceruminous and Epithelial Impactions in the External Auditory Canal. SAMUEL KOHN.
4. Dampness of the Soil as a Factor in the Production of Human Tuberculosis. RICHARD COLE NEWTON.

2.—Fluhrer contends that in order to **wash the bladder** thoroughly it must be held in a state of comparative rest in any given capacity or in continued rest during the procedure. While the bladder is thus at rest the irrigating liquid must be more or less agitated, and thus spasm of the organ may be avoided, the procedure may be prolonged and the probability of disinfecting a foul bladder correspondingly increased. For thorough cleansing the bladder should be washed while filled sufficiently to smooth out its folds and expose all pouches and depressions to the action of the irrigant. Over-distention should be avoided unless for the special purpose of increasing the bladder-capacity. Usually in washing the bladder, care is taken not to have the end of the catheter project any distance into the cavity, since the collapsing bladder striking against the catheter may be irritated and thrown into a spasm. In the plan proposed by Fluhrer this restriction to the position to the end of the catheter is removed except while emptying the bladder. Indeed, with his instrument, when the bladder contains considerable liquid it is an advantage to have a free length of catheter in this cavity since the loose end then takes a different position and the currents of agitated liquid take different directions. The author illustrates and describes his apparatus, for a thorough understanding of which reference to the original article must be made. [M.B T.]

3.—A general description of the condition in which the author considers its etiology, symptomatology, diagnosis and treatment. [D L.E.]

4.—Newton describes some family histories to demonstrate the **dangers of dampness** about dwellings in the origination or perpetuation of tuberculosis. He believes that too exclusive attention has been given to the direct annihilation of the tubercle-bacillus; he thinks that we would do more good if we directed our attention to the importance of the surroundings of the patient, and the correction of vicious modes of life. He considers dampness and pollution decided factors in the production of tuberculosis. [D.L.E.]

Medical News.

June 23, 1900. [Vol. lxxvi, No. 25.]

1. A Protest Against Some of the Evils in the Profession of Medicine. WITHERSPOON.
2. Some of the Physiologic Methods and Means Employed by the Animal Organism in its Continual Struggle Against Bacteria for Maintenance of Life and Health. S. J. MELTZER.
3. Some Points in the Management of Obstetric Cases in Private Practice. JOSEPH BROWN COOKE.

1.—See PHILADELPHIA MEDICAL JOURNAL, June 23, p. 1419.
2.— " " " May 5, p. 1022.

3.—Cooke urges that an unremitting watch be maintained over the pregnant woman during the **entire course of the pregnancy.** The urine should be examined within a week of the patient's first visit and then monthly until the end of the seventh month of gestation, after which analyses should be made weekly or oftener if necessary, until labor has taken place. He refers to the importance of absolute asepsis and describes his method of history-taking. [W.K.]

Boston Medical and Surgical Journal.

June 21, 1900. [Vol. cxlii, No. 25.]

1. Realism in Medicine. A. T. CABOT.
2. Closing Statement for the Remonstrants to the Massachusetts House Bill No. 917, Entitled "An Act for the Further Prevention of Cruelty to Animals," Before the Joint Committee on Probate and Insolvency, March 15, 1900. HAROLD C. ERNST.
3. The Law of Dying Declarations. M. J SUGHRUE.
4. A Case of Extrauterine Pregnancy. FRANK HOLYOKE.
5. The Marks Produced by Pistol Shots. G. DE N. HOUGH.

2.—Science is having its troubles in Massachusetts. An **anti-vivisection bill** has been introduced, the provisions of which are summarized as follows: (*a*) The Secretary of State shall have power to grant and revoke licenses. (*b*) All places where experiments are performed shall be registered, and a detailed report of every experiment shall be submitted to the Secretary of State. (*c*) All persons licensed to experiment on living animals must be vouched for by competent medical authorities. The bill provides that the application for license must be signed by three physicians duly licensed to practise and actually engaged in practising medicine in the State of Massachusetts; and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery, leaving it out of the power of any professor of pathology, bacteriology, or hygiene to have any voice in the procuring of licenses for the workers in his special department. (*d*) The authorized agents of humane societies in Massachusetts shall be permitted to visit any registered place at any time and without previous notice. In the present, the concluding, article Ernst attacks this bill, and scores its supporters in clear-cut, convincing language. Some of the sponsors of the measure had never been near a laboratory, yet they were bitter in their denunciation of laboratory methods. [D.R.]

3.—It is a general rule in law that statements made by a third person are not admissible as evidence, but are within the class of hearsay evidence, and are usually excluded. To this rule excluding hearsay evidence there are some excep-

tions; among them are **dying declarations.** Dying declarations are statements of material facts concerning the cause and circumstances of a homicide, made by the victim under the solemn conviction of impending death. These declarations are often made to physicians, and sometimes lose their force because the physicians were unacquainted with the rules governing such statements. It will be found a most useful practical rule in these cases, first to ascertain the state of the mind of the dying person and afterwards to obtain an expression by him that he has no hope of recovery, then to listen to the recital of the story of the crime. Dying declarations are also admissible in Massachusetts, at least in abortion cases. [D.R.]

4.—Holyoke reports a case of **extrauterine pregnancy** resulting in death. The autopsy showed an enlarged uterus, the extreme length being 14 cm. The wall was thickened, the cervical portion measured 1 cm., the fundus 3½ cm., and the breadth of the fundus 8 cm. The interior of the uterus was lined with a soft, slightly shaggy and irregular membrane, varying in thickness from 2 to 4 cm., and somewhat folded. The cervix was dilated and filled with tough mucus, the glands about the orifice being large and distended with the same material. On the left side the tube and ovary were normal. On the right side the tube was normal for a few cm., and then was lost on the surface of a sac 21½ cm. in diameter. There were no adhesions between the uterus and the tumor, which was cystic in character and lay between the folds of the broad ligament. On the upper part the covering was more or less torn and revealed a shaggy mass, which was divided into two parts—one measuring about 7 cm., in which there was considerable hemorrhage; and the other about 5 cm. in diameter, which was pale and bloodless. This shaggy coat was partly lifted up and revealed a fetus, of apparently about the sixth month, lying in an unruptured amniotic sac. The fluid surrounding the fetus was of a dark bluish-red color. No ovary could be detected on this side. The diagnosis was a retroperitoneal pregnancy, originating in the tube, and apparently about the sixth month. A decidua was present in the uterus. [W.K.]

5.—Hough has carried out a series of experiments **with revolvers** to ascertain what inferences could be drawn as to caliber of weapon and the distance at which it had been fired from the mark produced upon the skin or clothing. The results show that the same range with similar ammunition produced the same mark. The mark consists of the bullet-hole, the burn, the smut, and the tattoo. Beyond a certain distance the pistol-mark consists only of a bullet-hole. As the target is approached the tattoo begins to develop and consists of unburned powder. At from 15 to 18 inches the aggregation of powder-grains immediately about the bullet-hole makes a distinct black spot which is called the smut, the burn appears at the same time. If the range is still smaller the smut and burn become larger. The caliber of the weapon can only be determined within certain limits, and for practical purposes one must have a library of experimentally produced marks as a standard for comparison. [G.B.W.]

Journal American Medical Association.

June 23, 1900. [Vol. xxxiv, No. 25.]

1. A Protest Against Some of the Evils in the Profession of Medicine. Oration in Medicine. J. A. WITHERSPOON.
2. The Ideal Physician. W. W. KEEN.
3. Should the Medical Undergraduate be Instructed in the Principles of Dentistry? M. L. RHEIN.
4. The Handwriting on the Wall: What Does It Portray? A. E. BALDWIN.
5. Limitations in Dental Education. EUGENE S. TALBOT.
6. Is a Medical Education a Necessary Qualification for Dental Practice? ALICE M. STEEVES.
7. Some Thoughts on Teaching Materia Medica and Therapeutics, Emphasizing Object Teaching. A. H. PECK.
8. Pathology of Acquired Heart Disease in Children. J. DUTTON STEELE.
9. Symptomatology of Valvular Heart Disease in Children. FREDERICK A PACKARD
10. Prognosis in the Heart Diseases of Children. ARTHUR V. MEIGS.
11. Pathology of Congenital Heart Disease. ALFREED HAND, JR.
12. Diagnosis of Heart Disease in Children. J. P. CROZER GRIEFITH.
13. Report of Case of Primary Carcinoma of the Liver. R. C HARRIS.
14. Venocavernous Angioma. ANDREW L. FULTON.
15. Myomectomy During the Sixth Month of Pregnancy. EUGENE R. LEWIS.

1.—See PHILADELPHIA MEDICAL JOURNAL, June 23, 1900, page 1419.

8.—Steele in speaking of the **fatality of heart disease** accompanying rheumatism in children quotes Lees as saying that out of 115 deaths 35 occurred during the first attack. Death as a rule was not due to endocarditis but to dilation, especially when combined with pericarditis. **Myocarditis** was present in more than ⅓ of the cases coming to autopsy. **Pericarditis** was present in 106 out of 115 fatal cases. In the acute infectious diseases myocarditis is of more frequent occurrence than other affections of the heart. This is true of diphtheria as proved by Hallwacks, and of scarlet fever as proved by Romberg. Friedlander is quoted as saying that in children dilation and hypertrophy is almost never absent in **scarlatinal nephritis,** the left side of the heart being most affected. Measles appears to have little or no effect on the heart of children. Congenital anomalies have their effect on the heart of children by throwing extra work on some portion of the organ. Dilation of the heart without hypertrophy is rare in childhood. Hypertrophy of the left ventricle is less marked, and hypertrophy of the right ventricle more marked in children than in adults. Failure of compensation, once established, is rare in children. Insufficiency of the mitral is by far the most common chronic lesion in children and aortic disease is rare. [M B.T.]

9.—Packard says only by careful physical examination alone can we be certain or be reasonably safe in presuming there is absence of **heart lesions in children.** The very absence of symptoms makes the study difficult and interesting. This is accounted for by the ability of the youthful heart-tissue to adopt itself to abnormal conditions, and the fact that the child obeys its instincts calling for rest or exercise, while the adult does not. Out of 78 cases examined the following is summarized: Of 56, 29 had had shortness of breath, 10 palpitation, 9 edema of the legs, 7 precordial pain, 6 epistaxis, 5 had complained of headache, a like number had been anemic, 4 had complained of abdominal pain, the same number had some cyanosis, and 4 had had blood-spitting. Only 3 had mentioned the presence of cough on lying down, or of vertigo, while other symptoms mentioned in only one or two cases were anorexia, persistent cough, night cough, fainting spells, weak spells, listlessness, edema of the face, gastrointestinal disturbance, loss of flesh, vomiting, cold hands and feet, and pain between the shoulders. Of the patients with dyspnea, the youngest was 3 years of age, most of them (17) being over 8 years of age. The reason for this is probably the greater incentive to boisterous play when the child reaches the latter age. Precordial pain was not noted in any child below the age of 6 years, a fact probably explained by the vague location of pain in those below that age. The youngest patient in whom edema of the legs was noted was about 6 years. Chronic endocarditis is in a sense a misnomer; the acute process lasts long after the cause has disappeared. There can be no sharp line of distinction between them. Heart-lesions may exist in children, without distinct symptoms. [M.B.T.]

10.—Meigs, in speaking of **heart-lesions in children,** says the prognosis is a phase little discussed by books. Prognosis should be more hopeful in children than in adults. Children often outgrow a heart lesion. A woman, now 34 years old, had acute endocarditis during the course of an attack of measles with which she suffered when she was 8 years old. After recovery from the acute attack, and for some years afterward, there was a blowing systolic murmur at the apex of the heart, with increase of force of the cardiac impulse. Gradually these evidences of disease of the heart have disappeared and the patient is now healthy. Another woman, now 23 years old, had a violent attack of acute chorea with endopericarditis when she was a child of 8. There was a murmur that could be heard at the distance of a yard from the child's body. There was almost constant and very violent muscular twitching. The child was confined to the house from the early part of January until May.

After her recovery from the acute attack, there was a blowing systolic murmur at the apex of the heart, with irritability of the cardiac action. These signs continued for some time. The patient is now healthy and active, and careful physical examination fails to reveal any definite evidence of disease. The gravest prognosis should be given when there is great enlargement of the heart, for such cases almost always prove fatal, but comparatively little importance need be attached to heart-murmurs in childhood. Hypertrophy of the heart does not seem a compensatory condition, for all such hearts have degenerated walls. [M.B T.]

11.—Alfred Hand says that no classification of **congenital heart-disease** is entirely satisfactory, some being too broadly comprehensive, others but a detailed enumeration of lesions found. He considers that the principal congenital lesions arise from faults of development and fetal endocarditis. The latter may be caused by disease, such as rheumatism or syphilis in the mother, or it may arise without such disease. The right side is more frequently affected than the left, the reverse being true in extrauterine life. Heredity is claimed by some to play an important part in producing congenital heart-lesions. With reference to anatomic lesions Holt's summary was given, the order being that of the frequency with which the lesions were present in 242 cases: defect in the ventricular septum; defect in the auricular septum or patent foramen ovale; pulmonary stenosis or atresia; patent ductus arteriosus; abnormities in the origin of the great vessels; pulmonary insufficiency. The most frequently associated lesions were: pulmonary stenosis with defect of the ventricular septum; pulmonary stenosis with defect of the auricular septum; defect in both septums; pulmonary stenosis with defects in both septums. [M B T.]

12.—Crozer Griffith says the **heart-lesions of children** are congenital and postnatal. Symptoms of the former are cyanosis, clubbing of the fingers, thrill, characteristic murmurs, and the absence of any great enlargement. The murmurs are loud, rough and intense, and heard loudest at the base of the heart, and at the aortic and pulmonary cartilages. The value of certain signs of postnatal heart-lesions is considered. Edema is a suspicious symptom, but other than heart-lesions cause this. Faintness, precordial pain, palpitation and cough the author considers not especially important symptoms. Decided anemia is important. Murmurs do not necessarily indicate disease, and lesion of the heart may exist without murmurs. The fact that the pulmonary second sound is unusually loud in children in health must be borne in mind. Hypertrophy and dilation as a result of valvular lesion become extremely marked in childhood. In mitral insufficiency we have enlargement of both ventricles, particularly the right, and accentuation of the second sound. Mitral stenosis causes enlargement of the right side, but usually not the left, and the pulmonary second is greatly accentuated. Avoid making a diagnosis from the presence or nature of murmurs alone; remember the altered position of the right side of the heart and of the apex-beat in childhood; remember that an accentuated pulmonary second sound is normal, not pathologic; that compensation is acquired very easily in childhood, and that the absence of symptoms does not prove the absence of cardiac disease; that the most suggestive symptom is dyspnea, and that edema must be studied most carefully before it becomes of value as a diagnostic symptom. [M B.T.]

13.—R. C. Harris reports a case of **primary cancer of the liver,** occurring in a man of 57. Pain and a dragging sensation of varying degrees of intensity persisted for 2 years. The man died, and necropsy revealed a primary carcinoma of the liver. Microscopic examination showed it to be an adenocarcinoma. [M B.T]

14.—Andrew Fulton reports a case of **venocavernous angioma** for which the arm of a man of 48 was amputated. A few months after birth it was noticed that the right arm was unlike the left. At 4 years there was marked discoloration along the superficial veins. This gradually increased, the veins becoming larger, but the patient continued to do farm work till 22. After that he had to carry the affected arm above his head much of the time. Some 6 weeks before the amputation he had a violent hemorrhage from this arm. Amputation was done, and the patient made a good recovery. The humerus of the amputated arm showed erosions. [M.B T]

15.—Eugene R Lewis reports a case of **myomectomy during the sixth month of pregnancy.** The tumor was as large as an orange, and situated superior and anterior to the tube on the right side. A long incision in the tinia alba allowed the extrusion of the gravid uterus. A mistake in diagnosis led to the operation, as the tumor was thought to be connected to the tube and not to the uterus proper. One of two things had to be done—return the mass and close the abdomen, or try to remove the growth from the uterus. An incision was made over the tumor and it pulled out. Very deep sutures were employed to control the bleeding; then iodoform gauze applied, one end being carried out through the abdominal incision. The gauze was removed on the fourth day, and the patient made a good recovery, She was delivered at full term without forceps. The placenta appeared to be attached immediately beneath the tumor, the remainder of the uterine wall being very thin apparently. [M.B T.]

Archives of Pediatrics.

May, 1900. [Vol. 17, No. 5]

1. The Ambulatory and Hospital Management of the Gastro-intestinal Derangements of Infancy. HENRY KOPLIK.
2. The Care of Premature Babies in Incubators. JAMES D. VOORHEES.
3. Tuberculosis of the Female Genital Tract in Children. MARTHA WOLLSTEIN.
4. The Application of a Rational Surgical Technic to the Removal of the Foreskin. LEONARD WOOLSEY BACON.
5. Occasional Periscope of Teratology. J. W. BALLANTYNE.

1.—Koplik believes that the **ambulatory treatment of summer diarrhea** is thus far the most satisfactory. The infants usually do badly when confined in hospital. When treated in dispensary it is necessary that they should be carried out into the open air once or twice daily in order to reach the dispensary and this of itself is valuable. He describes the methods used in his dispensary, stating that the milk laboratory now feeds fully 200 infants daily all the year round. He considers this department of feeding the most important in the treatment, and thinks it should be established in connection with every dispensary. The solution of the problem of caring for poor infants he believes will be through the establishment of a colony or cottage or camp system much like that used in the treatment of pulmonary tuberculosis. He suggests that primitive huts might be built inland rather than near the sea, each hut to contain one or two beds, and that treatment should be conducted in such a colony. It is very easy to isolate cases under these circumstances if infections or other conditions require it. [D.L.E]

2.—Voorhees discusses the methods that have been used at the Sloane Maternity Hospital. They divide the **premature infants** into those that are treated as babies at term, those wrapped in cotton, and those placed in the incubator. He believes that it would be best if the majority of premature babies were placed in the incubator, but the number of incubators has been too few. It is better to consider the general condition of the baby in deciding upon incubation rather than the supposed age, weight, length, etc. The best incubator is probably that devised by Lion, which is described. The best temperature is also 86° to 92° F. The baby should be made to cry, the cord tied quickly, it is weighed, anointed with albolene, and dressed without bathing, not being wrapped in cotton. It is then placed in the incubator, and not removed excepting to be weighed or to nurse, and the latter should not be permitted until it is thriving. It should be kept in an incubator until it has reached full term, or longer if it seems wise. The nourishment for 24 or 36 hours should be 5% or 6% of lactose in distilled water, giving a half dram to a dram every hour. After this, breast-milk is added in equal parts, preferably taken from a wet-nurse. The amount is increased so that at the end of a week the child should be taking from 6 drams to an ounce of the mixture. At the end of 2 weeks it may often be put on pure breast-milk. They are best fed from a bottle as soon as possible. Gavage is likely to be dangerous. They have not found laboratory milk satisfactory for premature infants, and they rely mainly on diluted breast-milk. There should be great care to avoid infection. He considers 106 **incubator babies;** 29 died within 4 days, all but 3 of them being more or less asphyxiated at birth; 77 sur-

vived the first 4 days. The general statistics were as follows: Of 6½-month babies, exclusive of those that died within the first few hours, 66% were saved; 71% of the 7 month babies, 89% of the 7½-month babies, 91% of the 8-month babies. If all cases, including those that died quickly, were considered, the percentages saved were as follows: 6½ months, 22%, 7 months, 41%, 7½ months, 75%, 8 months, 70%. There are extensive tables giving the details of the treatment. [D.L E.]

3.—Wollstein describes the case of a girl, 2 years old, in which the child had had a purulent vaginal discharge for several weeks before death, but it had not been investigated pathologically. At the autopsy bronchopneumonia of the lung with scattered miliary tubercles, cheesy bronchial glands, and tubercles in several of the other organs were found. There was a fluctuating mass in the right broad ligament which contained green pus; the fallopian tube to the left was dilated to 3 times its normal size, and both tubes contained cheesy material. Microscopic examination showed cheesy material in the right ovary which contained tubercles, and the mucous membrane of both fallopian tubes showed tubercles. The wall of the pelvic abscess was tuberculous. Tubercle-bacilli were found in sections from both tubes, the peritoneum, and the lungs. In all 18 cases of tuberculosis of the genital organs in children have been described. In no other was there a pelvic abscess. **Tuberculous peritonitis** is noted in every case involving the tubes, uterus and ovaries, but did not occur in the 6 cases affecting the vulva or vagina, and in the remainder involving the genital tract. The tubes were involved in 10 cases, and the uterus in the same number. Vaginal ulcers occurred in 5 cases. The order of frequency of involvement is as follows: Tubes, uterus, vagina, vulva, ovary, cervix. The genital lesion may be primary or secondary. [D,L.E]

Edinburgh Medical Journal.

May, 1900. [N. S. vii, No. 5.]

1. Points of Practical Interest in Surgical Gynecology. I. Some Points in Gynecological Asepsis. H. MACNAUGHTON JONES.
2. On the Mechanism of the Intestinal Movements and on Reversal of the Intestine. J. L. BUNCH.
3. The Clinical Varieties of Visual Aphasia. W. ELDER.
4. Some Practical Observations on the Early Diagnosis of Cancer of the Stomach. CARSTAIRS DOUGLAS.
5. Observations on the Excretion of Nitrogen in Rheumatoid Arthritis. WILLIAM BAIN.
6. Optic Neuritis in Children. LESLIE BUCHANAN.
7. A Case of Transverse Myelitis, showing an Abnormality of the Spinal Cord. WALTER K. HUNTER.

1.—Jones advocates the most thorough attention to the **details of asepsis in gynecologic surgery.** He enumerates categorically the most common points of neglect in the preparation for operation: 1. Failure to properly sterilize the rectum and vagina for at least 48 hours before operating. 2. The want of a thorough cleansing of the entire body of the patient. 3. Defective shaving of the hair from the external genitals after the final bath has been taken, and failure to follow this by proper packing of the abdomen with an antiseptic pad. 4. Want of attention to the clothing of the patient as to warmth and cleanliness when placed on the operating table. 5. Inefficient sterilization of the abdomen (especially of the umbilicus) and of the vagina. 6. Inefficient sterilization of the hands and arms of the surgeon, assistants, or nurses, or, subsequent to their sterilization, the touching or handling of nonsterilized articles. 7. Failure may be consequent upon imperfectly sterilized sponges, gauze compresses, instruments, or in imperfection of the abdominal or vaginal toilet. Jones recommends, as the ideal anesthetic, nitrous oxid gas and ether, and claims that only on the rarest occasions does it cause shock, sickness, respiratory or heart complications; nor is sickness a frequent after-occurrence. He had but two deaths in obstetric and two in surgical cases during an experience of more than 20 years, covering many hundred cases, and he believes this result is due to his strict adherence to Listerian methods. [W.K]

2.—Bunch classifies **intestinal movements** as (1) myogenic rhythmic contractions; regular pendulum movements, traveling along the wall of the intestine at the rate of 12 per minute, and from 2 to 5 cm. per second; (2) peristaltic wave, and (3) a form of intestinal contraction that travels, both upward and downward, 90 times as fast as the peristaltic wave. The last variety is seen only when the intestine is in a very excitable condition. [J.M S.]

3.—Elder divides **visual aphasia** into 2 **clinical varieties:** 1. Pictorial word blindness, cortical alexia, or pictorial visual aphasia, which manifests itself by the inability of the patient to read to himself, to read aloud, and to understand written or printed words or letters. The patient also very distinctly shows agraphia. He is not able to write spontaneously, nor to dictation. If he copies, he simply traces, as he would a drawing. If uncomplicated he sees objects and the like quite well. 2. Suprapictorial word-blindness or subcortical alexia, which manifests itself by the inability of the patient to read to himself, to read aloud and to understand written or printed words or letters. He is, however, able to write spontaneously and to dictation, but only copies as he would a drawing. He cannot convert printed into written forms. He may see objects, etc., quite well, but hemianopsia is frequently present. The work of Bastian shows that visual impressions are registered in the right angular gyrus as well as in the left, and this would explain why it is comparatively rare to find complete visual aphasia for all letters and also why figures and other specialized visual memories escape when longer and least familiar words may have been blotted out. Another point of equal or greater importance than the mere registering of specialized visual impressions on the right side is that the elaborate associations have not been established on the right that have been on the left side. This seems to be the most important factor in determining the onesided nature of the speech-faculty. Probably, therefore, individuals vary greatly in the relative importance of the two angular gyri in their visual speech-reception, and hence the variations in the symptoms of individual cases. Four illustrative case-histories are included in the article. [J.M.S.]

4.—Little information of real clinical value can be gained in the **early diagnosis of carcinoma of the stomach** from the etiologic factor. The leading symptomatic indications are (1) nausea, feeble digestion, and vomiting, generally preceding hematemesis; (2) pain, which is often present early, is frequently constant in character, is aggravated by the ingestion of food, and is not relieved by vomiting; (3) loss of flesh with concomitant loss of bodily vigor; (4) hemorrhage, which is scanty and irregular and which consists of altered blood; and (5) failure of appetite. Physical examination will show sallow or cachectic skin and anemia with occasional leukocytosis; inspection may reveal the presence of the peristaltic wave; palpation may reveal a tumor; percussion is of little avail; auscultatory percussion with help to outline the stomach-area; chemic examination will show absence of free hydrochloric acid in the vast majority of cases. Lactic acid may be present, but is not in itself an indication of malignant disease. Douglas advises exploratory incision if the patient does not improve under general medicinal and dietetic treatment. [J M S.]

5.—Bain as an average of 7 **urinanalyses** of 24-hour specimens in a case of **rheumatoid arthritis** gives the following figures: Total daily quantity, 1235 cc.; urea, 18.856 gm.; uric acid, 0.266 gm.; P_2O_5, 0.986 gm.; alloxur bases, 0 033 gm.; ammonia, 0 397 gm. The uric acid was diminished and the output of P_2O_5 was also lessened. J.M S.]

6.—Buchanan concludes that unless another distinct cause can be found **atrophy** or inflammation **of both optic nerves in a child** or young person, accompanied by enlarged cervical glands, is an indication of antecedent or present tuberculous meningitis or tuberculoma of the brain. [J.M.S]

7.—Hunter reports the case of a man, aged 45 years, who died of **transverse myelitis** due to the diplococcus of Fränkel. The spinal cord showed softening in the thoracic region, with an accessory portion or offshoot composed both of gray and white matter. The malformation is thought to be an artefact. [J.M S.]

Münchener medicinische Wochenschrift.

March 20, 1900. [47. Jahrg., No. 12.]

1. A Method of Determining the Hydrochloric Acid in Combination in the Gastric Juice. O. COHNHEIM and H. KRIEGER.

2. The Indications for Operation in Appendicitis. A. SCHMITT.
3. A Case of Injury of the Spinal Cord Through Fracture of the Vertebra, with a Description of an Apparatus for Paralysis of Both Lower Extremities. HANS LENGNICK.
4. Local Treatment with Alcohol in Gynecology. LUDWIG SEITZ.
5. Flexible Aluminum Splints. STEUDEL.
6. A Case of Acute Cocain Poisoning. BERGMANN.
7. Hemorrhoids in Early Childhood. BURWINKLE.
8. A Danger of Unsuitable Gonorrheal Syringes.
9. Miscellaneous Gynecological and Oostetrical Cases. R. KOSSMANN.

1.—Part of the **hydrochloric acid** secreted by the stomach combines with the albumins to form salts that are acid in reaction. When to the hydrochlorate of an albumin phosphotungstic acid or a salt of phosphotungstic acid is added, the insoluble phosphotungstate of albumin is precipitated and the acidity is diminished. If the acidity that was present was dependent entirely upon the hydrochlorate of albumin, the reaction will be neutral; if there was free hydrochloric acid present as well, the acidity will be diminished, to the amount of the acid that had been combined with the albumin. Upon these principles the authors have based their test. They determine in the stomach-contents the total acidity and the free hydrochloric acid, using 10 cc. for each test. Another 10 cc. they precipitate with phosphotungstate of calcium. The latter is prepared by adding to a boiling 4% solution of phosphotungstic acid enough carbonate of calcium to render the solution neutral. The precipitate is filtered off, and the acidity determined in the clear filtrate, using rosolic acid or phenolphthalein as an indicator. The difference between this acidity and the total acidity indicates the amount of combined hydrochloric acid. [D.R.]

2.—Schmitt, in speaking of **indications for operation in appendicitis,** says that a large abscess either paratyphlitic or perityphlitic, demands imperatively operative interference. Immediate operation is demanded if the abscess has already ruptured into the abdominal cavity and every moment lost makes the case more desperate. In cases of severe perityphlitis with less marked local symptoms the question of operating is more difficult to decide, but it may be said that cases which in spite of proper medical treatment do not markedly improve in the course of a few days should be operated on; and in those which show improvement operation is best left undone, provided there is no sudden return of the symptoms. In the recurrent form during the height of the second attack the indications should be the same as in the primary attack, and when the operation is not undertaken the appendix should be removed during the interval. [G.B.W.]

3.—Lengnick reports a case of **fracture** of the **twelfth dorsal vertebra,** due to direct force, the patient falling and striking his back on a tranverse beam. There was sensory and motor paralysis of the lower legs, and loss or control over the bladder and rectum. Nine weeks after the accident laminectomy was done, and the pressure caused by a piece of the vertebra was relieved by removing the fragment. It was seen however that there was a transverse yellowish white scar on the cord, evidently the result of traumatism, so that hope of relief from the paralysis was not bright. Still, considerable improvement in rectum and bladder followed the operation. The patient was fitted with a supporting apparatus which enabled him, with the help of a Volkmann's bench for his hands, to move about over the floor for an hour or more at a time. [G B W.]

4.—Seitz made a series of experiments at the University Hospital of Munich, in the use of **alcohol locally** for such diseases as **retroflexion, periparametric exudates,** tumors of the adnexa, and tuberculosis of the peritoneum. He first tried external application to the abdomen with pads saturated with 96% solution of alcohol. The results being mostly negative, he then upon another group of cases used vaginal tampons saturated with 30% solution of alcohol with favorable results in only 1 case out of 6. In his experience he found that the claims of Buchner that by alcohol therapy there could be a regulation of circulation, a more rapid absorption of exudates and a bacteriological action in consequence of hyperemia, were not verified; and not only were favorable results wanting, but when applied by vaginal tampons the use of alcohol was positively injurious to the vaginal mucous membrane; and only in one case of chronic metritis and endometritis did the alcohol treatment appear suitable and of real value. [W.K.]

5.—Steudel employs **strips of aluminum** 3 5 mm. thick and 15 mm. broad for giving support to plaster casts and where fenestrations are wanted for bridging over the spaces. He also uses two wrenches with which he can bend the strips into any required shape. [G B W.]

6.—Bergmann in a case of **sciatica** injected 1 cc. of a 5% solution (.05 gram) of **cocain** into the gluteal region, striking the nerve. The pain was almost instantly relieved. There was a slight return in the calf the next day, and he injected, .03 gram into the calf. Within 3 minutes marked symptoms of poisoning developed. The patient grew faint, consciousness became clouded, clonic spasms occurred in the arms and legs, except the one which was the seat of the sciatica; there was violent palpitation, prominence of the eyeballs, dilation of the pupils, loss of reflexes. Upon applications of ice to the precordia and the administration of coffee, the patient gradually recovered. The author believes that the toxic effect of the small dose was due to his having probably penetrated a vein on the second injection, throwing the cocain directly into the circulation. [D R]

7.—An **infant** 5 weeks old, suffering from constipation, developed two **hemorrhoidal nodules** at the margin of the anus. [D.R]

8.—The patient had an attack of gonorrhea lasting 3 weeks, which was followed by epididymitis and then by an **abscess of the prostate** which broke into the rectum making a recto-urethral fistula. The cause of this severe infection was evidently due to a faulty method of injecting the urethra. The patient had a phimosis and because of the difficulty in inserting the syringe into the meatus itself was accustomed to ballooning the foreskin and allowing the fluid to make its way into the urethra. Particles of smegma and putrid epithelium might thus be easily washed back to the prostate and there set up a severe infection. The rectal urethral fistula in this case healed spontaneously. [G.B W]

9.—In conclusion Kossman reports a case of **continual bleeding from the abdominal cavity** through the tubes and uterus, from a follicular **hematoma** of the left ovary; a case of paralysis of the nonpregnant uterus; and two cases of death in consequence of gonorrhea, causing gonorrheal peritonitis. [W.K.]

March 27, 1900. [47. Jahrg., No. 13.]

1. Agglutination. MARTIN HAHN and RICHARD TROMMSDORFF.
2. Pseudomucin from Ovarian Cysts. ZANGERLE.
3. Nervous Disturbances of the Heart and Tneir Relation to Military Service. J. BAUER.
4. Pathologic Equivalents. ERNEST SCHULTZE.
5. The Early Diagnosis of Pulmonary Tuberculosis. Puncture of the Lung for the Aspiration of Tubercle Bacilli. M. HENKEL.
6. Addison's Disease. L. HUISMANS.
7. The Operative Exposure of the Heart by Rotter's Method for Gunshot Injuries. CARL STERN.
8. Epigastric Hernia. EICHEL.
9. Is the Zeiss-Thoma Chamber for Blood Count Independent from External Air-Pressure. C. F. MEYER.

1.—Hahn and Trommsdorff have found a method of extracting from agglutinated typhoid bacilli the agglutinizing substance. They succeeded in this by digesting the bacteria with $\frac{1}{100}$ normal sodium hydrate solution or with $\frac{1}{100}$ normal sulphuric acid solution. [D R]

2.—Zangerle concludes, as Pfannenstiel has shown, that the **pseudomucin of the ovarian cyst** is a product of the goblet cells which are found on the walls of the cyst, and that the mucin of respiratory passages and salivary glands as well as albumen of egg, is a product of glandular activity; also the twin substance, glucosamin, all forming a group of bodies which are the secretory product of cells and indeed of glandular cells. [W.K.]

3.—Bauer refers to the **irritable heart of soldiers** so well studied by American physicians during the Civil War, and by Germans in the Franco-Prussian War. He does not believe that it need prevent men from performing military

duty, and thinks that by proper exercise the heart can be strengthened to meet the demands made upon it. [D.R.]

4.—The first patient reported by Schultze suffered from **ambulatory automatism,** and on several occasions came before the military courts for desertion. He made no defense, but simply said that an uncontrolable desire to run away had overpowered him. During one of the attacks he left the barracks, went into town, exchanged his uniform for civilian dress, traveled to Antwerp, and went on board a ship. Not until he was on the high seas did he become conscious of his act. On several occasions he was arrested for theft. He did not deny his guilt and had no explanation to make. As there could be no possible motive for his deed, and in view of the previous history of imperative vagrancy, an expert opinion was demanded. He had had a severe attack of scarlet fever in childhood. There was a scar on the scalp which was very sensitive; it was the result of a fall. The attacks of vagrancy were always preceded by severe headache and curious sensations in the head; at times by vertigo. There were never any convulsive attacks. Sometimes he was very irritable and wrathful, and on such occasions he was also much depressed and his memory somewhat impaired. It was concluded that the man, although he had not had typical epileptic attacks, was an epileptic, and that the ambulatory seizures were **epileptic equivalents.** The peculiar feature in the second patient was the nature of the aura which consisted in an auditory hallucination; he heard voices clearly and distinctly, and after the attack he would distinctly remember what the voice had said, usually a reprimand of some sort. At times he had these hallucinations without the subsequent convulsive seizure. Occasionally the attacks were inaugurated by a **psychic aura.** He had a feeling as if everything he saw was not new to him—was a repetition of some previous experience; or he would believe that he was in some locality about which he had just been reading. These sensations would usually, but not always, be followed by a convulsion. The author looks upon them when occurring without convulsion as epileptic equivalents. [D.R.]

5.—In a case of cough without expectoration in which tuberculosis was suspected, and in which the tuberculin gave a negative result, the author **aspirated the lung** with a Pravaz syringe, and found tubercle-bacilli in the fluid on staining; a guineapig inoculated with some of the material became tuberculous. Cases of incipient tuberculosis often present sputum only in the beginning, the expectoration disappearing with rest in bed. If the sputum is not examined at the first opportunity the diagnosis may not be possible. In these cases there are always slight evening rises of temperature. The first physical signs appear usually in the supraspinous and infraspinous fossae, between the shoulder blades, and anteriorly in the infraclavicular fossae. These first signs are auscultatory, and are a dry, squeaking, or crackling noises of a musical quality, heard generally at the end of expiration. Turban has compared them to the whining of young dogs. In another case of doubtful tuberculosis the sputum was inoculated into a guineapig which developed the characteristic lesions of experimental tuberculosis. Regarding **aspiration of the lung for diagnostic purposes,** the author believes that when examination of the sputum fails to yield satisfactory results, aspiration is justifiable. He has never seen any bad effects from it. It must be done slowly and with short pauses. Minimal quantities of fluid suffice for a bacteriologic examination. Only in rare instances is the subsequent sputum blood-tinged. A slight rise in temperature occasionally occurs. The method may prove of value in those cases of croupous pneumonia that do not resolve, but pass on to caseation; in them the sputum frequently contains no tubercle-bacilli. The best place for the puncture is where the physicial signs are most marked. [D.R.]

6.—A casuistic report of five instances of **Addison's disease** which came under the author's observation during the short period of one year. [D.R.]

7.—Stern reports a case of **bullet wound of the heart.** The patient when first seen was in such a low condition that the pulse, 120 to the minute, was scarcely perceptible at the wrist, he was blind from anemia and suffered greatly from thirst. As his condition grew worse rather than better it was decided to lay bare the heart. As advised by Rotter, a four-cornered osteoplastic flap, including a part of two ribs, was turned inwards from over the region of the heart. The pericardium was then incised and the heart brought to view. No wound of the anterior surface could be seen, so the organ was turned a little outward and to the left, but during these manipulations the heart itself became so embarassed that a further hunt for the wound had to be given up and an endeavor to check the hemorrhage by packing with gauze resorted to. The patient died about half an hour after the operation. At the postmortem it was found that the bullet had entered the right auricle, passed through the septum atriorum and thence perforated the left auricle. In this case the diagnosis of injury to the heart was comparatively easy because of the position of the entrance wound and the presence of the characteristic swishing murmur heard in cases or cardiac wounds. [G.B.W.]

8.—**Hernia epigastrica** is situated between the xiphoid cartilage and the umbilicus, generally in the middle line, and it is generally of small size. Sometimes the hernia is covered with peritoneum and sometimes it lies free directly under the skin. The contents of the hernial sac may grow fast to the sides of the opening, for a greater or less extent, and when the omentum is the viscus protruded, which is generally the case, it is most difficult to distinguish the proper relation of the parts. As for the etiology, outside of the very rare cases of congenital origin, there are two possibilities; (1) a small lump of properitoneal fat may find its way out alongside of a perforating bloodvessel dragging the peritoneum with it, or (2) a slight or greater trauma may cause a subcutaneous laceration of the abdominal wall, with or without tearing of the peritoneum, and through this opening the protrusion of the viscus takes place. The diagnosis is based on the disturbances in the functions of the gastrointestinal tract, tenderness in the epigastrium and the presence of a tumor in the middle line between the xiphoid cartilage and the umbilicus. The only proper treatment for these cases is operative. The tumor should be laid bare, adhesions broken up, the omentum resected or restored to the abdominal cavity, the hernial opening closed, and the cutaneous wound sutured. G.B.W.]

9.—Meyer has repeated Gottstein's experiments with the Thoma Zeiss hemocytometer (see PHILADELPHIA MEDICAL JOURNAL, Feb., 24, 1900) and has come to an opposite conclusion, viz., that the hemocytometer is **independent of atmospheric pressure** and that Meissen's modification is no improvement. [D.R.]

Deutsche medicinische Wochenschrift.

April 19, 1900. [26. Jahrg., No. 16.]

1. The Treatment of Obesity. WILHELM EBSTEIN.
2. The Growth of Bacteria. FEINBERG.
3. Bacteria Similar to Tubercle Bacilli in Gangrene of the Lungs. LYDIA RABINOWITSCH.
4. Epidermolysis Bullosa Hereditaria. OTTO MICHAELSEN.
5. Isolated Paralysis of the Subscapular Nerve. A. HOFMANN.
6. An Unusual Dislocation with Fracture of the Femur. REICHENBACH.
7. Multiple Melanosarcoma with Peculiar Complications in Both Eyes. A. WAGENMANN.
8. Bacteria of the Stools of Infants. H. FINKELSTEIN.
9. The Toxicologic Position of Certain Plants. G. LEWIN.

2.—Feinberg claims to have demonstrated by special method of staining the presence of **nuclei in bacteria.** The staining is carried out by fixation in absolute alcohol, then placing in eosin methylene-blue mixture. The preparation is left about 20 minutes in the stain. It is then washed and placed in absolute alcohol to remove the excess of stain and the precipitate. This takes several minutes. He now reports that he has been able to observe multiplication of bacteria, by division of the nucleus, followed by division of the body. This he has seen repeatedly in cultures of the diphtheria-bacillus, and also of the hay-bacillus, so that he believes that it may be considered proved that bacteria multiply by direct amitotic nuclear division. [D.L.E.]

3.—Rabinowitsch describes the case of a man who was supposed to have chronic bronchitis. The sputum contained no tubercle-bacilli. Toward the latter part of life he had signs of **gangrene of the lung,** and postmortem showed

a cavity filled with gangrenous material without any other signs of tuberculosis. In the last few days of life the sputum was discovered to contain bacteria which had the same staining characteristics and the same morphology as the tubercle-bacillus. Injection into guineapigs, however, did not produce tuberculosis. Mice also remained free from the disease. Evidently, then, this is a bacillus resembling the tubercle-bacillus, but it is not the tubercle-bacillus. The cultures were different from the latter. This is the first instance in which a bacillus of the tinctorial characteristics of the tubercle-bacillus, but which was not this bacillus, has been discovered in the sputum. [D.L.E.]

4.—The disease discussed is rare. The case reported occurred in a girl of 17 who had had **bullous eruptions** since her childhood. Eruptions were usually excited by work, and appeared regularly in the springtime after warm weather had come on. The eruption had increased in intensity with the growth of the child. She had a good deal of sweating about her hands, the eruption being preceded by hyperidrosis. She had, however, no general hyperidrosis. The family history of this child showed 12 persons who were affected by the same disease, 4 of them males and 8 females. They included persons from childhood to old age. Usually the disease had begun in the second year of life. It affected first the feet, and its intensity increased as the hands and feet came to be more used. There was no evidence of any decrease during puberty. The disease usually became more intense between the 18th and the 30th year, and decreased somewhat after this. The disease is of an intensity directly related to the manner in which the patients are obliged to use their members. Thus in the better classes the suffering is much less than in those who must work. Elliott and others think that the cause of the disease is increased irritability of the bloodvessels, and as testimony cites that hyperemia or edema of the papillary layer precedes the occurrence of the bullae. This Michaelson could not observe. Others consider that the disease is closely related to the urticaria. Michaelson has in no instance seen a urticarial eruption preceding the formation of bullae. [D.L.E.]

5.—Isolated paralysis of the **suprascapular nerve** is rare. This case was seen in a young man of 32, and followed a fall upon the left shoulder. He had some pain for 3 weeks in that arm, but thought that the whole accident had passed without any sequel; but after three weeks he had increased weakness in the arm when he attempted to elevate it. He presented the usual symptoms of the affection, the chief of which are flattening of the groove below the spine of the scapula, difficulty in raising the arm upward at the shoulder, difficulty in outward rotation, and some lack of proper fixation of the head of the femur in the glenoid cavity. The shoulder on the affected side appears somewhat lower and flatter than the one on the other side. The patient recorded had slight loss of sensation 6 months after the accident, but this soon vanished. The prognosis if atrophy has occurred is usually poor, but the difficulty is not likely to influence the capacity for work to any great extent. [D.L.E.]

6.—Reichenbach reports a case of **fracture of the tibia and fibula** which shows the possibilities of error often accompanying diagnosis by the x-rays. Three radiographs were taken from different sides of the limb, all showing apparently different positions of the fragments. The reason for these apparently adverse pictures is shown by an accompanying diagram. [G.B.W.]

7.—The patient when first seen had a severe **iridocyclitis** with increased pressure and a flat pear-shaped pigmented tumor in the chamber angle of the eye. Scattered over the breast, neck, in the ear and on the temples were numerous nodules of a pigmented tumor. The patient did well under arsenic and pilocarpin, the eye-condition entirely subsiding. About seven months later the man returned with a pigmentation of the iris and a flecky cloudiness of the lens of the previously normal eye and a recurrence of the tumor in the left eye. The **melanosarcoma** of the skin had spread and the nodules increased both in numbers and size. The eye-conditions grew worse and the general metastasis became greater though the ultimate result of the case is not stated. [G.B.W.]

8.—The communication is a preliminary one. Finkelstein reports that it is possible by Heymann's acid method to find thread-like branched organisms of doubtful nature **in the stools of normal breastfed and bottlefed infants.** Other organisms are found inconstantly. In certain pathologic cases there is a marked increase of the microorganisms which stain by Gram and those which grow in the acid medium, and they come to form almost a pure culture. They are the same organisms apparently as those which occur in the normal intestine, but are increased in number. The diseases in which this large increase is seen show marked infectiousness, resist dietetic therapy, and usually show severe symptoms which are often complicated by distinct nervous symptoms. It is not certain as yet whether these bacteria grow in acid media, or have pathogenic or symptomatic relation to the affections in which they occur. There is as yet no testimony that they are pathogenic to animals. Experiments so far have been practically negative. [D.L.E.]

April 26, 1900. [26. Jahrg., No. 17.]

1. The Pathology of Bronchial Asthma. A. FRAENKEL.
2. Physical Therapy. GOLDSCHEIDER.
3. The Technic of Abdominal Puncture and Puncture of the Pleura. H. HELLENDALL.
4. Clinical Observations in the Elimination of Ammonia in the Urine. L. MICHAELIS.
5. Herpes in Women and its Relation to Menstruation. ERNEST LEVIN.

1.—Fraenkel describes some extremely interesting pathological **observations in a case of bronchial asthma.** The man had extremely frequent attacks, the last of which occurred 36 years before death, the end being caused by increased weakness of the heart. There has always been some doubt as to the manner of **origin of Curschmann's spirals.** This case he believes explains their origin. The staining with Schmidt's modification of the Biondi-Heidenhain triacid mixture demonstrated satisfactorily that they are composed purely of mucus and not of fibrin, and the microscopic examination showed changes which consisted essentially in a curious elongation of the cells with narrowing of the lateral diameter. Firmly adherent to the cells were masses which projected into the bronchi. Various stages could be observed which led Fraenkel to conclude that the method of formation of the Curschmann spirals was gradual secretion of sticky mucus which remained adherent to the cells, and thereby the respiratory movement of air was whipped about until it assumed a spiral form. He believes that the central portion of the spiral, the nature of which has been in doubt, is the remnant of the body of the epithelial cell which has been stretched into a narrow and elongated form. Many eosinophiles were observed in the bronchial exudate. They were chiefly of a mononuclear character, a fact which has been observed previously in asthma-sputum. [D.L.E.]

2.—Goldscheider reports 2 cases of **Pott's disease** which were **treated by extension,** in both of them there was paraplegia. Gradual extension was instituted and the patients became able to go about. He directs special attention to the fact that soon after extension is instituted the paralysis may increase, but this should arouse no anxiety. It is not accompanied by pain as a rule. If it does occur it is only temporary, and is followed by improvement. In early stages of compression-paralysis this treatment gives very satisfactory results, particularly in the young. It may also be used in spastic contractures resulting from disease of the spinal cord. It constitutes only a betterment of the symptoms, to be sure, and does not cure the original trouble, but it leads to much greater usefulness in many cases. [D.L.E.]

3.—A special instrument is described in which there is a valve fitted to the outer end of a trocar so that liquid may flow outward, but at the moment that there is any negative pressure and air tends to enter the trocar the valve closes. This may be used in **paracentesis of the peritoneal cavity** or the pleura with great success. It is considered even safer than the aspiration apparatus, and it may be used to such a point that the fluid is entirely exhausted without any danger of allowing the entrance of air into the thorax or abdominal cavity. [D.L.E.]

4.—Previous work has shown that increased destruction of albumin **increases the excretion of ammonia.** In some cases, however, as in fever, there is a relative increase in the ammonia as compared with the increased destruction of albumin. It is also shown that excess of acids in the

system causes an increased excretion of ammonia, the ammonia combining with the acids. In a number of liver diseases also, the ammonia is increased and in artificial oxygen starvation is increased. The object of the present work, which is a preliminary report, was to determine the condition of affairs in certain other diseases. It was noticed that in a case of rheumatism with bilateral pleural exudate. pericarditis and endocarditis the ammonia was remarkably increased. The question was whether it was due to the rheumatism or to the disturbance of the circulation. It was observed in other cases of rheumatism that there was no increase of ammonia, while in freer circulatory disturbance there was. In a case of severe nephritis with arterial sclerosis the ammonia was much increased, but this was due to the circulatory disturbance as was evidenced by the fact that pure interstitial nephritis with no circulatory disturbance showed no increase of ammonia, while pure cardiac failure with no signs of kidney lesion showed marked increase. A number of cases of cardiac disease with circulatory failure are reported in which there was great increase of the ammonia. In all these cases there was decided dyspnea. Acting upon the thought that the dyspnea probably increased the ammonia Michaelis investigated some cases of pure bronchial asthma during an attack, and found that at this time the ammonia was much increased. The same was true of infarcts of the lung and pneumonia. [D.L.E]

5.—Levin gives the results of an exhaustive study of **herpes in women** occurring during the menstrual period. From 1,584 cases observed, 112, or 7.07% ,were affected with herpes, while 5 2% had herpes of the genitalia. The great majority of persons in whom this phenomenon occurs have a constitutional syphilis or else the herpes is a postvenereal disease. A small proportion, however, of those thus troubled show no venereal history either sooner or later. Ulceration of the labia sometimes accompanies the herpes. [W.K.]

Centralblatt für Gynäkologie.

May 5, 1900. [24. Jahrg., No. 18.]

1. Benign and Malignant Growths Prevailing in the Genital Organs with Hermaphroditism. FRANZ NEUGEBAUER.

1.—Neugebauer, out of 720 observations, finds 19 cases of benign or malignant growths coincident with hermaphroditism. He describes these 19 cases in detail with the query in mind whether or not there is any etiological connection between this lack of proper development of the genital organs and the malignant neoplasm, carcinoma, or cancer, but apparently reaches no definite conclusion. [W.K.]

May 12, 1900. [24. Jahrg., No. 19]

1. Complete Rupture of the Uterus—Abdominal Total Extirpation—Recovery. ADALBERT V. WALLA.

1.—In the therapy of uterine rupture the chief role is prophylactic. It aims first to hold in abeyance all factors which may induce rupture, and to this end seeks correct dietetics during pregnancy, especially in cases of narrow pelvis; secondly, to hinder threatened rupture by speedy termination of labor most favorable to the mother. After rupture has occurred, the treatment must be surgical and will be determined by the conditions. If the child is not yet born, then two kinds of delivery are possible, by laparotomy or by the natural route; if the fetus has passed into the abdominal cavity then the former must be used; but if the fetus is still partly in the uterus, it should be delivered by the second method, if possible, without enlarging the rupture, otherwise by laparotomy. After the delivery of the fetus, if the rupture is incomplete, a simple drainage through the vagina is sufficient. In complete rupture there is the choice of 3 methods: suturing the wound by laparotomy, supravaginal amputation, or total extirpation either abdominal or vaginal. The conservative method of treatment by tampons, bandages, icebags, etc., has passed into the background and is only employed in cases where circumstances make an operation impossible, or in cases of sepsis or collapse in which an operation would be useless or injurious. Walla reports an interesting case of complete rupture of uterus in an octipara, aged 37. The fetus had been delivered through the natural route and the placenta removed manually from the abdominal cavity 12 hours before the patient was brought into the hospital. Her rising temperature indicated infection, hence an operation was performed with total extirpation of the uterus, extraperitoneal treatment of the stump and drainage through the vagina. About 14 days after, about 100 ccm. of thick fetid pus and bloodclots were emptied through the vagina, and the cavity douched, removing all detritus. After this the patient recovered rapidly and 2 weeks later left the hospital. Walla prefers the method used in this case when there is evidence of infection; but would use vaginal extirpation if her condition unfits the patient to undergo an abdominal operation. In such cases he uses clamps instead of ligatures to control hemorrhage. He also considers Porro's operation as practicable since it unites the advantages of both methods. [W.K.]

May 19, 1900. [24. Jahrg., No. 20.]

1. The Treatment of the Umbilical Stump According to Martin. DR. BALLIN.
2. Symptomtaology and Genesis of Vaginal Cysts. LUDWIG PINCUS.

1.—Ballin considers that Martin's so-called new procedure of **cauterizing the umbilical stump** is not new, since Hennig mentions the burning of the stump as one of the methods of primitive times. In his opinion the only advantage of Martin's procedure is the greatest possible shortening of the stump; and after comparing its practical results with the results obtained by Prof. Ahlfeld, Doktor and Eross, he concludes that it is not a genuine advance in the treatment of the umbilical cord. [W.K.]

2.—Pincus regards **vaginal cysts** as relatively rare and usually without symptoms. Among 4,300 private patients he saw 7 cases of vaginal cysts, 4 of which he describes fully. The most common symptoms were burning and pain in the bladder. These in one case had been considered as nervous sensations and in another were ascribed to pressure of the uterus upon the bladder. Examination showed cysts on the vaginal wall, the removal of which gave complete relief. These cysts are characterized by their position on the vaginal wall, and by their form generally extending lengthwise with a broad base. Pincus thinks that investigation has determined with certainty that they are not of lymphatic origin, but may have something to do with the glands of Bartholin, or in some cases may be of septic origin. [W.K.]

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February, 1900. [Band 54, Heft 5 u. 6.]

23. Subphrenic Abscess Following Appendicitis. JULIUS WEBER.
24. The True Cysts of the Liver. F. LEPPMANN.
25. The Symptomatology of Incarcerated Hernia of the Bladder. E. MARTIN.
26. The Pathology and Surgical Treatment of a Few of the Diseases of the Spleen. V. SUBBOTIC.
27. Further Communications about the Surgical Anesthesia of the Middle Ages. TH. HUSEMANN.
28. A Clinical and Experimental Research over Chronic Osteomyelitis. HANS WILDBOLZ.
29. Varus of the Shoulder Joint. J. RIEDINGER.
30. A Case of Extensive Bone-Transplantation. RUDOLPH KLAPP.
31. Strangulation of the Omentum within the Abdomen by Torsion. ROMAN VON BARACZ.
32. Peritonitis following Perforation of a Gastric Ulcer Cured by Laparotomy. H. WAITZ.
33. A Vascular Tumor Situated above the Right Clavicle, Interesting from a Diagnostic Standpoint. MARTENS.

23.—Out of 350 cases of **appendicitis** with the formation of abscess there were 9 complicated with **subphrenic abscess.** Of these 9, 7 were operated on with 3 deaths. Both of the cases not operated on died. In the majority of these cases the appendix was pointed in an upward direction, or else the cecum occupied an unusually high position. For the production of a subphrenic abcess it is essential that the inflammatory process be an acute one, so that pus forms before there has been time for a limiting capsule to be produced. In the cases on which a postmortem had been made, it was seen that the subphrenic abscess cavity possessed a

greater or less communication with the abscess surrounding the appendix. In 6 of the 9 cases there was a right-sided pyothorax, but only in one of these could a perforation of the diaphragm be found. In 2 cases there was a fibrinous pleuritis of the base of the lung and the diaphragm. The diagnosis of subphrenic abscess is readily confirmed by an exploratory aspiration. As to the surgical treatment much depends upon the individual case, sometimes abdominal puncture with syphon drainage will answer, but in the majority of cases it will be found necessary to establish more free drainage by resecting a rib or two. When a pleural empyema does not already exist, the puncture should be tried first, to avoid the formation of an artificial empyema. G.B W.]

24.—Leppmann reports a **case of cyst of the liver,** occurring in a girl, 14 years of age. The case presented symptoms which led to the diagnosis of cystic tumor of the liver, probably echinococcus, hydronephrosis and cyst of the mesentery being thought possibilities. At the operation, a large cyst was found hanging from the under side of the liver, which, when punctured, was shown to contain a brownish fluid. The extensive adhesions with which the cyst was fastened to the liver forbid its immediate removal, so it was drawn out of the wound as far as possible and sutured to the skin. Four days later the cyst was removed without narcosis. The patient regained perfect health, though a small fistula remained in the site of the old wound. Examination of the cyst-contents revealed the absence of the echinococcus cysts, sugar and succinic acid, and the presence of mucus, albumin, changed epithelial cells, and a trace of bile. Microscopic examination of the wall of the cyst showed that it consisted of three layers of connective tissue and contained small secondary cysts. It was lined with cylindrical epithelium. The innermost layer contained many bloodvessels and the external was infiltrated with round cells and contained small canals, which later were probably dilated gall-ducts. There were also a number of groups of cells, which were probably isolated particles of liver-parenchyma. In a careful search through the literature, Leppmann has found reported 3 retention cysts, 9 cystic adenomas, 1 lymph cyst, and 3 true cysts of the liver, which, however, could not be classified, among which later he classes his own case. [G.B W.]

25.—The case of **strangulated hernia of the bladder** reported by Martin is briefly as follows: A man, 51 years of age, had had a hernia the size of a small walnut in the right groin for some 8 years past, it was present only at intervals and was always easily reducible. Twenty-four hours previously the hernia reappeared, this time being larger and irreducible, also there were pain and other acute symptoms which led to the diagnosis of incarcerated omental or intestinal hernia. At the operation it was found that the hernia consisted of a portion of the bladder which had been protruded extraperitoneally and was easily replaced to its normal position after the restriction had been relieved. The wound was partially closed by sutures and a gauze drain carried down to the bladder. The patient made a good recovery, but less than a year later a small omental hernia developed in the seat of the old scar. Martin has collected from the pages of literature: Group 1, 9 cases of strangulated hernia in which, like in his own case, the bladder alone was involved; group 2, 5 cases in which besides the bladder there was an empty hernial sac; group 3, 3 cases of incomplete strangulation of the bladder; and group 4, 11 cases of strangulated intestinal and omental hernia in which urinary symptoms were present. From a study of these cases it is shown that hernia of the bladder alone does not, as has been previously believed, give rise to a chain of symptoms similar to those produced by acute obstruction of the intestines. Also that when the bladder is incarcerated it is more than probable that there will be some symptoms of urinary disturbance present. Yet, out of the 9 cases of group 1 in only one was a hernia of the bladder suspected before the operation was started. Of late there has been very little tendency for surgeons to accidentally wound the bladder because of unrecognition of the structure before him, but in some few cases of extraperitoneal hernia of the bladder the structures are most deceiving in their appearance and mistakes will happen. So that it is most essential that hernia of the urinary bladder he recognized preoperative. [G.B W.]

26.—Subbotic reports 8 cases of **disease of the spleen,** upon which he has operated during the past 12 years. Of these 8 cases, 7 were women. There were 6 cases of wandering spleen, all of which were women, and 2 of perisplenetic blood-cysts, one being a man and the other a woman. In the 6 cases of wandering spleen the women were multiparas, and in all 8 there was a history of malaria. Of 6 splenectomies, 2 patients died, both from septic peritonitis of rather unavoidable origins. Torsion of the pedicle occurred in 4 cases, in 2 of which the torsion was unsuspected before the operation, and in the other 2 the condition was diagnosed before the abdomen was opened by the presence of a severe attack of pain and sudden increase in the size of the spleen. The best operative treatment is removal of the organ, which, in cases of freely-movable spleens, is a simple procedure, but when many adhesions exist, it becomes a more formidable operation. In the perisplenic blood-cysts it was distinctly seen that the encapsulated collections of blood lay outside around the splenic tissue and had not originated from the parenchyma. [G B W.]

28.—Wildbolz reports in detail 5 cases of **chronic osteomyelitis,** in which careful bacteriologic studies were made of cultures taken during the operation. In all the cases it was shown that the staphylococcus was the cause of the disease—three times the staphylococcus aureus and twice the albus. According to the results of his experiments, the virulency of the coccus did not seem to hold any relation to the acuteness or severity of the disease, the most chronic cases sometimes giving the most marked reaction in the rabbits, and vice versa—so much so that he was led to believe that the different rabbits possessed different degrees of susceptibility, and that therefore absolute reliance could not be placed on experimental researches on the virulency of bacteria. Another thought, however, is that the amount of local resistance in the part infected has a great deal to do with the severity of the symptoms, and this view found support in case No. 1, in which a number of metastases took place, with great variance in the individual symptoms. Regarding the diagnosis, the x rays were most useful as a confirmative evidence. [G B.W.]

29.—Riedinger reports an interesting specimen of **ankylosis of the elbow-joint,** occurring in a woman, 42 years of age, and accompanied with a **varus of the head of the humerus.** On observing the head of the humerus, it is noticed that the joint surface is directed more sideways than upward, and the cartilage border runs parallel with the axis of the shaft. A plane taken through the anatomical neck forms an angle of 80°, with a plane drawn through the surgical neck, so that the head of the bone seems to have become bent downward. There is also some inward rotation of the shaft, as is shown by the lesser tubercle being turned anteriorly and inward. [G B W.]

30.—Klapp reports a case of **extensive transplantation of bone.** The patient was a woman, 30 years of age, who suffered from a sarcoma of the humerus, complicated by spontaneous fracture. The extent of the disease necessitated the removal of almost the entire shaft, with the greater part of the periosteum. This enormous defect was filled in with a long strip of bone, including its periosteum, chiseled from the anterior surface of the tibia. The wound in the leg healed by first intention, but that of the arm suppurated, necessitating reopening of about half of the primary incision. In four months the transplanted fragment had united with the upper end of the humerus, but not so below, and there were two suppurating sinuses still existing when the patient was discharged. In the course of time a sequestrum was expelled, measuring 3 cm. in length and 2 in width, and the sinuses then healed. About a year and a half after the operation, on examination it was found that bony union of both ends had taken place, and the diseased arm measured only 1 cm. shorter than the normal. The arm had become a very useful member; 22 months postoperative the patient could carry a bucket of water with it, and could hold some 3½ pounds at arm length. [G.B W.]

31.—The case reported by Baracz was a man, 42 years of age, who had for several years suffered from a small reducible inguinal **hernia.** After a heavy lift the hernia suddenly became larger and irreducible, and he suffered from symptoms of strangulation for three days before being relieved by operation. The hernial sac contained a strand of twisted omentum, which could be traced up into the abdomen to another and larger mass, the result of a higher-placed torsion

of the omentum. Above this upper twist was normal omentum. The line of excision was carried through healthy omentum and the whole diseased mass removed in one lump, which weighed about 1 kg. The sac was dissected free and the abdominal wound closed with drainage. The patient made a good recovery and had no return of the hernia. Examination of the resected mass showed it to be deeply congested omentum, caused by the torsion, the stasis being so great that the tissue had almost become gangrenous. [G.B W.]

32.—The peritonitis in this case was caused by **the perforation of a gastric ulcer,** situated on the lesser curvature, near the cardiac end of the stomach. Operation was done 21 hours after the perforation had taken place. The ulcer, which was of considerable size, was entirely removed and the edges of the wound made by this incision united by two rows of continuous sutures and a third of interrupted stitches. The abdominal cavity was thoroughly douched with warm salt-solution and then closed without drainage. The patient made a good recovery. [G.B W.]

33.—This patient, a man, was 26 years of age. For several years past he had noticed that by coughing or straining a soft tumor appeared just above the right collar-bone and disappeared as soon as the pressure was removed. As the growth was increasing in size it was extirpated. The wound healed promptly and there was no return of the tumor. Examination of the specimen showed that it was made up of bloodvessels, both arterial and venous, and connective tissue. Blood-clots of various ages were seen scattered through the growth, filling up large spaces. The tumor was undoubtedly **a cavernous angioma.** [G B.W]

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[Band 60, Heft 4. 1900.]

28. The Therapy of Fractures of the Patella. COSTE.
29. Some Rare Forms of Disease of the Bursa. OSCAR EHRHARDT.
30. Extensive Resection of the Intestine. KUKULA.
31. The Surgical Treatment of Subcutaneous Rupture of the Spleen. LEWERENZ.
32. Smaller Comunications; Osteoplasty of the Mongolian Surgeons Known for the Last 500 Years. OTTO ALBERTS.
33. Correction to the Article, The Operative Treatment of Tuberculous Elbow Joints and their Results. A. OSCHMANN.

28.—Coste reports 25 cases of rupture of the extension-apparatus of the leg, of which 21 were **fractures of the patella;** 24 of the 25 injuries were in men, only one in a woman and 20 of the 21 fractures were simple, one being complicated. The cause of the fracture in 2 cases was over-extension, in 16 extreme flexion and in three direct force. The operation was practically the same in all the cases and was as follows: After thoroughly cleansing the skin with soap, alcohol, and sublimate, longitudinal incision about 12 cm. in length was made over the patella, opening the joint and laying free the fragments. Another opening was made in the skin at the lowest part of the wound on the outer side of the knee for the establishing of good drainage. All blood-clots are carefully removed and all bleeding-points caught and tied. Any soft tissue projecting between the fragments was cut away and the ends of the bone freshened. Then with an electric borer, holes are drilled through the bone in an oblique direction without piercing through to the joint surface and the fragments united by two aluminum bronze sutures. Tears in the ligamentous tissues were closed with catgut and the skin wound closed with silk. Finally a plaster-of-paris bandage was put on, covering in the whole of the leg and pelvis. The skin suture and gauze drain were removed on the seventh day through a fenester cut in the plaster. After 21 to 28 days the anterior half of the cast is removed and massage and electricity applied to the quadriceps. By the thirty fifth day all bandages are removed and passive movements begun. The results obtained by this treatment show that out of the 21 cases of fracture, 14 had such good functional results that they were able to return to their usual work, in 4 the results were not of the best and in 3 the final result was not obtainable. In none was there a severe infection following the operation. [G B.W.]

29.—Ehrhardt reports a number of cases of **disease of bursas** which are not often involved in pathologic processes, they are as follows: One case of a hematoma of the bursa at the lower angle of the scapula, 3 cases of hygroma of the bursa subdeltoidea, 1 case of tuberculous inflammation of the bursa sacralis, 1 case of hygroma of the bursa under the tendon of the semi membranosis, and last, a case of secondary involvement of a bursa in the popliteal space from tuberculosis of the knee joint. Of these 7 cases, 5 were undoubtedly tuberculous and 1 was doubtful, showing the comparative frequency of tuberculous disease of the serous membranes. [G B.W.]

30.—Kukula has written an extensive thesis on the **resection of large portions of the intestine,** going carefully over the literature, studying cases which have come under his own observation, and carrying out a series of experiments on the lower animals. He sums up his results as follows: 1. There is no doubt but that the human body can be deprived of half of its small intestine, and in some cases even more, without danger of inanition. The symptoms which follow the resection of large portions of the small intestine are so unimportant that the surgeon should not hesitate to remove all that is necessary to give his patient the best chances for recovery. The maximum amount over which one must not go, if the patient's life is to be saved, is uncertain, but in one of Kukula's cases somewhere near ¾ of the whole length was removed, with good results. 2. The question as to whether the jejunum may be resected with as much impunity as the ileum cannot be answered; first, because all the operation for removal of extensive parts of the intestine have been confined to the ileum, or to the ileum with only a very small bit of the jejunum; and second, the experiments on animals were not sufficiently positive in their results. 3. As the length of the intestine differs in different persons, it is important that the surgeon should know, before undertaking any extensive resection, just how much gut he should leave in the abdominal cavity, in order to secure a good, lasting result. For this purpose we may abide by the rule of leaving half, without any danger of having inanition coming on afterwards, but the exact amount that should be left behind is impossible to determine. 4. When over two meters is removed, it is absolutely necessary that primary union of the intestinal ends be accomplished. If this is not possible at the first operation, the bowel must be sutured within the next day or two. 5. Resection of the large intestine offers no especial difficulties and almost any length may be removed. When shortening of both the small and large intestine is to be done, the chief attention should be paid to the small gut, and the surgeon governed by the above principles. 6. As to the compensatory changes following extensive resections, the gut which has been left behind soon learns to absorb more quickly, and the large intestine partially changes its function, taking on that of the small intestine. Finally, compensation is helped by the frequent feeding and the choosing of proper food. [G.B W]

31.—Lewerenz says that enlargement and disease of the **spleen** greatly predispose to **rupture** of that organ. He reports a case however of rupture of the normal organ occurring in a man 27 years old. The patient had been run over, the wheel of the wagon passing across the middle of his abdomen. He was considerably shocked and in the course of an hour or so signs of internal hemorrhage developed so that operative interference was decided upon. On opening the abdomen large quantities of both fresh and clotted blood were found and the source of the hemorrhage was traced to the spleen. This organ was so crushed that its removal was the only hope for the patient. The final result of the case was most satisfactory, the patient being able to return to his regular work. The blood count was that which would be expected after the amount of hemorrhage which took place, there being no especial changes as the result of the removal of the spleen. Both experimentally and clinically as a rule after splenectomy there is no regular enlargement of the lymph glands, though in some cases an increase in the size of the thyroid gland has been noticed. As to the symptoms of ruptured spleen hemorrhage is the most constant one, though this may be caused by rupture of the mesentery or liver. More characteristic and less constant is pain in the region of the spleen and of more importance is dulness of the percussion-note extending over the left upper

abdominal and left lumbar regions. When left alone a rupture of the spleen is almost always fatal from hemorrhage, so operation is usually demanded. The operations applicable are splenectomy, suture of the splenic wound, or packing after judicious use of the cautery. The choice of operation must depend upon the severity and character of the individual case. [G.B.W.]

Revue de Chirurgie.

February 10, 1900. [20me Année, No. 2.]

1. Tumors of the Biliary Passages. F. TERRIER and M. AUVRAY.
2. The Treatment of Carcinoma Without Extirpation. CH. J. ROSSANDER.
3. Iliac Colostomy with a Double Ligature. M. GANGOLPHE.
4. The Treatment of Fractures of the Clavicle. L. GRATSCHOFF.
5. Total Splenectomy in a Case of Hypertrophy and Displacement of the Spleen, with Primary Carcinoma of the Pedicle. A. LOBET.
6. Metatarsalgia; a Clinical and Histologic Study. N. GIANNETTASIO.
7. A New Method for the Radical Cure of Large Umbilical Hernia. K. SAPIEJKO.

1.—In the etiology of **carcinoma of the biliary passages** the adult age, female sex, and cholelithiasis are factors. The prognosis of this affection is very grave, for if operation is delayed 2 or 3 months only it will be too late for successful intervention. As to the symptoms, there is a great similiarity between the clinical history of neoplasms of the gallbladder and the biliary passages, and there is no positive characteristic sign which would permit one to positively confirm the existence of a tumor; jaundice is the principal symptom, but it resembles the jaundice seen in other conditions. Exploratory operation is justifiable in cases of doubt to clear up the difficult diagnosis. As regards the method of operation, the authors believe that partial cholecystectomy should be entirely rejected. Total cholecystectomy is the operation of choice in cases of growths which are limited to the gallbladder, in which there are no adhesions to neighboring organs rendering the operation impracticable, and if it is undertaken at an early date the results will be more favorable. Cholecystectomy with resection of the liver is justifiable only when the growth is limited to the liver in the immediate vicinity about the gallbladder. No special method of operation is insisted upon; as in other operations for carcinoma, infected lymph-glands should be removed. [M.B.T.]

2.—Rossander states that he has treated some cases of **carcinoma** successfully by the injection of a solution of potassium hydrate into the vicinity of the tumor. A 1% to 1.5% solution is used. It is believed that the injection acts in a manner analogous to cauterization; although the solution is not strong enough to cauterize it, it provokes irritation of the connective tissue and inflammation, causing coagulation of the blood and obstruction of the vessels, not producing complete necrosis of the mass of tumor, but simply diminishing its vitality and rendering it incapable of producing the materials necessary for growth. The cases in which this treatment was used were, for the most part, inoperable by excision. In discussing the various curative serums, Rossander expresses the belief that the hope of finding such a serum is not altogether abandoned. [M.B.T.]

3.—Gangolphe describes a method of **colostomy** which he devised and has practised for 3 years. The functional results have been perfect, the procedure is simple and there have been no deaths resulting. He draws a loop of colon through the abdominal wound, and makes an incision through the mesentery, through which he draws a ligature, and ties off the loop; he then fixes it into the abdominal wound with sutures; 48 hours later the ligated loop of intestine is cut off with the thermocautery. The good results which have followed in 16 cases operated upon by this method justify its publication. [M.B.T.]

4.—The literature of **fracture of the clavicle** is reviewed at considerable length from the time of Hippocrates to the present. Gratschoff also enters into a mathematical discussion as to the forces acting in case of this injury. He describes an elaborate apparatus for the treatment of fractures, consisting of a shoulder-cap and a series of straps passing around the arm, the chest and across both groins. For an understanding of this apparatus, and the methods of its application, the cuts accompanying the article should be consulted. [M.B.T.]

5.—A woman of 22 had suffered from habitual constipation, loss of flesh and strength. Her condition was gradually becoming worse; on examination a tumor was found in the lower portion of the abdomen. Celiotomy was performed and it was found that the pelvis was occupied for the most part by a large tumor, which was producing posterior displacement of the uterus; this growth was freed without difficulty and it was found to be attached to the posterior abdominal wall by a pedicle 30 cm. in length and 6 cm. in thickness. Closer examination showed that this was a misplaced and greatly hypertrophied **spleen**; it was **removed,** the abdomen was closed, and an uneventful recovery followed. The spleen weighed 2500 gm., measured 15 cm. in diameter and 51 cm. in circumference. Pathologic examination showed the growth to be carcinomatous. [M.B.T.]

6.—A case of **metatarsalgia** is reported in which the head of the middle metatarsal was removed because of the severe pain. Before operation it was determined by a radiograph that there was no pathologic displacement of the metatarsal bone, but there was a uniform thickening of the head of the bone. Histologic examination showed that this thickening had all the characteristics of a condensing osteitis. Cuts from microscopic sections and the radiograph are given and the literature of the subject is discussed. [M.B.T.]

7.—Sapiejko reports a case of very large **umbilical hernia** in which he operated by folding over the thin portion of the abdominal wall and suturing without any resection or excision of the sac. The skin was first divided by a long incision from the ensiform appendix to the symphysis and it was dissected back a distance of about 15 cm. in the region of the umbilicus. The aponeurotic portion of the abdominal wall was then folded over and the left border was fixed to the right side by continuous suture, the needle penetrating as deeply as possible; the abdominal cavity was completely shut off by means of this suture, the right side was then also solidly fixed by continuous suture to the aponeurosis. The anterior abdominal wall at this region was then composed of peritoneum, muscles, and aponeurosis, and to complete the operation it was only necessary to suture the skin. The woman made a good recovery and afterward became pregnant without producing any effect at the region of the wound. [M.B.T.]

March 10, 1900. [20me Année, No. 3.]

1. Psorospermosis; Generalized Infection. A. POSADAS.
2. Tumors of the Biliary Passages. F. TERRIER and M. AUVRAY.
3. The Clinical and Experimental Study of Burns Caused by Electricity. MALLY.
4. The Treatment of Renal Retention. A. GOSSET.
5. Branchial Epithelioma of the Neck. V. VEAU.

1.—A case of **psorospermosis** is reported occuring in a man of middle age who had never suffered from a severe malady. After a course of seven years it caused his death; during part of the time the disease was not active, it affected the skin of the face and other parts of the body and the lymphatic glands, developing nodules within various viscera. From a study of this case Posadas found that the parasite was constant in the lesions of the disease, and that when inoculated into animals, it produced in them the same disease and the same lesions as in man and it was constantly present in the lesions. There was entire absence of all other microorganisms in the tumors. Those tumors, which were inoculated into animals could be again reinoculated in other animals producing the same kind of disease or another species of disease. [M.B.T.]

2.—A tabulation of 60 cases of **tumors of the biliary passages** is given which includes, it is believed, all that have been thus far reported. In 3 cases cholecystectomy was performed with success for benign tumors of the gallbladder; in 14 cases it was performed for carcinoma of that organ; death resulted as a consequence of the operation in 5 cases, thus giving an operative mortality of 35.7%. The prognosis of the

operation varies with the extent of disease, but as the early diagnosis is difficult it is doubtful if the remote results will ever be very much bettter. No doubt the immediate results will be improved as the technic of the operation is perfected. Cholecystectomy with resection of a portion of the liver on the other hand showed a mortality of but 11%. It is believed that this is because the operations were all performed by skilled operators within a few years, while the simple cholecystectomy dates from 1884. The remote results are highly unfavorable; recurrence of the growth is the rule, but the case of Hochenegg, in which the patient lived 3 years, seems to indicate that if intervention is undertaken early it is not without hope. In many cases there was decided improvement in the general condition and disappearance of pain after the operation. Fifteen palliative cholecystotomies were performed with an operative mortality of 26.66%; 8 operations were performed for tumors of the bile-ducts. The results of these palliative operations were moderately good, but it is impossible to draw conclusions from so small a number of cases. [M.B.T.]

3.—Mally has studied **electric burns** on animals, and from these and clinical observations he concludes that the electric current under certain conditions gives out a limited amount of heat, affecting a small region; the quantity of heat is slight, but the temperature is temporarily very high; this produces a burn of peculiar character. It is aseptic, indolent and dry. The treatment of such burns is very simple, consisting in immobilization of the part and protection with sterile gauze, and, if the burn is extensive, skin-grafting. The conditions for skin-grafting are particularly favorable, because of the aseptic character of the wound, which is particularly favorable to the growth of the grafts. [M B.T.]

4.—Gosset has performed 9 **plastic operations on the kidney and ureter,** and in some of these he is able to determine the remote results of the operation. One patient, who was treated at home with the ureteral sound, remains cured. A cure resulted also in a case from simple dilation of the ureter; in another case a spur was successfully resected; in 5 cases lateral anastomosis of the ureter with the bowel, with 4 favorable results and 1 failure. [M.B.T.]

5.—From a thorough study of the **epithelioma of the neck,** Veau considers it demonstrated that the branchial origin is at least highly probable in most cases, but it would be an exaggeration and inaccurate to say that the branchial arches are the only pathologic element which gives rise to the tumor; the connective tissue of the arches forms an important element in these tumors. In the treatment of this condition operation should be performed as soon as the diagnosis is settled and the excision should be as free as possible. Preventive treatment would be indicated in the case of fistulas, cysts, and mixed tumors, for the possibility of transformation into the malignant form favors their removal. In the operation it is nearly always necessary to ligate the jugular vein and this practice is practically without danger; the artery should be resected if necessary, as its removal may give rise to cerebral disturbances in certain cases; tracheotomy may be necessary in order to avoid asphyxia. [M.B T.]

Revue de Médecine.

April 10, 1900. [20me Année, No. 4.]

1. Malarial Neuritis. E. SACQUÉPÉE and CH. DOPTER.

1.—Sacquépée and Dopter report three cases of malarial neuritis. In the first case the patient was a colonial administrator, 52 years of age. He had his first attack of **malaria** in 1887, while a resident of Obock. From 1890 to 1898 the patient lived in Senegal, where he was attacked with malarial symptoms each year, for which he treated himself with occasional doses of quinin. In 1897 he became greatly prostrated on account of excessive work and was obliged to enter the hospital, but he left before he was thoroughly restored to health. In April, 1898, the patient commenced to complain of sharp pains in the joints and in the limbs. Soon after the appearance of these symptoms the patient began to have pain in the right hypochondrium, which radiated to the shoulder of the same side. These symptoms progressively increased in severity and soon fever was added to the picture, followed by gastrointestinal manifestations, of which diarrhea and jaundice were prominent features. The patient emaciated rapidly and was ordered home. During the passage to France the pains in the lower extremities diminished, while the pain in the right hypochondriac region and in the shoulder increased. It was thought that these symptoms were due to the presence of an hepatic abscess, for which he entered the hospital in order to be operated upon. Then it was found that in addition to the emaciation, cachexia, anemia, fever, and diarrhea there was paralysis of the inferior extremities and the persistence of the painful phenomena both in the lower extremities and in the right hypochondriac region; the pain from the latter region being radiated to the shoulder of the same side. The liver was enlarged and the spleen was somewhat hypertrophied. The diagnosis of **peripheral neuritis** involving both legs was made, and the probable existence of a suppurating hepatitis was considered. Shortly after entering the hospital pain was experienced in the forearms and in the hands. The painful symptoms in the right hypochondriac region increased and an exploratory operation was undertaken for the discovery and relief of its cause. When the abdomen was opened no abscess was found even after puncturing the liver in various directions. The wound sloughed after the operation was completed. The urine of the patient became albuminous, the painful symptoms in the extremities increased, paralysis and wasting developed, and the skin in the affected regions became glossy. Edema appeared and the patient died in an attack of uremic coma. At autopsy the peripheral nerves presented the most noteworthy features. The external popliteal and the ulnar nerves were examined microscopically and in both there was almost complete destruction of all the nerve-fibers, those that were not completely destroyed being greatly degenerated. The second patient was a colonial pharmacist who had his first attack of **malaria** in 1886. Painful symptoms began in the thigh and in the ham in 1898, which rapidly extended to the entire right lower extremity, and subsequently affected the left lower and both the upper extremities; weakness and emaciation were pronounced. There were five relapses of the condition, during the last of which the patient was observed by the authors. At that time there was pain on pressure over the nerve-trunks and over the muscles in addition to trophic disorders. Treatment resulted in cure. The third case was in the person of a marine, 26 years of age, who had his first attack of **malaria** in 1892. This attack lasted for 2 years to return in 1895 and in 1897. During the last attack the patient experienced a sense of weariness in the left leg when walking, which was quickly followed by emaciation and motor phenomena. The condition became painful, and he was admitted to the hospital for treatment. There were several relapses, but the patient was finally cured. The authors give abstracts of 32 other cases that have already been reported. [J.M.S.]

Sundry French Journals.

1. Dysenteric Abscess of the Liver. KELSCH. (*Sem. Méd.*, March 7, 1900. 20me Année, No. 10)
2. Three Cases of Leukocythemia Due to Mononuclear Leukocytes. LION, HAYEM, VINCENT and WIDAL. (*Sem. Méd.*, March 11, 1900. 20me Année, No. 11)
3. Subarachnoid Injections and the Subarachnoid Fluid. ATH. SICARD. (*Gaz. Heb. de Méd. et de Chirur.*, March 18, 1900. 47me Année, No. 22.) (Paris Thesis, 1899-1900, No. 124)
4. A Study of Hepatic Dscimasia. GADREAU. (*Gaz. Heb. de Méd. et de Chirur.*, March 25, 1900. 47me Année, No. 24.) (Paris Thesis, 1899-1900, No. 88.)
5. Lumbago and Spinal Rheumatism. L. PICAUD. (*Gaz. Heb. de Méd. et de Chirur.*, March 25, 1900. 47me Année, No. 24.) (Paris Thesis, 1899-1900, No. 192)
6. The Diagnosis of Pulmonary Tuberculosis in Young Children. BERTHERAND. (*Gaz. Heb. de Méd. et de Chirur.*, April 1, 1900. 47me Année, No. 26. (Paris Thesis, 1899-1900, No. 113.)
7. New Researches in the Volume of the Heart, and the Modifications of the Peripheral Circulation in Tuberculosis. Clinical Study. ETIENNE REGNAULT. (*Gaz. Heb. de Méd. et de Chirur.*, April 1, 1900. 47me Année, No. 26.) (Paris Thesis, 1899-1900, No. 42.)
8. Mechanism of Senility and of the Death of the Nerve Cells. MARINESCO. (*Sem. Méd.*, May 2, 1900. 20me Année, No. 19.)

1.—Kelsch reported 3 cases of **suppurative hepatitis** at the meeting of the Académie de Médecine, held March 6, 1900. In 1845 Budd endeavored to prove that dysentery always preceded abscess of the liver. This theory of metastatic pyemia was received with great favor and remained classical for a long time, but nothing could be more false. From the beginning the evolution of this abscess is quite different from that of pyemic abscess, whilst by its irregular course, its remissions, its paroxysms, its tendencies to recurrence, and to chronicity, suppurative hepatitis recalls the fundamental features of the development of dysentery. On the other hand, the anatomic process of this hepatitis is like that of dysentery, in both cases the fundamental lesion is a necrosis of which the differences seen in the liver and the intestine depends upon the difference in the structure of the two organs. Finally, the analysis of 500 cases has shown that in 85 cases in 100 the suppurative hepatitis is associated with dysentery. In the great majority of cases the intestinal and hepatic lesions develop simultaneously; at other times they appear at distinct epochs, and then it is sometimes dysentery and sometimes hepatitis that opens the scene. Often the regression of one of these lesions is the signal for the commencement of the other. These alternations may be seen several times in the course of the disease and shows a sort of mutual understanding between the two diseases. It seems, therefore, that suppurative hepatitis and dysentery are due to a single causative factor, but this statement is merely an hypothesis, because the microorganism causing dpsentery is still unknown. [J.M.S.]

2.—At a meeting of the Société Médicale des Hôpitaux, held March 9,1900, Lion reported 3 cases of **leukocythemia.** In the first case the leukocytes were increased to 37,200 and 83,390 per cubic millimeter, in the second case to 235,600, and in the third case to 527,000. This increase in the leukocytes was confined to the mononuclear elements which constituted from 92 to 99.19% of the total number. The large mononuclear elements were in the majority. This type of leukocytosis has been considered to be an indication of acute leukocythemia, but the observations of the author seem to indicate that the cells are not typical of the acute form of the diseases as his cases were all chronic; two of them extending over periods of 3 and 5 years respectively. In addition to the class of cases here recorded, in which the large mononuclear leukocytes are increased, there may be another variety in which the majority of the elements are lymphocytes, therefore, mononuclear leukocythemia may be divided into two subvarieties. Vincent reported a similar case in the person of a young man, 24 years of age. The disease had followed an attack of dysentery. Thinking the leukocytosis was of parasitic origin the observer made bacteriologic examinations of the blood without result. Widal had never seen the sporozoa, described by Löwit in the blood of leukemics; nor had he succeeded in isolating bacteria from the blood or from the organs of patients suffering from the disease. The great number of leukocytes found in the blood in cases of leukemia are evidence against the parasitic origin of the disease, because in the infectious processes the increase in the number of the leukocytes is due to the polymorphonuclear neutrophiles, while in myelogenous leukemia these cells are not so numerous and are mixed with eosinophiles, with basophiles, and with mononuclear neutrophiles. In the blood of lymphemics, the mononuclear cells, which are devoid of all bactericidal action, are almost the only cells found. [J.M.S.]

3.—From the viewpoint of experiment Sicard considers the lumbosacral route to be superior to the cranial, the occipitoatlantal, or the dorsal in reaching the **subarachnoid space.** When the subarachnoid space is opened in the lumbar region the flow of cerebrospinal fluid is usually free, an injection of fluid is easily made, the injected liquid diffuses rapidly, and quantities of solution as large as 300 cc. may be introduced. In addition to the well-known properties of the **cerebrospinal fluid,** the author has shown that in normal physiologic conditions both in man and in the dog it contains neither leukocytes nor blood-corpuscles. On the other hand, in pathologic conditions it may contain cellular elements, pus-corpuscles, masses of fibrin, and various microorganisms. In the physiologic condition it is not toxic when injected by the intracerebral method of Widal, Sicard, and Lesué; it is also devoid of toxic properties in the majority of pathologic conditions. From one case of convulsive uremia, however, reported by Castaigne, the cerebrospinal fluid proved toxic when ½ ccm. was injected. *In vitro* it shows bactericidal properties; but *in vico* it seems to favor the development of microorganisms. It has no coagulating properties for fluids not spontaneously coagulable, it is an excellent medium for the preservation of leukocytes, and in the course of typhoid infection or immunization it shows no agglutinating properties. The **arachnoid and the pia mater** show considerable resistance to the passage of new materials from without; but, on the other hand, in the organism it allows the substances deposited between them to pass. The passage of the substances may result either in favor of the phenomena of exosmosis or in favor of leukocytic diapedesis. This difference of permeability as much as the role of protection played by the perivascular lymphatic sheaths, explains the rarity of infection of the cerebrospinal fluid in the course of the generalized blood-infections. It shows, on the contrary, the gravity of primary infection of the cerebrospinal fluid either from the blood paths or by direct inoculation, that without considering the lymphatic system plays any role in its mechanism. The cerebrospinal fluid is an essential factor in the dissemination of microorganisms. The meshes of the subarachnoid tissue may, however, arrest and localize the process of invasion of the bacilli issuing from the vessels (meningitis in placques). In the lower animals the subarachnoid space shows an extreme toleration for nontoxic fluids, 200 ccm. of a 0.5% saline solution having been injected into a dog at the rate of 10 ccm. per minute without accident. Death follows the injection of from 250 to 300 ccm., usually without convulsions. If a quantity of fluid between 200 and 250 cc. be injected the dogs remain somnolent with paralysis of the posterior limbs for a time and then recover their normal activity. Morphin acts more rapidly and with greater intensity when injected under the arachnoid if it is diluted with a large quantity of water, and if the injection is made with some force. Cocain produces analgesia in the posterior portion of the body in 3 or 4 minutes; in 15 to 20 minutes this analgesia becomes generalized and it may persist for an hour or two, independent of any circulatory, respiratory, mental, or motor troubles. 0.10 or 0.20 gm. of potassium iodid per kilogram of body-weight in concentrated solution produced painful paraplegia in a few hours and death from meningitis in from 24 to 36 hours. The symptoms were different when the dilution was greater; but death was constant. In weaker doses the animal survived. When injected into the subarachnoid space potassium iodid passed rapidly into the urine; injected beneath the skin it did not pass into the cerebrospinal fluid. If the pneumococcus, the Bacillus anthracis, or tetanotoxin were injected into the subarachnoid space, death followed in a shorter time than if they were injected beneath the skin. It was always necessary to inoculate the cerebrospinal fluid directly in order to produce tuberculous meningitis experimentally. The process may be diffused by the cerebrospinal fluid or localized by the adhesion of the two layers of the membrane, producing meningitis in placques. The experiments show that tuberculous meningitis is not a polymicrobic infection, but that it is due only to the Bacillus tuberculosis or to its toxin. As a seat for the injection of antitetanic serum experimentally the subarachnoid space is much superior to the subcutaneous tissue, but not so efficient as the direct cerebral method of Roux and Bonel. Iodoform in oil had no power to prevent death in animals inoculated with the tubercle-bacillus when both were introduced into the subarachnoid space: one in the lumbar region, the other in the occipito-atlantal region. In man the following substances have been injected into the subarachnoid space: Sodium chlorid, 0.02 to 0.05 gm.; potassium iodid, 0.01 gm.; antitetanic serum; sterilized oil emulsified in cerebrospinal fluid containing 0.92½ gm. potassium bromid in 2 ccm.; cocain hydrochlorate from 0.005 to 0.025 gm. in 1½ to 2 ccm. of sterilized water. Before injecting these medicinal substances it is well to allow from 5 to 10 ccm. of the cerebrospinal fluid to flow out. Under strict aseptic precautions the medicament to be injected may be dissolved in the cerebrospinal fluid thus removed. The injections should be made slowly, the fluid should be at the temperature of about 37° C. (98.6° F.), the needle should be firm, of fine caliber, and should be connected to the syringe by a rubber tube. The therapeutic results of subarachnoid

medication have been unsatisfactory with the exception of cocain injection. By injecting 0.01 gm. cocain in a solution of 1 : 100 Bier, Seldowitch, and Tuffier have succeeded in producing analgesia of the lower extremities, so that the latter author was able to perform a vaginal hysterectomy while the patient was under the influence of the drug. [J.M.S.]

4.—Gadreau has studied **hepatic docimasia** as recently described by Lacassagne and Martin. He shows the medico-legal applications of the method and its easy technic. If it does not furnish exact information as to the cause of death, it, at least, will indicate whether death has been sudden or whether it has been slow or preceded by agony. In case of sudden death the liver will contain glycogen and glucose, **positive docimasia.** In case of slow death chemic analysis will fail to show the presence of sugars in the liver, **negative docimasia.** When the liver contains sugar without glycogen docimasia is incomplete and death has been due to some cause which has intervened suddenly to interrupt a glycogenic agony already begun, such as sudden death in typhoid fever. Putrefaction is not an obstacle to the use of this method, and unless all the liver-tissue has been destroyed the test may be made. Qualitative analysis is sufficiently exact. [J.M.S.]

5.—According to Picaud, **lumbago** in the majority of cases is not muscular rheumatism. It is sometimes a symptom of arthritis of the neighboring joints and sometimes also it has as its cause a lesion of the spinal cord or of its membranes. This lesion is benign and temporary : it is rather a congestion than a myelitis or a meningomyelitis. It may depend for its cause upon different agents, but in the greater number of cases rheumatism is at the bottom of the trouble, and lumbago should be regarded as being ordinarily a light form of **spinal rheumatism.** [J.M.S.]

6.—Bertherand's thesis is devoted to the study of **pulmonary tuberculosis in young children.** Children suffering from pulmonary tuberculosis have, usually, brilliant eyes that are guarded by long lashes, and dilated pupils; long, silky, blond hair ; and the aspect of little old men. The abdomen is generally prominent with venous plexuses on its surface and often with small, hard, nonfluctuant subcutaneous nodosities. The thorax is wide at the base, straight and shrunken above, with prominent ribs. The limbs are thin and atrophied. The skin is thin, fine, glossy, and the hairs well-developed. Polyadenitis is not an essentially tuberculous manifestation, although it has a certain importance. Joint deformities and bone lesions rarely coexist with pulmonary tuberculosis; but cutaneous lesions are frequent, particularly abscess, and otitis media is frequent. The urine does not contain albumin but indican is often present in large quantity; although the latter is also to be found in other infectious diseases of children. According to the physical signs the disease may be classified as (1) acute miliary tuberculosis ; (2) acute pneumonic phthisis, and (3) common ulcerous phthisis. In cases of acute miliary tuberculosis the disease may assume a typhoid type when all the organs are involved ; but when the tubercles are most numerous in the lungs the disease takes on the appearance of an extremely high-grade broncho-pulmonary infection. In the cases resembling typhoid fever in their course serum-diagnosis will be an efficient aid in determining the diagnosis. Dyspnea is a symptom of diagnostic importance in the bronchopneumonic type of pulmonary tuberculosis. In these cases it is much more marked than in other pulmonary affections. In chronic ulcerous phthisis dyspnea, rapid pulse, loss of weight, tracheobronchial adenopathy with areas of rales localized at the root of the lung are important symptoms, but are not pathognomonic. Tuberculin may be used for diagnostic purposes ; it should not be given in greater doses than 0.0001 cc., and the tuberculin should be fresh. Reaction has always been obtained and there has never been an accident. The injection of artificial serum is followed in tuberculous subjects by a febrile reaction. Such febrile reaction following the injection of 0.7% salt-solution is presumptive evidence of tuberculosis but it is not infallible proof. In nurslings and in children under 2 years of age 20 cc. of the solution is sufficient. In order to obtain the expectoration of young children for bacteriologic examination the author advises lavage with the soft rubber catheter. Early morning is the best time to withdraw the stomach-contents. The use of the x-rays gives valuable evidence in children of the presence or absence of pulmonary lesions. When it is difficult to keep the patient quiet, as is the case with very young children, the patient may be suspended in Sayre's apparatus. Except purulent pleurisies, caseous bronchopneumonic lesions give the best results on x-ray examination. [J.M.S.]

7.—Regnault, after having verified the practical and exact character of Potaire's method of measuring the heart, shows that **atrophy of the heart** is not the rule **in chronic tuberculosis.** Tuberculosis is not the less a disease essentially atrophic in its nature from all points of view, by the diminution of the field of hematosis and the lessened oxygenation of the blood, by the depressing influence that it exercises on the entire circulation, and by the profound cachexia to which it often leads. True or apparent **hypertrophy of the heart** shown in the great majority of cases of fibrous **tuberculosis,** appears to be due to complications that existed before or that supervened during the evolution of the disease. These complications affect either directly or indirectly, the entire myocardium or some of its parts, and delay, usually by impeding the evolution of the tuberculosis, the appearance of the cachexia. The dilation of the right heart, frequent in living tuberculous subjects, but more rare at autopsy, and usually confined to the auricle is less frequent and less marked in ulcerous tuberculosis than in the fibrous forms. This lesion is the consequence not only of emphysema, of pleural adhesions, and of pulmonary sclerosis, but also of the extensive and rapid diminution of the circulatory area by the caseous disorganization. It may lead to tricuspid insufficiency and a systole : but less frequently than has been supposed. The lowering of the arterial tension is a constant phenomena in the tuberculous subject ; a phenomenon that is better marked when the fever is most active or when the cachexia is most advanced. It exists, however, in mild cases of tuberculosis and in those that are apyretic, or even subfebrile. It begins with the disease and is not changed by treatment. It is essentially due to the action of the ectatic toxin produced by the bacillus or the associated infections. It may have a certain diagnostic value in the absence of all pulmonary phenomena, and it may be said that the cases of tuberculosis that are cured are those in which the tension habitually returns to normal. The instability of the pulse is a consequence of this lowered arterial tension, since the acceleration of the pulse is frequently out of all relation to the temperature. True attacks of tachycardia that are due either to the phenomena of mechanic irritation (pressure on the ganglia), or to toxic influence (neuritis), or to the combined influence of irritability of the pneumogastric nerve and lowered arterial tension, may appear in tuberculosis. [J.M.S.]

8.—At a meeting of the Académie des Sciences, April 23, 1900, Marinesco gave the result of his observations upon stained specimens from the nervous systems of individuals varying in age from 60 to 110 years. The studies lead to entirely opposite conclusions to those advanced by Metchnikoff, who believes the **phenomenon of senility** to be due to a struggle between the tissue elements in which the macrophages destroy the "noble elements" incapable of defending themselves. Marinesco believes that senile atrophy is the result of modifications that take place within the nerve-cell. These changes may be summarized as follows: 1. Rarefaction and disorganization of the chromophilous bodies which produce a sort of senile chromatolysis that may be either perinuclear or diffuse. 2. The formation in considerable quantity of an inert substance which arises principally from the destruction of the chromophilous elements and that diminishes the nutritive and reparative capacity of the cell. 3. The disappearance of a certain number of the processes of the cell. 4. A variable diminution, usually not very well marked, of the body of the cell amounting, nevertheless, to a true atrophy in certain cells. In the course of different pathologic conditions, particularly where the achromation is disorganized, the neuroglia cells multiply and invade the nerve-cells, playing the role of neurophages. This process of neuronophagism is very apparent in certain cases of myelitis. The explanation of **senility of the nerve-cell** should be sought in a defective chemic synthesis that induces a disorganization of the element shown by a reduction in volume and in the number of chromatic granulations, by senile chromatolysis, and by the formation of a so-called pigment substance. In order to prevent these manifestations of degeneration it is necessary to stimulate chemic synthesis of the nerve-cells. [J.M.S.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

Sodium Cacodylate.—Grasset (*La Semaine médicale*, No. 11, 1900) contrary to the opinion universally expressed at the meeting of the medical society of the Paris Hospitals on March 2, 1900, has found that sodium cacodylate in most cases is well borne when administered by the mouth, and produces its well-known therapeutic effects. Thirteen cases in which the drug was employed are cited. Many of the patients gained in weight, especially 4 with phthisis, 1 with chorea, and 1 with Grave's disease. In none was the garlicky odor present. In no case was there gastrointestinal disturbance. Improvement in appetite always preceded the gain in weight. The daily doses used by the author varied from $\frac{1}{3}$ to $\frac{3}{4}$ of a grain. The treatment was continued for 10 days and then interrupted. Brousse, Grasset's colleague, had used much larger daily doses (4 to 5 grains) in dermatological cases without experiencing any untoward effects. Grasset suggests that sodium cacodylate should first be given by the mouth, and if intolerance is encountered, the method of administration could be changed to the hypodermic or rectal method.

Belbèze (*La Semaine médicale*, No. 13, 1900) reports 3 cases of simple chorea of moderate severity in children aged respectively 8, 12, and 14 years, in which sodium cacodylate was used with success; a rectal injection of 1 dram of sodium cacodylate solution (1 to 400) was given daily for the first 5 days, twice daily for the next 5 days, and thrice daily for the next 5 days. After an interruption of 5 days the treatment was repeated for 15 days. There were no untoward effects.

Prokhorow (*Wratsch*, No. 19, 1899), quoted in Merck's annual report on the year 1899, gives his experience of the applicability of **cacodylic acid** in the following conclusions; (1) cacodylic acid is one of those arsenic compounds which can be introduced into the animal system in very considerable doses and may therefore be regarded as innocuous as compared with other arsenic compounds; (2) whether taken internally or injected hypodermically, cacodylic acid always exercises a stimulating effect which is manifested by an improvement in the general condition of the patient, and of his appetite, and an increase in the weight of his body; (3) the stimulating power of cacodylic acid is particularly pronounced at the beginning of the treatment and gradually demonstrated somewhat, whereas the effect upon the increase of the body's weight is in many cases permanent; (4) cacodylic acid does not, even in large doses, interfere with the functions of the intestines. It is split up within the body rapidly and the final products are chiefly excreted by the lungs and kidneys.

The Non-Operative Treatment for Hemorrhoids.—In a leading article on this subject in the *Therapeutic Gazette* for May 15, 1900, it is stated that it is generally conceded that **hemorrhoids** are an expression of local rather than general trouble, that they are rarely due to disease of the liver, or weakness of the heart, but are mostly caused by constipation or urinary obstruction; and that a major part of the treatment consists in remedying their causes. In the vast majority of cases purely medicinal measures, such as the use of ointments and suppositories, at the best only afford relief from distressing symptoms. Of the various drugs used, probably ichthyol, belladonna, eucain, cocain, chrysarobin, and hydrastis are the most serviceable. Ichthyol and belladonna are useful in lessening the congestion, the latter particularly for its sedative action on the reflexes, eucain and cocain as anesthetics, chrysarobin and hydrastis because of their astringent action. The mechanical means of treatment consisting in douching with cold normal saline solution, or lotions of hydrastis, hamamelis or alum applied immediately after defecation, are extremely valuable, not only for their palliative, but for their curative effect. The regular use of the conical dilator employed up to the limit of tolerance and lubricated with a 5 or 10% ointment of ichthyol and lanolin, is also most serviceable. Among laxatives, cascara is perhaps the favorite. Clysters of cold or very hot water, to which may be added hydrastis, are, however, preferable. The popular nonoperative curative method of treatment is by hypodermic injection. A 3% solution of carbolic acid is, perhaps, the favorite injection. A 10% cocain-solution may be employed to anesthetize the part. The hemorrhoid is then clamped at its base, but not firmly enough to crush the tissues and is injected with from 3 to 8 drops of the solution. In 2 or 2 minutes the clamp is loosened and the patient is allowed to proceed with his regular work. The treatments are repeated every 2, 3, or 5 days. The temporary swelling is followed by atrophy. The cure may require weeks or months, but the ultimate result is likely to be excellent. For external thrombotic hemorrhoids incision under cocain, and turning out of the clot is always an advisable procedure.

The Treatment of Phthisis.—Syers (*Treatment*, May, 1900) condemns the use of creosote, guaiacol and other antiseptic remedies since they have universally, in his experience, excited gastric disturbance. He has never seen the excellent results which have been claimed from the administration of these remedies. He believes that most cases will derive benefit from judicious feeding, judicious clothing, and from access to pure air. As patients get well under a great variety of climatic conditions, he holds that it is not altogether unnatural to suspect that, after all, the vis medicatrix naturæ may have as much to do with the recovery as the latest orthodox mode of treatment, especially when it is remembered that patients do recover even under the most adverse circumstances and surroundings. After freely expressing his disbelief in the efficacy of any of the methods of treatment now in vogue he confesses to a little therapeutic hobby of his own in the following conclusion: "There is one method of treatment, too, which I think deserves a word of commendation, and it is less often made use of than its merits apparently justify. I mean the employment of counter-irritation. I have certainly seen improvement follow the adoption of this mode of dealing with the disease, though, after what I have already said, I shall not be accused of attaching too much importance to such a procedure. I generally use equal parts of tincture and liniment of iodin painted on over the affected apex sufficiently often to roughen the skin, but not to make it sore. Six per cent. iodin vasogen also acts equally well."

Adonidin.—Stern (*Merck's Archives*, May, 1900) concludes from a study of this drug that while its physiologic action is similar to that of digitalis it may be safely administered in such pathologic conditions, where digitalis, if given at all, should be administered with the utmost caution. In its rapidity of action adonidin almost equals nitroglycerin. In this respect it surpasses digitalis, caffein, spartein, strophanthus, and convallaria majalis. It also surpasses, according to the author, these drugs in certainty and permanency of action. The diuretic action of adonidin in health is limited, being about equal to that of digitalis. As a physiologic diuretic it is decidedly inferior to caffein, strophanthus, convallarin and spartein. The diuretic action of adonidin in certain affections of the kidney and in pyretic conditions is more pronounced. Its greatest diuretic force is exhibited in conditions accompanied by dropsy and low arterial tension. There is no instance on record in which adonidin produced lethal effects in man. The dose of the drug varies according to the object desired, $\frac{1}{12}$ of a grain two or three times a day may often suffice to overcome asthenic conditions; $\frac{1}{12}$ of a grain three or four times a day, the dose most frequently employed by the author, corrected arrhythmia, stopped precordial pain, and when used hypodermically often relieved cardiac dyspnea; $\frac{1}{6}$ of a grain three, four, or five times a day influenced edema and promoted diuresis, especially in cases characterized by low arterial tension. The author reports a number of cases of chronic nephritis in which the remedy proved exceedingly efficacious as a cardiac tonic and diuretic. In "tobacco heart" he found the following combination most useful:

℞. Adonidin..... $\frac{1}{12}$ grain.
Ammonium carbonate..... 2 grains.
Camphor..... $\frac{1}{2}$ grain.

Mix and make 30 such powders. One powder three times a day.

Original Articles.

QUESTIONS OF THE DAY IN MEDICINE.[1]

BY J. M. DACOSTA, M.D., LL.D.,
of Philadelphia.

Gentlemen:—It is to the custom of Yale University that calls one unconnected with its Faculty to address the graduating class at the commencement exercises that I owe the pleasure of speaking to you today. It is more than a pleasure, it is a distinction; for I am here as the guest of the University, and as your guest, on what is the most important day in your lives. Henceforth, indeed, you claim your share in a profession of ancient lineage; its traditions become yours; its honor yours. You will soon be conscious of the currents that sweep it on, and be impressed with the feeling that it is duty to contribute to its steady progress. But to do so, you must understand its present state and its wants, and it may not be inappropriate if I devote the time at my disposal to an examination of some of the questions concerning its actual position, and indicate how I believe we can all aid in its development.

If we were asked what in our day has contributed most strikingly to the enlargement of medical knowledge and has been most potent in far-reaching results, the answer would be, unhesitatingly, the recognition and study of the minute organisms that are found to be the germs of disease. This is the bacteriologic age, and daily the question is forcing itself on us, what the true relations of bacteriology to practical medicine are, and in how far it is solving vital problems. In so far as it is solving the problems of the causation of disease, it is everything. The explanations of the causes of disease that we are obtaining through it are so immeasurably in advance of what we even suspected 30 years ago, that these appear jejune and puerile contrasted with the accuracy of present knowledge. Through bacteriology medicine has been connected in its best sense with science, and it has come to this, that the words of the French philosopher are proving true: "Savoir c'est connaitre par les causes." We are beginning to experience the pleasure indicated by Virgil: "Felix, qui potuit rerum cognoscere causas."

Bacteriology has been thus far chiefly valuable in ascertaining with certainty the cause of tuberculosis, of diphtheria, of the bubonic plague, of relapsing fever, of Asiatic cholera, of epidemic cerebrospinal meningitis, of pneumonia, of typhoid fever, of tetanus, of anthrax, of glanders; a long list, which is almost monthly swelling. But it is not to the great results in determining the causes of disease that I want to call your attention, but rather to the relations of bacteriologic study to the every-day work of the physician, as in the recognition of tuberculosis, of diphtheria, of epidemic cerebrospinal meningitis, of typhoid fever. It has placed their diagnosis on different and much more scientific footing; and no physician who neglects this means of solving doubt can be looked upon as wholly availing himself of the resources of his science. Yet to get the fullest help from bacteriologic tests they must be taken in association with the clinical evidence, and controlled by it, as they in turn control the bedside knowledge. There are modifying conditions to be explained; the amount of the germ life present and its activity are to be considered in connection with the manifestations of disease; and much conjoined work of the bacteriologist and bedside physician is still needed before all purely bacteriologic conclusions are accepted in diagnosis.

Other striking results have already come from this immense science, dealing though it does with the infinitesimal. One is, that the knowledge of the germ life has led to attempts at finding the means of checking its terrible and devastating growth, and to these attempts we owe the science of aseptic and antiseptic surgery. Bacteria are the degenerates of a giant minute world. There are two kinds of degenerates, those that are viciously degenerate, and those that become vicious when the surroundings favor it. And then there are benevolent bacteria that are trying to do good, but are not often strong enough to overcome the degenerates, and it may be in the power of science to strengthen these harmless and beneficent creatures. Thus far we have chiefly endeavored to deal with the first two classes, and we are learning to control infectious maladies, even if we cannot eradicate them. We cannot eradicate them because our means are as yet imperfect for coming in rapid and destructive contact with their myriad propagators. But every new chemical agent, every new combination, is at once investigated with reference to its germ-destroying properties. And by what simple means, too, we have learned to defend ourselves. Take the knowledge, for instance, that in sunlight and in water the bacillus of tubercle has its activity largely checked; that such ordinary materials as chloride of lime or carbolic acid added to the dejecta of typhoid fever render them innocuous. With new and penetrating substances, or with the old ones studied more and more closely, we shall finally control disease on a large scale, shall stop, to use the language of Shakespeare, the death of each day's life, and the time will come when epidemics will be but memories. I, and those of my generation, will not live to see it; perhaps you may not; but, if the way in which we have progressed in the last 20 years be the steady rate of progress, your children will.

Science is thus becoming the controlling power, the queen of the world; this science of minutiae will do more than the most powerful potentate in shaping the destinies of countries and of nations; for how different will be the outlook, and what different questions will arise for the mass of mankind, when there is no longer typhoid fever, or cholera, or plague, or tuberculosis to ravage it.

One of the most promising outgrowths of bacteriology, and the study through it of the nature of disease, is that it has led to the knowledge of the counteracting agents that are generated in the system itself, and, further, to the attempts at cure by the antitoxins. Many and striking are the studies of the various curative and protective serums, and there is great hope for medicine in this line of research. But it is in its infancy, and except in its brilliant and life-saving application in diphtheria, and in the marked influence shown in relapsing fever, the therapeutic power of antitoxic serum, either curative or preventive, has not proved itself very decided. This is the state of the case in pneumonia, in ulcerative endocarditis, in typhoid fever. It is likely that we do not know enough yet of the true poison of these maladies, that we do not appreciate sufficiently, or are not able to stop, the blight of mixed infections.

In no part of the vast field in which bacteriology is influencing the detection and cure of disease, are the

[1] Address delivered June 26, 1900, at Yale University Commencement.

observations more anxiously watched than with reference to the plague. A survey of the horizon so far as epidemics are concerned may well, indeed, make us fearful that large parts of the world are to experience again what the plague means among the peoples. We must be forearmed; and we naturally inquire whether we know any more of the nature of the dread disease than the physicians of the time of Sydenham, when in Naples alone in 1656 about 300,000 perished, and when in London, a decade later, its hopeless character was indicated by the sign of a red cross on the plague-stricken houses with the words underneath, as Pepys tells, "Lord have mercy upon us," and its spread was only stopped by the great fire which destroyed the infected area. Fortunately, we know now more at least of its nature. Nothing, indeed, illustrates better the advance in knowledge, and the cosmopolitan workings of science than the discovery of the cause of the plague by the labors of Kitasato, a physician in Japan; in Japan, where in the last century the prevalent system of detecting disease was by inspecting the abdomen; in Japan, where the cautery and acupuncture were for long periods about the sole medical means employed; in Japan, whence came the direction of Hokkukō, which some of our most progressive surgical brethren may well envy, that "when medicines are ineffectual, as well as acupuncture and the cautery, the abdomen and back may be opened, the stomach and intestines washed, and whatever is likely to save the patient may be done;"[2] in Japan, where but little over 50 years ago a decree was issued that Western medicine should not be practised, nor foreign medicines used.

Yet from this now thoroughly alert and progressive nation, which has already adopted some sanitary and medical regulations that we might well imitate, such as the compulsory registering of the ingredients of patent medicines, thereby holding in check the wholesale poisoning that goes on through them, comes the discovery of the plague-bacillus, and the attempt by means of an antitoxic-serum to inoculate against it, as well as to lessen the death-rate among those who have contracted the disease. The results obtained are very encouraging; the mortality in a set of cases treated was reduced from 70% to 13%. In over 8,000 persons inoculated by the antitoxic-serum by Haffkine, in Bombay, only 18 contracted the disease, and but 2 died. It is thus not too much to believe that before long we shall be able to add the plague to the list of preventable or controllable diseases, just as Jenner's great discovery of vaccination did with smallpox, its rival in destructiveness and terror.

The great possibilities that present themselves to stamp out disease by the employment of preventive serums, have led to efforts in all directions to render the individual immune. But for many years to come I think that we shall have to be content with the use of the serums in the curative treatment of disease, or when special epidemics, like the plague, are threatening. With the far from certain knowledge that we possess, the enthusiasm which now endeavors in advance of exposure to render the person unsusceptible by injecting him with all possible serums as a safeguard, is not likely to recommend itself to the average parent. Fancy what one would have to go through with in one's youth: to be first vaccinated; to be revaccinated; to be injected with the antitoxin of diphtheria as a preventive, with those of measles and scarlet fever when they are discovered; to have the antitoxin of tetanus passed into the body, lest young Hopeful when he cuts his finger should have lockjaw; to be inoculated for typhoid fever as adolescence approaches; to have the antirabic serum used that there may be immunity in playing with the little pet dog; to have introduced into the system the serum of a horse kept in a state of chronic intoxication so as to produce an abiding horror of strong drink; to undergo an injection of antivenom every time a journey is contemplated to where there are snakes—on a summer trip to Virginia, to the mountains of Pennsylvania, or on a winter trip to Florida. Fancy, too, what might be the state of the blood and the nervous forces in such an all-round immune individual. Who knows but what it may develop a new type of man—not likely a more vigorous type, though immune to everything, even, perhaps, to moral corruption.

Bacteriology is a science to be cultivated as such, having its own problems to be solved in its own ways, and it can only to a certain degree come into the daily life of the physician. Nor can the bacteriologist supersede him, as you might judge he is bound to do by the prominence given to the subject in medical journals and societies, and by the ardor and claims of many of the enthusiastic followers of the new science. Medicine will never be practised purely through a laboratory. The man of action is still, and always will be, paramount; the man who takes a broad view of all the circumstances of the case, recognizes the individual in the patient, takes full heed of his nervous organization, and estimates correctly his vital forces. There must, therefore, ever be a commanding place for the physician in the highest sense, as well as for the clinician who studies clinical questions for himself in a clinical manner, though with full knowledge of the bacteriologic evidences and possibilities. Further, even with the keenest appreciation of the powers of diseased germ life, there is a great field always before the physician. He has to put the soil in the best condition to resist infection; to strengthen not only the individual generally, but the particular tissues which are likely to be invaded.

The practitioner of medicine, engrossed in his daily occupation, can not be a competent bacteriologist, any more than he can be an accomplished organic chemist; it takes too much time and trained skill. To attempt, to any extent, to do his own bacteriologic work, would result in neglect of his patient and the impairment of his own executive efficiency. It would be as if a general were to be his own adjutant, quartermaster, and engineer officer, and tried himself to do all the work that belongs to the entire staff. Yet so valuable and helpful has bacteriology already proved itself in connection with practical medicine that there can be no longer a scientific practice of medicine without it, and without access to a laboratory in which it and the means for the chemical and microscopical studies that go hand in hand with it are fully provided for. Now, such laboratories can not exist in individual hands; the labor and the expense attending are too great. It is incumbent, therefore, for every community, large or small, to possess one for public use. In every community the mass of the sick and ailing are among the poor and destitute, and it is through them chiefly that contagion spreads and epidemics gain headway. An active municipal laboratory is thus of the highest necessity, and liberal provision for a bacteriologic laboratory in city or town is a test of the enlightenment of a commonwealth. A laboratory of the kind forms part of a system of sanitation, and is, like the water-supply,

[2] Whitney, Medical Progess in Japan, Yokohama, 1885.

drainage, adulteration of food, a matter in which not only the medical profession, but every citizen, has a deep concern. In addition to what public laboratories can do, it would be very useful if the universities and colleges and hospitals that have laboratories attached to them would make arrangements by which, for small fees, the necessary bacteriologic and chemical examinations required in the daily work of the profession could be made. It would greatly extend valuable, indispensable knowledge.

One of the absorbing questions of the day, one of the greatest practical interest, concerns the proof afforded of transmission of malaria through the bites of insects, especially of several species of mosquitoes. This has been for some time suspected, and it is not a little strange that certain savage tribes long since believed malarial fever to be due to mosquitoes, and designated the insect and the disease by the same name. Manson was one of the first to point out that malaria was propagated by mosquitoes, and this has now been conclusively demonstrated by the brilliant researches of Ross. In the light of the knowledge gained through them, there is a chance of arresting that curse of tropical climates, malaria.

How prevalent malaria is, how fatal to human energy and progress, how it saps vitality, and even where its fevers do not prove destructive to life, how it leaves behind it broken constitutions and impaired powers, is but too well known. From the time of the fever of the marshes around Rome, of which Horace expresses the popular thought,

". . . adducit febres et testamenta resignat,"

to the experiences of the African explorers, to the war records of the Walcheren, the Chickahominy, of Madagascar, and of Cuba; from many a home in our Southern and Southwestern States; from the banks of the Amazon and extensive districts of South America; from India and from China,—there is the same tale of widespread, subtle, pernicious action. What a great step it will be then if by exterminating in certain localities the pest of mosquitoes, by removing their natural breeding pools in stagnant waters and marshes and attacking their larvae, we stop the chief source of malarial infection. That some of the unoffending species of mosquitoes might also suffer in this crusade, will not, I suppose, be resented by humanitarians, for if the mosquito has anywhere any friends or following, they have not as yet made themselves known or formed themselves into a society. Let us hope that this country will take its share in the practical study of this far-reaching question of the propagation and prevention of malaria. We have in the excellent scientific service of the Surgeon-General's Office and in the Bureau of Animal Industry in the Department of Agriculture the means at hand, and a tithe of the appropriation by Congress for dredging unnavigable rivers and improving valueless creeks would go far towards banishing malaria from our land.

A vital question of the present day, perhaps the most vital one, is the eradication of consumption. Formerly, we knew nothing of the nature of tuberculosis; now we know it, and with this knowledge have come imperative duties. No one part solely of the habitable globe is interested in destroying the disease, for it is everywhere. No climate, no race is absolutely exempt, though some races and climates suffer more. It is in Iceland, as in Brazil; it accompanies armies; it is found on the decks of vessels. Of every thousand persons, from two to three die of it, in the country somewhat less, in large cities, more; there may be as many as seven or eight, and even two or three to the thousand represent about one-seventh of the mortality from all causes. It is calculated that in the United States alone there are a million of people affected with it. It is more destructive than epidemics, more destructive than yellow fever, than cholera, because it is continuous and more widespread. In the last extensive epidemic of yellow fever in this country, in the Gulf States in 1878, about 16,000 died of this disease. The whole nation stood aghast at the fearful sacrifice of life; yet, in the same year, the deaths from consumption in the cities of New York, Brooklyn, Boston, Philadelphia, and Baltimore alone were over 11,000, and in the single State of New York to this day about 13,000 are annually the victims. With these terrible figures everywhere staring us in the face, it would be naturally supposed that widespread alarm would conduce to most active measures to stop such ravages. But this is not the case. The facts are accepted with stolid fatalism. A few cases of yellow fever, of cholera, rouse a community and often excite a panic that leads to most rigid quarantine, even with the irregular method of shotgun and rifle; thousands of cases of consumption are followed to the grave by mourners with the thought that these deaths are not preventable, they are the will of God.

Yet they are largely preventable. Since our knowledge that contagion is the main cause of the spread of consumption, the whole subject has assumed a different aspect. There was formerly in lack of knowledge excuse for nonaction; there is none now. The disease is contagious, though not actively so, and this very absence of great virulence in its cause is the most hopeful reason for believing that the germs can be destroyed, and, with them, the disease. By direct therapeutics, by serums and other means, very little has as yet been accomplished. It may come some day, but up to this time there are no adequate results from the many and earnest trials. By improved hygienic means and disinfection, something has been effected. The encouraging figures reach us, for instance, from Denmark,[3] that whereas in Copenhagen the mortality in the years 1870 to 1874 was 3.42 to a thousand living persons, an increase on former years, it diminished in the years 1895 to 1898 to 1.86; a result largely attributed to the sanitary means employed or more rigidly enforced since Koch's great discovery of the causing germ of tuberculosis, though it is fair to state there was also, from the improved general sanitation, lessening in the rate of all diseases. A decrease of pulmonary tuberculosis is strikingly seen, too, in Massachusetts, where the death-rate has of late years fallen from 4.2 to the thousand inhabitants to 2.2.

Whatever may be our power ultimately of arresting tuberculosis in the individual affected with it, the great thing to be done now, if we would limit this scourge, is to treat it as we do any other contagious malady—separate the sick from the well; moreover, we must separate them by placing them so far as possible in localities where abundance of sunshine, purity of air, and nutritious food can help towards recovery. When we reflect on the tremendous numbers to be dealt with, and the fact that the great majority of the cases are among the poor, the enormity of the task seems appalling. But it must be done;

"Diseases desperate grown,
By desperate appliance are relieved,
Or not at all."—*Hamlet.*

[3] Lehmann, Kongress zur Bekämpfung der Tuberkulose, 1899.

A community has no more right to allow this source of contagion to exist in its midst than it has to allow any other source of contagion for which it legislates. The sound must be protected from the unsound. Besides, all observation shows that, under favorable hygienic conditions of country life, especially in an atmosphere antagonistic to the germs of tuberculosis, a large proportion of persons who are in the earlier stages of the disease recover. Those whose circumstances admit of it can seek any climate and make any arrangements favorable to their restoration. But not so the poor consumptive. His lot is, indeed, a terrible one. Constantly losing strength and power; feverish and in distress; shut out from most hospitals because their accommodations do not permit them to receive any large number of cases likely to be of very long duration, because, too, it is now recognized that it is not fair to others to admit into the wards what will be a source of infection; shunned and neglected, and ever growing weaker, while yet obliged to labor incessantly for the daily bread of himself and family,—the poor consumptive is the most pitiable figure in our midst. Help him where you can; labor for him. Labor for him with the merchant princes, who, in this country, certainly have shown that they appreciate the duties as well as the pleasures of riches. Labor with them that their benevolence and generosity take also this direction. Plead with the sovereigns that they imitate the splendid example of the young Queen of Holland, who at the time of her coronation gave a domain and a large sum for the establishment of a sanatorium for the consumptive poor. Influence the people at large—for the task is so great that it is almost beyond the power of individuals—to bring about legislation that the State may provide these sanatoriums, and thus diminish or get rid of this curse of our times. Already there are promising signs of such action. In France and in Germany establishments, both private and public, are multiplying. In this country the Legislature of New York has decided that in the Adirondacks be built and equipped by the State a hospital for indigent consumptives, and the expenses of its maintenance be assessed by counties, according to the number of patients they send. Bills are before other legislatures with similar purport. The United States Government has provided in New Mexico, at Fort Bayard, a hospital for the consumptives of its army, and one at Fort Stanton in connection with the Marine Hospital-Service. But there is immense need still in all directions for strong and sustained effort. O, that some Peter the Hermit, some St. Bernard would arise, and infuse into us the fervor of crusaders. To what nobler task could any man devote his energies than to the help of the thousands who are dying annually of consumption. May some of you feel this to be your life work, and, while accomplishing vast good, add to the renown of the University which you all hold dear.

The advance in the diagnosis of disease continues markedly in our day. It is difficult to realize how great has been this advance, and it is largely owing to the laboratory and to the aid of instruments of precision. In place of leaning on flimsy materials of conjecture, we rest more and more on buttresses of adamant of indisputable facts. The misleading hazes that gave false proportions to the capes and rocks have been cleared by the refulgent rays of science. Indeed, in every respect as regards knowledge, the doctor of the present day starts on a higher plane than his predecessor; the doctor of tomorrow will be still more enlightened, and the time will come, with reference certainly to the recognition of disease, and even probably as to its causation, that there will be no doubt, there will be a science in which diagnosis has become absolute, in which etiology is perfect; the only problem remaining will be to determine, not what is the matter, but what will cure and what will prevent.

Physicians have always taken an interest in matters of humanitarian and sociological concern, such as the condition and housing of the poor, the insane, the establishment of hospitals and municipal sanitation, and, by their training and opportunities, they are peculiarly fitted for aiding in the solution of these large questions. In our day, more than ever, the profession of medicine is interesting itself in such general subjects, and is unselfishly discharging the highest duties of citizenship in connection with them. As regards the checking or eradicating of disease by improved sanitation on an extensive scale, one of the difficulties to be overcome is the strange thought many of the public have that, if measures of the kind are urged by doctors, it is because it concerns them chiefly, and is in some occult way for their own benefit and profit. Little is understood the spirit of a profession in which every discovery that tends to prevent or limit disease is hailed with delight; which always acts from the noblest motives of humanity; whose highest aim is to abolish itself.

Another question which, judging from the warm discussion about it, is one of the day, is that of medical education. But it is not only of our day, it is of all days. There must always be a question as to the right kind of medical education, and of improvement in it; were it otherwise, it would be a sign that our science is stagnating. The progress of medicine is so rapid that new points of view are constantly coming in sight, almost new sciences being added. The ascent enlarges the horizon; mountain groups that looked inaccessible and forbidding in their rocky sternness are seen to have defiles through them, and even winding roads are visible. The greatest advance made in the teaching of medicine in the present day is the recognition that it must be made demonstrative. The laboratory, the clinic, the bedside instruction, have largely superseded the didactic lecture. It is right that they should, but whether wholly, is not a matter here to be entered into. Certainly, everything cannot be demonstrated, and until there are such enormous facilities that this can be done, didactic instruction, properly conducted, must have a place. But it is not subjects of the kind that I can here discuss; indeed, what I have to say on this broad question of medical education is only to offer you a few thoughts suggested by speaking to you under the shadow of a great university. It is from universities alone, or such colleges as exist in connection with hospitals well endowed, that progress can come. They alone can have, or attract, the means to teach medicine in the modern spirit of practical work, of demonstration. To attempt to teach it now in any other way is a great wrong committed toward young men, and a crime toward their future. Then there is something in the university spirit that you share with all other departments, and that is greater than any one; something that you will take away with you as an inspiration in your daily task; something in the character of the university and in her general renown that will always be with you, and will make you glad to think that you are among her sons—you, whom I address, the sons of Yale.

But it is because I believe the future of medicine is

so largely dependent on the course universities will take, that I desire to point out a few matters in which the university must be influenced by professional necessities. A university, and a strong and well-endowed one, can alone insist upon stringent entrance requirements. Yet it is well that these should be looked at in the spirit rather than in the letter. To make, at least in this country, a collegiate degree a necessity, will exclude many who are perfectly fitted for the study of medicine, but who, from various circumstances, have not been able to give the connected study to obtaining a degree. What should be the standard is not so much actual knowledge as mental training and fitness; to be proved not alone by a degree, but, where this has not been procured, by an examination. The examination should be, too, as wide as possible; varied subjects may be offered; it is not mere learning, but grasp and reasoning powers, that should determine the fitness to study a profession.

If, however, a degree in arts or science is to be insisted on, the universities must take heed of the growing sentiment that the course for it should be shortened, at least for those who are to enter professions requiring long periods of study, or that these studies should count towards the arts or science degree. University and college men, otherwise, reach their professional studies too late. It was not always so. We have great examples to the contrary. Daniel Webster and Rufus Choate both graduated from Dartmouth at the age of 19, and began the study of law. James Kent took his degree at Yale at the age of 18, and was admitted to the bar at the age of 22. Edward Everett graduated from Harvard at the age of 17; so did John Lothrop Motley. Bismarck went to the university for his technical studies when 17 years of age. Helmholtz left the Potsdam Gymnasium at the same age to commence his medical course in the University of Berlin. Laennec completed his academic studies when about 19 years of age, and received the medical degree of the University of Paris at the age of 23. Simpson entered the University of Edinburgh as a student in the arts classes at 14, started with his medical studies at 16, and at 21 took the degree of Doctor of Medicine. Harvey entered Caius College, Cambridge, in his 16th year, graduated at 19, and soon afterward went to Padua to study medicine. It is perhaps hardly right to cite such prodigies as Pitt and Bacon; Pitt received his degree of Master of Arts at Cambridge at the age of 17, and Bacon entered Trinity College, Cambridge, at 12, and became a student of law when 15.

The courses of study in our universities and best medical colleges have immensely changed for the better in the last years. But the system adopted is far from perfect; it is too rigid; it needs flexibility; it needs permeation with the university idea. After the preliminary branches have been mastered, some freedom should be permissible, some choice be allowed in studies, and whatever be chosen should count towards obtaining the final degree. The subjects now taught and exacted are too many. You cannot in four years turn out accomplished physicians, surgeons, and, at the same time, accomplished specialists. "*Non multa sed multum*" is the need. Yet the medical institutions are not alone to blame; the exactions of State Boards have much to do with the existing condition.

There are also too many examinations, and too much stress is laid on these. Examinations are at best but necessary evils; and the fewer the better. More credit should be given for what the student effects in his daily task, in the laboratory, in the clinic room. It is this that fits him best for his calling, it is work accomplished for himself, and the most truly valuable to him. It trains him to do, as well as to learn; and to do, is what will be required of him in life. In all directions our present system, striking improvement as it is on that of even 20 years ago, needs wider freedom. There must be less of the kindergarten and more of the university, and it behooves our great seats of learning to take the lead in this matter.

The advantage of giving the student some choice in his studies, allowing him, within limits, to pursue some branches for himself, is not confined to the student, it extends to the teacher. From the intelligent student come questions and suggestive thoughts that may determine work in regions in which the ground has not been broken. A teacher in a university, says Helmholtz, has to convince and satisfy the clear heads among his hearers, some of whom will be the great men of the next generation. And it was in the attempt to demonstrate in the simplest way how an optical image is formed by the light returning from the eye, that Helmholtz invented the ophthalmoscope, and thus revolutionized the knowledge of diseases of the eye, created, indeed, a new science.

There are many other questions of great interest to those of our day that suggest themselves, but it is not possible to treat of more. They will naturally engage your earnest attention as you proceed in your profession. The life of a physician must be always the life of an observer and a thinker. As an observer he has, in the language of Ruskin, to go to nature, "rejecting nothing, selecting nothing, and scorning nothing." But the thinker has other problems. In his imagination he will try to fathom the laws around him, and endeavor to see to what they lead. The best type of the physician is not simply an observer. The constructive mind is the highest order of mind, in medicine as in other pursuits, and it is with this view that you should try to keep your fancy bright, and not cultivate the mere accumulation of facts.

You are entering today on what is to be your vocation for life. You can carry into it the grace that belongs to the profession of medicine,—that all its aspirations and purposes are pure, and in the line of benefit to some human being. In every thought there is help and peace; in every effort, attempt at relief; in every endeavor, a blessing. Can this be said of many other pursuits? The work before you abounds in opportunity and living interest. But to succeed in it you must be devoted to it. An Eastern proverb says: "To love an art is to become skilful in it." Love then your profession in the spirit of the true artist. Take pride in its tremendous capabilities. Labor at it with tender care, and success and high reward will come to you.

ANGINA PECTORIS.[1]

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[Concluded from page 1419.]

ALL practical physicians are aware that digitalis, even when cautiously administered, is apt to do harm rather than good. Is it not indeed rather strange to lay upon the heart the blame for its own agony? If angina pectoris be due to higher pressures self-generated

[1] This lecture was first delivered at San Francisco, August, 1898. It was read again before the Leamington (England) Medical Society, November, 1899.

within the left ventricle, what are we to say of an organ which persists in thus striving to its own hurt? Is it nature's way thus to compass its own mischief? Is not the heart itself endowed beyond all other parts with self-protecting mechanisms? If the agony of angina be due to reluctant pressure, to a pressure which, as the use of nitrites proves, can be reduced with absolute safety, is it not inconceivable that the cardiac machinery should thus compass its own misery? And if stretching of the ventricle in dilation causes this pain how shall we avert the pain by administering nitrites which promote farther dilation? Finally, the symptoms alone are sufficient to disprove the hypothesis; the pale pinched face of an anginal attack is in as strong contrast with the cyanosed face and blue ears and panting nostrils of dilation, as the steady and often hard pulse of the former with the tiny irregular trickling rill and imminent syncope of the latter.

The chief advocates of vasomotor causation admit that such vascular tides may not be an essential part of an attack—that there are vasomotor cases and cases not vasomotor; I have argued already that the vasomotor factor an any case is but contingent and consequent. As an example of vasodilation in true angina I may quote the case of a lady, aged 60, an arteriosclerotic, whom I saw with Dr. Ingle, of Cambridge; she suffered from angina pectoris with frequent attacks brought on by slight increases of arterial pressure, mechanical or emotional. Dr. Ingle stated, and her own family definitely and certainly stated, that during the attacks her face flushed and turned pallid after them. At a late date, after further and more cautious observations, the same report was made. During the attack of angina the blood-pressure, whether tested by the finger or the pulse or at the seat of impulse, seems in many cases to be stationary; sometimes it rises, sometimes, especially towards the end of the attack, it seems to fall; if the arterial pressure increase under vasomotor crisping, an effect which must be very transient and probably without influence on intraventricular pressure, this phenomenon is secondary and due to reflex stimulation of the vasomotor nerves by the pain. In the case of angina sine dolore cited above there was no vasomotor constriction, at any rate, no change in radical diameter. In this part of the inquiry I should provide that to discriminate rises and falls of arterial pressure, or to estimate the mean pressure by the finger, often seems very difficult, even when the diameter of the vessel observed is constant; exceedingly difficult if the artery observed is of small or variable diameter. A few days ago a patient called upon me in whom I strongly suspected high blood-pressure. His radial arteries were thick and the caliber (Oliver's gauge) reduced. I was unable to satisfy myself that high pressure could be predicated on the perception of the finger alone, so I applied Hill and Barnard's sphygmometer. By this instrument I found that arterial pressure had a mean of no less than 180 mm. Hg., and the pulse was visible at 225.

Hitherto, gentlemen, my criticisms have been of the unpopular kind called negative; I feel now it is fair that I, who have hitherto probed the weaknesses of the arguments of others, should myself give hostages to fortune. Well, you shall have my opinion for what it is worth; I trust at least it may have the temporary value of a stimulant to thought. My opinion is that the pain of angina pectoris is a referred pain which does not owe its origin directly to the heart at all. Many years ago, in the days of my studentship at St. George's Hospital, a case came under my notice which I see as vividly as if the patient were still before me. A man of some thirty or thirty-five years, of vigorous frame, and apparently of vigorous constitution, lay propped up in bed in extreme agony. He complained, when he could whisper to us, of intense retrosternal pain, never absent indeed but returning upon him in paroxysms. The pain radiated about the shoulder or shoulders; whether it extended down the arm I cannot remember. The respiration was restrained in dread. There were no physical signs to betray the presence of the disease within. What I vividly recollect, as if burnt into my mind, is the aspect of the man bound on the rack in the presence of death, and yet, for the agony at the center of his being, unable to cry out. Consultations were held, but to little purpose save to certify that the case, if one of angina pectoris, was a strange one, because of its continuous if still paroxysmal character, and because of the fever with it. Bence Jones, whom no man exceeded in brilliancy and rapidity of diagnosis, declared for acute aortitis; the patient died suddenly soon afterward, and the necropsy justified Bence Jones' opinion. On the inner surface of the ascending aorta were groups of gray, semitranslucent patches disfiguring the walls of the slack and dilated vessels; and, let this be carefully noted, no other cause of death was discovered. The heart and coronary arteries were healthy. Such cases are reported occasionally in medical journals; I will not now stay to discuss them; suffice it to say that acute aortitis is known not only on the postmortem table but also as a disease having its own clinical features; and clinically it might be called acute inflammatory angina pectoris. If we turn to a standard textbook, such as Dr. F. T. Roberts' "Medicine" (Ed. 1894) we shall find at the beginning of the twenty-sixth chapter a short discussion of aortitis. Of its symptoms Dr. Roberts writes: "Pain over the vessel, sometimes extreme, accompanied with much tenderness or superficial hyperesthesia; a sense of heat and throbbing; severe constitutional disturbance and restlessness; sometimes a tendency to syncope; and dread of death." From these sources then we learn that inflammation of the aorta produces or may produce the agonizing pain and dread otherwise peculiar to angina pectoris." "In aortitis," says Sir W. Broadbent,[2] "there is usually angina, the attacks, at first slight, increasing in intensity and duration, and coming on more frequently as the disease advances." In the *Lancet* of May 20, 1899, Dr. Poynton narrates two very interesting cases of "acute inflammation of the aorta associated with profound myocardial disease." The introductory paragraph is as follows:

"Cases are recorded from time to time in which, with or without angina, death occurs quite suddenly, and in which the necropsy reveals a condition of inflammation at the base of the aorta unusually acute in its character and remarkably localized in its distribution. In these cases the aortic valves may be thickened by chronic inflammation and yet they may nevertheless be quite competent, and neither during life nor after death can aortic regurgitation be demonstrated and brought forward as an explanation of the sudden cardiac failure. The area of the aorta which is so gravely and severely diseased is the one from which the coronary vessels arise, and it is a natural suggestion that the heart-wall has suffered in its nutrition either from a narrowing of the lumen of one or both of these arteries, or that the vessels have shared in the same acute process, and their ramifications have become occluded as a result. A reference to the

[2] Heart Disease, p. 302–9.

literature upon this subject proves that such may be the case in some instances, but in the two cases which are recorded below I do not think that such an explanation is tenable. In neither of these two cases were the orifices of the coronary vessels certainly diminished in size, nor were their walls visibly diseased; and microscopic examination of the heart-wall showed that their ramifications were not occluded. In both cases the cardiac wall was examined with especial care, and in both the changes found were widespread and severe and of a nature analogous to that found in the aorta. It is difficult to escape from the conviction that there had been a common antecedent cause which had thus injured these two organs which anatomically and physiologically are so closely associated. The changes in the aorta were obtrusive, and in the first of the recorded cases those in the heart-wall might macroscopically have been easily overlooked, yet in both cases I should suppose the sudden death depended far more upon these less obtrusive signs in the heart than they did upon the striking changes in the vessel-wall. The question of the etiology of this condition is one of great difficulty, and it will perhaps be the most rational course to record the 2 cases with the necropsies and microscopy before allusion is made to their causation."

Of the first of these cases Dr. Poynton gives the full clinical notes; from these I will quote but this sentence: "Dr. Cheadle saw her during this attack and considered it to be one of true angina." After death the aorta in its first two inches appeared to be the seat of an acute, supervening upon a more chronic, inflammation. The branches were not affected. The orifices of the coronary arteries were open, the walls of both vessels were macroscopically healthy, and, in a number of sections, no occlusions were detected. No micro-organisms were detected in heart or aorta. Of the second case no clinical history was obtained. The death in both patients Dr. Poynton attributed directly to the cardiac degeneration. In the Hunterian Lecture of 1899 on the "Effects of Influenza upon the Heart and Circulation," Dr. Sansom describes (among others) the anginal sequel, of which I also have seen at least two examples, both, though of considerable severity, ending in recovery. Dr. Sansom says, "the attacks (in these cases) resembled in the closest manner true angina pectoris. . . . I concluded," he adds, "that the cause of these symptoms was a disorder of the nerves alone, or of the central nervous system—a form of neuritis or visceral neuralgia—and not a true angina pectoris." In one case, however, which proved fatal three years after the onset of the influenza, the author secured a necropsy (performed by Dr. Basil Walker) in which aortitis and atheroma were found. In other like cases of influenza with intense retrosternal pain Dr. Sansom inferred the presence of aortitis with some assurance. The morbid changes in the aorta are described minutely in the lecture, but they presented little to distinguish them from aortitis, acute or chronic, arising from other causes. During an attack Dr. Sansom noted that the radial artery contracted and the face and mucous membranes became pallid; the vessels then dilated and the face and lips flushed. These vasomotor variations, as I have said, are to be regarded as secondary to the irritation of adherent nerves. In the lately published *Traité de Medecine*, edited by Dr. Brouardel,[3] Dr. Boinet says:

"In aortitis the pain is retrosternal . . . is sometimes compared to a bar compressing the chest . . . sometimes it is agonizing, extremely violent, piercing, atrocious, with accesses of painful dartings to the left shoulder . . . often in the left arm down to the little finger. In their suddenness, their intensity and their gravity these attacks resemble angina pectoris. . . . They are sometimes followed by syncope, by sudden death. An attack of angina pectoris may be the first manifestation of acute aortitis, especially just above the sigmoid valve, . . . when it does not depend upon an obliteration of the coronary arteries, . . . which event is observed more particularly in chronic aortitis."

Brouardel,[4] who has studied aortitis chiefly from a pathogenic point of view, says of the symptoms that they vary with the acuteness of the disease and other conditions, but that the most frequent of them is angina pectoris.

I will remind you again that lesser anginal symptoms—"stenocardia"—referred to the sternum, are frequent concomitants of disease in the aortic area. Take, instead of cases of some rarity, one of a kind which we see daily. Many years ago a lady called on me to complain of a pain felt on walking up a hill. The pain lay behind the sternum, and was described as a peculiar constriction, not causing shortness of breath, but arresting or checking her more or less; when severe, it radiated in ill-defined directions about the upper breast; it did not invade her arm. This patient was then some 48 years of age, and had weighty affairs on her hands, many of which were not without anxiety. The arterial blood-pressure was decidedly above the normal, there was "fireman's helmet" dulness at the upper part of the sternum, the right subclavian was displaced a little; and, although she had a fat neck, pulsation was to be detected in the suprasternal notch. The aortic second-sound was strongly accentuated, the heart's impulse was heaving and the apex a little out to the left. Yet there was no sign of any condition about the heart to embarrass the organ gravely. The blood-pressure was increased no doubt, but apparently was well within the increased muscular strength of the left ventricle. Why pain then, if such pain be cardiac? In my opinion, the pain in her case, and in all such cases, is not cardiac but aortic. Aortic also was the like pain in an atheromatous man of 65, who could not wield his salmon-rod without bringing it on, and could not get well rid of it without lying down. Now these common cases of painful aortic tension in chronic aortitis are of the nature of angina pectoris; like acute aortitis, they suggest that the seat of anginal pains is not in the heart, as every writer seems to suppose it to be, but in the aorta. Nay, is not the throbbing about the arch of the aorta felt by many persons under excitement, as for example, before rising to speak in public, sometimes enough to suggest the kind of pain we are wont to associate with the slighter degrees of "stenocardia?"

The association of angina pectoris with aortic regurgitation is too well known to need discussion here; usually these are cases of chronic aortitis, syphilitic or other. But I have seen some cases of acute disease in the aortic area attended with agonizing attacks of angina, even with the status anginosus, as in an undergraduate of Cambridge, suffering from acute rheumatism involving the aortic area, whom I once visited with Mr. Cooke. The very interesting cases in which the extension of pericarditis to the root of the aorta has been attended with anginiform pain are not without much significance in this respect. This subject is dealt with in an important article in the *Deutsch. Arch. f. klin. Med.*, 1897.

Here let us touch, but for a moment, on the frequent association of disease of the coronary arteries with angina pectoris. We shall not forget that many cases of

[3] Vol. vi, p. 667.

[4] Études sur les aortites. Soc. d'editions scientifiques. Paris, 1894.

angina are on record in which the coronary arteries were not diseased, or not characteristically so, or were pervious; and conversely that disease, characteristic disease, of these vessels is very often found without any symptom of angina. I suspect that the association is not directly causative; and that the essential condition is disease of the first part of the aorta, with which disease of the coronary arteries is ordinarily concurrent. Furthermore, I have frequently urged upon pathologists that disease of the coronaries, even disease so extreme that their mouths are closed or even covered is strangely consistent with vigorous and substantially found ventricles. The late Professor Kanthack, to whom I had shown several such specimens (among them a case of aortic obstruction in an old woman in whom the root of the aorta, the valves, and the coronary orifices were matted so densely together that the issue of the blood was, by a small channel, hard to find with a probe, and yet in whom was a sound, red, left ventricle, able for years to drive blood through this channel with an increase of velocity equal to sustain the aortic blood-pressure), admitted this curious fact; and I have often demonstrated the same thing to other physicians. The explanation is hard to find; of the fact I have no doubt. The assertion of Dr. Gibson[5] that "it is an undeniable fact that the entire adequacy of the heart depends upon the integrity of the coronary circulation," if true in the main, must be stated with considerable qualifications.

But you will ask me how comes angina to be so fatal? Are not aortic dilations and chronic atheromatous changes in this vessel common enough, and, if ultimately part of the machinery of death, nevertheless not lethal in any dramatic sense; how indeed should aortic disease, apart from rupture of the vessel, prove thus suddenly fatal? This difficulty we have to meet in any interpretation of angina. How is it that an attack of pain should at length kill suddenly, and as it were by a heart-stroke, when time after time physicians have watched the invasion to the very doors of death without a totter of the heart, or with no more perturbation of it than is seen in many an attack of flatulence which, apart from the signals of angina, would not give us even temporary alarm? Is it not still more incomprehensible that often, while the patient is in so hard a grip that he cannot start back even from the gate of death, his pulse may go on its way with indifference and be not moved even with a secondary and sympathetic affection? Thus are we led to surmise that in angina pectoris the fatal shock is something secondary and quasi-accidental, such as inhibition of the heart by reflex action, by shock. We know that visceral pain will kill, as suddenly as it did in the case of a healthy young married lady who died thus almost under my eyes in a first attack of gallstone colic. A minute examination after death revealed the stone in the common duct, but the heart and every other organ of the body were perfectly normal. And many such cases are on record. Seeing that the heart and the aorta are, broadly speaking, innervated from the same centers we may surmise that reflex inhibition may be more imminent than when reflected, as in the above instance, from a distant part. In his work on "La mort subite" (1895), Professor Brouardel, among many cases of sudden death due to fright or other sudden emotion, narrates the following: A laborer in full health tried to lift a load, when another coming up to him said, "Get out, let a better man try," at the same time giving him a light blow on the stomach; the poor fellow dropped down dead immediately. No mark of violence was found at the necropsy. Of another man, he reports that in a fracas he was struck upon the testicles; he cried out, and fell dead. No lesion was found. Several other such verified cases he mentions also, in which sudden death followed blows on the epigastrium, larynx and so forth; or sudden emotions, or injuries, too slight to be of themselves dangerous to life. Dr. Boinet says:[6] "L'aortite chronique peut encore se terminer par la mort subite. Souvent le malade succombe en plein accès d'angine de poitrine;[7] plus rarement il meurt d'une simple syncope survenant sans cause appréciable, après quelques jours de malaise et de douleurs précordiales. Potain et Rendu l'attribuent à une ischémie des coronaires; d'autres auteurs invoquent une anémie bulbaire. La dégénerescence du coeur, incriminée par Mauriac, parait peu probable." Dr. Bence Jones' patient, whose case I have narrated, died thus suddenly without appreciable cause. In almost all cases of angina the heart and its own arteries are diseased, the organ is probably unable to withstand a perturbation which a healthy heart would overcome; and when angina, even of some severity, has proved to be consistent with the prolongation of life for some years, or again when possibly it has ended in recovery, we may guess that the factor of survival was a healthy or comparatively healthy cardiac mechanism, which could resist extremes of reflex inhibition.

Thus then we are enabled to understand the well-known clinical experience, cited above, that the establishment of mitral regurgitation usually relieves or even averts angina, seeing that such regurgitation has for its first and immediate effect the reduction of pressure in the aorta. The action of the nitrites brings about relief, in like manner, by lowering the arterial pressure and thus releasing the aorta from stress; the relief of pain does not arise directly from relaxation of the heart's walls; the telling effect is within the aorta. And so it is that the aorta may be signally relieved by other measures which slacken the heart's efforts. In addition to the authors previously quoted, Huchard says, "L'angine de poitrine ne peut plus se produire chez un malade en état d'hypotension artérielle." The happy effect of chloroform and of iodids is likewise obtained by lowering the cardioarterial pressure, and in the latter case by the gradual effect of iodids upon the nutrition of the arteries, which in many cases indeed are syphilitic. I have wondered at other times whether the fatal nip may be not at the heart, but a reflex spasm of the larynx. I once assisted at the necropsy of a little boy who had died as suddenly as in angina pectoris; all his organs were healthy, but my friend found a little brass gun cap in the ventricle of his larynx.

Again, it is admitted that, whether the seat of the pain be in the heart or in the aorta, some exceptional and covert conditions must be present to produce the comparatively rare symptom of angina; chronic disease of these parts and of the coronary arteries being common enough without such phenomena. That arteries are capable of pain we know; we witness it in the severe and sudden pain of embolism in an artery, such as the tibial, in the pain of ligature. and in that of arterial compression for the cure of aneurysm. If Thoma be right in stating that he has found Pacinian corpuscles in the walls of the arteries the mechanics of

[5] Diseases of the Heart, p. 105.

[6] *Loc. cit.*

[7] Arran. Potain. Paul.

pain in these structures become clearer to us. We know that the tension of fibrous structures, such as the periosteal or fascial, in any part of the body is a very potent cause of pain; indeed a more efficient cause of pain than the tension of muscular structures. In skeletal muscle it is cramp which gives pain of this kind—cramp of which, as I have said, the heart is probably insusceptible; in fibroid structures the cause of pain is the stretching, as in subfascial suppuration or in sprain. Now in angina both modes of production of the pain may be efficient. It is of course quite conceivable that inflammatory infiltration, if acute, may hurt, as a small suppuration under the nail may hurt; and thus a succession of deposits or "poussées" may bring about several series of attacks; in acute aortitis it is possible that such is the causation of the seizures. But in cases in which the processes are more chronic, the element of sprain or morbid tension is perhaps more intelligible. An ankle may have many a twist without more than temporary pain; but if "sprain" be once established then the slighter movements of the feet become distressing; indeed, every movement of it may throw the ligaments into an agony; yet what is a sprained ankle to a sprained aorta, which is not only an arch upon which life is supported, but a bearing which is never out of action, a sprained limb which can never know a moment's rest upon the sofa. Why a diseased aorta should hurt so much in some persons, and not in others, is the riddle to be read; that such aortic stress should be commoner in men than in women is likely; but beyond this there must be some peculiar difference in the nature, in the incidence, or in the precise seat of the morbid changes, as in a joint which under one kind of disease may suffer exquisitely, and in another, as in tabes, may be indifferent during the uttermost destruction. Perchance, in the majority of cases of disease of the aorta the imprisoned nerves are corroded gradually, and thus rendered progressively insensitive; or there may be a large element of family or individual susceptibility. In one family, of which three members have been under my care, the father was "highly nervous," one daughter is a furious gastralgic, another is asthmatic, a third has mild attacks of tachycardia, and the one brother died of true angina pectoris. We see this sort of caprice more vulgarly in the variable incidence of toothache, an epiphenomenon of dental decay, a process which in many persons pursues a destructive course without having once revealed itself to the consciousness.

The clinical distinctions, alleged by some authors, between angina proper and a similar affection due to a primary neuritis of the cardiac plexus, are futile. Gintrac, Corrigan, and other physicians were near the mark when they suggested that angina may be an inflammation of this plexus due to aortitis.. That if aortic disease be painful it hurts by way of its nerves is of course a truism; and it would seem that the nearer the aortitis to the orifices of the coronary arteries, that is to the plexus, the more painful it is; moreover, if we may judge by the somewhat scanty evidence before us, it is when seated in the first inch or so of this vessel, as exemplified in the extension hither of pericarditis and in cardioaortic diseases, that inflammation seems to be most frequently painful. Now it is in these cases that atheroma of the coronaries or at any rate of their orifices would be most apt to occur. But it seems unnecessary to assume that to be the ministers of pain these nervous structures must be themselves diseased.

ESPECIAL HOSPITALS FOR CONSUMPTION AMONG THE POOR IN OUR CITIES.[1]

By EDWARD O. OTIS, M.D.,

of Boston, Mass.

"Did any one have consumption in your family or where you lived?" I asked not long since in examining a patient at an institution for advanced cases of pulmonary tuberculosis. "Yes, doctor, my wife died of it." "What would you have done if you had not been received here?" I further questioned. "I suppose I should have gone to the poor-house," was the pathetic response.

In these replies of this unfortunate sufferer are presented, in brief, the principal reasons why in our large cities especial hospitals for poor consumptives, and particularly for the advanced cases, are desirable and a necessity; first, for prophylaxis—to prevent the well from becoming infected by the sick—for our patient undoubtedly contracted the disease from his wife; second, for philanthropic considerations, to offer an asylum with decent care to those cases which are incurable. We may call them the economic and the humane reasons.

But consumptive hospitals, I think, should mean something more than this. Hospitals they should be, and not asylums or homes, where those afflicted with this disease can comfortably die. They should afford as well curative treatment so far as the conditions of location in or near a city will allow. The arbitrary division of the disease into a curable and incurable class is by no means always possible. Many so-called incipient cases are hopeless from the first, while some in the advanced stages exhibit surprising arrests; therefore, I say, hospitals offering opportunities for treatment, and not "consumptive homes," ominously suggestive of Dante's lines: "Abandon hope, all ye who enter here."

Undoubtedly the majority of the inmates in such hospitals would prove to be incurable, and if they were all such, these institutions would a thousand times justify their existence from the standpoint of prevention and humanity; but, as in the German sanatoriums, where all stages of the disease are represented, some would so improve or have their disease arrested as to be able to resume work again. In Dr. Turban's sanatorium, at Davos, Switzerland, of those in the third or advanced stage 23.6% were absolutely or relatively cured, and 17% were found to remain so when communicated with from one to seven years after leaving the sanatorium. Of course, they had the advantage of the air of the Swiss altitudes; but Philadelphia and Boston afford purer air than most of us utilize, and a goodly amount of sunshine.

It is hardly necessary to dwell upon the prevalence of pulmonary tuberculosis among the poor or the causes which produce it. They are quite evident to any one who is familiar with tenement-house life; unsanitary, insufficiently ventilated dwellings and workshops; deprivation of daylight and sunlight; insufficient and improperly cooked food; general ignorance of personal hygiene; the abuse of alcohol; monotony of life, etc., all tend to prepare the system for the germination of the tubercle-bacillus, and, on the other hand, the latter agent is always lurking in such abodes, as Dr. Flick

[1] Read at a joint meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis, January 10, 1900.

has so admirably shown, and is ever being reinforced through the ignorance, carelessness, and helplessness of the consumptive.

The fact that tuberculosis is communicable has so comparatively recently been established that the public has hardly yet awakened to a realization of this truth. The interval of time between the infection and the development of the disease is so long that the cause is forgotten when the effect appears. With the other contagious diseases the effect follows so closely upon the cause that the connection between them is evident. Moreover, it has not been until recently that we have investigated the subject of exposure, the old belief of inheritance has been accepted as a sufficient and satisfactory explanation. One or two illustrations will perhaps make this matter of contagion more evident.

Last autumn a gentleman brought his son to me suffering from quite extensive pulmonary tuberculosis, and on inquiry I found that a servant afflicted with the same disease had been an inmate of the house for a year. This is not an infrequent cause, I believe, of the occurrence of tuberculosis in a household, the servant not realizing the danger to which she is exposing the family, and concealing her condition that she may retain her place. The following cases of consumption were thus exposed:

A dressmaker, whose two brothers and sister died of the disease, and she assisted in the care of the latter. A pantryman who was employed in a house where 4 men were ill with consumption, and he waited upon them from the pantry. A nurse who took care of a consumptive patient. A shop girl whose mother and brother died of the disease, and she took care of the latter.

It is a common occurrence to find a consumptive wife who has contracted the disease by nursing a consumptive husband, or the reverse, and so one might continue citing cases, but enough has been said to indicate the danger of contagion and emphasize the extreme importance of consumptive hospitals for the purpose of isolation and prevention as well as of treatment.

In Boston in 1898 there were 79 more deaths from pulmonary tuberculosis than from measles, scarlatina, diphtheria, croup, whooping-cough, typhoid fever, cerebrospinal meningitis, cancer, and appendicitis combined. Of this number probably two-thirds were among the poor, as they are always the greatest sufferers; and all these deaths, let it be borne in mind, were caused by a communicable and consequently preventable disease. A generous and enlightened public opinion has provided more than amply for its poor sick suffering from other diseases or from injuries, but the equally worthy poor consumptive is received as a rule into no institution except the almshouse, with a few insignificant exceptions.

For example, in Boston the city has erected a veritable palace for its poor, suffering from all acute diseases and injuries, and the people rejoice in it. Private charity has established and endowed institutions for almost every conceivable form of need and suffering, the cripple, the aged, the little wanderer, and the orphan; a hospital and retreat for sick cats and dogs; a spiritual temple of rich and striking architecture where the poor can hold converse with ethereal messengers; a wealthy and flourishing church and organization for Christian science. Indeed, I do not know of anything in the way of a charity for which one cannot obtain money in Boston, and yet there has been standing vacant in the same city for over a year, a new, well-equipped hospital of 110 beds, built especially for consumptives, with a long waiting list piteously begging for admission. Try as we will, we have not yet been able to obtain money enough to warrant its opening, and this is probably about the experience elsewhere. Why *is* the public so tender and liberal in behalf of every other kind of suffering and misfortune, and apparently so callous and indifferent toward the consumptive, whose suffering probably exceeds that of almost any other malady? The reasons for this attitude, I think, are several: The very prevalence of the disease and the consequent familiarity with it; the idea still largely held that consumption is incurable from the first, and nothing can avert the inevitable end—why, then, a hospital for it? Is it not preferable and natural that one should breathe his last at home among his friends? Finally, the slowness of its progress and the ability of its sufferers to keep about and exhibit to a degree the semblance of health until near the fatal denouement, and, also, the ignorance still common, of its communicability and the danger from the dried sputum. That this point of view may be changed we must convince the public of the truth of the following propositions:

1. That consumption is the most prevalent and destructive disease existing today, causing a seventh of all the deaths, and is worst where human beings are crowded together—*i. e.*, in the cities.

2. That it is communicable by the dried sputum, and hence, if this is not properly disposed of, there is danger to those constantly with the sick, and to the public.

3. That it is very curable in the early stages and may be arrested in any stage, hence the importance of proper treatment and the need of special hospitals and sanatoriums where such treatment can best be instituted.

4. A certain proportion of consumptives will not safely dispose of the sputum, and should be transferred to a consumptive hospital for their own protection and that of the public.

5. Many cases of consumption appointed to die—the hopeless ones among the poor—have no decent place or care, and must either die in abject neglect or go to the almshouse. For this large class, consumptive hospitals are most urgently needed. The condition in which some of these dying consumptives are found is pitiable in the extreme.

One or two illustrations from personal experience and that of the institution with which I am connected:

A consumptive husband sleeping on the kitchen floor; a young man far advanced in the disease found in a stable; a husband, wife, and child living in one room, the former a consumptive, sleeping on chairs; a consumptive baker, homeless, and sleeping in various bake-shops of his friends. What an excellent method of disseminating dried sputum! A servant in a wealthy family, with extensive disease, concealing her condition in order to retain her position, not an infrequent occurrence, and a constant menace, of course, to the household.

An average workingman with a family, or a workingwoman, can earn but little more than their daily needs, and though they manage to get through a short illness, the outlook for them is utterly hopeless when confronted with a long, lingering illness like consumption.

When the public vividly realizes the above facts they will demand municipal and State aid in the care of the

consumptive and for the protection of the community, and ask that a portion of the private beneficences be applied to this object. How shall we arouse the people to this point of action? The medical profession has been endeavoring to accomplish this for a number of years with scant success, but the physician regarding matters of prophylaxis and sanitation labors under very much the same disadvantages, it seems to me, that the clergyman, for example, does regarding religious and ethical questions. "It is the business of the latter," one says, "to preach upon these themes," and from this very fact one is less profoundly moved by his message. Likewise, when the physician preaches preventive medicine, "it is his business," one says, and passes on unmoved.

I would suggest that the physician should become the power behind the throne, and let the layman take the initiative in this crusade against consumption. Make it a popular movement, a fashionable one, if you will; use all legitimate methods to attract the public and impress upon them the terrible prevalence of consumption and the remedy. Let an association like the admirable and almost solitary one in this country, before which I have the honor to speak, increase to the utmost its membership; hold frequent meetings with laymen of note and influence as speakers; form sections and local societies in various parts of the State; enlist the daily press; have the meetings widely reported, and let frequent articles appear upon the necessity of consumptive hospitals as a protection to the people. In brief, use for this righteous and urgent need in the community the methods the public-minded citizen uses to accomplish a worthy object or to oppose a base one. This is not utopian; it has been and is being done in England, Germany, and elsewhere. The Prince of Wales made the Marlborough House meeting for the prevention of tuberculosis popular and fashionable, and the Empress of Germany is at the head of a similar movement in that country.

In England the daily press was enlisted in the cause and aroused the interest and enthusiasm of the people. Local societies sprang up all over the country, and money was contributed for prevention and the erection of sanatoriums for the open-air treatment, and the work is now in full progress, largely due to laymen and the daily press, though, of course, the patient physician has been all the time the power behind the throne, content to see the result achieved and let others have the praise.

When once the public is awakened to the necessity and urgency of consumptive hospitals it will quickly respond. The fearful will act from motives of self-protection, and the philanthropist from humane ones.

Besides the establishment of consumptive hospitals in the city or its near environs for all cases of consumption, but particularly for the advanced cases for which I am now especially pleading, I believe that there should be several sanatoriums in the State more favorably situated climatically for the application of the open-air treatment, and not too far distant from the city. From the city consumptive hospitals the more hopeful cases can be later sent to such institutions. This is very much like the plan pursued in the London consumptive hospitals. Several consumptive hospitals will be required in a city like Philadelphia, in my opinion, and, as with all new movements, the struggle will come in obtaining the first one. Once its value and beneficient work is recognized the others will more readily follow. In the meantime the expediency of setting apart wards in some of the general hospitals for the exclusive occupancy of consumptives is to be considered, as has been determined upon in some of the Paris hospitals. As to the expense of such hospitals, it will probably be about the same or perhaps a little less per patient than in our general ones. At the small institution of 28 or 30 beds with which I am connected it is about $7 a week; at the State Hospital at Rutland it is about $8.

The consumptive hospitals in London are supported by voluntary contributions. With us in Boston our great city hospital with its extensive and elaborate department for contagious disease is supported by municipal appropriations. Nearly all our other charitable institutions for the sick and unfortunate are sustained by private contributions and legacies.

If it is the duty of the city, as most cities so consider it, to provide for the care and treatment of its injured and sick poor, suffering from othe rdiseases, it is equally its duty to provide for the equally worthy poor consumptive. It is his misfortune to have this fearful disease, not his crime or personal selection. He sees a neighbor with appendicitis taken to a perfectly appointed hospital and operated upon by the most skilful surgeon, or another with pneumonia receiving like perfect care and skill; but for him the city neither will nor ought to open the doors of its general hospitals, and he must either drag out his life in wretchedness, losing his chance of cure or arrest by proper treatment, or as a last resort go to the almshouse. And, further, there is the added reason why he should be provided for, because his disease is a communicable one and he is endangering others.

The State and city do have to provide ultimately for many of its poor consumptives in its almshouses and other institutions, and the expense is probably as great, at least, as it would be in the proposed consumptive hospitals, which not only offer an asylum but treatment and many other advantages. The outlay, then, would by no means be an entirely new and extra one, but only in another and more economic direction. Further, by reducing the number of consumptives by this enlightened method—as the London consumptive hospitals have proved is the case—there would result a yearly saving of lives whose labor has a money value to the community. As I have elsewhere said,[2] "I believe that the expense of establishing special hospitals for this disease would be more than compensated for by the preservation of lives with years of service before them, and the added saving of the expense now incurred by the State and city in the care of the neglected consumptive," and, I may add, largely wasted by the unintelligent method now pursued.

One point more, in conclusion, which seems to me relevant to my subject. How shall we get at all the cases for which isolation in a consumptive hospital is desirable from the standpoint of danger to the immediate household and community? While I have no doubt from my own experience that the voluntary applications will more than fill a number of such proposed hospitals, there will be some who, from ignorance and mistaken views, will prefer to remain in their own unsanitary surroundings, and will not properly dispose of their sputum. I see but one way by which this can be accomplished, namely, to make consumption a notifi-

[2] "The Struggle Against Tuberculosis," *Boston Medical and Surgical Journal*, September 21, 1899.

cation disease, as with the other contagious maladies. I am familiar with the arguments against this, that it will stamp the consumptive as a leper and add to his suffering, already hard enough to endure. Most of these objections, it seems to me, are largely chimerical. Notification simply gives us the means, and the only sure ones, of knowing where the consumptives are, and, in case of doubt, permits us to adopt such measures as will protect them against themselves, and afford as well protection to their friends and the community. To remove a consumptive from a wretched abode to the care and comfort of a hospital is a mercy to him, even if it is done contrary to his ignorant will and that of his friends.

I feel morally certain that the public will become aroused sooner or later and apply itself with eagerness to the solution of this problem. Very likely they may overdo it in some directions in their fear of the disease, but better this than an inactive indifference. We shall see before many years, I feel sure, consumptive hospitals arising in all our cities and the large present appalling mortality from this preventable disease rapidly and steadily diminishing. I do not mean to be understood as conveying the idea that consumptive hospitals are all that is needed to stamp out the disease. Better sanitation and personal hygiene, a deeper realization of the dangers of impure air, and the lack of light and sunshine, and all that makes for wholesome living, are allies in the struggle.

How soon this devoutly-desired consummation shall be accomplished will depend largely upon the exertions and persistence of such societies as are represented here to-night, upon whom the morning light has already broken, and who are keenly alive to the awful ravages of this *curable* and preventable disease.

A NEW PATHOGENIC MOULD.[1]

(Formerly described as a Protozoon: Coccidioides Immitis Pyogenes.)

Preliminary Report.

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The clinical history of the interesting case that forms the subject of this preliminary report is shortly as follows:

A. L., farm laborer, aged 19, was born in the Azores, and entered Ward C (Dr W. W. Kerr), City and County Hospital, San Francisco, January 26, 1900, dying February 6, 1900.

The past history is unknown, but the present illness began 11 weeks ago with a chill. After a few days the left pleura was tapped and 1 gallon (?) of clear fluid was obtained The patient had irregular fever, at times reaching 104°, 104.4°. The diazo-reaction was present, but not the Widal. He was tapped again January 23 with negative result. About January 1 there was the first appearance of joint-trouble; after which there successively developed painful inflammations of left kneejoint, right kneejoint, right shoulder, both elbows, both wrists, and both ankles. Three weeks before entrance he had great pain in the frontal region and later a fluctuating swelling over the left eye. Two weeks later a large gland developed in the left supraclavicular fossa. He had cough with mucopurulent, occasionally bloodstained, expectoration. There were no tubercle-bacilli in the sputum. The lungs showed signs of irregular consolidation. In spots there was bronchial breathing, in others moist and dry rales. The heart was large; no alteration in sounds. The urine showed nothing abnormal besides positive indican and diazo reaction. On January 31 a blood-count showed 17,000 leukocytes. The temperature was continually elevated, and there was slight chills and profuse sweating. The diagnosis was septicopyemia, and the patient died February 6, 1900.

The autopsy, by Dr. Moffitt, showed: Right lung: Irregular, nodular consolidations with necrotic centers from size of shot to 1 cm. in diameter. The tissue between them was mostly atelectatic; in the middle lobe were several abscesses with thick abscess-membrane. Left lung: Acute bronchopneumonia and chronic interstitial pneumonia with abscess-formation, also nodules like tubercles as on right side. There was a large abscess partly in the mediastinum, partly in the left lung.

The pillars of the diaphragm were infiltrated with pus, and there were necroses and abscesses in the retroperitoneal lymph-glands. The right pleura was free; in the upper part of the left pleura an encapsulated empyema was found; in the lower part adhesions.

The spleen was enlarged and softened; in the pulp were some badly defined yellow patches.

The kidneys showed cloudy swelling; in both of them were miliary nodules with central caseation or miliary abscesses with thick abscess-membrane. The nodules and abscesses were mostly in pyramids.

In the liver were cloudy swelling and fatty infiltration, but no visible nodules.

There was purulent ostitis and periostitis in frontal bone over the left eye and in the upper part of the left tibia, and suppuration in the affected joints. Necroses and abscesses in regionary lymph-glands.

In sections of the liver there are very many microscopic nodules with necrotic centers.

In all diseased parts that were examined (pus from abscess over left eye, left pleura, lung, spleen, kidney, and liver) there were found peculiar parasitic organisms which in the few similar cases on record have been described as protozoa. In the spleen, liver, and kidneys they were present in pure culture, in the abscess over the eye they were found together with staphylococci and streptococci; in the left pleural cavity with pseudodiphtheria-bacilli.

The appearance and life-history of these parasitic organisms is shortly the following: The youngest forms seem to be small, spherical lumps of protoplasm which are enveloped in an encapsulating membrane composed of highly refractile material. The protoplasm is granular and stains well with anilin dyes and hematoxylin. The organism grows and attains a considerable size, up to 30μ in diameter. It is always perfectly spherical. In the later stages of development vacuoles may appear in the protoplasm. A locomotion has not been observed in these organisms; neither in our case nor in the cases described by other authors. After reaching the adult stage the encapsulated protoplasm breaks up into 100 or more sporelike bodies which are highly refractile and also stain well with anilin dyes and hematoxylin. After the formation of the spores the enveloping membrane may burst and discharge the spores into the surroundings where they develop into new parasites of the above described kind, or the spores develop inside of the membrane of the old parasite into new young forms. But in this latter case also the membrane soon bursts and sets free the young organisms. In the spores, also, locomotion has never been observed. On account of their close resemblance to coccidia these organisms have been classified by former investigators as protozoa, especially since attempts at

[1] Read at the Thirtieth Annual Meeting of the Medical Society of the State of California, April 17, 1900.

cultivation on artificial culture-mediums seemed to fail.

The lesions produced by their presence in the human body may be chronic suppurative processes; at other times there is no suppuration, but the formation around them of nodules consisting of granulation-tissue and scar-tissue. The granulation-tissue usually contains large giant-cells which often enclose one or more of the parasites in their interior. In the surroundings of the parasites there may be necroses which resemble very much caseation.

At the time of the postmortem examination, cultures were made on slanting agar agar from the kidney, the lung, the abscess over the left eye, the left pleural cavity, and the spleen. In the cultures from pleura and spleen a mould developed on the second day. The mycelium entered the upper layers of the medium and also send projections over the free surface. The color of the growth, looked at from above, was white, looked at from below, slightly yellowish. In spite of careful search no mycelia were found in coverslips or sections from the organs, only in the lung there were large bacilli arranged in chains with pseudo, but no true branching. Two inoculation-experiments were made:

Guineapig I, February 7, 1900.—Piece of lung inserted under skin. Result of experiment see below.

Guineapig II, male, February 10, 1900.—Particles of lung suspended in normal salt-solution injected into peritoneal cavity; about end of second week, the animal shows loss of customary activity On or about February 26, animal showed a well marked orchitis and swelling at the site of inoculation, with gradual emaciation. The guineapig was killed with chloroform on March 2.

Findings at autopsy: Suppuration around both testicles, enlargement and inflammation of inguinal glands, white miliary and submiliary nodules in spleen, diaphragm, and lungs. Cultures from pus near testicle and cultures from the abdominal cavity gave the same mould that we had recovered from pleura and spleen of the patient. A culture from the blood remained sterile.

In microscopic specimens of the organs of the guineapig the above described protozoonlike bodies were found in pure culture in varying number. No mycelia could be detected in fresh teased specimens nor in mounted and stained sections. Histologically the lesions resembled those found in the human body, but they were mostly of a more chronic character.

The same day, March 2, another male guineapig was inoculated with the pus from one of the testicles intraperitoneally. In ten days it developed swelling of the testicles, later the symptoms subsided somewhat. It was killed April 7, with chloroform, and presented similar but more extensive lesions than the first guineapig. In addition to the nodules in spleen, diaphragm and lung there were others in the peritoneum near the point of injection. The omentum was rolled up and transformed into a mass of hard white tissue with just visible yellow dots in it. Again the microscopic specimens showed the protozoonlike bodies in pure culture, no mycelia, and tubes inoculated from testicle and omentum developed pure cultures of the mould.

With pus from the testicle the following experiment (Dr. Ophüls) was made:

A little of the pus was suspended in beef-tea in form of a hanging drop. On examination the drop contained 3 "protozoic" forms; no mycelia. The slide was put in the incubator and the next day a mycelium had developed. This experiment was successfully repeated, when guineapig 1 was killed on April 20. At the point of inoculation a thick scar had developed. In the scar there were a few just visible yellow spots and in them the protozoon like bodies were found. No other lesions.

Repeated experiments have shown that these bodies develop into mycelia only when they are free in the culture-medium. So long as they remain enclosed even in the smallest shred of tissue, the development of a mycelium does not take place. Even when free not all of them develop into mycelia. It also seems as if there occurred a limited development of the protozoon-like bodies when they are incubated enclosed in shreds of tissue, but it will remain for future experiments to establish this definitely.

In the meanwhile the third generation of a pure culture of the mould had been injected into the ear-vein of a rabbit, and also into the peritoneal cavity of a guineapig. We took a third generation in order to be sure that the culture used for the experiment did not contain any protozoon-like bodies. A careful microscopic examination also showed them to be absent. The rabbit did not show any symptoms, and was killed 3 weeks after the inoculation. The typical tubercle-like nodules were found in lungs, spleen, kidneys, and in them the protozoon-like bodies and no mycelium.[2] The guineapig was killed a little later and did not show any lesions.

Our experiments, we believe, prove that the protozoon-like bodies and the mycelium are different stages in the development of the same fungus.

Although many different culture-mediums were employed (blood-serum, ascites-fluid, agar-agar with and without sugar, raisin-decoction, raisin-gelatin, bouillon, Raulin's medium, under aerobic and anaerobic conditions), we have never observed the development of the protozoon-like bodies on the artificial culture-medium. In old agar-agar cultures one sometimes observes the formation of spherical cells with granular protoplasm and thin membrane from the sometimes clubshaped ends of the mycelium, but we have never seen any spores in them.

Sometimes highly refractile smaller bodies are formed at the ends of the mycelium, mostly 3 or 4 in a row. They are kept together by a highly refractile membrane. They resemble oidia. Chlamydospores were not found.

The relation between mould and protozoon-like bodies seems to be that the protozoon-like bodies are a form of fructification of the mould. The way in which they develop from the mould after injection into the animal body remains to be studied. A classification of the parasite cannot be attempted before these questions are settled.

So far as we could learn there are only a few cases on record that are at all similar to the case described in this paper. It is difficult to establish whether the cases that have been described as coccidiosis in the human being (Hadden, Silcock, Bland, Sutton, all mentioned *Lancet*, 1889, ii.) fall under this category on account of the imperfect description of the cases, at least in the references which were accessible to us. Besides these there seem to be only 3 other cases which undoubtedly belong to the same group; one case published by Wernicke (*Centralbl. f. Bact. u. Parasitenk.*, xii, 1892) and 2 cases described by Rixford and Gilchrist (*Johns Hopkins Hosp. Rep.* 1). All three are recorded as examples of protozoon-infection, but by some authors (Busse and others) they were at least suspected of being infections with vegetable organisms, most likely yeast-fungi.

In concluding we wish to express our acknowledgment to Dr. May Ash, who assisted us in our experiments.

[2] June 16, 1900. Since then the experiment has been repeated twice successfully.

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